

M2M & Telematic Antennas – driven by communication

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Hirschmann Solutions is a business unit of Hirschmann Car Communication with headquarters located near Stuttgart in Germany. The company has 900 employees world-wide with development, manufacturing and sales in Europe, Asia and the USA.

Hirschmann Solutions specialises in products and systems in three business areas:

M2M /Asset Tracking - From antennas through to complete systems including container and trailer tracking.

Commercial /Off road - Antennas and telematic products for trucks and off road applications.

Automotive Aftermarket - AM/FM/DAB antennas.

The company is part of VOXX International Corporation (NASDAQ).

This catalogue contains products from the standard range for M2M and telematic applications.

To receive more information on these or our other products please contact us (see back page) or visit us on the web.

www.hirschmann-car.com
www.asset-tracking.solutions

Remark:

This catalogue contains products from our European and US portfolio. All products are available worldwide. For more information please contact your nearest Hirschmann office.

Alternative cable and connector configurations on request.

The information/details in this publication merely contain general descriptions or performance factors which, when applied in an actual situation, do not always correspond with the described form, and may be amended by way of the further development of products. The desired performance factors shall only be deemed binding if these are expressly agreed on conclusion of the contract.

GNSS/POSITIONING

GPS single band

GPS 11 S

GPS

- Low current consumption
- Screw mount



Dimensions	63 x 63 x 19 mm
Voltage supply	2,7 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 27 dB ± 2 dB
Current consumption	≤ 13 mA @ 5 V ± 0,5 V (typ. 10 mA)

Order code		Cable	Connector
		RG 174	
US	HGPS-SX-0121A-01	200 mm	SMBf
EU	602 432-001		
US	HGPS-SX-0124A-01	200 mm	SMAm
EU	-		
US	HGPS-SX-0124A-02	5000 mm	SMAm
EU	-		

GPS 9 M

GPS

- Low current consumption
- Magnetic mount



Dimensions	38 x 34 x 14,7 mm
Voltage supply	2,7 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 27 dB ± 1 dB
Current consumption	≤ 13 mA @ 5 V ± 0,5 V (typ. 10 mA)

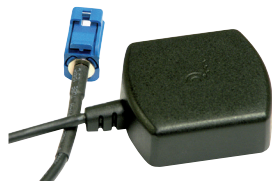
Order code		Cable	Connector
		RG 174	
US	HGPS-MX-0102-01	3000 mm	SMAm
EU	602 435-001		
US	HGPS-MX-0102-02	3000 mm	FAKRAf, C
EU	602 435-002		
US	HGPS-MX-0102-04	3000 mm	FAKRAf, Z
EU	-		
US	HGPS-MX-0128-01*	3000 mm	SMAm
EU	-		

*includes adhesive pad

GPS 10 P

GPS

- Low current consumption
- Adhesive mount



Dimensions	34 x 38 x 12,8 mm
Voltage supply	2,7 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 26 dB ± 2 dB
Current consumption	≤ 13 mA @ 5 V ± 0,5 V (typ. 10 mA)

Order code		Cable	Connector
		RG 174 LL	
US	HGPS-AX-0108-01	3000 mm	SMAm
EU	-		
US	HGPS-AX-0108-02	3000 mm	FAKRAf, C
EU	602 431-002		
US	HGPS-AX-0108-03	1000 mm	FAKRAf, C
EU	-		

GPS 7 M

GPS

- Magnetic mount



Dimensions	39 x 39 x 14 mm
Voltage supply	3 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 26 dB ± 2 dB
Current consumption	< 25 mA @ 5 V ± 0,1 V

Order code		Cable	Connector
		RG 174	
US	-	3000 mm	MCXm
EU	920 092-001		
US	-	3000 mm	SMBf
EU	920 092-002		
US	-	3000 mm	SMAm
EU	920 092-003		
US	-	3000 mm	FAKRAf, C
EU	920 092-004		
US	-	3000 mm	FAKRAf angled, C
EU	920 092-005		

GNSS/POSITIONING

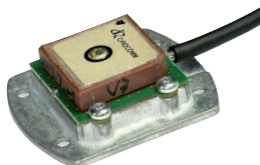
GPS single band

GPS 9 I

GPS

- Low current consumption

- Embedded mount



Dimensions	32 x 36 x 10 mm
Voltage supply	2,7 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 27 dB ± 1 dB
Current consumption	≤ 13 mA @ 5 V ± 0,5 V (typ. 10 mA)

Order code		Cable	Connector
		RG 174	
US	HGPS-IX-0105-01	200 mm	raSMAM*
EU	-		
US	HGPS-IX-0105-02	200 mm	raMCXm*
EU	-		
US	HGPS-IX-0105-03	200 mm	raMMCXm*
EU	-		

* ra = rectangular

GPS combination

GPS + WLAN/BLUETOOTH

GPS 2400 LP/ S

GPS

WLAN / BLUETOOTH

- Screw mount



Dimensions	113 x 76 x 21 mm
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GPS

Voltage supply	3 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 27 dB ± 3 dB
Current consumption	≤ 25 mA @ 5 V

WLAN + BLUETOOTH

Frequency range	2400 - 2484 MHz
Gain	typ. 0 dBi

		GPS		WLAN + BLUETOOTH	
Order code		Cable	Connector	Cable	Connector
		RG 174		RG 174	
US	-	150 mm	SMAM	150 mm	SMAM
EU	920 171-001				

GPS combination

GPS + Radio services

GPS MULTI S

68 - 86 MHz / 144 - 176 MHz /
380 - 470 MHz / 410 - 430 MHz /
450 - 470 MHz / 880 - 960 MHz /
1710 - 1880 MHz



- Screw mount
- For GPS/several radio services

Dimensions	Ø 65 mm x 25 mm
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GPS	
Voltage supply	3 - 5 VDC
Gain	typ. 5 dBic
Amplification	typ. 27 dB

	GPS		RADIO SERVICES	
	Cable	Connector	Cable	Connector
Order code	RG 174		RG 174	
US	-			
EU	920 420-001	296 mm SMBf	310 mm	FMEf

GPS MULTI M

68 - 86 MHz / 144 - 176 MHz /
380 - 470 MHz / 410 - 430 MHz /
450 - 470 MHz / 880 - 960 MHz /
1710 - 1880 MHz



- Magnetic mount
- For GPS/several radio services

Dimensions	Ø 66 mm x 24,5 mm
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GPS	
Voltage supply	3 - 5 VDC
Gain	typ. 5 dBic
Amplification	typ. 27 dB

	GPS		RADIO SERVICES	
	Cable	Connect.	Cable	Connect.
Order code	RG 174		RG 174	
US	-			
EU	920 421-001	6000 mm SMBf	6000 mm	FMEf

Rods for GPS MULTI



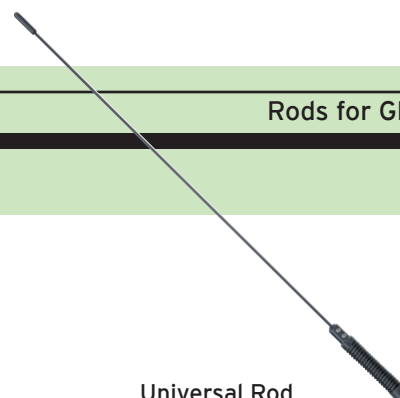
	Flexradiator
Length	146 mm
Thread Antenna rod	M5
Gain	typ. 0 dB
Frequency range	137 -151 MHz ORBCOMM

Order code	
US	-
EU	602 411-001



	Rod
Length	60 mm
Thread Antenna rod	M5
Gain	typ. 0 dB
Frequency range	GSM 900 GSM 1800

Order code	
US	-
EU	602 359-001



	Universal Rod
Length	tuneable
Thread Antenna rod	M5
Gain	typ. 0 dB
Frequency range	68 - 470 MHz tuneable • 4 m-band (68-86 MHz) • 2 m-band (144-176 MHz) • 70 cm-band (380-470 MHz) - Telephone - TETRA - ISM 433

Order code	
US	-
EU	823 688-001

GNSS/POSITIONING

GLONASS + GPS

GLONASS 9 M

GLONASS / GPS

- Low current consumption
- Easy interior and exterior mounting
- Magnetic mount



Dimensions	38 x 34 x 15,5 mm
Voltage supply	2,7 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 27 dB ± 1 dB
Current consumption	≤ 13 mA @ 5 V ± 0,5 V

Order code		Cable	Connector
		RG 174	
US	-	3000 mm	SMAm
EU	602 439-001		

GLONASS + GPS + CELLULAR

GLONASS 1890 LP/LC/P

GLONASS / GPS

GSM 850
GSM 900 / 1800 / 1900
UMTS



- Low current consumption
- Mounting on various surfaces (plastic, metal, ...)
- Adhesive mount

Dimensions	102 x 66 x 20 mm
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GLONASS/GPS

Voltage supply	2,7 - 5,5 VDC
Gain	typ. 1 dBic
Amplification	typ. 27 dB ± 1 dB
Current consumption	≤ 13 mA @ 5 V (typ. 10 mA)

CELLULAR

Gain	typ. 0 dBi
------	------------

		GLONASS/GPS		CELLULAR	
Order code		Cable	Connect.	Cable	Connect.
		RG 174		RG 174	
US	-	3000 mm	SMAm	3000 mm	FMEf
EU	602 440-001				

GLONASS + GPS + CELLULAR

GLONASS 1890 LP/S

GLONASS / GPS
GSM 850
GSM 900 / 1800 / 1900
UMTS



- Mounting on various surfaces (plastic, metal, ...)
- Screw mount

Dimensions	124 x 80 x 21 mm
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GLONASS/GPS

Voltage supply	3 - 5,5 VDC
Gain	typ. 4,5 dBic
Amplification	typ. 20 dB ± 2 dB
Current consumption	typ. 29 mA @ 3,3 V ± 0,3 V

CELLULAR

Gain	typ. 0 dBi
------	------------

Order code	GLONASS/GPS		CELLULAR	
	Cable	Connect.	Cable	Connect.
	RG 174		RG 174	
US	-			
EU	602 434-001	3000 mm	FAKRA f, Code C	3000 mm
				FME f, Code D

GNSS smart antenna

RAS 1575 USB

GPS

- With embedded receiver
- Magnetic mount



Dimensions	38 x 34 x 15,5 mm
Voltage supply	5 ± 0,5 V (USB)
Sensitivity	Acquisition: -148 dB Navigation: -163 dBm Tracking: -165 dBm
Time to 1st fix	Hot Start ≤ 1 sec Cold Start ≤ 35 sec

Order code	Cable	Connector
US	-	3000 mm
EU	920 422-001	
		USB Typ A

TERRESTRIAL COMMUNICATION

CELLULAR multi band

MCA 18 90 80

GSM 850
GSM 900 / 1800 / 1900
UMTS

- Installation from inside or outside
- Screw mount



Dimensions	Ø 33 mm x 89 mm
Thread antenna rod	M5
Gain	typ. 0 dB

Order code	Cable	Connector
US	-	FMEem
EU	921 746-003	

MCA 1890 S

GSM 850
GSM 900 / 1800 / 1900
UMTS

- Mounting on various surfaces (plastic, metal, ...)
- Screw mount



Dimensions	80 x 80 x 28 mm
Gain	typ. 0 dBi

Order code	Cable	Connector
	RG 174 LL	
US	-	SMAm
EU	920 315-001	

MCA 18 91 80

GSM 900 / 1800
UMTS

- Installation from inside or outside
- Screw mount



Dimensions	Ø 33 mm x 300 mm
Thread antenna rod	M5
Gain	typ. 4 dB (900 MHz) typ. 0 dB (1800 MHz/UMTS)

Order code	Cable	Connector
US	-	FMEem
EU	921 747-003	

MCA 1890 SLIM

GSM 850
GSM 900 / 1800 / 1900
UMTS

- Easy interior windscreen mounting, self-adhesive



Dimensions	22 x 115 mm
Gain	typ. 0 dBi

Order code	Cable	Connector
	RG 174	
US	-	FMEf
EU	602 311-002	
US	-	SMAm
EU	602 311-007	

MCA 1890 STRIPE

GSM 850
GSM 900 / 1800 / 1900
UMTS

- Easy interior windscreen mounting, self-adhesive



Dimensions	12 x 130 mm
Gain	typ. 2,1 dBi

Order code		Cable	Connector
		RG 174	
US	-	2500 mm	FMEf
EU	602 335-002		
US	-	2500 mm	FAKRAf, Code D
EU	602 335-004		

MCA 1890 MP

GSM 850
GSM 900 / 1800 / 1900
UMTS

- Easy interior windscreen mounting, self-adhesive



Dimensions	Ø 57 mm
Gain	typ. 2,1 dBi

Order code		Cable	Connector
		RG 174	
US	-	2500 mm	FMEf
EU	602 317-002		
US	-	2500 mm	SMAm
EU	602 317-003		

CEL 70 26 A

LTE 698-862 / 2305-2690
GSM 850
GSM 900 / 1800 / 1900
UMTS

- Easy interior and exterior windscreen mounting, self-adhesive



Dimensions	107 x 54 x 3,5 mm
Gain	typ. 2.15 dBi

Order code		Cable	Connector
		RG 174 LL	
US	-	3000 mm	FAKRAf, Code D
EU	920 409-001		

CEL 85 21 ST

GSM 850
GSM 900 / 1800 / 1900
UMTS

- M2M application - telemetering, remote



Dimensions	Ø 10,5 mm x 50 x 17 mm
Gain	typ. 2 dBi

Order code		Cable	Connector
US	-	-	SMAm, angled 90°
EU	951 012-001		
US	-	-	FMEf, angled 90°
EU	951 012-002		

TERRESTRIAL COMMUNICATION

CELLULAR multi band

CEL 85 21 RD M

GSM 850
GSM 900 / 1800 / 1900
UMTS

- Magnetic mount



Dimensions \varnothing 29 mm x 90 mm
Gain typ. 2 dBi

Order code		Cable	Connector
		RG 174	
US	-	2500 mm	FMEf
EU	951 013-001		
US	-	2500 mm	SMAM
EU	951 013-002		

CEL 70 26 RD M

LTE 698-862 / 2305-2690
GSM 850
GSM 900 / 1800 / 1900
UMTS

- 2G through 4G/LTE service

- Magnetic mount



Dimensions \varnothing 30 x 91,4 mm
Gain typ. 3 dBi

Order code		Cable	Connector
		RG 174 LL	
US	HCEL-MX-0150A-01	2500 mm	FMEf
EU	955 006-001		
US	HCEL-MX-0150A-02	2500 mm	SMAM
EU	-		
US	HCEL-MX-0150A-03	1500 mm	BNCm
EU	-		

MCA 2190 BASE

GSM 900 / 1800 / 1900
UMTS

- Outdoor antenna

- For fix mast and wall mounting



Dimensions 154 x 134 x 46 mm
Gain typ. 9 dBi

Order code		Cable	Connector
		RG 58 LL	
US	-	5000 mm	FMEf
EU	602 383-001		

MCA 2190 STAT

GSM 850
GSM 900 / 1800 / 1900
UMTS

- Outdoor antenna

- For fix wall mounting



Dimensions 250 x 16 mm
Gain 2.14 dBi

Order code		Cable	Connector
		RG 58	
US	-	5000 mm	FMEf
EU	602 441-001		

GPS 1890 LP/P

GSM 850
GSM 900 / 1800 / 1900
UMTS
GPS



- Mounting on various surfaces (glass, plastic, metal, ...)
- Adhesive or magnetic mount*

Dimensions	100 x 66 x 21 mm
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CELLULAR	
Gain	typ. 0 dBi

GPS	
Voltage supply	3 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 27 dB ± 3 dB
Current consumption	≤ 25 mA @ 5 V

Order code	CELLULAR		GPS	
	Cable	Connect.	Cable	Connect.
	RG 174		RG 174	
US	-			
EU	920 061-001	3000 mm FMEf	3000 mm	SMBf
US	-			
EU	920 061-002	3000 mm FMEf	3000 mm	SMAm
US	-			
EU	920 061-004	3000 mm SMAm	3000 mm	SMAm
US	-			
EU	920 061-005	3000 mm FAKRAf, Code D	3000 mm	FAKRAf, Code C

*Adhesive and magnetic pad see page 26

GPS 1890 LP/LC/P

GSM 850
GSM 900 / 1800 / 1900
UMTS
GPS



- Low current consumption
- Mounting on various surfaces (glass, plastic, metal, ...)
- Adhesive mount*

Dimensions	102 x 66 x 20 mm
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CELLULAR	
Gain	typ. 0 dBi

GPS	
Voltage supply	2,7 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 26 dB ± 2 dB
Current consumption	≤ 13 mA, typ. 10 mA (max. 13 mA)

Order code	CELLULAR		GPS	
	Cable	Connect.	Cable	Connect.
	RG 174 LL		RG 174	
US	HCEL-AG-0104A-01	3000 mm SMAm	3000 mm	SMAm
EU	-			
US	HCEL-AG-0104A-02	3000 mm FAKRAf, Code D	3000 mm	FAKRAf, Code C
EU	602 438-001			
US	HCEL-AG-0104A-06	1000 mm SMAm	1000 mm	SMAm
EU	-			
US	HCEL-AG-0104A-08	5000 mm SMAm	5000 mm	SMAm
EU	-			

*Adhesive pad see page 26

TERRESTRIAL COMMUNICATION

CELLULAR combination

CELLULAR + GPS

GPS 1890 LP/S

GSM 850
GSM 900 / 1800 / 1900
UMTS
GPS



- Mounting on various surfaces (glass, plastic, metal, ...)
- Screw mount

Dimensions	100 x 74 x 21 mm
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CELLULAR	
Gain	typ. 0 dBi

GPS	
Voltage supply	3 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 27 dB ± 3 dB
Current consumption	< 25 mA @ 5 V

Order code	CELLULAR		GPS	
	Cable	Connect.	Cable	Connect.
	RG 174		RG 174	
US -	370 mm	FMEem	310 mm	SMBf
EU 920 062-001	370 mm	FMEem	310 mm	SMBf
US -	3000 mm	SMAM	3000 mm	SMAM
EU 920 062-004	3000 mm	SMAM	3000 mm	SMAM
US -	3000 mm	FAKRAF, Code D	3000 mm	FAKRAF, Code C
EU 920 062-025	3000 mm	FAKRAF, Code D	3000 mm	FAKRAF, Code C

CG 85 21 LP S

GSM 850
GSM 900 / 1800 / 1900
UMTS
GPS



- Ground plane independent
- For vertical installation
- Screw mount

Dimensions	162 x 70 x 22 mm
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CELLULAR	
Gain	typ. 2 dBi

GPS	
Voltage supply	2.7 - 5.5 VDC
Gain	typ. 2 dBic
Amplification	typ. 15 dB, 20 dB max.
Current consumption	≤ 6 mA @ 5 V

Order code	CELLULAR		GPS	
	Cable	Connect.	Cable	Connect.
	RG 58 LL		RG 174 LL	
US HCEL-SG-0155A-01	6100 mm	SMAM	6100 mm	SMAM
EU 955 019-000	6100 mm	SMAM	6100 mm	SMAM

GPS 925

GSM 900 / 1800 / 1900
GPS

- M2M application - Toll Collect
- Connecting cables available with different connectors (see p. 26)
- Screw mount



Dimensions 95 x 57 x 69 mm

CELLULAR

Gain typ. 3 dBi

GPS

Voltage supply 3 - 5,5 VDC
Gain typ. 2 dBic
Amplification typ. 27 dB ± 3 dB
Current consumption max. ≤ 25 mA, typ. 20 mA

Order code	CELLULAR		GPS		
	Cable	Connect.	Cable	Connect.	
	RG 174		RG 174		
US	-				
EU	920 014-003	350 mm	FAKRAF, Code D*	300 mm	FAKRAF, Code C*
US	-				
EU	920 014-004	350 mm	FAKRAF, Code D	300 mm	FAKRAF, Code C

*Adapter cables to SMB female (GPS) and FME male (GSM) included in scope of supply

CG 70 26 RD S

LTE 698-862 / 2305-2690
GSM 850
GSM 900 / 1800 / 1900
UMTS
GPS

- 2G through 4G/LTE service
- Screw mount



Dimensions 95 x 57 x 105 mm

CELLULAR

Gain typ. 2 dBi

GPS

Voltage supply 3 - 5,5 VDC
Gain typ. 2 dBic
Amplification typ. 27 dB ± 3 dB
Current consumption ≤ 25 mA

Order code	CELLULAR		GPS		
	Cable	Connect.	Cable	Connect.	
	RG 58 LL		RG 174		
US	HCEL-SG-0160A-01	150 mm	SMAm	150 mm	SMAm
EU	955 044-001				

TERRESTRIAL COMMUNICATION

CELLULAR combination

CELLULAR + GPS + WLAN/BLUETOOTH

CG 85 24 LP/A Extra Slim

GSM 850
GSM 900 / 1800 / 1900
UMTS
GPS
WLAN / BLUETOOTH



- Low current consumption
- Mounting on non-conductive surfaces
- Adhesive mount

Dimensions	126 x 54,9 x 7 mm
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CELLULAR / WLAN/BLUETOOTH

Frequency range	GSM 850: 824 - 894 MHz
	GSM 900: 880 - 960 MHz
	GSM 1800: 1710- 1880 MHz
	GSM 1900: 1850 - 1990 MHz
	UMTS: 1920 - 2170 MHz
	WLAN/BLUETOOTH: 2400 - 2484 MHz
Gain	GSM 850/CDMA 800/GSM 900: typ. 3 dBi
	GSM 1800/PCS/CDMA 1800/ UMTS/WLAN: typ. 4 dBi

GPS

Voltage supply	2,7 - 5,5 VDC
Gain	typ. 1 dBic
Amplification	typ. 26 dB ± 2 dB
Current consumption	≤ 13 mA, typ. 10 mA (max 13 mA)

		CELLULAR/ WLAN	GPS
Order code	Cable	Connector	Connector
RG 174			
US	HCEL-AG-0101B-01	3000 mm	SMAm
EU	-		
US	HCEL-AG-0101B-02	3000 mm	FAKRAf, Code D
EU	-		

GPS 2400 LP/CELLULAR

GSM 850
GSM 900 / 1800 / 1900
UMTS
GPS
WLAN / BLUETOOTH



- Low current consumption
- Screw mount

Dimensions	124 x 80 x 21 mm
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CELLULAR

Gain	typ. 0 dBi
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GPS

Voltage supply	2,7 - 5,5 VDC
Gain	typ. 2 dBic
Amplification	typ. 26 dB ± 2 dB
Current consumption	≤ 13 mA@5 V ± 0,5 V (typ. 10 mA)

WLAN + BLUETOOTH

Frequency range	2400 - 2484 MHz
Gain	typ. 0 dBi

		CELL	GPS	WLAN
Order code		Connect. Cable length	Connect. Cable length	Connect. Cable length
RG 174				
US	HCEL-S2-0119-01	SMA m	SMAm	SMAm
EU	602 430-001	200 mm	170 mm	140 mm
US	HCEL-S2-0119-02	FMEf	FMEf	FMEf
EU	-	3050 mm	3050 mm	3050 mm
US	HCEL-S2-0119-03	FAKRAf, C	SMAm	rpSMAf*
EU	-	3050 mm	3050 mm	3050 mm
US	HCEL-S2-0119-04	FAKRAf, C	SMA m	rpSMAf*
EU	-	5030 mm	5030 mm	5030 mm

*rp = reverse polarity

CELLULAR combination

CELLULAR + GPS + WLAN/BLUETOOTH

CGW 85 21 24 LP S

GSM 850
GSM 900 / 1800 / 1900
UMTS
GPS
WLAN / BLUETOOTH



- Low current consumption
- Ground plane independent
- For vertical installation
- Screw mount

Dimensions	162 x 70 x 22 mm
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CELLULAR

Gain	typ. 2 dBi
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GPS

Voltage supply	2.7 - 5.5 VDC
Gain	typ. 2 dBic
Amplification	typ. 15 dB, 20 dB max.
Current consumption	≤ 6 mA@5 V

WLAN + BLUETOOTH

Frequency range	2400 - 2484 MHz
Gain	typ. 5 dBi

		CELL	GPS	WLAN
Order code		Connect. Cable length	Connect. Cable length	Connect. Cable length
		RG 58 LL	RG 174 LL	
US	HCEL-S2-0147A	FAKRAf, D 1200 mm	FAKRAf, C 1200 mm	FAKRAf, B 1200 mm
EU	-			

CGW 70 26 59 SF S

LTE 698-862 / 2305-2690
GSM 850
GSM 900 / 1800 / 1900
UMTS
GPS
WLAN / BLUETOOTH



- 2G through 4G/LTE service
- Ground plane independent
- Screw mount

Dimensions	95 x 57 x 69 mm
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CELLULAR

Gain	typ. 2,5 dBi
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GPS

Voltage supply	3 - 5.5 VDC
Gain	typ. 2 dBic
Amplification	typ. 27 dB ± 3 dB
Current consumption	≤ 25 mA typ. 20 mA

WLAN + BLUETOOTH

Frequency range	2400 - 2484 MHz 5725 - 5875 MHz
Gain	typ. 2.5 dBi@2.4 GHz typ. 3 dBi@5.8 GHz

		CELL	GPS	WLAN
Order code		Connect. Cable length	Connect. Cable length	Connect. Cable length
		RG 174 LL		
US	HCEL-S2-0156A-01	SMAm 150 mm	SMAm 150 mm	SMAm 150 mm
EU	-			
US	HCEL-S2-0156A-02	FAKRAf, D 325 mm	FAKRAf, C 325 mm	FAKRAf, E 325 mm
EU	-			
US	HCEL-S2-0156A-03	FMEf 3000 mm	FMEf 3000 mm	FMEf 3000 mm
EU	955 001-003			
US	HCEL-S2-0156A-04	SMAm 5000 mm	SMAm 5000 mm	SMAm 5000 mm
EU	955 001-004			
US	HCEL-S2-0156A-05	FAKRAf, D 5000 mm	FAKRAf, C 5000 mm	FAKRAf, E 5000 mm
EU	955 001-005			

TERRESTRIAL COMMUNICATION

CELLULAR smart antenna

CTAS 85 19 LP/S

GSM 850
GSM 900 / 1800 / 1900



- Smart antenna with integrated transceiver
- Mounting on various surfaces (plastic, metal, ...)
- Screw mount

Dimensions	80 x 80 x 28 mm
Gain	typ. 0 dBi

Order code		Cable	Connector
		USB	
US	-	1500 mm	USB*
EU	951 004-001		

*UART, RS232 and 3G on request

MCA 2400 PA

WLAN / BLUETOOTH

- Easy interior windscreen mounting, self-adhesive



Dimensions	57 x 77 x 10 mm
Frequency range	2300 - 2500 MHz
Gain	typ. 2,1 dBi

Order code		Cable	Connector
		RG 174	
US	-	3000 mm	SMAM
EU	602 399-001		

WLAN 24 ST

WLAN / BLUETOOTH

- Terminal mount



Dimensions	10,5 x 50 x 17 mm
Frequency range	Bluetooth: 2400 - 2484 MHz IEEE Std. 802.11b: 2412 - 2484 MHz
Gain	typ. 2dBi

Order code		Cable	Connector
US	-	-	SMAM, angled 90°
EU	951 012-003		

WLAN 24 PA

WLAN / BLUETOOTH

- Easy interior windscreen mounting, self-adhesive



Dimensions	115 x 22 mm
Frequency range	Bluetooth: 2400 - 2484 MHz IEEE Std. 802.11b: 2412 - 2484 MHz
Gain	typ. 2dBi

Order code		Cable	Connector
		RG 174	
US	-	1500 mm	FAKRAF, Code I
EU	951 002-001		

TERRESTRIAL COMMUNICATION

WLAN / BLUETOOTH multi band

MCA 2458 S

WLAN / BLUETOOTH / DSRC

- Mounting on various surfaces
(plastic, metal, ...)

- Screw mount



Dimensions	80 x 80 x 28 mm
Frequency range	2400 - 2484 MHz 5150 - 5925 MHz
Gain	typ. 3 dBi

Order code	Cable	Connector
	RG 174 LL	
US	-	
EU	920 315-002	1000 mm SMAm

WLAN 2458 MIMO3 LP/S

WLAN / BLUETOOTH / DSRC

- Mounting on various surfaces
(plastic, metal, ...)

- Screw mount



Dimensions	124 mm x 80 mm x 31 mm
Frequency range	2400 - 2484 MHz 5150 - 5925 MHz
Gain	typ. 3 dBi

	WLAN	BLUET.	DSRC
Order code	Connect. Cable length	Connect. Cable length	Connect. Cable length
	RG 174 LL		
US	-	SMAm	SMAm
EU	951 001-001	140 mm	170 mm SMAm 200 mm

SATELLITE COMMUNICATION

IRIDIUM single band

IRD LP/M

IRIDIUM

- Iridium certified
- Adhesive pad on request
- Magnetic mount



Dimensions	63 x 63 x 18 mm
Frequency range	1616 - 1626,5 MHz
Gain	typ. 3 dBic

Order code		Cable	Connector
		RG 174 LL	
US	HIRD-MX-0106A-01	1500 mm	TNCm
EU	-		
US	HIRD-MX-0106A-02	1500 mm	SMAm
EU	-		
US	HIRD-MX-0106A-04	125 mm	SMAm
EU	-		
US	HIRD-MX-0106A-05	2500 mm	SMAm
EU	955 047-005		

Order code		Cable	Connector
		RG 58 LL	
US	HIRD-MX-0108A-01	4570 mm	TNCm
EU	-		
US	HIRD-MX-0108A-02	5500 mm	SMAm
EU	-		
US	HIRD-MX-0108A-03	5500 mm	rpTNCf*
EU	-		

*rp = reverse polarity

IRD LP/S

IRIDIUM

- Iridium certified
- For use in telematic applications
- Screw mount



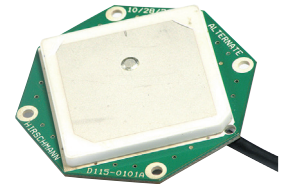
Dimensions	63 x 63 x 18 mm
Frequency range	1616 - 1626,5 MHz
Gain	typ. 3 dBic

Order code		Cable	Connector
		RG 174 LL	
US	HIRD-SX-0120A-01	150 mm	SMAm
EU	955 048-001		

IRD PC/S

IRIDIUM

- Iridium certified
- For embedded installation



Dimensions	52 x 52 x 7 mm
Frequency range	1616 - 1626,5 MHz
Gain	typ. 3 dBic

Order code		Cable	Connector
		RG 174 LL	
US	HIRD-IX-0111A-01	150 mm	SMAm
EU	-		
US	HIRD-IX-0111A-02	500 mm	SMAm
EU	-		

SATELLITE COMMUNICATION

IRIDIUM combination

IRIDIUM + GPS

GPS 1620 LP/S

IRIDIUM
GPS

- Iridium certified
- Low current consumption
- Screw mount



Dimensions 124 x 80 x 21 mm

IRIDIUM

Frequency range 1616 - 1626,5 MHz
Gain typ. 3 dBic

GPS

Voltage supply 3 - 5.5 VDC
Gain typ. 2 dBic
Amplification typ. 26 dB ± 3 dB
Current consumption ≤ 25 mA @ 5 V ± 1 V

		IRIDIUM	GPS
Order code		Connect. Cable length	Connect. Cable length
		RG 174	
US	HIRD-SG-0103B-01	SMAM 200 mm	SMAM 170 mm
EU	602 423-001		
US	HIRD-SG-0103B-02	SMAf 200 mm	SMAf 170 mm
EU	-		
US	HIRD-SG-0133A-01 ¹⁾	rpTNCf* 5000 mm	TNCm 5000 mm
EU	-		

¹⁾ Kit with extension cable RG 58 Low Loss

*rp = reverse polarity

IRIDIUM + CELLULAR + GPS

IGC 85 21 LP/S

IRIDIUM
GSM 850
GSM 900 / 1800 / 1900
UMTS
GPS

- Iridium certified
- Low current consumption
- Screw mount



Dimensions 124 x 80 x 69 mm

IRIDIUM

Frequency range 1616 - 1626,5 MHz
Gain typ. 3 dBic

CELLULAR

Gain typ. ≥ 3 dBi

GPS

Voltage supply 3 - 5.5 VDC
Gain typ. 2 dBic
Amplification typ. 26 dB ± 2 dB
Current consumption ≤ 13 mA @ 5 V ± 5 V (typ. 10 mA)

		IRIDIUM	CELLULAR	GPS
Order code		Connect. Cable length	Connect. Cable length	Connect. Cable length
		RG 174		
US	HIRD-S2-0105A-01	SMAM 200 mm	SMAM 140 mm	SMAM 170 mm
EU	955 049-001			
US	HIRD-S2-0132A-01 ¹⁾	rpTNCf* 5000 mm	TNCm 5000 mm	SMAM 5000 mm
EU	-			
US	HIRD-S2-0132A-02 ²⁾	SMBf 3000 mm	MCXm 3000 mm	SMAM 3000 mm
EU	-			

¹⁾ Kit with extension cable RG 58 Low Loss (5000 mm)

²⁾ Kit with extension cable RG 58 Low Loss (3000 mm)

*rp = reverse polarity

IRIDIUM combination

IRIDIUM + GPS + WLAN/BLUETOOTH

IGW 24 LP/S

IRIDIUM
GPS
WLAN / BLUETOOTH

- Iridium certified
- Low current consumption
- Screw mount



Dimensions	124 x 80 x 21 mm
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IRIDIUM

Gain	typ. 3 dBic
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GPS

Voltage supply	3 - 5.5 VDC
Gain	typ. 2 dBic
Amplification	typ. 26 dB ± 3 dB
Current consumption	≤ 25 mA @ 5 V ± 0.1 V

WLAN/BLUETOOTH

Frequency range	Bluetooth: 2400 - 2484 MHz IEEE Std. 802.11b: 2412 - 2484 MHz
Gain	typ. 0 dB

		IRIDIUM	GPS	WLAN
Order code		Connect. Cable length	Connect. Cable length	Connect. Cable length
		RG 174		
US	HIRD-S2-0101E-01 ¹⁾	SMAm 200 mm	SMAm 170 mm	SMAm 140 mm
EU	-			
US	HIRD-S2-0117A-01 ²⁾	SMAm 200 mm	SMAm 170 mm	SMAm 140 mm
EU	-			

¹⁾ Stainless steel mounting nut with 27 mm wrench size

²⁾ Stainless steel mounting nut with 22 mm wrench size

IRIDIUM smart antennas

ITAS 832 SP

IRIDIUM

- Iridium certified
- Transceiver antenna with embedded IRIDIUM 9602 SBD modem
- Screw mount



Dimensions	124 x 80 x 31 mm
Frequency range	1616 - 1626,5 MHz
Gain	typ. 3 dBic

Order code		Cable length	Connect.	Power on/off	Power
US	HIRD-SX-0129A-01	254 mm	M12/8Pm	enabled	8-32 V
EU	955 013-001				
US	HIRD-SX-0129A-30	254 mm	M12/8Pm	disabled	8-32 V
EU	955 013-030				

ITAS LP/M

IRIDIUM

- Iridium certified
- Transceiver antenna with embedded IRIDIUM 9602 SBD modem
- Adhesive pad on request
- Magnetic mount



Dimensions	120 x 76 x 35 mm
Frequency range	1616 - 1626,5 MHz
Gain	typ. 3 dBic

Order code		Cable length	Connect.	Power on/off	Power
US	HIRD-MX-0128A-01	3000 mm	M12/8Pm	enabled	8-32V
EU	-				
US	HIRD-MX-0128A-30	3000 mm	M12/8Pm	disabled	8-32V
EU	-				

SATELLITE COMMUNICATION

ORBCOMM single band

ORBCOMM combination

ORBCOMM + GPS

ORB RD/S

ORBCOMM

- Screw mount



Dimensions	94 x 57 x 38 mm
Frequency range	137 - 151 MHz
Gain	typ. 5 dBi

Order code		Cable	Connector
		RG 58	
US	HORB-SX-0114A-01	7620 mm	SMAm
EU	-		

OG RD/S

ORBCOMM
GPS

- Screw mount



Dimensions	94 x 57 x 38 mm
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VHF (ORBCOMM)

Frequency range	137 - 151 MHz
Gain	typ. 5 dBi

GPS

Voltage supply	3 - 5.5 VDC
Gain	typ. 2 dBic
Amplification	typ. 27 dB ± 3 dB

		ORBCOMM		GPS	
Order code		Cable	Connect.	Cable	Connect.
		RG 58		RG 174	
US	HORB-SG-0103A-01	320 mm	FMEem	320 mm	FMEf
EU	-				

OGC 85 21 RD/S

ORBCOMM
GSM 850
GSM 900 / 1800 / 1900
GPS



- Antenna base only ¹⁾

- Screw mount

Dimensions	95 x 57 x 40 mm
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VHF (ORBCOMM)

Frequency range	137 - 151 MHz
Gain	typ. 0 dB

CELLULAR

Gain	typ. 0 dB
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GPS

Voltage supply	3 - 5.5 VDC
Gain	typ. 2 dBic
Amplification	typ. 26 dB ± 3 dB
Current consumption	≤ 25 mA@5V ± 0,1 V

		ORBCOMM	CELL	GPS
Order code		Connect. Cable length	Connect. Cable length	Connect. Cable length
		RG 174	RG 58 LL	RG 174
US	HORB-S2-0101A-01	FAKRAf, K 6100 mm	FAKRAf, D 6000 mm	FAKRAf, C 6050 mm
EU	-			
US	HORB-S2-0101A-02	FAKRAf, K 3100 mm	FAKRAf, D 3000 mm	FAKRAf, C 3050 mm
EU	-			
US	HORB-S2-0101A-03	TNCm 600 mm	TNCm 500 mm	rpTNCf* 550 mm
EU	-			
US	HORB-S2-0101A-04	TNCm 6000 mm	SMAm 6000 mm	rpTNCf* 6000 mm
EU	-			
US	HORB-S2-0101A-05	SMAm 5000 mm	MCXm 5000 mm	SMBf 5000 mm
EU	-			
US	HORB-S2-0101A-06	TNCm 5000 mm	SMAm 5000 mm	rpTNCf* 5000 mm
EU	-			

¹⁾ Rod to be ordered separately (HROD-S2-0101A)

* rp = reverse polarity

Rod for OGC 85 21 RD/S

ORBCOMM
GSM 850
GSM 900 / 1800 / 1900



Length	405 mm
Thread Antenna rod	M5i

Order code	
US	HROD-S2-0101A
EU	823 174-001

ACCESSORIES

Connecting cables



VK-SB SUPER-LOW-LOSS

Single pack	US	EU
Order code		
L≈1000 mm	-	823 122-014
2000 mm	-	823 122-015
3000 mm	-	823 122-016
4000 mm	-	823 122-017
5000 mm	-	823 122-018



VK SUPER-LOW-LOSS

Bulk workshop pack		US	EU
Order code			
L≈5000 mm	10 Pieces	-	823 122-023

US EU

Order code

VK SUPER-LOW-LOSS FMEf/SMAm 500

L≈5000 mm	1 Piece	-	602 340-001
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VK SUPER-LOW-LOSS FMEf/FAKRAF Z ...

L≈5000 mm	1 Piece	-	602 406-001
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VK RG58 FMEm/FMEf 500

L≈5000 mm	1 Piece	-	602 405-001
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VK 174 SMBm/MCXm...

L≈5000 mm	-	823 915-005
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VK 174 SMBm/WICLICm 500

L≈5000 mm	-	824 501-005
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VK 174 SMBm/GT5f...

L≈5000 mm	-	823 808-005
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VK 174 SMBm/SMAm...

L≈3000 mm	-	823 684-003
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L≈5000 mm	-	823 684-005
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VK 174 SMBm/SMBf...

L≈5000 mm	-	823 641-005
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VK 174 SMBm/FMEf...

L≈ 5000 mm	-	823 685-005
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VK 174 SMBm/FAKRAF Z...

L≈5000 mm	-	602 404-005
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Extension cables ITAS

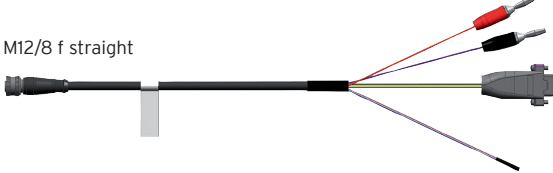
M12/8 f straight M12/8 f straight



M12/8 f right angled M12/8 f straight



M12/8 f straight DB9 f + 2 banana plugs



M12/8 f straight 6" Blunt cut wires












	US	EU
	Order code	
L≈1500 mm	HCBL-WX-0153A-01	-
L≈3000 mm	HCBL-WX-0153A-02	-
L≈5000 mm	HCBL-WX-0153A-03	-
L≈1500 mm	HCBL-WX-0161A-01	-
L≈3000 mm	HCBL-WX-0161A-02	-
L≈5000 mm	HCBL-WX-0161A-03	-
L≈1500 mm	HCBL-WX-0166B-01	955 025-001
L≈3000 mm	HCBL-WX-0166B-02	-
L≈5000 mm	HCBL-WX-0166B-03	-
L≈1500 mm	HCBL-WX-0167A-01	-
L≈3000 mm	HCBL-WX-0167A-02	955 051-002
L≈5000 mm	HCBL-WX-0167A-03	-

Contact us for other cable and connector configurations.

ACCESSORIES

Adapters FME

	US	EU
Order code		
	KVS/MINI UHFm WINKEL (angled)	
Adapter connector rectangular	-	602 375-001
	KVS/SMAM	
Adapter connector	-	602 376-001
	KVS/SMBf	
Adapter connector	-	602 377-001
	KVS/TNCm	
Adapter connector	-	602 374-001

	US	EU
Order code		
	KVS/MCXm	
Adapter connector	-	602 378-001
	KVS/BNCm	
Adapter connector	-	602 372-001
	KVK	
Adapter connector	-	602 371-001
	KVB	
Cable plug FME fem. for RG 58	-	602 370-001
	AK 174 FME/FAKRAf Z	
Adapter cable, RG 174, L≈150 mm	-	602 403-001

Magnetic / Adhesive Pads

Magnetic Pad

- For GPS 1890 LP/P
- For mounting on metal surfaces

Order code	US	EU
	-	821 049-001



Adhesive Pad

- For GPS 1890 LP/P + GPS 1890 LP/LC/P
- Mounting on various surfaces (glass, plastic, metal, ...)

Order code	US	EU
	-	602 408 001



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Asset Tracking

Container/Trailer Tracking



- Intelligent power management
- 15 years service life
- Rugged design
- Highest RF performance
- Scratch, shatter proof and self cleaning solar panels
- 2G/3G GSM modem (upgradeable)
- IP 67 Protection class
- Operating temperature -40 °C to +85 °C
- Subscriber management

Commercial Vehicle

Gateway



- Connect GSM and GPS communication with telematic devices
- Connect WLAN enabled devices to Internet
- Easy integration of smart devices
- Additional connectivity options e.g. Ethernet
- 8.5 to 36 VDC power supply
- RS 232 Interface
- Rugged metal enclosure to IP50
- Operating temperature -40 °C to +85 °C

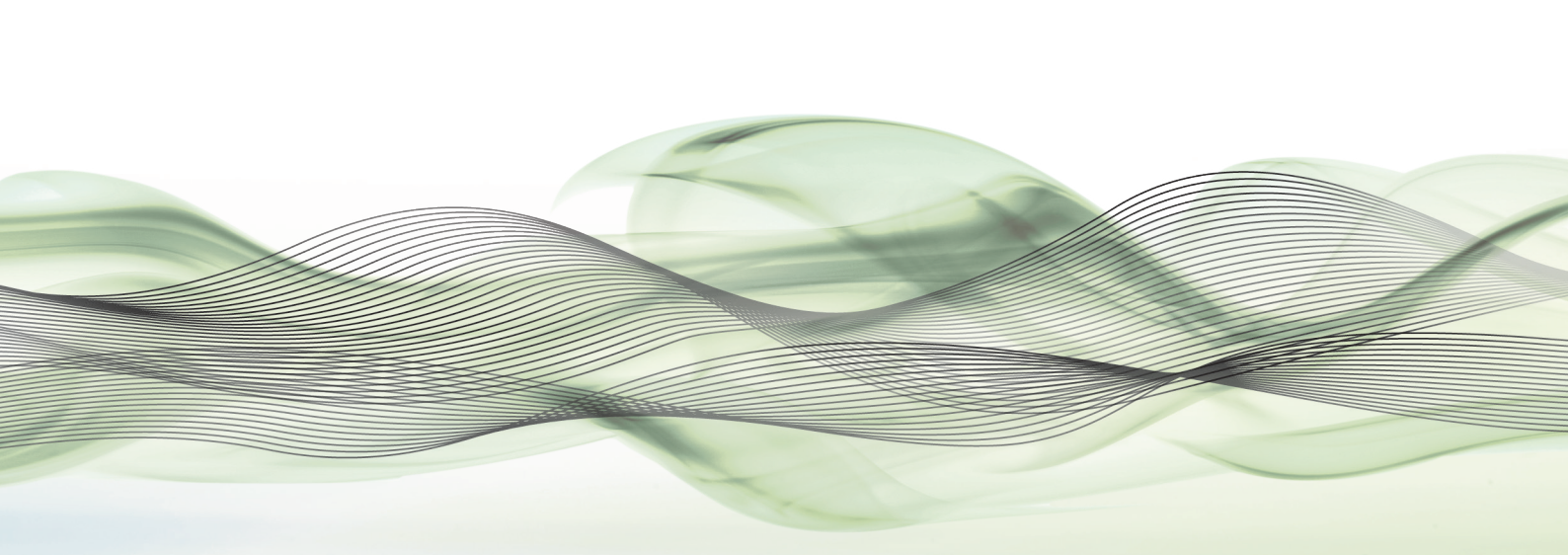
Automotive Aftermarket

Antennas



- Extensive range of antennas for after-market/retrofit applications
- DAB Film antennas
- GPS and GSM antennas for replacement/upgrade
- Accessories available including connectors and cables
- Magnetic, screw or adhesive variants
- Radio and TV modules for integration
- AM/FM antennas

The products above are examples from our extensive range, please contact us for further information.



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