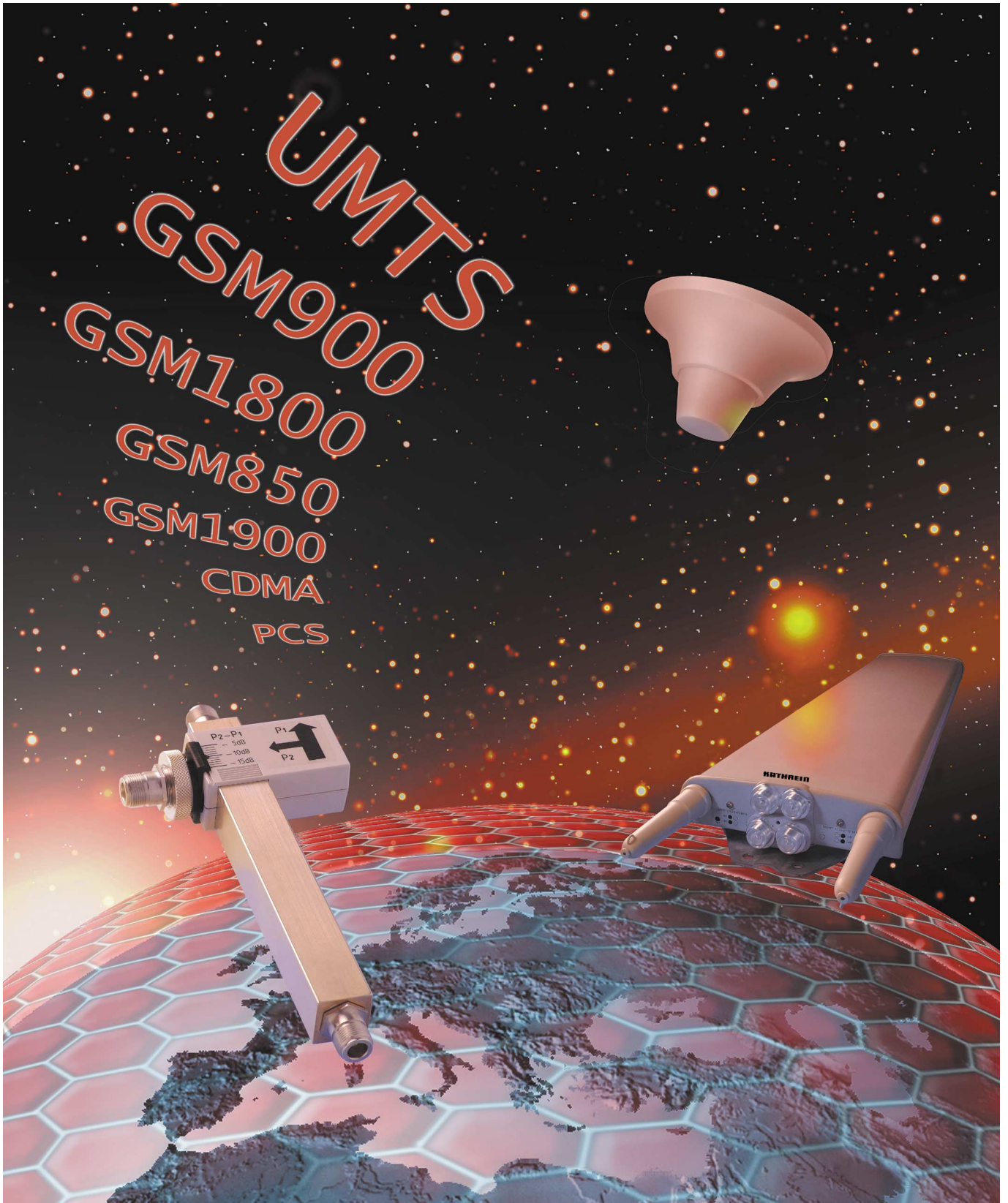


790 – 2200 MHz Base Station Antennas for Mobile Communications



KATHREIN

Antennen · Electronic

Photo on title page: Selection of new products for the third generation networks.

Catalogue Issue 01/02

All data published in previous catalog issues hereby becomes invalid.

We reserve the right to make alterations in accordance with the requirements of our customers.

Please note:

As a result of more stringent legal regulations and judgements regarding product liability, we are obliged to point out certain risks that may arise when products are used under extraordinary operating conditions.

The mechanical design is based on the environmental conditions as stipulated in ETS 300 019-1-4, which include the static mechanical load imposed on an antenna by wind at maximum velocity.

Extraordinary operating conditions, such as heavy icing or exceptional dynamic stress (e.g. strain caused by oscillating support structures), may result in the breakage of an antenna or even cause it to fall to the ground.

These facts must be considered during the site planning process.

The details given in our data sheets have to be followed carefully when installing the antennas and accessories.

In addition, please use our information brochure about mounting configurations.

The installation team must be properly qualified and also be familiar with the relevant national safety regulations.



“Quality leads the way”

Being the oldest and largest antenna manufacturer worldwide, we take on every day the challenge arising from our own motto. One of our basic principles is to look always for the best solution in order to satisfy our customers.

Our quality assurance system conforms to DIN EN ISO 9001 and applies to the product range of the company: Antenna systems, communication products as well as active and passive distribution equipment.



Installation of a new antenna pole with a helicopter at the skiing area "Brauneck" Bavaria/Germany.

Base Station Antennas for Mobile Communication Networks:

GSM 850

GSM 900

NMT

TACS

AMPS

CDMA

GSM 1800

PCS

DECT

UMTS

WLL

**List of available catalogues for
Mobile Communication Antennas and Accessories**

- 790 – 2200 MHz Base Station Antennas**
- 27 – 512 MHz Base Station Antennas**
- Ground-to-Air Communication Antennas**
- Antennas for Trains and Buses**
- 80 / 160 MHz Filters, Combiners, Amplifiers for Mobile Communication**
- 450 MHz Filters, Combiners, Amplifiers for Mobile Communication**
- 900 / 1800 MHz Filters, Combiners, Amplifiers for Mobile Communication**

*The listed catalogues
are also
available on CD-ROM*

XXPol A-Panel 870–960/1710–1880 C 65°/60° 17/18dBi 2°–8°T/2°T

Polarization(s):
(X) Dual +45°/–45°
(V) Vertical

Antenna Family

Frequency Range(s)

Integrated Combiner

Horizontal
Half-power Beam Width(s)

Gain Value(s)

Variable / Fixed Electrical Tilt(s)

The articles are listed by type number in numerical order.

Type No.	Page	Type No.	Page	Type No.	Page	Type No.	Page
728 ...		733 ...		736 347	122	737 547	88
728 684	82	733 677	162 ...	736 348	122	737 549	99
		733 678	162 ...	736 349	124	737 906	103
730 ...		733 679	162 ...	736 350	120	737 971	164 ...
730 360	85	733 680	162 ...	736 351	120	737 972	163 ...
730 368	86	733 695	82 ...	736 352	123	737 973	163 ...
730 370	93	733 736	82 ...	736 361	136	737 974	163 ...
730 374	101			736 622	91	737 975	163 ...
730 376	89	734 ...		736 624	133	737 976	164
730 378	98	734 304	109	736 801	147 ...	737 978	163 ...
730 380	100	734 310	109	736 802	147 ...		
730 382	102	734 318	111	736 803	147 ...	738 ...	
730 676	85	734 319	111	736 804	147 ...	738 187	127
730 677	85	734 328	111	736 805	147 ...	738 192	121
730 691	87	734 330	112	736 854	91	738 407	87
		734 342	113	736 855	91	738 440	175
731 ...		734 360	169	736 858	92	738 445	61
731 651	162	734 361	169	736 863	95	738 446	61 ...
		734 362	169	736 864	95	738 449	125 ...
732 ...		734 363	169	736 866	97	738 450	117 ...
732 317	172	734 364	169	736 935	135	738 454	129 ...
732 318	172	734 365	169			738 546	162 ...
732 319	173			737 ...		738 664	124
732 321	172	735 ...		737 031	134	738 908	176
732 322	172	735 147	110	737 190	128		
732 327	172	735 700	174	737 303	149	739 ...	
732 448	86	735 727	81	737 304	149	739 129	108
732 480	93	735 811	87	737 305	149	739 136	108
732 689	90			737 306	149	739 404	127
732 690	88	736 ...		737 307	149	739 418	98
732 691	86	736 077	104	737 308	149	739 489	64
732 967	93	736 078	105	737 398	177	739 490	39

Summary of Types

The articles are listed by type number in numerical order.

Type No.	Page	Type No.	Page	Type No.	Page	Type No.	Page
739 491	39	739 698	44	741 790	130	K 61 14 04	81 ...
739 494	40	739 707	45	741 794	65	K 61 14 05	81 ...
739 495	41	739 708	45	741 880	62	K 61 33 5	178
739 496	41	739 710	46	741 987	66	K 61 33 6	178
739 498	42	739 785	126	741 988	70		
739 619	18	739 854	89	741 989	71	K 63 ...	
739 620	18	739 856	101	741 990	72	K 63 20 62 1	147
739 622	19	739 927	38			K 63 20 62 7	147
739 623	20			742 ...		K 63 20 63 1	147
739 624	23	741 ...		742 033	160	K 63 20 63 7	147
739 630	22	741 067	96	742 034	160	K 63 22 62 1	150
739 632	19	741 214	44	742 035	160	K 63 22 63 1	150
739 633	20	741 264	40	742 036	160	K 63 22 64 1	150
739 634	21	741 316	48	742 047	60	K 63 23 60 01	153
739 635	22	741 320	50	742 113	170	K 63 23 60 61	151
739 636	23	741 322	52	742 149	138	K 63 23 60 67	152
739 637	25	741 324	54	742 150	94	K 63 23 61 01	151
739 639	31	741 325	49	742 151	58	K 63 23 61 07	152
739 640	32	741 326	51	742 152	59	K 63 23 61 51	151
739 648	26	741 327	53	742 192	77	K 63 23 61 57	152
739 649	28	741 328	55	742 211	67	K 63 55 8	148
739 650	29	741 336	56	742 212	68		
739 651	25	741 344	57	742 213	69	K 73 ...	
739 655	27	741 493	103	742 234	73	K 73 22 67	84
739 658	26	741 571	140	742 235	74	K 73 45 64 7	83
739 660	28	741 572	140	742 263	168		
739 662	29	741 573	139	742 264	75	K 75 ...	
739 664	33	741 622	21	742 265	76	K 75 11 61	118
739 665	34	741 623	38			K 75 11 67	118
739 666	35	741 717	16	K 61 ...		K 75 15 64 1	119
739 681	30	741 718	16	K 61 14 02	81	K 75 15 64 7	119
739 695	43	741 785	17	K 61 14 03	81 ...		

Directional antenna designs:

A-Panels

The Advanced Antenna Technology for Cross Polarization

KATHREIN

Antennen · Electronic

Compact design

Small size and elegant design characterize this new antenna family.

Closed fiberglass housing

The fiberglass housing totally covers the internal antenna components. The special design reduces the sealing areas to a minimum and guarantees the best weather protection.

Environmental influences

The design of Kathrein antennas is based on fundamental engineering knowledge and also on decades of practical experience, during which the various constructions and materials used have proved their outstanding reliability.

Environmental conditions

Kathrein cellular antennas are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E. The antennas exceed this standard with regard to the following items:

- Low temperature: – 55 °C
- High temperature (dry): + 60 °C

Environmental tests

Kathrein antennas have passed environmental tests as recommended in ETS 300 019-2-4. The homogenous design of Kathrein's antenna families use identical modules and materials. Extensive tests have been performed on typical samples and modules.

Long service life

According to our own experience, the outstanding mechanical characteristics of Kathrein antennas result in an antenna service life of over 15 years.

65° and 90° half-power beam width

The customer can choose from 65° and 90° half-power beam widths.

Large variety of gain values Electrical downtilt

Gain values from 7.5 dBi up to 18 dBi, and electrical downtilts of up to 12° are available.

Low intermodulation products (typically –150 dBc)

After many years of experience in the construction of antennas and after intensive research into the effects of intermodulation, we have been able to optimize the material used for A-Panels (the given value refers to 3rd order products measured with 2 carriers of 20 W each).

Broadband design

These antennas primarily cover the frequency range from 806 to 960 MHz, and are also used for Dual-band antennas. Therefore the variety of antennas used can be kept to a minimum.

Excellent grounding

The A-Panels are DC grounded according EN 50083-1. The inner conductors are DC grounded.

Multi-functional installation hardware

All models are equipped with 2 fixing points. The A-Panels can be wall mounted without any additional hardware. For mast mounting, stainless steel brackets and mechanical downtilt kits are available. To assist the installation technicians in aligning the antennas, an azimuth adjustment tool can be supplied (see Accessories).



Directional antenna designs:

Eurocell Panels (Panels)

The Approved Antenna Family for Vertical Polarization

KATHREIN

Antennen · Electronic

Compact, elegant design

Small size and elegant design are the distinguishing features of this antenna family, characteristics which predestine these antennas for use in modern cellular networks.

Fiberglass radome

The grey fiberglass radomes of these antennas are very stable and extraordinarily stiff. They are resistant to ultraviolet radiation and can also be painted to match their surroundings.

Environmental influences

The design of Kathrein antennas is based on fundamental engineering knowledge and also on decades of practical experience, during which the various constructions and materials used have proved their outstanding reliability.

Environmental conditions

Kathrein cellular antennas are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E. The antennas exceed this standard with regard to the following items:

- Low temperature: – 55 °C
- High temperature (dry): + 60 °C

Environmental tests

Kathrein antennas have passed environmental tests as recommended in ETS 300 019-2-4. The homogenous design of Kathrein's antenna families use identical modules and materials. Extensive tests have been performed on typical samples and modules.

Long service life

According to our own experience, the outstanding mechanical characteristics of Kathrein antennas result in an antenna service life of over 15 years.

Large variety of half-power beam widths and gains

The customer can choose from more than 75 versions, e.g. different half-power beam-widths of 65°, 90°, 105°, 120° and 160°, gain values from 6.5 to 18.5 dBi and electrical downtilts of up to 15°.

Electrical downtilt

Low intermodulation

products (typically –150 dBc)

After many years' experience in the construction of antennas and after intensive research into the effects of intermodulation, we have been able to optimize the material used for Eurocell panels (the given value refers to 3rd order products measured with 2 carriers of 20 W each).

Broadband design

2 groups of antennas are available for the frequency ranges: 870 – 960 MHz, optimized for GSM, 806 – 960 MHz, for other cellular networks.

Excellent grounding

The Eurocell Panels are DC grounded according EN 50083-1. The inner conductors are DC grounded for DC loop monitoring.

Multi-functional installation hardware

Depending on their length, the antennas are equipped with up to 3 fixing points. The Eurocell Panels can be wall mounted without any additional hardware. For mast mounting, stainless steel brackets and mechanical downtilt kits are available. To assist the installation technicians in aligning the antennas, an azimuth adjustment tool can be supplied (see Accessories).



Directional antenna designs:

F-Panels

Harmony of Design and Technology

KATHREIN

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Slim, unobtrusive design	This antenna family is especially suitable for installation at optically sensitive sites.
Flat fiberglass radome	The max. radome depth is only 69 mm. Fiberglass material guarantees optimum performance with regards to stability, stiffness, UV resistance and painting. The colour of the radome is grey.
Environmental influences	The design of Kathrein antennas is based on fundamental engineering knowledge and also on decades of practical experience, during which the various constructions and materials used have proved their outstanding reliability.
Environmental conditions	Kathrein cellular antennas are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E. The antennas exceed this standard with regard to the following items: – Low temperature: – 55 °C – High temperature (dry): + 60 °C
Environmental tests	Kathrein antennas have passed environmental tests as recommended in ETS 300 019-2-4. The homogenous design of Kathrein's antenna families use identical modules and materials. Extensive tests have been performed on typical samples and modules.
Long service life	According to our own experience, the outstanding mechanical characteristics of Kathrein antennas result in an antenna service life of over 15 years.
Patented, gain-optimized radiating system	The reduction of the number of components down to just a few multi-functional parts has reduced the number of electrical and mechanical connection points, thus also reducing the intermodulation products (the indicated value refers to 3rd order products measured with 2 carriers of 20 W each).
Low intermodulation products (typically –150 dBc)	
Large variety of half-power beam widths and gains	Versions with half-power beam widths of 33° to 200° are available (with an additional subreflector). Various gain values of up to 22 dBi and electrical downtilt options will aid network planners to select the version most suitable for the intended purpose.
Electrical downtilt	
Excellent grounding	The F-Panels are DC grounded according EN 50083-1. The inner conductors are DC grounded for DC loop monitoring.
Multi-functional installation hardware	The F-Panels can be wall mounted without any additional hardware. For mast mounting, stainless steel brackets and mechanical downtilt kits are available. To assist the installation technicians in aligning the antennas, an azimuth adjustment tool can be supplied (see Accessories).



Directional antenna designs: Special Directional Antennas For Particular Applications

Antennas for

- tunnel use
- railway use
- micro cells (street use)
- high gain link for repeaters

The distinguishing features of these special versions, e.g. parabolic panels or log. periodic antennas, are:

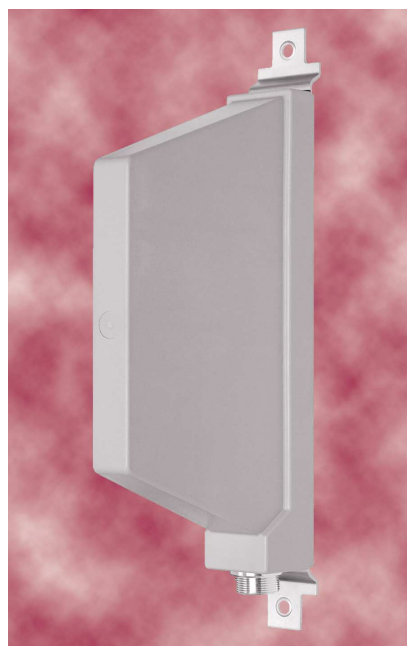
- very small half-power beam width (high gain)
- high sidelobe suppression
- also Dual-band and Multi-band versions
- bidirectional horizontal pattern.



LogPer



ParPanel



BiDir

Directional Antennas

Dual Polarization +45°/-45°	800/900 MHz
Dual Polarization +45°/-45°, Adj. el. downtilt	800/900 MHz

Directional Antennas

Dual Polarization +45°/-45°	1800/1900/2000 MHz
Dual Polarization +45°/-45°, Adj. el. downtilt	1800/1900/2000 MHz

Directional Antennas

Dual-band, Dual Polarization +45°/-45°	900/1800 MHz
Dual-band, Dual Polarization +45°/-45°, Adj. el. downtilt	900/1800 MHz
Dual-band, Vertical Polarization	800/900/1800/2000 MHz

Directional Antennas

Dual Polarization +45°/-45°	UMTS (IMT 2000)
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Directional Antennas

Vertical Polarization	800/900 MHz
Vertical Polarization, Adj. el. downtilt	800/900 MHz

Directional Antennas

Vertical Polarization	1800/1900 MHz
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Omnidirectional Antennas

Vertical Polarization	800/900 MHz
Dual-band, Vertical Polarization	900/1800 MHz
Vertical Polarization	1800 MHz
Vertical Polarization	2000 MHz

Indoor Antennas

Single-band	900/1800 MHz
Multi-band	800/1900/2000 MHz
Indoor / Outdoor	900/1800/2000 MHz

Power Splitters and Tappers

Accessories

Summary – Directional Antennas

Dual Polarization +45°/–45°

800/900

Dual Polarization +45°/–45°

Type	Type No.	Height [mm]	Connector position	Page
XPol A-Panel 870–960 30° 15.5dBi	741 717	656	bottom	16
XPol A-Panel 870–960 30° 18.5dBi	741 718	1296	bottom	16
XPol A-Panel 870–960 30° 21dBi	741 785	2580	bottom	17
XPol A-Panel 806–960 65° 9dBi	739 619	256	bottom or top	18
XPol A-Panel 806–960 65° 12.5dBi	739 620	656	bottom or top	18
XPol A-Panel 806–960 65° 15.5dBi	739 622	1296	bottom or top	19
XPol A-Panel 806–960 65° 15dBi 6°T	739 632	1296	bottom	19
XPol A-Panel 806–960 65° 15dBi 12°T	739 633	1296	bottom	20
XPol A-Panel 806–960 65° 17dBi	739 623	1936	bottom or top	20
XPol A-Panel 806–960 65° 17dBi 6°T	739 634	1936	bottom	21
XPol A-Panel 824–960 65° 17dBi 9°T	741 622	1936	bottom	21
XPol A-Panel 880–960 65° 17dBi 6°T	739 635	2256	bottom	22
XPol A-Panel 870–960 65° 18dBi	739 630	2580	bottom	22
XPol A-Panel 806–960 65° 18dBi	739 624	2580	bottom	23
XPol A-Panel 806–960 65° 18dBi 6°T	739 636	2580	bottom	23
XPol A-Panel 806–960 65° 18dBi 9°T	739 637	2580	bottom	24
XPol A-Panel 870–960 90° 7.5dBi	739 651	256	bottom or top	25
XPol A-Panel 806–960 90° 13.5dBi	739 648	1296	bottom or top	26
XPol A-Panel 806–960 90° 13.5dBi 6°T	739 658	1296	bottom	26
XPol A-Panel 870–960 90° 15.5dBi	739 655	1936	bottom or top	27
XPol A-Panel 806–960 90° 15.5dBi	739 649	1936	bottom or top	28
XPol A-Panel 806–960 90° 15.5dBi 6°T	739 660	1936	bottom	28
XPol A-Panel 806–960 90° 17dBi	739 650	2580	bottom or top	29
XPol A-Panel 806–960 90° 17dBi 6°T	739 662	2580	bottom	29

Dual Polarization +45°/–45°

Adjustable Electrical Downtilt

XPol A-Panel 806–960 65° 15dBi 0°–14°T	739 681	1296	bottom	30
XPol A-Panel 824–960 65° 16.5dBi 2°–10°T	739 639	1996	bottom	31
XPol A-Panel 806–960 65° 17.5dBi 0°– 7°T	739 640	2580	bottom	32

Dual Polarization +45°/–45°

Adjustable Electrical Downtilt – Possible upgrade with Remote Control Unit (RCU)

XPol A-Panel 824–960 88° 13.5dBi 0°–14°T	739 664	1296	bottom	33
XPol A-Panel 806–960 88° 15dBi 0°–10°T	739 665	1996	bottom	34
XPol A-Panel 806–960 88° 16dBi 0°– 7°T	739 666	2580	bottom	35

New Products

A-Panel

Dual Polarization

Half-power Beam Width

870–960

X

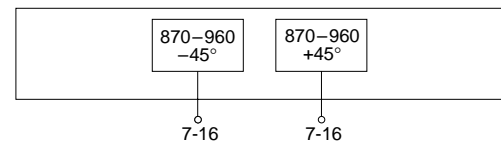
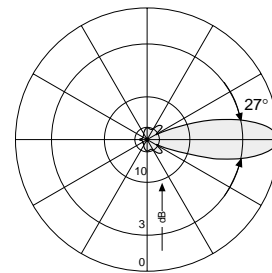
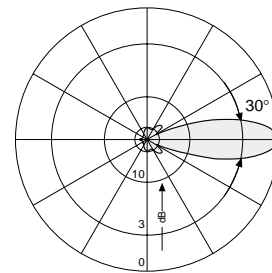
30°

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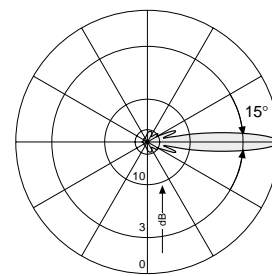
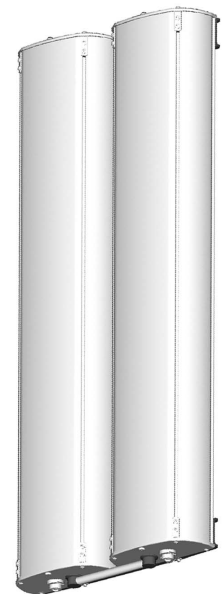
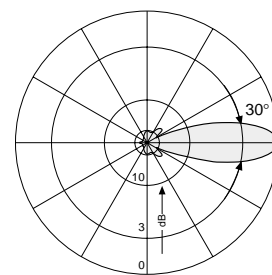
XPol A-Panel 870–960 30° 15.5dBi

Type No.	741 717
Frequency range	870 – 960 MHz
Polarization	+45°, -45°
Gain	2 x 15.5 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 30° Vertical: 27°
Front-to-back ratio, copolar	> 30 dB
Isolation	> 30 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	500 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	13 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 330 N / 60 N / 470 N
Max. wind velocity	200 km/h
Height/width/depth	656 / 560 / 116 mm



XPol A-Panel 870–960 30° 18.5dBi

Type No.	741 718
Frequency range	870 – 960 MHz
Polarization	+45°, -45°
Gain	2 x 18.5 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 30° Vertical: 15°
Front-to-back ratio, copolar	> 30 dB
Isolation	> 30 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	500 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	20 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 680 N / 130 N / 970 N
Max. wind velocity	200 km/h
Height/width/depth	1296 / 560 / 116 mm



A-Panel

Dual Polarization

Half-power Beam Width

870–960

X

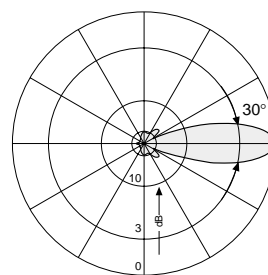
30°

KATHREIN

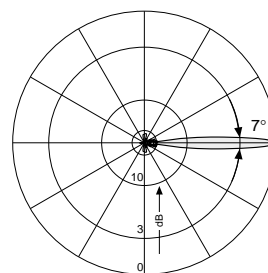
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XPol A-Panel 870–960 30° 21dBi

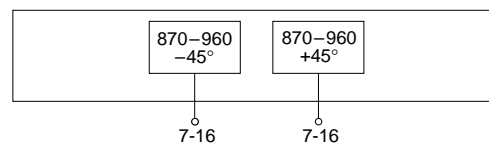
Type No.	741 785
Frequency range	870 – 960 MHz
Polarization	+45°, -45°
Gain	2 x 21 dBi
Half-power beam width Copolars +45°/-45°	Horizontal: 30° Vertical: 7°
Front-to-back ratio, copolar	> 30 dB
Isolation	> 30 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	400 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	40 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 1460 N / 280 N / 2090 N
Max. wind velocity	200 km/h
Height/width/depth	2580 / 560 / 116 mm



Horizontal Pattern



Vertical Pattern



A-Panel Dual Polarization Half-power Beam Width

806–960

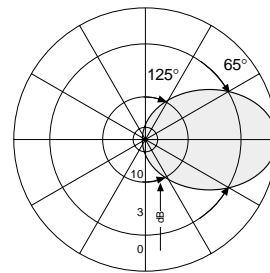
X

65°

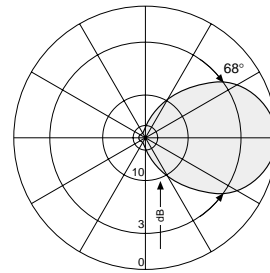
KATHREIN
Antennen · Electronic

XPoI A-Panel 806–960 65° 9dBi

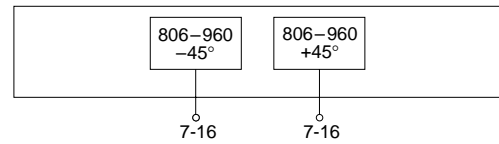
Type No.	739 619	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45° +45°, –45°	
Gain	2 x 8.5 dBi 2 x 9 dBi	
Half-power beam width Copolar +45°/–45°	Horizontal: 70° Vertical: 70°	Horizontal: 65° Vertical: 68°
Front-to-back ratio, copolar	> 27 dB > 27 dB	
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	350 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom or top	
Weight	3 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 40 N / 25 N / 90 N	
Max. wind velocity	200 km/h	
Height/width/depth	256 / 262 / 116 mm	



Horizontal Pattern

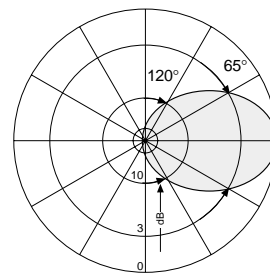


Vertical Pattern

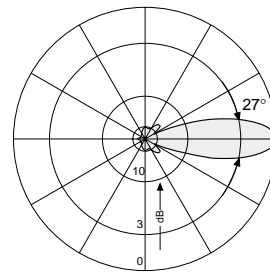


XPoI A-Panel 806–960 65° 12.5dBi

Type No.	739 620	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45° +45°, –45°	
Gain	2 x 12 dBi 2 x 12.5 dBi	
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 29°	Horizontal: 65° Vertical: 27°
Front-to-back ratio, copolar	> 30 dB	
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	500 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom or top	
Weight	6 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 110 N / 60 N / 240 N	
Max. wind velocity	200 km/h	
Height/width/depth	656 / 262 / 116 mm	



Horizontal Pattern



Vertical Pattern



A-Panel Dual Polarization Half-power Beam Width

806–960

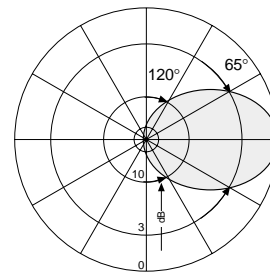
X

65°

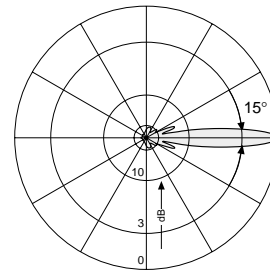
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XPol A-Panel 806–960 65° 15.5dBi

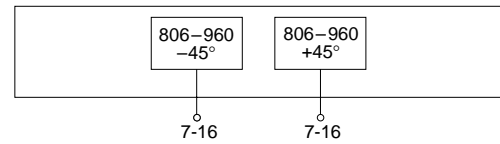
Type No.	739 622	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45° +45°, –45°	
Gain	2 x 15 dBi 2 x 15.5 dBi	
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 16°	Horizontal: 65° Vertical: 15°
Front-to-back ratio, copolar	> 30 dB	
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.4	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom or top	
Weight	10 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 230 N / 130 N / 500 N	
Max. wind velocity	200 km/h	
Height/width/depth	1296 / 262 / 116 mm	



Horizontal Pattern

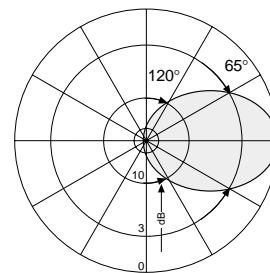


Vertical Pattern

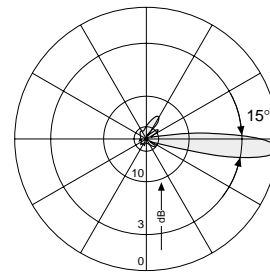


XPol A-Panel 806–960 65° 15dBi 6°T

Type No.	739 632	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45° +45°, –45°	
Gain	2 x 14.5 dBi 2 x 15 dBi	
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 16°	Horizontal: 65° Vertical: 15°
Electrical tilt	6°, fixed	
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB ≥ 16 dB	
Front-to-back ratio, copolar	> 28 dB > 30 dB	
Isolation	> 30 dB > 32 dB	
Impedance	50 Ω 50 Ω	
VSWR	< 1.5 < 1.3	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	8 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 230 N / 130 N / 500 N	
Max. wind velocity	200 km/h	
Height/width/depth	1296 / 262 / 116 mm	



Horizontal Pattern



Vertical Pattern
6° electr. downtilt



A-Panel

Dual Polarization

Half-power Beam Width

806–960

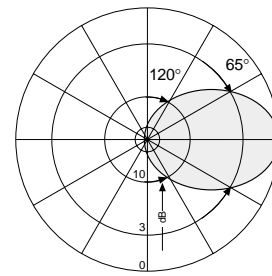
X

65°

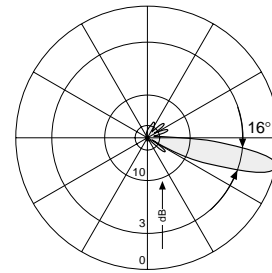
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XPol A-Panel 806–960 65° 15dBi 12°T

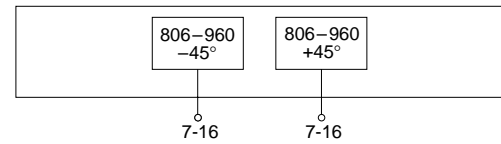
Type No.	739 633	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45° +45°, –45°	
Gain	2 x 14.5 dBi 2 x 15 dBi	
Half-power beam width Copolars +45°/–45°	Horizontal: 68° Vertical: 17°	Horizontal: 65° Vertical: 16°
Electrical tilt	12°, fixed 12°, fixed	
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB ≥ 16 dB	
Front-to-back ratio, copolar	> 28 dB > 30 dB	
Isolation	> 30 dB > 30 dB	
Impedance	50 Ω 50 Ω	
VSWR	< 1.5 < 1.3	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	8 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 230 N / 130 N / 500 N	
Max. wind velocity	200 km/h	
Height/width/depth	1296 / 262 / 116 mm	



Horizontal Pattern

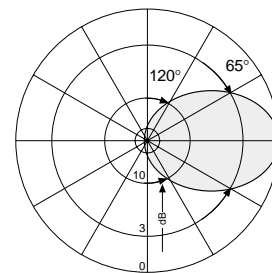


Vertical Pattern
12° electr. downtilt

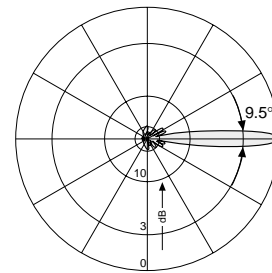


XPol A-Panel 806–960 65° 17dBi

Type No.	739 623	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45° +45°, –45°	
Gain	2 x 16.5 dBi 2 x 17 dBi	
Half-power beam width Copolars +45°/–45°	Horizontal: 68° Vertical: 10°	Horizontal: 65° Vertical: 9.5°
Sidelobe suppression for first sidelobe above horizon	≥ 15 dB	
Front-to-back ratio, copolar	> 30 dB	
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom or top	
Weight	12 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 330 N / 200 N / 770 N	
Max. wind velocity	200 km/h	
Height/width/depth	1936 / 262 / 116 mm	



Horizontal Pattern



Vertical Pattern
first null-fill below horizon
better or equal –25 dB
below maximum gain



A-Panel

Dual Polarization

Half-power Beam Width

800/900

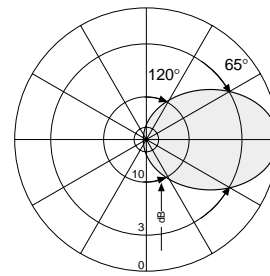
X

65°

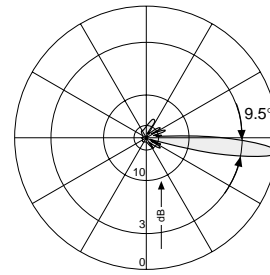
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XPol A-Panel 806–960 65° 17dBi 6°T

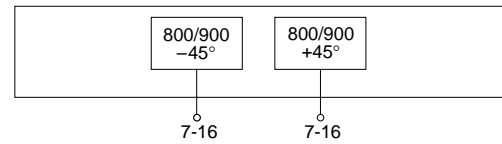
Type No.	739 634	
Frequency range	806–960	
	806 – 880 MHz	880 – 960 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 16.5 dBi	2 x 17 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 10°	Horizontal: 65° Vertical: 9.5°
Electrical tilt	6°, fixed	6°, fixed
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB	≥18 dB
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation	> 32 dB	> 32 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	7-16 female	
Connector position	Bottom Top	
Weight	12 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 350 N / 200 N / 770 N	
Max. wind velocity	200 km/h	
Height/width/depth	1936 / 262 / 116 mm	



Horizontal Pattern

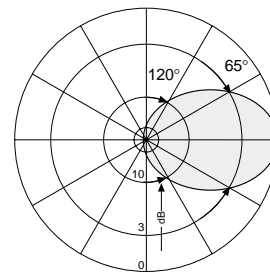


Vertical Pattern
6° electr. downtilt

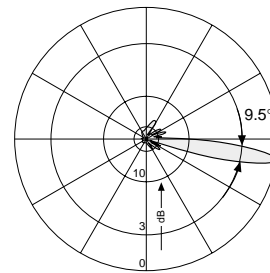


XPol A-Panel 824–960 65° 17dBi 9°T

Type No.	741 622	
Frequency range	824–960	
	824 – 880 MHz	880 – 960 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 16.5 dBi	2 x 17 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 10°	Horizontal: 65° Vertical: 9.5°
Electrical tilt	9°, fixed	9°, fixed
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB	≥16 dB
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation	> 32 dB	> 32 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	500 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	12 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 330 N / 200 N / 770 N	
Max. wind velocity	200 km/h	
Height/width/depth	1936 / 262 / 116 mm	



Horizontal Pattern



Vertical Pattern
9° electr. downtilt

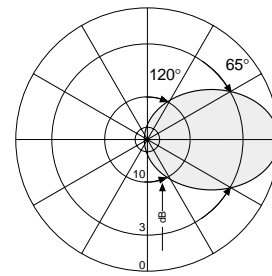


A-Panel Dual Polarization Half-power Beam Width

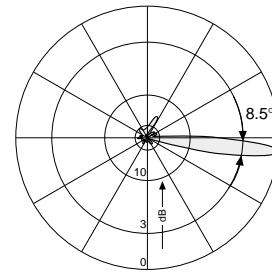
900
X
65°

XPol A-Panel 880–960 65° 17dBi 6°T

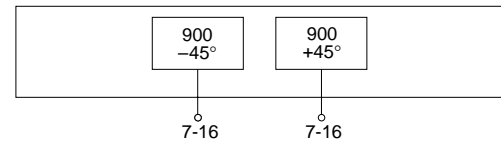
Type No.	739 635
Frequency range	880 – 960 MHz
Polarization	+45°, -45°
Gain	2 x 17 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 65° Vertical: 8.5°
Electrical tilt	6°, fixed
Sidelobe suppression above horizon (0°–40°)	≥ 20 dB
Front-to-back ratio, copolar	> 30 dB
Isolation	> 32 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	250 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	16 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 400 N / 240 N / 910 N
Max. wind velocity	200 km/h
Height/width/depth	2256 / 262 / 116 mm



Horizontal Pattern

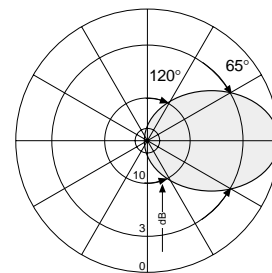


Vertical Pattern
6° electr. downtilt

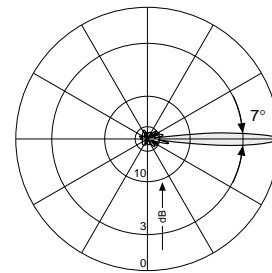


XPol A-Panel 870–960 65° 18dBi

Type No.	739 630
Frequency range	870 – 960 MHz
Polarization	+45°, -45°
Gain	2 x 18 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 65° Vertical: 7°
Sidelobe suppression for first sidelobe above horizon	≥ 15 dB
Front-to-back ratio, copolar	> 30 dB
Isolation	> 32 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	600 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom or top
Weight	19 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 470 N / 280 N / 1040 N
Max. wind velocity	200 km/h
Height/width/depth	2580 / 262 / 116 mm



Horizontal Pattern



Vertical Pattern
first null-fill below horizon
better or equal -25 dB
below maximum gain



A-Panel

Dual Polarization

Half-power Beam Width

806–960

X

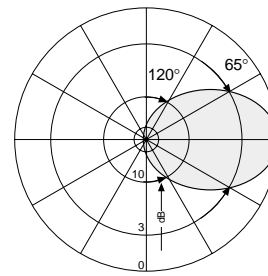
65°

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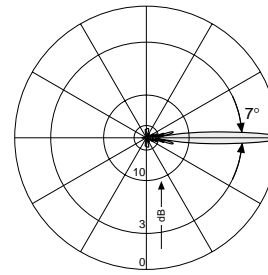
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XPol A-Panel 806–960 65° 18dBi

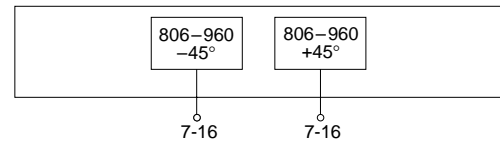
Type No.	739 624	
Frequency range	806–960	
	806 – 880 MHz	880 – 960 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 17.5 dBi	2 x 18 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 7.5°	Horizontal: 65° Vertical: 7°
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation	> 30 dB	> 32 dB
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom or top	
Weight	19 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 470 N / 280 N / 1040 N	
Max. wind velocity	200 km/h	
Height/width/depth	2580 / 262 / 116 mm	



Horizontal Pattern

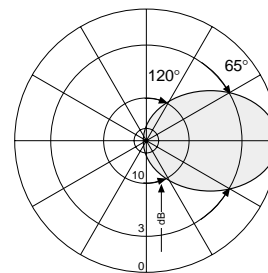


Vertical Pattern

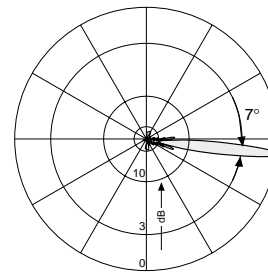


XPol A-Panel 806–960 65° 18dBi 6°T

Type No.	739 636	
Frequency range	806–960	
	806 – 880 MHz	880 – 960 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 17.5 dBi	2 x 18 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 7.5°	Horizontal: 65° Vertical: 7°
Electrical tilt	6°, fixed	
Sidelobe suppression for first sidelobe above horizon	≥ 18 dB	
Front-to-back ratio, copolar	> 30 dB	
Isolation	> 32 dB	
Impedance	50 Ω	
VSWR	< 1.5	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	500 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	19 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 470 N / 280 N / 1040 N	
Max. wind velocity	200 km/h	
Height/width/depth	2580 / 262 / 116 mm	



Horizontal Pattern



Vertical Pattern
6° electr. downtilt



A-Panel

Dual Polarization

Half-power Beam Width

Fixed Electrical Downtilt

806–960

X

65°

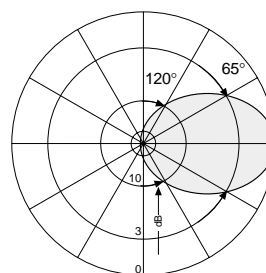
9°

KATHREIN

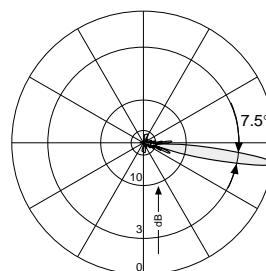
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XPol A-Panel 806–960 65° 18dBi 9°T

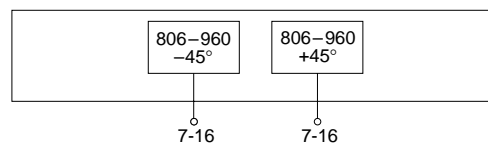
Type No.	739 637	
Frequency range	806–960	
	806 – 870 MHz	870 – 960 MHz
Polarization	+45°, –45°	
Gain	2 x 17.5 dBi	2 x 18 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 7.5°	
Electrical tilt	9°, fixed	
Sidelobe suppression for first sidelobe above horizon	better 18 dB below maximum gain	
Front-to-back ratio, copolar	> 30 dB	
Isolation	> 32 dB	
Impedance	50 Ω	
VSWR	< 1.5	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	500 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	19 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 470 N / 280 N / 1040 N	
Max. wind velocity	200 km/h	
Height/width/depth	2580 / 262 / 116 mm	



Horizontal Pattern



Vertical Pattern
9° electr. downtilt



A-Panel Dual Polarization Half-power Beam Width

870–960

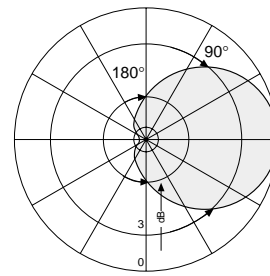
X

90°

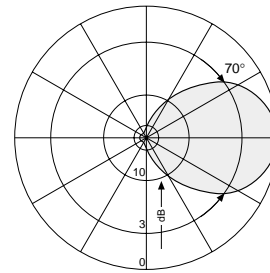
KATHREIN
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XPol A-Panel 870–960 90° 7.5dBi

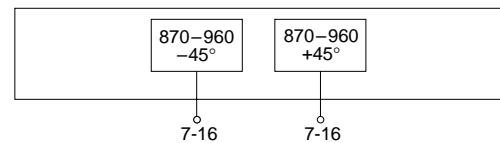
Type No.	739 651
Frequency range	870 – 960 MHz
Polarization	+45°, -45°
Gain	2 x 7.5 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 90° Vertical: 70°
Front-to-back ratio, copolar	> 20 dB
Isolation	> 30 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	300 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom or top
Weight	3 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 40 N / 25 N / 90 N
Max. wind velocity	200 km/h
Height/width/depth	256 / 262 / 116 mm



Horizontal Pattern



Vertical Pattern



A-Panel

Dual Polarization

Half-power Beam Width

806–960

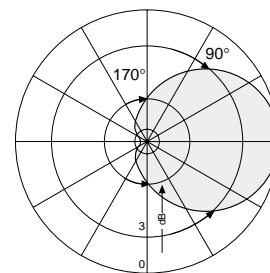
X

90°

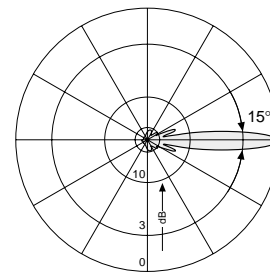
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XPoI A-Panel 806–960 90° 13.5dBi

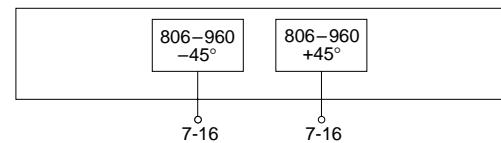
Type No.	739 648	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45° +45°, –45°	
Gain	2 x 13 dBi 2 x 13.5 dBi	
Half-power beam width Copolar +45°/–45°	Horizontal: 90° Vertical: 16°	Horizontal: 90° Vertical: 15°
Sidelobe suppression for first sidelobe above horizon	≥ 16 dB	
Front-to-back ratio, copolar	> 25 dB	
Isolation	> 32 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom or top	
Weight	10 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 230 N / 130 N / 500 N	
Max. wind velocity	200 km/h	
Height/width/depth	1296 / 262 / 116 mm	



Horizontal Pattern

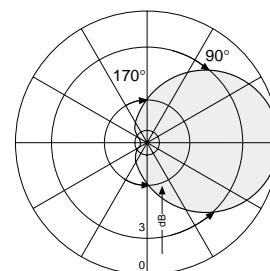


Vertical Pattern

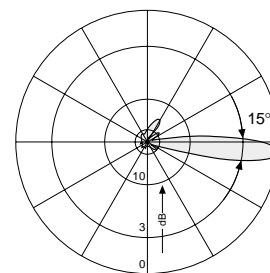


XPoI A-Panel 806–960 90° 13.5dBi 6°T

Type No.	739 658	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45° +45°, –45°	
Gain	2 x 13 dBi 2 x 13.5 dBi	
Half-power beam width Copolar +45°/–45°	Horizontal: 90° Vertical: 16°	Horizontal: 90° Vertical: 15°
Electrical tilt	6°, fixed	
Sidelobe suppression for first sidelobe above horizon	≥ 15 dB	
Front-to-back ratio, copolar	> 25 dB	
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.5	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	500 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	8 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 230 N / 130 N / 500 N	
Max. wind velocity	200 km/h	
Height/width/depth	1296 / 262 / 116 mm	



Horizontal Pattern



Vertical Pattern
6° electr. downtilt



A-Panel

Dual Polarization

Half-power Beam Width

870–960

X

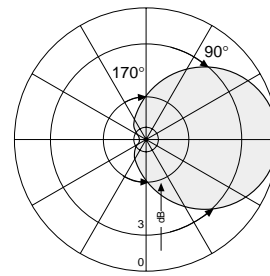
90°

KATHREIN

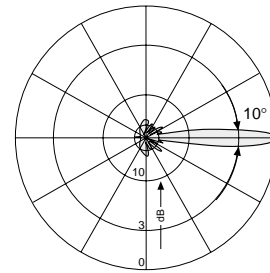
Antennen · Electronic

XPol A-Panel 870–960 90° 15.5dBi

Type No.	739 655
Frequency range	870 – 960 MHz
Polarization	+45°, -45°
Gain	2 x 15.5 dBi
Half-power beam width Copolars +45°/-45°	Horizontal: 90° Vertical: 10°
Sidelobe suppression for first sidelobe above horizon	≥ 15 dB
Front-to-back ratio, copolar	> 25 dB
Isolation	> 32 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	600 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom or top
Weight	14 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 330 N / 200 N / 770 N
Max. wind velocity	200 km/h
Height/width/depth	1936 / 262 / 116 mm

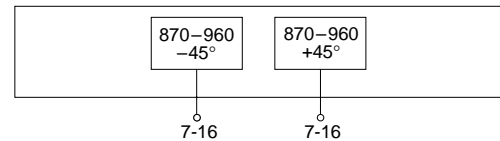


Horizontal Pattern



Vertical Pattern

first null-fill below horizon
better or equal -25 dB
below maximum gain



A-Panel

Dual Polarization

Half-power Beam Width

806–960

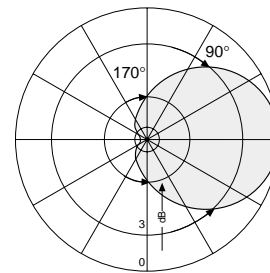
X

90°

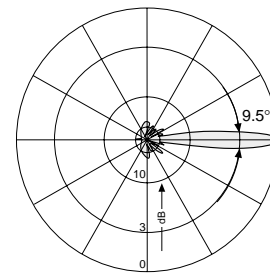
KATHREIN
Antennen · Electronic

XPol A-Panel 806–960 90° 15.5dBi

Type No.	739 649	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45° +45°, –45°	
Gain	2 x 15 dBi 2 x 15.5 dBi	
Half-power beam width Copolar +45°/–45°	Horizontal: 90° Vertical: 10°	Horizontal: 90° Vertical: 9.5°
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB	
Front-to-back ratio, copolar	> 25 dB	
Isolation	> 32 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom or top	
Weight	12 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 330 N / 200 N / 770 N	
Max. wind velocity	200 km/h	
Height/width/depth	1936 / 262 / 116 mm	

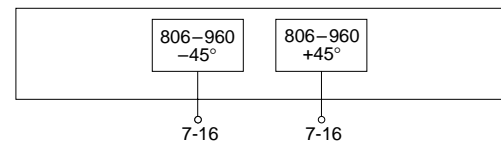


Horizontal Pattern



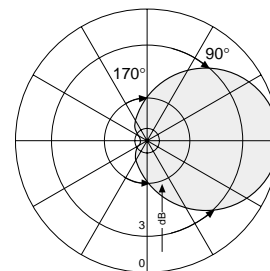
Vertical Pattern

first null-fill below horizon
better or equal –25 dB
below maximum gain

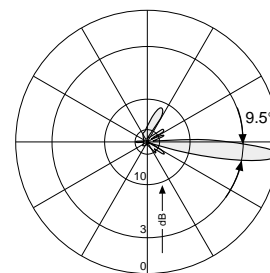


XPol A-Panel 806–960 90° 15.5dBi 6°T

Type No.	739 660	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45° +45°, –45°	
Gain	2 x 15 dBi 2 x 15.5 dBi	
Half-power beam width Copolar +45°/–45°	Horizontal: 90° Vertical: 10°	Horizontal: 90° Vertical: 9.5°
Electrical tilt	6°, fixed	
Sidelobe suppression for first sidelobe above horizon	≥ 16 dB	
Front-to-back ratio, copolar	> 25 dB	
Isolation	> 32 dB	
Impedance	50 Ω	
VSWR	< 1.5	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	14 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 330 N / 200 N / 770 N	
Max. wind velocity	200 km/h	
Height/width/depth	1936 / 262 / 116 mm	



Horizontal Pattern



Vertical Pattern
6° electr. downtilt



A-Panel Dual Polarization Half-power Beam Width

806–960

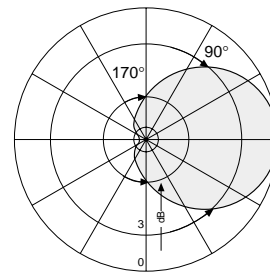
X

90°

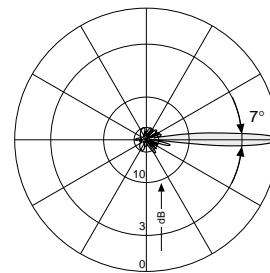
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XPol A-Panel 806–960 90° 17dBi

Type No.	739 650	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 16.5 dBi	2 x 17 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 90° Vertical: 7.5°	Horizontal: 90° Vertical: 7°
Sidelobe suppression for first sidelobe above horizon	≥ 15 dB	
Front-to-back ratio, copolar	> 25 dB	
Isolation	> 32 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom or top	
Weight	19 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 470 N / 280 N / 1040 N	
Max. wind velocity	200 km/h	
Height/width/depth	2580 / 262 / 116 mm	

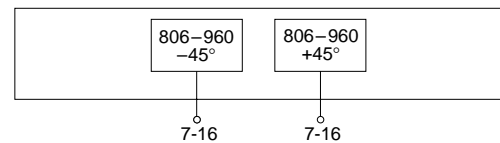


Horizontal Pattern



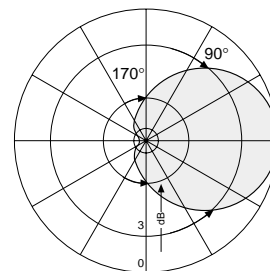
Vertical Pattern

first null-fill below horizon
better or equal –25 dB
below maximum gain

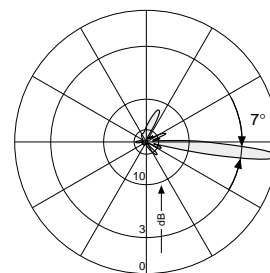


XPol A-Panel 806–960 90° 17dBi 6°T

Type No.	739 662	
Frequency range	806–960 806 – 880 MHz 880 – 960 MHz	
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 16.5 dBi	2 x 17 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 90° Vertical: 7.5°	Horizontal: 90° Vertical: 7°
Electrical tilt	6°, fixed	
Sidelobe suppression for first sidelobe above horizon	≥ 16 dB	
Front-to-back ratio, copolar	> 25 dB	
Isolation	> 32 dB	
Impedance	50 Ω	
VSWR	< 1.5	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	600 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	19 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 470 N / 280 N / 1040 N	
Max. wind velocity	200 km/h	
Height/width/depth	2580 / 262 / 116 mm	



Horizontal Pattern



Vertical Pattern
6° electr. downtilt



A-Panel Dual Polarization Half-power Beam Width Adjust. Electr. Downtilt

806–960

X

65°

0°–14°

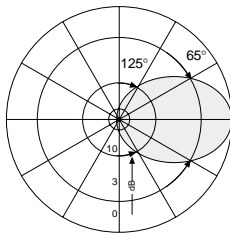
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XPol A-Panel 806–960 65° 15dBi 0°–14°T

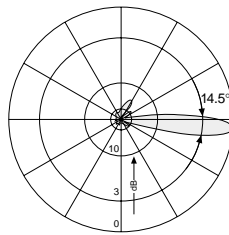
Type No.	739 681		
Frequency range	806–960		
	806 – 866 MHz	824 – 894 MHz	880 – 960 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	14.5 dBi	14.7 dBi	15 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 70° Vertical: 15.5°	Horizontal: 68° Vertical: 15°	Horizontal: 65° Vertical: 14.5°
Electrical tilt	0°–14° continuously adjustable	0°–14° continuously adjustable	0°–14° continuously adjustable
Sidelobe suppression for first sidelobe above horizon	0° ... 4° ... 8° ... 14°T 13 ... 13 ... 15 ... 15 dB	0° ... 4° ... 8° ... 14°T 16 ... 16 ... 16 ... 16 dB	0° ... 4° ... 8° ... 14°T 16 ... 16 ... 16 ... 16 dB
Front-to-back ratio, copolar	> 25 dB	> 25 dB	> 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation, between ports	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	400 Watt (at 50 °C ambient temperature)		



880 – 960 MHz: +45°/–45° Polarization

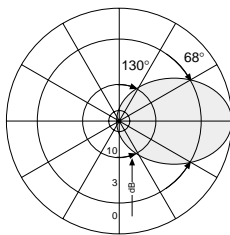


Horizontal Pattern

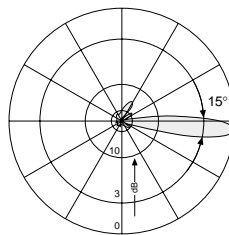


Vertical Pattern
0°–14° electrical downtilt
continuously adjustable

824 – 894 MHz: +45°/–45° Polarization

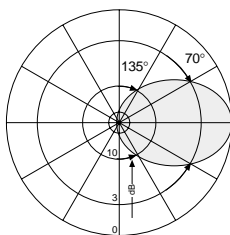


Horizontal Pattern

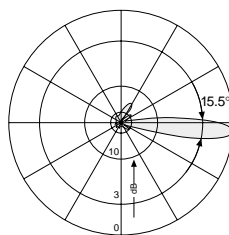


Vertical Pattern
0°–14° electrical downtilt
continuously adjustable

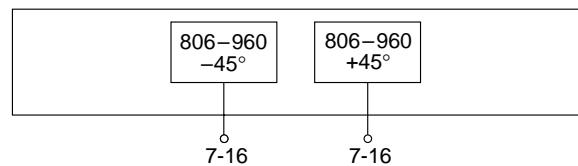
806 – 866 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–14° electrical downtilt
continuously adjustable



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	12 kg
Wind load	Frontal: 230 N (at 150 km/h) Lateral: 130 N (at 150 km/h) Rearside: 500 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1422 x 287 x 165 mm
Height/width/depth	1296 / 262 / 116 mm

A-Panel Dual Polarization Half-power Beam Width Adjust. Electr. Downtilt

824–960

X

65°

2°–10°

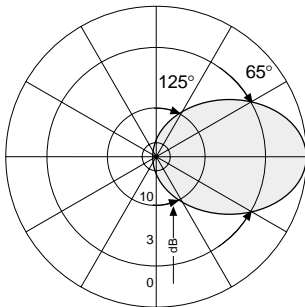
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XPol A-Panel 824–960 65° 16.5dBi 2°–10°T

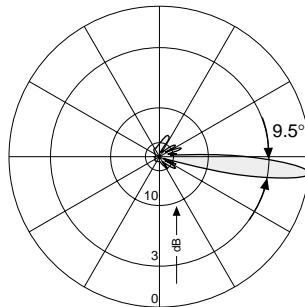
Type No.	739 639	
Frequency range	824–960	
	824 – 894 MHz	880 – 960 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 16 dBi	2 x 16.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 10°	Horizontal: 65° Vertical: 9.5°
Electrical tilt continuously adjustable	2°–10°	2°–10°
Sidelobe suppression for first sidelobe above horizon	2° ... 5° ... 8° ... 10° T 20 ... 16 ... 14 ... 13 dB	2° ... 5° ... 8° ... 10° T 20 ... 18 ... 16 ... 14 dB
Front-to-back ratio, copolar	> 25 dB	> 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	400 Watt (at 50 °C ambient temperature)	



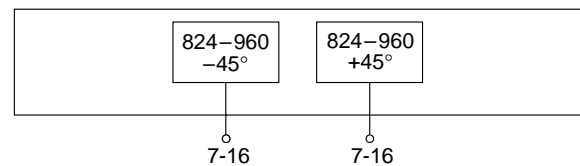
880 – 960 MHz: +45°/–45° Polarization



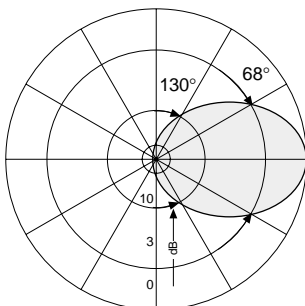
Horizontal Pattern



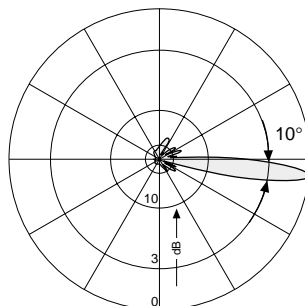
Vertical Pattern
2°–10° electrical downtilt
continuously adjustable



824 – 894 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
2°–10° electrical downtilt
continuously adjustable

Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	17 kg
Wind load	Frontal: 350 N (at 150 km/h) Lateral: 200 N (at 150 km/h) Rearside: 770 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2122 x 287 x 165 mm
Height/width/depth	1996 / 262 / 116 mm

A-Panel Dual Polarization Half-power Beam Width Adjust. Electr. Downtilt

806–960

X

65°

0°–7°

KATHREIN

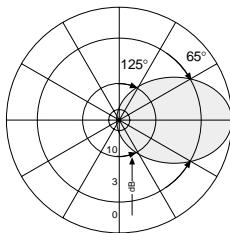
Antennen · Electronic

XPol A-Panel 806–960 65° 17.5dBi 0°–7°T

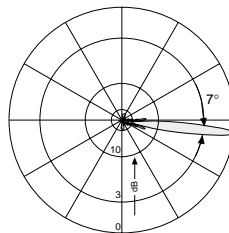
Type No.	739 640		
Frequency range	806 – 866 MHz	824 – 894 MHz	880 – 960 MHz
Polarization	+45°, –45°	+45°, –45	+45°, –45°
Gain	2 x 17 dBi	2 x 17.2 dBi	2 x 17.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 70° Vertical: 7.8°	Horizontal: 68° Vertical: 7.5°	Horizontal: 65° Vertical: 7°
Electrical tilt	0°–7°, adjustable	0°–7°, adjustable	0°–7°, adjustable
Sidelobe suppression for first sidelobe above horizon	0° ... 2° ... 4° ... 7° T 17 ... 17 ... 17 ... 17 dB	0° ... 2° ... 4° ... 7° T 17 ... 17 ... 17 ... 17 dB	0° ... 2° ... 4° ... 7° T 20 ... 18 ... 18 ... 18 dB
Front-to-back ratio, copolar	> 25 dB	> 25 dB	> 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	400 Watt (at 50 °C ambient temperature)		



880 – 960 MHz: +45°/–45° Polarization

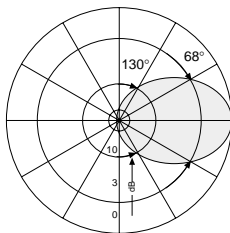


Horizontal Pattern

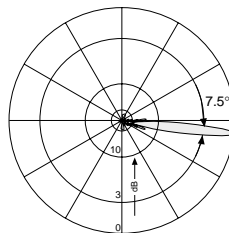


Vertical Pattern
0°–7° electrical downtilt
continuously adjustable

824 – 894 MHz: +45°/–45° Polarization

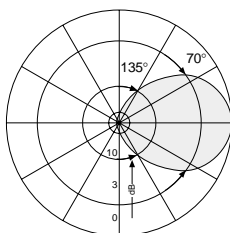


Horizontal Pattern

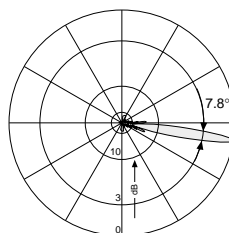


Vertical Pattern
0°–7° electrical downtilt
continuously adjustable

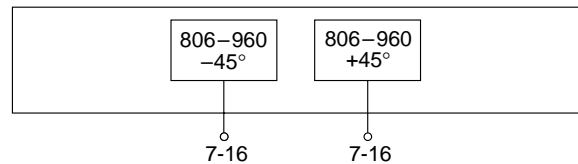
806 – 866 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–7° electrical downtilt
continuously adjustable



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	22 kg
Wind load	Frontal: 470 N (at 150 km/h) Lateral: 280 N (at 150 km/h) Rearside: 1040 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2692 x 287 x 165 mm
Height/width/depth	2580 / 262 / 116 mm

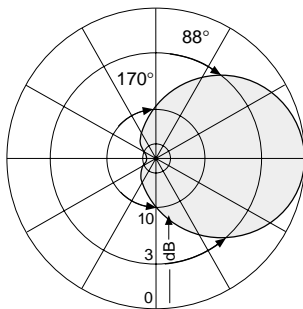
A-Panel 824–960
Dual Polarization X
Half-power Beam Width 88°
Adjust. Electr. Downtilt 0°–14°
 set by hand or by optional RCU (remote control unit)

XPol A-Panel 824–960 88° 13.5dBi 0°–14°T

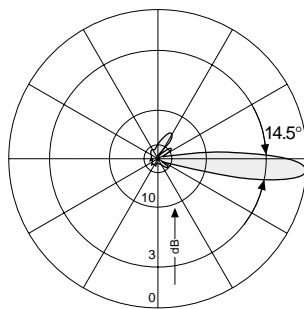
Type No.	739 664	
Frequency range	824–960	
	824 – 894 MHz	880 – 960 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	13.5 dBi	13.5 dBi
Half-power beam width Copolars +45°/–45°	Horizontal: 85° Vertical: 15°	Horizontal: 88° Vertical: 14.5°
Electrical tilt continuously adjustable	0°–14°	0°–14°
Sidelobe suppression for first sidelobe above horizon	0° ... 4° ... 8° ... 14° T 16 ... 16 ... 16 ... 16 dB	0° ... 4° ... 8° ... 14° T 15 ... 16 ... 16 ... 16 dB
Front-to-back ratio, copolar	> 23 dB	> 23 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	400 Watt (at 50 °C ambient temperature)	



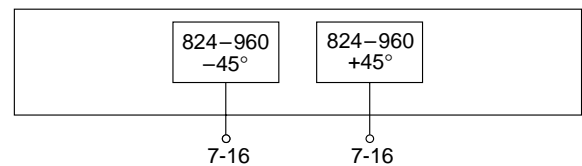
880 – 960 MHz: +45°/–45° Polarization



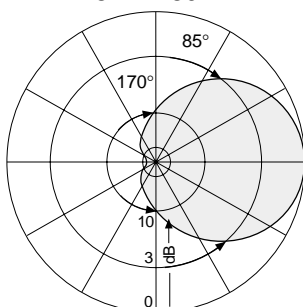
Horizontal Pattern



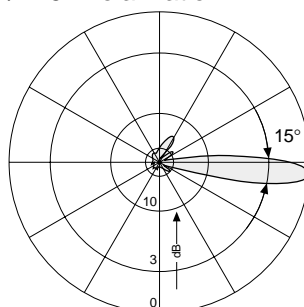
Vertical Pattern
 0°–14° electrical downtilt
 continuously adjustable



824 – 894 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
 0°–14° electrical downtilt
 continuously adjustable

Mechanical specifications	
Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	14 kg
Wind load	Frontal: 230 N (at 150 km/h) Lateral: 130 N (at 150 km/h) Rearside: 500 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1562 x 287 x 165 mm
Height/width/depth	1296 / 262 / 116 mm

A-Panel

Dual Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

set by hand or by optional RCU (remote control unit)

806–960

X

88°

0°–10°

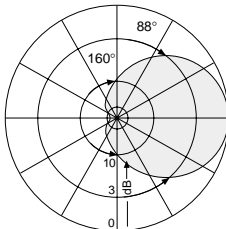
KATHREIN
Antennen · Electronic

XPol A-Panel 806–960 88° 15dBi 0°–10°T

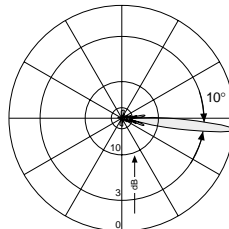
Type No.	739 665		
Frequency range	806–960		
	806 – 866 MHz	824 – 894 MHz	880 – 960 MHz
Polarization	+45°, –45°	+45°, –45	+45°, –45°
Gain	2 x 15 dBi	2 x 15 dBi	2 x 15 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 85° Vertical: 10.5°	Horizontal: 85° Vertical: 10.2°	Horizontal: 88° Vertical: 10°
Electrical tilt continuously adjustable	0.5°–10°	0.5°–10°	0.5°–10°
Sidelobe suppression for first sidelobe above horizon	0° ... 4° ... 8° ... 10° T 16 ... 16 ... 17 ... 17 dB	0° ... 4° ... 8° ... 10° T 16 ... 16 ... 17 ... 17 dB	0° ... 4° ... 8° ... 10° T 16 ... 16 ... 18 ... 18 dB
Front-to-back ratio, copolar	> 25 dB	> 25 dB	> 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	400 Watt (at 50 °C ambient temperature)		



880 – 960 MHz: +45°/–45° Polarization

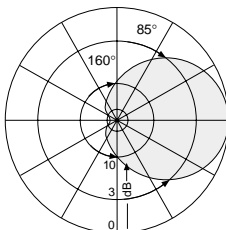


Horizontal Pattern

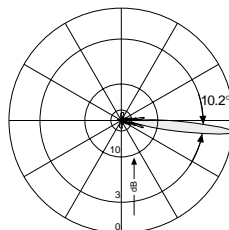


Vertical Pattern
0.5°–10° electrical downtilt

824 – 894 MHz: +45°/–45° Polarization

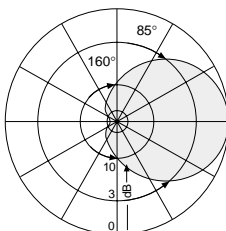


Horizontal Pattern

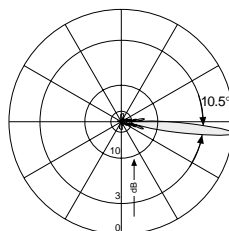


Vertical Pattern
0.5°–10° electrical downtilt

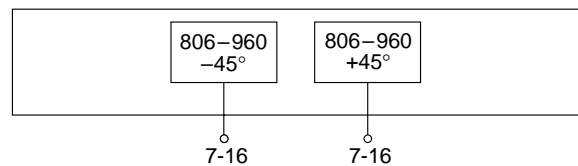
806 – 866 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0.5°–10° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	18 kg
Wind load	Frontal: 330 N (at 150 km/h) Lateral: 200 N (at 150 km/h) Rearside: 770 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2262 x 287 x 165 mm
Height/width/depth	1996 / 262 / 116 mm

A-Panel Dual Polarization Half-power Beam Width Adjust. Electr. Downtilt set by hand or by optional RCU (remote control unit)

806–960

X

88°

0°–7°

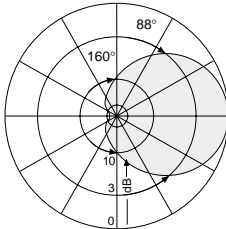
KATHREIN
Antennen · Electronic

XPol A-Panel 806–960 88° 16dBi 0°–7°T

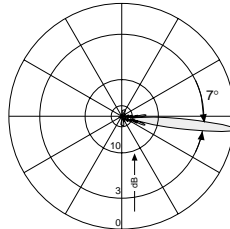
Type No.	739 666		
Frequency range	806–960		
	806 – 866 MHz	824 – 894 MHz	880 – 960 MHz
Polarization	+45°, –45°	+45°, –45	+45°, –45°
Gain	2 x 16 dBi	2 x 16 dBi	2 x 16 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 85° Vertical: 7.8°	Horizontal: 85° Vertical: 7.5°	Horizontal: 88° Vertical: 7°
Electrical tilt continuously adjustable	0°–7°	0°–7°	0°–7°
Sidelobe suppression for first sidelobe above horizon	0° ... 2° ... 4° ... 7° T 16 ... 16 ... 17 ... 17 dB	0° ... 2° ... 4° ... 7° T 16 ... 16 ... 17 ... 17 dB	0° ... 2° ... 4° ... 7° T 18 ... 18 ... 18 ... 18 dB
Front-to-back ratio, copolar	> 25 dB	> 25 dB	> 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	400 Watt (at 50 °C ambient temperature)		



880 – 960 MHz: +45°/–45° Polarization

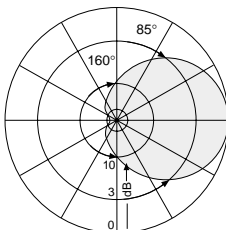


Horizontal Pattern

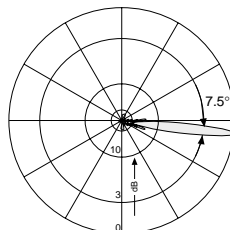


Vertical Pattern
0°–7° electrical downtilt

824 – 894 MHz: +45°/–45° Polarization

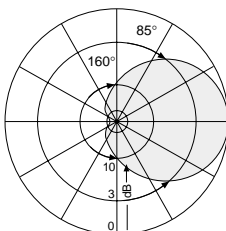


Horizontal Pattern

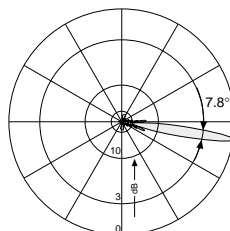


Vertical Pattern
0°–7° electrical downtilt

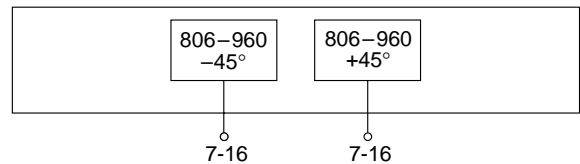
806 – 866 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–7° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	22 kg
Wind load	Frontal: 470 N (at 150 km/h) Lateral: 280 N (at 150 km/h) Rearside: 1040 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2846 x 287 x 165 mm
Height/width/depth	2580 / 262 / 116 mm

Summary – Directional Antennas

Dual Polarization +45°/–45°

1800/1900/2000

Dual Polarization +45°/–45° – 1800/1900/2000

Type	Type No.	Height [mm]	Connector position	Page
XPol F-Panel	1710–1880 33° 19.5dBi 2°T 739 927	982	bottom	38
XPol F-Panel	1710–1880 33° 22dBi 2°T 741 623	1942	bottom	38
XPol F-Panel	1710–2170 65° 12dBi 2°T 739 489	342	bottom	64
XPol F-Panel	1710–1880 65° 15.5dBi 739 490	662	bottom or top	39
XPol F-Panel	1710–1880 65° 15.5dBi 6°T 739 491	662	bottom	39
XPol F-Panel	1710–1880 65° 15dBi 12°T 741 264	662	bottom	40
XPol F-Panel	1710–1880 65° 18dBi 739 494	1302	bottom or top	40
XPol F-Panel	1710–1990 65° 18dBi 2°T 739 495	1302	bottom	41
XPol F-Panel	1710–1990 65° 18dBi 6°T 739 496	1302	bottom	41
XPol F-Panel	1710–2170 65° 18.5dBi 2°T 741 794	1302	bottom	65
XPol F-Panel	1710–1990 65° 19.5dBi 2°T 739 498	1942	bottom	42
XPol F-Panel	1710–1990 90° 8dBi 739 695	174	bottom or top	43
XPol F-Panel	1710–1880 90° 14dBi 739 698	702	bottom or top	44
XPol F-Panel	1710–1880 90° 14dBi 4°T 741 214	702	bottom	44
XPol F-Panel	1710–1880 90° 16.5dBi 2°T 739 707	1302	bottom	45
XPol F-Panel	1710–1880 90° 16.5dBi 6°T 739 708	1302	bottom	45
XPol F-Panel	1710–2170 85° 17dBi 2°T 741 987	1302	bottom	66
XPol F-Panel	1710–1880 90° 17.5dBi 2°T 739 710	1902	bottom	46

Versions with connector position “Top” on request

Dual Polarization +45°/–45° – 1800/1900/2000

Adjustable Electrical Downtilt – Possible upgrade with Remote Control Unit (RCU)

XPol F-Panel	1710–2170 65° 15.5dBi 0°–10°T 742 211	662	bottom	67
XPol F-Panel	1710–2170 65° 18dBi 0°–8°T 742 212	1302	bottom	68
XPol F-Panel	1710–2170 65° 19.5dBi 0°–6°T 742 213	1942	bottom	69
XPol F-Panel	1710–2170 88° 14dBi 0°–10°T 741 988	662	bottom	70
XPol F-Panel	1710–2170 88° 17dBi 0°–8°T 741 989	1302	bottom	71
XPol F-Panel	1710–2170 88° 18dBi 0°–6°T 741 990	1942	bottom	72

2-Multi-band Dual Polarization +45°/–45° – 1800/1900/2000

Adjustable Electrical Downtilt – Possible upgrade with Remote Control Unit (RCU)

XXPol F-Panel	1710–2170/1710–2170 65°/65° 18/18dBi 0°–8°/0°–8°T 742 234	1302	bottom	73
XXPol F-Panel	1710–2170/1710–2170 65°/65° 19.5/19.5dBi 0°–6°/0°–6°T 742 235	1942	bottom	74

New Products

F-Panels

Dual Polarization

Half-power Beam Width

Fixed Electrical Downtilt

1710–1880

X

33°

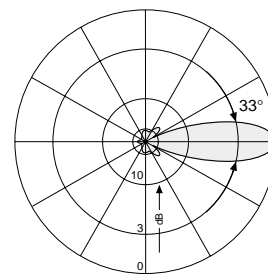
2°

KATHREIN

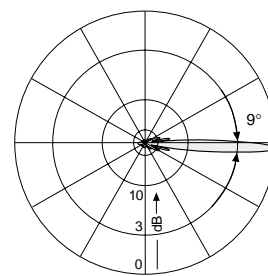
Antennen · Electronic

XPoL F-Panel 1710–1880 33° 19.5dBi 2°T

Type No.	739 927	
Frequency range	1710 – 1880 MHz	
Polarization	+45°, –45°	
Gain	2 x 19.5 dBi	
Half-power beam width Copolar	+45° Horizontal: 33° Vertical: 9°	–45° Horizontal: 33° Vertical: 9°
Electrical tilt	2°, fixed	
Sidelobe suppression	above horizon for first sidelobe better or equal 14 dB below maximum gain	
Front-to-back ratio, copolar	> 30 dB	
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	200 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	7 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 260 N / 95 N / 370 N	
Max. wind velocity	200 km/h	
Height/width/depth	982 / 262 / 59 mm	

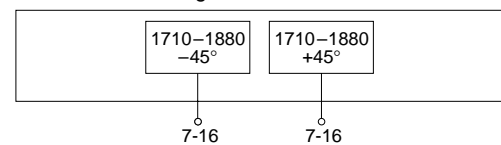


Horizontal Pattern



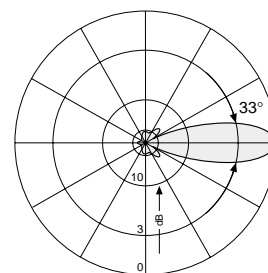
Vertical Pattern

- 2° electr. downtilt
- first null-fill below horizon
better or equal –25 dB
below maximum gain

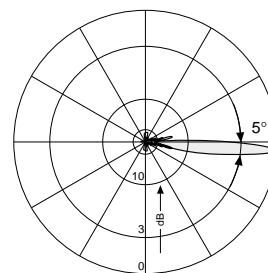


XPoL F-Panel 1710–1880 33° 22dBi 2°T

Type No.	741 623	
Frequency range	1710 – 1880 MHz	
Polarization	+45°, –45°	
Gain	2 x 22 dBi	
Half-power beam width Copolar	+45° Horizontal: 33° Vertical: 5°	–45° Horizontal: 33° Vertical: 5°
Electrical tilt	2°, fixed	
Sidelobe suppression	above horizon for first sidelobe better or equal 14 dB below maximum gain	
Front-to-back ratio, copolar	> 30 dB	
Isolation	> 30 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power per input	200 Watt (at 50 °C ambient temperature)	
Input	2 x 7-16 female	
Connector position	Bottom	
Weight	11 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 540 N / 210 N / 770 N	
Max. wind velocity	200 km/h	
Height/width/depth	1942 / 262 / 59 mm	



Horizontal Pattern



Vertical Pattern
2° electrical downtilt



F-Panel

Dual Polarization

Half-power Beam Width

1710–1880

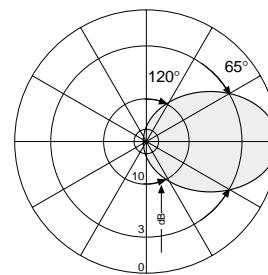
X

65°

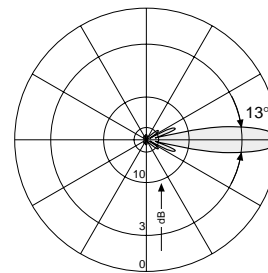
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XPol F-Panel 1710–1880 65° 15.5dBi

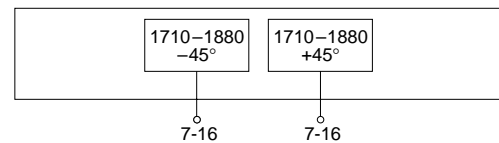
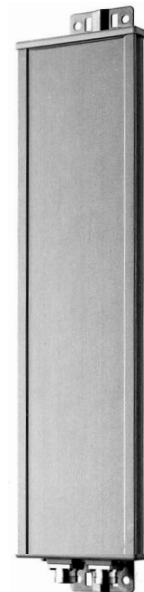
Type No.	739 490
Frequency range	1710 – 1880 MHz
Polarization	+45°, -45°
Gain	2 x 15.5 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 65° Vertical: 13°
Front-to-back ratio, copolar	> 30 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom or top
Weight	3.5 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 150 N / 55 N / 120 N
Max. wind velocity	200 km/h
Height/width/depth	662 / 155 / 49 mm



Horizontal Pattern

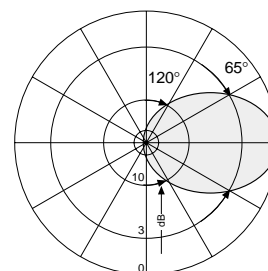


Vertical Pattern

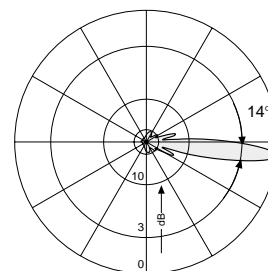


XPol F-Panel 1710–1880 65° 15.5dBi 6°T

Type No.	739 491
Frequency range	1710 – 1880 MHz
Polarization	+45°, -45°
Gain	2 x 15.5 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 65° Vertical: 14°
Electrical tilt	6°, fixed
Front-to-back ratio, copolar	> 30 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	3.5 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 150 N / 55 N / 120 N
Max. wind velocity	200 km/h
Height/width/depth	662 / 155 / 49 mm



Horizontal Pattern



Vertical Pattern
6° electrical downtilt



F-Panel

Dual Polarization

Half-power Beam Width

1710–1880

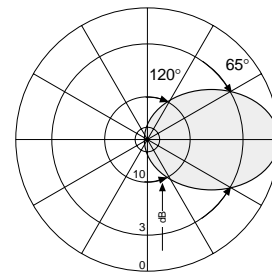
X

65°

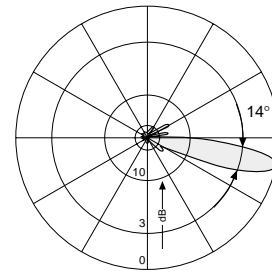
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XPol F-Panel 1710–1880 65° 15dBi 12°T

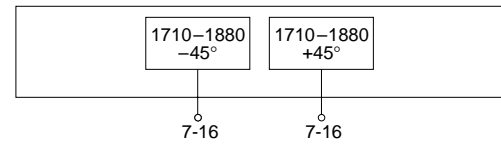
Type No.	741 264
Frequency range	1710 – 1880 MHz
Polarization	+45°, -45°
Gain	2 x 15 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 65° Vertical: 14°
Electrical tilt	12°, fixed
Front-to-back ratio, copolar	> 30 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	3.5 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 150 N / 55 N / 120 N
Max. wind velocity	200 km/h
Height/width/depth	662 / 155 / 49 mm



Horizontal Pattern

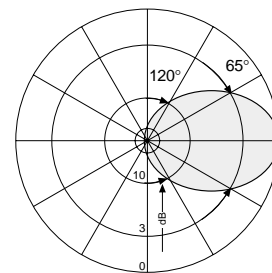


Vertical Pattern
12° electrical downtilt

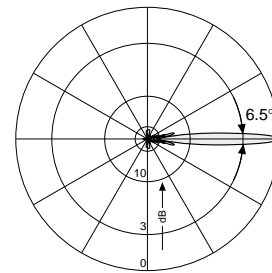


XPol F-Panel 1710–1880 65° 18dBi

Type No.	739 494
Frequency range	1710 – 1880 MHz
Polarization	+45°, -45°
Gain	2 x 18 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 65° Vertical: 6.5°
Front-to-back ratio, copolar	> 30 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom or top
Weight	6 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 310 N / 110 N / 250 N
Max. wind velocity	200 km/h
Height/width/depth	1302 / 155 / 49 mm



Horizontal Pattern



Vertical Pattern



F-Panel

Dual Polarization

Half-power Beam Width

1710–1990

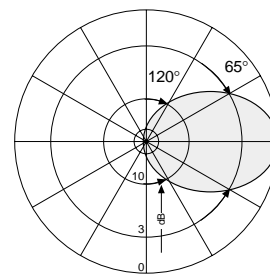
X

65°

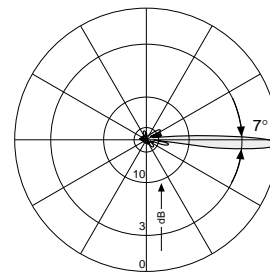
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Antennen · Electronic

XPol F-Panel 1710–1990 65° 18dBi 2°T

Type No.	739 495
Frequency range	1710 – 1990 MHz
Polarization	+45°, –45°
Gain	2 x 18 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 7°
Electrical tilt	2°, fixed
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB
Front-to-back ratio, copolar	> 30 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.4 (1710 – 1880 MHz) < 1.5 (1880 – 1990 MHz)
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	6 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 310 N / 110 N / 250 N
Max. wind velocity	200 km/h
Height/width/depth	1302 / 155 / 49 mm

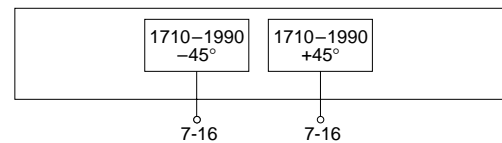


Horizontal Pattern



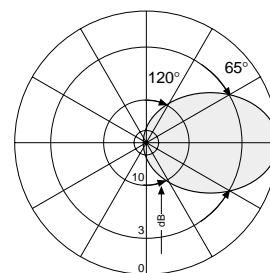
Vertical Pattern

- 2° electrical downtilt
- first null-fill below horizon better or equal –25 dB below maximum gain

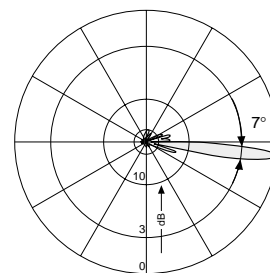


XPol F-Panel 1710–1990 65° 18dBi 6°T

Type No.	739 496
Frequency range	1710 – 1990 MHz
Polarization	+45°, –45°
Gain	2 x 18 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 7°
Electrical tilt	6°, fixed
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB
Front-to-back ratio, copolar	> 30 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.4 (1710 – 1880 MHz) < 1.5 (1880 – 1990 MHz)
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	6 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 310 N / 110 N / 250 N
Max. wind velocity	200 km/h
Height/width/depth	1302 / 155 / 49 mm



Horizontal Pattern



Vertical Pattern

- 6° electrical downtilt
- first null-fill below horizon better or equal –25 dB below maximum gain



F-Panel
Dual Polarization
Half-power Beam Width
Fixed Electrical Downtilt

1710–1990

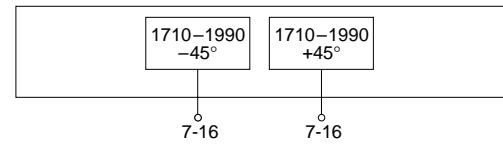
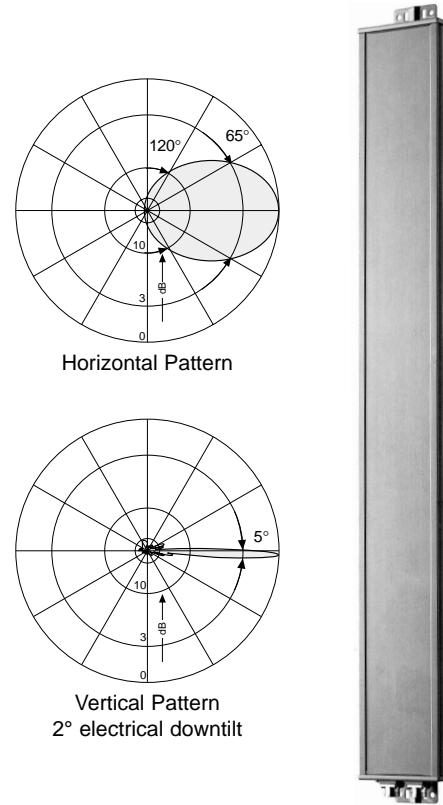
X

65°

2°

XPol F-Panel 1710–1990 65° 19.5dBi 2°T

Type No.	739 498
Frequency range	1710 – 1990 MHz
Polarization	+45°, -45°
Gain	2 x 19.5 dBi (1880 – 1990 MHz) 2 x 19 dBi (1710 – 1880 MHz)
Half-power beam width Copolar +45°/-45°	Horizontal: 65° Vertical: 5°
Electrical tilt	2°, fixed
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB
Front-to-back ratio, copolar	> 30 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	8.5 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 480 N / 180 N / 380 N
Max. wind velocity	200 km/h
Height/width/depth	1942 / 155 / 49 mm



F-Panel

Dual Polarization

Half-power Beam Width

1710–1990

X

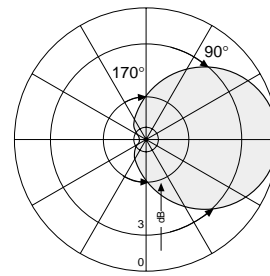
90°

KATHREIN

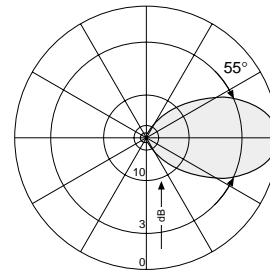
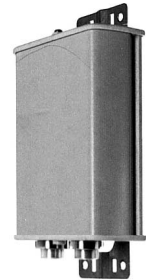
Antennen · Electronic

XPol F-Panel 1710–1990 90° 8dBi

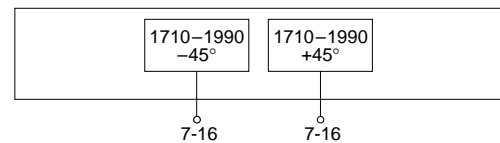
Type No.	739 695
Frequency range	1710 – 1990 MHz
Polarization	+45°, -45°
Gain	2 x 8 dBi
Half-power beam width Copolars +45°/-45°	Horizontal: 90° Vertical: 55°
Front-to-back ratio, copolar	> 20 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom or top
Weight	3 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 20 N / 15 N / 30 N
Max. wind velocity	200 km/h
Height/width/depth	174 / 155 / 69 mm



Horizontal Pattern



Vertical Pattern



F-Panel

Dual Polarization

Half-power Beam Width

1710–1880

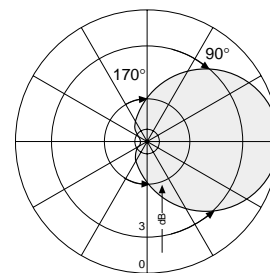
X

90°

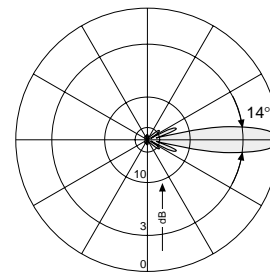
KATHREIN
Antennen · Electronic

XPol F-Panel 1710–1880 90° 14dBi

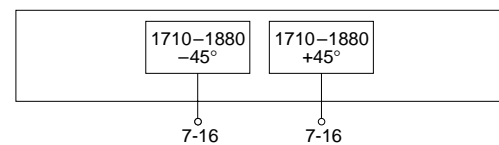
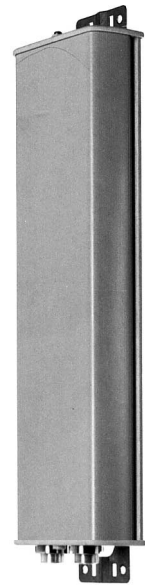
Type No.	739 698
Frequency range	1710 – 1880 MHz
Polarization	+45°, -45°
Gain	2 x 14 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 90° Vertical: 14°
Front-to-back ratio, copolar	> 25 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom or top
Weight	3.5 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 65 N / 50 N / 160 N
Max. wind velocity	200 km/h
Height/width/depth	702 / 155 / 69 mm



Horizontal Pattern

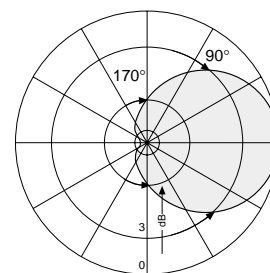


Vertical Pattern

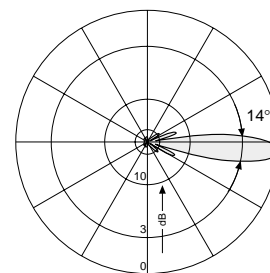


XPol F-Panel 1710–1880 90° 14dBi 4°T

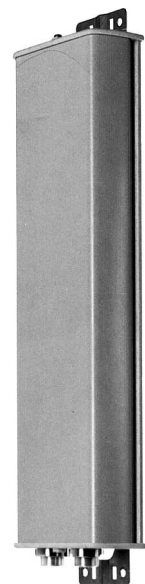
Type No.	741 214
Frequency range	1710 – 1880 MHz
Polarization	+45°, -45°
Gain	2 x 14 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 90° Vertical: 14°
Electrical tilt	4°, fixed
Front-to-back ratio, copolar	> 25 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	3.5 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 65 N / 50 N / 160 N
Max. wind velocity	200 km/h
Height/width/depth	702 / 155 / 69 mm



Horizontal Pattern



Vertical Pattern
4° electrical downtilt



F-Panel

Dual Polarization

Half-power Beam Width

1710–1880

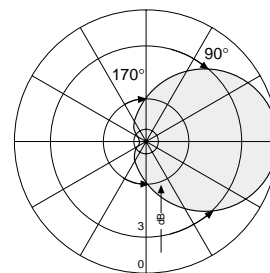
X

90°

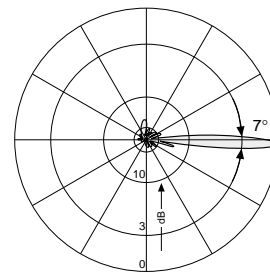
KATHREIN
Antennen · Electronic

XPol F-Panel 1710–1880 90° 16.5dBi 2°T

Type No.	739 707
Frequency range	1710 – 1880 MHz
Polarization	+45°, -45°
Gain	2 x 16.5 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 90° Vertical: 7°
Electrical tilt	2°, fixed
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB
Front-to-back ratio, copolar	> 27 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	6 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 130 N / 110 N / 310 N
Max. wind velocity	200 km/h
Height/width/depth	1302 / 155 / 69 mm

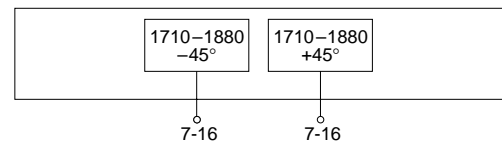


Horizontal Pattern



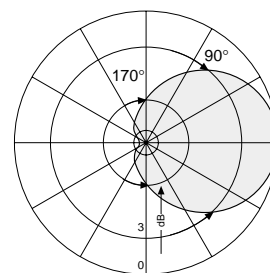
Vertical Pattern

- 2° electrical downtilt
- first null-fill below horizon better or equal -25 dB below maximum gain

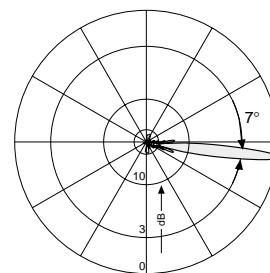


XPol F-Panel 1710–1880 90° 16.5dBi 6°T

Type No.	739 708
Frequency range	1710 – 1880 MHz
Polarization	+45°, -45°
Gain	2 x 16.5 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 90° Vertical: 7°
Electrical tilt	6°, fixed
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB
Front-to-back ratio, copolar	> 27 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	6 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 130 N / 110 N / 310 N
Max. wind velocity	200 km/h
Height/width/depth	1302 / 155 / 69 mm



Horizontal Pattern



Vertical Pattern

- 6° electrical downtilt
- first null-fill below horizon better or equal -25 dB below maximum gain



F-Panels
Dual Polarization
Half-power Beam Width
Fixed Electrical Downtilt

1710–1880

X

90°

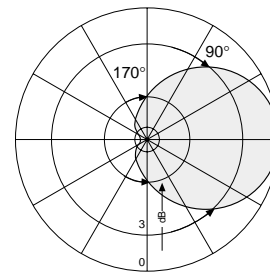
2°

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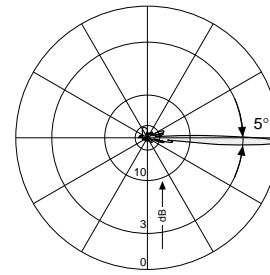
Antennen · Electronic

XPol F-Panel 1710–1880 90° 17.5dBi 2°T

Type No.	739 710
Frequency range	1710 – 1880 MHz
Polarization	+45°, -45°
Gain	2 x 17.5 dBi
Half-power beam width Copolar +45°/-45°	Horizontal: 90° Vertical: 5°
Electrical tilt	2°, fixed
Sidelobe suppression for first sidelobe above horizon	≥ 14 dB
Front-to-back ratio, copolar	> 25 dB
Isolation, between ports	> 30 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power per input	200 Watt (at 50 °C ambient temperature)
Input	2 x 7-16 female
Connector position	Bottom
Weight	9 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 190 N / 160 N / 470 N
Max. wind velocity	200 km/h
Height/width/depth	1902 / 155 / 69 mm

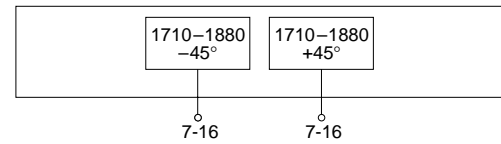


Horizontal Pattern



Vertical Pattern

- 2° electrical downtilt
- first null-fill below horizon better or equal -25 dB below maximum gain



Summary – Directional Antennas

Dual-band

800/900 1800/2000

Dual-band 870–960 1710–1880 – Dual Polarization +45°/–45°

Type	Type No.	Height [mm]	Page
XXPol A-Panel 870–960/1710–1880 C 65°/65° 12.5/13dBi	741 316	656	48
XXPol A-Panel 870–960/1710–1880 65°/65° 12.5/13.5dBi	741 325	656	49
XXPol A-Panel 870–960/1710–1880 C 65°/60° 15/16.5dBi	741 320	1296	50
XXPol A-Panel 870–960/1710–1880 65°/60° 15/17dBi	741 326	1296	51
XXPol A-Panel 870–960/1710–1880 C 65°/60° 17/18dBi	741 322	1936	52
XXPol A-Panel 870–960/1710–1880 65°/60° 17/18.5dBi	741 327	1936	53
XXPol A-Panel 870–960/1710–1880 C 65°/60° 18/19dBi	741 324	2580	54
XXPol A-Panel 870–960/1710–1880 65°/60° 18/19.5dBi	741 328	2580	55
XXPol A-Panel 870–960/1710–1880 C 65°/60° 17.5/17.5dBi 6°T	741 336	2580	56
XXPol A-Panel 870–960/1710–1880 65°/60° 17.5/18dBi 6°T	741 344	2580	57

Connector position: Bottom

Dual-band 900/1800 – Dual Polarization +45°/–45° Adjustable Electrical Downtilt

XXPol A-Panel 824–960/1710–1880 C 65°/63° 14.5/16.5dBi 0°–10°T/2°T	742 151	1296	58
XXPol A-Panel 824–960/1710–1880 65°/63° 14.5/16.5dBi 0°–10°T/2°T	742 152	1296	59
XXPol A-Panel 870–960/1710–1880 C 65°/60° 17/18dBi 2°–8°T/2°T	742 047	2580	60

Connector position: Bottom

Dual-band 824–960 1710–2170 – Dual Polarization +45°/–45° Adjustable Electrical Downtilt – Possible upgrade with Remote Control Unit (RCU)

XXPol A-Panel 824–960/1710–2170 65°/65° 14/17dBi 0°–14°/0°–8°T	742 264	1296	75
XXPol A-Panel 824–960/1710–2170 65°/65° 16/18.5dBi 0°–10°/0°–6°T	742 265	1936	76

Connector position: Bottom

New Products

Dual-band 800/900 1800/2000 – Vertical Polarization

VPol BiDir 824–960/1710–2170 65° 5dBi	738 445	310	61
VPol BiDir 824–960/1710–2170 65° 5dBi	738 446	310	61
VPol F-Panel 880–960/1710–1880 90° 10dBi	741 880	502	62

Connector position: Bottom or top

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

Integrated Combiner

870–960 1710–1880

X

X

65°

65°

C

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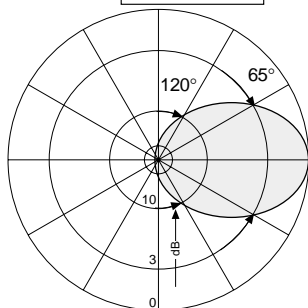
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 C 65°/65° 12.5/13dBi

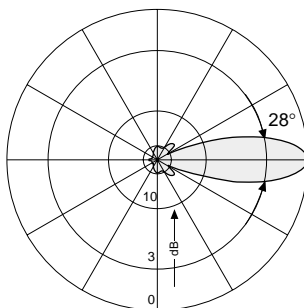
Type No.	741 316	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 12.5 dBi	2 x 13 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 28°	Horizontal: 60° Vertical: 19°
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	250 Watt	150 Watt (at 50 °C ambient temperature)
Integrated combiner	The insertion loss is included in the given antenna gain values.	



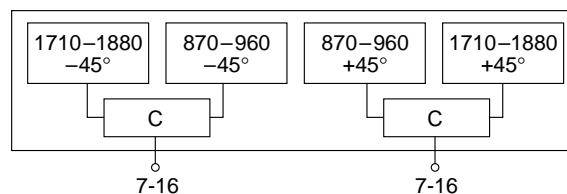
870–960 +45°/–45° Polarization



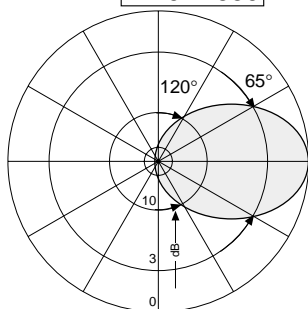
Horizontal Pattern



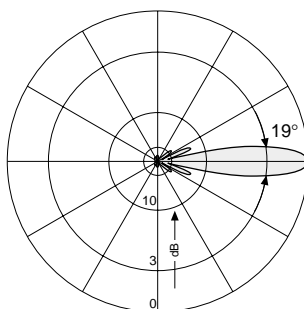
Vertical Pattern



1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	2 x 7-16 female
Connector position*	Bottom or top
Weight	7 kg
Wind load	Frontal: 110 N (at 150 km/h) Lateral: 60 N (at 150 km/h) Rearside: 240 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	782 x 287 x 165 mm
Height/width/depth	656 / 262 / 116 mm

* Inverted mounting:
Connector position top: Change drain hole screw.

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

870–960

1710–1880

X

X

65°

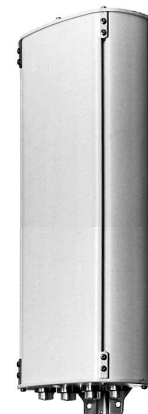
65°

KATHREIN

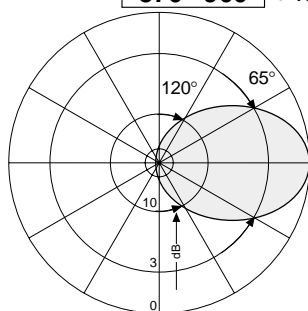
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 65°/65° 12.5/13.5dBi

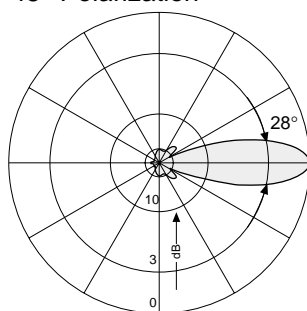
Type No.	741 325	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 12.5 dBi	2 x 13.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 28°	Horizontal: 65° Vertical: 19°
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB (GSM 900 – GSM 900) > 30 dB (GSM 1800 – GSM 1800) > 30 dB (GSM 900 – GSM 1800)	
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	250 Watt	150 Watt (at 50 °C ambient temperature)



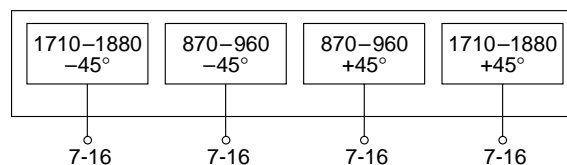
870–960 +45°/–45° Polarization



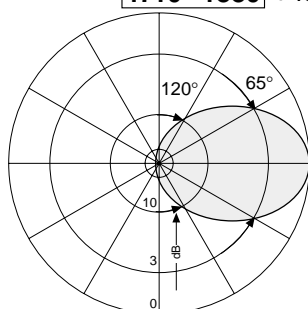
Horizontal Pattern



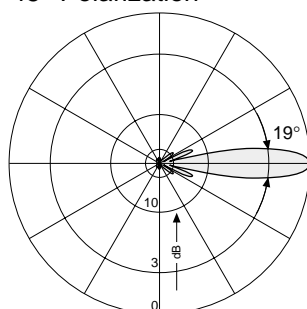
Vertical Pattern



1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	4 x 7-16 female
Connector position*	Bottom or top
Weight	7 kg
Wind load	Frontal: 110 N (at 150 km/h) Lateral: 60 N (at 150 km/h) Rearside: 240 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	782 x 287 x 165 mm
Height/width/depth	656 / 262 / 116 mm

* Inverted mounting:
Connector position top: Change drain hole screw.

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

Integrated Combiner

870–960 1710–1880

X

X

65°

60°

C

KATHREIN

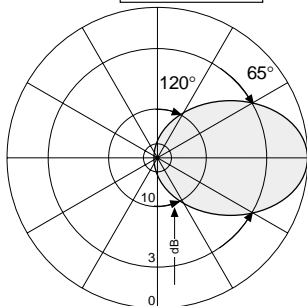
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 C 65°/60° 15/16.5dBi

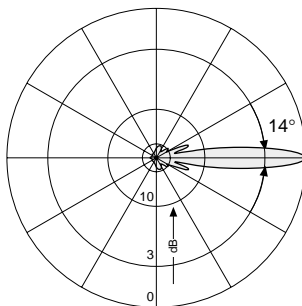
Type No.	741 320	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 15 dBi	2 x 16.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 14°	Horizontal: 60° Vertical: 8°
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	250 Watt	150 Watt (at 50 °C ambient temperature)
Integrated combiner	The insertion loss is included in the given antenna gain values.	



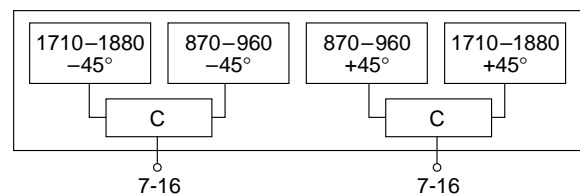
870–960 +45°/–45° Polarization



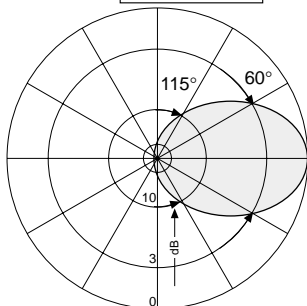
Horizontal Pattern



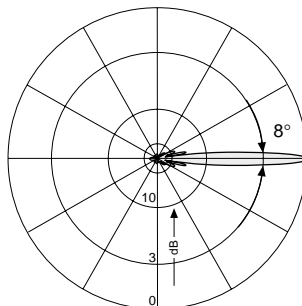
Vertical Pattern



1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	2 x 7-16 female
Connector position*	Bottom or top
Weight	13 kg
Wind load	Frontal: 220 N (at 150 km/h) Lateral: 140 N (at 150 km/h) Rearside: 490 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1422 x 287 x 165 mm
Height/width/depth	1296 / 262 / 116 mm

* Inverted mounting:

Connector position top: Change drain hole screw.

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

870–960	1710–1880
---------	-----------

X

X

65°

60°

KATHREIN

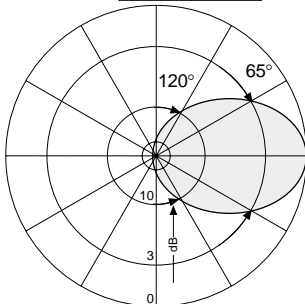
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 65°/60° 15/17dBi

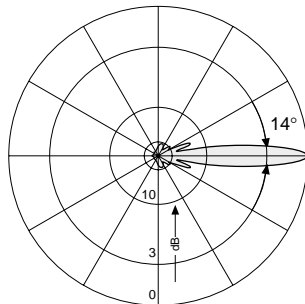
Type No.	741 326	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 15 dBi	2 x 17 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 14°	Horizontal: 60° Vertical: 8°
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB (GSM 900 – GSM 900) > 30 dB (GSM 1800 – GSM 1800) > 30 dB (GSM 900 – GSM 1800)	
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	400 Watt	200 Watt (at 50 °C ambient temperature)



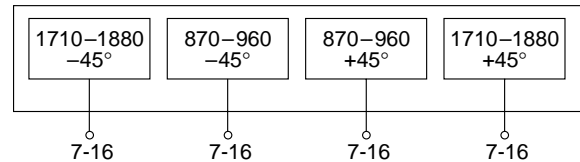
870–960 +45°/–45° Polarization



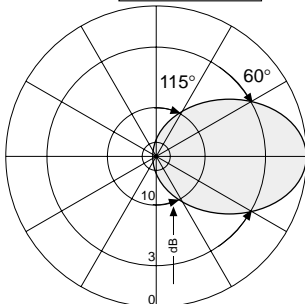
Horizontal Pattern



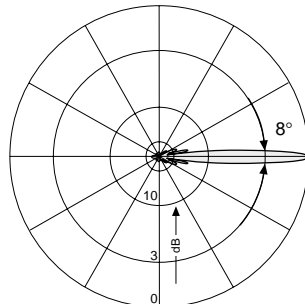
Vertical Pattern



1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	4 x 7-16 female
Connector position*	Bottom or top
Weight	13 kg
Wind load	Frontal: 220 N (at 150 km/h) Lateral: 140 N (at 150 km/h) Rearside: 490 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1422 x 287 x 165 mm
Height/width/depth	1296 / 262 / 116 mm

* Inverted mounting:
Connector position top: Change drain hole screw.

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

Integrated Combiner

870–960 1710–1880

X

X

65°

60°

C

KATHREIN

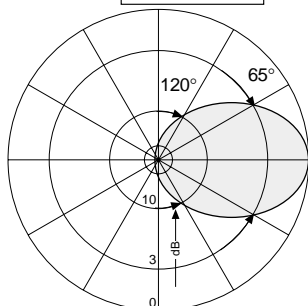
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 C 65°/60° 17/18dBi

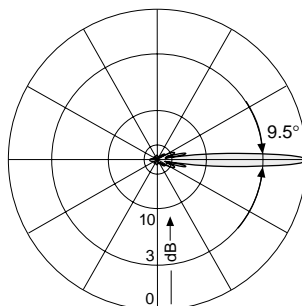
Type No.	741 322	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 17 dBi	2 x 18 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 9.5°	Horizontal: 60° Vertical: 5.5°
Sidelobe suppression for first sidelobe above horizon	> 15 dB	> 15 dB
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	250 Watt	150 Watt (at 50 °C ambient temperature)
Integrated combiner	The insertion loss is included in the given antenna gain values.	



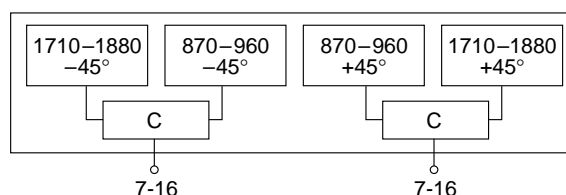
870–960 +45°/–45° Polarization



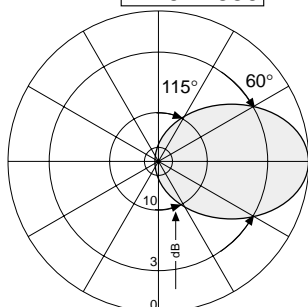
Horizontal Pattern



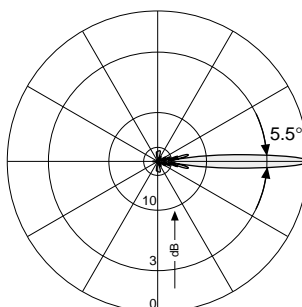
Vertical Pattern



1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	2 x 7-16 female
Connector position*	Bottom or top
Weight	19 kg
Wind load	Frontal: 330 N (at 150 km/h) Lateral: 200 N (at 150 km/h) Rearside: 770 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2057 x 287 x 165 mm
Height/width/depth	1936 / 262 / 116 mm

* Inverted mounting:
Connector position top: Change drain hole screw.

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

870–960

1710–1880

X

X

65°

60°

KATHREIN

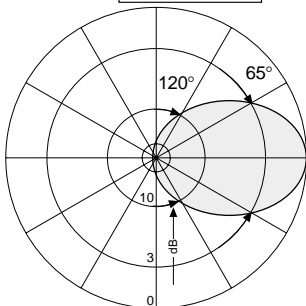
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 65°/60° 17/18.5dBi

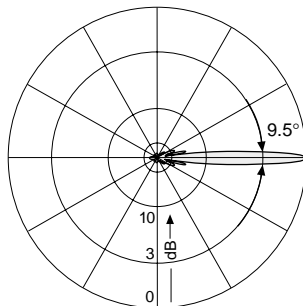
Type No.	741 327	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 17 dBi	2 x 18.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 9.5°	Horizontal: 60° Vertical: 5.5°
Sidelobe suppression for first sidelobe above horizon	> 15 dB	
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB (GSM 900 – GSM 900) > 30 dB (GSM 1800 – GSM 1800) > 30 dB (GSM 900 – GSM 1800)	
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	400 Watt	200 Watt (at 50 °C ambient temperature)



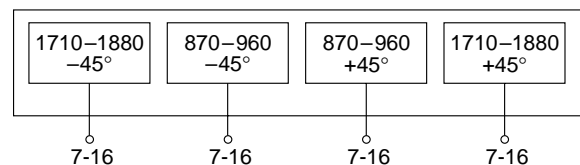
870–960 +45°/–45° Polarization



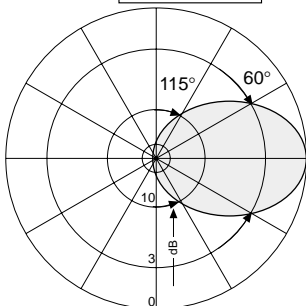
Horizontal Pattern



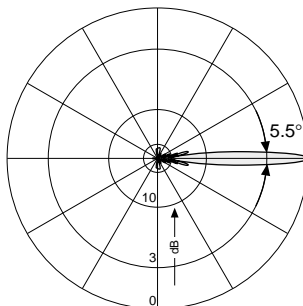
Vertical Pattern



1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	4 x 7-16 female
Connector position*	Bottom or top
Weight	19 kg
Wind load	Frontal: 330 N (at 150 km/h) Lateral: 200 N (at 150 km/h) Rearside: 770 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2057 x 287 x 165 mm
Height/width/depth	1936 / 262 / 116 mm

* Inverted mounting:
Connector position top: Change drain hole screw.

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

Integrated Combiner

870–960 1710–1880

X

X

65°

60°

C

KATHREIN

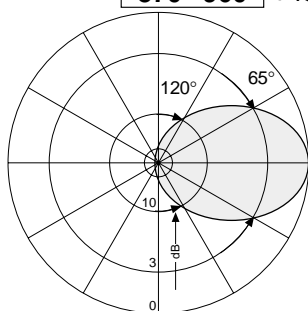
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 C 65°/60° 18/19dBi

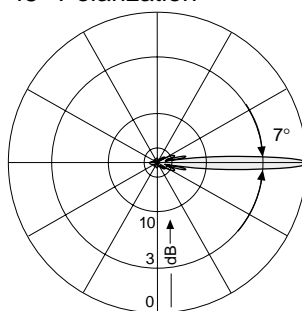
Type No.	741 324	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 18 dBi	2 x 19 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 7°	Horizontal: 60° Vertical: 4°
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	250 Watt	150 Watt (at 50 °C ambient temperature)
Integrated combiner	The insertion loss is included in the given antenna gain values.	



870–960 +45°/–45° Polarization

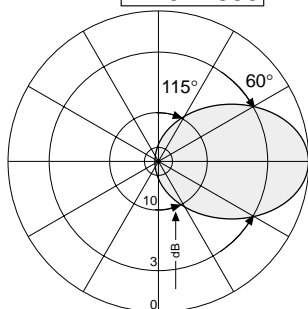


Horizontal Pattern

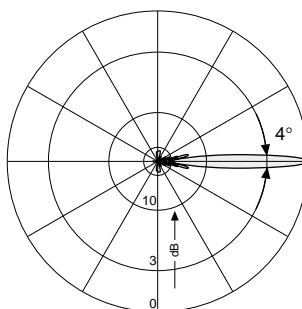


Vertical Pattern

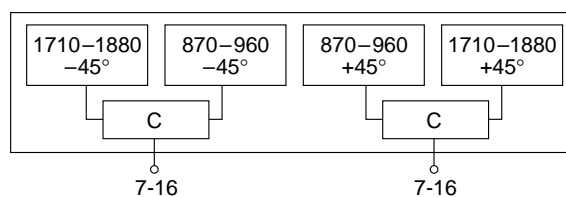
1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern



Mechanical specifications

Input	2 x 7-16 female
Connector position*	Bottom or top
Weight	25 kg
Wind load	Frontal: 470 N (at 150 km/h) Lateral: 280 N (at 150 km/h) Rearside: 1040 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2692 x 287 x 165 mm
Height/width/depth	2580 / 262 / 116 mm

* Inverted mounting:
Connector position top: Change drain hole screw.

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

870–960

1710–1880

X

X

65°

60°

KATHREIN

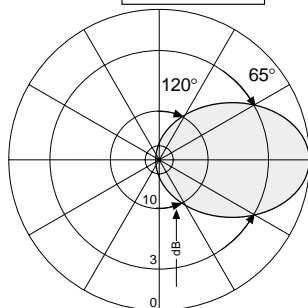
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 65°/60° 18/19.5dBi

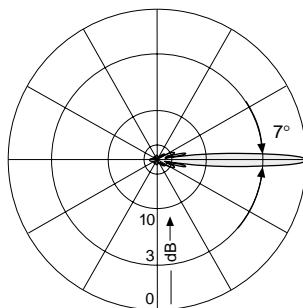
Type No.	741 328	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 18 dBi	2 x 19.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 7°	Horizontal: 60° Vertical: 4°
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB (GSM 900 – GSM 900) > 30 dB (GSM 1800 – GSM 1800) > 30 dB (GSM 900 – GSM 1800)	
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	400 Watt	200 Watt (at 50 °C ambient temperature)



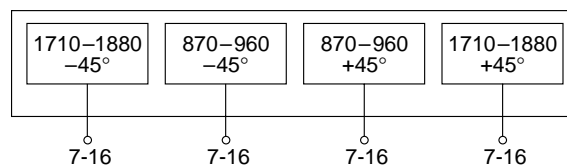
870–960 +45°/–45° Polarization



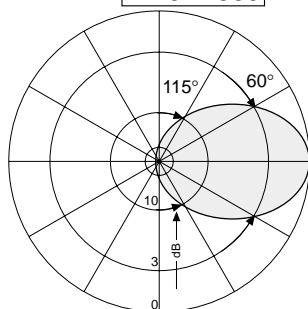
Horizontal Pattern



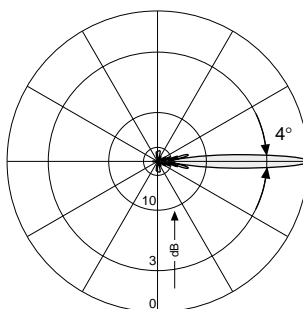
Vertical Pattern



1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	4 x 7-16 female
Connector position*	Bottom or top
Weight	25 kg
Wind load	Frontal: 470 N (at 150 km/h) Lateral: 280 N (at 150 km/h) Rearside: 1040 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2692 x 287 x 165 mm
Height/width/depth	2580 / 262 / 116 mm

* Inverted mounting:
Connector position top: Change drain hole screw.

Dual-band A-Panel

870–960 **1710–1880**

Dual Polarization

X

X

Half-power Beam Width

65°

60°

Fixed Electrical Downtilt

6°

6°

Integrated Combiner

C

KATHREIN

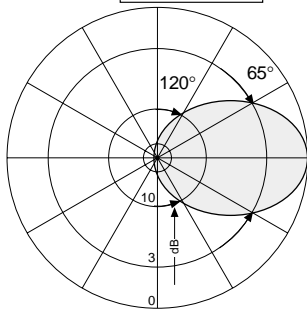
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 C 65°/60° 17.5/17.5dBi 6°T

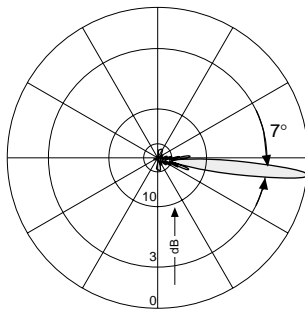
Type No.	741 336	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 17.5 dBi	2 x 17.5 dBi
Half-power beam width Copolars +45°/–45°	Horizontal: 65° Vertical: 7°	Horizontal: 60° Vertical: 6.5°
Electrical tilt	6°, fixed	6°, fixed
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	250 Watt (at 50 °C ambient temperature)	150 Watt (at 50 °C ambient temperature)
Integrated combiner	The insertion loss is included in the given antenna gain values.	



870–960 +45°/–45° Polarization

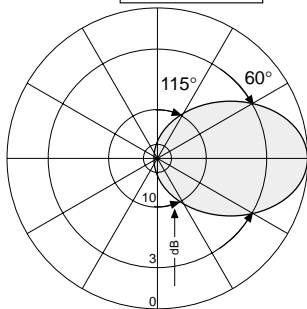


Horizontal Pattern

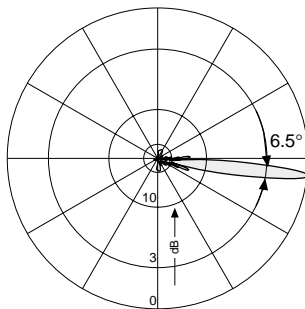


Vertical Pattern
6° electr. downtilt

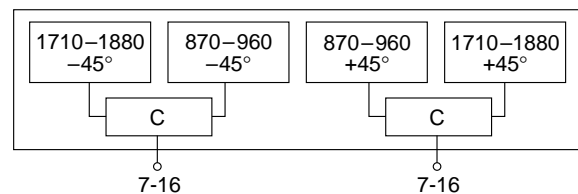
1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
6° electr. downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Weight	25 kg
Wind load	Frontal: 470 N (at 150 km/h) Lateral: 280 N (at 150 km/h) Rearside: 1040 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2692 x 287 x 165 mm
Height/width/depth	2580 / 262 / 116 mm

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

Fixed Electrical Downtilt

870–960	1710–1880
---------	-----------

X

X

65°

60°

6°

6°

KATHREIN

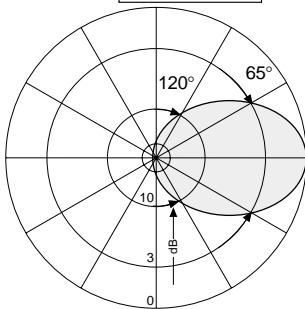
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 65°/60° 17.5/18dBi 6°T

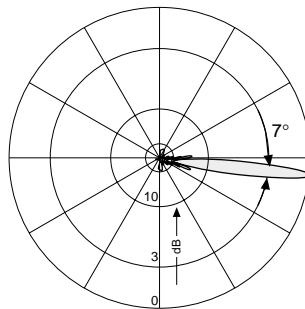
Type No.	741 344	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 17.5 dBi	2 x 18 dBi
Half-power beam width Copolars +45°/–45°	Horizontal: 65° Vertical: 7°	Horizontal: 60° Vertical: 6.5°
Electrical tilt	6°, fixed	6°, fixed
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB (GSM 900 – GSM 900) > 30 dB (GSM 1800 – GSM 1800) > 30 dB (GSM 900 – GSM 1800)	
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	400 Watt	200 Watt (at 50 °C ambient temperature)



870–960 +45°/–45° Polarization



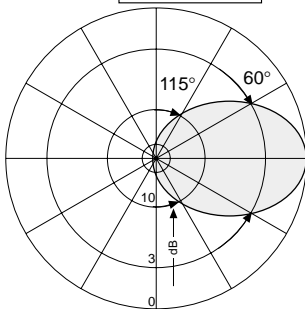
Horizontal Pattern



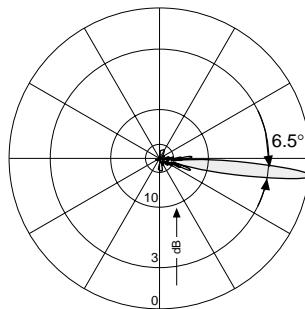
Vertical Pattern
6° electr. downtilt

1710–1880 –45°	870–960 –45°	870–960 +45°	1710–1880 +45°
7-16	7-16	7-16	7-16

1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
6° electr. downtilt

Mechanical specifications

Input	4 x 7-16 female
Connector position	Bottom or top
Weight	25 kg
Wind load	Frontal: 470 N (at 150 km/h) Lateral: 280 N (at 150 km/h) Rearside: 1040 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2692 x 287 x 165 mm
Height/width/depth	2580 / 262 / 116 mm

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

Integrated Combiner

824–960 **1710–1880**

X

X

65°

63°

0°–10°

2°

C

KATHREIN

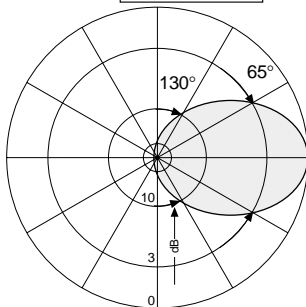
Antennen · Electronic

XXPol A-Panel 824–960/1710–1880 C 65°/63° 14.5/16.5dBi 0°–10°T/2°T

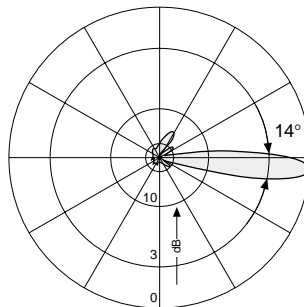
Type No.	742 151		
Frequency range	824–960		1710–1880
	824 – 880 MHz	880 – 960 MHz	1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 14 dBi	2 x 14.5 dBi	2 x 16.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 69° Vertical: 14.5°	Horizontal: 65° Vertical: 14°	Horizontal: 63° Vertical: 8.5°
Electrical tilt	0°–10°	0°–10°	2°
Sidelobe suppression for first sidelobe above horizon	0° ... 6° ... 10°T 16 ... 13 ... 12 dB	0° ... 6° ... 10°T 17 ... 15 ... 13 dB	16 dB
Front-to-back ratio, copolar	> 30 dB	> 30 dB	> 27 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB
Isolation, between ports	> 30 dB		> 30 dB
Impedance	50 Ω		50 Ω
VSWR	< 1.5		< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		< –150 dBc
Max. power per input	250 Watt (at 50 °C ambient temperature)		150 Watt
Integrated combiner	The insertion loss is included in the given antenna gain values.		



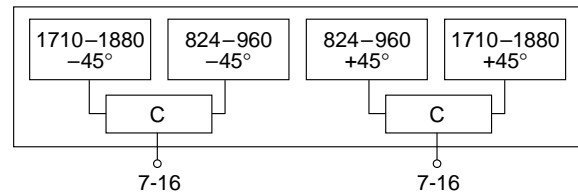
824–960 +45°/–45° Polarization



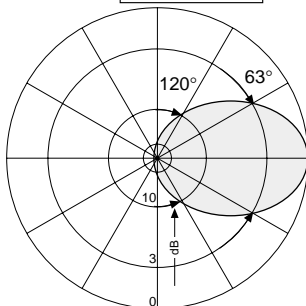
Horizontal Pattern



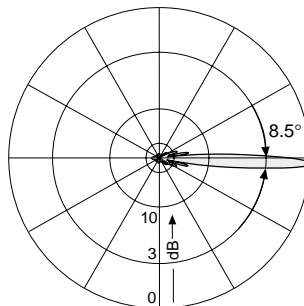
Vertical Pattern
0°–10° electrical downtilt
continuously adjustable



1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
2° electrical downtilt

Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	14 kg
Wind load	Frontal: 230 N (at 150 km/h) Lateral: 130 N (at 150 km/h) Rearside: 500 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1422 x 287 x 165 mm
Height/width/depth	1296 / 262 / 116 mm

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

824–960	1710–1880
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X	X
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65°	63°
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0°–10°	2°
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KATHREIN

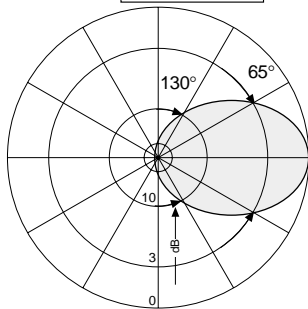
Antennen · Electronic

XXPol A-Panel 824–960/1710–1880 65°/63° 14.5/16.5dBi 0°–10°T/2°T

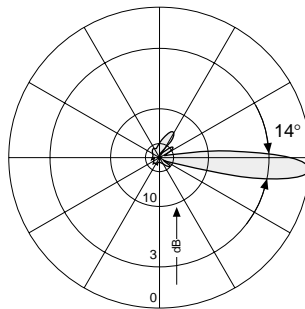
Type No.	742 152		
Frequency range	824–960 824 – 880 MHz 880 – 960 MHz		1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 14 dBi	2 x 14.5 dBi	2 x 16.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 69° Vertical: 14.5°	Horizontal: 65° Vertical: 14°	Horizontal: 63° Vertical: 8.5°
Electrical tilt	0°–10°	0°–10°	2°
Sidelobe suppression for first sidelobe above horizon	0° ... 6° ... 10°T 16 ... 13 ... 12 dB	0° ... 6° ... 10°T 17 ... 15 ... 13 dB	16 dB
Front-to-back ratio, copolar	> 30 dB	> 30 dB	> 27 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB
Isolation, between ports	> 30 dB		> 30 dB
Impedance	50 Ω		50 Ω
VSWR	< 1.5		< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		< –150 dBc
Max. power per input	250 W (at 50 °C ambient temperature)		150 W



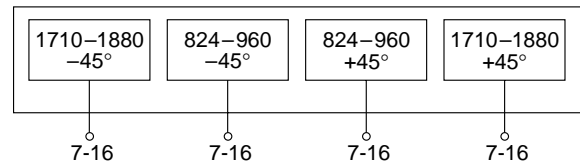
824–960 +45°/–45° Polarization



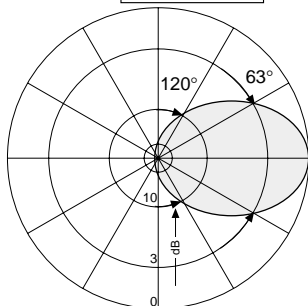
Horizontal Pattern



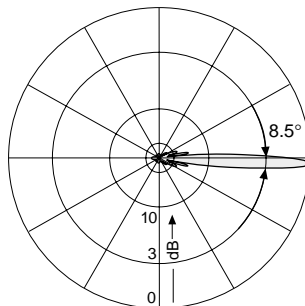
Vertical Pattern
0°–10° electrical downtilt
continuously adjustable



1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
2° electrical downtilt

Mechanical specifications

Input	4 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	14 kg
Wind load	Frontal: 230 N (at 150 km/h) Lateral: 130 N (at 150 km/h) Rearside: 500 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1422 x 287 x 165 mm
Height/width/depth	1296 / 262 / 116 mm

Dual-band A-Panel

Dual Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

Integrated Combiner

870–960 **1710–1880**

X

X

65°

60°

2°–8°

2°

C

KATHREIN

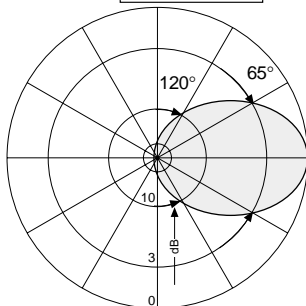
Antennen · Electronic

XXPol A-Panel 870–960/1710–1880 C 65°/60° 17/18dBi 2°–8°T/2°T

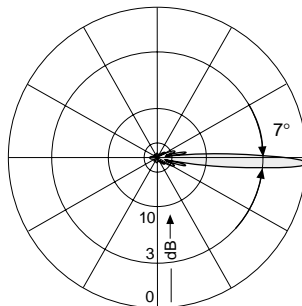
Type No.	742 047	
Frequency range	870–960 870 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	+45°, –45°	+45°, –45°
Gain	2 x 17 dBi (–0.5 dB)	2 x 18 dBi (–0.5 dB)
Half-power beam width Copolar +45°/–45°	Horizontal: 65° Vertical: 7°	Horizontal: 60° Vertical: 6°
Electrical tilt	2°–8°, adjustable	2°, fixed
Sidelobe suppression for first sidelobe above horizon	2° ... 4° ... 6° ... 8° T 20 ... 18 ... 17 ... 15 dB	2° T 17 dB
Front-to-back ratio, copolar	> 30 dB	> 30 dB
Isolation, between ports	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	< –150 dBc
Max. power per input	250 Watt (at 50 °C ambient temperature)	150 Watt (at 50 °C ambient temperature)
Integrated combiner	The insertion loss is included in the given antenna gain values.	



870–960 +45°/–45° Polarization

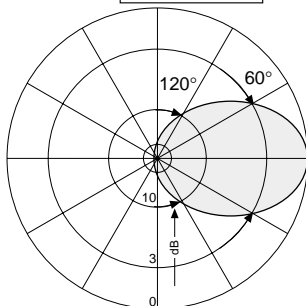


Horizontal Pattern

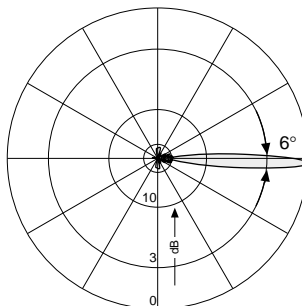


Vertical Pattern
2°–8° electrical downtilt
continuously adjustable

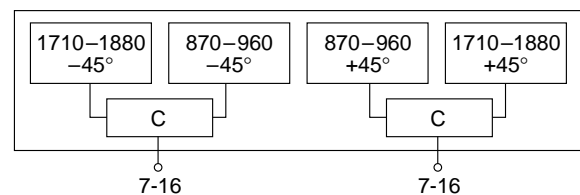
1710–1880 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
2° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	25 kg
Wind load	Frontal: 470 N (at 150 km/h) Lateral: 280 N (at 150 km/h) Rearside: 1040 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2692 x 287 x 165 mm
Height/width/depth	2580 / 262 / 116 mm

Multi-band Bidirectional Antenna

Vertical Polarization

Half-power Beam Width

824–960/1710–2170

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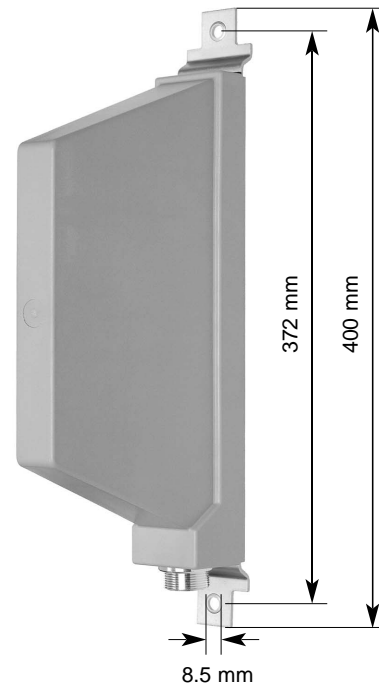
V

Antennen · Electronic

65°

VPol BiDir 824–960/1710–2170 65° 5dBi

Type No.	738 445	738 446
Input	1 x 7-16 female	1 x N female
Frequency range	824 – 960 MHz, 1710 – 2170 MHz	
VSWR	< 1.5	
Gain	824 – 960 MHz: 5 dBi 1710 – 1880 MHz: 5.5 dBi 1880 – 2170 MHz: 6.5 dBi	
Impedance	50 Ω	
Polarization	Vertical	
Max. power (total)	200 Watt (at 50 °C ambient temperature)	
Weight	0.8 kg	
Wind load	Frontal: 25 N (at 150 km/h) Lateral: 65 N (at 150 km/h) Rearside: 35 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Packing size	422 x 212 x 95 mm	
Height/width/depth	310 / 55 / 190 mm	

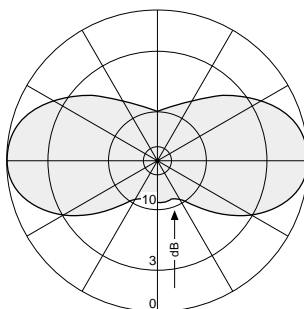


Material:
 Radiator: Tin plated copper.
 Reflector: Weather-proof aluminum.
 Radome: High impact plastic, colour: Grey.
 All screws and nuts: Stainless steel.

Mounting:
 Wall mounting: No additional mounting kit needed.
 For pipe mast mounting use clamps listed on the datasheet (order separately).

Ice protection:
 The radiating system is protected by the radome.
 Due to its very sturdy construction, the antenna remains operational even under icy conditions.

Grounding:
 All metal parts of the antenna as well as the inner conductor are DC grounded.



Typical Horizontal Pattern

Dual-band F-Panel
Vertical Polarization
Half-power Beam Width

880–960 **1710–1880**

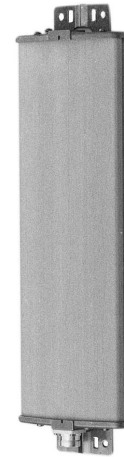
V **V**

90° **90°**

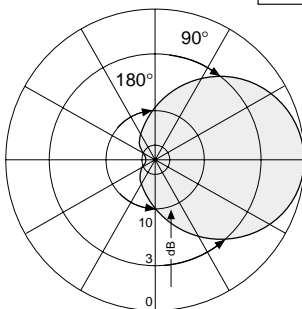
KATHREIN
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VPol F-Panel 880–960/1710–1880 90° 10dBi

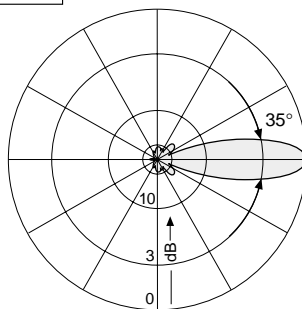
Type No.	741 880	
Frequency range	880–960 880 – 960 MHz	1710–1880 1710 – 1880 MHz
Polarization	Vertical	Vertical
Gain	10 dBi	10 dBi
Half-power beam width	Horizontal: 90° Vertical: 35°	Horizontal: 90° Vertical: 35°
Front-to-back ratio	> 18 dB	> 20 dB
Impedance	50 Ω	50 Ω
VSWR	< 1.7 (880–960 MHz) < 1.5 (890–960 MHz)	< 1.5 (1710–1880 MHz)
Intermodulation IM3 (2 x 43 dBm carrier)	< -140 dBc	< -140 dBc
Max. power per input	200 Watt	200 Watt (at 50 °C ambient temperature)



880–960

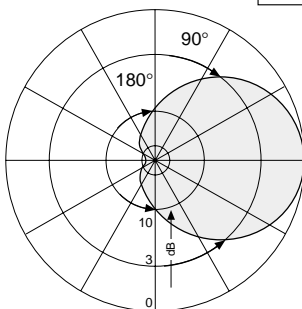


Horizontal Pattern

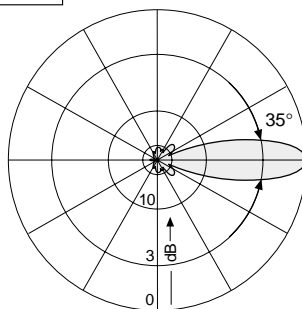


Vertical Pattern

1710–1880



Horizontal Pattern



Vertical Pattern

Mechanical specifications

Input	1 x 7-16 female
Connector position*	Bottom or top
Weight	2.3 kg
Wind load	Frontal: 90 N (at 150 km/h) Lateral: 40 N (at 150 km/h) Rearside: 110 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	604 x 172 x 72 mm
Height/width/depth	502 / 155 / 49 mm

* Inverted mounting:
 Connector position top: Change drain hole screw.

XPol Multi-band 1710 – 2170 MHz

Type	Type No.	Height [mm]	Page
XPol F-Panel 1710–2170 65° 12dBi 2°T	739 489	342	64
XPol F-Panel 1710–2170 65° 18.5dBi 2°T	741 794	1302	65
XPol F-Panel 1710–2170 88° 17dBi 2°T	741 987	1302	66

Connector position: Bottom

XPol Multi-band 1710 – 2170 MHz

Adjustable Electrical Downtilt – Possible upgrade with Remote Control Unit (RCU)

XPol F-Panel 1710–2170 65° 15.5dBi 0°–10°T	742 211	662	67
XPol F-Panel 1710–2170 65° 18dBi 0°–8°T	742 212	1302	68
XPol F-Panel 1710–2170 65° 19.5dBi 0°–6°T	742 213	1942	69
XPol F-Panel 1710–2170 88° 14dBi 0°–10°T	741 988	662	70
XPol F-Panel 1710–2170 88° 17dBi 0°–8°T	741 989	1302	71
XPol F-Panel 1710–2170 88° 18dBi 0°–6°T	741 990	1942	72

Connector position: Bottom

XXPol 2-Multi-band 1710 – 2170 / 1710 – 2170 MHz

Adjustable Electrical Downtilt – Possible upgrade with Remote Control Unit (RCU)

XXPol F-Panel 1710–2170/1710–2170 65°/65° 18/18dBi 0°–8°/0°–8°T	742 234	1302	73
XXPol F-Panel 1710–2170/1710–2170 65°/65° 19.5/19.5dBi 0°–6°/0°–6°T	742 235	1942	74

Connector position: Bottom

XXPol Dual-band 824 – 960 / 1710 – 2170 MHz

Adjustable Electrical Downtilt – Possible upgrade with Remote Control Unit (RCU)

XXPol A-Panel 824–960/1710–2170 65°/65° 14/17dBi 0°–14°/0°–8°T	742 264	1296	75
XXPol A-Panel 824–960/1710–2170 65°/65° 16/18.5dBi 0°–10°/0°–6°T	742 265	1936	76

Connector position: Bottom

VPol Multi-band 800/900/1800/200

VPol LogPer 806–2170 65° 11dBi	742 192	300	77
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Further versions are in development

New Products

Please see further UMTS-antennas in sections “Omni” and “Indoor”

The following antenna concepts are in development:

- XPol Multi-band UMTS 1710 – 2170 MHz, 30° and 45°
- XXXPol Triple-band 824 – 960 / 1710 – 1880 / 1920 – 2170 MHz

For detailed information in electronic format please contact following E-Mail:

antennas.mobilcom@kathrein.de

Multi-band F-Panel Dual Polarization Half-power Beam Width Fixed Electrical Downtilt

1710–2170

X

65°

2°

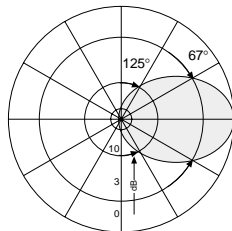
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XPol F-Panel 1710–2170 65° 12dBi 2°T

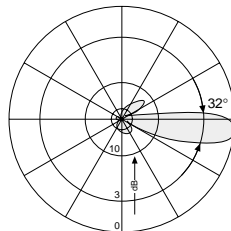
Type No.	739 489		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 11.5 dBi	2 x 12 dBi	2 x 12 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 67° Vertical: 32°	Horizontal: 65° Vertical: 30°	Horizontal: 63° Vertical: 28°
Electrical tilt	3°, fixed	2°, fixed	0°, fixed
Front-to-back ratio, copolar	> 30 dB	> 30 dB	> 27 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation, between ports	> 30 dB		
Impedance	50 Ω		
VSWR	< 1.4		
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	150 Watt (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

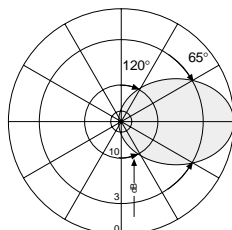


Horizontal Pattern

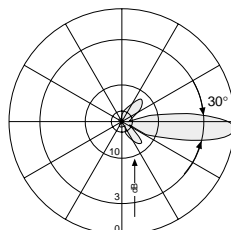


Vertical Pattern
3° electrical downtilt

1850 – 1990 MHz: +45°/–45° Polarization

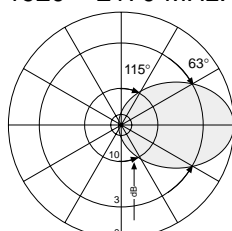


Horizontal Pattern

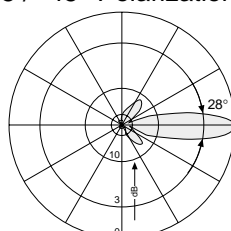


Vertical Pattern
2° electrical downtilt

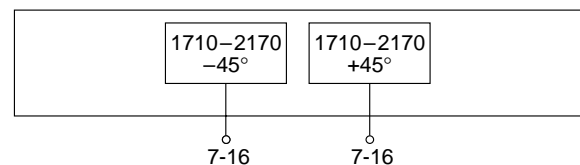
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Weight	2 kg
Wind load	Frontal: 35 N (at 150 km/h) Lateral: 25 N (at 150 km/h) Rearside: 80 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	444 x 172 x 92 mm
Height/width/depth	342 / 155 / 69 mm

Multi-band F-Panel Dual Polarization Half-power Beam Width Fixed Electrical Downtilt

1710–2170

X

65°

2°

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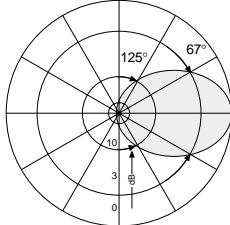
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XPol F-Panel 1710–2170 65° 18.5dBi 2°T

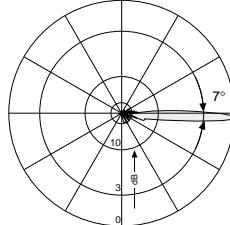
Type No.	741 794		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 17.5 dBi	2 x 18 dBi	2 x 18.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 67° Vertical: 7°	Horizontal: 65° Vertical: 6.7°	Horizontal: 63° Vertical: 6.5°
Electrical tilt	2°, fixed	2°, fixed	2°, fixed
Sidelobe suppression for first sidelobe above horizon	> 14 dB	> 14 dB	> 14 dB
Front-to-back ratio, copolar	> 30 dB	> 30 dB	> 30 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 30 dB > 10 dB	Typically: 30 dB > 10 dB	Typically: 30 dB > 10 dB
Isolation, between ports	> 30 dB		
Impedance	50 Ω		
VSWR	< 1.4		
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	300 Watt (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

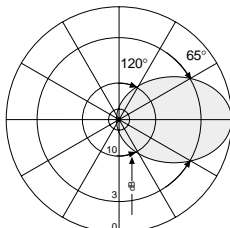


Horizontal Pattern

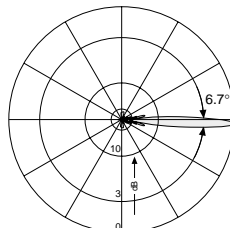


Vertical Pattern
2° electr. downtilt

1850 – 1990 MHz: +45°/–45° Polarization

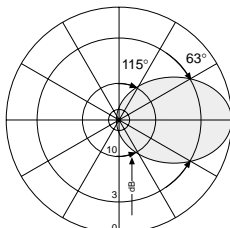


Horizontal Pattern

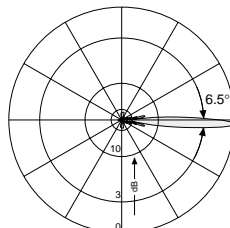


Vertical Pattern
2° electr. downtilt

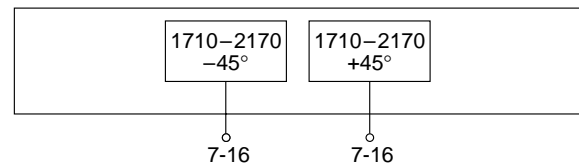
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
2° electr. downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Weight	6.6 kg
Wind load	Frontal: 130 N (at 150 km/h) Lateral: 110 N (at 150 km/h) Rearside: 310 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1404 x 172 x 92 mm
Height/width/depth	1302 / 155 / 69 mm

Multi-band F-Panel Dual Polarization Half-power Beam Width Fixed Electrical Downtilt

1710–2170

X

88°

2°

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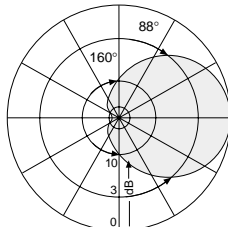
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XPol F-Panel 1710–2170 88° 17dBi 2°T

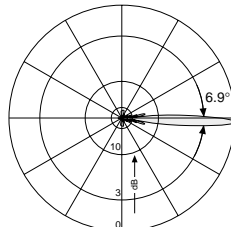
Type No.	741 987		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 16.5 dBi	2 x 16.8 dBi	2 x 17 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 88° Vertical: 6.9°	Horizontal: 88° Vertical: 6.5°	Horizontal: 88° Vertical: 6.2°
Electrical tilt	2°, fixed	2°, fixed	2°, fixed
Sidelobe suppression for first sidelobe above horizon	> 16 dB	> 16 dB	> 16 dB
Front-to-back ratio (180° ± 30°)	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB
Isolation, between ports	> 30 dB		
Impedance	50 Ω		
VSWR	< 1.4		
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	300 Watt (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

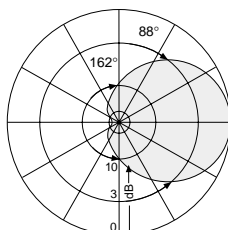


Horizontal Pattern

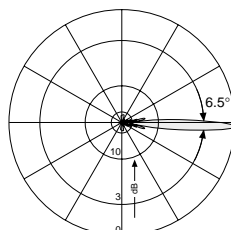


Vertical Pattern
2° electr. downtilt

1850 – 1990 MHz: +45°/–45° Polarization

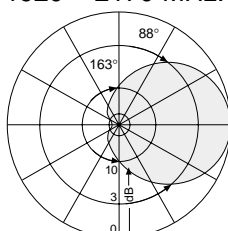


Horizontal Pattern

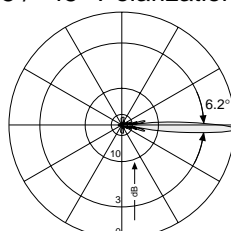


Vertical Pattern
2° electr. downtilt

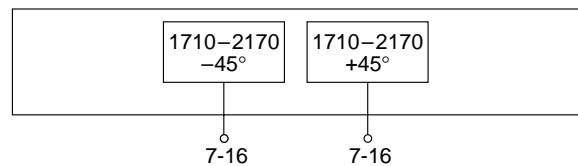
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
2° electr. downtilt



Mechanical specifications	
Input	2 x 7-16 female
Connector position	Bottom
Weight	6.5 kg
Wind load	Frontal: 130 N (at 150 km/h) Lateral: 110 N (at 150 km/h) Rearside: 310 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1404 x 172 x 92 mm
Height/width/depth	1302 / 155 / 69 mm

Multi-band F-Panel Dual Polarization Half-power Beam Width Adjust. Electrical Downtilt

1710–2170

X

65°

0°–10°

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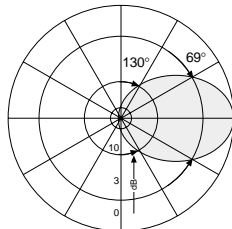
set by hand or by optional RCU (remote control unit)

XPol F-Panel 1710–2170 65° 15.5dBi 0°–10°T

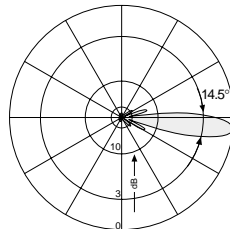
Type No.	742 211		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 14.7 dBi	2 x 15 dBi	2 x 15.2 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 69° Vertical: 14.5°	Horizontal: 67° Vertical: 14°	Horizontal: 64° Vertical: 13°
Electrical tilt continuously adjustable	0°–10°	0°–10°	0°–10°
Sidelobe suppression for first sidelobe above horizon	0° ... 4° ... 8° ... 10°T 18 ... 16 ... 15 ... 15 dB	0° ... 4° ... 8° ... 10°T 18 ... 18 ... 18 ... 18 dB	0° ... 4° ... 8° ... 10°T 18 ... 18 ... 18 ... 16 dB
Front-to-back ratio	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation, between ports	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.4	< 1.4	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	300 Watt (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

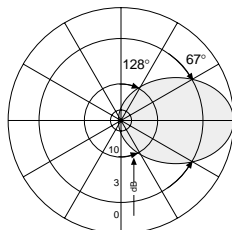


Horizontal Pattern

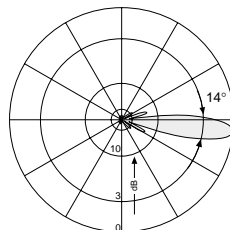


Vertical Pattern
0°–10° electrical downtilt

1850 – 1990 MHz: +45°/–45° Polarization

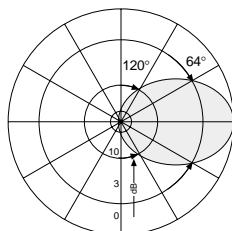


Horizontal Pattern

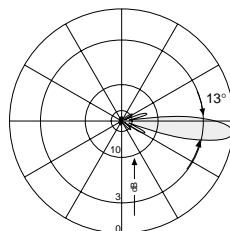


Vertical Pattern
0°–10° electrical downtilt

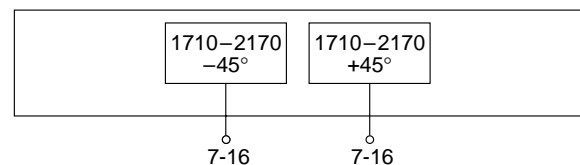
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–10° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	4.5 kg
Wind load	Frontal: 65 N (at 150 km/h) Lateral: 50 N (at 150 km/h) Rearside: 160 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	924 x 172 x 92 mm
Height/width/depth	662 / 155 / 69 mm

Multi-band F-Panel Dual Polarization Half-power Beam Width Adjust. Electrical Downtilt

1710–2170

X

65°

0°–8°

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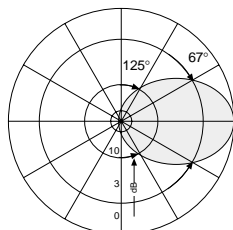
set by hand or by optional RCU (remote control unit)

XPol F-Panel 1710–2170 65° 18dBi 0°–8°T

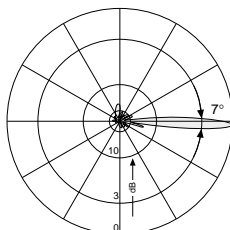
Type No.	742 212		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 17.5 dBi	2 x 17.7 dBi	2 x 18 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 67° Vertical: 7°	Horizontal: 65° Vertical: 6.7°	Horizontal: 63° Vertical: 6.5°
Electrical tilt continuously adjustable	0°–8°	0°–8°	0°–8°
Sidelobe suppression for first sidelobe above horizon	0° ... 2° ... 5° ... 8°T 17 ... 17 ... 15 ... 15 dB	0° ... 2° ... 5° ... 8°T 20 ... 20 ... 18 ... 18 dB	0° ... 2° ... 5° ... 8°T 20 ... 20 ... 18 ... 16 dB
Front-to-back ratio (180° ± 30°)	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation, between ports	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	300 W (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

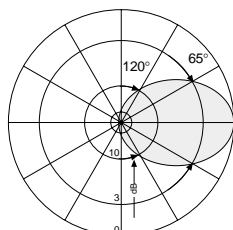


Horizontal Pattern

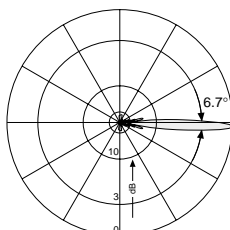


Vertical Pattern
0°–8° electrical downtilt

1850 – 1990 MHz: +45°/–45° Polarization

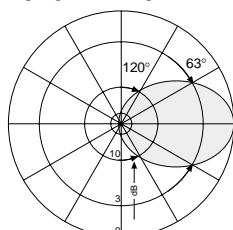


Horizontal Pattern

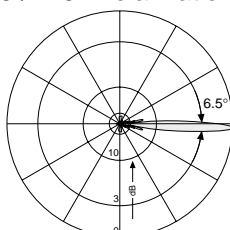


Vertical Pattern
0°–8° electrical downtilt

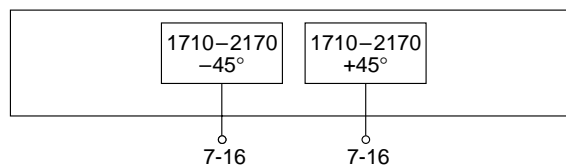
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–8° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	7.5 kg
Wind load	Frontal: 130 N (at 150 km/h) Lateral: 110 N (at 150 km/h) Rearside: 310 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1574 x 172 x 92 mm
Height/width/depth	1302 / 155 / 69 mm

Multi-band F-Panel Dual Polarization Half-power Beam Width Adjust. Electrical Downtilt

1710–2170

X

65°

0°–6°

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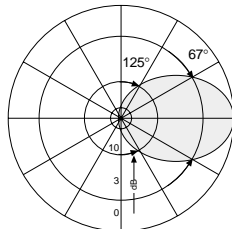
set by hand or by optional RCU (remote control unit)

XPol F-Panel 1710–2170 65° 19.5dBi 0°–6°T

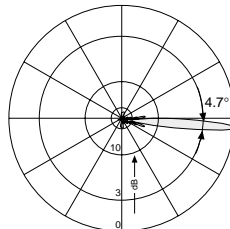
Type No.	742 213		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 19 dBi	2 x 19.2 dBi	2 x 19.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 67° Vertical: 4.7°	Horizontal: 65° Vertical: 4.5°	Horizontal: 63° Vertical: 4.3°
Electrical tilt continuously adjustable	0°–6°	0°–6°	0°–6°
Sidelobe suppression for first sidelobe above horizon	0° ... 2° ... 4° ... 6°T 18 ... 17 ... 15 ... 15 dB	0° ... 2° ... 4° ... 6°T 18 ... 18 ... 17 ... 15 dB	0° ... 2° ... 4° ... 6°T 18 ... 18 ... 17 ... 15 dB
Front-to-back ratio (180° ± 30°)	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation, between ports	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	300 Watt (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

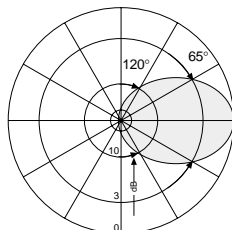


Horizontal Pattern

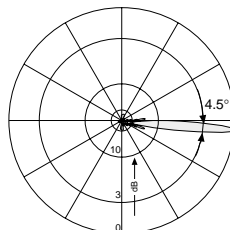


Vertical Pattern
0°–6° electrical downtilt

1850 – 1990 MHz: +45°/–45° Polarization

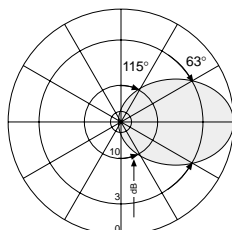


Horizontal Pattern

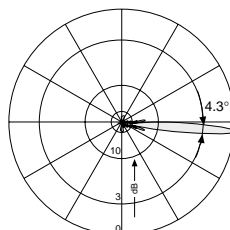


Vertical Pattern
0°–6° electrical downtilt

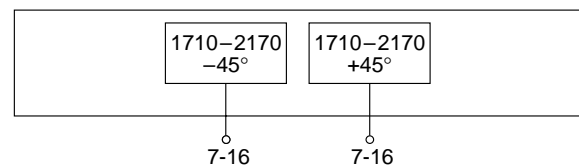
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–6° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	10 kg
Wind load	Frontal: 195 N (at 150 km/h) Lateral: 160 N (at 150 km/h) Rearside: 480 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2384 x 172 x 92 mm
Height/width/depth	1942 / 155 / 69 mm

Multi-band F-Panel Dual Polarization Half-power Beam Width Adjust. Electrical Downtilt

1710–2170

X

88°

0°–10°

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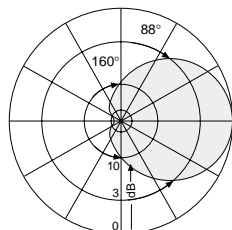
set by hand or by optional RCU (remote control unit)

XPol F-Panel 1710–2170 88° 14dBi 0°–10°T

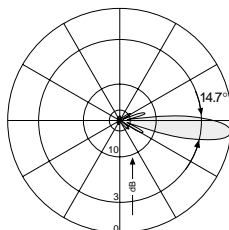
Type No.	741 988		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 13.7 dBi	2 x 14 dBi	2 x 14.1 dBi
Half-power beam width Copolars +45°/–45°	Horizontal: 88° Vertical: 14.7°	Horizontal: 88° Vertical: 14°	Horizontal: 88° Vertical: 13°
Electrical tilt continuously adjustable	0°–10°	0°–10°	0°–10°
Sidelobe suppression for first sidelobe above horizon	0° ... 4° ... 8° ... 10°T 18 ... 18 ... 18 ... 18 dB	0° ... 4° ... 8° ... 10°T 18 ... 18 ... 18 ... 18 dB	0° ... 4° ... 8° ... 10°T 18 ... 18 ... 18 ... 18 dB
Front-to-back ratio, copolar total power	> 25 dB > 25 dB	> 25 dB > 25 dB	> 25 dB > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB
Isolation, between ports	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	300 Watt (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

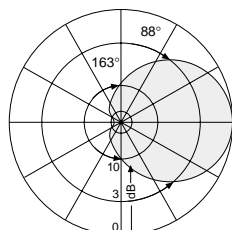


Horizontal Pattern

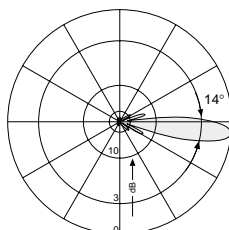


Vertical Pattern
0°–10° electrical downtilt

1850 – 1990 MHz: +45°/–45° Polarization

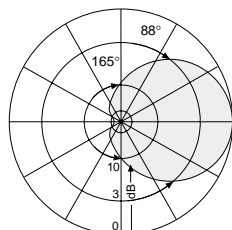


Horizontal Pattern

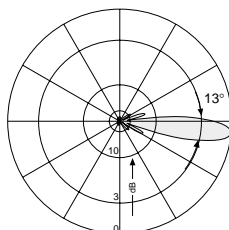


Vertical Pattern
0°–10° electrical downtilt

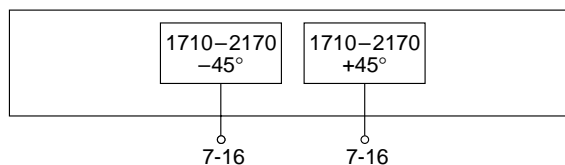
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–10° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	4.2 kg
Wind load	Frontal: 65 N (at 150 km/h) Lateral: 50 N (at 150 km/h) Rearside: 160 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	924 x 172 x 92 mm
Height/width/depth	662 / 155 / 69 mm

Multi-band F-Panel Dual Polarization Half-power Beam Width Adjust. Electrical Downtilt

1710–2170

X

88°

0°–8°

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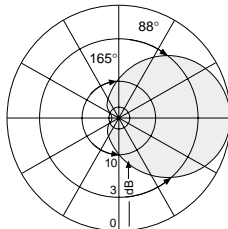
set by hand or by optional RCU (remote control unit)

XPol F-Panel 1710–2170 88° 17dBi 0°–8°T

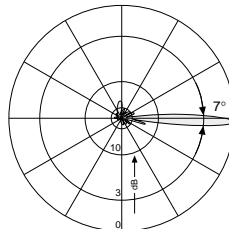
Type No.	741 989		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 16.5 dBi	2 x 16.8 dBi	2 x 16.7 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 88° Vertical: 7°	Horizontal: 88° Vertical: 6.7°	Horizontal: 88° Vertical: 6.5°
Electrical tilt continuously adjustable	0°–8°	0°–8°	0°–8°
Sidelobe suppression for first sidelobe above horizon	0° ... 2° ... 5° ... 8°T 18 ... 18 ... 16 ... 14 dB	0° ... 2° ... 5° ... 8°T 20 ... 20 ... 18 ... 17 dB	0° ... 2° ... 5° ... 8°T 18 ... 18 ... 18 ... 17 dB
Front-to-back ratio (180° ± 30°)	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 24 dB Total power: > 24 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB
Isolation, between ports	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	300 Watt (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

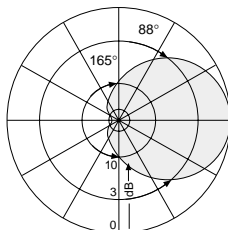


Horizontal Pattern

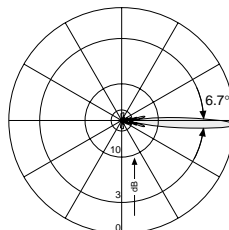


Vertical Pattern
0°–8° electrical downtilt

1850 – 1990 MHz: +45°/–45° Polarization

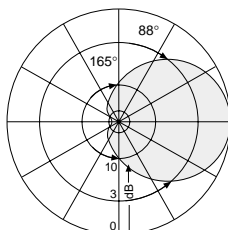


Horizontal Pattern

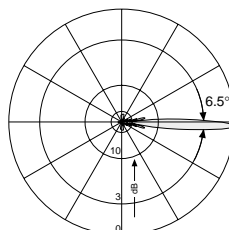


Vertical Pattern
0°–8° electrical downtilt

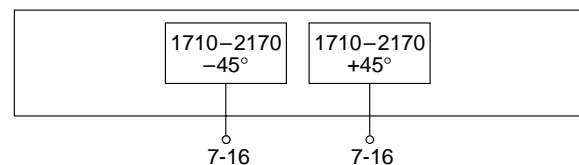
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–8° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1x, Position bottom continuously adjustable
Weight	7.5 kg
Wind load	Frontal: 130 N (at 150 km/h) Lateral: 110 N (at 150 km/h) Rearside: 310 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1574 x 172 x 92 mm
Height/width/depth	1302 / 155 / 69 mm

Multi-band F-Panel Dual Polarization Half-power Beam Width Adjust. Electrical Downtilt

1710–2170

X

88°

0°–6°

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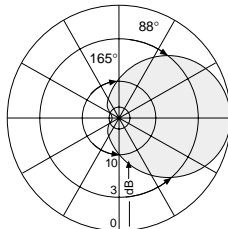
set by hand or by optional RCU (remote control unit)

XPol F-Panel 1710–2170 88° 18dBi 0°–6°T

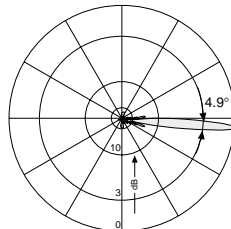
Type No.	741 990		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 17.7 dBi	2 x 18 dBi	2 x 18.2 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 88° Vertical: 4.9°	Horizontal: 88° Vertical: 4.7°	Horizontal: 88° Vertical: 4.5°
Electrical tilt continuously adjustable	0°–6°	0°–6°	0°–6°
Sidelobe suppression for first sidelobe above horizon	0° ... 2° ... 4° ... 6°T 17 ... 17 ... 17 ... 17 dB	0° ... 2° ... 4° ... 6°T 18 ... 18 ... 18 ... 18 dB	0° ... 2° ... 4° ... 6°T 18 ... 18 ... 18 ... 18 dB
Front-to-back ratio, copolar total power	> 25 dB > 25 dB	> 25 dB > 25 dB	> 25 dB > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB	Typically: 20 dB > 10 dB
Isolation, between ports	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	300 Watt (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

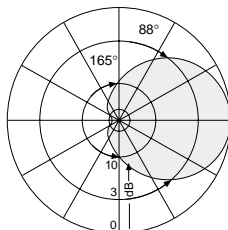


Horizontal Pattern

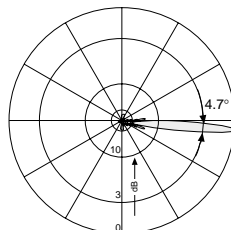


Vertical Pattern
0°–6° electrical downtilt

1850 – 1990 MHz: +45°/–45° Polarization

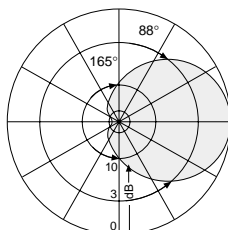


Horizontal Pattern

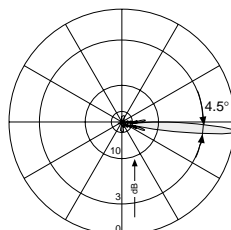


Vertical Pattern
0°–6° electrical downtilt

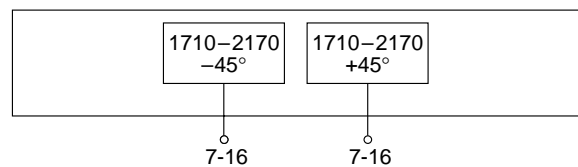
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–6° electrical downtilt



Mechanical specifications

Input	2 x 7-16 female
Connector position	Bottom
Adjustment mechanism	1 x, Position bottom continuously adjustable
Weight	9 kg
Wind load	Frontal: 195 N (at 150 km/h) Lateral: 160 N (at 150 km/h) Rearside: 480 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2044 x 172 x 92 mm
Height/width/depth	1942 / 155 / 69 mm

2-Multi-band F-Panel

1710–2170	1710–2170
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Dual Polarization

X	X
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Half-power Beam Width

65°	65°
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Adjust. Electr. Downtilt

0°–8°	0°–8°
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set by hand or by optional RCU (remote control unit)

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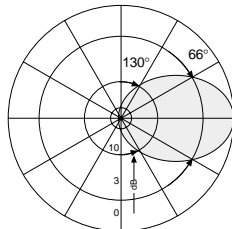
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XXPol F-Panel 1710–2170/1710–2170 65°/65° 18/18dBi 0°–8°/0°–8°T

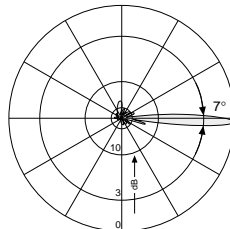
Type No.	742 234		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°
Gain	4 x 17.5 dBi	4 x 17.7 dBi	4 x 17.8 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 66° Vertical: 7°	Horizontal: 65° Vertical: 6.7°	Horizontal: 64° Vertical: 6.5°
Electrical tilt continuously adjustable	0°–8°	0°–8°	0°–8°
Sidelobe suppression for first sidelobe above horizon	0° ... 2° ... 5° ... 8°T 17 ... 17 ... 15 ... 15 dB	0° ... 2° ... 5° ... 8°T 20 ... 20 ... 18 ... 18 dB	0° ... 2° ... 5° ... 8°T 20 ... 20 ... 18 ... 16 dB
Front-to-back ratio	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation, between inputs	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	300 Watt (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

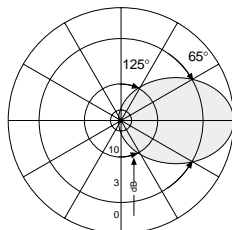


Horizontal Pattern

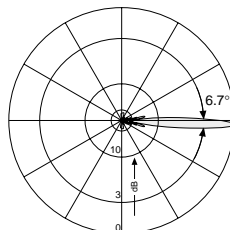


Vertical Pattern
0°–8° electrical downtilt

1850 – 1990 MHz: +45°/–45° Polarization

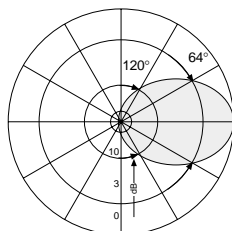


Horizontal Pattern

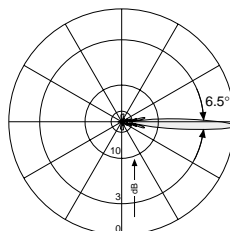


Vertical Pattern
0°–8° electrical downtilt

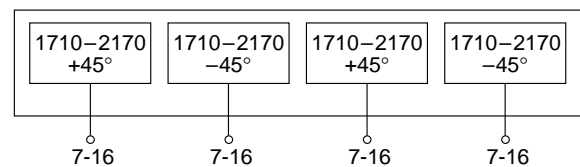
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–8° electrical downtilt



Mechanical specifications

Input	4 x 7-16 female
Connector position	Bottom
Adjustment mechanism	2x, Position bottom continuously adjustable
Weight	12 kg
Wind load	Frontal: 570 N (at 150 km/h) Lateral: 110 N (at 150 km/h) Rearside: 570 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1574 x 320 x 92 mm
Height/width/depth	1302 / 299 / 69 mm

Mounting accessories are not included in the scope of delivery (see page 165 – 175)

For more information about downtilt adjustment and preparation for Remote Control Unit (RCU) refer to page 158

2-Multi-band F-Panel

1710–2170	1710–2170
-----------	-----------

Dual Polarization

X	X
---	---

Half-power Beam Width

65°	65°
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Adjust. Electr. Downtilt

0°–6°	0°–6°
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set by hand or by optional RCU (remote control unit)

KATHREIN

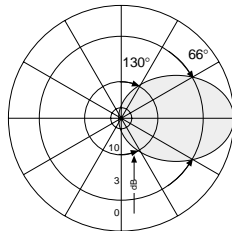
Antennen · Electronic

XXPol F-Panel 1710–2170/1710–2170 65°/65° 19.5/19.5dBi 0°–6°/0°–6°T

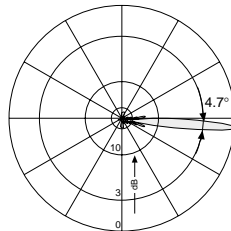
Type No.	742 235		
Frequency range	1710–2170		
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°	+45°, –45°; +45°, –45°
Gain	4 x 19 dBi	4 x 19.2 dBi	4 x 19.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 66° Vertical: 4.7°	Horizontal: 65° Vertical: 4.5°	Horizontal: 64° Vertical: 4.3°
Electrical tilt continuously adjustable	0°–6°	0°–6°	0°–6°
Sidelobe suppression for first sidelobe above horizon	0° ... 2° ... 4° ... 6°T 18 ... 17 ... 15 ... 15 dB	0° ... 2° ... 4° ... 6°T 18 ... 18 ... 17 ... 15 dB	0° ... 2° ... 4° ... 6°T 18 ... 18 ... 17 ... 15 dB
Front-to-back ratio	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB	Copolar: > 25 dB Total power: > 25 dB
Cross polar ratio Maindirection Sector	0° ±60° Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB	Typically: 25 dB > 10 dB
Isolation, between inputs	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		
Max. power per input	300 Watt (at 50 °C ambient temperature)		



1710 – 1880 MHz: +45°/–45° Polarization

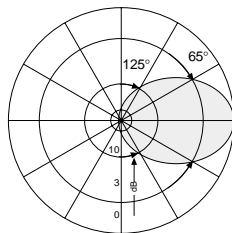


Horizontal Pattern

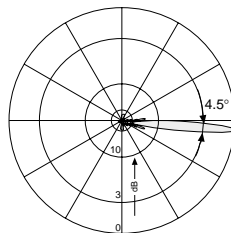


Vertical Pattern
0°–6° electrical downtilt

1850 – 1990 MHz: +45°/–45° Polarization

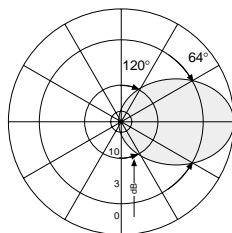


Horizontal Pattern

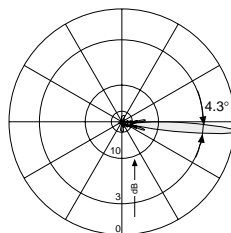


Vertical Pattern
0°–6° electrical downtilt

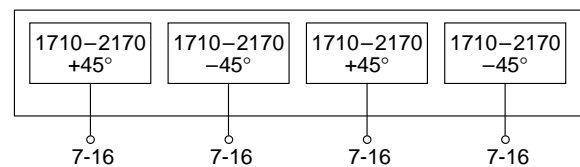
1920 – 2170 MHz: +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–6° electrical downtilt



Mechanical specifications

Input	4 x 7-16 female
Connector position	Bottom
Adjustment mechanism	2x, Position bottom continuously adjustable
Weight	18 kg
Wind load	Frontal: 870 N (at 150 km/h) Lateral: 230 N (at 150 km/h) Rearside: 870 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2384 x 320 x 92 mm
Height/width/depth	1942 / 299 / 69 mm

Mounting accessories are not included in the scope of delivery (see page 165 – 175)

For more information about downtilt adjustment and preparation for Remote Control Unit (RCU) refer to page 158

Dual-band A-Panel

824–960

1710–2170

Dual Polarization

X

X

Half-power Beam Width

65°

65°

Adjust. Electr. Downtilt

0°–14°

0°–8°

set by hand or by optional RCU (remote control unit)

KATHREIN

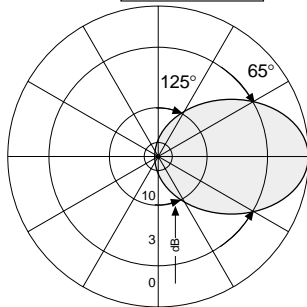
Antennen · Electronic

XXPol A-Panel 824–960/1710–2170 65°/65° 14/17dBi 0°–14°/0°–8°T

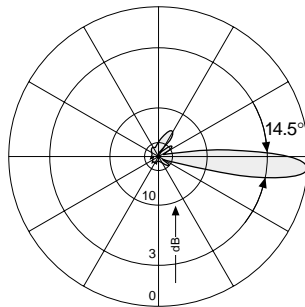
Type No.	742 264				
Frequency range	824–960 824 – 894 MHz 870 – 960 MHz		1710–2170 1710 – 1880 MHz 1850 – 1990 MHz 1920 – 2170 MHz		
Polarization	+45°, –45°	+45°, –45°	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 14 dBi	2 x 14 dBi	2 x 16.5 dBi	2 x 16.8 dBi	2 x 17 dBi
Half-power beam width Copolars +45°/–45°	Horizontal: 68° Vertical: 16°	Horizontal: 65° Vertical: 14.5°	Horizontal: 65° Vertical: 7.5°	Horizontal: 65° Vertical: 7°	Horizontal: 63° Vertical: 6.5°
Electrical tilt continuously adjustable	0°–14°	0°–14°	0°–8°	0°–8°	0°–8°
Sidelobe suppression for first sidelobe above horizon	0° ... 7° ... 14°T 14 ... 14 ... 13 dB	0° ... 7° ... 14°T 14 ... 14 ... 13 dB	0° ... 4° ... 8°T 16 ... 16 ... 15 dB	0° ... 4° ... 8°T 16 ... 16 ... 16 dB	0° ... 4° ... 8°T 16 ... 16 ... 16 dB
Front-to-back ratio, copolar	> 28 dB	> 28 dB	> 25 dB	> 25 dB	> 25 dB
Cross polar ratio Maindirection Sector	Typically: 20 dB 0° > 10 dB ±60°	Typically: 20 dB > 10 dB	Typically: 16 dB > 10 dB	Typically: 18 dB > 10 dB	Typically: 20 dB > 10 dB
Isolation: Intrasystem	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		< –150 dBc		
Max. power per input	250 Watt		200 Watt (at 50 °C ambient temperature)		
Isolation: Intersystem	> 45 dB (824–960 // 1710–2170 MHz)				



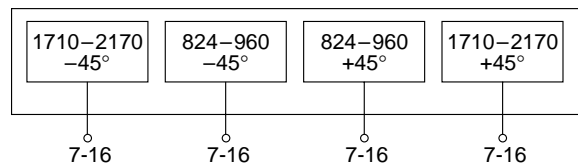
824–960 +45°/–45° Polarization



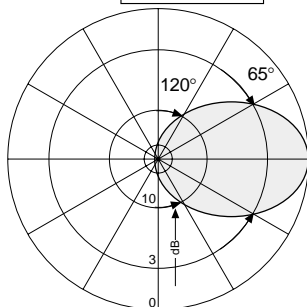
Horizontal Pattern



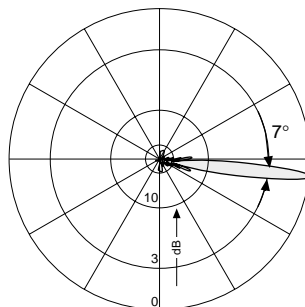
Vertical Pattern
0°–14° electrical downtilt



1710–2170 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–8° electrical downtilt

Mechanical specifications

Input	4 x 7-16 female
Connector position	Bottom
Adjustment mechanism	2x, Position bottom continuously adjustable
Weight	15 kg
Wind load	Frontal: 230 N (at 150 km/h) Lateral: 160 N (at 150 km/h) Rearside: 500 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1562 x 287 x 185 mm
Height/width/depth	1296 / 262 / 135 mm

Dual-band A-Panel

824–960

1710–2170

Dual Polarization

X

X

Half-power Beam Width

65°

65°

Adjust. Electr. Downtilt

0°–10°

0°–6°

set by hand or by optional RCU (remote control unit)

KATHREIN

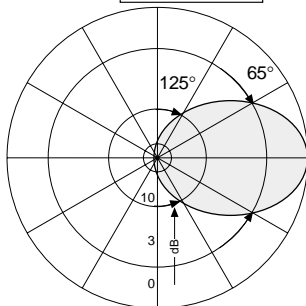
Antennen · Electronic

XXPol A-Panel 824–960/1710–2170 65°/65° 16/18.5dBi 0°–10°/0°–6°T

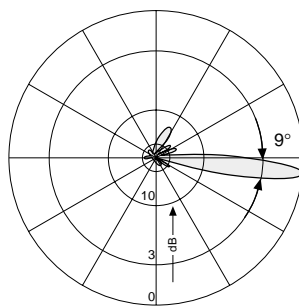
Type No.	742 265				
Frequency range	824–960		1710–2170		
	824 – 894 MHz	880 – 960 MHz	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz
Polarization	+45°, –45°	+45°, –45°	+45°, –45°	+45°, –45°	+45°, –45°
Gain	2 x 15.5 dBi	2 x 16 dBi	2 x 18 dBi	2 x 18.2 dBi	2 x 18.5 dBi
Half-power beam width Copolar +45°/–45°	Horizontal: 68° Vertical: 10°	Horizontal: 65° Vertical: 9°	Horizontal: 66° Vertical: 5.5°	Horizontal: 65° Vertical: 5.2°	Horizontal: 63° Vertical: 5°
Electrical tilt continuously adjustable	0°–10°	0°–10°	0°–6°	0°–6°	0°–6°
Sidelobe suppression for first sidelobe above horizon	0° ... 5° ... 10°T 16 ... 16 ... 14 dB	0° ... 5° ... 10°T 16 ... 16 ... 14 dB	0° ... 3° ... 6°T 18 ... 18 ... 16 dB	0° ... 3° ... 6°T 18 ... 18 ... 16 dB	0° ... 3° ... 6°T 18 ... 18 ... 16 dB
Front-to-back ratio, copolar	> 27 dB	> 27 dB	> 27 dB	> 27 dB	> 27 dB
Cross polar ratio Maindirection Sector	Typically: 20 dB 0° > 10 dB ±60°	Typically: 20 dB > 10 dB	Typically: 16 dB > 10 dB	Typically: 18 dB > 10 dB	Typically: 18 dB > 10 dB
Isolation: Intrasystem	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Impedance	50 Ω	50 Ω	50 Ω	50 Ω	50 Ω
VSWR	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc		< –150 dBc		
Max. power per input	250 Watt		200 Watt (at 50 °C ambient temperature)		
Isolation: Intersystem	> 45 dB (824–960 // 1710–2170 MHz)				



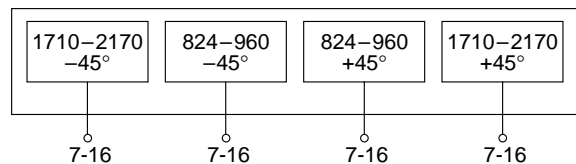
824–960 +45°/–45° Polarization



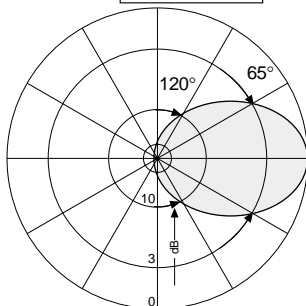
Horizontal Pattern



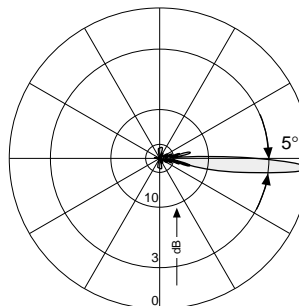
Vertical Pattern
0°–10° electrical downtilt



1710–2170 +45°/–45° Polarization



Horizontal Pattern



Vertical Pattern
0°–6° electrical downtilt

Mechanical specifications

Input	4 x 7-16 female
Connector position	Bottom
Adjustment mechanism	2x, Position bottom continuously adjustable
Weight	22 kg
Wind load	Frontal: 330 N (at 150 km/h) Lateral: 230 N (at 150 km/h) Rearside: 770 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2202 x 287 x 185 mm
Height/width/depth	1936 / 262 / 135 mm

Logarithmic Periodic Vertical Polarization Half-power Beam Width

806–2170

V

65°

KATHREIN

Antennen · Electronic

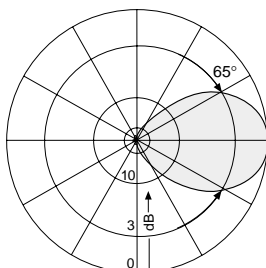
VPol LogPer 806–2170 65° 11dBi

Type No.	742 192		
Input	1 x 7-16 female		
Connector position	Bottom		
Frequency range	806 – 1000 MHz	1000 – 1700 MHz	1700 – 2170 MHz
VSWR	< 1.5	< 1.5	< 1.5
Gain	11 dBi	11.3 dBi	11.5 dBi
Impedance	50 Ω	50 Ω	50 Ω
Polarization	Vertical	Vertical	Vertical
Front-to-back ratio	> 25 dB	> 25 dB	> 23 dB
Half-power Beam Width			
horizontal	65°	55°	50°
vertical	55°	50°	45°
Max. power	300 W	250 W	200 W
	(at 50 °C ambient temperature)		
Weight	5.7 kg		
Wind load	Frontal:	20 N (at 150 km/h)	
	Lateral:	260 N (at 150 km/h)	
	Rearside:	30 N (at 150 km/h)	
Max. wind velocity	200 km/h		
Packing size	360 x 175 x 1000 mm		
Height/width/depth	300 / 155 / 785 mm		

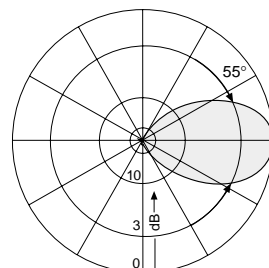


- Material:** Radiator: Weather-proof aluminum.
Reflector screen: Weather-proof aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.
- Mounting:** The antenna can be mounted on tubular mast with a diameter of 30 – 70 mm with supplied clamps.
- Ice protection:** Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.
- Grounding:** All metal parts of the antenna as well as the inner conductor are DC grounded.

806 – 1000 MHz

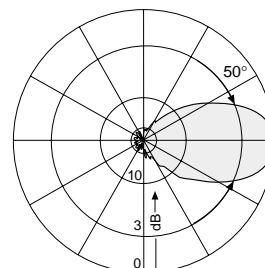


Horizontal Pattern

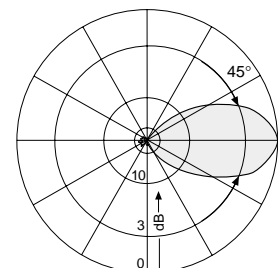


Vertical Pattern

1700 – 2170 MHz



Horizontal Pattern



Vertical Pattern

Summary – Directional Antennas

Vertical Polarization

800/900

Vertical Polarization – 800/900

Type	Type No.	Height [mm]	Connector position	Page
VPol Panel	870–960 20° 16.5dBi	735 727	500 bottom	81
VPol ParPanel	870–960 36° 17.5dBi	728 684	1290 bottom	82
VPol ParPanel	870–960 36° 20dBi	K 73 45 64 7	2250 bottom	83
VPol LogPer	790–960 51° 12dBi	K 73 22 67	300 bottom	84
VPol Panel	860–960 65° 9dBi	730 676	264 bottom or top	85
VPol Panel	860–960 65° 9dBi	730 677	264 bottom or top	85
VPol Panel	870–960 65° 12.5dBi	730 360	654 bottom	85
VPol Panel	870–960 65° 15.5dBi	730 368	1294 bottom	86
VPol Panel	806–960 65° 15.5dBi	732 448	1294 bottom	86
VPol Panel	806–960 65° 15.5dBi 6°T	732 691	1294 bottom	86
VPol Panel	870–960 65° 17dBi	730 691	1934 rearside	87
VPol Panel	824–960 65° 17dBi	738 407	1934 rearside	87
VPol Panel	870–960 65° 17dBi 4.5°T	735 811	1934 rearside	87
VPol Panel	870–960 65° 17dBi 6°T	732 690	1934 rearside	88
VPol Panel	870–960 65° 17dBi 9°T	737 547	1934 rearside	88
VPol Panel	870–960 65° 18dBi	739 854	2254 rearside	89
VPol Panel	870–960 65° 18.5dBi	730 376	2574 rearside	89
VPol Panel	870–960 65° 18.5dBi 6°T	732 689	2574 bottom	90

Summary – Directional Antennas

Vertical Polarization

800/900

Vertical Polarization – 800/900

Type	Type No.	Height [mm]	Connector position	Page
VPol F-Panel 872–960 90° 7.5dBi	736 622	262	bottom or top	91
VPol F-Panel 872–960 90° 7.5dBi	736 854	262	bottom or top	91
VPol F-Panel 872–960 90° 10dBi	736 855	502	bottom or top	91
VPol F-Panel 872–960 90° 14dBi	736 858	1222	bottom or top	92
VPol Panel 870–960 90° 14dBi	730 370	1294	bottom	93
VPol Panel 806–960 90° 14dBi	732 480	1294	bottom	93
VPol Panel 870–960 90° 15.5dBi	732 967	1934	rearside	93
VPol Panel 806–960 90° 15.5dBi	742 150	1934	rearside	94
VPol F-Panel 872–960 90° 15.5dBi	736 863	1942	bottom or top	95
VPol F-Panel 872–960 90° 15.5dBi 5°T	736 864	1942	bottom	95
VPol Panel 870–960 90° 15.5dBi 6°T	741 067	1934	rearside	96
VPol F-Panel 872–960 90° 16.5dBi	736 866	2422	bottom or top	97
VPol Panel 870–960 90° 17dBi	730 378	2574	rearside	98
VPol Panel 806–960 90° 17dBi	739 418	2574	rearside	98
VPol Panel 870–960 90° 17dBi 6°T	737 549	2574	rearside	99
VPol Panel 870–960 105° 16.5dBi	730 380	2574	rearside	100
VPol Panel 870–960 120° 13dBi	730 374	1294	bottom	101
VPol Panel 870–960 120° 15.5dBi	739 856	2254	rearside	101
VPol Panel 870–960 120° 16dBi	730 382	2574	rearside	102

Additional versions on request

Adjustable Electrical Downtilt

VPol Panel 870–960 65° 15dBi 3°–15°T	737 906	1294	bottom	103
VPol Panel 824–960 65° 15dBi 3°–15°T	741 493	1294	bottom	103
VPol Panel 870–960 90° 13.5dBi 3°–15°T	736 077	1294	bottom	104
VPol Panel 870–960 105° 13dBi 3°–15°T	736 078	1294	bottom	105

Additional versions on request

Panel
Vertical Polarization
Half-power Beam Width

870–960

V

20°

VPol Panel 870–960 20° 16.5dBi

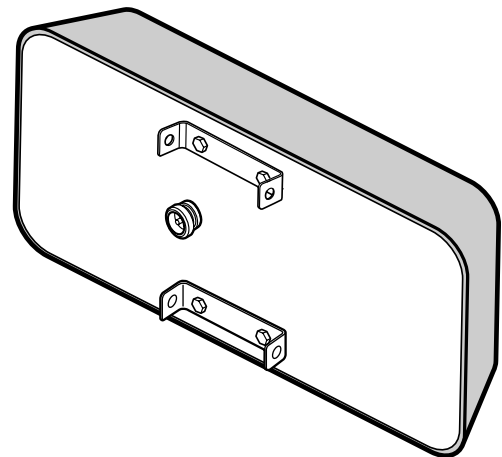
Type No.	735 727
Input	7-16 female
Frequency range	870 – 960 MHz
VSWR	< 1.3
Gain	16.5 dBi
Impedance	50 Ω
Polarization	Vertical
Front-to-back-ratio	> 24 dB
Half-power Beam Width	H-plane: 20°/ E-plane: 33°
Max. power	500 Watt (at 50 °C ambient temperature)
Weight	10 kg
Wind load	Frontal: 500 N (at 150 km/h) Lateral: 110 N (at 150 km/h) Rearside: 715 N (at 150 km/h)
Max. wind velocity	230 km/h
Packing size	1062 x 562 x 275 mm
Height/width/depth	492 / 992 / 190 mm



Material: Radiator: Aluminum.
 Reflector screen: Weather-proof aluminum.
 Radome: Fiberglass, colour: White.
 All screws and nuts: Stainless steel.

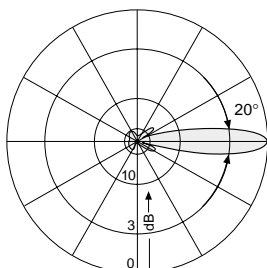
Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Grounding: All metal parts of the antenna as well as the inner conductor are DC grounded.

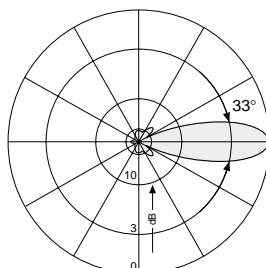


Accessories (order separately)

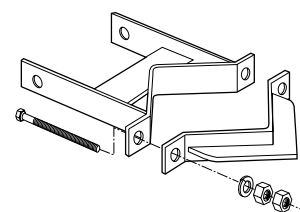
Type No.	Description	Remarks
K 61 14 02	2 clamps	Mast: 60 – 115 mm diameter
K 61 14 03	2 clamps	Mast: 115 – 210 mm diameter
K 61 14 04	2 clamps	Mast: 210 – 380 mm diameter
K 61 14 05	2 clamps	Mast: 380 – 521 mm diameter



Horizontal Pattern



Vertical Pattern



K 61 14 03

Parabolic Panel Vertical Polarization Half-power Beam Width

870–960

V

36°

KATHREIN
Antennen · Electronic

VPol ParPanel 870–960 36° 17.5dBi

Type No.	728 684
Input	7-16 female
Frequency range	870 – 960 MHz
VSWR	< 1.3
Gain	17.5 dBi
Impedance	50 Ω
Polarization	Vertical
Front-to-back ratio	> 30 dB
Half-power Beam Width	H-plane: 36°/ E-plane: 13°
Max. power	400 Watt (at 50 °C ambient temperature)
Weight	21 kg
Wind load	Frontal: 550 N (at 150 km/h) Lateral: 350 N (at 150 km/h) Rearside: 550 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1460 x 640 x 465 mm
Height/width/depth	1290 / 591 / 406 mm

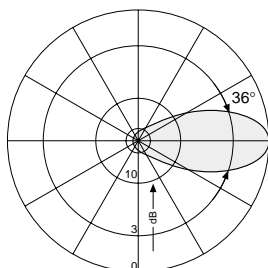
Material: Radiator: Weather-proof aluminum.
Reflector screen: Weather-proof aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

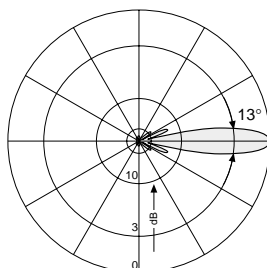
Grounding: All metal parts of the antenna are DC grounded.
The inner conductor is coupled capacitively.

Accessories (order separately)

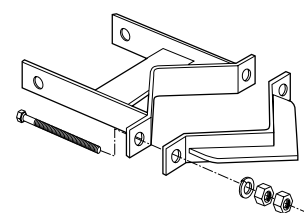
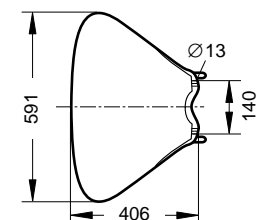
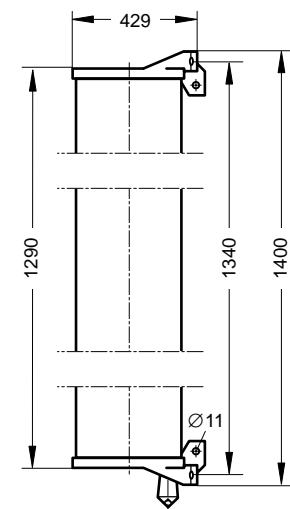
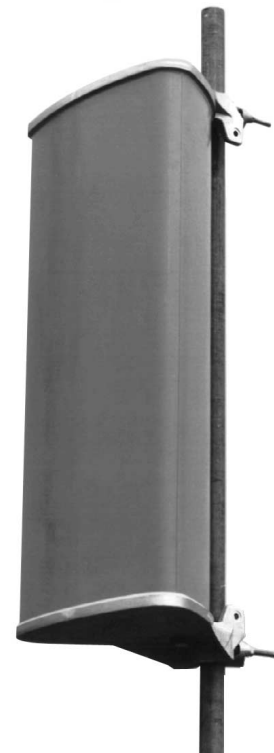
Type No.	Description	Remarks
733 736	2 clamps	Mast: 50 – 125 mm diameter
K 61 14 03	2 clamps	Mast: 115 – 210 mm diameter
K 61 14 04	2 clamps	Mast: 210 – 380 mm diameter
K 61 14 05	2 clamps	Mast: 380 – 521 mm diameter
733 695	1 downtilt kit	Downtilt angle: 0° – 16° Use the downtilt kit together with 2 clamps suitable for the mast diameter.



Horizontal Pattern



Vertical Pattern



K 61 14 03

Parabolic Panel Vertical Polarization Half-power Beam Width

870–960

V

36°

KATHREIN
Antennen · Electronic

VPol ParPanel 870–960 36° 20dBi

Type No.	K 73 45 64 7
Input	7-16 female
Frequency range	870 – 960 MHz
VSWR	< 1.3
Gain	20 dBi
Impedance	50 Ω
Polarization	Vertical
Front-to-back ratio	> 30 dB
Half-power Beam Width	H-plane: 36°/ E-plane: 8°
Max. power	500 Watt (at 50 °C ambient temperature)
Weight	30 kg
Wind load	Frontal: 950 N (at 150 km/h) Lateral: 600 N (at 150 km/h) Rearside: 950 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	2420 x 640 x 465 mm
Height/width/depth	2250 / 591 / 406 mm

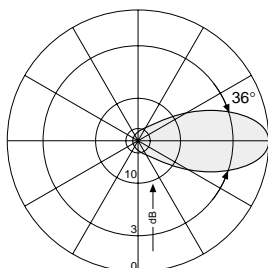
Material: Radiator: Weather-proof aluminum.
Reflector screen: Weather-proof aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.

Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

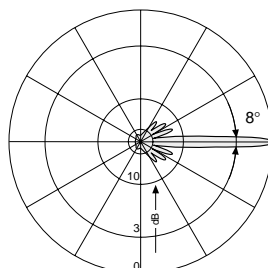
Grounding: All metal parts of the antenna are DC grounded.
The inner conductor is coupled capacitively.

Accessories (order separately)

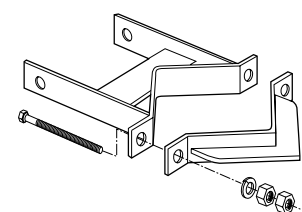
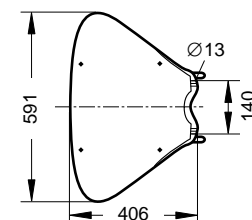
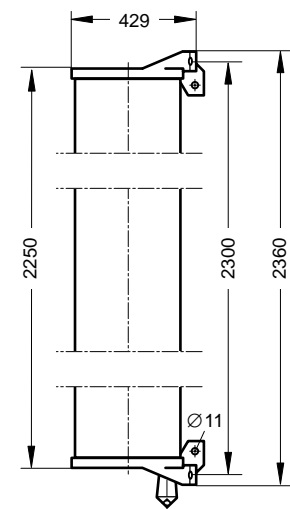
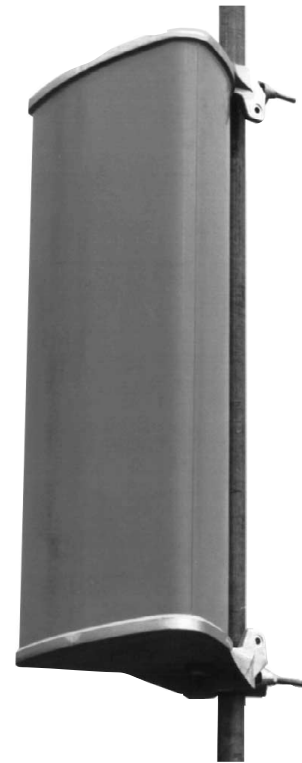
Type No.	Description	Remarks
733 736	2 clamps	Mast: 50 – 125 mm diameter
K 61 14 03	2 clamps	Mast: 115 – 210 mm diameter
K 61 14 04	2 clamps	Mast: 210 – 380 mm diameter
K 61 14 05	2 clamps	Mast: 380 – 521 mm diameter
733 695	1 downtilt kit	Downtilt angle: 0° – 10° Use the downtilt kit together with 2 clamps suitable for the mast diameter.



Horizontal Pattern



Vertical Pattern



K 61 14 03

Logarithmic periodic Vertical Polarization Half-power Beam Width

790–960

V

51°

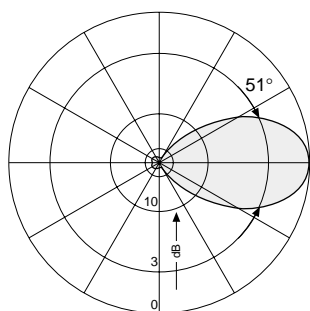
KATHREIN
Antennen · Electronic

VPol LogPer 790–960 51° 12dBi

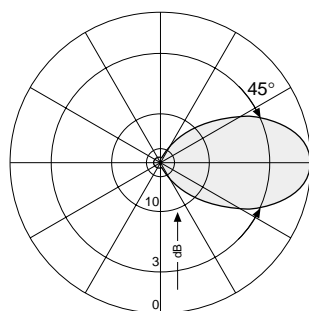
Type No.	K 73 22 67
Input	7-16 female
Frequency range	790 – 960 MHz
VSWR	< 1.4
Gain	12 dBi
Impedance	50 Ω
Polarization	Vertical
Side-lobe suppression	> 25 dB
Front-to-back ratio	> 30 dB
Half-power Beam Width	H-plane: 51°/ E-plane: 45°
Max. power	500 Watt (at 50 °C ambient temperature)
Weight	6.3 kg
Wind load	Frontal: 20 N (at 150 km/h) Lateral: 260 N (at 150 km/h) Rearside: 30 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1000 x 360 x 175 mm
Height/width/depth	300 / 155 / 785 mm



- Material:** Radiator: Weather-proof aluminum.
Reflector screen: Weather-proof aluminum.
Radome: Fiberglass, colour: Grey.
All screws and nuts: Stainless steel.
- Mounting:** The antenna can be mounted on tubular mast with a diameter of 30 – 70 mm with supplied clamps.
- Ice protection:** Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.
- Grounding:** All metal parts of the antenna as well as the inner conductor are DC grounded.



Horizontal Pattern



Vertical Pattern

Eurocell Panel

Vertical Polarization

Half-power Beam Width

800/900

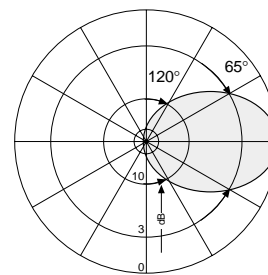
V

65°

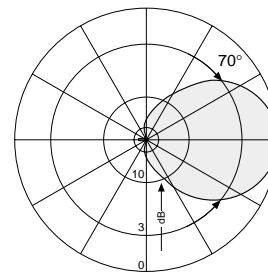
KATHREIN
Antennen · Electronic

VPol Panel 860–960 65° 9dBi

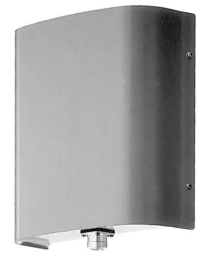
Type No.	730 676	730 677
Frequency range	860 – 960 MHz	
Polarization	Vertical	
Gain	9 dBi	
Half-power beam width	H-plane: 65° E-plane: 70°	
Front-to-back ratio	> 25 dB (890 – 960 MHz) > 20 dB (860 – 890 MHz)	
Impedance	50 Ω	
VSWR	< 1.3	
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	350 Watt (at 50 °C ambient temperature)	
Input	7-16 female	N female
Connector position	Bottom or top	
Weight	1.2 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 40 N / 25 N / 90 N	
Max. wind velocity	230 km/h	
Height/width/depth	264 / 258 / 103 mm	



Horizontal Pattern

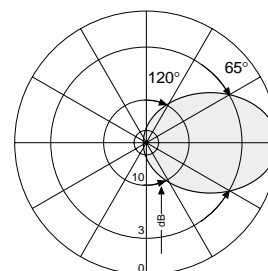


Vertical Pattern

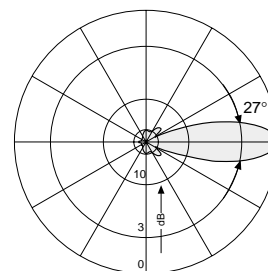


VPol Panel 870–960 65° 12.5dBi

Type No.	730 360
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	12.5 dBi
Half-power beam width	H-plane: 65° E-plane: 27°
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom
Weight	3 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 110 N / 65 N / 240 N
Max. wind velocity	200 km/h
Height/width/depth	654 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern



Eurocell Panel

Vertical Polarization

Half-power Beam Width

800/900

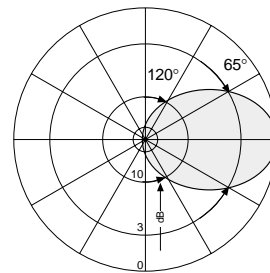
V

65°

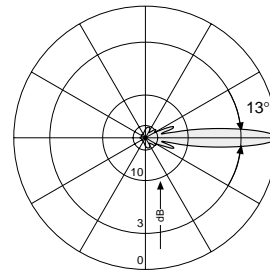
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VPol Panel 800/900 65° 15.5dBi

Type No.	730 368	732 448
Frequency range	870 – 960 MHz	806 – 960 MHz
Polarization	Vertical	Vertical
Gain	15.5 dBi	15.5 dBi (870 – 960 MHz) 15 dBi (806 – 870 MHz)
Half-power beam width	H-plane: 65° E-plane: 13°	
Front-to-back ratio	> 25 dB	
Impedance	50 Ω	
VSWR	< 1.3	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	500 Watt (at 50 °C ambient temperature)	
Input	7-16 female	
Connector position	Bottom	
Weight	6 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 220 N / 140 N / 490 N	
Max. wind velocity	200 km/h	
Height/width/depth	1294 / 258 / 103 mm	



Horizontal Pattern

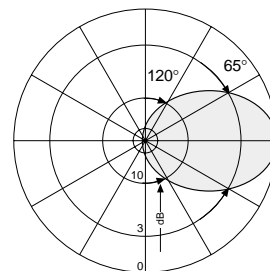


Vertical Pattern

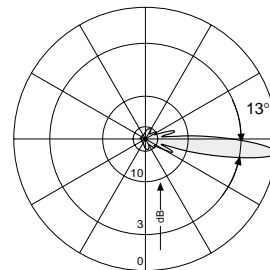


VPol Panel 806–960 65° 15.5dBi 6°T

Type No.	732 691
Frequency range	806 – 960 MHz
Polarization	Vertical
Gain	15.5 dBi
Half-power beam width	H-plane: 65° E-plane: 13°
Electrical downtilt	6°, fixed
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom
Weight	6 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 220 N / 140 N / 490 N
Max. wind velocity	200 km/h
Height/width/depth	1294 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern
6° electr. downtilt

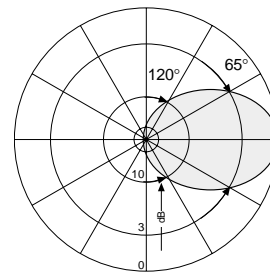


Eurocell Panel
Vertical Polarization
Half-power Beam Width

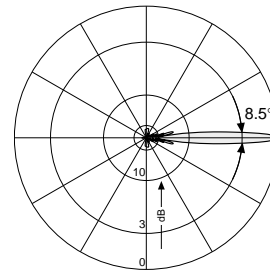
800/900
V
65°

VPol Panel 800/900 65° 17dBi

Type No.	730 691	738 407
Frequency range	870 – 960 MHz	824 – 960 MHz
Polarization	Vertical	
Gain	17 dBi	
Half-power beam width	H-plane: 65° E-plane: 8.5°	
Front-to-back ratio	> 25 dB	
Impedance	50 Ω	
VSWR	< 1.3	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	500 Watt (at 50 °C ambient temperature)	
Input	7-16 female	
Connector position	Rearside	
Weight	9 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 340 N / 220 N / 750 N	
Max. wind velocity	200 km/h	
Height/width/depth	1934 / 258 / 103 mm	



Horizontal Pattern

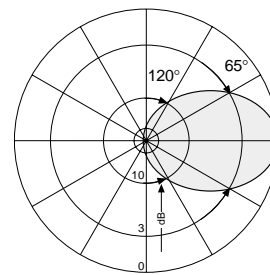


Vertical Pattern

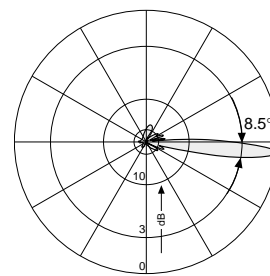


VPol Panel 870–960 65° 17dBi 4.5°T

Type No.	735 811
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	17 dBi
Half-power beam width	H-plane: 65° E-plane: 8.5°
Electrical downtilt	4.5°, fixed
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	9 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 340 N / 220 N / 750 N
Max. wind velocity	200 km/h
Height/width/depth	1934 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern
4.5° electr. downtilt



Eurocell Panel

Vertical Polarization

Half-power Beam Width

870–960

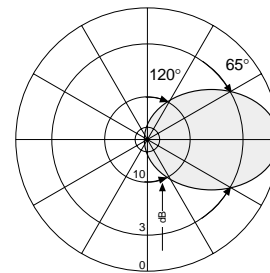
V

65°

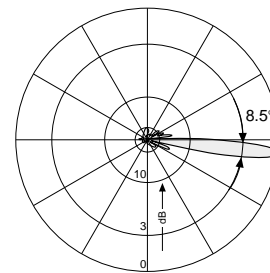
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VPol Panel 870–960 65° 17dBi 6°T

Type No.	732 690
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	17 dBi
Half-power beam width	H-plane: 65° E-plane: 8.5°
Electrical downtilt	6°, fixed
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	9 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 340 N / 220 N / 750 N
Max. wind velocity	200 km/h
Height/width/depth	1934 / 258 / 103 mm



Horizontal Pattern

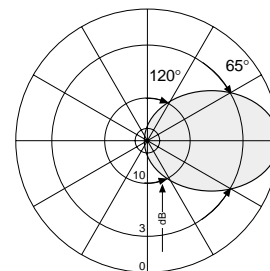


Vertical Pattern
6° electr. downtilt

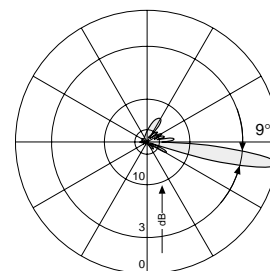


VPol Panel 870–960 65° 17dBi 9°T

Type No.	737 547
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	17 dBi
Half-power beam width	H-plane: 65° E-plane: 8.5°
Electrical downtilt	9°, fixed
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	9 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 340 N / 220 N / 750 N
Max. wind velocity	200 km/h
Height/width/depth	1934 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern
9° electr. downtilt



Eurocell Panel

Vertical Polarization

Half-power Beam Width

870–960

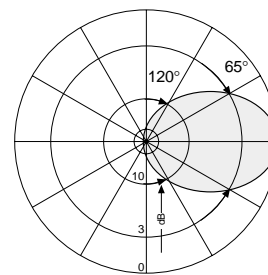
V

65°

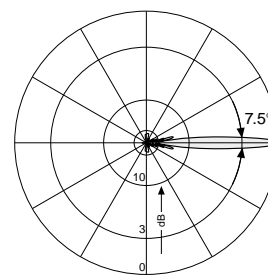
KATHREIN
Antennen · Electronic

VPol Panel 870–960 65° 18dBi

Type No.	739 854
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	18 dBi
Half-power beam width	H-plane: 65° E-plane: 7.5°
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	400 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	10.5 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 400 N / 260 N / 890 N
Max. wind velocity	180 km/h
Height/width/depth	2254 / 258 / 103 mm



Horizontal Pattern

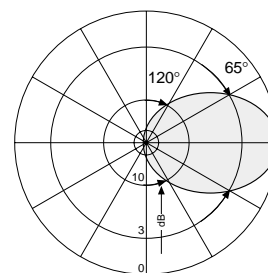


Vertical Pattern

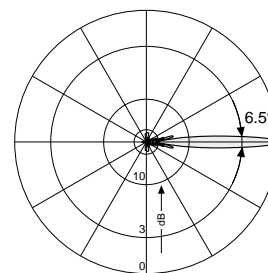


VPol Panel 870–960 65° 18.5dBi

Type No.	730 376
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	18.5 dBi
Half-power beam width	H-plane: 65° E-plane: 6.5°
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	12 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 460 N / 300 N / 1020 N
Max. wind velocity	200 km/h
Height/width/depth	2574 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern



Eurocell Panel
Vertical Polarization
Half-power Beam Width

870–960

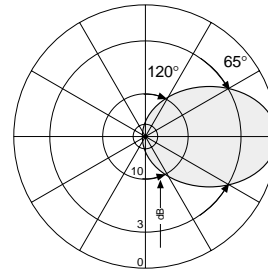
V

65°

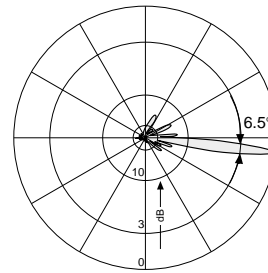
KATHREIN
 Antennen · Electronic

VPol Panel 870–960 65° 18.5dBi 6°T

Type No.	732 689
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	18.5 dBi
Half-power beam width	H-plane: 65° E-plane: 6.5°
Electrical downtilt	6°, fixed
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	12 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 460 N / 300 N / 1020 N
Max. wind velocity	200 km/h
Height/width/depth	2574 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern
6° electr. downtilt



F-Panel

Vertical Polarization

Half-power Beam Width

872–960

V

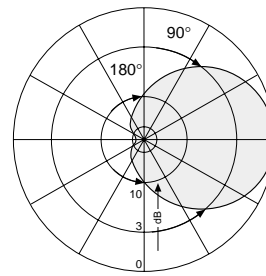
90°

KATHREIN

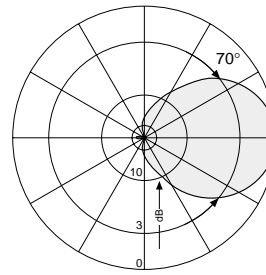
Antennen · Electronic

VPol F-Panel 872–960 90° 7.5dBi

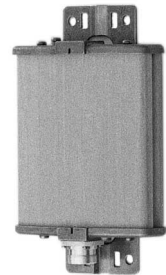
Type No.	736 622	736 854
Frequency range	872 – 960 MHz	
Polarization	Vertical	
Gain	7.5 dBi	
Half-power beam width	H-plane: 90° E-plane: 70°	
Front-to-back ratio	> 20 dB	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< -140 dBc	
Max. power	350 Watt (at 50 °C ambient temperature)	
Input	7-16 female	N female
Connector position	Bottom or top	
Weight	1.5 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 45 N / 20 N / 60 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Height/width/depth	262 / 155 / 49 mm	



Horizontal Pattern

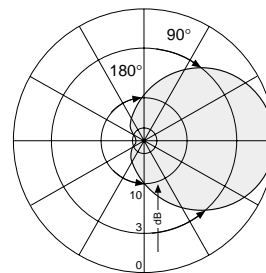


Vertical Pattern

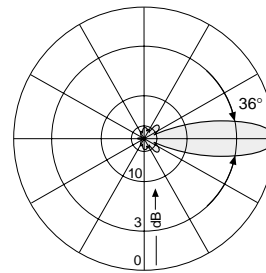


VPol F-Panel 872–960 90° 10dBi

Type No.	736 855
Frequency range	872 – 960 MHz
Polarization	Vertical
Gain	10 dBi
Half-power beam width	H-plane: 90° E-plane: 36°
Front-to-back ratio	> 20 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	400 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom or top
Weight	2.3 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 90 N / 40 N / 110 N
Max. wind velocity	200 km/h
Height/width/depth	502 / 155 / 49 mm



Horizontal Pattern



Vertical Pattern



F-Panel

Vertical Polarization

Half-power Beam Width

872–960

V

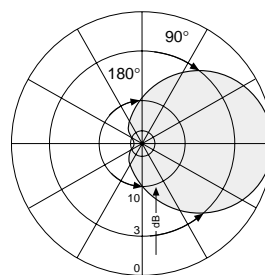
90°

KATHREIN

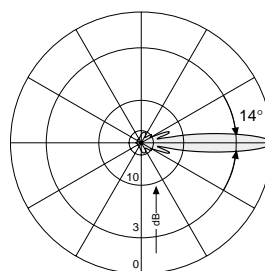
Antennen · Electronic

VPol F-Panel 872–960 90° 14dBi

Type No.	736 858
Frequency range	872 – 960 MHz
Polarization	Vertical
Gain	14 dBi
Half-power beam width	H-plane: 90° E-plane: 14°
Front-to-back ratio	> 20 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	400 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom or top
Weight	4.6 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 230 N / 100 N / 290 N
Max. wind velocity	200 km/h
Height/width/depth	1222 / 155 / 49 mm



Horizontal Pattern



Vertical Pattern



Eurocell Panel

Vertical Polarization

Half-power Beam Width

800/900

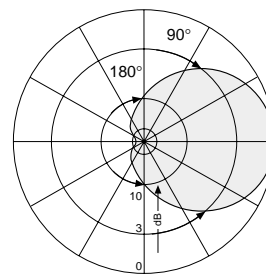
V

90°

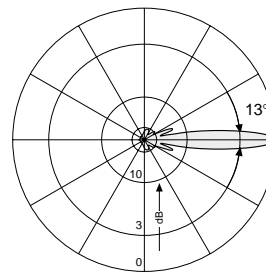
KATHREIN
Antennen · Electronic

VPol Panel 800/900 90° 14dBi

Type No.	730 370	732 480
Frequency range	870 – 960 MHz	806 – 960 MHz
Polarization	Vertical	Vertical
Gain	14 dBi	14 dBi (870 – 960 MHz) 13.5 dBi (806 – 870 MHz)
Half-power beam width	H-plane: 90° E-plane: 13°	
Front-to-back ratio	> 23 dB	
Impedance	50 Ω	
VSWR	< 1.3	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	500 Watt (at 50 °C ambient temperature)	
Input	7-16 female	
Connector position	Bottom	
Weight	6 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 220 N / 140 N / 490 N	
Max. wind velocity	200 km/h	
Height/width/depth	1294 / 258 / 103 mm	



Horizontal Pattern

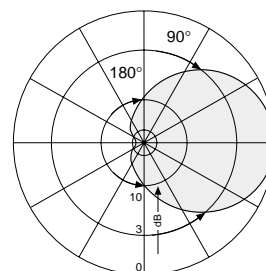


Vertical Pattern

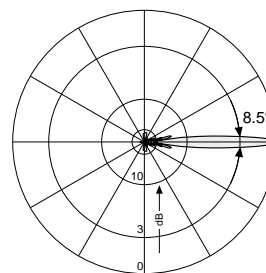


VPol Panel 870–960 90° 15.5dBi

Type No.	732 967
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	15.5 dBi
Half-power beam width	H-plane: 90° E-plane: 8.5°
Front-to-back ratio	> 23 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	9 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 340 N / 220 N / 750 N (at 150 km/h)
Max. wind velocity	200 km/h
Height/width/depth	1934 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern



Eurocell Panel
Vertical Polarization
Half-power Beam Width

806–960

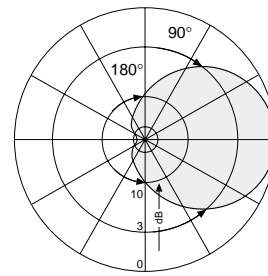
V

90°

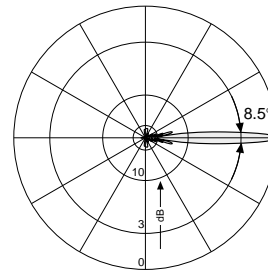
KATHREIN
 Antennen · Electronic

VPol Panel 806–960 90° 15.5dBi

Type No.	742 150
Frequency range	806 – 960 MHz
Polarization	Vertical
Gain	15.5 dBi (870 – 960 MHz) 15 dBi (806 – 870 MHz)
Half-power beam width	H-plane: 90° E-plane: 8.5°
Front-to-back ratio	> 23 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	9 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 340 N / 220 N / 750 N
Max. wind velocity	200 km/h
Height/width/depth	1934 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern



F-Panel

Vertical Polarization

Half-power Beam Width

872–960

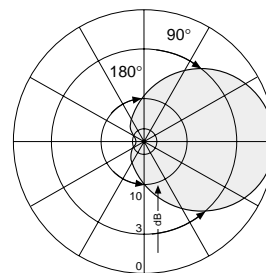
V

90°

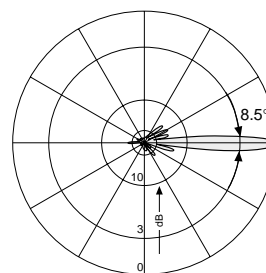
KATHREIN
Antennen · Electronic

VPol F-Panel 872–960 90° 15.5dBi

Type No.	736 863
Frequency range	872 – 960 MHz
Polarization	Vertical
Gain	15.5 dBi
Half-power beam width	H-plane: 90° E-plane: 8.5°
Sidelobe suppression	above horizon for first sidelobe better or equal 14 dB below maximum gain
Front-to-back ratio	> 20 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	400 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom or top
Weight	6.8 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 380 N / 180 N / 480 N
Max. wind velocity	200 km/h
Height/width/depth	1942 / 155 / 49 mm



Horizontal Pattern



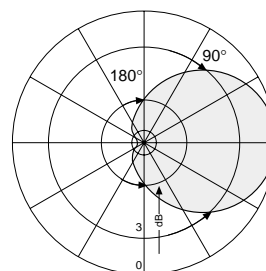
Vertical Pattern

first null-fill below horizon
better or equal to -25 dB
below maximum gain

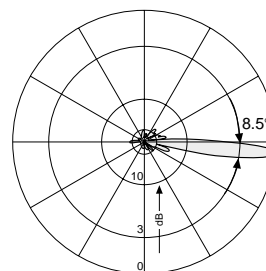


VPol F-Panel 872–960 90° 15.5dBi 5°T

Type No.	736 864
Frequency range	872 – 960 MHz
Polarization	Vertical
Gain	15.5 dBi
Half-power beam width	H-plane: 90° E-plane: 8.5°
Electrical downtilt	5°, fixed
Front-to-back ratio	> 20 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	400 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom Top
Weight	6.8 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 380 N / 180 N / 480 N
Max. wind velocity	200 km/h
Height/width/depth	1942 / 155 / 49 mm



Horizontal Pattern



Vertical Pattern
5° electr. downtilt



Eurocell Panel
Vertical Polarization
Half-power Beam Width
Fixed Electrical Downtilt

870–960

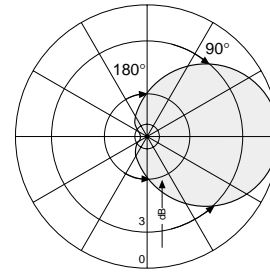
V

90°

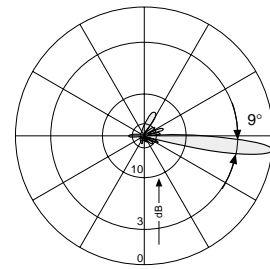
6°

VPol Panel 870–960 90° 15.5dBi 6°T

Type No.	741 067
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	15.5 dBi
Half-power beam width	H-plane: 90° E-plane: 9°
Electrical downtilt	6°, fixed
Front-to-back ratio	> 22 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	9 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 340 N / 220 N / 750 N
Max. wind velocity	200 km/h
Height/width/depth	1934 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern
6° electr. downtilt



F-Panel
Vertical Polarization
Half-power Beam Width

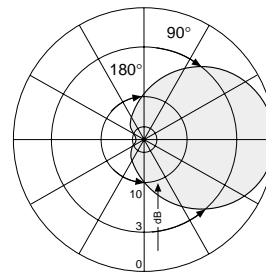
872–960

V

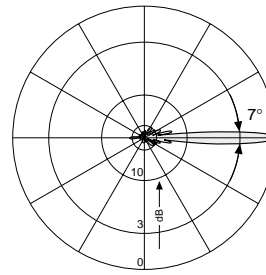
90°

VPol F-Panel 872–960 90° 16.5dBi

Type No.	736 866
Frequency range	872 – 960 MHz
Polarization	Vertical
Gain	16.5 dBi
Half-power beam width	H-plane: 90° E-plane: 7°
Front-to-back ratio	> 20 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	400 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom or top
Weight	9 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 490 N / 230 N / 620 N
Max. wind velocity	180 km/h
Height/width/depth	2422 / 155 / 49 mm



Horizontal Pattern



Vertical Pattern



Eurocell Panel
Vertical Polarization
Half-power Beam Width

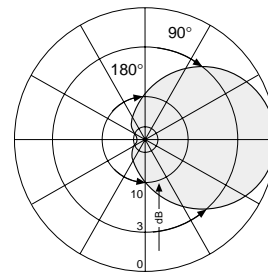
800/900

V

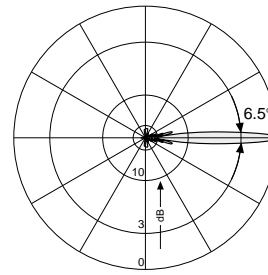
90°

VPol Panel 800/900 90° 17dBi

Type No.	730 378	739 418
Frequency range	870 – 960 MHz	806 – 960 MHz
Polarization	Vertical	
Gain	17 dBi	
Half-power beam width	H-plane: 90° E-plane: 6.5°	
Front-to-back ratio	> 23 dB	
Impedance	50 Ω	
VSWR	< 1.3	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	500 Watt (at 50 °C ambient temperature)	
Input	7-16 female	
Connector position	Rearside	
Weight	12 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 460 N / 300 N / 1020 N	
Max. wind velocity	200 km/h	
Height/width/depth	2574 / 258 / 103 mm	



Horizontal Pattern



Vertical Pattern



Eurocell Panel
Vertical Polarization
Half-power Beam Width
Fixed Electrical Downtilt

870–960

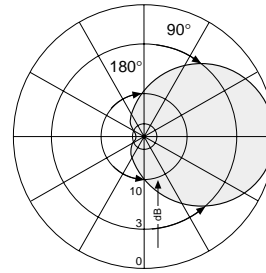
V

90°

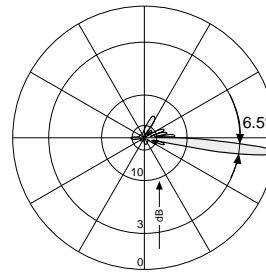
6°

VPol Panel 870–960 90° 17dBi 6°T

Type No.	737 549
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	17 dBi
Half-power beam width	H-plane: 90° E-plane: 6.5°
Electrical downtilt	6°, fixed
Front-to-back ratio	> 23 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	12 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 460 N / 300 N / 1020 N
Max. wind velocity	200 km/h
Height/width/depth	2574 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern
6° electr. downtilt



Eurocell Panel
Vertical Polarization
Half-power Beam Width

870–960

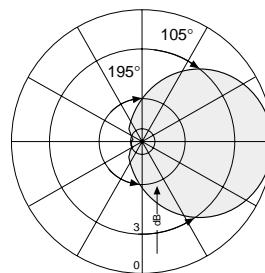
V

105°

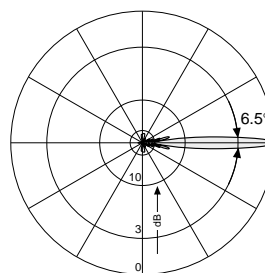
KATHREIN
 Antennen · Electronic

VPol Panel 870–960 105° 16.5dBi

Type No.	730 380
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	16.5 dBi
Half-power beam width	H-plane: 105° E-plane: 6.5°
Front-to-back ratio	> 22 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	12 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 460 N / 300 N / 1020 N
Max. wind velocity	200 km/h
Height/width/depth	2574 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern



Eurocell Panel

Vertical Polarization

Half-power Beam Width

870–960

V

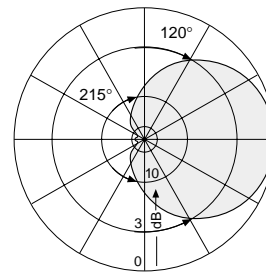
120°

KATHREIN

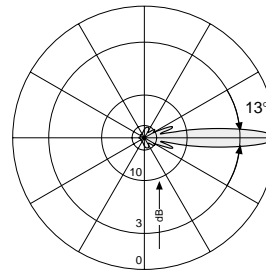
Antennen · Electronic

VPol Panel 870–960 120° 13dBi

Type No.	730 374
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	13 dBi
Half-power beam width	H-plane: 120° E-plane: 13°
Front-to-back ratio	> 20 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom
Weight	6 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 220 N / 140 N / 490 N
Max. wind velocity	200 km/h
Height/width/depth	1294 / 258 / 103 mm



Horizontal Pattern

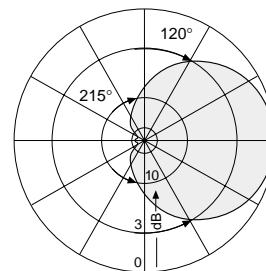


Vertical Pattern

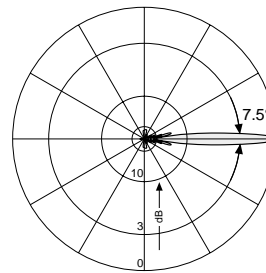


VPol Panel 870–960 120° 15.5dBi

Type No.	739 856
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	15.5 dBi
Half-power beam width	H-plane: 120° E-plane: 7.5°
Front-to-back ratio	> 20 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	400 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	10.5 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 400 N / 260 N / 890 N
Max. wind velocity	180 km/h
Height/width/depth	2254 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern



Eurocell Panel

Vertical Polarization

Half-power Beam Width

870–960

V

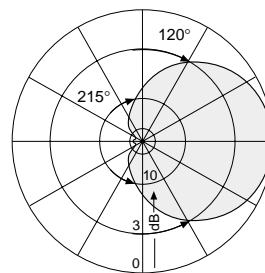
120°

KATHREIN

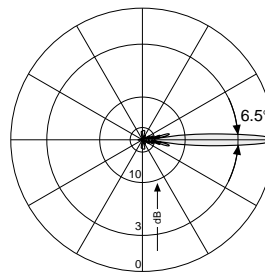
Antennen · Electronic

VPol Panel 870–960 120° 16dBi

Type No.	730 382
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	16 dBi
Half-power beam width	H-plane: 120° E-plane: 6.5°
Front-to-back ratio	> 20 dB
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Rearside
Weight	12 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 460 N / 300 N / 1020 N
Max. wind velocity	200 km/h
Height/width/depth	2574 / 258 / 103 mm



Horizontal Pattern



Vertical Pattern



Eurocell Panel

Vertical Polarization

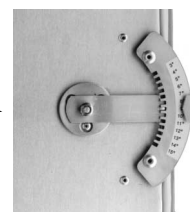
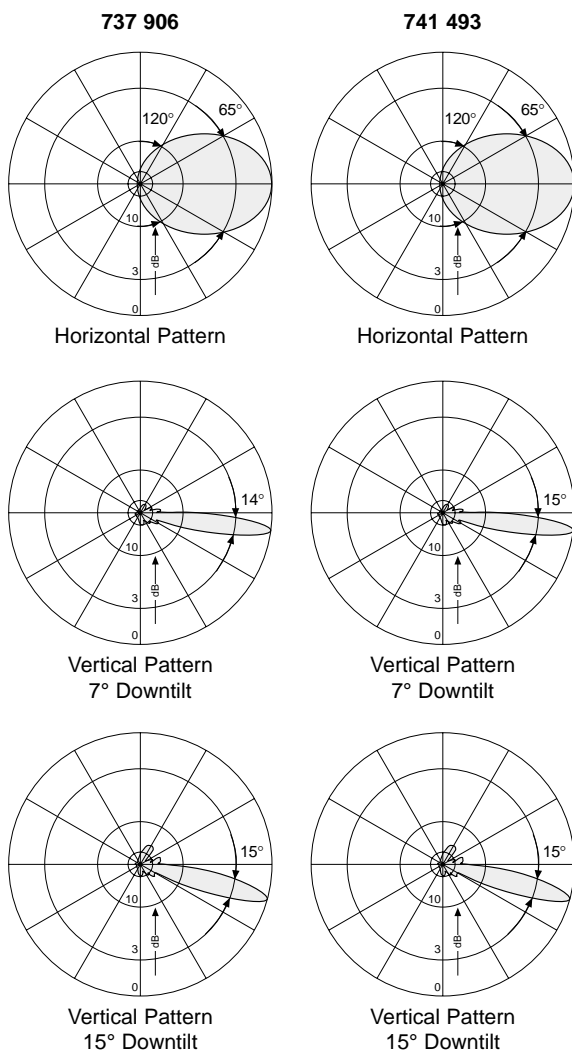
Half-power Beam Width

Adjust. Electr. Downtilt

900
V
65°
3°–15°

VPol Panel 900 65° 15dBi 3°–15°T

Type No.	737 906	741 493
Frequency range	870 – 960 MHz	824 – 960 MHz
Polarization	Vertical	
Gain	15 dBi	
Half-power beam width	H-plane: 65° E-plane: 14°	
Electrical downtilt	3°–15°, adjustable in 1° steps	
Side lobe suppression	> 14 dB (0°... 40° above horizon)	
Front-to-back ratio	> 25 dB	
Impedance	50 Ω	
VSWR	< 1.4	
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	500 Watt (at 50 °C ambient temperature)	



- To set electrical downtilt:
- push the lever towards the antenna.
 - align to the desired setting.
 - let the lever click into position.

Mechanical specifications

Input	7-16 female
Connector position	Bottom
Weight	7 kg
Wind load	Frontal: 220 N (at 150 km/h) Lateral: 140 N (at 150 km/h) Rearside: 490 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1422 x 302 x 160 mm
Height/width/depth	1294 / 258 / 103 mm

Eurocell Panel

Vertical Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

870–960

V

90°

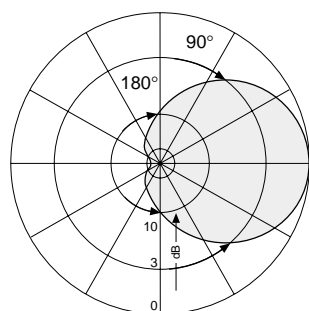
3°–15°

KATHREIN

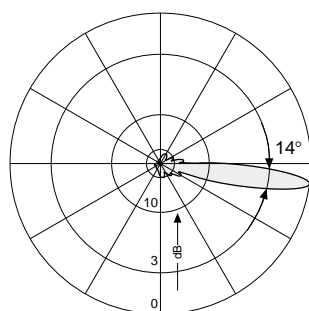
Antennen · Electronic

VPol Panel 870–960 90° 13.5dBi 3°–15°T

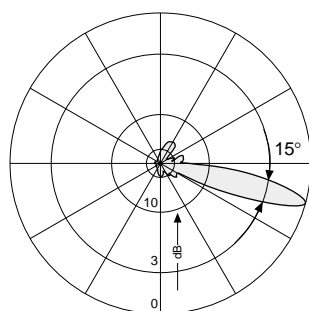
Type No.	736 077
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	13.5 dBi
Half-power beam width	H-plane: 90° E-plane: 14°
Electrical downtilt	3°–15°, adjustable in 1° steps
Side lobe suppression	> 14 dB (0°... 40° above horizon)
Front-to-back ratio	> 22 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)



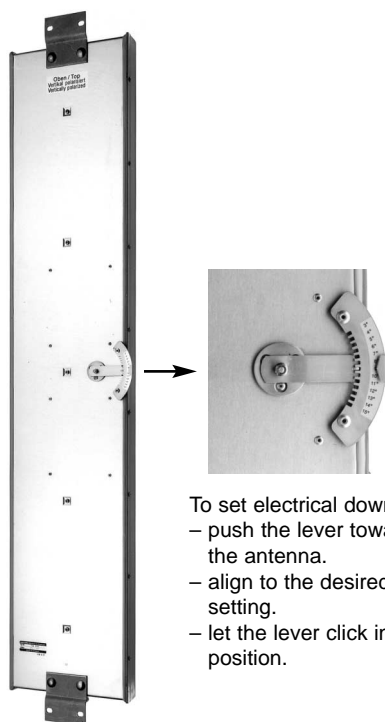
Horizontal Pattern



Vertical Pattern
7° Downtilt



Vertical Pattern
15° Downtilt



- To set electrical downtilt:
- push the lever towards the antenna.
 - align to the desired setting.
 - let the lever click into position.

Mechanical specifications

Input	7-16 female
Connector position	Bottom
Weight	6 kg
Wind load	Frontal: 220 N (at 150 km/h) Lateral: 140 N (at 150 km/h) Rearside: 490 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1422 x 302 x 160 mm
Height/width/depth	1294 / 258 / 103 mm

Eurocell Panel

Vertical Polarization

Half-power Beam Width

Adjust. Electr. Downtilt

870–960

V

105°

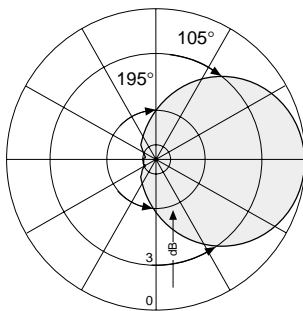
3°–15°

KATHREIN

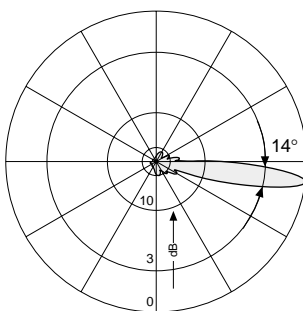
Antennen · Electronic

VPol Panel 870–960 105° 13dBi 3°–15°T

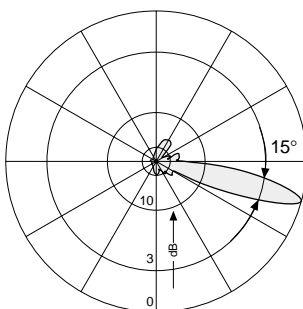
Type No.	736 078
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	13 dBi
Half-power beam width	H-plane: 105° E-plane: 14°
Electrical downtilt	3°–15°, adjustable in 1° steps
Side lobe suppression	> 14 dB (0°... 40° above horizon)
Front-to-back ratio	> 22 dB
Impedance	50 Ω
VSWR	< 1.4
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)



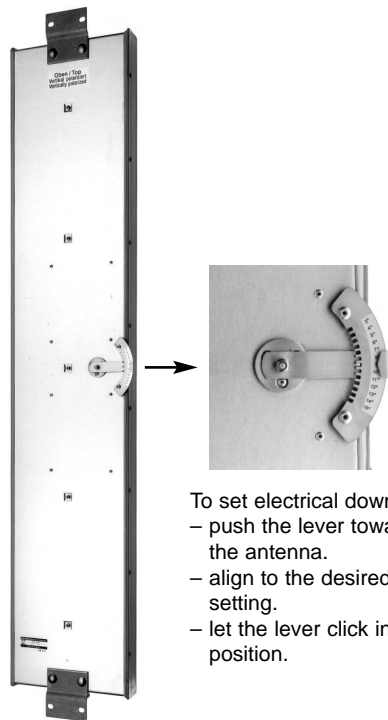
Horizontal Pattern



Vertical Pattern
7° Downtilt



Vertical Pattern
15° Downtilt



- To set electrical downtilt:
- push the lever towards the antenna.
 - align to the desired setting.
 - let the lever click into position.

Mechanical specifications

Input	7-16 female
Connector position	Bottom
Weight	6 kg
Wind load	Frontal: 220 N (at 150 km/h) Lateral: 140 N (at 150 km/h) Rearside: 490 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1422 x 302 x 160 mm
Height/width/depth	1294 / 258 / 103 mm

Summary – Directional Antennas

Vertical Polarization

1800/1900

Vertical Polarization

Type	Type No.	Height [mm]	Connector position	Page
VPol F-Panel 1710–1990 33° 15dBi	739 129	342	bottom or top	108
VPol F-Panel 1710–1990 33° 22.5dBi	739 136	1942	bottom or top	108
VPol F-Panel 1710–1900 65° 10dBi	734 304	182	bottom or top	109
VPol F-Panel 1710–1900 65° 15.5dBi	734 310	662	bottom or top	109
VPol F-Panel 1710–1900 65° 18dBi 2°T	735 147	1302	bottom	110
VPol F-Panel 1710–1900 90° 8dBi	734 318	182	bottom or top	111
VPol F-Panel 1710–1900 90° 8dBi	734 319	182	bottom or top	111
VPol F-Panel 1710–1900 90° 16.5dBi 2°T	734 328	1302	bottom	111
VPol F-Panel 1710–1900 90° 17.5dBi 2°T	734 330	1942	bottom	112
VPol F-Panel 1710–1900 105° 16dBi 2°T	734 342	1302	bottom	113

Additional versions on request

F-Panel

Vertical Polarization

Half-power Beam Width

1710–1990

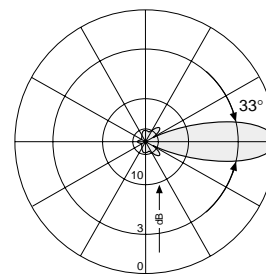
V

33°

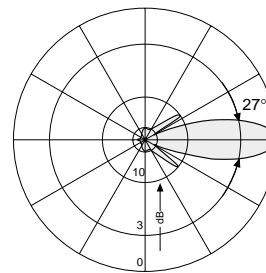
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VPol F-Panel 1710–1990 33° 15dBi

Type No.	739 129
Frequency range	1710 – 1990 MHz
Polarization	Vertical
Gain	15 dBi (1880 – 1990 MHz) 14.5 dBi (1710 – 1880 MHz)
Half-power beam width	H-plane: 33° E-plane: 27°
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	200 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom or top
Weight	2.5 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 85 N / 30 N / 120 N
Max. wind velocity	200 km/h
Height/width/depth	342 / 262 / 59 mm



Horizontal Pattern

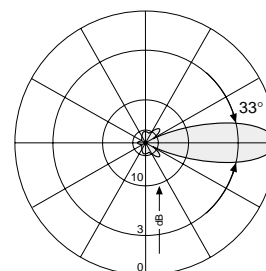


Vertical Pattern

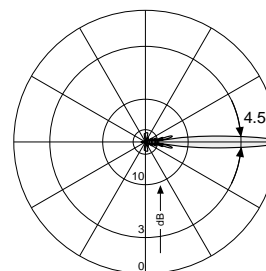


VPol F-Panel 1710–1990 33° 22.5dBi

Type No.	739 136
Frequency range	1710 – 1990 MHz
Polarization	Vertical
Gain	22.5 dBi (1880 – 1990 MHz) 22 dBi (1710 – 1880 MHz)
Half-power beam width	H-plane: 33° E-plane: 4.5°
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	200 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom or top
Weight	11 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 540 N / 210 N / 770 N
Max. wind velocity	200 km/h
Height/width/depth	1942 / 262 / 59 mm



Horizontal Pattern



Vertical Pattern



F-Panel

Vertical Polarization

Half-power Beam Width

1710–1900

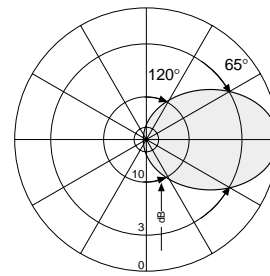
V

65°

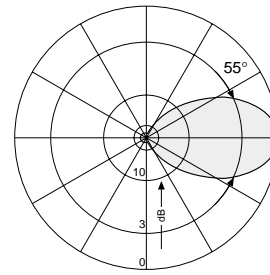
KATHREIN
Antennen · Electronic

VPol F-Panel 1710–1900 65° 10dBi

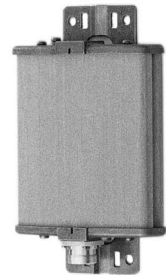
Type No.	734 304
Frequency range	1710 – 1900 MHz
Polarization	Vertical
Gain	10 dBi
Half-power beam width	H-plane: 65° E-plane: 55°
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3 (1710 – 1880 MHz) < 1.5 (1880 – 1900 MHz)
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	200 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom or top
Weight	1.3 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 30 N / 5 N / 40 N
Max. wind velocity	200 km/h
Height/width/depth	182 / 155 / 36 mm



Horizontal Pattern

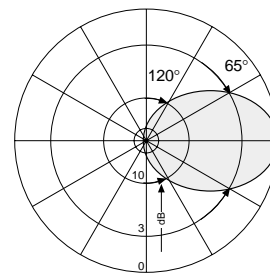


Vertical Pattern

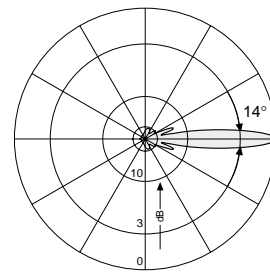


VPol F-Panel 1710–1900 65° 15.5dBi

Type No.	734 310
Frequency range	1710 – 1900 MHz
Polarization	Vertical
Gain	15.5 dBi
Half-power beam width	H-plane: 65° E-plane: 14°
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3 (1710 – 1880 MHz) < 1.5 (1880 – 1900 MHz)
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	200 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom or top
Weight	2.7 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 130 N / 25 N / 150 N
Max. wind velocity	200 km/h
Height/width/depth	662 / 155 / 36 mm



Horizontal Pattern



Vertical Pattern



F-Panel

Vertical Polarization

Half-power Beam Width

1710–1900

V

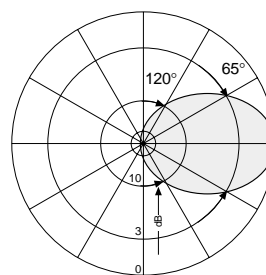
65°

KATHREIN

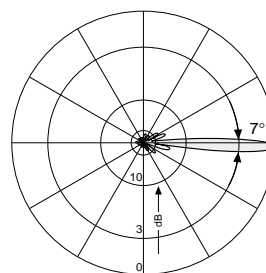
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VPol F-Panel 1710–1900 65° 18dBi 2°T

Type No.	735 147
Frequency range	1710 – 1900 MHz
Polarization	Vertical
Gain	18 dBi
Half-power beam width	H-plane: 65° E-plane: 7°
Electrical downtilt	2°, fixed
Side lobe suppression	above horizon for first sidelobe better or equal 14 dB below maximum gain
Front-to-back ratio	> 25 dB
Impedance	50 Ω
VSWR	< 1.3 (1710 – 1880 MHz) < 1.5 (1880 – 1900 MHz)
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	200 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom
Weight	4.6 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 260 N / 55 N / 310 N
Max. wind velocity	200 km/h
Height/width/depth	1302 / 155 / 36 mm



Horizontal Pattern



Vertical Pattern

- 2° electr. downtilt
- first null-fill below horizon
better or equal to -25 dB
below maximum gain



F-Panel

Vertical Polarization

Half-power Beam Width

1710–1900

V

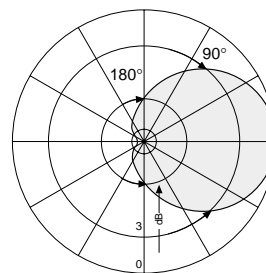
90°

KATHREIN

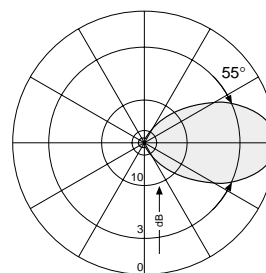
Antennen · Electronic

VPol F-Panel 1710–1900 90° 8dBi

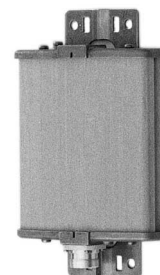
Type No.	734 318	734 319
Frequency range	1710 – 1900 MHz	
Polarization	Vertical	
Gain	8 dBi	
Half-power beam width	H-plane: 90° E-plane: 55°	
Front-to-back ratio	> 19 dB	
Impedance	50 Ω	
VSWR	< 1.3 (1710 – 1880 MHz) < 1.5 (1880 – 1900 MHz)	
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	200 Watt (at 50 °C ambient temperature)	
Input	7-16 female	N female
Connector position	Bottom or top	
Weight	1.4 kg	
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 30 N / 15 N / 40 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Height/width/depth	182 / 155 / 49 mm	



Horizontal Pattern

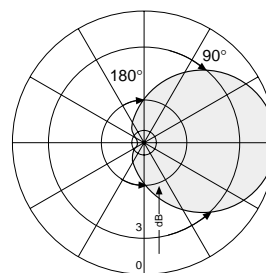


Vertical Pattern

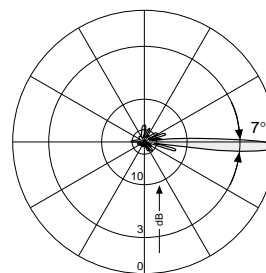


VPol F-Panel 1710–1900 90° 16.5dBi 2°T

Type No.	734 328
Frequency range	1710 – 1900 MHz
Polarization	Vertical
Gain	16.5 dBi
Half-power beam width	H-plane: 90° E-plane: 7°
Electrical downtilt	2°, fixed
Side lobe suppression	above horizon for first sidelobe better or equal 14 dB below maximum gain
Front-to-back ratio	> 23 dB
Impedance	50 Ω
VSWR	< 1.3 (1710 – 1880 MHz) < 1.5 (1880 – 1900 MHz)
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	200 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom
Weight	4.6 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 250 N / 110 N / 310 N
Max. wind velocity	200 km/h
Height/width/depth	1302 / 155 / 49 mm

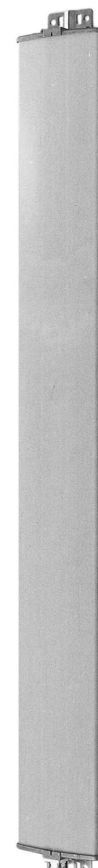


Horizontal Pattern



Vertical Pattern

- 2° electr. downtilt
- first null-fill below horizon
better or equal to -25 dB
below maximum gain



F-Panel
Vertical Polarization
Half-power Beam Width
Fixed Electrical Downtilt

1710–1900

V

90°

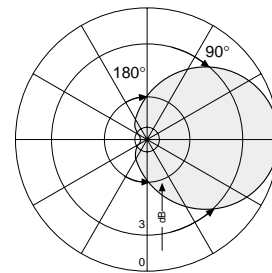
2°

KATHREIN

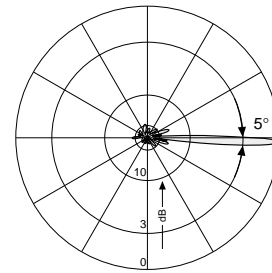
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VPol F-Panel 1710–1900 90° 17.5dBi 2°T

Type No.	734 330
Frequency range	1710 – 1900 MHz
Polarization	Vertical
Gain	17.5 dBi
Half-power beam width	H-plane: 90° E-plane: 5°
Electrical downtilt	2°, fixed
Sidelobe suppression	above horizon for first sidelobe better or equal 14 dB below maximum gain
Front-to-back ratio	> 23 dB
Impedance	50 Ω
VSWR	< 1.3 (1710 – 1880 MHz) < 1.5 (1880 – 1900 MHz)
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	200 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom
Weight	6.9 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 380 N / 180 N / 480 N
Max. wind velocity	200 km/h
Height/width/depth	1942 / 155 / 49 mm



Horizontal Pattern



Vertical Pattern

- 2° electr. downtilt
- first null-fill below horizon better or equal to -25 dB below maximum gain



F-Panel
Vertical Polarization
Half-power Beam Width
Fixed Electrical Downtilt

1710–1900

V

105°

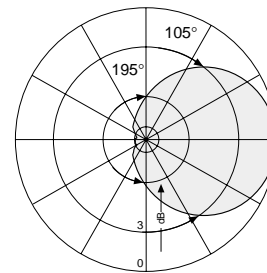
2°

KATHREIN

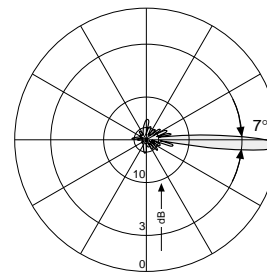
Antennen · Electronic

VPol F-Panel 1710–1900 105° 16dBi 2°T

Type No.	734 342
Frequency range	1710 – 1900 MHz
Polarization	Vertical
Gain	16 dBi
Half-power beam width	H-plane: 105° E-plane: 7°
Electrical downtilt	2°, fixed
Side lobe suppression	above horizon for first sidelobe better or equal 14 dB below maximum gain
Front-to-back ratio	> 20 dB
Impedance	50 Ω
VSWR	< 1.3 (1710 – 1880 MHz) < 1.5 (1880 – 1900 MHz)
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	200 Watt (at 50 °C ambient temperature)
Input	7-16 female
Connector position	Bottom
Weight	4.9 kg
Wind load (at 150 km/h)	Frontal / Lateral / Rearside: 250 N / 110 N / 310 N
Max. wind velocity	200 km/h
Height/width/depth	1302 / 155 / 49 mm

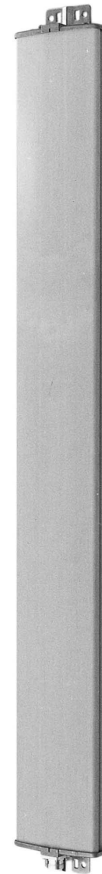


Horizontal Pattern



Vertical Pattern

- 2° electr. downtilt
- first null-fill below horizon
better or equal to -25 dB
below maximum gain



Solid, reliable construction

Omnidirectional antennas are often installed at exposed sites on the top of masts, so special attention has been paid to their mechanical construction.

The exceptionally stiff fiberglass tube with low tip deflection will withstand wind velocities of up to 200 km/h.

Excellent grounding

From the solid metal tip right down to the base of the high gain antennas the grounding cross-section is 22 mm² copper or more, exceeding EN 50083-1.

Environmental influences

The design of Kathrein antennas is based on fundamental engineering knowledge and also on decades of practical experience, during which the various constructions and materials used have proved their outstanding reliability.

Environmental conditions

Kathrein cellular antennas are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E. The antennas exceed this standard with regard to the following items:

- Low temperature: – 55 °C
- High temperature (dry): + 60 °C

Environmental tests

Kathrein antennas have passed environmental tests as recommended in ETS 300 019-2-4. The homogenous design of Kathrein's antenna families use identical modules and materials. Extensive tests have been performed on typical samples and modules.

Long service life

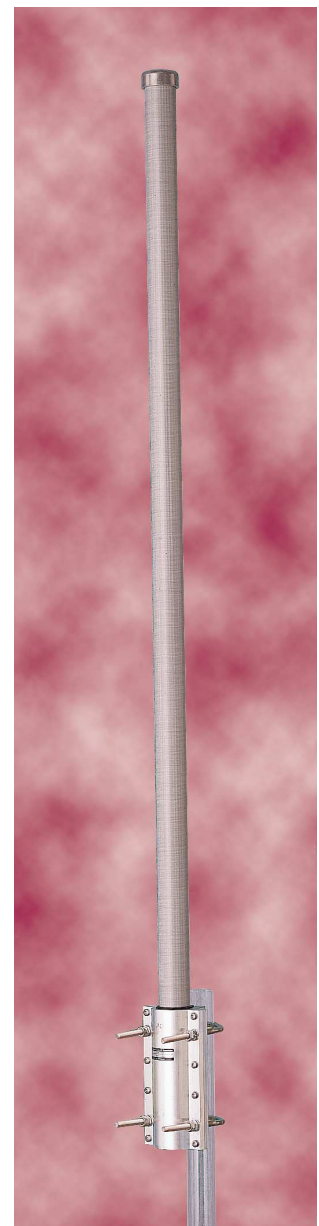
According to our own experience, the outstanding mechanical characteristics of Kathrein antennas result in an antenna service life of over 15 years.

Low intermodulation products (typically –150 dBc)

From on our many years of experience in the construction of antennas and from our extensive research into the effects of intermodulation, we have been able to optimize the material used for these antennas. (The indicated values refer to 3rd order products measured with 2 carriers of 20 W each).

Integrated mast attachment

Integrated into the antenna base are two easily mountable U-bolt brackets, suitable for masts of diameters from 50 to 94 mm or 30 to 105 mm.



Summary – Omnidirectional Antennas 800/900/1800/2000

Vertical Polarization – 800/900

Type	Type No.	Connector female	Height [mm]	Remarks	Page
VPol Omni 870–960 360° 2 dBi	738 450	N	180	indoor/outdoor	117
VPol Omni 806–960 360° 2 dBi	K 75 11 61	N	273		118
VPol Omni 806–960 360° 2 dBi	K 75 11 67	7-16	273		118
VPol Omni 890–960 360° 5 dBi	K 75 15 64 1	N	635		119
VPol Omni 890–960 360° 5 dBi	K 75 15 64 7	7-16	635		119
VPol Omni 870–960 360° 8 dBi	736 350	7-16	1543		120
VPol Omni 870–960 360° 8 dBi	736 351	7-16	1536	inverted	120
VPol Omni 824–894 360° 11 dBi	738 192	7-16	3237		121
VPol Omni 870–960 360° 11 dBi	736 347	7-16	3033		122
VPol Omni 870–960 360° 11 dBi	736 348	7-16	3022	inverted	122
VPol Omni 870–960 360° 11 dBi	736 352	7-16	3233	lightning rod	123
VPol Omni 870–960 360° 10.5 dBi 5°T	736 349	7-16	2954		124
VPol Omni 870–960 360° 10.5 dBi 5°T	738 664	7-16	2856	inverted	124

Vertical Polarization – Dual-band 900/1800

VPol Omni 870–960/1710–1880 360° 2 dBi	738 449	N	216	indoor/outdoor	125
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Vertical Polarization – 1800

VPol Omni 1710–1880 360° 8 dBi	739 785	7-16	800		126
VPol Omni 1710–1880 360° 11 dBi	738 187	7-16	1570		127
VPol Omni 1710–1880 360° 11 dBi	739 404	7-16	1558	inverted	127
VPol Omni 1710–1880 360° 11 dBi 6°T	737 190	7-16	1560		128

Vertical Polarization – 1800/2000

VPol Omni 1710–2170 360° 2 dBi	738 454	N	115	indoor/outdoor	129
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Vertical Polarization – 2000

VPol Omni 1920–2170 360° 11 dBi	741 790	7-16	1387		130
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Omnidirectional Antenna Vertical Polarization Indoor and outdoor use

870–960

V

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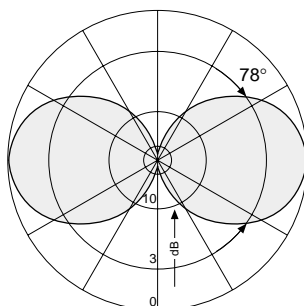
VPol Omni 870–960 360° 2dBi

Type No.	738 450
Input	N female
Connector position	Bottom or top
Frequency range	870 – 960 MHz
VSWR	< 1.5
Gain	2 dBi
Impedance	50 Ω
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Polarization	Vertical
Max. power	100 Watt (at 50 °C ambient temperature)
Weight	200 g
Radome diameter	20 mm
Height	180 mm

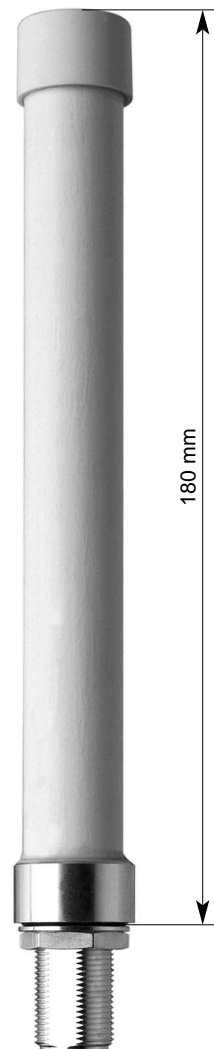
Material: Radiator: Brass.
Radome: Fiberglass, colour: White.

Mounting: One hole mounting (16 mm diameter) to surfaces of max. 10 mm thickness.

Grounding: All metal parts of the antenna as well as the inner conductor and the mounting kit are DC grounded.



Vertical Pattern



Omnidirectional Antennas Vertical Polarization

806–960

V

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VPol Omni 806–960 360° 2dBi

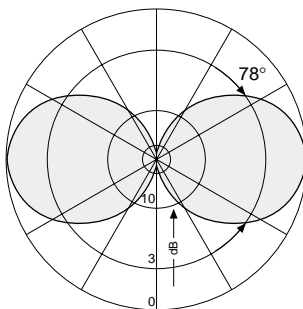
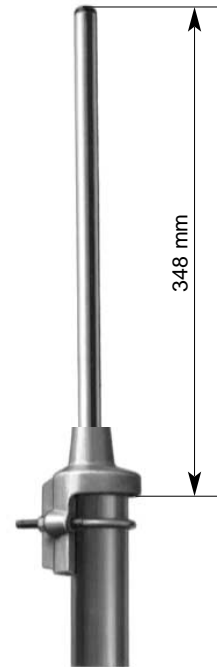
Type No.	K 75 11 61	K 75 11 67
Frequency range	806 – 960 MHz	
Polarization	Vertical	
Gain	2 dBi	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	100 W (at 50 °C ambient temperature)	

Mounting: The antenna can be attached in two ways with the supplied mounting kit:

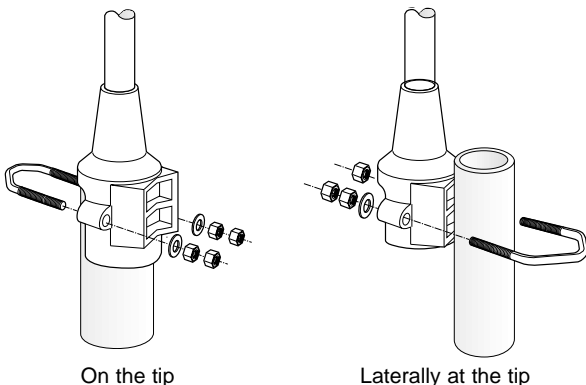
1. On the tip of a tubular mast of 40 – 54 mm diameter (connecting cable runs inside the mast).
2. Laterally at the tip of a tubular mast of 20 – 54 mm diameter (connecting cable runs outside the mast).

Material: Radiator: Brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Grounding: All metal parts of the antenna as well as the inner conductor and the mounting kit are DC grounded.



Vertical Pattern



On the tip

Laterally at the tip

Mechanical specifications	K 75 11 61	K 75 11 67
Input	N female	7-16 female
Connector position	Bottom	
Weight	0.74 kg	
Radome diameter	21 mm	
Wind load	17 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Packing size	455 mm x 112 mm x 97 mm	
Height	348 mm	

Omnidirectional Antennas Vertical Polarization

890–960

V

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VPol Omni 890–960 360° 5dBi

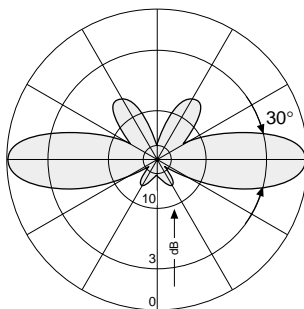
Type No.	K 75 15 64 1	K 75 15 64 7
Frequency range	890 – 960 MHz	
Polarization	Vertical	
Gain	5 dBi	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	250 Watt (at 50 °C ambient temperature)	

Mounting: The antenna can be attached in two ways with the supplied mounting kit:

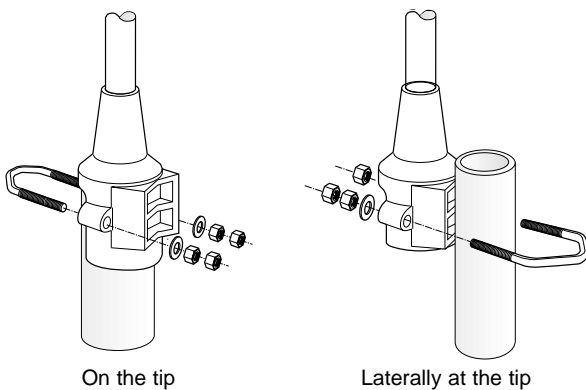
1. On the tip of a tubular mast of 40 – 54 mm diameter (connecting cable runs inside the mast).
2. Laterally at the tip of a tubular mast of 20 – 54 mm diameter (connecting cable runs outside the mast).

Material: Radiator: Brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Grounding: All metal parts of the antenna as well as the inner conductor and the mounting kit are DC grounded.



Vertical Pattern



Mechanical specifications	K 75 15 64 1	K 75 15 64 7
Input	N female	7-16 female
Connector position	Bottom	
Weight	0.90 kg	
Radome diameter	21 mm	
Wind load	20 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Packing size	825 x 112 x 97 mm	
Height	715 mm	

Omnidirectional Antennas Vertical Polarization

870–960

V

KATHREIN
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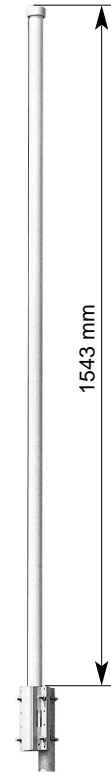
VPol Omni 870–960 360° 8dBi

Type No.	736 350	736 351
Frequency range	870 – 960 MHz	
Polarization	Vertical	
Gain	8 dBi	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	500 Watt (at 50 °C ambient temperature)	

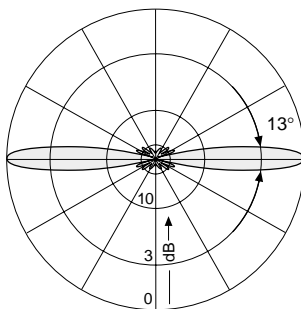
Mounting: The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with two U-bolt brackets supplied with the antenna (connecting cable runs outside the mast).

Material: Radiator: Copper and brass. Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

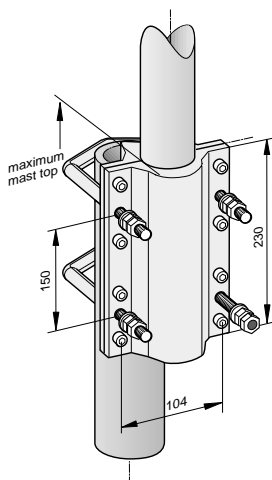
Excellent grounding: From the solid metal tip right down to the base of the high gain antennas the grounding cross-section is 22 mm² copper or more, exceeding EN 50083-1.



736 350



Vertical Pattern



Mechanical specifications	736 350	736 351
Input	7-16 female	7-16 female
Connector position	Bottom	Top
Weight	5.5 kg	
Radome diameter	51 mm	
Wind load	130 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Packing size	1846 x 148 x 112 mm	
Height	1543 mm	1536 mm

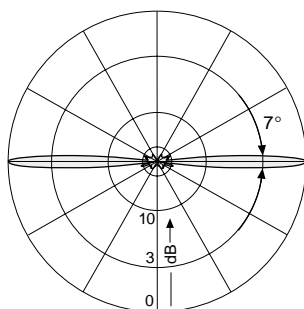
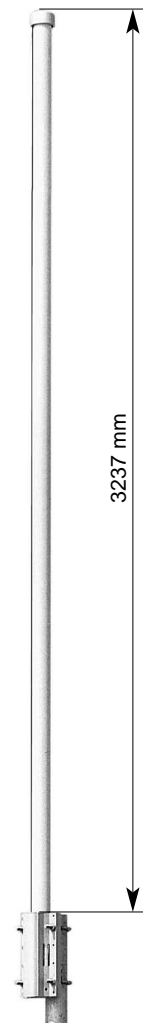
VPol Omni 824–894 360° 11dBi

Type No.	738 192
Frequency range	824 – 894 MHz
Polarization	Vertical
Gain	11 dBi
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)

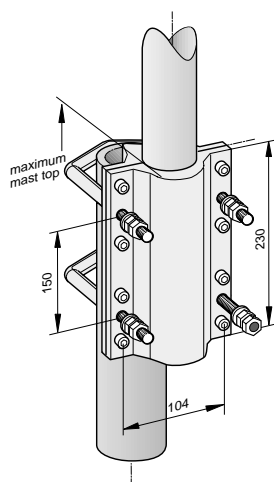
Mounting: The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with two U-bolt brackets supplied with the antenna (connecting cable runs outside the mast).

Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Excellent grounding: From the solid metal tip right down to the base of the high gain antennas the grounding cross-section is 22 mm² copper or more, exceeding EN 50083-1.



Vertical Pattern



Mechanical specifications

Input	7-16 female
Connector position	Bottom
Weight	8.5 kg
Radome diameter	51 mm
Wind load	230 N (at 150 km/h)
Max. wind velocity	180 km/h
Packing size	3516 x 148 x 112 mm
Height	3237 mm

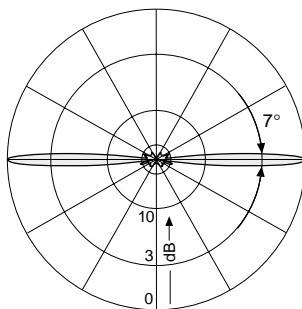
VPol Omni 870–960 360° 11dBi

Type No.	736 347	736 348
Frequency range	870 – 960 MHz	
Polarization	Vertical	
Gain	11 dBi	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	500 Watt (at 50 °C ambient temperature)	

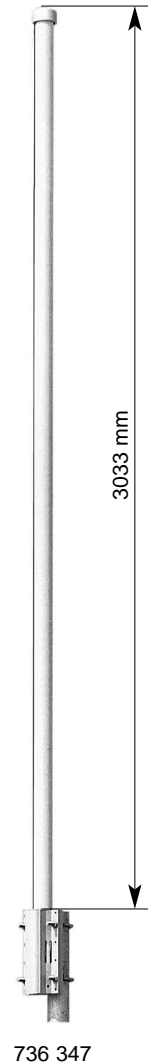
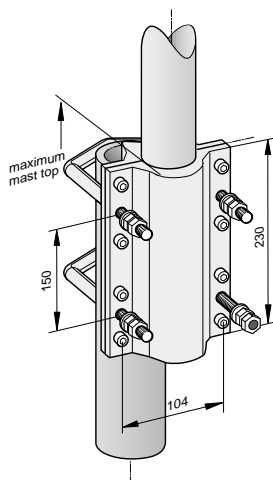
Mounting: The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with two U-bolt brackets supplied with the antenna (connecting cable runs outside the mast).

Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Excellent grounding: From the solid metal tip right down to the base of the high gain antennas the grounding cross-section is 22 mm² copper or more, exceeding EN 50083-1.



Vertical Pattern



Mechanical specifications	736 347	736 348
Input	7-16 female	7-16 female
Connector position	Bottom	Top
Weight	8 kg	
Radome diameter	51 mm	
Wind load	210 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Packing size	3316 x 148 x 112 mm	
Height	3033 mm	3022 mm

Omnidirectional Antenna Vertical Polarization

870–960

V

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- Lightning rod

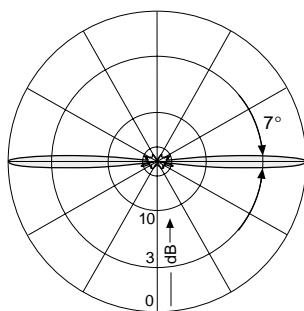
VPol Omni 870–960 360° 11dBi

Type No.	736 352
Frequency range	870 – 960 MHz
Polarization	Vertical
Gain	11 dBi
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	500 Watt (at 50 °C ambient temperature)

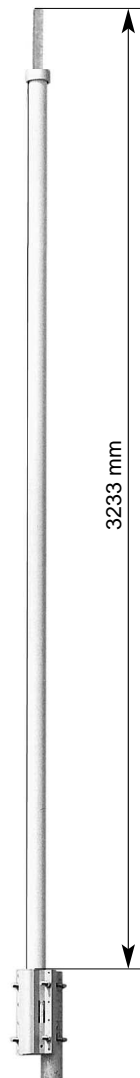
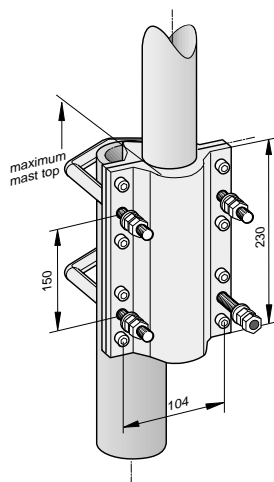
Mounting: The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with two U-bolt brackets supplied with the antenna (connecting cable runs outside the mast).

Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Excellent grounding: From the solid metal tip right down to the base of the high gain antennas the grounding cross-section is 22 mm² copper or more, exceeding EN 50083-1.



Vertical Pattern



Mechanical specifications

Input	7-16 female
Connector position	Bottom
Weight	8.5 kg
Radome diameter	51 mm
Wind load	220 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	3504 x 188 x 122 mm
Height	3233 mm

Omnidirectional Antennas

Vertical Polarization

Fixed Electrical Downtilt

870–960

V

5°

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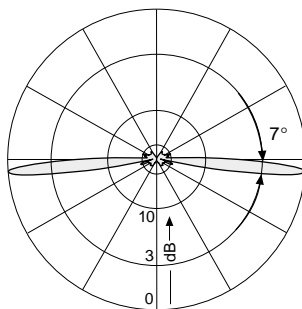
VPol Omni 870–960 360° 10.5dBi 5°T

Type No.	736 349	738 664
Frequency range	870 – 960 MHz	
Polarization	Vertical	
Gain	10.5 dBi	
Electrical tilt	5°, fixed	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	500 Watt (at 50 °C ambient temperature)	

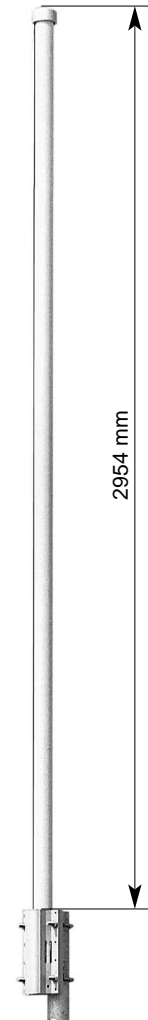
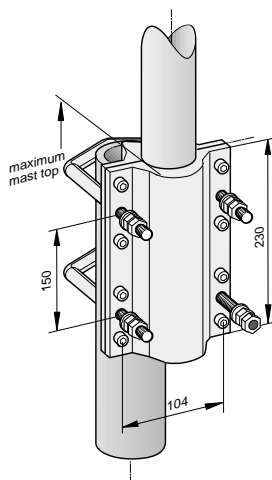
Mounting: The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with two U-bolt brackets supplied with the antenna (connecting cable runs outside the mast).

Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Excellent grounding: From the solid metal tip right down to the base of the high gain antennas the grounding cross-section is 22 mm² copper or more, exceeding EN 50083-1.



Vertical Pattern
5° electrical downtilt



736 349

Mechanical specifications	736 349	738 664
Input	7-16 female	7-16 female
Connector position	Bottom	Top
Weight	8 kg	
Radome diameter	51 mm	
Wind load	210 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Packing size	3316 x 148 x 112 mm	
Height	2954 mm	2856 mm

Dual-band Omni Antenna 870–960/1710–1880

Vertical Polarization

Indoor and outdoor use

870–960/1710–1880

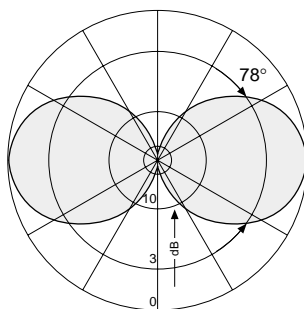
V

VPol Omni 870–960/1710–1880 360° 2dBi

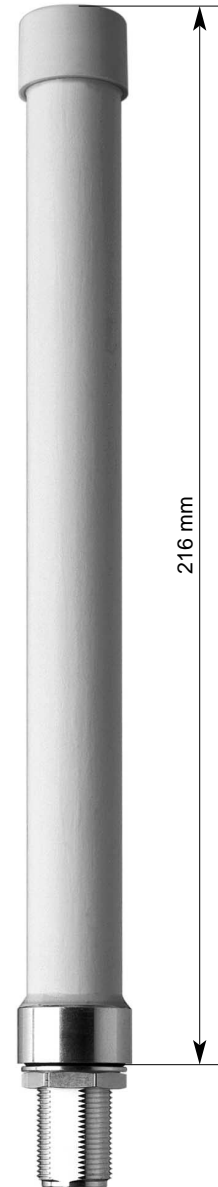
Type No.	738 449
Input	1 x N female
Connector position	Bottom or top
Frequency range	870 – 960 MHz / 1710 – 1880 MHz
VSWR	< 1.7
Gain	2 dBi
Impedance	50 Ω
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Polarization	Vertical
Max. power	50 Watt: 870 – 960 MHz 50 Watt: 1710 – 1880 MHz (at 50 °C ambient temperature)
Weight	250 g
Radome diameter	20 mm
Height	216 mm

Material: Radiator: Brass.
Radome: Fiberglass, colour: White.

Mounting: One hole mounting (16 mm diameter) to surfaces of max. 10 mm thickness.



Vertical Pattern



Omnidirectional Antenna Vertical Polarization

1710–1880

V

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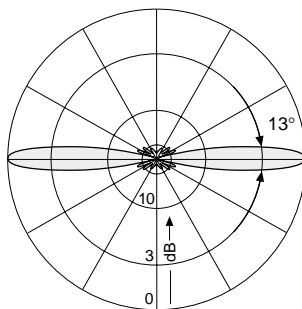
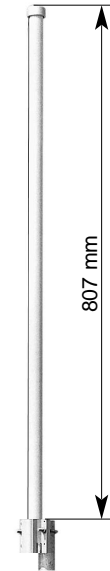
VPol Omni 1710–1880 360° 8dBi

Type No.	739 785
Frequency range	1710 – 1880 MHz
Polarization	Vertical
Gain	8 dBi
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	200 W (at 50 °C ambient temperature)

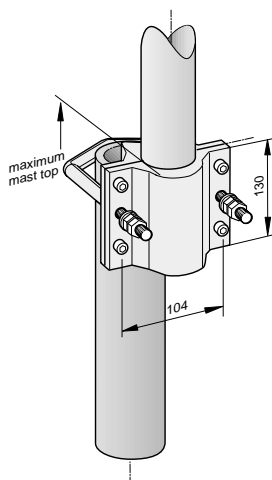
Mounting: The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with one U-bolt bracket supplied with the antenna (connecting cable runs outside the mast).

Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Excellent grounding: From the solid metal tip right down to the base of the high gain antennas the grounding cross-section is 22 mm² copper or more, exceeding EN 50083-1.



Vertical Pattern



Mechanical specifications

Input	7-16 female
Connector position	Bottom
Weight	4 kg
Radome diameter	51 mm
Wind load	90 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	986 mm x 148 mm x 112 mm
Height	807 mm

Omnidirectional Antennas Vertical Polarization

1710–1880

V

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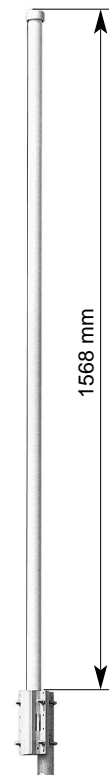
VPol Omni 1710–1880 360° 11dBi

Type No.	738 187	739 404
Frequency range	1710 – 1880 MHz	
Polarization	Vertical	
Gain	11 dBi	
Impedance	50 Ω	
VSWR	< 1.3	
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc	
Max. power	200 Watt (at 50 °C ambient temperature)	

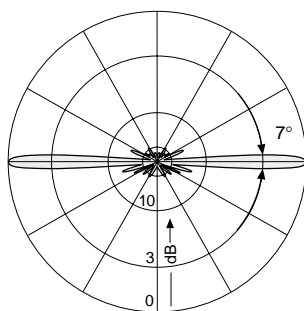
Mounting: The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with two U-bolt brackets supplied with the antenna (connecting cable runs outside the mast).

Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

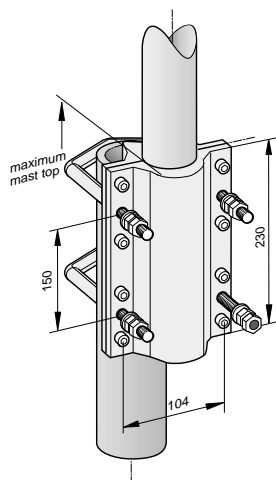
Excellent grounding: From the solid metal tip right down to the base of the high gain antennas the grounding cross-section is 22 mm² copper or more, exceeding EN 50083-1.



738 187



Vertical Pattern



Mechanical specifications	738 187	739 404
Input	7-16 female	7-16 female
Connector position	Bottom	Top
Weight	5.5 kg	
Radome diameter	51 mm	
Wind load	130 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Packing size	1846 x 148 x 112 mm	
Height	1568 mm	1558 mm

Omnidirectional Antenna Vertical Polarization Fixed Electrical Downtilt

1710–1880

V

6°

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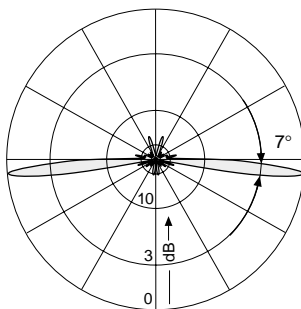
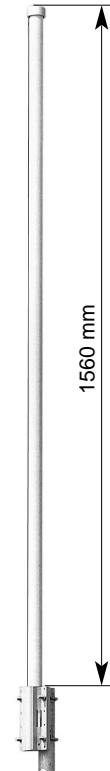
VPol Omni 1710–1880 360° 11dBi 6°T

Type No.	737 190
Frequency range	1710 – 1880 MHz
Polarization	Vertical
Gain	11 dBi
Electrical tilt	6°, fixed
Impedance	50 Ω
VSWR	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	200 Watt (at 50 °C ambient temperature)

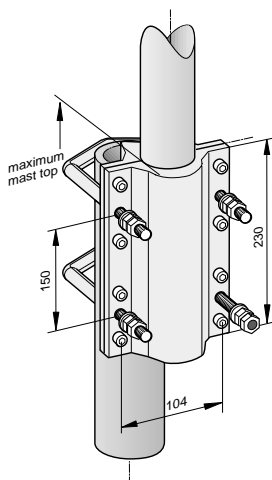
Mounting: The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with two U-bolt brackets supplied with the antenna (connecting cable runs outside the mast).

Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Excellent grounding: From the solid metal tip right down to the base of the high gain antennas the grounding cross-section is 22 mm² copper or more, exceeding EN 50083-1.



Vertical Pattern
6° electrical downtilt



Mechanical specifications

Input	7-16 female
Connector position	Bottom
Weight	5.5 kg
Radome diameter	51 mm
Wind load	130 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1846 x 148 x 112 mm
Height	1560 mm

Omnidirectional Antenna Vertical Polarization Indoor and outdoor use

1710–2170

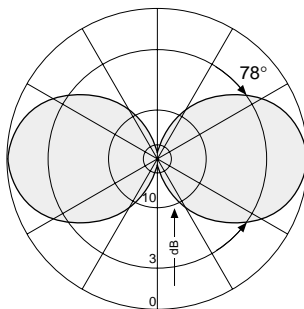
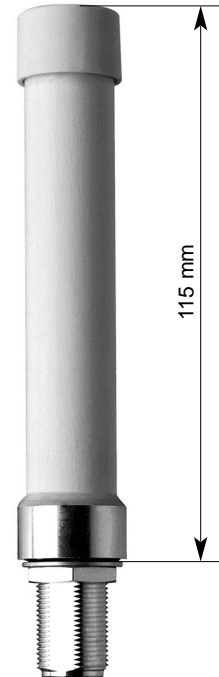
V

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VPol Omni 1710–2170 360° 2dBi

Type No.	738 454
Input	N female
Connector position	Bottom or top
Frequency range	1710 – 2170 MHz
VSWR	< 1.5
Gain	2 dBi
Impedance	50 Ω
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Polarization	Vertical
Max. power	50 Watt (at 50 °C ambient temperature)
Weight	150 g
Radome diameter	20 mm
Height	115 mm

- Material: Radiator: Brass.
Radome: Fiberglass, colour: White.
- Mounting: One hole mounting (16 mm diameter) to surfaces of max. 10 mm thickness.
- Grounding: All metal parts of the antenna and the mounting kit are DC grounded. The inner conductor is not DC grounded.



Vertical Pattern

Omnidirectional Antenna Vertical Polarization

1920–2170

V

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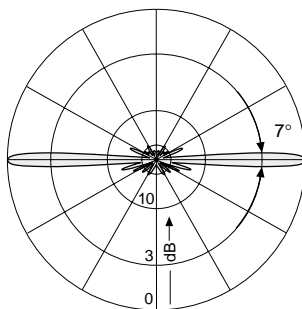
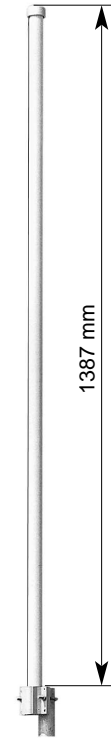
VPol Omni 1920–2170 360° 11dBi

Type No.	741 790
Frequency range	1920 – 2170 MHz
Polarization	Vertical
Gain	11 dBi
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Max. power	150 Watt (at 50 °C ambient temperature)

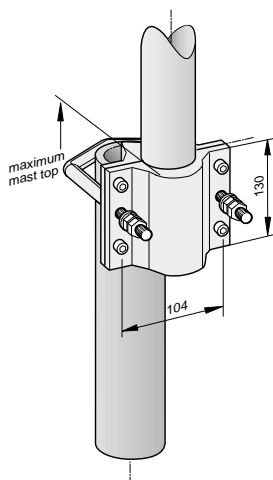
Mounting: The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with one U-bolt bracket supplied with the antenna (connecting cable runs outside the mast).

Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Excellent grounding: From the solid metal tip right down to the base of the high gain antennas the grounding cross-section is 22 mm² copper or more, exceeding EN 50083-1.



Vertical Pattern



Mechanical specifications

Input	7-16 female
Connector position	Bottom
Weight	5 kg
Radome diameter	51 mm
Wind load	120 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1570 x 148 x 112 mm
Height	1387 mm

These antennas have a particularly unobtrusive appearance. Apart from standard single band antennas, multi-band versions are also available.

Single-band antennas

The $\lambda/2$ omnidirectional antenna for normal ceiling mounting purposes does not need an additional groundplane. Only a single hole is required. For thicker ceilings a mounting plate is supplied. The extremely flat directional antenna is supplied with a mounting plate for attachment to a wall. The antenna is inserted into the plate and clicks in.

Multi-band antennas

The low silhouette omnidirectional and directional antennas for AMPS, GSM, PCN, DECT, PCS and UMTS in combination with broadband power splitters enable compact and inexpensive indoor networks to be installed.

Indoor / Outdoor antennas

Unobtrusive omni antennas for both 900 and 1800 and also dual-band are now available especially for microcell applications. These versions are similar to our Indoor Antennas, but are suitable for outdoor operation and are fitted with an N connector.



Vertical Polarization

Single-band

Type	Type No.	Frequency range	Connector female	Page
VPol Indoor 870–960 90° 7dBi	736 624	870 – 960 MHz	N	133
VPol Indoor 900 360° 2dBi	737 031	870 – 960 MHz	N	134
VPol Indoor 1800 90° 8dBi	736 935	1710 – 1900 MHz	N	135
VPol Indoor 1800 360° 2dBi	736 361	1710 – 1900 MHz	N	136

Multi-band

VPol BiDir 824–960/1710–2170 65° 5dBi	738 446	824 – 960 MHz and 1710 – 2170 MHz	N	137
VPol Indoor 800/2000 90° 7dBi	742 149	824 – 960 MHz and 1710 – 2170 MHz	N	138
VPol Indoor 1710–2170 360° 2dBi	741 573	1710 – 2170 MHz	N	139
VPol Indoor 900/2000 360° 2dBi	741 571	876 – 960 MHz and 1710 – 2170 MHz	N	140
VPol Indoor 800/2000 360° 2dBi	741 572	824 – 960 MHz and 1425 – 2170 MHz	N	140

New Product

Indoor / Outdoor – Single-band

VPol Omni 870–960 360° 2dBi	738 450	870 – 960 MHz	N	141
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Indoor / Outdoor – Dual-band / Multi-band

VPol Omni 870–960/1710–1880 360° 2dBi	738 449	870 – 960 MHz and 1710 – 1880 MHz	N	142
VPol Omni 1710–2170 360° 2dBi	738 454	1710 – 2170 MHz	N	143

Indoor Directional Antenna Vertical Polarization Half-power Beam Width

870–960

V

90°

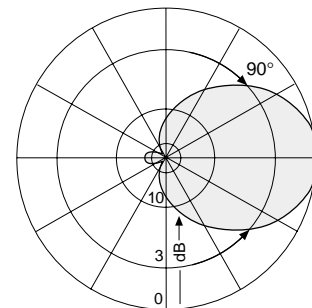
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- Flat design

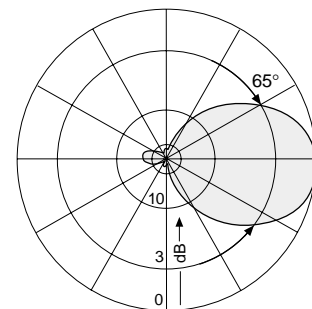
VPol Indoor 870–960 90° 7dBi

Type No.	736 624
Input	Cable RG 223/CU of 1m length, white, with N female connector
Frequency range	870 – 960 MHz
VSWR	< 1.5
Gain	7 dBi
Impedance	50 Ω
Half-power beam width	H-plane: 90°/ E-plane: 65°
Polarization	Vertical
Max. power	50 Watt (at 50 °C ambient temperature)
Weight	500 g
Packing size	320 x 165 x 42 mm
Height/width/depth	205 / 155 / 32 mm

- Material:** Radiator: Brass.
Radome: ABS, colour: White.
Reflector: Aluminum.
Mounting plates: Stainless steel.
- Mounting:** Two holes of 6 mm diameter in the mounting plate are provided for this purpose.
- Grounding:** All metal parts as well as the inner conductor are DC grounded.

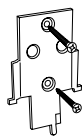


Horizontal Pattern



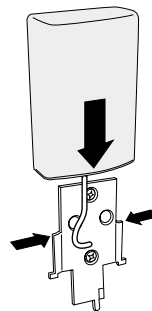
Vertical Pattern

Mounting:



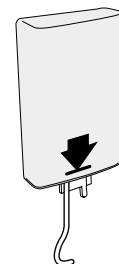
Mounting the attachment plate

Mount the attachment plate to the wall using two screws of 4 mm diameter in the position as indicated.



Aligning the antenna

Align the antenna over the attachment plate, keeping the cable in the middle of the plate.



Pulling the antenna downwards

Pull the antenna downwards until it clicks into place.

Indoor Omnidirectional Antenna 900 Vertical Polarization V Single-band

- The antenna needs no additional groundplane.

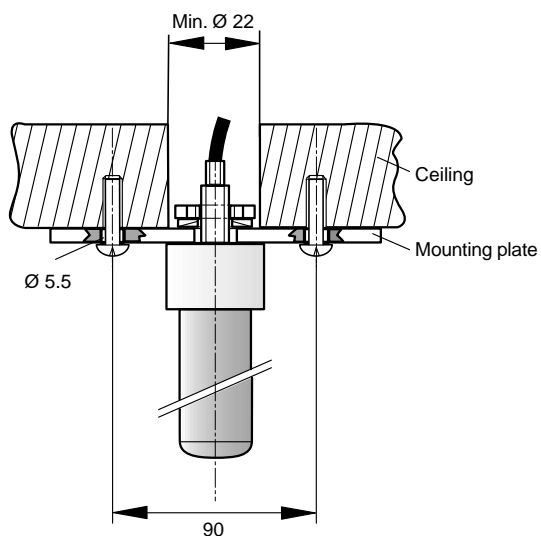
VPol Indoor 900 360° 2dBi

Type No.	737 031
Input	Cable RG 223/CU of 1m length, white, with N female connector
Frequency range	870 – 960 MHz
VSWR	< 1.5
Gain	2 dBi
Impedance	50 Ω
Polarization	Vertical
Max. power	50 Watt (at 50 °C ambient temperature)
Weight	200 g
Radome diameter	20 mm
Mounting plate	115 x 25 mm
Packing size	appr. 300 x 130 x 25
Height	201 mm

Material: Radiator: Brass.
Radome: Fiberglass, colour: White.
Additional mounting plate: Aluminum.

Mounting: Two holes of 5.5 mm diameter in the mounting plate.

Grounding: All metal parts inclusive the inner conductor are DC grounded.



Indoor Directional Antenna Vertical Polarization Half-power Beam Width

1800

V

90°

KATHREIN
Antennen · Electronic

- Flat design

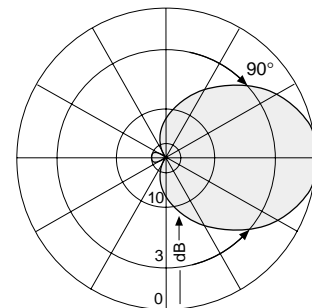
VPol Indoor 1800 90° 8dBi

Type No.	736 935
Input	Cable RG 223/CU of 1m length, white, with N female connector
Frequency range	1710 – 1900 MHz
VSWR	< 1.5
Gain	8 dBi
Impedance	50 Ω
Polarization	Vertical
Front-to-back ratio	> 18 dB
Half-power beam width	H-plane: 90° / E-plane: 65°
Max. power	25 Watt (at 50 °C ambient temperature)
Weight	200 g
Packing size	290 x 105 x 30 mm
Height/width/depth	159 / 94 / 23 mm

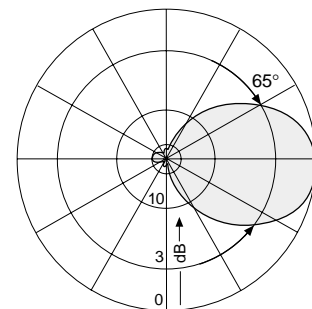
Material: Radiator: Brass.
Radome: ABS, colour: White.
Reflector: Aluminum.
Mounting plates: Stainless steel.

Mounting: Two holes of 6 mm diameter in the mounting plate.

Grounding: All metal parts inclusive the inner conductor are DC grounded.

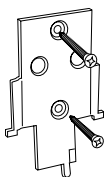


Horizontal Pattern

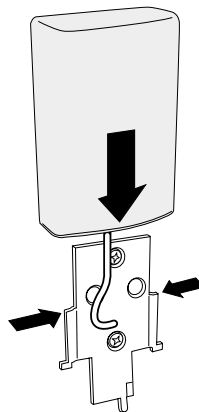


Vertical Pattern

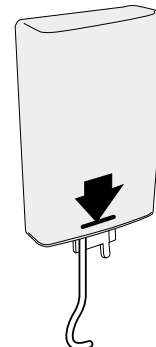
Mounting:



Mount the attachment plate to the wall using two screws of 4 mm diameter in the position as indicated.



Align the antenna over the attachment plate, keeping the cable in the middle of the plate.



Pull the antenna downwards until it clicks into place.

Indoor Omnidirectional Antenna 1800 Vertical Polarization V Single-band

- The antenna needs no additional groundplane.

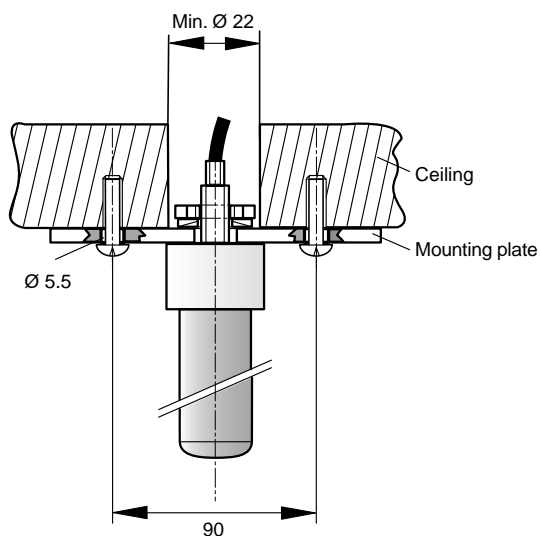
VPol Indoor 1800 360° 2dBi

Type No.	736 361
Input	Cable RG 223/CU of 1m length, white, with N female connector
Frequency range	1710 – 1900 MHz
VSWR	< 1.5
Gain	2 dBi
Impedance	50 Ω
Polarization	Vertical
Max. power	25 Watt (at 50 °C ambient temperature)
Weight	120 g
Radome diameter	20 mm
Mounting plate	115 x 25 mm
Packing size	app. 250 x 130 x 25 mm
Height	121 mm

Material: Radiator: Brass.
Radome: Fiberglass, colour: White.
Additional mounting plate: Aluminum.

Mounting: Two holes of 5.5 mm diameter in the mounting plate.

Grounding: All metal parts inclusive the inner conductor are DC grounded.



Multi-band Bidirectional Antenna Vertical Polarization Half-power Beam Width

824–960/1710–2170

KATHREIN

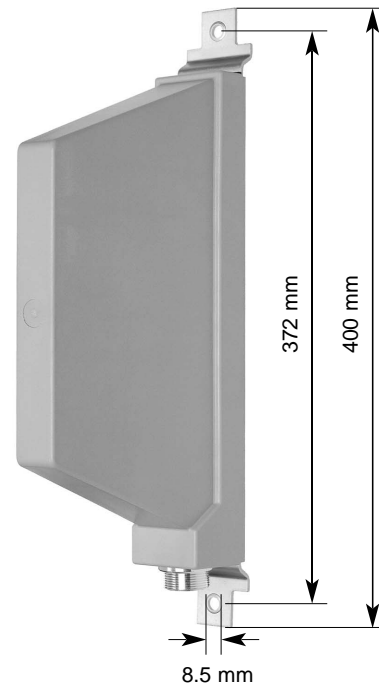
V

Antennen · Electronic

65°

VPol BiDir 824–960/1710–2170 65° 5dBi

Type No.	738 446
Input	1 x N female
Frequency range	824 – 960 MHz, 1710 – 2170 MHz
VSWR	< 1.5
Gain	824 – 960 MHz: 5 dBi 1710 – 1880 MHz: 5.5 dBi 1880 – 2170 MHz: 6.5 dBi
Impedance	50 Ω
Polarization	Vertical
Max. power (total)	200 Watt (at 50 °C ambient temperature)
Weight	0.8 kg
Wind load	Frontal: 25 N (at 150 km/h) Lateral: 65 N (at 150 km/h) Rearside: 35 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	422 x 212 x 95 mm
Height/width/depth	310 / 55 / 190 mm

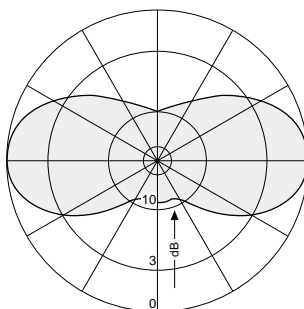


Material:
 Radiator: Tin plated copper.
 Reflector: Weather-proof aluminum.
 Radome: High impact plastic, colour: Grey.
 All screws and nuts: Stainless steel.

Mounting:
 Wall mounting: No additional mounting kit needed.
 For pipe mast mounting use clamps listed on the datasheet (order separately).

Ice protection:
 The radiating system is protected by the radome.
 Due to its very sturdy construction, the antenna remains operational even under icy conditions.

Grounding:
 All metal parts of the antenna as well as the inner conductor are DC grounded.



Typical Horizontal Pattern

Indoor Directional Antenna Vertical Polarization Half-power Beam Width

800/2000

V

90°

KATHREIN
Antennen · Electronic

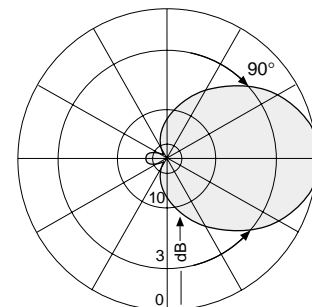
- Flat design
- The antenna can be operated in all frequency ranges simultaneously.

VPol Indoor 800/2000 90° 7dBi

Type No.	742 149
Input	Cable RG 223/CU of 1m length, white, with N female connector
Frequency range	824 – 960 MHz / 1710 – 2170 MHz
VSWR	870 – 960 MHz and 1710 – 1900 MHz: < 1.6 824 – 960 MHz and 1710 – 2170 MHz: < 2.0
Gain	≈ 7 dBi
Impedance	50 Ω
Half-power beam width	Horizontal: ≈ 90°
Polarization	Vertical
Max. power	25 Watt (at 50 °C ambient temperature)
Weight	500 g
Packing size	321 x 165 x 50 mm
Height/width/depth	205 / 155 / 42 mm

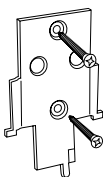


- Material:** Radiator: Brass.
Radome: ABS, colour: White.
Reflector: Aluminum.
Mounting plates: Stainless steel.
- Mounting:** Two holes of 6 mm diameter in the mounting plate.
- Grounding:** All metal parts inclusive the inner conductor are DC grounded.
- Available accessories:** Broadband power splitter (800 – 2200 MHz).

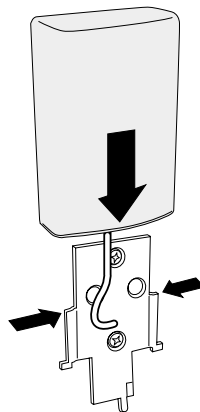


Horizontal Pattern

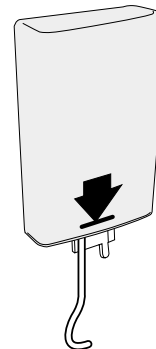
Mounting:



Mount the attachment plate to the wall using two screws of 4 mm diameter in the position as indicated.



Align the antenna over the attachment plate, keeping the cable in the middle of the plate.



Pull the antenna downwards until it clicks into place.

Omnidirectional Antenna Vertical Polarization

1710–2170

V

KATHREIN
Antennen · Electronic

- The antenna can be operated in the total frequency range simultaneously.
- The antenna needs no additional groundplane.

VPol Indoor 1710–2170 360° 2dBi

Type No.	741 573
Frequency range	1710 – 2170 MHz
VSWR	< 2.0
Input	1 x N female
Gain	2 dBi
Impedance	50 Ω
Polarization	Vertical
Max. power (per band)	50 W (at 50 °C ambient temperature)
Weight	150 g
Diameter	100 mm
Height	50 mm (without connector)



Material:	Base: Aluminum. Protective housing: High impact polystyrol, colour: White. Additional painting is possible.
Mounting:	Holes in the base enable a mounting on the ceiling. Screws are supplied. For the N connector a hole in the ceiling with a diameter of 35 mm is required.
Grounding:	All metal parts including the inner conductor are DC grounded.
Available accessories:	Broadband power splitters and tappers (800 – 2200 MHz).

Indoor Omnidirectional Antennas

Vertical Polarization

Multi-band

800/2000

V

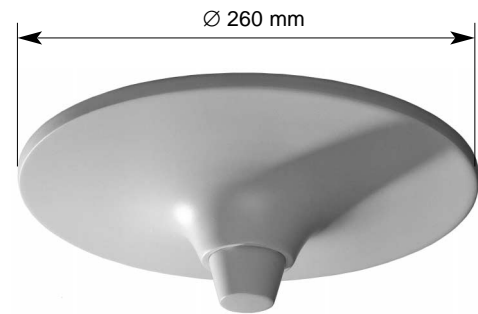
KATHREIN
Antennen · Electronic

- The antenna can be operated in all frequency ranges simultaneously.
- The antennas need no additional groundplane.

741 572: Indoor 800/2000 360° 2dBi

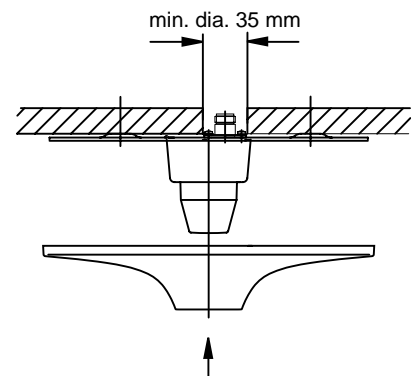
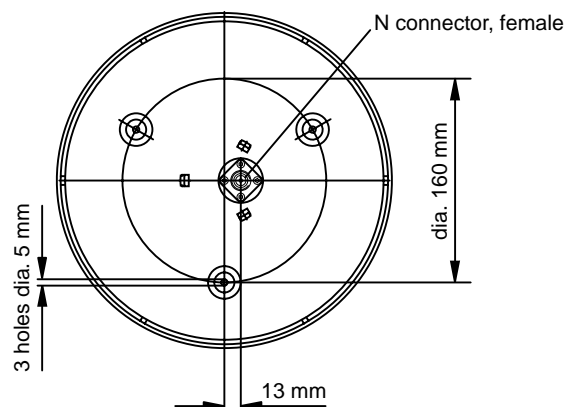
741 571: Indoor 900/2000 360° 2dBi

Type No.	741 572	741 571
Frequency range	824 – 960 MHz 1425 – 2170 MHz	876 – 960 MHz 1710 – 2170 MHz
VSWR	< 2.0: 824 – 960 MHz < 2.0: 1425 – 1710 MHz < 1.6: 1710 – 1990 MHz < 2.0: 1990 – 2170 MHz	< 1.8: 876 – 890 MHz < 1.6: 890 – 960 MHz < 1.6: 1710 – 1990 MHz < 2.0: 1990 – 2170 MHz
Input	1 x N female	
Gain	2 dBi	
Impedance	50 Ω	
Polarization	Vertical	
Max. power (per band)	50 Watt (at 50 °C ambient temperature)	
Weight	400 g	300 g
Diameter	260 mm	210 mm
Height	78 mm (without connector)	



741 572

- Material:** Base: Aluminum.
Protective housing: High impact polystyrol, colour: White.
Additional painting is possible.
- Mounting:** Three holes in the base enable a mounting on the ceiling. Two types of screws are supplied. For the N connector a hole in the ceiling with a diameter of 35 mm is required.
- Grounding:** All metal parts including the inner conductor are DC grounded.
- Available accessories:** Broadband power splitters and tappers (800 – 2200 MHz).



Clip the protective housing into position after the antenna has been mounted with the help of the three supplied screws.

Omnidirectional Antenna Vertical Polarization Indoor and outdoor use

870–960

V

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Antennen · Electronic

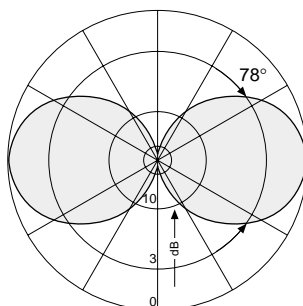
VPol Omni 870–960 360° 2dBi

Type No.	738 450
Input	N female
Connector position	Bottom or top
Frequency range	870 – 960 MHz
VSWR	< 1.5
Gain	2 dBi
Impedance	50 Ω
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Polarization	Vertical
Max. power	100 Watt (at 50 °C ambient temperature)
Weight	200 g
Radome diameter	20 mm
Height	180 mm

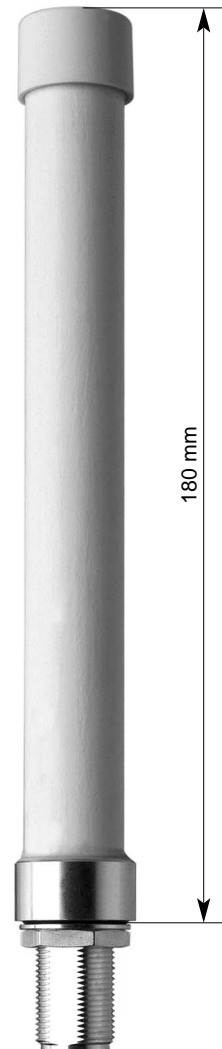
Material: Radiator: Brass.
Radome: Fiberglass, colour: White.

Mounting: One hole mounting (16 mm diameter) to surfaces of max. 10 mm thickness.

Grounding: All metal parts of the antenna as well as the inner conductor and the mounting kit are DC grounded.



Vertical Pattern



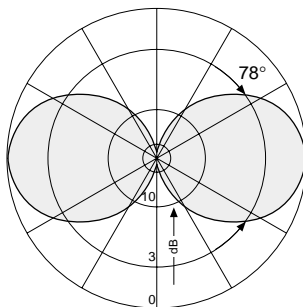
Dual-band Omni Antenna 870–960/1710–1880
Vertical Polarization V
Indoor and outdoor use

VPol Omni 870–960/1710–1880 360° 2dBi

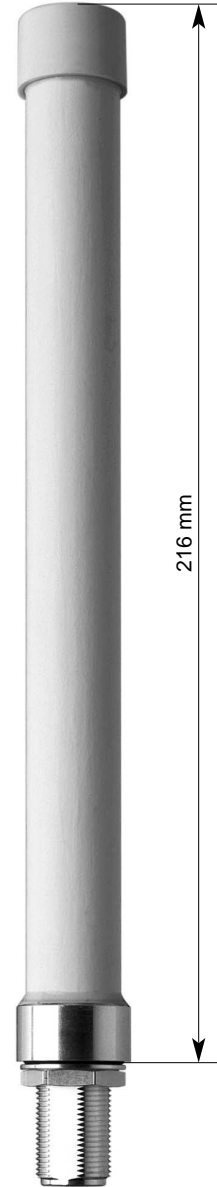
Type No.	738 449
Input	1 x N female
Connector position	Bottom or top
Frequency range	870 – 960 MHz / 1710 – 1880 MHz
VSWR	< 1.7
Gain	2 dBi
Impedance	50 Ω
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Polarization	Vertical
Max. power	50 Watt: 870 – 960 MHz 50 Watt: 1710 – 1880 MHz (at 50 °C ambient temperature)
Weight	250 g
Radome diameter	20 mm
Height	216 mm

Material: Radiator: Brass.
Radome: Fiberglass, colour: White.

Mounting: One hole mounting (16 mm diameter) to surfaces of max. 10 mm thickness.



Vertical Pattern



Omnidirectional Antenna Vertical Polarization Indoor and outdoor use

1710–2170

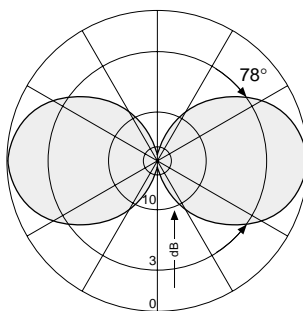
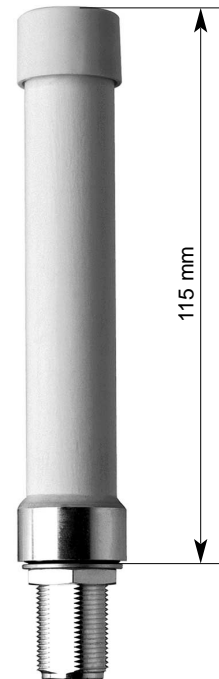
V

KATHREIN
Antennen · Electronic

VPol Omni 1710–2170 360° 2dBi

Type No.	738 454
Input	N female
Connector position	Bottom or top
Frequency range	1710 – 2170 MHz
VSWR	< 1.5
Gain	2 dBi
Impedance	50 Ω
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Polarization	Vertical
Max. power	50 Watt (at 50 °C ambient temperature)
Weight	150 g
Radome diameter	20 mm
Height	115 mm

- Material: Radiator: Brass.
Radome: Fiberglass, colour: White.
- Mounting: One hole mounting (16 mm diameter) to surfaces of max. 10 mm thickness.
- Grounding: All metal parts of the antenna and the mounting kit are DC grounded. The inner conductor is not DC grounded.

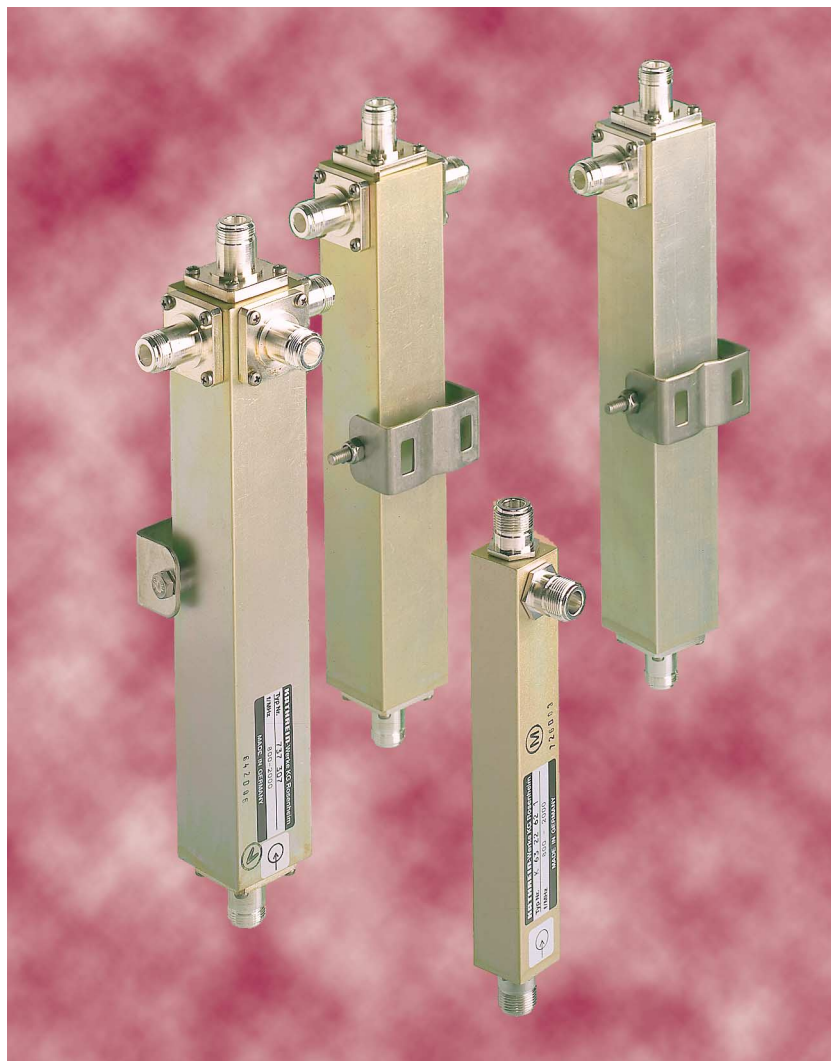


Vertical Pattern

Low-loss power splitters and tappers are used for combining antennas to obtain particular radiation patterns or to set up indoor distribution networks.

Power splitters with the following features are available:

- low-loss coaxial-line transformation
- high power rating
- equal (splitters) or unequal (tappers) power rating
- suitability for indoor and outdoor use
- extremely small dimensions
- multi-band versions for 800 – 2200 MHz.



Type	Type No.	Frequency range	Remark	Max. power	Connector female	Page
2-way-Splitter 800/900	K 63 20 62 1	790 – 960 MHz	Indoor/Outdoor	500 W	N	147
2-way-Splitter 800/900	K 63 20 62 7	790 – 960 MHz	Indoor/Outdoor	1000 W	7-16	147
3-way-Splitter 800/900	K 63 20 63 1	790 – 960 MHz	Indoor/Outdoor	500 W	N	147
3-way-Splitter 800/900	K 63 20 63 7	790 – 960 MHz	Indoor/Outdoor	1000 W	7-16	147
2-way-Splitter 1400/1900	K 63 55 8	1425 – 2000 MHz	Indoor/Outdoor	700 W	7-16	148
2-way-Splitter 800–2200	737 303	800 – 2200 MHz	Indoor/Outdoor	200 W	N	149
2-way-Splitter 800–2200	737 304	800 – 2200 MHz	Indoor/Outdoor	700 W	7-16	149
3-way-Splitter 800–2200	737 305	800 – 2200 MHz	Indoor/Outdoor	200 W	N	149
3-way-Splitter 800–2200	737 306	800 – 2200 MHz	Indoor/Outdoor	700 W	7-16	149
4-way-Splitter 800–2200	737 307	800 – 2200 MHz	Indoor/Outdoor	200 W	N	149
4-way-Splitter 800–2200	737 308	800 – 2200 MHz	Indoor/Outdoor	700 W	7-16	149
2-way-Splitter 800–2200	K 63 22 62 1	800 – 2200 MHz	Indoor	100 W	N	150
3-way-Splitter 800–2200	K 63 22 63 1	800 – 2200 MHz	Indoor	100 W	N	150
4-way-Splitter 800–2200	K 63 22 64 1	800 – 2200 MHz	Indoor	100 W	N	150

Additional versions on request

Summary – Low-loss Power Tappers

Type	Type No.	Frequency range	Remark	Max. power	Connector female	Page
2-way-Tapper 800–2200 7.0/1.0 dB	K 63 23 60 61	800 – 2200 MHz	Indoor	100 W	N	151
2-way-Tapper 800–2200 10.4/0.4 dB	K 63 23 61 01	800 – 2200 MHz	Indoor	100 W	N	151
2-way-Tapper 800–2200 15.1/0.1 dB	K 63 23 61 51	800 – 2200 MHz	Indoor	100 W	N	151
2-way-Tapper 800–2200 7.0/1.0 dB	K 63 23 60 67	800 – 2200 MHz	Indoor/Outdoor	500 W	7-16	152
2-way-Tapper 800–2200 10.4/0.4 dB	K 63 23 61 07	800 – 2200 MHz	Indoor/Outdoor	500 W	7-16	152
2-way-Tapper 800–2200 15.1/0.1 dB	K 63 23 61 57	800 – 2200 MHz	Indoor/Outdoor	500 W	7-16	152

Continuously adjustable ratio

2-way-Tapper 824–960/1710–2170 5.0–15.0dB	K 63 23 60 01	824 – 960 MHz 1710 – 2170 MHz	Indoor	100 W	N	153
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New Product

Low-loss Power Splitters

790 – 960 MHz

Indoor and outdoor use

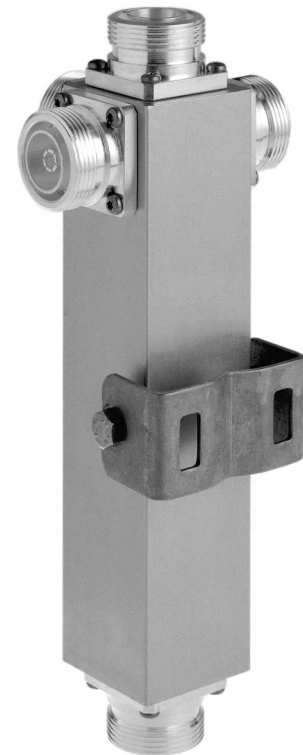
2-way-Splitter 800/900 3-way-Splitter 800/900


Type No.	K 63 20 62 1	K 63 20 62 7	K 63 20 63 1	K 63 20 63 7
Connector (female)	N	7-16	N	7-16
Max. power at 50 °C ambient temperature	500 W	1000 W	500 W	1000 W
For connecting ... antennas	2		3	
Frequency range	790 – 960 MHz			
VSWR	< 1.1			
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc			
Impedance	50 Ω			
Insertion loss	< 0.05 dB			
Weight	appr. 1.3 kg			
Packing size	240 x 93 x 107 mm			
Max. size	210 / 80 / 80 mm			

Material: Housing: Aluminum.
Inner conductor: Brass.

Mounting: Bracket for wall mounting included in the scope of supply: For pipe mast mounting use clamps listed below (order separately).

DC capability: DC transmission between all terminations (suitable for remote power supply systems).



Input
K 63 20 64 7 

Clamps (order separately)

Type No.	Description	Remarks
736 801	1 clamp	Mast: 34 – 60 mm diameter
736 802	1 clamp	Mast: 60 – 80 mm diameter
736 803	1 clamp	Mast: 80 – 100 mm diameter
736 804	1 clamp	Mast: 100 – 120 mm diameter
736 805	1 clamp	Mast: 120 – 140 mm diameter



736 805

Low-loss Power Splitters

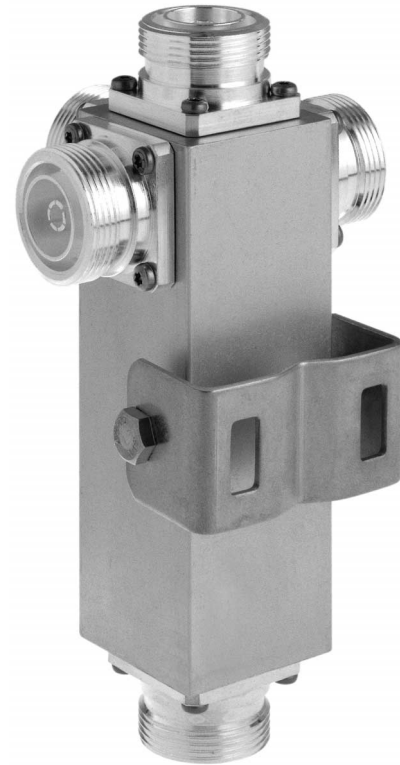
1425 – 2000 MHz


Indoor and outdoor use

2-way-Splitter 1400/1900

Type No.	K 63 55 8
Connector (female)	7-16
Max. power (at 50 °C ambient temperature)	700 W
For connecting ... antennas	2
Frequency range	1425 – 2000 MHz
VSWR	< 1.1
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Impedance	50 Ω
Insertion loss	< 0.05 dB
Weight	appr. 1.0 kg
Packing size	185 x 93 x 107 mm
Max. size	160 / 82 / 82 mm

Material:	Housing: Aluminum. Inner conductor: Brass.
Mounting:	Bracket for wall mounting included in the scope of supply. For pipe mast mounting use clamps listed below (order separately).
DC capability:	DC transmission between all terminations (suitable for remote power supply systems).



Input 
K 63 57 8

Clamps (order separately)

Type No.	Description	Remarks
736 801	1 clamp	Mast: 34 – 60 mm diameter
736 802	1 clamp	Mast: 60 – 80 mm diameter
736 803	1 clamp	Mast: 80 – 100 mm diameter
736 804	1 clamp	Mast: 100 – 120 mm diameter
736 805	1 clamp	Mast: 120 – 140 mm diameter



736 805

Low-loss Power Splitters – Multi-band 800 – 2200 MHz Indoor and outdoor use

2-way-Splitter 800–2200
3-way-Splitter 800–2200
4-way-Splitter 800–2200


Type No.	737 303	737 304	737 305	737 306	737 307	737 308
Connector (female)	N	7-16	N	7-16	N	7-16
Max. power (at 50 °C ambient temperature)	200 W	700 W	200 W	700 W	200 W	700 W
For connecting ... antennas	2		3		4	
Frequency range	800 – 2200 MHz					
VSWR	< 1.15					
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc					
Impedance	50 Ω					
Insertion loss	< 0.05 dB					
Weight	appr. 1.5 kg					
Packing size	310 x 93 x 107 mm					
Max. size	294 / 82 / 82 mm					

Material: Housing: Aluminum.
Inner conductor: Brass.

Mounting: Bracket for wall mounting included in the scope of supply.
For pipe mast mounting use clamps listed below (order separately).

DC capability: DC transmission between all terminations (suitable for remote power supply systems).



Input 
737 308

Clamps (order separately)

Type No.	Description	Remarks
736 801	1 clamp	Mast: 34 – 60 mm diameter
736 802	1 clamp	Mast: 60 – 80 mm diameter
736 803	1 clamp	Mast: 80 – 100 mm diameter
736 804	1 clamp	Mast: 100 – 120 mm diameter
736 805	1 clamp	Mast: 120 – 140 mm diameter



736 805

Low-loss Power Splitters – Multi-band 800 – 2200 MHz Indoor use

2-way Splitter 800–2200

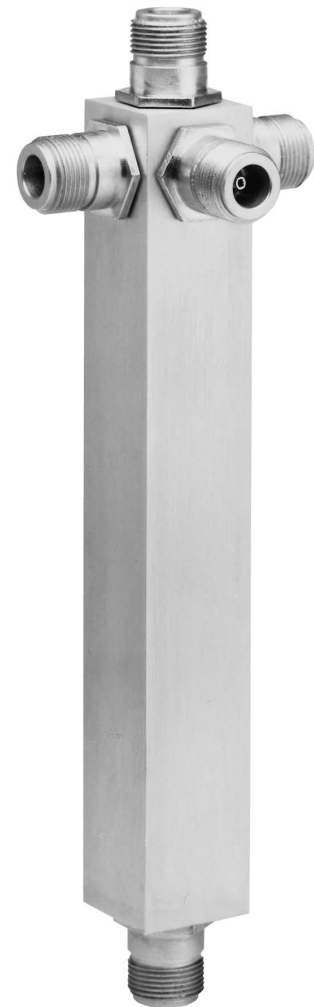
3-way Splitter 800–2200

4-way Splitter 800–2200

Type No.	K 63 22 62 1	K 63 22 63 1	K 63 22 64 1
Connector	N female		
Max. power	100 W (at 50 °C ambient temperature)		
For connecting ... antennas	2	3	4
Frequency range	800 – 2200 MHz		
VSWR	< 1.25	< 1.25	< 1.3
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc		
Impedance	50 Ω		
Insertion loss	< 0.05 dB		
Weight	appr. 0.6 kg		
Profile cross-section	25 x 25 mm		
Packing size	242 x 110 x 95 mm		
Max. size	204 / 63 / 41 mm		

Material: Housing: Aluminum.
Inner conductor: Brass.

DC capability: DC transmission between all terminations
(suitable for remote power supply systems).



Input

K 63 22 64 1

Low-loss Power Tappers – Multi-band 800 – 2200 MHz Indoor use

2-way-Tapper 800–2200 7.0 /1.0dB
2-way-Tapper 800–2200 10.4/0.4dB
2-way-Tapper 800–2200 15.1/0.1dB

Type No.	K 63 23 60 61	K 63 23 61 01	K 63 23 61 51
Tap Loss			
Input ↔ P ₁	- 1.0 dB	- 0.4 dB	- 0.1 dB
Input ↔ P ₂	- 7.0 dB	- 10.4 dB	- 15.1 dB
Connector	N female		
Max. power	100 W (at 50 °C ambient temperature)		
For connecting ... antennas	2		
Frequency range	800 – 2200 MHz		
VSWR	< 1.5		
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc		
Impedance	50 Ω		
Insertion loss	< 0.05 dB		
Weight	appr. 0.5 kg		
Profile cross-section	25 x 25 mm		
Packing size	267 x 95 x 111 mm		
Max. size	244 / 64 / 25 mm		

Material: Housing: Aluminum.
Inner conductor: Brass.

DC capability: DC transmission only between input and port P₁.
P₂ is coupled capacitively.



Low-loss Power Tappers – Multi-band 800 – 2200 MHz Indoor and outdoor use

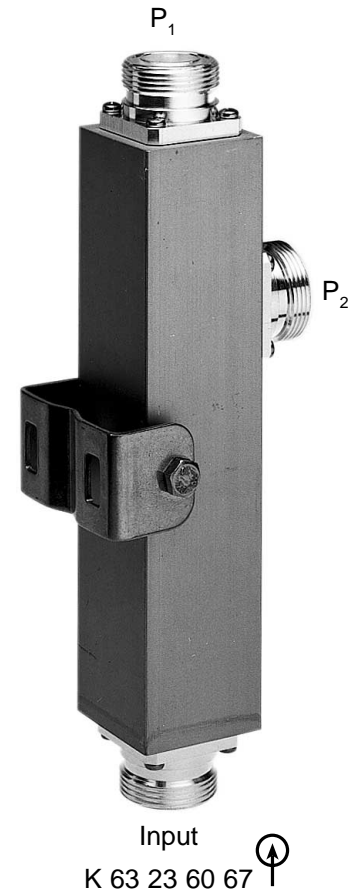
2-way-Tapper 800–2200 7.0 /1.0dB
2-way-Tapper 800–2200 10.4/0.4dB
2-way-Tapper 800–2200 15.1/0.1dB

Type No.	K 63 23 60 67	K 63 23 61 07	K 63 23 61 57
Tap Loss			
Input ↔ P ₁	- 1.0 dB	- 0.4 dB	- 0.1 dB
Input ↔ P ₂	- 7.0 dB	- 10.4 dB	- 15.1 dB
Connector	7-16 female		
Max. power	500 W (at 50 °C ambient temperature)		
For connecting ... antennas	2		
Frequency range	800 – 2200 MHz		
VSWR	< 1.5		
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc		
Impedance	50 Ω		
Insertion loss	< 0.05 dB		
Weight	appr. 1.3 kg		
Packing size	310 x 93 x 112 mm		
Max. size	244 / 90 / 55 mm		

Material: Housing: Aluminum.
Inner conductor: Brass.

DC capability: DC transmission only between input and port P₁.
P₂ is coupled capacitively.

Mounting: Bracked for wall mounting included in the scope of supply.
For pipe mast mounting use clamps listed below (order separately).



Clamps (order separately)

Type No.	Description	Remarks
736 801	1 clamp	Mast: 34 – 60 mm diameter
736 802	1 clamp	Mast: 60 – 80 mm diameter
736 803	1 clamp	Mast: 80 – 100 mm diameter
736 804	1 clamp	Mast: 100 – 120 mm diameter
736 805	1 clamp	Mast: 120 – 140 mm diameter



736 805

Low-loss Power Tapper

824 – 960 MHz, 1710 – 2170 MHz

Continuously Adjustable Ratio

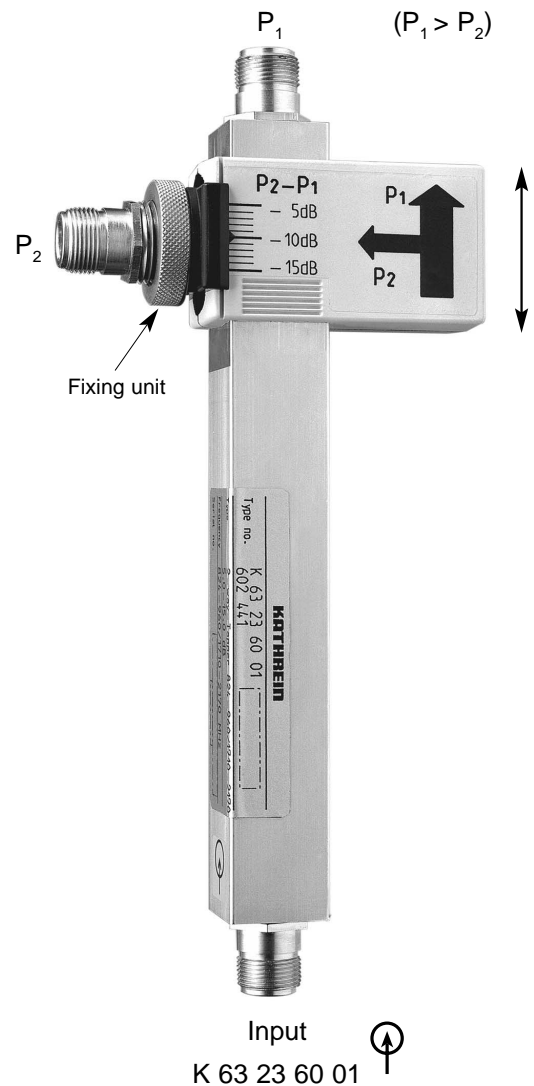
For indoor use

2-way-Tapper 824–960/1710–2170 5.0–15.0dB

Type No.	K 63 23 60 01
Ratio P_1 / P_2 ($P_1 > P_2$)	5.0 dB – 15.0 dB continuously adjustable
Connector	N female
Max. power	100 W (at 50 °C ambient temperature)
For connecting ... antennas	2
Frequency range	824 – 960 MHz 1710 – 2170 MHz
VSWR	< 1.7
Intermodulation IM3 (2 x 43 dBm carrier)	< -150 dBc
Impedance	50 Ω
Insertion loss	< 0.1 dB
Weight	appr. 0.5 kg
Profile cross-section	25 x 25 mm
Max. size	235 / 100 / 25 mm

Material: Housing: Aluminum.
Inner conductor: Brass.

DC capability: DC transmission only between input and port P_1 .
 P_2 is coupled capacitively.



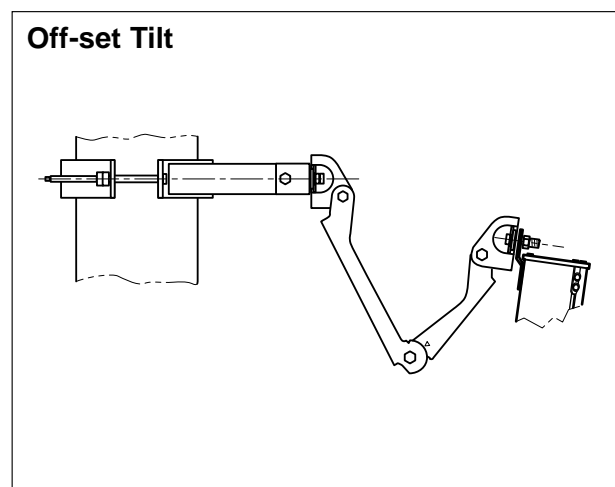
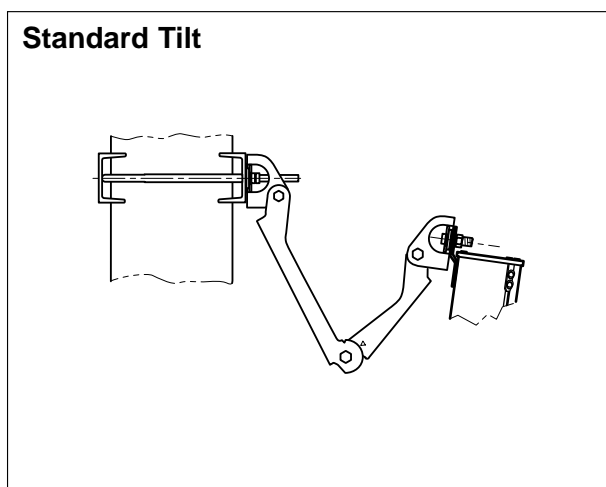
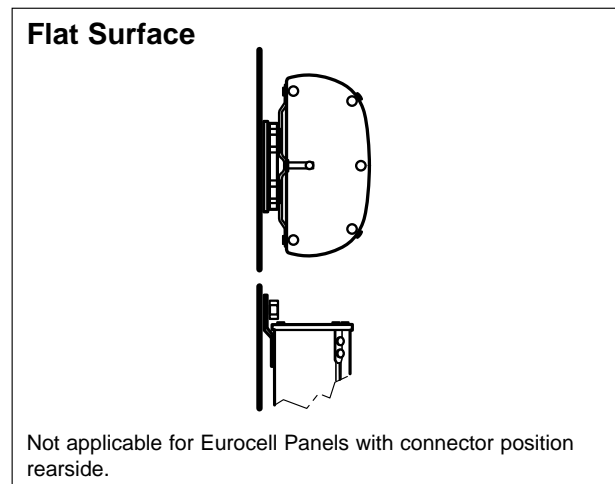
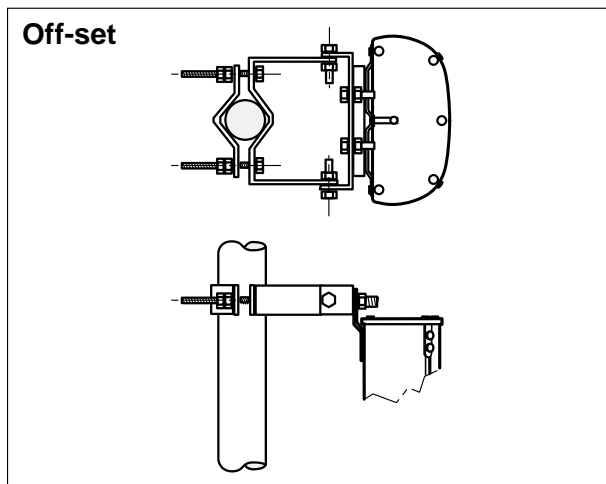
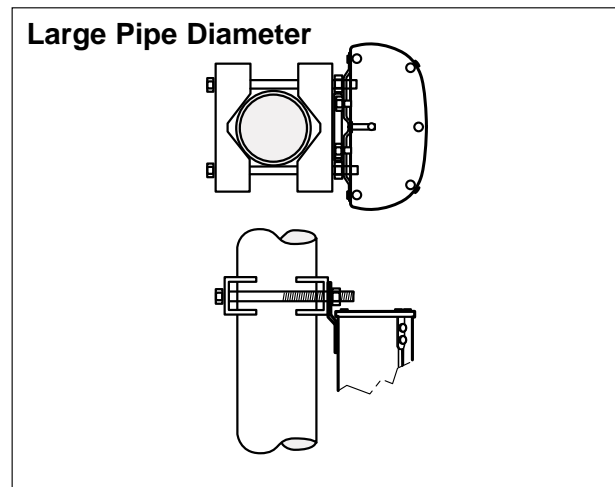
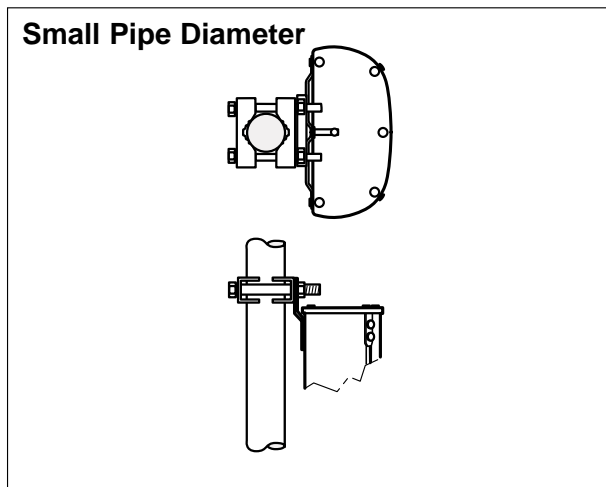
5.0 dB – 15.0 dB continuously adjustable

Ratio P_1 / P_2 [dB]	Input \leftrightarrow P_1 [dB]	Input \leftrightarrow P_2 [dB]	Power dividing $P_1 : P_2$
6	-1.0	-7.0	4 : 1
:	:	:	:
9	-0.5	-9.5	8 : 1
:	:	:	:
12	-0.3	-12.3	16 : 1
:	:	:	:
15	-0.1	-15.1	32 : 1



3 Sector Clamp

	Page
Mounting Configurations	157
Downtilt adjustment with adjustable electrical downtilt antennas	158
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Dimensions	159
Three Sector Clamps and Masts	160
Clamps	161
Downtilt kits	164
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Detailed Connector Position	167
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Slant Compensation	173
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Omnidirectional Antennas	
Clamp for larger Mast Diameters	176
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Description of the interface (protective cap removed):



- ① Adjustment wheel with twist-lock function.
- ② Downtilt spindle with integrated scale.



- ① Thread to fix the protection cap or the RCU (Remote Control Unit).
- ② Gearwheel for RCU-power drive.

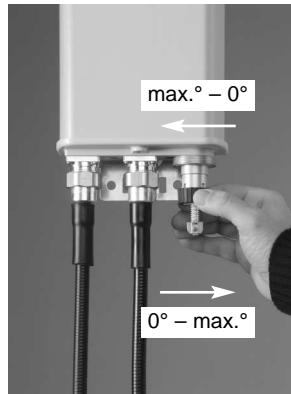


To adjust the downtilt angle exactly, you have to look straight at the scale. The lower edge of the gearwheel must be used for alignment purposes.

Manual adjustment procedure:



Remove protective cap.



Set downtilt angle by rotating the adjustment wheel.



Screw on the protective cap again.

Attachment of the RCU (Remote Control Unit) for remote-controlled downtilt adjustment:



Remove protective cap.



Remove the adjustment wheel by simply pulling it downwards.



Slide the RCU over the adjustment spindle, taking great care. The gear-wheels of the RCU and the downtilt spindle must fit into each other.



Tighten the RCU fixing nut and the RCU is ready for use. Max. torque 15 Nm Wrench 41 mm

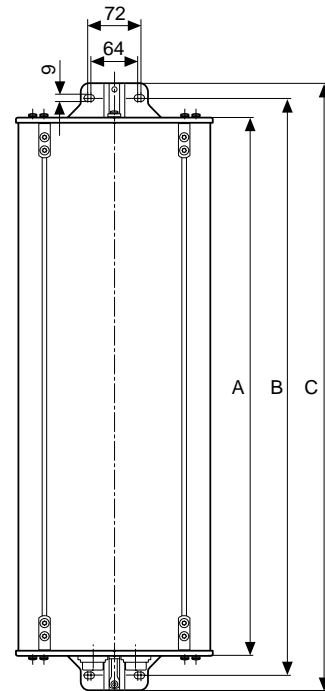
A-Panels / Eurocell Panels

Antenna Dimensions

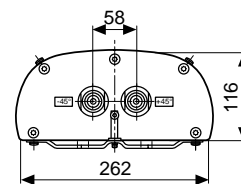
A-Panels with 65° and 90° Half-power Beam Width

A	256 mm	656 mm	1296 mm	1936 mm	2580 mm
B	310 mm	710 mm	1350 mm	1990 mm	2634 mm
C	350 mm	750 mm	1390 mm	2030 mm	2674 mm

A Corresponds with the antenna height mentioned in the technical data.



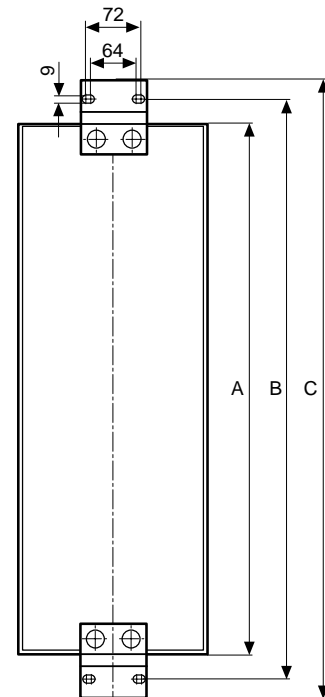
Bottom view



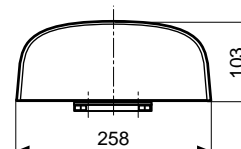
Eurocell Panels

A	264 mm	654 mm	974 mm	1294 mm	1934 mm	2254 mm	2574 mm
B	—	710 mm	1030 mm	1350 mm	1990 mm	2310 mm	2630 mm
C	—	750 mm	1070 mm	1390 mm	2030 mm	2350 mm	2670 mm

A Corresponds with the antenna height mentioned in the technical data.



Top view



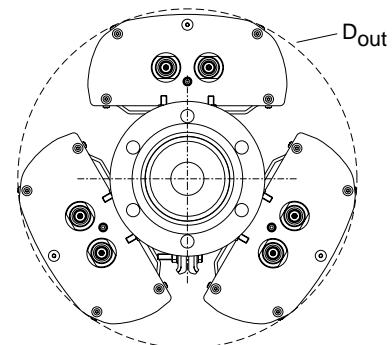
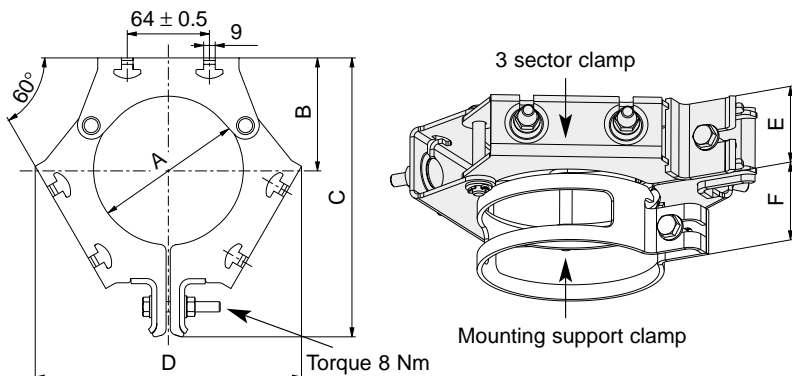
A-Panels – 3 Sector Panel Arrangement Mounting Hardware

3 Sector Clamp Kit / Pipe Mast with Flange Base

- Slim and unobstrusive design
- Nearly cylindrical optical appearance with small outer diameter
- Suitable for all A-Panels 65° and 90° (Single-band, Dual-band)
- Mounting of F-Panels possible but not optimized

3 Sector Clamp Kit

Type No.	742 033	742 034
Angle between antennas	120°	120°
Suitable for mast diameter	114.3 mm	139.7 mm
Type No. of pipe mast (please order separately)	742 035	742 036
Number of pieces	2 x 3 sector clamp 2 x mounting support clamp	2 x 3 sector clamp 2 x mounting support clamp
Material –3 sector clamp	Hot-dip galvanized steel	Hot-dip galvanized steel
–Mounting support clamp	Aluminum	Aluminum
–Screws	Stainless steel	Stainless steel
Outer diameter (D _{out}) of the 3 A-Panel Arrangement	460 mm	482 mm



Bottom view without downtilt kit

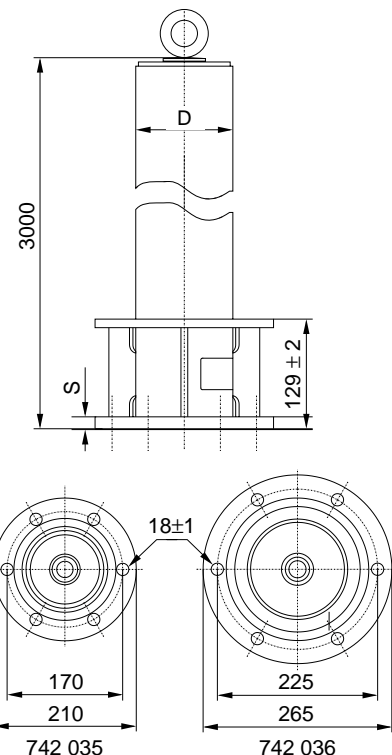
Type No.	A	B	C	D	E	F
742 033	114.3	88	217	207	49	45
742 034	139.7	100	236	228	49	45

all dimensions in mm

Pipe Mast with Flange Base

Type No.	742 035	742 036
Pipe diameter according DIN 2448	D 114.3 mm	139.7 mm
Wall thickness pipe	6.3 mm	4 mm
Pipe length	3000 mm	3000 mm
Flange diameter	210 mm	265 mm
Flange thickness	S 14 ± 1 mm	19 ± 1 mm
Hole circle diameter	170 mm	225 mm
Number of holes	6	6
Hole diameter	18 ± 1 mm	18 ± 1 mm
Enclosed bolts thread x length	M16 x 100 mm	M16 x 100 mm
Hot-dip galvanized steel	Quality min. 8.8	Quality min. 8.8
Weight	60 kg	55 kg
Material pipe mast	S355 J2H (St 52-3N) DIN EN 10210-1	
Material flange base	S235 JR G2 (RSt 37-2) DIN EN 10025	

Maximum permissible load: According DIN 4131 and DIN 4132
Fatigue class K2



A-Panels

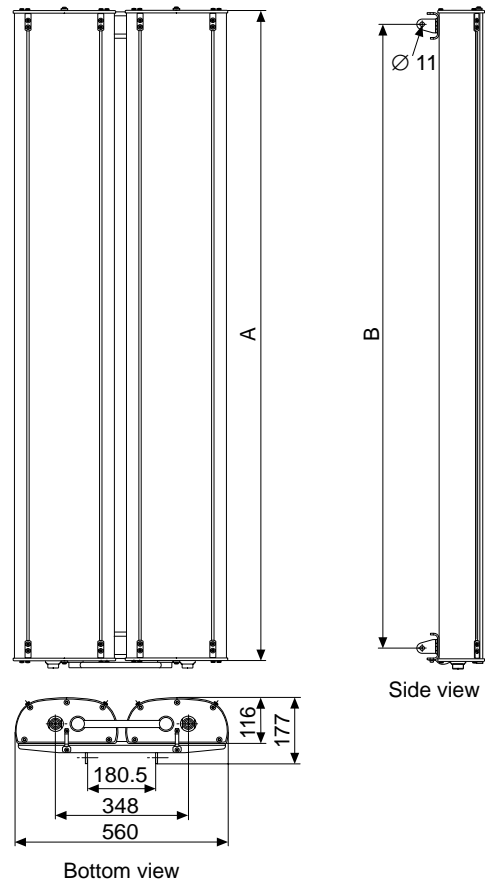
30° Half-power Beam Width

Mounting Hardware

A-Panels with 30° Half-power Beam Width

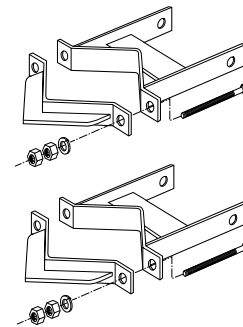
A	656 mm	1296 mm	2580 mm
B	584 mm	1224 mm	2504 mm

A Corresponds with the antenna height mentioned in the technical data.



Clamps

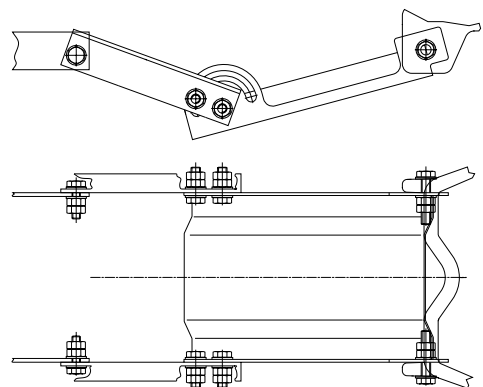
Type No.	Description	Remarks	Weight appr.	Units per antenna
733 736	2 clamps	Mast: 50 – 125 mm diameter	5.9 kg	1
K 61 14 03	2 clamps	Mast: 116 – 210 mm diameter	4.6 kg	1
K 61 14 04	2 clamps	Mast: 210 – 380 mm diameter	6.5 kg	1
K 61 14 05	2 clamps	Mast: 380 – 521 mm diameter	9.4 kg	1



Pair of clamps K 61 14 03

Downtilt kits

Antenna height	Downtilt angle	Type No.	Weight
656 mm	0 – 33°	733 695	3.4 kg
1296 mm	0 – 16°		
2580 mm	0 – 8°		

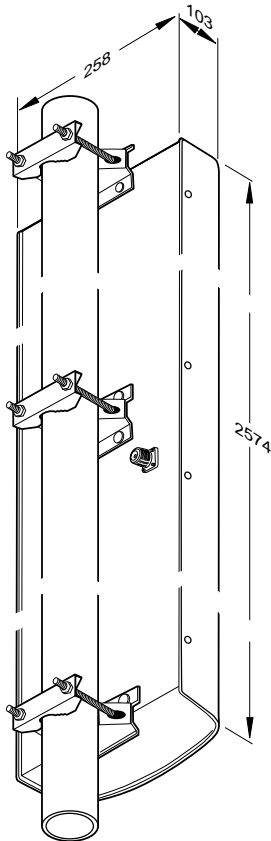


Downtilt kit 733 695

A-Panels 65° and 90° / Eurocell Panels Mounting Hardware Clamps

Eurocell Panels

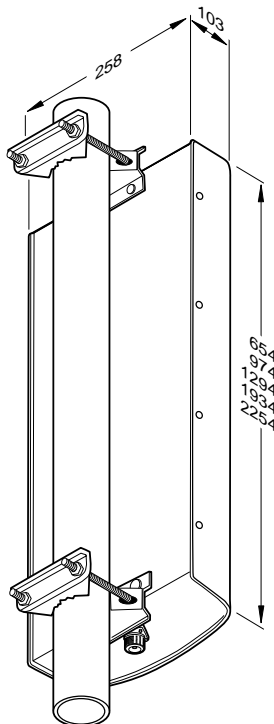
Antenna height: 2574 mm



Eurocell Panels

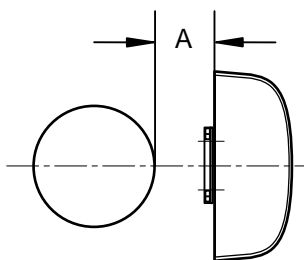
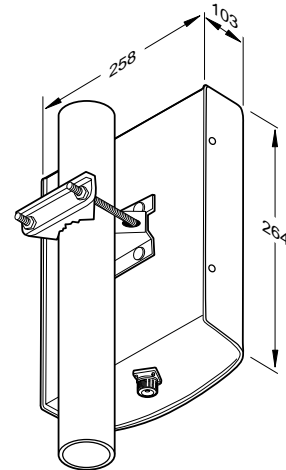
Antenna height: 654 mm
974 mm
1294 mm
1934 mm
2254 mm

and all A-Panels 65° and 90°



Eurocell Panels

Antenna height: 264 mm



Description	Mast diameter	Type No.	Distance A mm	Weight appr.	Units per antenna
Small Pipe	28 – 64 mm	731 651	22 – 30	330 g	see sketch
Large Pipe	50 – 115 mm	738 546	19 – 24	1.0 kg	see sketch
Off-set	60 – 115 mm	733 677	117 – 124	2.0 kg	see sketch
	115 – 210 mm	733 678	146 – 160	2.6 kg	see sketch
	210 – 380 mm	733 679	148 – 168	4.0 kg	see sketch
	380 – 521 mm	733 680	150 – 175	5.3 kg	see sketch

731 651	738 546	733 678

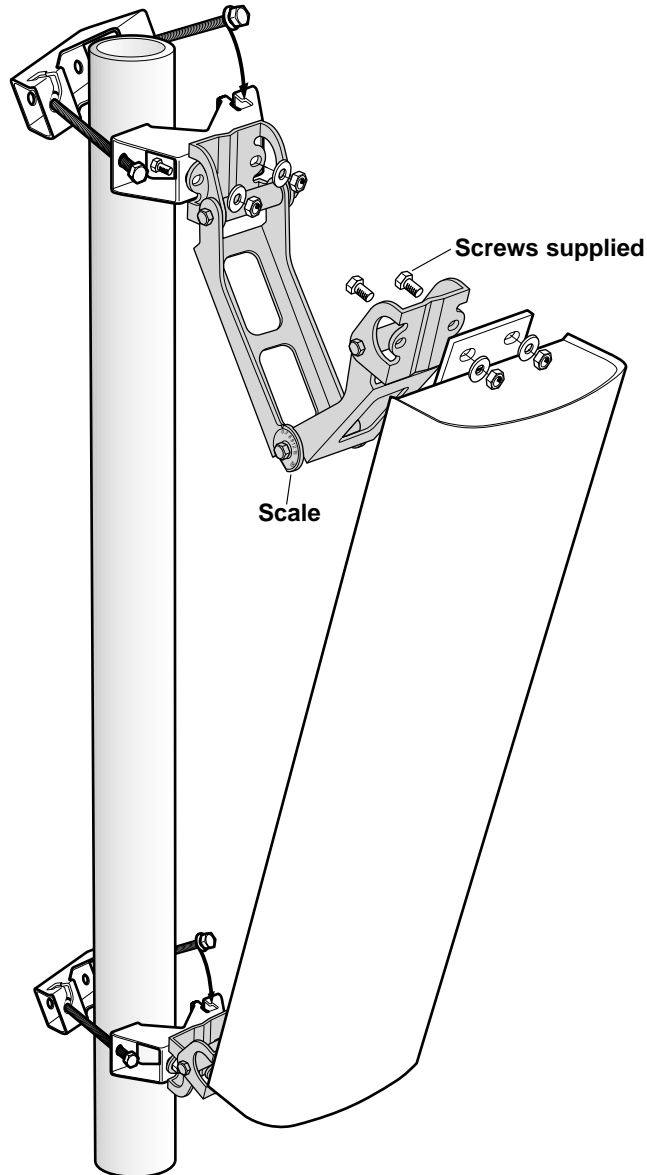
A-Panels / Eurocell Panels

Mounting Hardware

Downtilt kit

Antenna height: 654 / 656 mm
974 mm
1294 / 1296 mm
1934 / 1936 mm
2254 / 2256 mm

Use the downtilt kit together with the clamps (see page 160 and 162)



Downtilt angle		Downtilt kit with scale	Downtilt kit without scale*	
Antenna height	Downtilt angle	Type No.	Type No.	Weight
654 / 656 mm	0° – 30°	737 972		appr. 2.8 kg
974 mm	0° – 21°	737 973		
1294 / 1296 mm	0° – 16°	737 974	737 978	
1934 / 1936 mm	0° – 11°	737 975		
2254 / 2256 mm	0° – 9°	–		

* Instructions to adjust the required downtilt angle are given in the datasheet or on the rearside of the antenna.

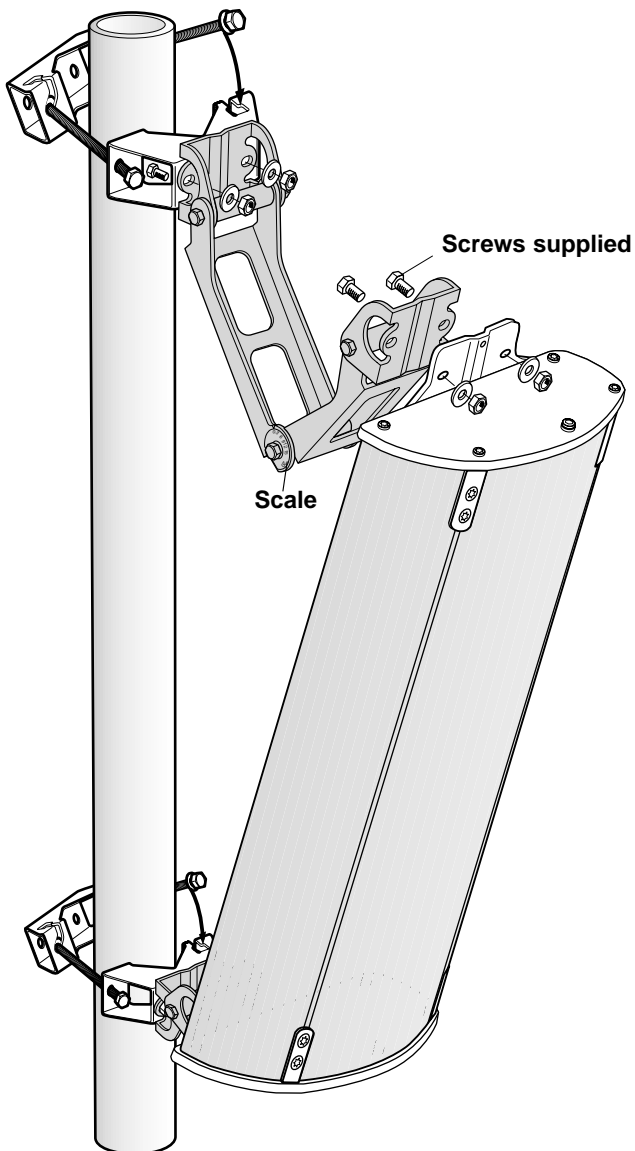
Mounting a downtilt kit enlarges the spacing between mast and antenna by 84 mm.

A-Panels / Eurocell Panels Mounting Hardware Downtilt kits

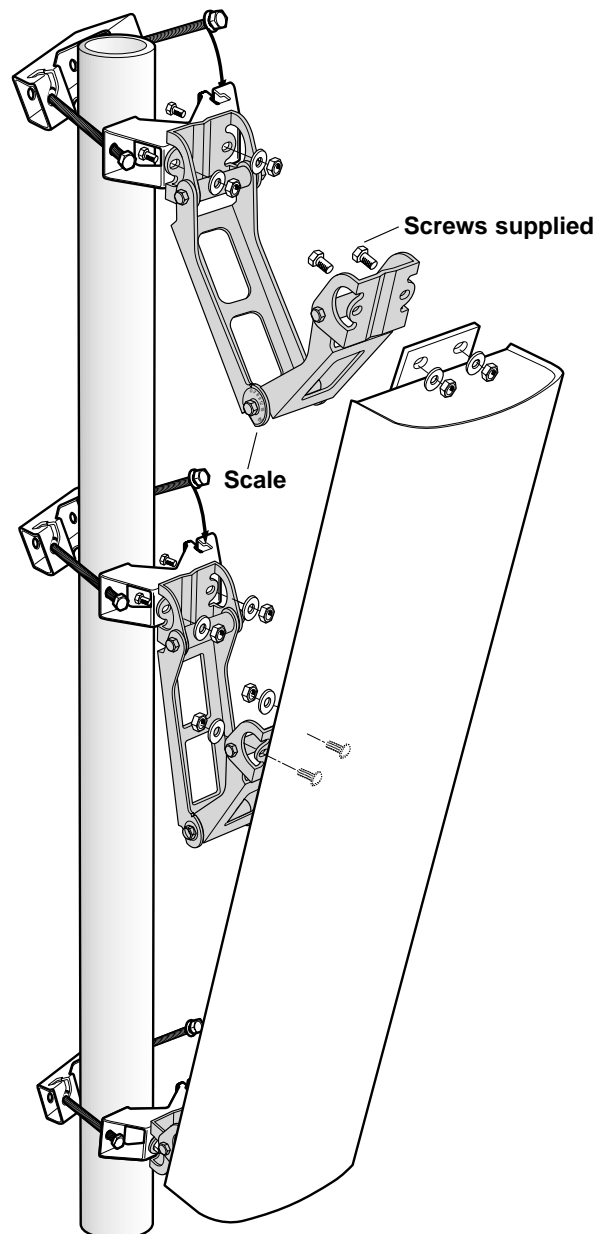
Suitable for:

A-Panels
with an antenna height of 2580 mm

Eurocell Panels
with an antenna height of 2574 mm



Type No. 737 971
Downtilt angle: 0° – 8°



Type No. 737 976
Downtilt angle: 0° – 8°

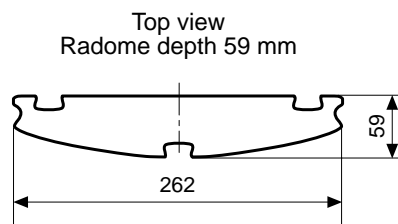
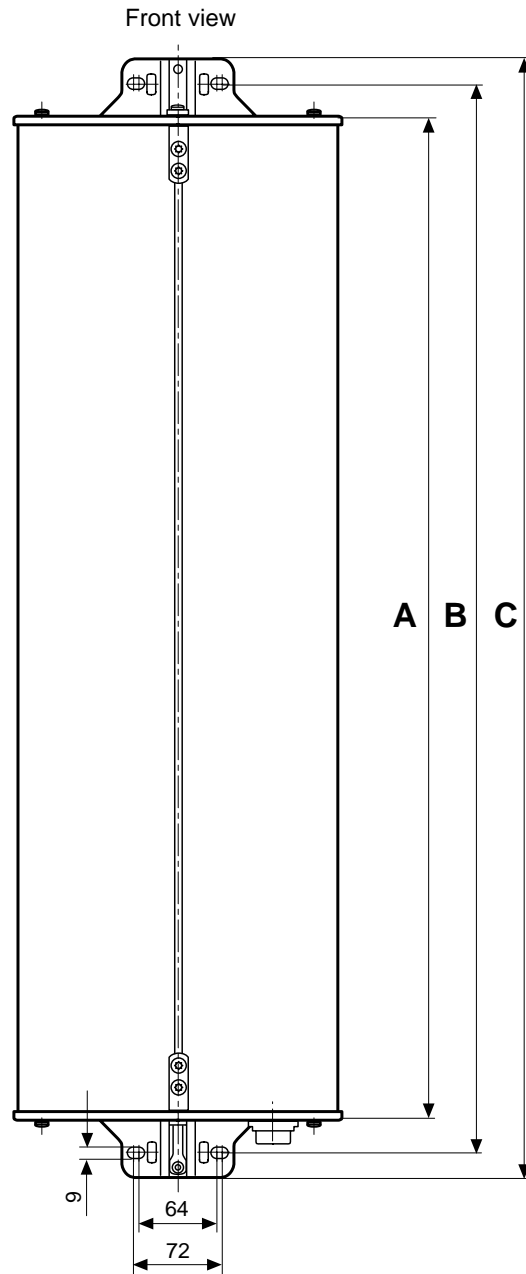
The downtilt kits should only be mounted with clamps 738 546

F-Panel Accessories

Dimensions of F-Panels with 33° Half-power Beam Width

Dimensions [mm]
(‘A’ corresponds to the antenna height given on the data sheet)

A	B	C
209	263	303
342	396	436
662	716	756
982	1036	1076
1302	1356	1396
1942	1996	2036

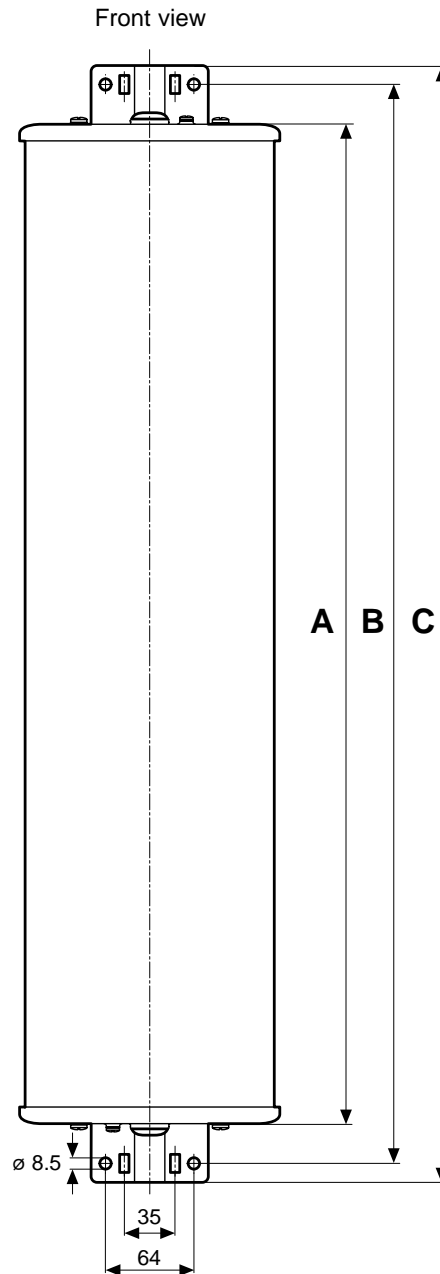


F-Panel Accessories

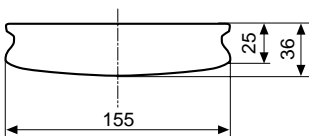
Dimensions of F-Panels with 60° – 105° Half-power Beam Width

Dimensions [mm]
(‘A’ corresponds to the antenna height given on the data sheet)

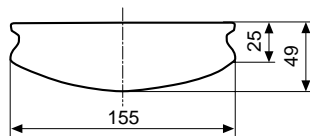
A	B	C
182	236	266
342	396	426
502	556	586
662	716	746
702	756	786
982	1036	1066
1302	1356	1386
1622	1676	1706
1942	1996	2026
2582	2636	2666



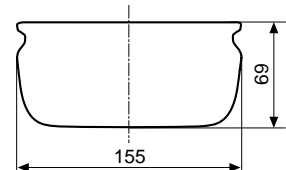
Top view
radome depth 36 mm



Top view
radome depth 49 mm



Top view
radome depth 69 mm

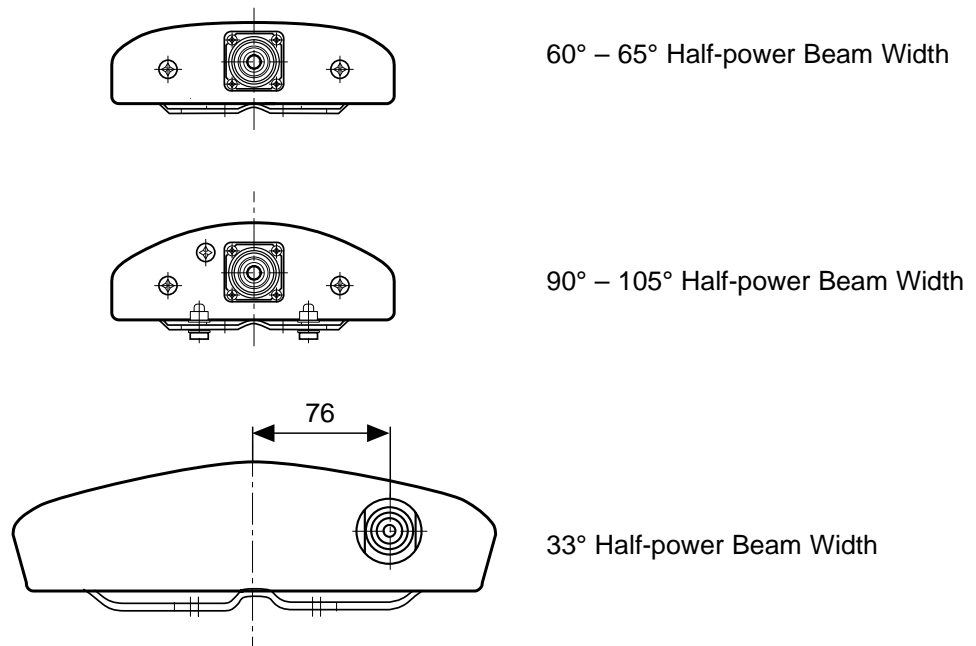


F-Panel Accessories

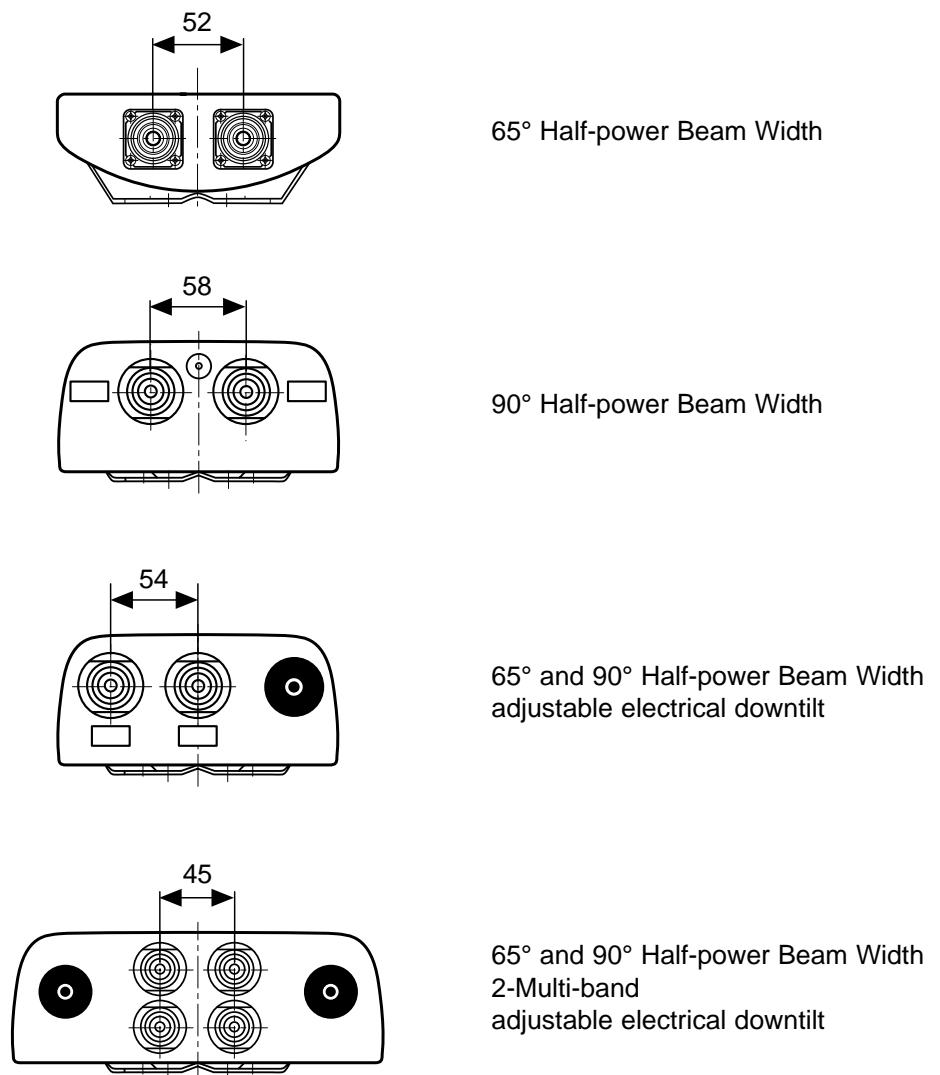
Dimensions of F-Panels

Detailed connector position

Vertical Polarization



+45°/-45° Polarization



F-Panels – 3 Sector Panel Arrangement

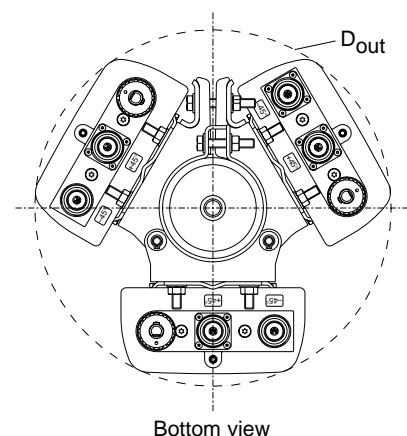
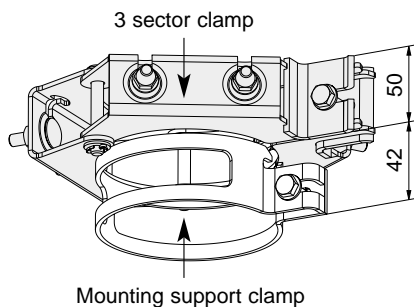
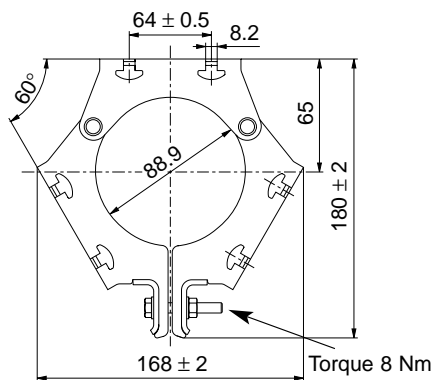
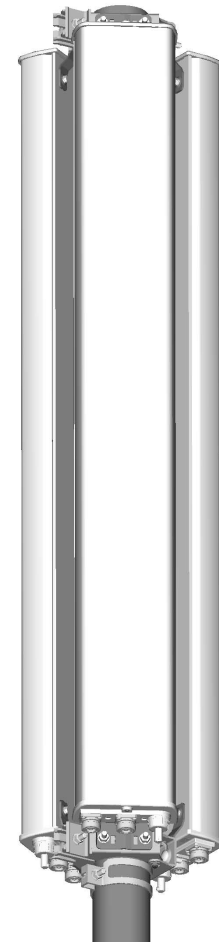
Mounting Hardware

3 Sector Clamp Kit

- Slim and unobstrusive design
- Nearly cylindrical optical appearance with small outer diameter
- Suitable for all F-Panels with an antenna housing width of 155 mm

3 Sector Clamp Kit

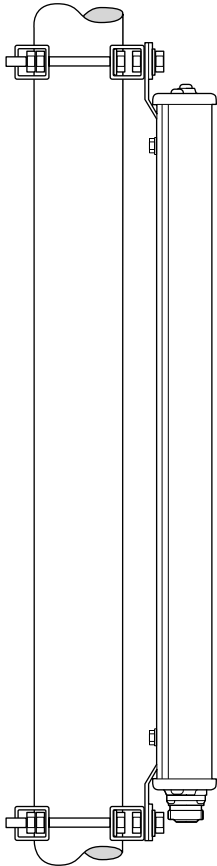
Type No.	742 263
Angle between antennas	120°
Suitable for mast diameter	88.9 mm
Number of pieces	2 x 3 sector clamp 2 x mounting support clamp
Material	Hot-dip galvanized steel Aluminum Stainless steel
Outer diameter (D _{out}) of the 3 F-Panel Arrangement	315 mm
Remark	This clamp kit is not suitable for use with additional mechanical downtilt kits



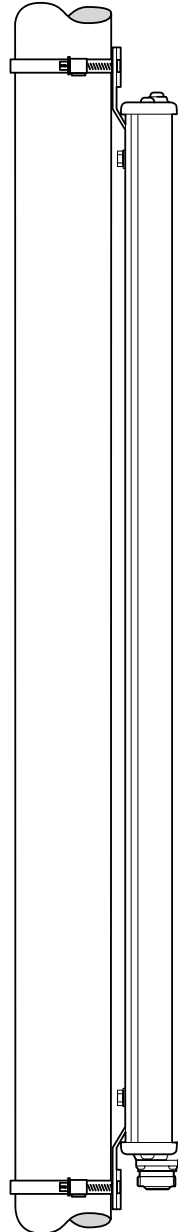
F-Panel Accessories

Clamps for F-Panels with 33° / 60° – 160° Half-power Beam Width

33° HPBW



60°–160° HPBW



33° Half-power Beam Width

Type No.	Mast diameter	Weight	Units per antenna
738 546	50 – 115 mm	appr. 1 kg	2

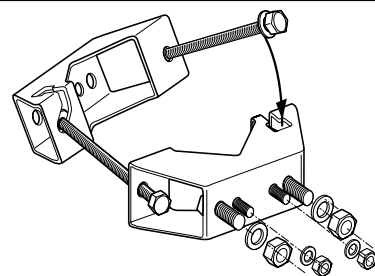
60°–160° Half-power Beam Width

Type No.	Mast diameter	Antenna height	Weight appr.	Units per antenna
734 360	34 – 60 mm	182 ... 1942 mm	60 g	1
734 361	60 – 80 mm	182 ... 1942 mm	70 g	1
734 362	80 – 100 mm	182 ... 1942 mm	80 g	1
734 363	100 – 120 mm	182 ... 1942 mm	90 g	1
734 364	120 – 140 mm	182 ... 1942 mm	110 g	1
734 365	45 – 125 mm	182 ... 1942 mm	80 g	1
738 546	50 – 115 mm	182 ... 2582 mm	1 kg	2

Type No. 734 362



Type No. 738 546



F-Panel Accessories

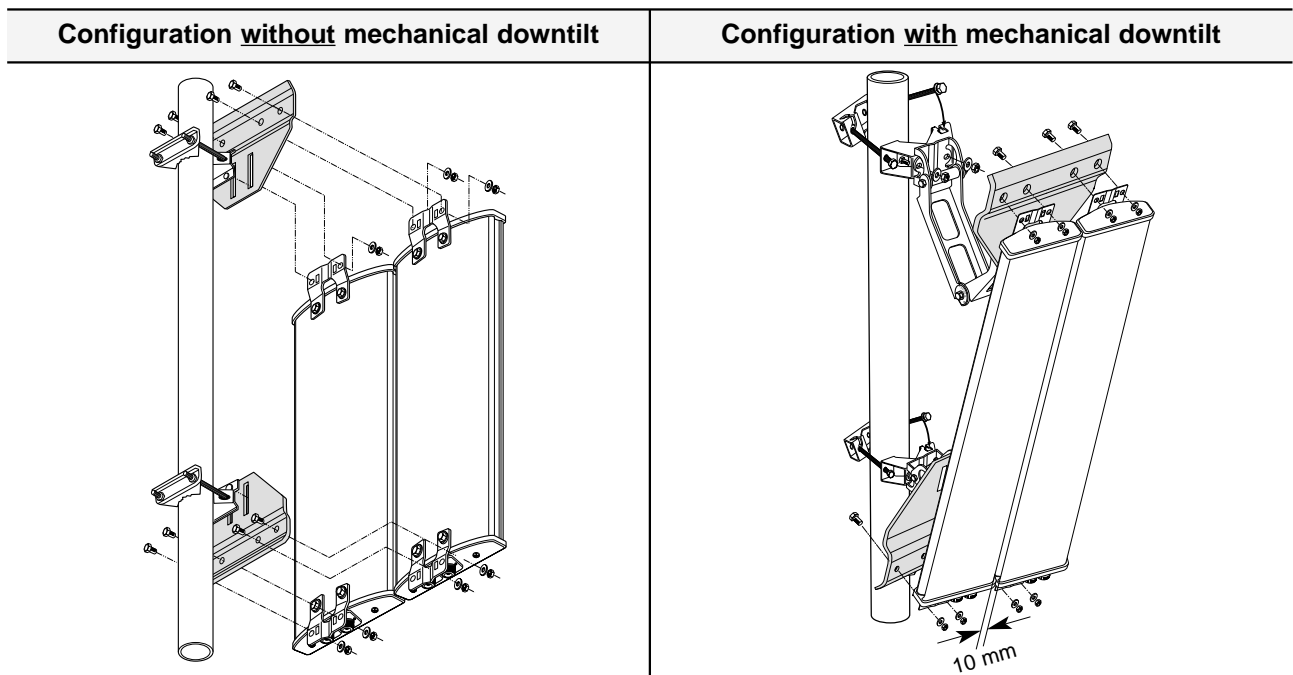
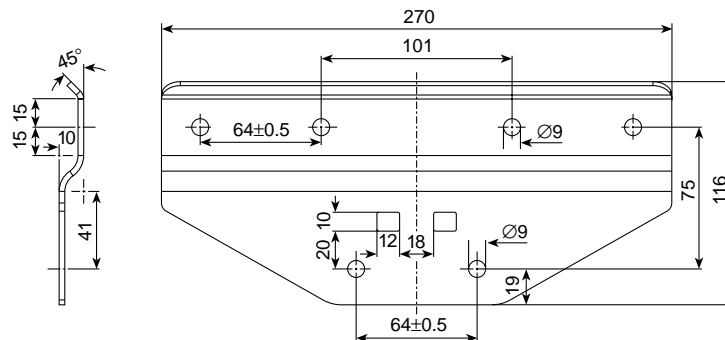
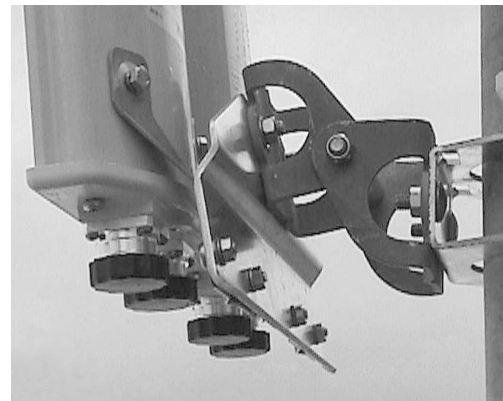
Mounting Hardware

2 x F-Panel Mounting Kit

- For arranging two F-Panels 65°, 90° side by side (on air combining).
- The mounting kit consists of two mounting plates.

2 x F-Panel Mounting Kit

Type No.	742 113
No of units	2
Suitable for F-Panels 65°, 90° with max. height of	2 m
Material	Hot-dip galvanized steel
Weight	approx. 1.6 kg
Mounting	Screws are supplied



Use the 2 x F-Panel Mounting Kit together with the following mounting accessories

Type No.	Description	Remarks	Weight appr.	Units per antenna
738 546	1 clamp	Mast: 50 – 115 mm diameter	1.0 kg	2
733 677	1 offset clamp	Mast: 60 – 115 mm diameter	2.0 kg	2
733 678	1 offset clamp	Mast: 115 – 210 mm diameter	2.6 kg	2
733 679	1 offset clamp	Mast: 210 – 380 mm diameter	4.0 kg	2
733 680	1 offset clamp	Mast: 380 – 521 mm diameter	5.3 kg	2
737 978	1 downtilt kit	Downtilt angle: depending on antenna height	2.8 kg	1

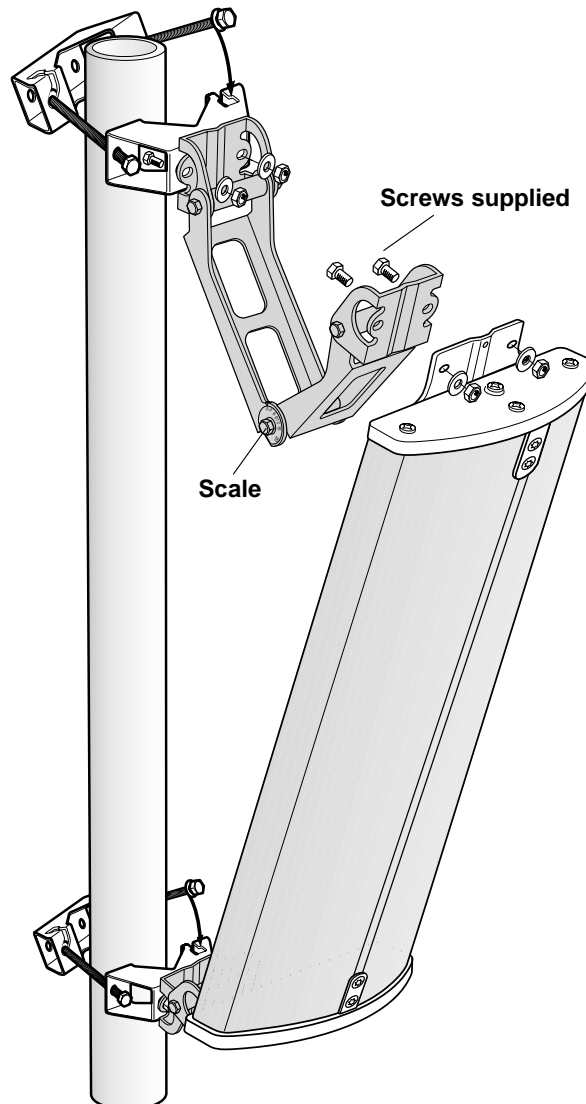
For a three sector panel arrangement, use the mounting kit type no. 742 113 together with the three sector clamp (see page 167).

F-Panel Accessories

Downtilt Kit for F-Panels with 33° – 160 °Half-power Beam Width

Antenna height: 342 mm
662 mm
982 mm
1302 mm
1622 mm
1942 mm
2582 mm

Use the downtilt kit together with
2 clamps 738 546 (see page 169).



Antenna height	Downtilt angle	Downtilt kit with scale	Downtilt kit without scale*	Weight
		Type No.	Type No.	
342 mm	0° – 54°	–		appr. 2.8 kg
662 mm	0° – 30°	737 972		
982 mm	0° – 21°	737 973		
1302 mm	0° – 16°	737 974	737 978	
1622 mm	0° – 13°	–		
1942 mm	0° – 11°	737 975		
2582 mm	0° – 8°	737 971		

* Instructions to adjust the required downtilt angle are given in the datasheet or on the rearside of the antenna.

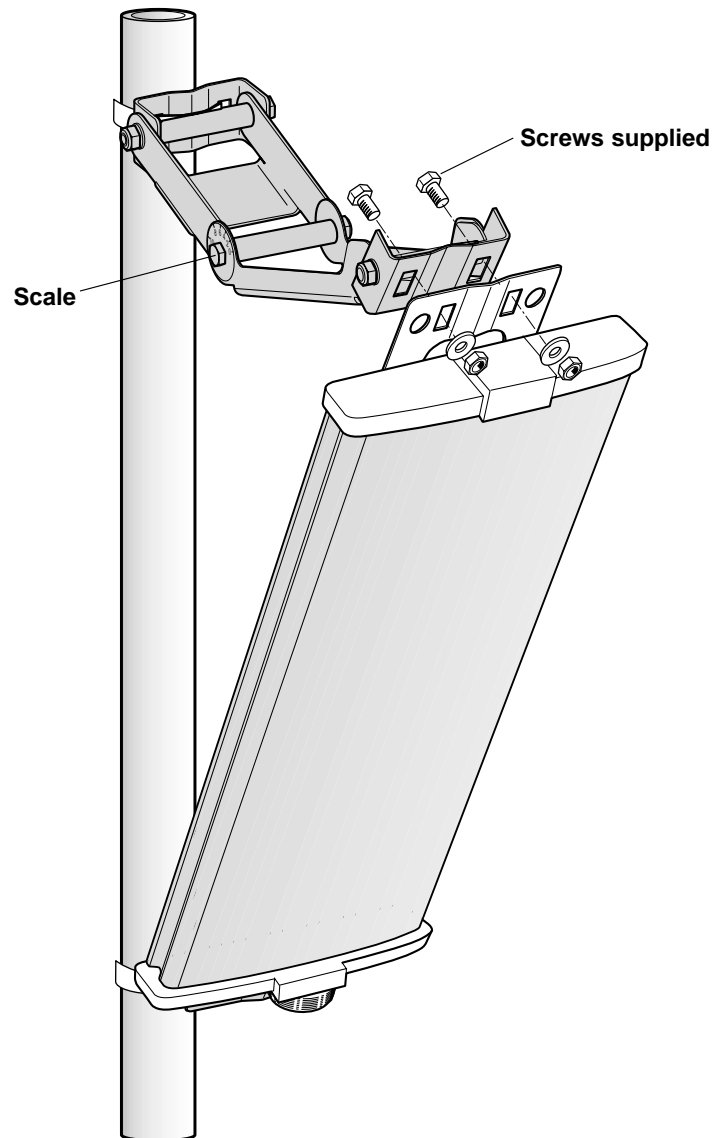
Mounting a downtilt kit enlarges the spacing between mast and antenna by 84 mm.

F-Panel Accessories

Downtilt Kit for F-Panels with 60° – 160° Half-power Beam Width

Antenna height: 342 mm
502 mm
662 mm
982 mm
1302 mm

Use the downtilt kit together
with the clamps (see page 169).



Antenna height	Downtilt angle	Downtilt kit with scale	Downtilt kit without scale*	Weight
		Type No.	Type No.	
342 mm	0° – 40°	–		appr. 1.0 kg
502 mm	0° – 25°	732 322		
662 mm	0° – 20°	732 321	732 327	
982 mm	0° – 14°	732 318		
1302 mm	0° – 10°	732 317		

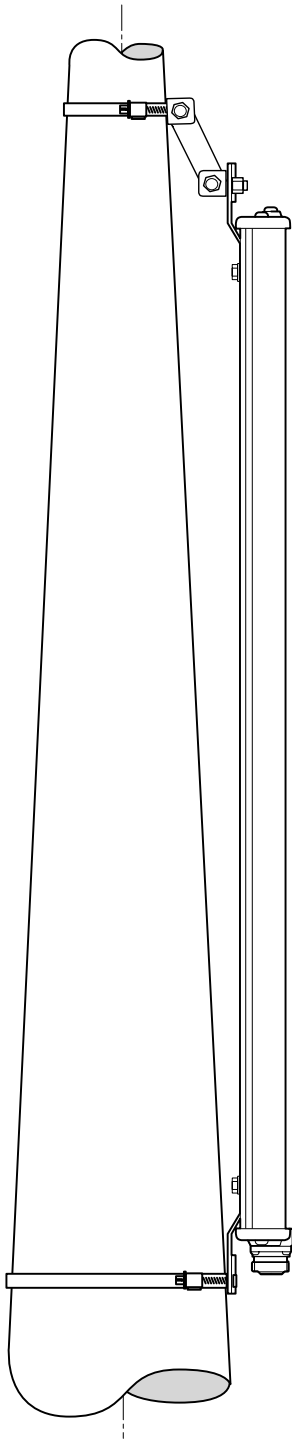
* Instructions to adjust the required downtilt angle are given in the datasheet or on the rearside of the antenna.

Mounting a downtilt kit enlarges the spacing between mast and antenna by 42 mm.

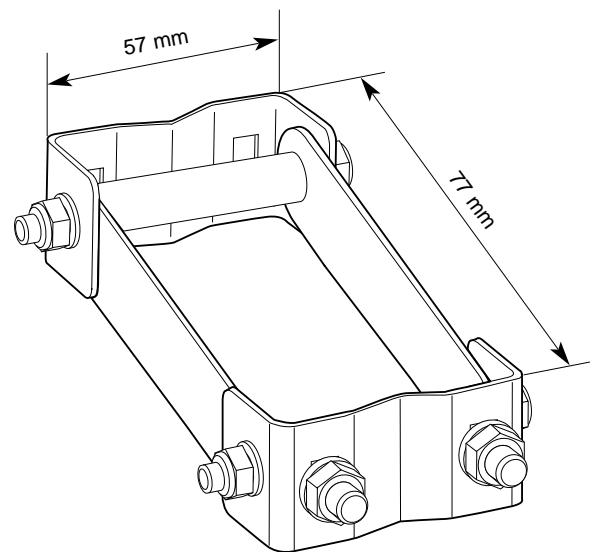
F-Panel Accessories

Slant Compensation Kit for F-Panels with 60° – 160° Half-power Beam Width

Type No. 732 319



Use the slant compensation kit
type no. 732 319 together with the
clamps (see page 169).



Weight: appr. 200 g

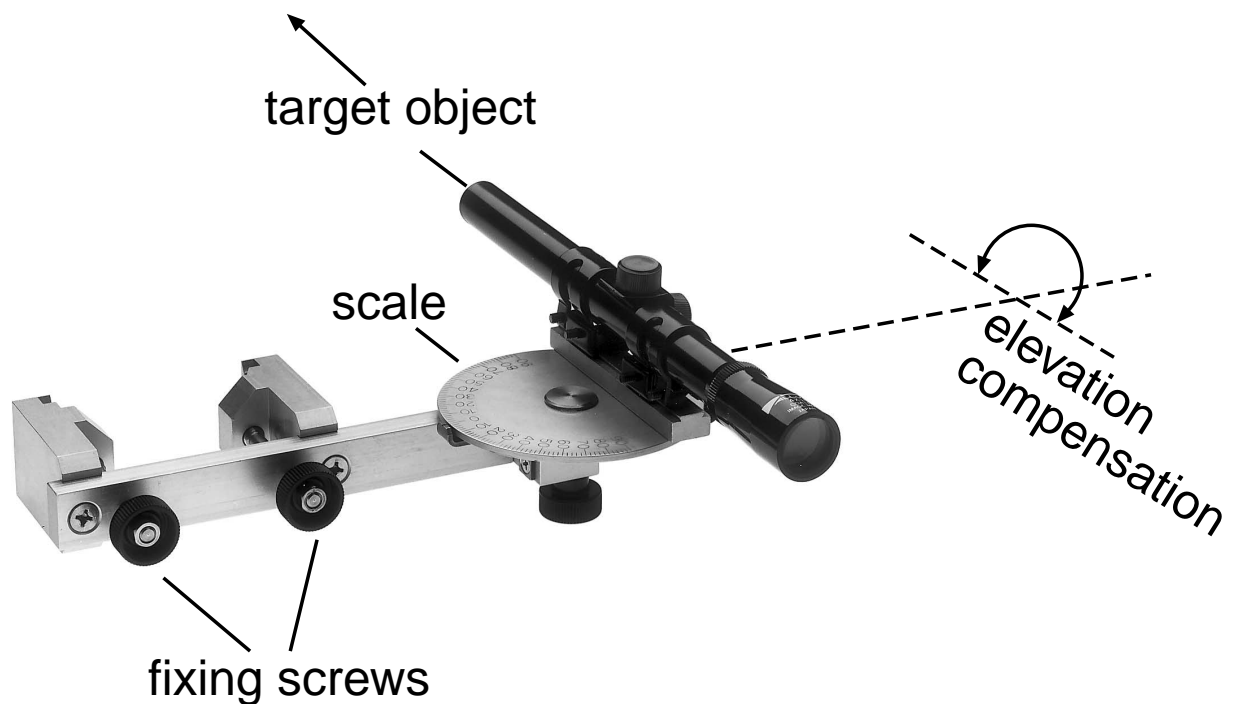
F-Panel Accessories

Azimuth Adjustment Tool for F-Panels with 60° – 160° Half-power Beam Width

KATHREIN
Antennen · Electronic

Type No. 735 700

Precise azimuth angle adjustment for mast mounted antennas can easily be achieved by using the azimuth adjustment tool.



Instruction:

- Use a map to work out the angle between the designed antenna azimuth direction and target object (church, building, mountain peak)
- Set this angle on the scale of the adjustment tool
- Push the adjustment tool onto the antenna fixture and tighten the fixing screws
- Use the telescope to aim at the target object, if necessary, use elevation compensation
- Then rotate the antenna until the target object appears in the telescope objective.

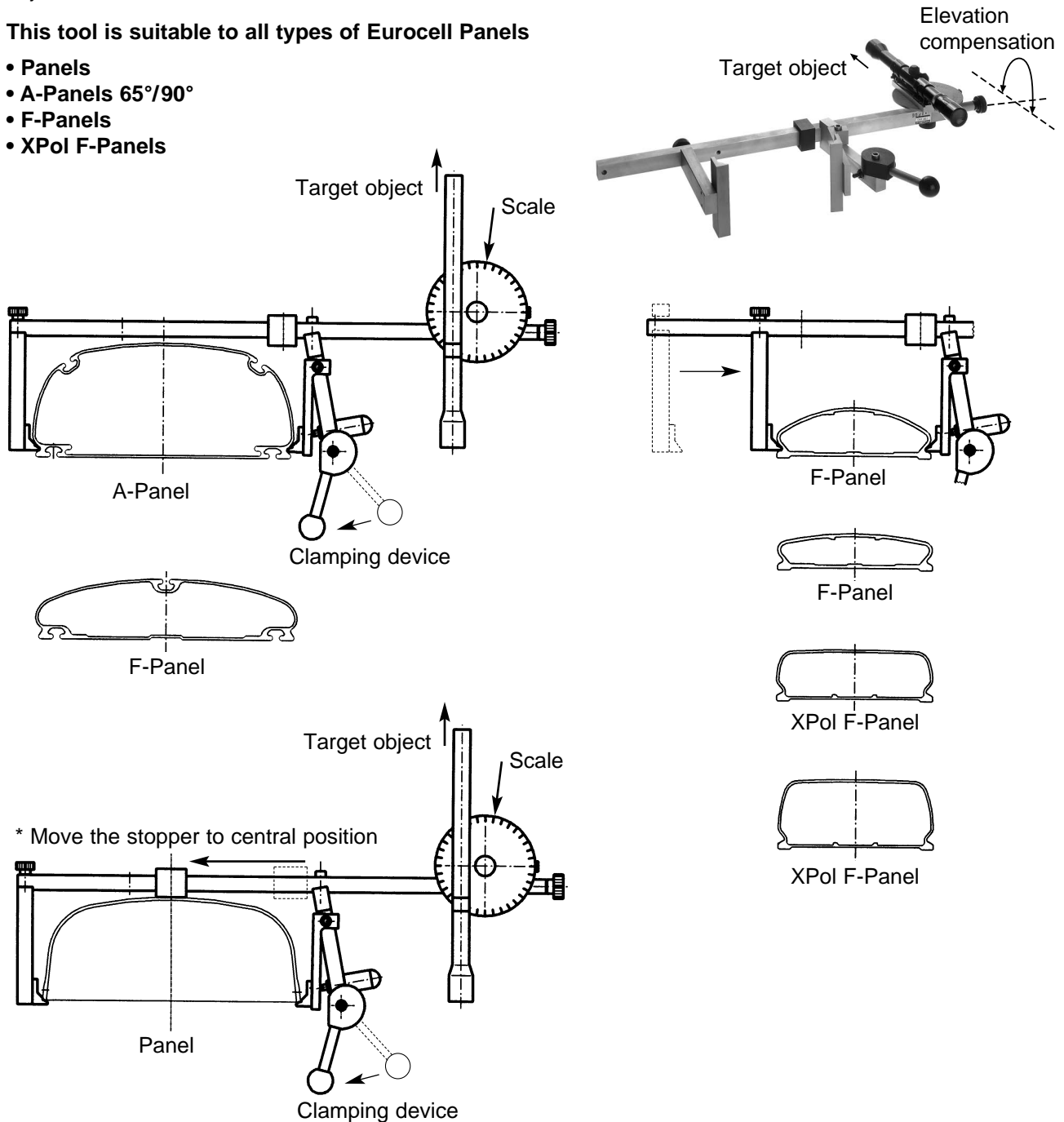
A-Panel / Eurocell Panel / F-Panel Accessories Azimuth Adjustment Tool

Type No. 738 440

Precise azimuth adjustment for mast mounted antennas can easily be achieved by using the azimuth adjustment tool.

This tool is suitable to all types of Eurocell Panels

- Panels
- A-Panels 65°/90°
- F-Panels
- XPol F-Panels



Instruction:

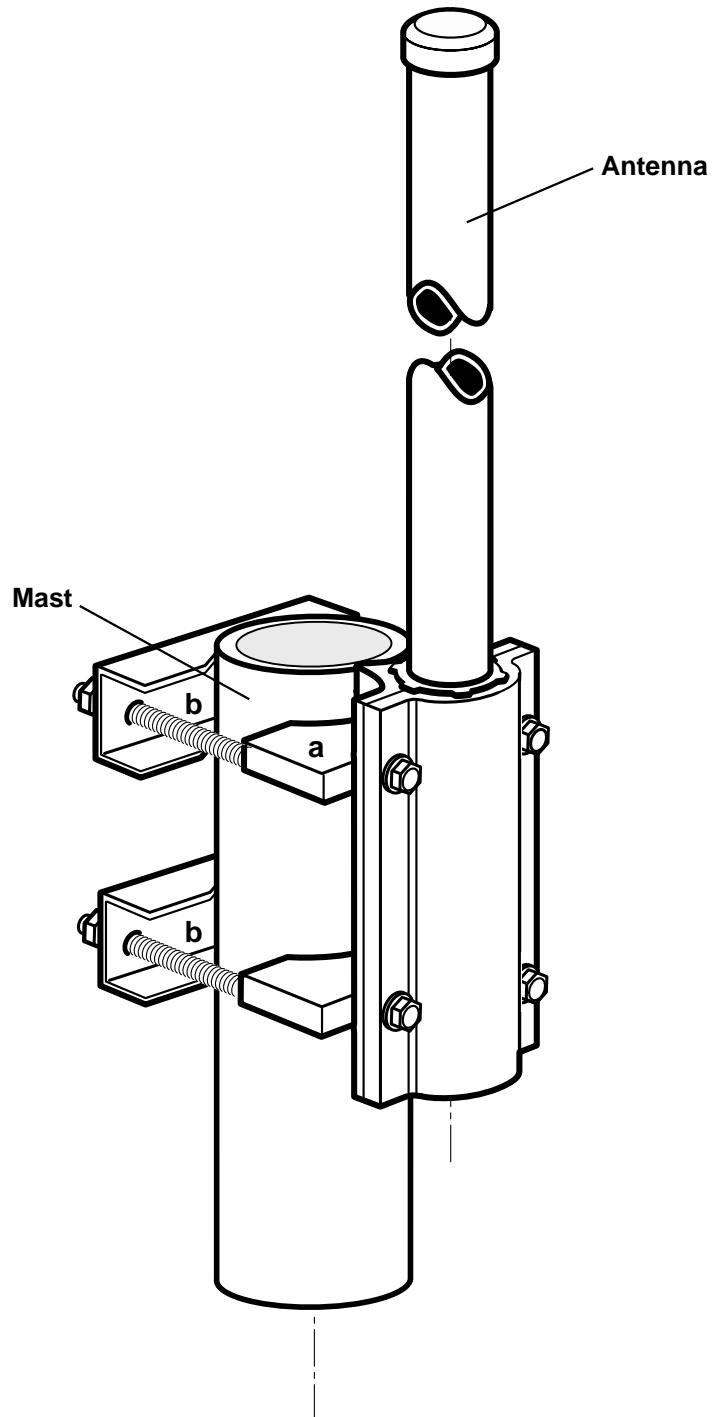
- Use a map to work out the angle between the designed antenna azimuth and target (church, building, mountain peak).
- Set this angle on the scale of the adjustment tool.
- Place the adjustment tool onto the antenna and tighten the clamping device.
- Use the telescope to aim at the target object, if necessary, use elevation compensation.
- Then rotate the antenna until the target object appears in the telescope.

* Observe the position of the stopper when fitting the azimuth adjustment tool.

Side-mounting Clamp Omnidirectional Antennas Large Pipe

Type No. 738 908

For mast diameters of 94 – 125 mm

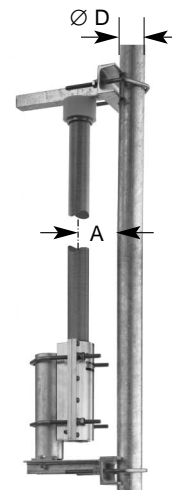


Side-mounting Bracket Omnidirectional Antennas

Type No. 737 398

Side-mounting bracket
(for mast diameters of 40 – 105 mm)

Type No.	737 398	
Bracket	At the top and at the bottom	
Fits for antenna type no:	900 MHz	1800 MHz
	736 347	739 785
	736 348	738 187
	736 349	739 404
	736 350	737 190
	736 351	
	738 664	



Side-mounting is possible for four fixed distances between the tubular mast and the antenna:

900 MHz (holes 1 and 3)			1800 MHz (hole 2)																							
<p>$A = 100 \text{ mm} = 0.3 \lambda$</p>			<p>$A = 160 \text{ mm} = 0.5 \lambda$</p>			<p>$A = 240 \text{ mm} = 0.75 \lambda$</p>			<p>$A = 80 \text{ mm} = 0.5 \lambda$</p>																	
<table border="1"> <thead> <tr> <th>Pipe D</th> <th>Horizontal Radiation Pattern</th> <th>Spacing A / Curve</th> </tr> </thead> <tbody> <tr> <td rowspan="3">40 mm</td> <td rowspan="3"></td> <td>100 mm</td> </tr> <tr> <td>160 mm</td> </tr> <tr> <td>240 mm</td> </tr> </tbody> </table>	Pipe D	Horizontal Radiation Pattern	Spacing A / Curve	40 mm		100 mm	160 mm	240 mm	<table border="1"> <thead> <tr> <th>Pipe D</th> <th>Horizontal Radiation Pattern</th> <th>Spacing A / Curve</th> </tr> </thead> <tbody> <tr> <td rowspan="3">100 mm</td> <td rowspan="3"></td> <td>100 mm</td> </tr> <tr> <td>160 mm</td> </tr> <tr> <td>240 mm</td> </tr> </tbody> </table>	Pipe D	Horizontal Radiation Pattern	Spacing A / Curve	100 mm		100 mm	160 mm	240 mm	<table border="1"> <thead> <tr> <th>Pipe D / Curve</th> <th>Horizontal Radiation Pattern</th> <th>Spacing A</th> </tr> </thead> <tbody> <tr> <td>40 mm</td> <td rowspan="3"></td> <td rowspan="3">80 mm</td> </tr> <tr> <td>100 mm</td> </tr> <tr> <td>.....</td> </tr> </tbody> </table>	Pipe D / Curve	Horizontal Radiation Pattern	Spacing A	40 mm		80 mm	100 mm
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40 mm		80 mm																								
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.....																										

Side-mounting Brackets Omnidirectional Antennas 900

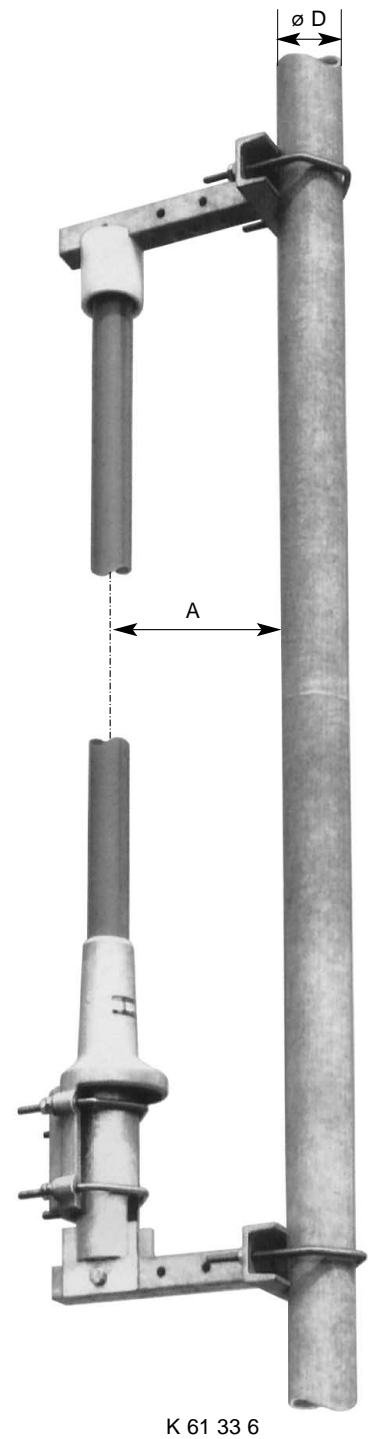
For mast diameters of 40 – 105 mm

Type No.	K 61 33 5	K 61 33 6
Bracket	at the bottom only	at both the top and the bottom
Fits for antenna type no.	K 75 11 6 .. K 75 15 6 ..	738 779 741 558

Side mounting is possible for three fixed distances between the tubular mast and the antenna:

- 100 mm = 0.3λ
- 160 mm = 0.5λ
- 240 mm = 0.75λ

Pipe D	Horizontal Radiation Pattern	Spacing A Curve	Additional gain to the nominal value of the antenna gain
40 mm		100 mm	2 dB
		160 mm	3 dB
		240 mm	2 dB
100 mm		100 mm	2.5 dB
		160 mm	3.5 dB
		240 mm	2.5 dB



K 61 33 6

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