



... all over IP!

<R> RUTENBECK

Program 2018



AC WLAN

WLAN-Accesspoint in a data jack –
safe mobility for any network

... all over IP!


 RUTENBECK

AC WLAN **additional variants starting on page 54**



- WLAN in addition to data outlet
- 150 Mbit/s – IEEE 802.11 b/g/n
- all known encryption methods
- adjustable range
- with central management
- design without compromise, compatible to fit the design covers of the switching industry






DATA TECHNOLOGY - shielded (STP)

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⟨R⟩ TELEPHONE TECHNOLOGY

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DATA TECHNOLOGY

shielded (STP)

- high mechanical stability
- flexible cable entry from all sides
- installation advantages at construction site
- various designs (compact/modular)
- consideration of different installation preconditions
- made to fit design wall plates from all well-known manufacturers of electrical installation material

Terminal equipment connections build the interface to the network infrastructure and are the basis of each equipment planning.

Moreover, the modular solutions are a very interesting alternative to the classic compact connecting hardware.

Data connections can be combined with telephone connections or also with HDMI- or USB-connections in one installation box.

The corresponding central distribution boxes are available in different designs for all applications.



Modular connection technique
 Cat.8.1/Class I, Cat.6A iso
 page 10



Modular connection technique
 patch panel Cat.6A iso
 page 23



Compact-universal jacks
 Cat.6A iso, ClassEA iso
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Compact connection technique
 patch panel Cat.6A iso,
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 page 36



STP – Cat.8.1/Class I
Modular connection technique, shielded, for generic networks

Cat.8.1/Class I-Universal modular jacks with RJ45-Face connector - the practice-oriented solution for data centers

Cat. 8.1/Class I-universal modular jacks fulfill the current highest requirements of bandwidth and data performance for modern data processing centers. The Ethernet standard IEEE 802.3 bq defines new applications with data rates up to 40 Gbit/s (40GBaseT) and for link lengths up to 30 m, mainly for data center applications. The patented Rutenbeck-Cat. 8.1/Class I products allow the setup of transmission links according to Class I at a transmission bandwidth of 2000 MHz while still maintaining the use of the worldwide universal and approved RJ45 face connector.

Universal modular jacks from Rutenbeck fit the standard worldwide mounting openings of 19.3 x 14.7 mm. The small dimensions of the Rutenbeck modular jack allow for installation even in tight-fitted environments.

Quick and easy connection

For mounting expensive and complicated special tools are not necessary. The cable only needs to be dismantled and prepared accordingly. For the following steps a cutting tool is completely sufficient. The mounting wedge of the Rutenbeck universal modular jacks helps in case of friction-locked contacting and allows an assembly without any additional installation effort.

Installation advantages:

- fits standard Keystone openings
- backward compatible to Cat.6A
- few pre-assembled parts, suitable for construction sites
- high mechanical stability and optimal shielding through zinc die cast housing
- terminals clearly labeled with color codes (A and B coding are of equal value)
- no special tools needed for mounting
- 360°-screening
- quick one step mounting of strain relief and shielding connection
- for data cables Ø 6–10 mm

- for solid wires (AWG 23/1–22/1)
- Module head can be connected up to 4 times without new cable assembly
- defined earthing connection via customary blade terminal
- bend-radius optimized cable feeding
- suitable for PoE+
- minimum 750 insertion cycles
- built-in dust protection cap (removeable, if required)
- for combination with design wall plates (TAE) of all well-known manufacturers of electrical installation material for single and double solutions
- triple flush mounting solution with special center plate
- 100 % quality-proof
- made and tested in Germany

Fit for Future

Cat.8.1/Class I-Universal modules from Rutenbeck comply fully to the current highest data transmission product requirements according to ISO/IEC which therefore, fulfil the world-wide measurement requirements of data transmission links in combination with components with equal data transmission characteristics. Furthermore the higher requirements for PoE+ (Power over Ethernet) are also no problem for the Cat.8.1/Class I Universal modules from Rutenbeck.

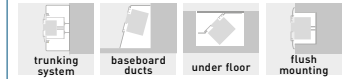
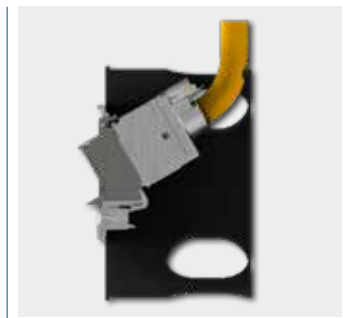
Of course, a terminal point for earthing has been provided in order to integrate the universal modular jack into the potential compensation.

„Made and tested“ in Germany

Rutenbeck products are being produced at a very high technological level. They have to pass in Germany a very strict quality tests. For the fulfillment of all performance parameters, Rutenbeck grants 25 years guarantee for these universal modular components!

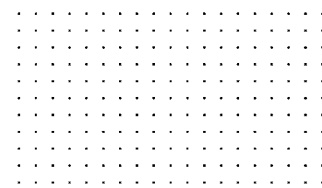


Universal modular jack Cat.8.1/Class I



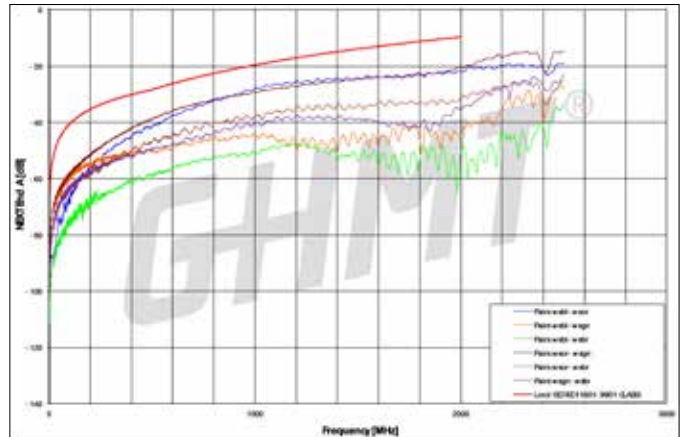
Installations in different environments

The very short module prevents the data cable from touching at the installation box too early and enables a cable management without kinks and too small bending radiusses.



Example: Class I - Channel-Link/Permanent-Link

Examplary measured values for the Channel-Link according to ISO/IEC TR 11801-9901 Ed. 1.0:2014



Examplary measured values for the Permanent-Link according to ISO 11801 Class I

LINKWARE PC CABLE TEST MANAGEMENT SOFTWARE

Kabelkennung: UM-Cat.8.1 24m PL
 Datum/Uhrzeit: 22.01.2018 11:43:51
 Reserve: 5.5 dB (NEXT 36-45)
 Grenzwert: ISO11801 PL Class I (+All)
 Kabeltyp: Dätwyler Cat.8.2 CU 8203
 NVP: 73.0%

Bediener: W. Rutenbeck GmbH
 Software-Version: V5.2 Build 1
 Grenzwerte Version: V6.1
 Startdatum der Kalibrierung: Hauptgerät (Modul): 02.03.2017
 Remote (Modul): 02.03.2017

Testzusammenfassung: **PASS**
 Modell: DSX-8000
 Hauptgerät S/N: 1652170
 Remote S/N: 1652216
 Adapter Hauptgerät: DSX-PLA804
 Adapter Remote: DSX-PLA804

Länge (m)	[Paar 12]	23.9
Laufzeit (ns), Grnz. 147	[Paar 45]	112
Abweichung (ns), Grnz. 14	[Paar 45]	3
Widerstand (Ohm), Grnz. 6.00	[Paar 12]	3.47
Widerst.-Abw. (Ohm), Grnz. 0.150	[Paar 12]	0.005
P2P-Widerstandsabw. (Ohm), Grnz. 0.120	[Paar 12-36]	0.011
Einfüg.-Dämpf. Reserve (dB)	[Paar 36]	1.1
Frequenz (MHz)	[Paar 36]	2000.0
Grenzwert (dB)	[Paar 36]	26.5

Min. Abstand Min. Wert

PASS	MAIN	SR	MAIN	SR
Schlechtest Paar	36-45	36-45	36-45	36-45
NEXT (dB)	5.8	5.5	6.4	6.9
Freq. (MHz)	1146	1332	2000	1994
Grenzwert (dB)	17.7	15.6	9.6	9.7
Schlechtest Paar	36	36	36	36
PS NEXT (dB)	5.7	5.5	7.8	7.9
Freq. (MHz)	1304	1338	1992	1994
Grenzwert (dB)	12.9	12.5	6.7	6.7

Wire Map (T568B) **PASS**

Einfüg.-Dämpf. (dB) vs Freq. (MHz)

NEXT (dB) vs Freq. (MHz)

















NEXT @ Remote (dB) vs Freq. (MHz)

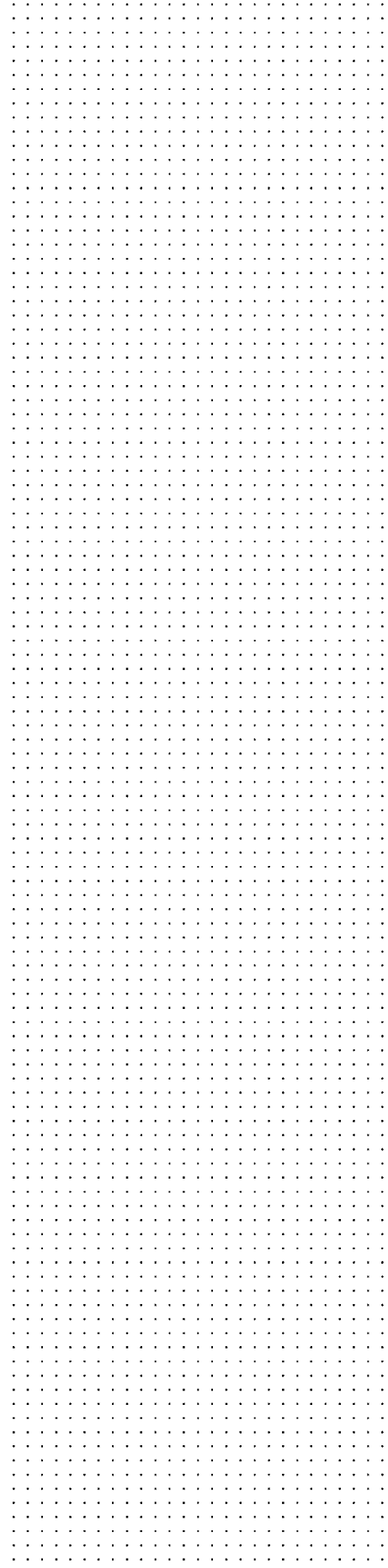
Test- and approval marks



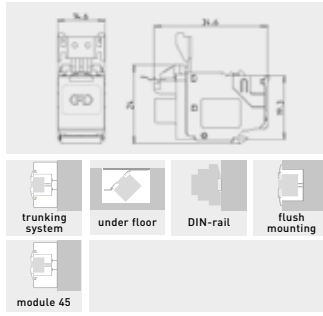
Technical data for
 Universal modular jack
 shielded
 UM-Cat.8.1/Class I

Mechanical characteristics	
General	
Housing of shielding	zinc die cast
Connection of cable shielding/ strain relief	360°-contacting, contacting bow for data cable Ø 6-10 mm, strain relief via cable tie
Ambient temperature	-40 °C bis +85 °C
Class according to EN 60529	IP21
Miscellaneous	free from halogen
Connector/outlet	
Design	DIN EN 60603-7-81/RJ45
Connection technique	
Solid wire	IDC terminals for wires Ø 0.57-0.64 mm, AWG 23/1-22/1, outer diameter 0.9-1.6 mm at PE, 1 wire each contact, maximum connections 4 times (at the same or larger cross-section)
Assembly	flexible printed circuit board made of polyimid with mechanical spring elements (patented)
Contact material/-surface	1,5 µm Ni/0,8 µm Au
Material housing	PBT
Life (insertion and withdrawals)	≥ 750 cycles with plugs according to IEC 60 603-7
Electrical characteristics	
Voltage	72 V DC, suitable for TNV circuits, according to EN 60 950-1:2011-01
Operation current	500 mA, at 50 °C ambient temperature
PoE-compliant	suitable for PoE+ (Power over Ethernet) according to IEEE 802.3at
Voltage withstand	1000 V (contact - contact), 1500 V (contact - housing)
Isolation resistance	≥ 500 MΩ
Contact resistance	signal contact: 20 mΩ, shielding contact: 100 mΩ
Color code	T568A and T568B according to TIA/EIA-568-B.2
Transmission characteristics	
ISO/IEC 11801	Cat.8.1/Class I, shielded
ISO/IEC TR 11801-9901	Class I

Overview modular components (construction kit system)													
<p>Modular connecting hardware Cat.8.1/Class I</p> <p>Construction kit system</p> <p>Accessory for holding universal modular jacks</p>	<p>Cat.8.1/Class I</p>  <p>UM-Cat.8.1/Class I 13900308 Universal modular jack shielded, keystone variant</p>												
     	<table border="1"> <tr> <td colspan="2">UM-MA 2 Up</td> </tr> <tr> <td>2-way</td> <td>13900001</td> </tr> </table> <p>Flush mounting adapter, without universal modular jacks</p> <table border="1"> <tr> <td colspan="2">UM-MA 3 Up</td> </tr> <tr> <td>3-way</td> <td>13900002</td> </tr> </table> <p>Flush mounting adapter, without universal modular jacks</p>	UM-MA 2 Up		2-way	13900001	UM-MA 3 Up		3-way	13900002				
UM-MA 2 Up													
2-way	13900001												
UM-MA 3 Up													
3-way	13900002												
 	<table border="1"> <tr> <td colspan="2">UM-ApG rw*</td> </tr> <tr> <td>3-way</td> <td>13911501</td> </tr> </table> <p>Surface mounting housing, without universal modular jacks, cable entry only from top</p>	UM-ApG rw*		3-way	13911501								
UM-ApG rw*													
3-way	13911501												
 	<table border="1"> <tr> <td colspan="2">KMK-MA REG</td> </tr> <tr> <td>1-way</td> <td>17000030</td> </tr> </table> <p>DIN-rail mounting adapter, without universal modular jacks</p>	KMK-MA REG		1-way	17000030								
KMK-MA REG													
1-way	17000030												
   	<table border="1"> <tr> <td colspan="2">PP-UM A-6 Ap</td> </tr> <tr> <td>6-way</td> <td>23910106</td> </tr> </table> <p>surface mounting-patch panel, without universal modular jacks</p> <table border="1"> <tr> <td colspan="2">PP-UM A-8 Ap</td> </tr> <tr> <td>8-way</td> <td>23910108</td> </tr> </table> <p>surface mounting-patch panel, without universal modular jacks</p> <table border="1"> <tr> <td colspan="2">PP-UM A-12 Ap</td> </tr> <tr> <td>12-way</td> <td>23910116</td> </tr> </table> <p>surface mounting-patch panel, without universal modular jacks</p>	PP-UM A-6 Ap		6-way	23910106	PP-UM A-8 Ap		8-way	23910108	PP-UM A-12 Ap		12-way	23910116
PP-UM A-6 Ap													
6-way	23910106												
PP-UM A-8 Ap													
8-way	23910108												
PP-UM A-12 Ap													
12-way	23910116												
	<table border="1"> <tr> <td colspan="2">PP-UM A-24/1</td> </tr> <tr> <td>24-way</td> <td>23900000</td> </tr> </table> <p>Patchpanel, 19"/1 U, for direct mounting, without universal modular jacks</p>	PP-UM A-24/1		24-way	23900000								
PP-UM A-24/1													
24-way	23900000												



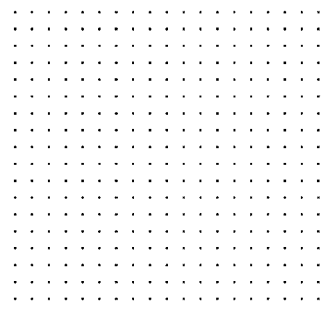
NEW



UM-Cat.8.1/Class I
13900308 ●
 Universal modular jack,
 shielded,
 suitable for standard
 Keystone openings,
 15 x 24 x 35 mm, 40 g

Universal modular jack
 UM-Cat.8.1/Class I
 shielded,
 for generic networks

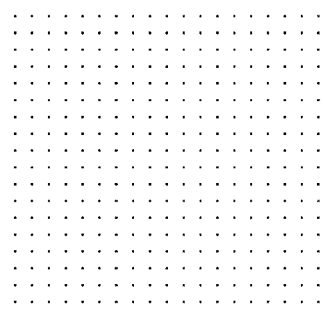
NEW



NWK-S/FTP Cat.8.2 AWG 23
21200800 ●
 Simplex cable, for the transmission
 of digital and analog speech-
 picture-, multimedia- and
 data signals up to Cat.8.2
 (2000 MHz), according to EN
 50173-1 and ISO/IEC 11801,
 FRNC, LSOH, fire protection class
 Dca-s2, d1, a1, PoE+ suitable,
 orange (similar RAL 2003),
 cable drum, 1000 m, 60.000 g

Cat 8 data cable,
 shielded,
 for generic networks

NEW



PK Cat.8.1/Class I 1,0 m grau
21200010 ●
 Patch cord, Cat.8.1/Class I,
 shielded, S/FTP,
 FRNC, LSOH,
 grey (similar RAL 7035),
 1000 mm, 85 g

PK Cat.8.1/Class I 2,0 m grau
21200020 ●
 2000 mm, 170 g

PK Cat.8.1/Class I 3,0 m grau
21200030 ●
 3000 mm, 255 g

Cat.8.1/Class I-Patch-cord,
 shielded,
 for generic networks

STP – Cat.6A iso

Modular connection technique, for generic networks

Universal modular jacks – professional und practice-oriented

No compromising in design

Universal modular jacks from Rutenbeck are extending the selection of modular connecting systems with a type "direct" design compatibility. Meaning that, up to two Rutenbeck universal modular jacks can be completed with customary TAE wall plates. This allows the integration into any switch design. The mounting adapter of the universal modular jacks ensures the usual insertion direction of the plug with an insertion angle of 30°. In case three modular jacks are supposed to be put into one mounting box, this can be realized by using special mounting adapters and center plates.

Universal modular jacks from Rutenbeck fit the worldwide customary mounting openings of 19.3 x 14.7 mm.

Quick and easy connection

For mounting expensive and complicated special tools are not necessary. The cable only needs to be dismantled and prepared accordingly. For the following steps a cutting tool is completely sufficient. The mounting wedge of the Rutenbeck universal modular jacks helps in case of friction-locked contacting and allows an assembly without any additional installation effort.

Installation advantages:

- fits standard Keystone openings
- few pre-assembled parts, suitable for construction sites
- high mechanical stability and optimal shielding through zinc die cast housing
- terminals clearly labeled with color codes (A and B coding are of equal value)
- no tools needed for mounting due to mounting wedge
- 360°-screening
- quick one step mounting of strain relief and shielding connection
- for data cables Ø 6–10 mm
- for solid wires (AWG 24–22)
- for stranded wires (AWG 26)
- Module head can be connected up to 10 times without new cable assembly

- defined earthing connection via customary blade terminal
- bend-radius optimized cable feeding of 30°
- suitable for PoE+ and UPOE
- RJ11/12-protected against mismatching
- minimum 750 insertion cycles
- built-in dust protection cap (removeable, if required, color exchangeable)
- for combination with design wall plates (TAE) of all well-known manufacturers of electrical installation material for single and double solutions
- triple flush mounting solution with special center plate
- 100 % quality-proof
- 25 years warranty
- made and tested in Germany

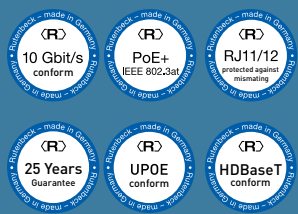
Fit for Future

Cat.6A-iso-Universal modules from Rutenbeck comply fully to the current highest data transmission product requirements according to ISO/IEC which therefore, fulfil the world-wide measurement requirements of data transmission links in combination with components with equal data transmission characteristics. Furthermore the higher requirements for PoE+ (Power over Ethernet) are also no problem for the Cat.6A-iso-Universal modules from Rutenbeck.

Of course, a terminal point for earthing has been provided in order to integrate the universal modular jack into the potential compensation.

„Made and tested“ in Germany

Rutenbeck products are being produced at a very high technological level. They have to pass in Germany a very strict quality tests. For the fulfillment of all performance parameters, Rutenbeck grants 25 years guarantee for these universal modular components!



Universal modular jack Cat.6A iso

Installations in different environments



trunking system



under floor

The 30°-cable entry of the universal modular jack prevents the data cable from touching the backside of the mounting box too soon. The cable can be laid without unacceptable kinks or too small bend radiuses.

In under floor applications the cable will be led almost parallel to the bottom to the back, because of the bend radius optimized cable feeding. Perfect for small installation situation.



flush mounting

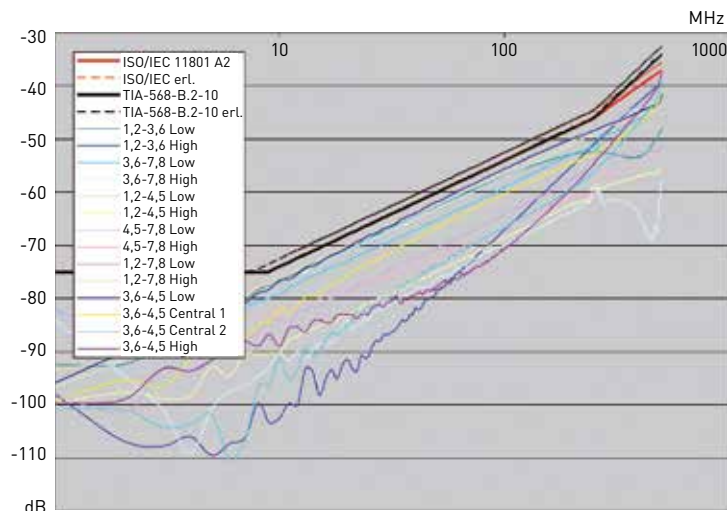
For flush mounting installation a special mounting adapter is available, which allows an accurate cable feeding from the top or bottom, even in difficult situations where only very limited space is available.

In order to accommodate the extra cable without bending the cable too much, a twin chamber mounting box should be installed.



















Technical data for shielded
UM-Cat.6A-iso-components

Mechanical characteristics	
General	
Housing of shielding	zinc die cast
Connection of cable shielding/ strain relief	360°-contacting, contacting bow for data cable Ø 6-10 mm, strain relief via cable tie
Ambient temperature	-40 °C bis +70 °C
Class according to EN 60529	IP21
Miscellaneous	free from halogen
Connector/outlet	
Design	DIN EN 60603-7-51
Connection technique	
Solid wire	IDC terminals for wires Ø 0.51-0.63 mm, AWG 24-22, outer diameter 0.7-1.6 mm at PE, 1 wire each contact, maximum connections 10 times (at the same or larger cross-section)
Stranded wire	IDC terminals for wires 0.13-0.22 mm ² , AWG 26 (PE-Foamskin) - AWG 24 (PE-solid), outer diameter 0.9-1.1 mm at PE, 1 wire each contact, maximum connections 10 times (at the same or larger cross-section)
Assembly	flexible printed circuit board made of polyimid with mechanical spring elements (patented)
Contact material/-surface	1,5 µm Ni/0,8 µm Au
Material housing	PBT
Life (insertion and withdrawals)	≥ 750 cycles with plugs according to IEC 60 603-7, RJ11/12-protected against mismatching
Electrical characteristics	
Voltage	72 V DC, suitable for TNV circuits, according to EN 60 950-1:2011-01
Operation current	500 mA, at 50 °C ambient temperature
PoE-compliant	suitable for PoE+ (Power over Ethernet) according to IEEE 802.3at
Voltage withstand	1000 V (contact - contact), 1500 V (contact - housing)
Isolation resistance	≥ 500 MΩ
Contact resistance	signal contact: 20 mΩ, shielding contact: 100 mΩ
Color code	T568A and T568B according to TIA/EIA-568-B.2
Transmission characteristics	
ISO/IEC 11801	Cat.6 _A , shielded
DIN EN 50173-1	
DIN EN 60 603-7-51	500 MHz, shielded







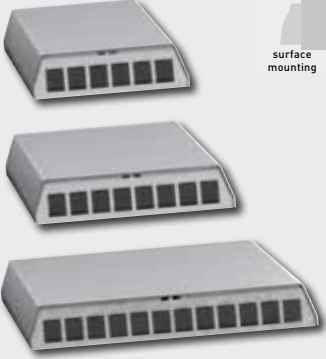

Test- and approval marks



Extended NEXT
for 10-Gigabit-Ethernet
(typical values according
to ISO/IEC)

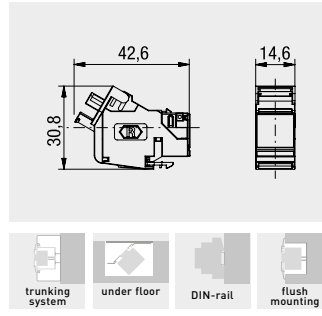
Overview modular components (construction kit system)													
<p>Modular connecting hardware Cat.6A iso</p> <p>Construction kit system</p> <p>Accessory for holding universal modular jacks</p>	 <p>Cat.6A iso</p> <p>UM-Cat.6A iso A 13900304 Universal modular jack, keystone variant</p>												
  <p>flush mounting</p>    <p>trunking system under floor</p>    <p>trunking system under floor</p>	<table border="1"> <tr> <td colspan="2">UM-UMA 2 Up²</td> </tr> <tr> <td>2-way</td> <td>13900004</td> </tr> </table> <p>Flush mounting adapter, break off mounting ring can be converted into mounting bracket, without universal modular jacks</p> <table border="1"> <tr> <td colspan="2">UM-MA 2 Up^{1,2}</td> </tr> <tr> <td>2-way</td> <td>13900001</td> </tr> </table> <p>Flush mounting adapter, without universal modular jacks</p> <table border="1"> <tr> <td colspan="2">UM-MA 3 Up^{1,2}</td> </tr> <tr> <td>3-way</td> <td>13900002</td> </tr> </table> <p>Flush mounting adapter, without universal modular jacks</p>	UM-UMA 2 Up²		2-way	13900004	UM-MA 2 Up^{1,2}		2-way	13900001	UM-MA 3 Up^{1,2}		3-way	13900002
UM-UMA 2 Up²													
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UM-MA 2 Up^{1,2}													
2-way	13900001												
UM-MA 3 Up^{1,2}													
3-way	13900002												
  <p>surface mounting</p>	<table border="1"> <tr> <td colspan="2">UM-ApG rw^{*1}</td> </tr> <tr> <td>3-way</td> <td>13911501</td> </tr> </table> <p>Surface mounting housing, without universal modular jacks, cable entry only from top</p>	UM-ApG rw^{*1}		3-way	13911501								
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3-way	13911501												
  <p>DIN-rail</p>	<table border="1"> <tr> <td colspan="2">UM-MA REG</td> </tr> <tr> <td>1-way</td> <td>13900003</td> </tr> </table> <p>DIN-rail mounting adapter, 1 DIN unit wide, without universal modular jack</p>	UM-MA REG		1-way	13900003								
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1-way	13900003												
  <p>surface mounting</p>  	<table border="1"> <tr> <td colspan="2">PP-UM A-6 Ap¹</td> </tr> <tr> <td>6-way</td> <td>23910106</td> </tr> </table> <p>surface mounting-patch panel, without universal modular jacks</p> <table border="1"> <tr> <td colspan="2">PP-UM A-8 Ap¹</td> </tr> <tr> <td>8-way</td> <td>23910108</td> </tr> </table> <p>surface mounting-patch panel, without universal modular jacks</p> <table border="1"> <tr> <td colspan="2">PP-UM A-12 Ap¹</td> </tr> <tr> <td>12-way</td> <td>23910116</td> </tr> </table> <p>surface mounting-patch panel, without universal modular jacks</p>	PP-UM A-6 Ap¹		6-way	23910106	PP-UM A-8 Ap¹		8-way	23910108	PP-UM A-12 Ap¹		12-way	23910116
PP-UM A-6 Ap¹													
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PP-UM A-12 Ap¹													
12-way	23910116												
	<table border="1"> <tr> <td colspan="2">PP-UM A-24/1¹</td> </tr> <tr> <td>24-way</td> <td>23900000</td> </tr> </table> <p>Patchpanel, 19"/1 U, for direct mounting, without universal modular jacks</p>	PP-UM A-24/1¹		24-way	23900000								
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24-way	23900000												

	<p>Cat.6-coupling 13900360 page 18</p>
	<p>Cat.6-coupling 13900370 page 18</p>
	<p>Consolidation Point CP-UM A-12 Ap 23910112 page 19</p>
	<p>DIN-rail mounting adapter KMK-REG 17000030 page 91</p>
	<p>Multimedia patch panel MM Ap 23910118 page 25</p>

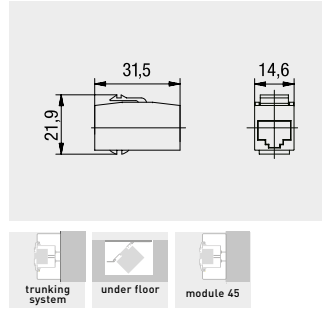
Overview modular components (complete version)													
<p>Modular connecting hardware Cat.6A iso</p> <p>Complete version</p>	 <p>Cat.6A iso</p> <p>UM-Cat.6A iso A 139 003 04 Universal modular jack, Keystone variant</p>												
 <p>flush mounting</p>	<table border="1"> <thead> <tr> <th></th> <th>Up****</th> <th>Up rw*</th> </tr> </thead> <tbody> <tr> <td>1-way</td> <td></td> <td>139112030</td> </tr> <tr> <td>2-way</td> <td>139102040</td> <td>139112040</td> </tr> </tbody> </table> <p>break off mounting ring can be converted into mounting bracket</p>		Up****	Up rw*	1-way		139112030	2-way	139102040	139112040			
	Up****	Up rw*											
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2-way	139102040	139112040											
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	Up****	Up rw*											
1-way		139112210											
2-way	139102070	139112070											
3-way	139102100	139112100											
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	Up 0												
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2-way	139104070												
3-way	139104100												
 <p>DIN-rail</p>	<table border="1"> <thead> <tr> <th></th> <th>UM-REG</th> </tr> </thead> <tbody> <tr> <td>1-way</td> <td>13910200</td> </tr> </tbody> </table> <p>DIN-rail mounting adapter, 1 DIN unit wide, with universal modular jack</p>		UM-REG	1-way	13910200								
	UM-REG												
1-way	13910200												
 <p>surface mounting</p>	<table border="1"> <thead> <tr> <th></th> <th>PP-UM-Cat.6A iso-6/6 Ap</th> </tr> </thead> <tbody> <tr> <td>6-way</td> <td>23910206</td> </tr> </tbody> </table> <p>surface mounting-patch panel, with 6 universal modular jacks</p> <table border="1"> <thead> <tr> <th></th> <th>PP-UM-Cat.6A iso-8/8 Ap</th> </tr> </thead> <tbody> <tr> <td>8-way</td> <td>23910208</td> </tr> </tbody> </table> <p>surface mounting-patch panel, with 8 universal modular jacks</p> <table border="1"> <thead> <tr> <th></th> <th>PP-UM-Cat.6A iso-12/12 Ap</th> </tr> </thead> <tbody> <tr> <td>12-way</td> <td>23910212</td> </tr> </tbody> </table> <p>surface mounting-patch panel, with 12 universal modular jacks</p>		PP-UM-Cat.6A iso-6/6 Ap	6-way	23910206		PP-UM-Cat.6A iso-8/8 Ap	8-way	23910208		PP-UM-Cat.6A iso-12/12 Ap	12-way	23910212
	PP-UM-Cat.6A iso-6/6 Ap												
6-way	23910206												
	PP-UM-Cat.6A iso-8/8 Ap												
8-way	23910208												
	PP-UM-Cat.6A iso-12/12 Ap												
12-way	23910212												
	<table border="1"> <thead> <tr> <th></th> <th>PP-UM A 24/24/1</th> </tr> </thead> <tbody> <tr> <td>24-way</td> <td>239101000</td> </tr> </tbody> </table> <p>patch panel, 19"/1 U, for direct mounting, with 24 universal modular jacks</p>		PP-UM A 24/24/1	24-way	239101000								
	PP-UM A 24/24/1												
24-way	239101000												

*rw = pure white ****phased out 2018

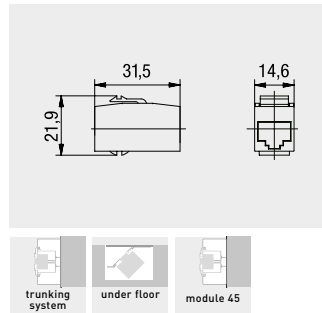
Universal modular jack
UM-Cat.6A iso,
shielded,
for generic networks



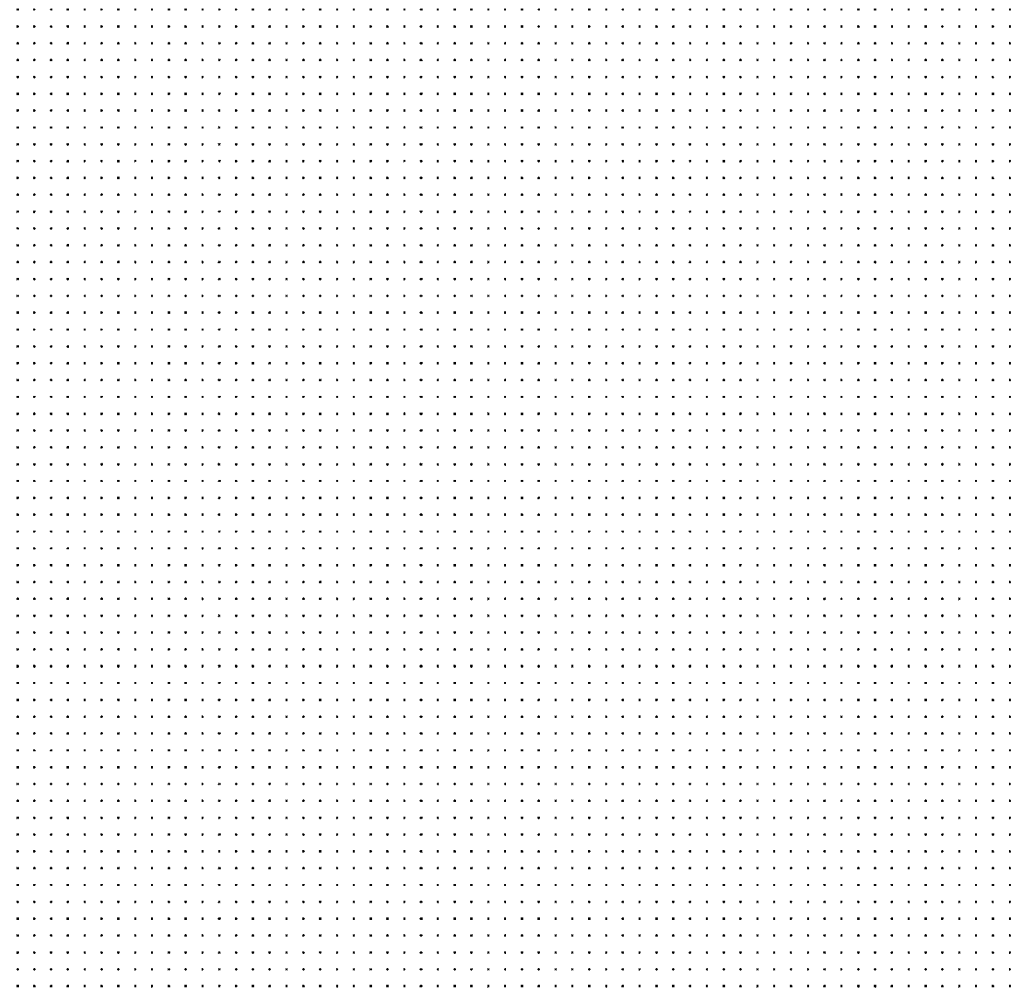
UM-Cat.6A iso A
13900304 ●
Universal modular jack,
shielded,
suitable for standard
Keystone openings,
15 x 31 x 43 mm, 27 g

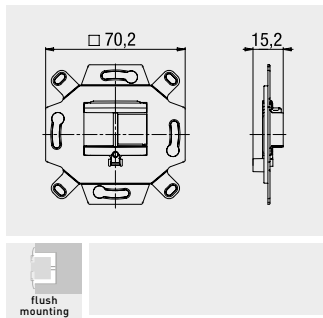


Cat.6 coupling
13900360 ●
coupling class E,
suitable for standard
keystone openings,
15 x 22 x 32 mm, 22 g



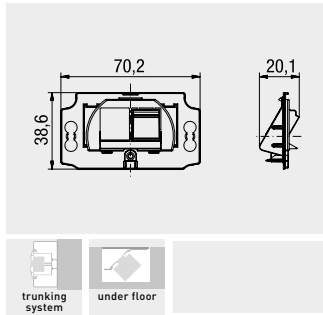
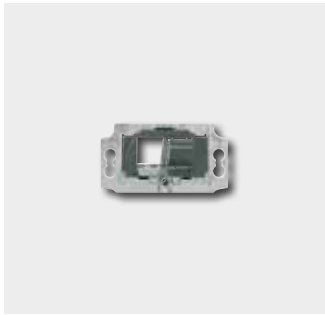
Cat.6 Angular coupling
13900370 ●
coupling class E_A,
with angular outlet 90°,
suitable standard keystone
openings,
15 x 22 x 36 mm, 22 g



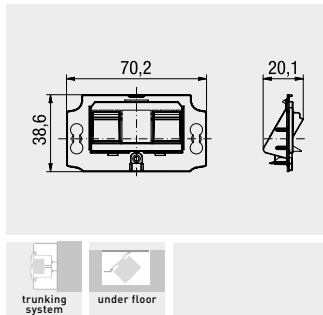


UM-UMA 2 Up
13900004 ●
 Flush mounting adapter, 2-way,
 for UM-Cat.6A iso A and UM-
 Cat.6A iso U A, for mounting
 in flush mounting jacks,
 for customary TAE center plates,
 for combination with ZSt UM-MA
 2 and wall plate AP,
 break off mounting ring can be
 converted into mounting bracket,
 70 x 70 x 15 mm, 20 g

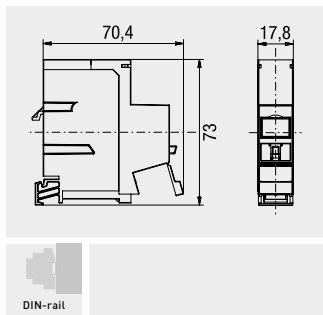
Mounting adapters for
 UM-Cat.6A iso,
 shielded



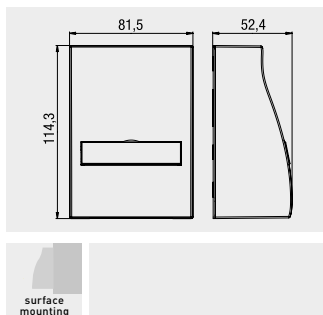
UM-MA 2 Up
13900001 ●
 Mounting adapter, 2-way,
 for all universal modular jacks
 and the Cat.6-module coupler,
 for customary TAE center plates,
 for combination with ZSt UM-MA 2
 and wall plate AP,
 70 x 39 x 20 mm, 20 g



UM-MA 3 Up
13900002 ●
 Mounting adapter, 3-way,
 for all universal modular jacks
 and the Cat.6-module coupler,
 for center plates ZSt UM-MA 3
 and wall plates AP,
 70 x 39 x 20 mm, 20 g

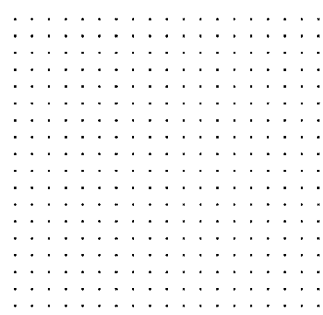


UM-MA REG
13900003 ●
 DIN-rail mounting adapter,
 for holding an universal modular
 jack UM-Cat.6A iso A,
 UM-Cat.6A iso U A onto a DIN rail,
 light grey (similar RAL 7035),
 18 x 73 x 70 mm = 1 DIN unit wide,
 25 g



UM-ApG rw
13911501 ●
 Surface mounting housing,
 modular,
 for up to 3 universal modular jacks
 and KMK keystone module,
 pure white (similar RAL 9010),
 82 x 114 x 52 mm, 145 g

Surface mounting housing,
 modular, for
 UM-Cat.6A iso,
 shielded

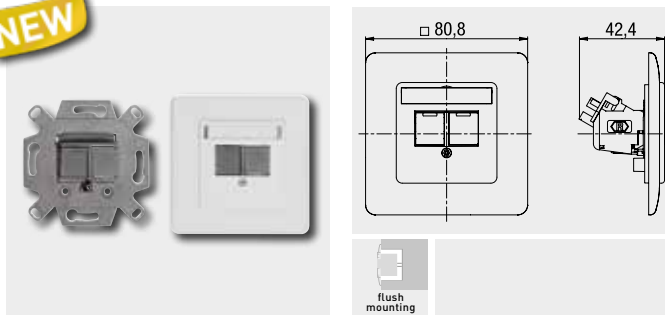


CP-UM A-12 Ap
23910112 ●
 Consolidation point holding up
 to 12 universal modular jacks UM
 Cat. 6A iso A, UM-Cat.6A iso U A
 and KMK-keystone modules,
 swivel lid for the connection of patch
 cords, with dust protection brushes,
 black (similar RAL 9005),
 236 x 303 x 56 mm, 2150 g

Consolidation point

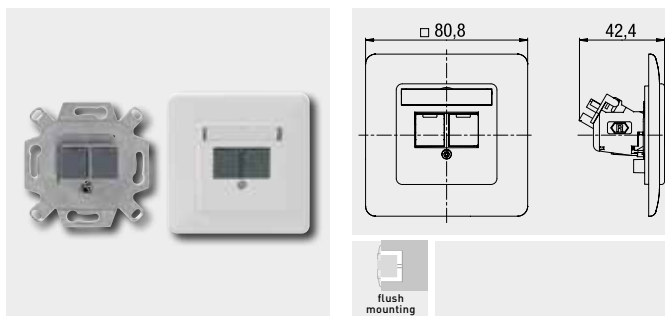
Modular jacks with
UM-Cat.6A iso,
shielded,
for generic networks

NEW



**UM-Cat.6A iso-UMD 1 Up rw
139112030** ●

Cat.6A iso modular jack, 1-way,
with center plate, wall plate and
1 universal modular jack, for flush
mounting, break off mounting ring
can be converted into mounting
bracket,
pure white (similar RAL 9010)
80 x 80 x 42 mm, 70 g,



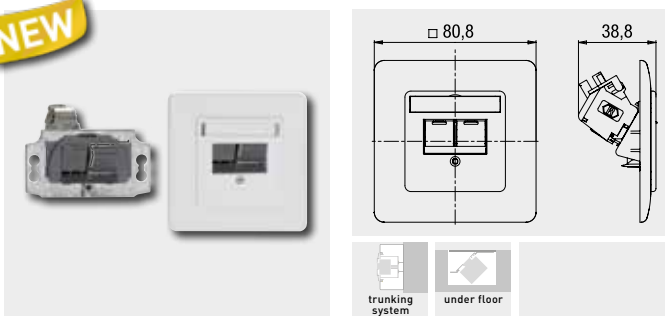
UM-Cat.6A iso-UMD 2 Up**
139102040** ●

Cat.6A iso modular jack, 2-way,
with center plate, wall plate and
2 universal modular jacks, for flush
mounting, break off mounting ring
can be converted into mounting
bracket,
pearl white (similar RAL 1013),
80 x 80 x 42 mm, 91 g

**UM-Cat.6A iso-UMD 2 Up rw
139112040** ●

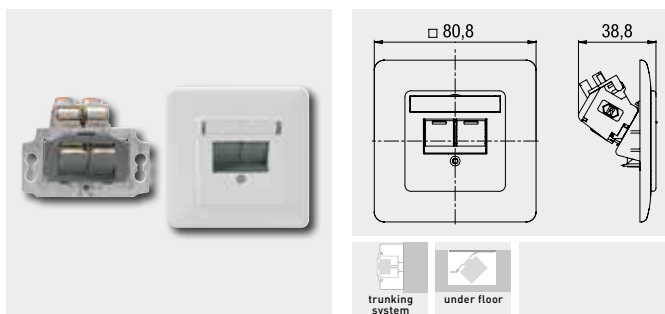
pure white (similar RAL 9010)

NEW



**UM-Cat.6A iso-MD 1 Up rw
139112210** ●

Cat.6A iso modular jack, 1-way,
with center plate, wall plate and
1 universal modular jack,
pure white (similar RAL 9010),
80 x 80 x 39 mm, 67 g

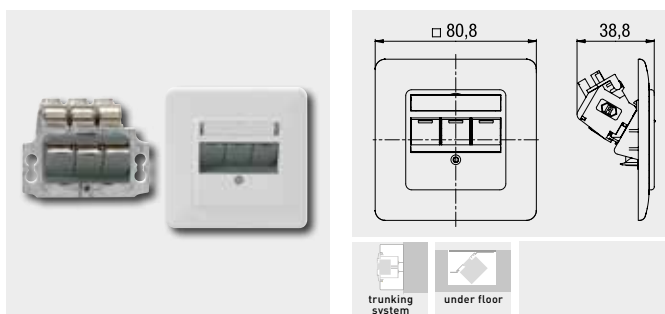


UM-Cat.6A iso-MD 2 Up**
139102070** ●

Cat.6A iso modular jack, 2-way,
with center plate, wall plate and
2 universal modular jacks,
pearl white (similar RAL 1013),
80 x 80 x 39 mm, 91 g

**UM-Cat.6A iso-MD 2 Up rw
139112070** ●

pure white (similar RAL 9010)



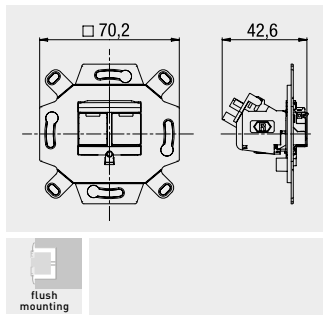
UM-Cat.6A iso-MD 3 Up**
139102100** ●

Cat.6A iso modular jack, 3-way,
with center plate, wall plate and
3 universal modular jacks,
pearl white (similar RAL 1013),
80 x 80 x 39 mm, 118 g

**UM-Cat.6A iso-MD 3 Up rw
139112100** ●

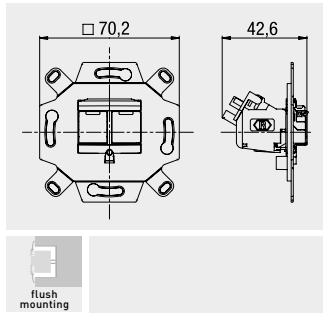
pure white (similar RAL 9010)

NEW



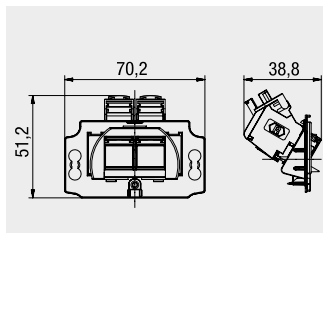
UM-Cat.6A iso-UMD 1 Up 0
139104030 ●
 Cat.6A iso modular jack, 1-way,
 with 1 universal modular jack,
 for combination with customary
 TAE center plates,
 for flush mounting, for combination
 with ZSt UM-MA 2 and wall
 plate AP, break off mounting ring
 can be converted into mounting
 bracket,
 70 x 70 x 43 mm, 57 g

Modular jacks with
 UM-Cat.6A iso,
 shielded,
 for generic networks

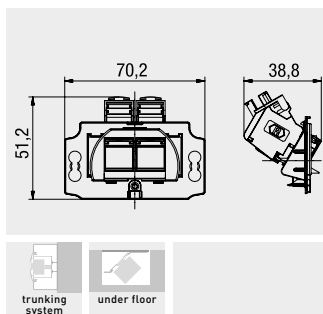


UM-Cat.6A iso-UMD 2 Up 0
139104040 ●
 Cat.6A iso modular jack, 2-way,
 with 2 universal modular jacks,
 for combination with customary
 TAE center plates,
 for flush mounting, for combination
 with ZSt UM-MA 2 and wall
 plate AP, break off mounting ring
 can be converted into mounting
 bracket,
 70 x 70 x 43 mm, 74 g

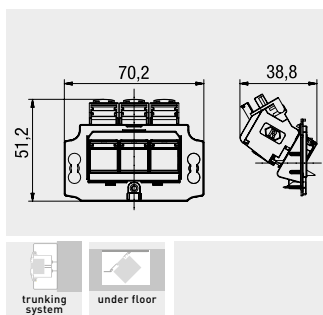
NEW



UM-Cat.6A iso-MD 1 Up 0
139104310 ●
 Cat.6A iso modular jack, 1-way,
 with 1 universal modular jack,
 for combination with customary
 TAE center plates, for combination
 with ZSt UM-MA 2 and wall
 plate AP ,
 70 x 51 x 39 mm, 54 g



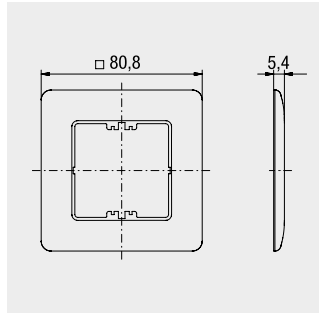
UM-Cat.6A iso-MD 2 Up 0
139104070 ●
 Cat.6A iso modular jack, 2-way,
 with 2 universal modular jacks,
 for combination with customary
 TAE center plates, for combination
 with ZSt UM-MA 2 and wall
 plate AP ,
 70 x 51 x 39 mm, 74 g



UM-Cat.6A iso-MD 3 Up 0
139104100 ●
 Cat.6A iso modular jack, 3-way,
 with 3 universal modular jacks,
 for ZSt UM-MA 3 and
 wall plate AP,
 70 x 51 x 39 mm, 101 g

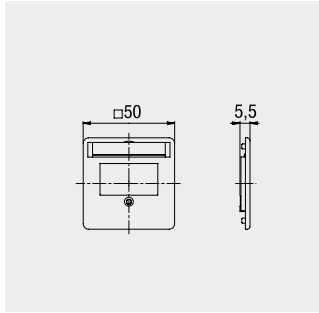
Wall plates, center plates and accessory for UM-Cat.6A iso, shielded

Wall plates and center plates made of ABS-plastic, available in pearl white (similar RAL 1013) pure white (similar RAL 9010)



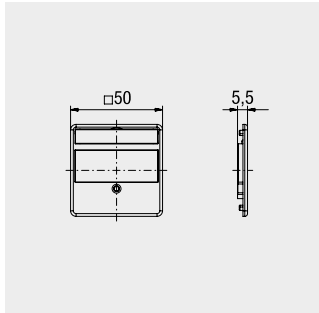
AP
10010001 ●
 Wall plate, pearl white (similar RAL 1013), 80 x 80 x 5 mm, 12 g

AP rw
10010051 ●
 pure white (similar RAL 9010)



ZSt UM-MA 2
13910003 ●
 Center plate for 3 outlets TAE, with labeling strip, pearl white (similar RAL 1013), 50 x 50 x 6 mm, 6 g

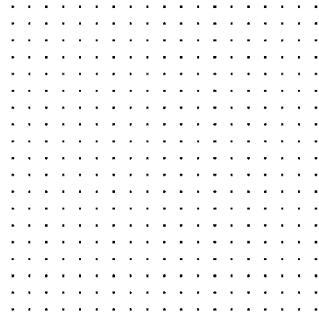
ZSt UM-MA 2 rw
13910053 ●
 pure white (similar RAL 9010)



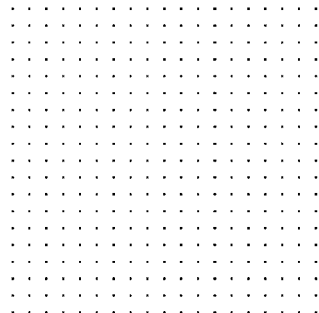
ZSt UM-MA 3
13910002 ●
 Center plate for 3 outlets RJ45, with labeling strip, for UM-MA 3 Up, pearl white (similar RAL 1013), 50 x 50 x 6 mm, 6 g

ZSt UM-MA 3 rw
13910052 ●
 pure white (similar RAL 9010)

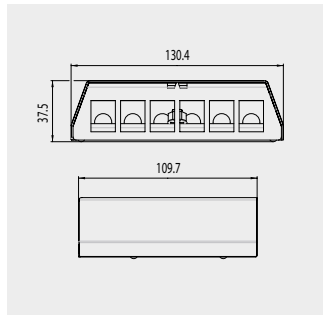
Accessory for UM-Cat.6A iso, shielded



UA
39200002 ●
 Universal wire stripping tool, for data cable Ø 2-10 mm, shielded or unshielded, functions: cutting and stripping of round and flat cables, 110 x 50 x 12 mm, 45 g



EPS
39200003 ●
 Electronic-precision-cutting tool, without cutter facet, 155 x 95 x 15, 80 g

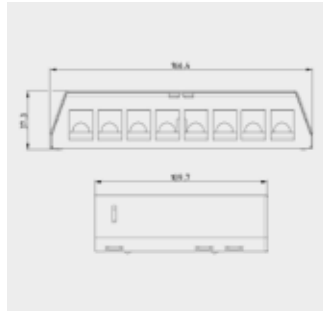


PP-UM A-6 Ap
23910106

Patch Panel for holding up to 6 universal modular jacks UM-Cat.6A, UM-Cat.6A iso U A and KMK-keystone modules, for desktop- or wall mounting, Din-rail mounting with DIN-rail mounting adapter 221012, fully shielded, stable metal design quick mounting with latching lid light grey (similar RAL 7035)
 131 x 38 x 110 mm , 405 g

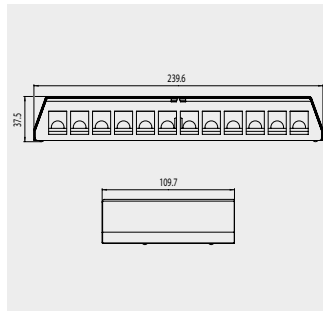
Patch panel for holding universal modular jacks

NEW



PP-UM A-8 Ap
23910108

Patch Panel for holding up to 8 universal modular jacks UM-Cat.6A, UM-Cat.6A iso U A and KMK-keystone modules, for desktop- or wall mounting, DIN-rail mounting with DIN-rail mounting adapter 221012, fully shielded, stable metal design quick mounting with latching lid light grey (similar RAL 7035)
 166 x 38 x 110 mm , 480 g



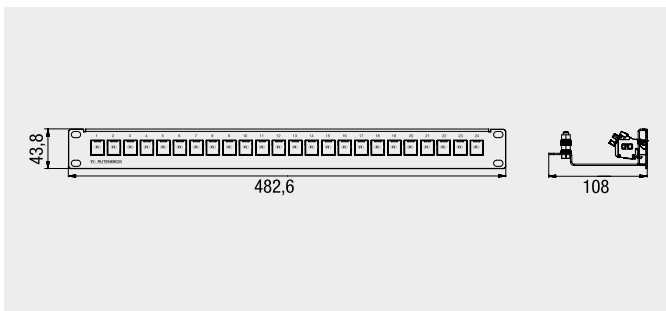
PP-UM A-12 Ap
23910116

Patch Panel for holding up to 12 universal modular jacks UM-Cat.6A, UM-Cat.6A iso U A and KMK-keystone modules, for desktop- or wall mounting, DIN-rail mounting with DIN-rail mounting adapter 221012, fully shielded, stable metal design quick mounting with latching lid light grey (similar RAL 7035)
 240 x 38 x 110 mm , 710 g



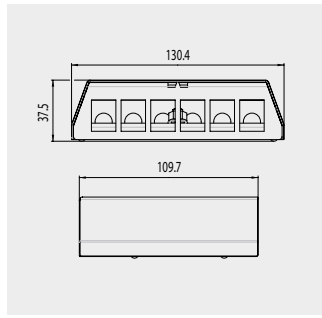
PP-UM A-24/1
23900000

Patch panel holding up to 24 universal modular jacks UM-Cat.6A iso A, UM-Cat.6A iso U A and KMK-keystone modules, for direct mounting, 19"/1 U, front color: light grey (similar RAL 7035),
 483 x 44 x 108 mm, 1100 g



Patch Panel
with universal modular
jacks
UM-Cat.6A iso,
shielded

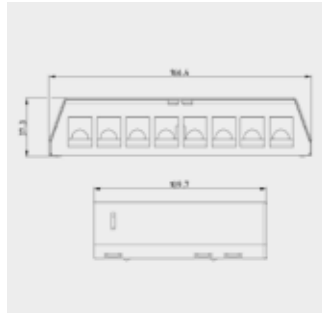
NEW



PP-UM-Cat.6A iso-6/6 Ap
23910206

Patch Panel with 6 universal modular jacks UM-Cat.6A iso, for desktop- or wall mounting, Din-rail mounting with DIN-rail mounting adapter 221012, fully shielded, stable metal design, quick mounting with latching lid light grey (similar RAL 7035) 131 x 38 x 110 mm, 405 g

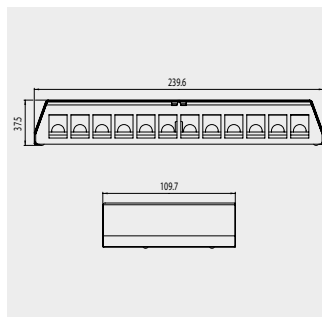
NEW



PP-UM-Cat.6A iso-8/8 Ap
23910208

Patch Panel with 8 universal modular jacks UM-Cat.6A iso, for desktop- or wall mounting, Din-rail mounting with DIN-rail mounting adapter 221012, fully shielded, stable metal design, quick mounting with latching lid light grey (similar RAL 7035) 166 x 38 x 110 mm, 688 g

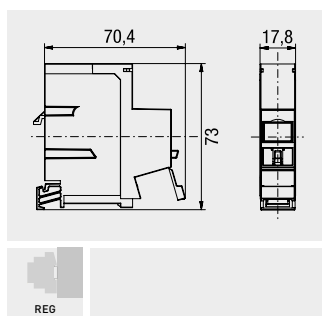
NEW



PP-UM-Cat.6A iso-12/12 Ap
23910212

Patch Panel with 12 universal modular jacks UM-Cat.6A iso, for desktop- or wall mounting, Din-rail mounting with DIN-rail mounting adapter 221012, fully shielded, stable metal design, quick mounting with latching lid light grey (similar RAL 7035) 240 x 38 x 110 mm, 1081 g

NEW



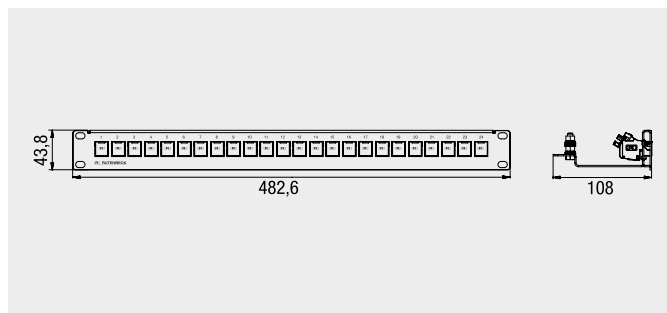
UM-Cat.6A iso-REG
13910200

DIN-rail mounting adapter, with universal modular jack UM-Cat.6A iso A, for mounting in a DIN-rail, light grey (similar RAL 7035), 18 x 73 x 70 mm = 1 DIN unit wide, 53 g



PP-UM-Cat.6A iso-24/24/1
239101000

Patch panel with 24 universal modular jacks UM-Cat.6A iso A, for direct mounting, 19"/1 U, front color: light grey (similar RAL 7035), 483 x 44 x 108 mm, 1690 g





MULTIMEDIA PATCH PANEL

In times where the digital multimedia world has become more significant in private homes and surroundings, it is of great importance to have a clean cut cabling and connection between all devices for different applications. In order to meet these high standards, there must be sufficient connection jacks provided in case of new installations or retrofitting.

A central distributor should not only represent the starpoint of the home cabling but must also host the active devices which are necessary for the different applications. Basic devices like the router, its service functions and indications as well as the WiFi antennas should always be freely accessible. Having an elegant design is very important for the overall appearance of a room in many environments.

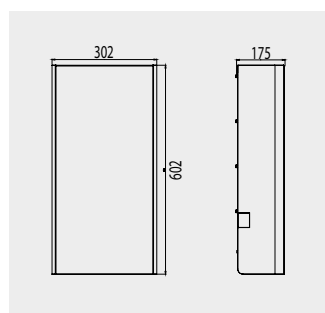
The new Rutenbeck Multimedia Patch Panel fulfills all these requirements to its fullest extent.

Flexible on „3 levels“

The Rutenbeck Multimedia Patch Panel consists of base plate and lid and is suitable for wall mounting. The base plate is designed for the installation of various devices. For the best possible flexibility two mounting rails should be attached first. Active devices such as switches or antenna amplifiers will be mounted on these rails. If the bottom level is completely equipped, a second mounting level can be set up by means of a perforated steel plate. The devices can be mounted on the perforated steel plate at any point. The mounting space can be increased considerably with this second mounting level. For instance an active antenna amplifier with 8 connections including cabling can be installed in the lower section. The upper section could be used for the switches of a home network. After the installation of the lid, the router will be mounted on the „3. level“ on frontside of the lid. The fastening screws of the router can be mounted with a slotted hole at any suitable distance in the lid. Now, the router can be attached. The installation on the lid is necessary in order not to restrict the function of the WiFi antenna.

For fixed and flexible cabling

The Rutenbeck Multimedia Patch Panel has 15 keystone openings at its bottom side and can be equipped with different keystone modules from the product branches „Data technology“ and „Multimedia“. They form the interface for the connection of the fixed external cabling (antenna, network etc.). The keystone openings are positioned on level 2, above the base plate. After finishing the installation work, the lid will be easily attached being the final working step. As protection against manipulation and theft, the lid can be secured with a conventional padlock. The robust metal design of the Multimedia Patch Panel protects the installed devices against damages.



MM Ap 23910118 ●
 Multimedia Patch Panel for holding up to 15 Universal-modular jacks UM-Cat. 6A iso A, UM-Cat. 6A iso U A and KMK-Keystonemodules, as home distributor, for wall mounting, fully shielded metal design, slotted hole for router front mounting, pure white (similar RAL 9010) 302 x 602 x 175 mm, 6800 g

Multimedia patch panel, for holding communications adapter keystone-design (from page 91)

Accessories for
PP-UM



PP-BK
23910001 ●
Sealing cover for
PP-UM-openings,
mousegrey (similar RAL 7005),
16 x 18 mm, 0,32 g



PP-SSK sw
23510002 ●
Retrofitting dust cover for
patch panel and
for all universal modular jacks
from Rutenbeck,
black (similar RAL 9005),
14 x 16 mm, 1 g

PP-SSK rw
23510007 ●
pure white (similar RAL 9010)

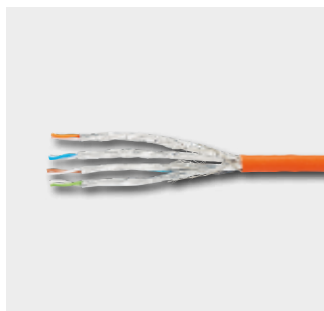


UA
39200002 ●
Universal wire stripping tool,
for data cable Ø 2-10 mm,
shielded or unshielded,
functions: cutting and stripping
of round and flat cables,
110 x 50 x 12 mm, 45 g



EPS
39200003 ●
Electronic-precision-cutting tool,
without cutter facet,
155 x 95 x 15, 80 g

Cat 7 data cable,
shielded,
for generic networks



NWK-S/FTP Cat.7 AWG 23
21207000 ●
Simplex cable, for the transmission
of digital and analog speech-
picture-, multi-media- and
data signals up to
class F (600 MHz) according to
EN 50173-1 and ISO/IEC 11801,
for CATV up to 862 MHz according
to IEC 15018, PoE+ suitable,
FRNC (flame retardant),
LSOH (zero halogen),
orange (similar RAL 2003),
cable drum, 1.000 m, 60.000 g



PK Cat.6A iso 0,5 m grey
 21500005 ●
 Patch cord, Category 6A,
 Class E_A, shielded,
 S/FTP, LSHF,
 grey (similar RAL 7035),
 500 mm, 45 g

PK Cat.6A iso 1,0 m grey
 21500010 ●
 1000 mm, 85 g

PK Cat.6A iso 2,0 m grey
 21500020 ●
 2000 mm, 170 g

PK Cat.6A iso 3,0 m grey
 21500030 ●
 3000 mm, 255 g

PK Cat.6A iso 5,0 m grey
 21500050 ●
 5000 mm, 425 g

PK Cat.6A iso 10,0 m grey
 21500000 ●
 10000 mm, 850 g

Cat.6A-iso-Patch-cord,
 shielded,
 for generic networks



PKV Cat.6A iso 1,0 m grey
 21600010 ●
 Patch cord, Category 6A,
 Class E_A, shielded,
 S/FTP, LSHF, lockable
 grey (similar RAL 7035),
 1000 mm, 80 g

PKV Cat.6A iso 2,0 m grey
 21600020 ●
 2000 mm, 120 g

PKV Cat.6A iso 3,0 m grey
 21600030 ●
 3000 mm, 170 g

PKV Cat.6A iso 5,0 m grey
 21600050 ●
 5000 mm, 255 g

PKV Cat.6A iso 10,0 m grey
 21600000 ●
 10000 mm, 490 g



PKV S
 39200011 ●
 key,
 for unlocking patch cords,
 for PKV Cat.6A iso,
 2 g

STP – Cat.6A iso, ClassEA iso
Compact connection technique, for generic networks

High quality materials as well as the standard conform design with outstanding data transmission characteristics, guarantee a safe data-transmission in all datatechnology applications.

The solid construction allows the use in every popular built-in situation, with only one product – universal and always accurate due to the variable cable entry from all directions.

High quality, cost effectiveness and perfect shielding are self-evident.

High performance assets

Cat.6A-iso-jacks from Rutenbeck comply fully to the current highest data transmission product requirements according to ISO/IEC 11801 for 500 MHz bandwidth (10 Gbit/s).

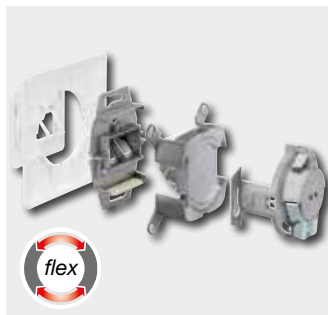
For the fulfillments of the performance parameter, Rutenbeck grants a 25 years guarantee for these products.

Power supply by the network

Jacks and panels completely fulfill the requirements of PoE+ (Power over Ethernet) according to IEEE 802.3at and therefore, allow the power supply of data-terminals, for example, IP-telephones or IP-cams directly through the network cable – in addition to the data! With this method you will not only save the power supply cable, respectively, the plug power supply for the terminal, you will also save the installation effort for the normally necessary power outlets.

Long term high performance guaranteed

Data-technology products from Rutenbeck are quality products "Made in Germany" certified according to ISO 9001.



Appropriate for all situations
The UAE-compact-universal-jacks

Whether surface mounting, duct systems or flush mounting, complying with standards, the flat universal design enables the use of this jack in many various installation areas.

The cable entry is flexible and can be adjusted to all installation needs. The size of the compact-universal-jack complies with all standards and requirements of conventional flush mounting jacks.



The assembly – fast, flexible and economical!

The complete installation of the jack requires only one screw. The cover parts can easily be latched, this saves valuable installation time.

The connection of the wires takes place from the front at the LSA-terminal strips. Therefore, the required length of the cable for the connection can be kept short.

If the space is extremely limited, a connection of the wires is even possible at the mounted jacks.

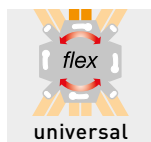
The Rutenbeck universal jacks can be combined with wall plates from all well-known manufacturers of electrical installation material.



Patch panel for generic networks

The patch panel represents the central connecting hardware of a network installation. In combination with the universal jacks, it enables the perfect setup of a structured cabling with optimal coordinated products.

High quality material guarantee for safe installation and data transmission.



Additional installation advantages are achieved by:

- high stability and optimal shielding through zinc die cast housing
- quick one step mounting of strain-relief and shielding connection
- few parts, suitable for construction sites
- complete connecting process with only one screw
- proven, connection safe LSA terminals
- quick mounting cover (latching)
- Terminals clearly labelled with color codes and numbers
- for combination with design wall plates of all well-known manufacturers of electrical installation
- universal, flexible cable entry (+/- 30°)
- RJ11/12-protected against mismatching
- min. 1000 cycles

Technical data for shielded Cat.6A iso and ClassEA iso - connecting hardware

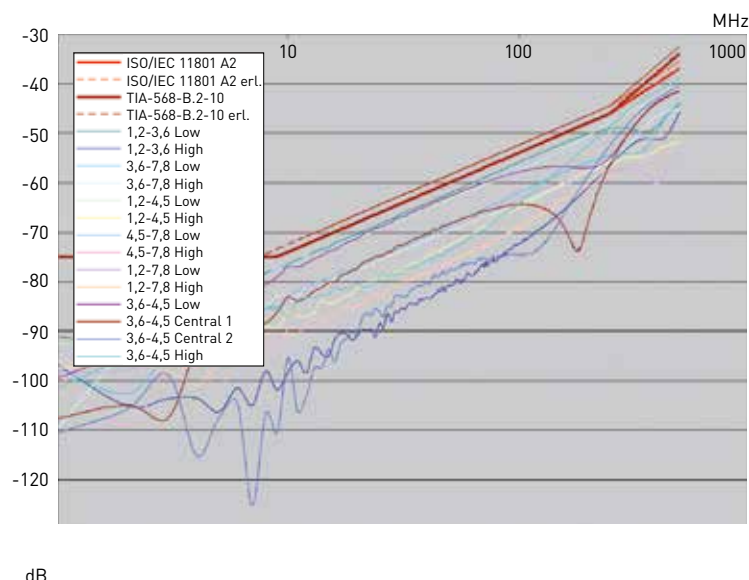
Mechanical characteristics Cat.6A iso, ClassEA iso - General	
Housing of shielding	zinc die cast
Connection of cable shielding/ strain relief	combined shielding and strain relief with flexible cable entry (+/- 30°)
Ambient temperature	-40 °C to +70 °C
Class according to EN 60 529	IP21
Miscellaneous	free from halogen
Connector/outlet Cat.6A iso, ClassEA iso	
Design Cat.6A iso	DIN EN 60 603-7-51
Design ClassEA iso	DIN EN 60 603-7-51
Connection technique	LSA-terminals for wires 0.4–0.63 mm Ø, AWG 26–22, outer diameter 0.7–1.6 mm at PE, 1 wire at each terminal, number of connections ≥ 50 x
Assembly Cat.6A iso	flexible printed circuit board made of polyimid with mechanical spring elements (patented)
Assembly ClassEA iso	flexible printed circuit board made of polyimid with mechanical spring elements (patented)
Contact material/-surface	1,5 µm Ni/0,8 µm Au
Material housing	PBT
Life (insertion and withdrawals)	
Cat.6A iso	≥ 1000 cycles
ClassEA iso	≥ 1000 cycles
} with plugs according to IEC 60 603-7	

Electrical characteristics Cat.6A iso, ClassEA iso	
Voltage	72 V DC, suitable for TNV circuits, according to DIN EN 60 950-1:2011-01
Operation current	500 mA, at 50 °C ambient temperature
PoE-compliant	suitable for PoE+ (Power over Ethernet) according to IEEE 802.3at
Voltage withstand	1000 V (contact – contact), 1500 V (contact – housing)
Isolation resistance	≥ 500 MΩ
Contact resistance	signal contact: 20 mΩ, shielding contact: 100 mΩ
Color code	T568A and T568B according to TIA/EIA-568-B.2

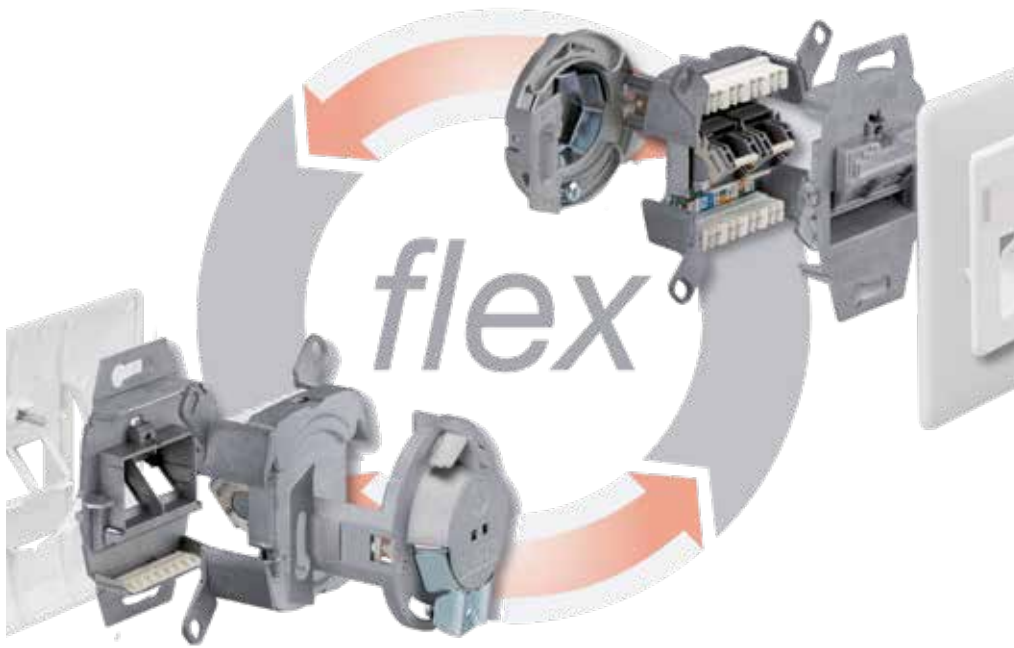
Transmission characteristics Cat.6A iso	
ISO/IEC 11801	Cat.6 _A , shielded
DIN EN 50173-1	
DIN EN 60 603-7-51	500 MHz, shielded

Transmission characteristics ClassEA iso	
ISO/IEC 11801	ClassE _A , shielded
DIN EN 50173-1	
DIN EN 60 603-7-51	500 MHz, shielded

Test- and approval marks



Extended NEXT
for 10-Gigabit-Ethernet
(typical values according
to ISO/IEC)



- suitable for HDBaseT-applications



- suitable for Cisco UPOE-standard



- Cat.6A iso-components
- ClassEA iso-components



- Cat.6A iso-components
- ClassEA iso-components

mix
+
match

- suitable for mix-and-match use
- free choice of cable
- high reserves at cable lengths
≤ 90 m



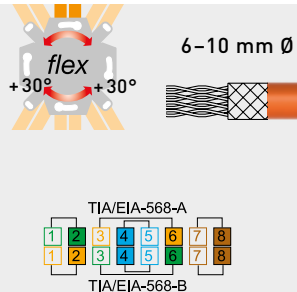
- suitable for PoE+
(Power over Ethernet)
according to IEEE 802.3at



- for combination with design wall plates of all well-known manufacturers of electrical installation material for single and double flush mounting-solutions



- special socket construction guarantees reliable data transmission even if the RJ11/12 jack is inadvertently plugged in incorrectly
- at least 1000 insertion cycles with standardized RJ45 jacks (250 more than the standard requirement)



- universal, flexible cable entry (+/- 30°)
- for data cable with a diameter of 6-10 mm
- coding of terminals A and B in accordance with TIA/EIA-568-B.2
- shielding and strain relief in one step
- earthing terminal



- made and tested in Germany
- 25 years guarantee

Overview compact components ClassEA iso and Cat.6A iso

Compact connecting hardware
ClassEA iso and
Cat.6A iso

...for the Channel-Link

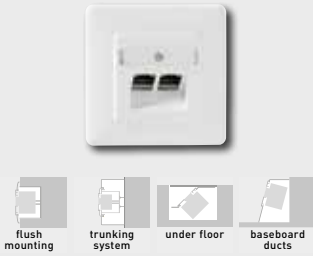


ClassEA iso-compact-jacks
for generic networks

...for the Permanent-Link



Cat.6A iso-compact-jacks
for generic networks

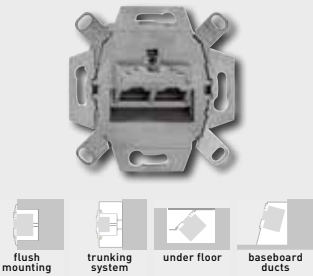


	Up****	Up rw*
1-way	138102030	138112030
2-way	138102070	138112070

break off mounting ring
can be converted into
mounting bracket

	Up****	Up rw*
1-way	136102030	136112030
2-way	136102070	136112070

break off mounting ring
can be converted into
mounting bracket



	Up 0
1-way	138104030
2-way	138104070

break off mounting ring
can be converted into
mounting bracket

	Up 0
1-way	136104030
2-way	136104070

break off mounting ring
can be converted into
mounting bracket

Patch panel
for generic networks



	PP-24/1
24-way	238101100

patch panel, 19"/1 U,
for direct mounting

	PP-24/1
24-way	236101100

patch panel, 19"/1 U,
for direct mounting

surface mounting-patch panel
for generic networks



	PP-ClassEA iso-6 Ap
6-way	23810106

	PP-Cat.6A iso-6 Ap
6-way	23610106

	PP-ClassEA iso-12 Ap
12-way	23810112

	PP-Cat.6A iso-8 Ap
8-way	23610108

	PP-Cat.6A iso-12 Ap
12-way	23610112

Surface mounting housing for
flush mounting designs



	UAE-Cat. ApG
	13510503

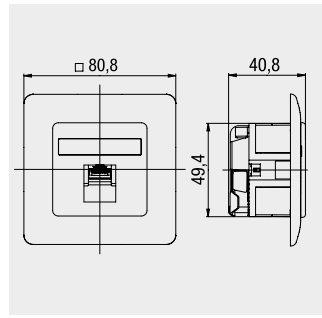
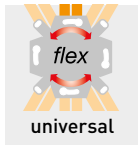
	UAE-Cat. ApG
	13510503

	UAE-Cat. ApG rw*
	13511503

	UAE-Cat. ApG rw*
	13511503

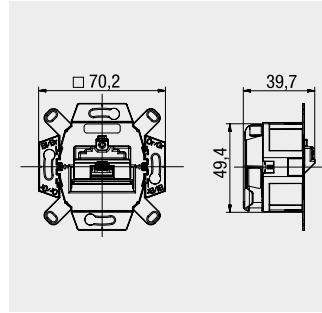
Compact-
universal-jacks

UAE-Cat.6A iso,
shielded,
for generic networks

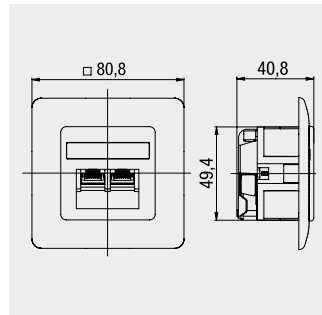


UAE-Cat.6A iso-8 Up****
136102030 ●
with center plate
and wall plate, break off
mounting ring can be converted
into mounting bracket,
pearl white (similar RAL 1013),
80 x 80 x 41 mm, 183 g

UAE-Cat.6A iso-8 Up rw
136112030 ●
pure white (similar RAL 9010)

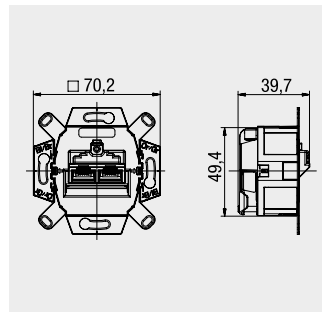


UAE-Cat.6A iso-8 Up 0
136104030 ●
break off mounting ring can be
converted into mounting bracket,
70 x 70 x 40 mm, 142 g

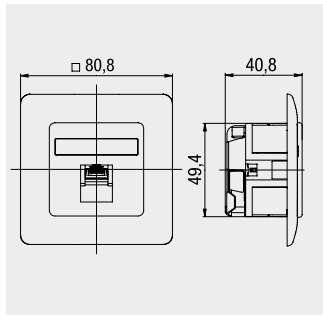


UAE-Cat.6A iso-8/8 Up****
136102070 ●
with center plate and wall plate,
break off mounting ring can
be converted into mounting
bracket,
pearl white (similar RAL 1013),
80 x 80 x 41 mm, 186 g

UAE-Cat.6A iso-8/8 Up rw
136112070 ●
pure white (similar RAL 9010)



UAE-Cat.6A iso-8/8 Up 0
136104070 ●
break off mounting ring can be
converted into mounting bracket,
70 x 70 x 40 mm, 145 g

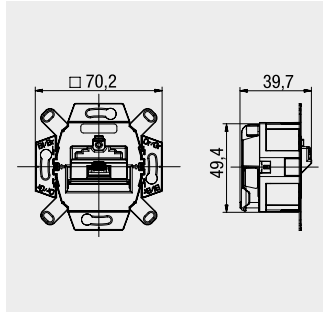
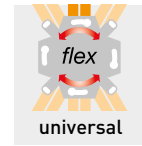


UAE-ClassEA iso-8 Up 138102030 ●
 with center plate and wall plate, break off mounting ring can be converted into mounting bracket, pearl white (similar RAL 1013), 80 x 80 x 41 mm, 183 g

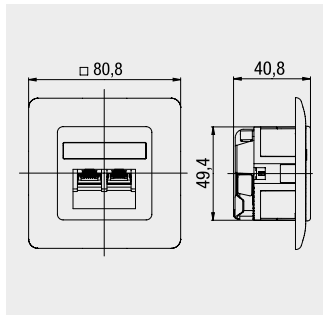
UAE-ClassEA iso-8 Up rw 138112030 ●
 pure white (similar RAL 9010)

Compact-universal-jacks

UAE-ClassEA iso, shielded, for generic networks

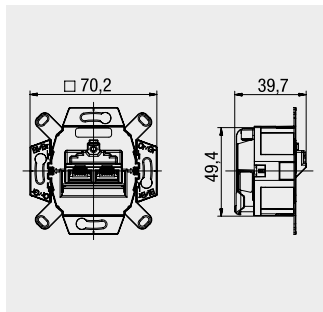


UAE-ClassEA iso-8 Up 0 138104030 ●
 break off mounting ring can be converted into mounting bracket, 70 x 70 x 40 mm, 142 g



UAE-ClassEA iso-8/8 Up 138102070 ●
 with center plate and wall plate, break off mounting ring can be converted into mounting bracket, pearl white (similar RAL 1013), 80 x 80 x 41 mm, 186 g

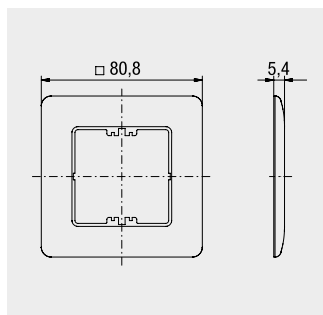
UAE-ClassEA iso-8/8 Up rw 138112070 ●
 pure white (similar RAL 9010)



UAE-ClassEA iso-8/8 Up 0 138104070 ●
 break off mounting ring can be converted into mounting bracket, 70 x 70 x 40 mm, 145 g

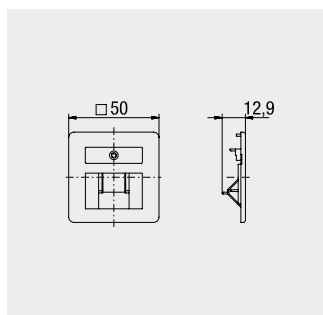
Wall plates, center plates and surface mounting housing for UAE-Cat.6A iso, UAE-ClassEA iso shielded AP, ZSt, AP V, ApG

Wall plates and center plates made of ABS-plastic, available in pearl white (similar RAL 1013) pure white (similar RAL 9010)



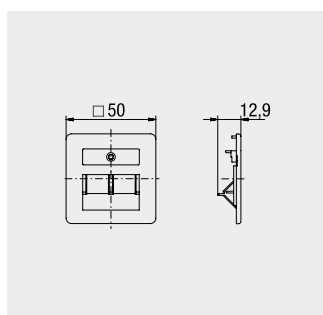
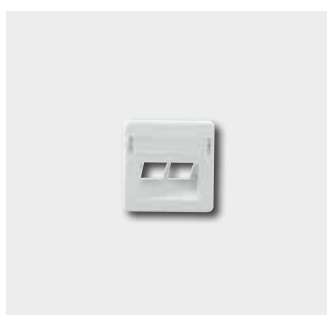
AP 10010001 ●
Wall plate, pearl white (similar RAL 1013), 80 x 80 x 5 mm, 12 g

AP rw 10010051 ●
pure white (similar RAL 9010)



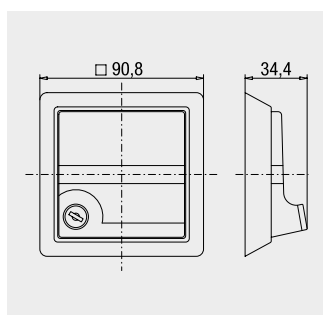
ZSt UAE-Cat. 8 13510002 ●
Center plate with 1 outlet and inscription label, pearl white (similar RAL 1013), 50 x 50 x 13 mm, 6 g

ZSt UAE-Cat. 8 rw 13510052 ●
pure white (similar RAL 9010)

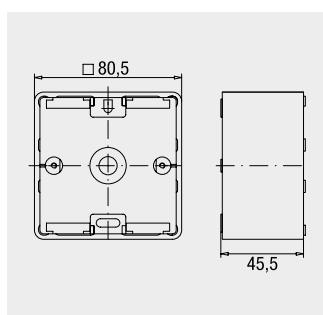


ZSt UAE-Cat. 8/8 13510003 ●
Center plate with 2 outlets and inscription label, pearl white (similar RAL 1013), 50 x 50 x 13 mm, 6 g

ZSt UAE-Cat. 8/8 rw 13510053 ●
pure white (similar RAL 9010)

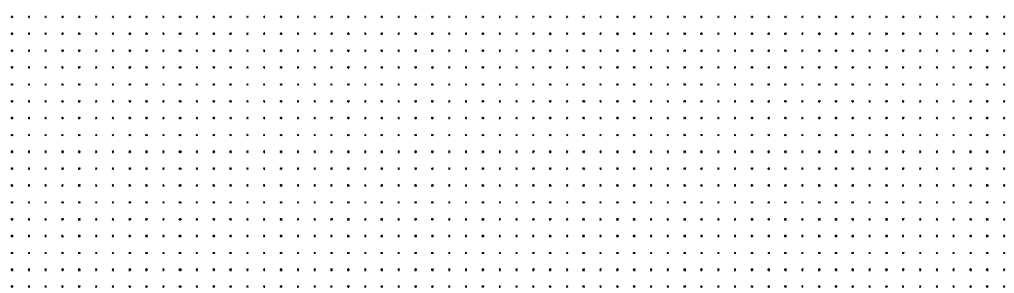


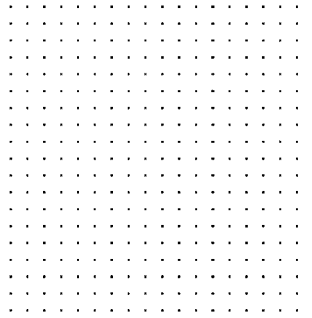
AP V rw 10010055 ●
Wall plate, lockable, IP44, all keys individually locking for all Rutenbeck flush-mounting sets in connection with center plates 50 x 50 x 13 mm, pure white (similar RAL 9010), 91 x 91 x 34 mm, 10 g



UAE-Cat. ApG 13510503 ●
Surface mounting housing, for flush mounting designs, pearl white (similar RAL 1013), 80 x 80 x 46 mm, 93 g

UAE-Cat. ApG rw 13511503 ●
pure white (similar RAL 9010)

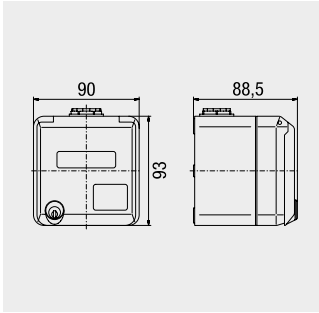




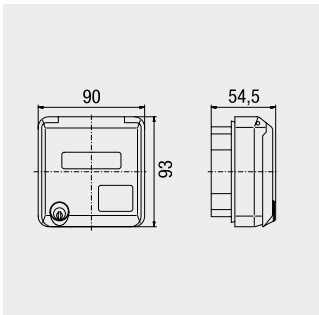
Schematic diagram of the mounting housings

IP44-mounting housing according to EN 60 529 for Rutenbeck-UAE-jacks with metal mounting bracket

The new industrial housing for UAE jacks has been designed, so that all Cat.-double-jacks can be installed without any problems. With this solution standard RJ45 patch cords can be used. After closing the lid the protection class IP44 is reached. The cable entry to the jacks can be done from the top or bottom.

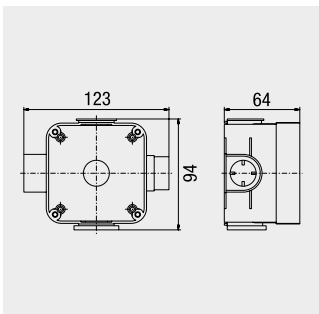


ApG-I g
10010056 ●
Surface mounting housing, individually locking, for industrial use, IP44, for UAE-data jacks, light grey (similar RAL 7035), 90 x 93 x 89 mm, 260 g

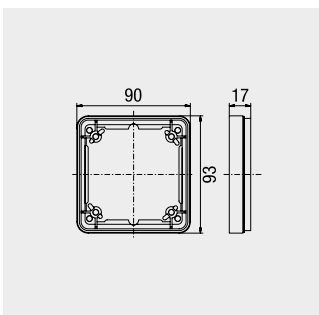


UpG-I g
10010057 ●
Flush mounting housing, individually locking, for industrial use, IP44, light grey (similar RAL 7035), 90 x 93 x 55 mm, 157 g

UpG-I rw
10010058 ●
pure white (similar RAL 9010)

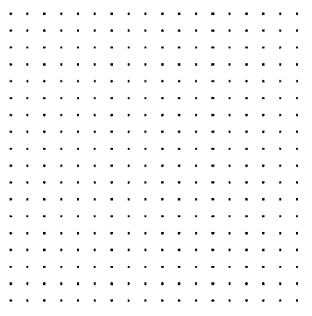


UpG-UpEd
10010062 ●
Wall box, for flush mounting housing UpG-I, light grey (similar RAL 7035), 123 x 94 x 64 mm, 97 g



UpG-DR g
10010060 ●
Wall box, for flush mounting housing UpG-I, light grey (similar RAL 7035), 90 x 93 x 17 mm, 27 g

UpG-DR rw
10010061 ●
pure white (similar RAL 9010)



ApG-KVS
10010059 ●
Cable gland, M 25, for surface mounting housing ApG-I, light grey (similar RAL 7035), 31 x 28 x 43 mm, 8 g

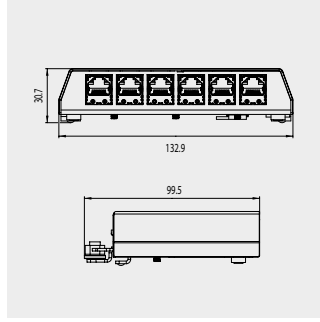
Performance features

- for Cat.6A iso- and Class EA-double jacks
- IP44, with conventional patch cords (when plugged in)
- Hit-proof according to DIN 18 032
- all membrane-cable glands M25 for two cables from 3–10 mm
- cable entry from top or bottom
- tamperproof by use of safety lock (identical keys upon request)
- labeling strips

Application areas

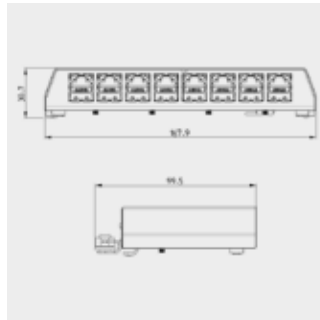
The mounting housings can be used in both private and industrial areas for the classical light switches and power sockets, e. g. terraces, outdoor storage places, workshops, marinas, stadiums, airports, industries area, control center, production-, research- and development areas.

Cat.6A iso- and ClassEA iso-
surface mounting patch panel
shielded,
for generic networks

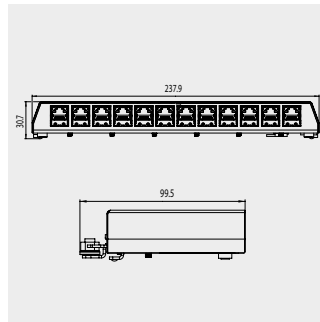


PP-Cat.6A iso-6 Ap
23610106 ●
Category 6_A Patch Panel,
6 RJ45 outlets, for desktop- or wall
mounting, DIN-rail mounting with
DIN-rail mounting adapter 221012,
fully shielded, stable metal design,
quick mounting with latching lid
light grey (similar RAL 7035)
133 x 31 x 98 mm, 360 g

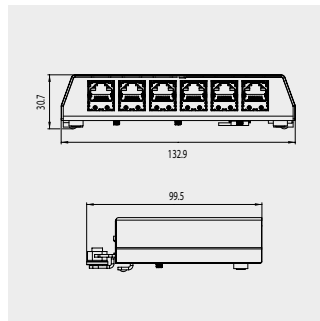
NEW



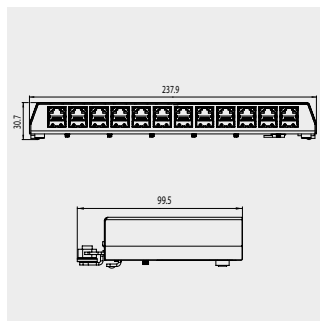
PP-Cat.6A iso-8 Ap
23610108 ●
Category 6_A Patch Panel,
8 RJ45 outlets, for desktop- or wall
mounting, DIN-rail mounting with
DIN-rail mounting adapter 221012,
fully shielded, stable metal design,
quick mounting with latching lid
light grey (similar RAL 7035)
168 x 31 x 98 mm, 440 g



PP-Cat.6A iso-12 Ap
23610112 ●
Category 6_A Patch Panel,
12 RJ45 outlets, for desktop- or wall
mounting, DIN-rail mounting with
DIN-rail mounting adapter 221012,
fully shielded, stable metal design,
quick mounting with latching lid
light grey (similar RAL 7035)
238 x 31 x 98 mm, 650 g



PP-ClassEA iso-6 Ap
23810106 ●
Class E_A Patch Panel,
6 RJ45 outlets, for desktop- or wall
mounting, DIN-rail mounting with
DIN-rail mounting adapter 221012,
fully shielded, stable metal design,
quick mounting with latching lid
light grey (similar RAL 7035)
133 x 31 x 98 mm, 360 g



PP-ClassEA iso-12 Ap
23810112 ●
Class E_A Patch Panel,
12 RJ45 outlets, for desktop- or wall
mounting, DIN-rail mounting with
DIN-rail mounting adapter 221012,
fully shielded, stable metal design,
quick mounting with latching lid
light grey (similar RAL 7035)
238 x 31 x 98 mm, 650 g



PP-Cat.6A iso-24/1
236101100 ●
 Patch panel according to Category 6A, 19"/1 U, with 24 RJ45-ports, for direct mounting
 front color:
 light grey (similar RAL 7035),
 482 x 44 x 114 mm, 1660 g

Cat.6A-iso-, ClassEA iso-patch panel, shielded, for generic networks

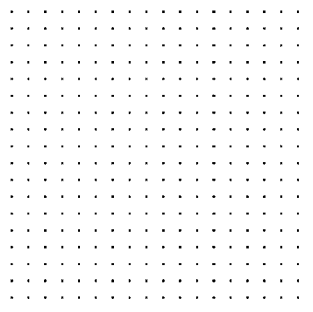
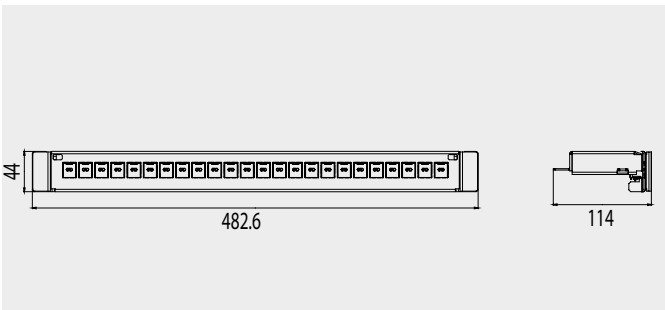


PP-ClassEA iso-24/1
238101100 ●
 Patch panel according to Class EA, 19"/1 U, with 24 RJ45-ports, for direct mounting
 front color:
 light grey (similar RAL 7035),
 482 x 44 x 114, 1660 g



PP-24/1 PoE
23510302 ●
 PoE-patch panel, Midspan solution, 12 x RJ45-Port data inputs, 12 x RJ45-Port outputs, data + PoE, Power supply according to IEEE 802.3af, Datarate 10/100 Mbit/s, Nominal operating voltage: 48 V DC, Power consumption: 4 A, for direct mounting, front color: light grey (similar RAL 7035), 482 x 44 x 114 mm, 1815 g

PoE-patch panel PP-PoE



SV-PP 48 V PoE
23510303 ●
 PoE-power supply for PP-24/1 PoE, Output power: 60 W, for up to 3 PoE-devices (class 0-3), 4 x necessary for complete set up of the panel, Operating voltage: 100-240 V-/50-60 Hz, black (similar RAL 9005), 130 x 60 x 32 mm, 475 g

Accessory for patch pane PP-Cat.6A iso and PP-ClassEA iso, shielded



PP-SSK sw
23510002 ●
Dust cover for retrofitting, suitable for all patch panes universal modular jacks from Rutenbeck, grey (similar RAL 7005), 14 x 16 mm, 1 g

PP-SSK rw
23510007 ●
pure white (similar RAL 9010)



UAE-Cat. BS
13510505 ●
Dummy plug for the protection of unused RJ45-outlets, black (similar RAL 9005), 15 x 15 x 20 mm, 2 g



AW 2
39200000 ●
Connection tool for LSA- and LSA-Plus-terminals, with pressure sensor and cutting blade, 38 x 177 x 21 mm, 80 g

Cat 7 data cable, shielded, for generic networks



NWK-S/FTP Cat.7 AWG 23
21207000 ●
Simplex cable, for the transmission of digital and analog speech-picture-, multi-media- and data signals up to class F (600 MHz) according to EN 50173-1 and ISO/IEC 11801, for CATV up to 862 MHz according to IEC 15018, Poe+ suitable, FRNC (flame retardant), LSOH (zero halogen), orange (similar RAL 2003), cable drum, 1.000 m, 60.000 g



PK Cat.6A iso 0,5 m grey
 21500005 ●
 Patch cord, Category 6A,
 Class E_A, shielded,
 S/FTP, LSHF,
 grey (similar RAL 7035),
 500 mm, 45 g

PK Cat.6A iso 1,0 m grey
 21500010 ●
 1000 mm, 85 g

PK Cat.6A iso 2,0 m grey
 21500020 ●
 2000 mm, 170 g

PK Cat.6A iso 3,0 m grey
 21500030 ●
 3000 mm, 255 g

PK Cat.6A iso 5,0 m grey
 21500050 ●
 5000 mm, 425 g

PK Cat.6A iso 10,0 m grey
 21500000 ●
 10000 mm, 850 g

Cat.6A-iso-patch-cord,
 shielded,
 for generic networks



PKV Cat.6A iso 1,0 m grey
 21600010 ●
 Patch cord, Category 6A,
 Class E_A, shielded,
 S/FTP, LSHF, lockable
 grey (similar RAL 7035),
 1000 mm, 80 g

PKV Cat.6A iso 2,0 m grey
 21600020 ●
 2000 mm, 120 g

PKV Cat.6A iso 3,0 m grey
 21600030 ●
 3000 mm, 170 g

PKV Cat.6A iso 5,0 m grey
 21600050 ●
 5000 mm, 255 g

PKV Cat.6A iso 10,0 m grey
 21600000 ●
 10000 mm, 490 g



PKV S
 392 000 11 ●
 key,
 for unlocking patch cords,
 for PKV Cat.6A iso,
 2 g

STP – Cat.6A iso
Field assembly RJ 45 plug
shielded, for generic networks

Always the right choice

Field assembly universal plugs from Rutenbeck are the perfect solution, if a permanent terminal equipment connection is needed in private as well as in commercial environment. The slim design, high mechanical stability as well as optimal shielding and strain relief at data rates up to 10 Gbit/s make the Rutenbeck universal plug suitable for use in all situations.

Easy and safe assembly

The assembly can be done on the construction site fast, safe and without any special tools. The universal plug is designed for being used with the most popular types of cables no matter whether you are using customary Cat.7 cable (solid wires) or flexible patch cords (stranded wires).

Safe in function

The robust zinc die cast housing with 360° shielding characteristics guarantees a trouble-free data transmission in any environment. Outside interferences will have no chance.

Easy assembly

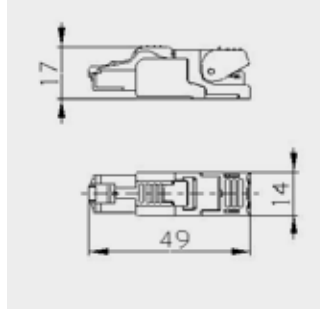
During the assembly all contacts and the PCB are protected by an integrated assembling aid. Therefore, damages will be prevented. The insertion of the wire manager in the housing is anti-twist protected. Shielding connection and strain relief take place by simple closing the plug in one step. When closing up to three audible clicks can be heard. The universal plug is now ready for use.

Fit for Future

Cat. 6A iso – universal plugs from Rutenbeck fully comply to the current highest data transmission product requirements according to ISO/IEC11801. Therefore, data rates up to 10 Gbit/s are no problem. Furthermore, the requirements for PoE+ are also fulfilled.

Product advantages:
Universal plug Cat.6A iso

- Cat.6A iso performance
 - downward compatible to Cat.6A / Cat.6 / Cat.5e
 - few pre-assembled parts, suitable for construction sites
 - quick and safe assembly without special tools
 - multi-port capable
 - zinc die cast housing for high mechanical stability and optimal shielding
 - non-interchangeable terminal marking, B-coding
 - 360° screening
 - Protection class: IP20 according to IEC 60529
 - minimum 750 insertion cycles
 - reconnectable up to 4 times
 - suitable for PoE+, according to IEEE 802.3at
 - for solid wires AWG 24/1 – AWG 22/1 (0,51 – 0,64 mm)
 - for stranded wires AWG 27/7 – AWG 22/7 (0,46 – 0,76 mm)
 - temperature range: -40°C - +85°C
- The Cat.6A iso – universal plugs comply to the following standards:
- IEC 60 603-7-51, shielded, 500 MHz
 - Color code T568B according to TIA/EIA-568-B.2
 - 10 Gbit-Ethernet according to IEEE 802.3an



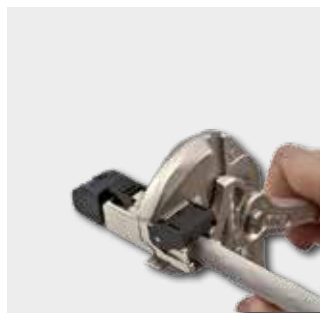
US-Cat.6A iso B
13900320 ●
 Cat. 6A iso- universal plug,
 RJ 45, shielded, for field assembly,
 without special tools,
 AWG 27 - 22, TIA/EIA 568B,
 49 x 14 x 17 mm, 22 g



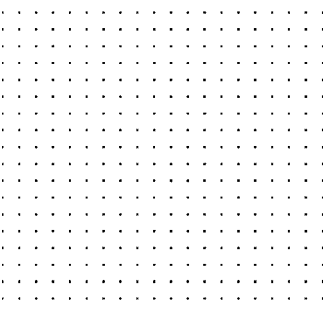
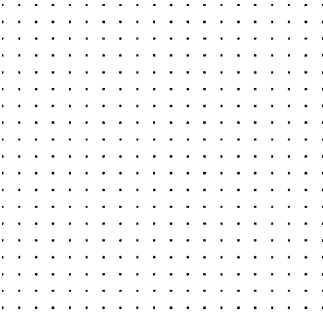
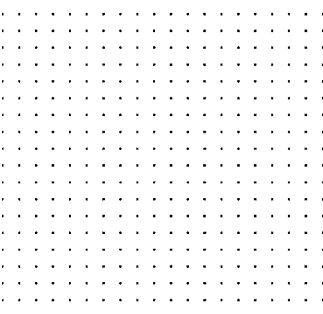
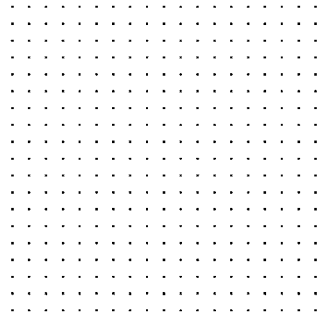
Universal plug
US Cat.6A iso



Few pre-assembled parts,
suitable for construction sites



Assembly without special tools



STP – Class F_A
Field assembly universal connection module for data cables, shielded, for generic networks

The safe connection

If data cables are damaged or need to be extended, the field assembly universal connection module from Rutenbeck is the perfect solution. Due to its round shape the established connections are protected against dust, water and interferences.

Easy and safe assembly

The assembly can be done on the construction site fast, safe and without any special tools. The universal plug is designed for being used with the most popular types of cables no matter whether you are using customary Cat.7 cable (solid wires) or flexible patch cords (stranded wires).

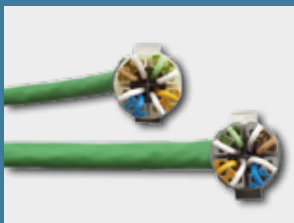
Safe in function

The robust zinc die cast housing with 360° shielding characteristics guarantees a trouble-free data transmission in any environment. Outside interferences will have no chance.

The additional coating of the universal connection module guarantees a potential separation to neighbouring connection modules.

Easy assembly

After the assembly of the clearly marked wire managers at each cable end, the connection takes place by simply screwing them together. Special tools are not necessary. The wire managers are distinctively coded, which makes the assembly easy and safe.



Fit for Future

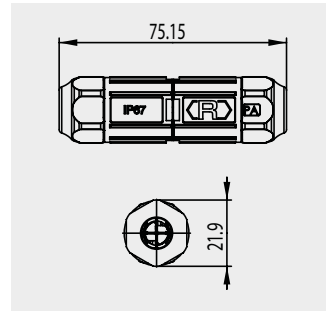
Class F_A-universal connection module from Rutenbeck comply fully to the current highest data transmission product requirements according to ISO/IEC 11801. Therefore, data rates up to 10 Gbit/s are no problem. Furthermore, the requirements for PoE+ are also fulfilled.

Product advantages:
Universal connection module Class F_A

- Class F_A iso performance (1000MHz)
- downward compatible to Cat.6_A / Cat.6A / Cat.6 / Cat.5e
- few pre-assembled parts, suitable for constructions sites
- zinc die cast housing for high mechanical stability and optimal shielding
- round shape
- 360° screening
- insulated
- Protection class: IP67 according to IEC 60529
- reconnectable up to 4 times
- suitable for PoE+, according to IEEE 802.3at
- for solid wires AWG 24/1 – AWG 22/1 (0,51 – 0,64 mm)
- for stranded wires AWG 27/7 – AWG 22/7 (0,46 – 0,76 mm)
- temperature range: -40°C - +85°C

The Class F_A - universal connection module from Rutenbeck complies to the following standards:

- 10 Gbit-Ethernet according to IEEE 802.3an
- Class F_A according to ISO/IEC 11801 and DIN EN 50173-1
- Cat. 6_A according to ISO/IEC 11801 and DIN EN 50173-1



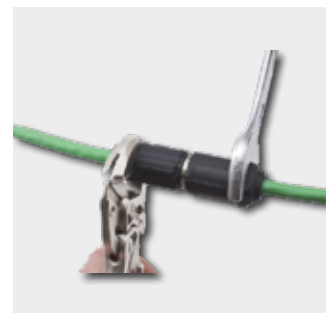
UV-Class FA
13900330
Class F_A-universal connection module, shielded, insulated construction, for field assembly, without special tools, for solid wires: AWG 24/1 – AWG 22/1, for stranded wires: AWG 27/7 – AWG 22/7, 75 x 22 (ø) mm, 56 g



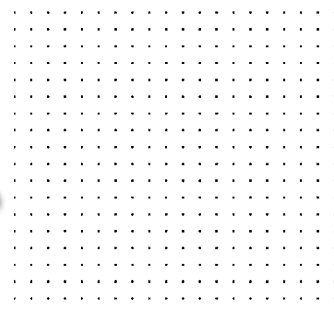
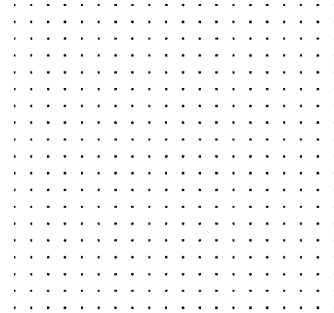
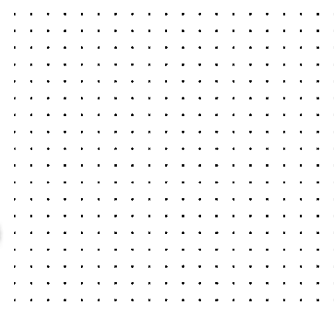
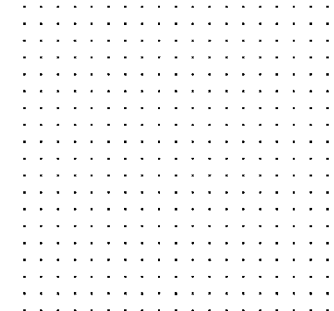
Universal connection module Class F_A



Few pre-assembled parts, suitable for construction sites



Assembly without special tools





DATA TECHNOLOGY

unshielded (UTP)

World-wide there is a large market for unshielded connecting hardware in data installations. Differing from the shielded products, the parts are made of zinc die cast only, if the mechanical stability is required. Otherwise, they are made of high quality plastic. Outstanding data transmission values allow the use in all data technical applications without having to use one single system.

Installation advantages and a solid construction guarantee a high cost-effectiveness.

Data jacks from Rutenbeck can be combined with the design wall plates (50 x 50 mm) from all wellknown manufacturers of electrical installation material.

All products can be found in detail at www.rutenbeck.com





Compact-universal jacks
 Cat.6A iso U, ClassEA iso U
 page 44



Compact connection technique, patch panel
 Cat.6A iso U, ClassEA iso U
 page 44



Modular connection technique Cat.6A iso U
 page 48



Modular connection technique, unshielded, construction kit system
 page 50



UTP –
Cat.6A iso U and ClassEA iso U,
compact-jacks and patch panel,
unshielded,
for generic networks

Unshielded data processing products of Cat.6A iso and ClassEA iso from Rutenbeck guarantee a safe data transmission at high quality and cost-effectiveness.

All unshielded data processing products from Rutenbeck are quality products "Made in Germany" certified according to ISO 9001.

Various designs enables the installation in different installation situations.

All unshielded data-technology jacks are suited to the use in 10-Gigabit-Ethernet-networks.

- for solid wires (AWG 26–22)

- for combination with design wall plates (UAE) of all well-known manufacturers of electrical installation

- 100% quality-proof

- 25 years guarantee

- made and tested in Germany

- suitable for PoE+ and UPOE

High performance assets

Unshielded Cat.6A iso U-jacks from Rutenbeck comply to the data transmission product requirements according to EIA/TIA as well as with the requirements on the transmission channel according to EIA/TIA for 500 MHz bandwidth (10 Gbit/s). Furthermore, PoE+ (Power over Ethernet) is no problem for the Cat.6A iso U-jacks from Rutenbeck.



Surface mounting design – ideal for supplementary installation

The surface mounting design is recommended for the backfitting and retrofiting of networks. The compact design fits perfectly in any installation environment.

With constantly increasing requirements of transmission characteristics, a fault-free and standard-conform installation has become of greater importance.



Flush mounting design – the universal solution

The praxis-proven design of the flush mounting data-jacks guarantees a safe connection and various installation advantages:

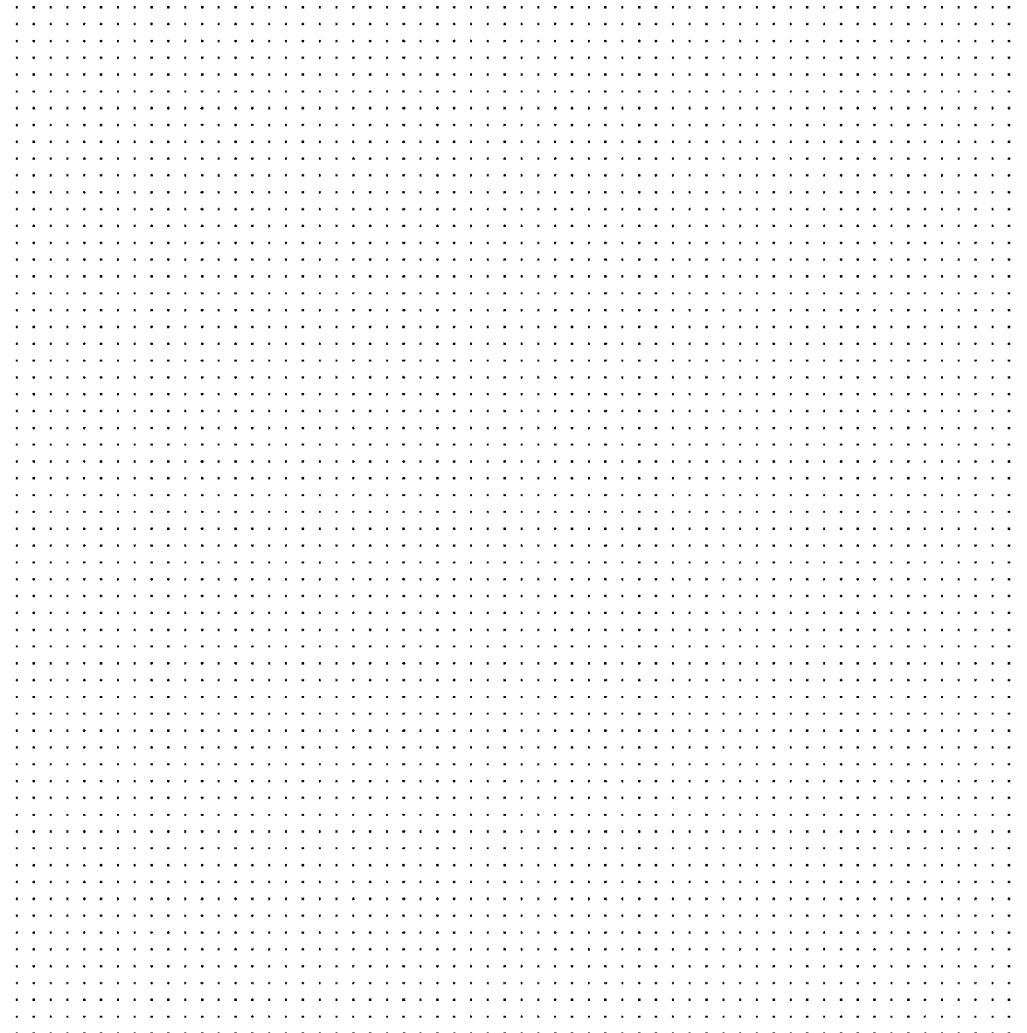
- proven, connection safe LSA-terminals
- clearly labeled terminals
- metric screws suitable for design wall plates of all well-known manufacturers of electrical installation material



Patch panel for generic networks

The patch panel represents the central connecting hardware of a network installation. In combination with the universal jacks, it enables the perfect setup of a structured cabling with optimal coordinated products.

High quality material guarantee for safe installation and data transmission.



Technical data for unshielded Cat.6A iso-U and ClassEA iso-U-connecting hardware

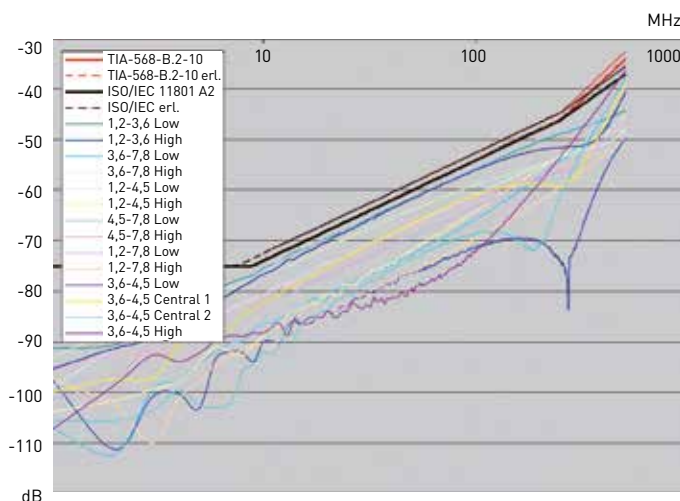
Mechanical characteristics	
General	
Housing	ABS, unshielded
Ambient temperature	-40 °C bis +70 °C
Class according to EN 60 529	IP21
Connector/outlet Cat.6A iso U, ClassEA iso U	
Design Cat.6A iso U	DIN EN 60603-7-51
Design ClassEA iso U	DIN EN 60603-7-41
Connection technique	LSA-terminals for wires 0.4–0.63 mm Ø, AWG 26–22, outer diameter 0.7–1.6 mm at PE, 1 wire at each terminal, number of connections ≥ 50 x
Assembly Cat.6A iso U	flexible printed circuit board made of polyimid with mechanical spring elements (patented)
Assembly ClassEA iso U	flexible printed circuit board made of polyimid with mechanical spring elements (patented)
Contact material/-surface	1,5 µm Ni/0,8 µm Au
Material housing	PBT
Life (insertion and withdrawals)	Cat.6A iso U ≥ 1000 cycles with plugs according to IEC 60 603-7 ClassEA iso U ≥ 1000 cycles with plugs according to IEC 60 603-7

Electrical characteristics Cat.6A iso U, ClassEA iso U	
Voltage	72 V DC, suitable for TNV circuits, according to EN 60 950-1:2011-01
Operation current	500 mA, at 50 °C ambient temperature
PoE-compliant	suitable for PoE+ (Power over Ethernet) according to IEEE 802.3at
Voltage withstand	1000 V (contact – contact)
Isolation resistance	≥ 500 MΩ
Contact resistance	signal contact: 20 mΩ
Color code	T568A and T568B according to TIA/EIA-568-B.2

Transmission characteristics Cat.6A iso U	
ISO/IEC 11801	Cat.6 _A , unshielded
DIN EN 50173	
DIN EN 60603-7-41	500 MHz, unshielded
TIA/EIA-568-C.2	Cat.6A, unshielded

Transmission characteristics ClassEA iso U	
ISO/IEC 11801	ClassE _A , unshielded
DIN EN 50173	
DIN EN 60603-7-41	500 MHz, unshielded
TIA/EIA-568-C.2	Class EA, unshielded

Test- and approval marks

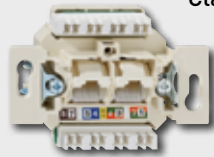


Extended NEXT for 10-Gigabit-Ethernet (typical values according to ISO/IEC and EIA/TIA)

Overview compact components Cat.6A iso U, ClassEA iso U, unshielded

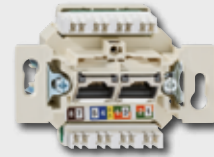
Compact components
ClassEA iso U, Cat.6A iso U

...for the Channel-Link
ClassEA iso U



ClassEA iso U-Universal data jacks
for generic networks

...for the Permanent-Link
Cat.6A iso U



Cat.6A iso U-Universal data jacks
for generic networks



surface
mounting

Ap rw*

1-way	132115010	●
2-way	132115030	●

Ap rw*

1-way	13411501	●
2-way	13411503	●

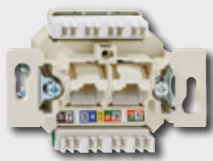


Up rw*

1-way	132112010	●
2-way	132112050	●

Up rw*

1-way	13411201	●
2-way	13411205	●



Up 0

UP 0

1-way	132104010	●
2-way	132104050	●

UP 0

1-way	13410401	●
2-way	13410405	●

Patch panel
for generic networks,
direct mounting



ClassEA iso U

PP-24/1 U

24-way	232101100	●
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patch panel, 19", 1U,
for direct mounting

Cat.6A iso U

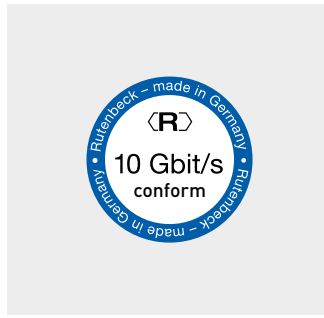
PP-24/1 U

24-way	234101100	●
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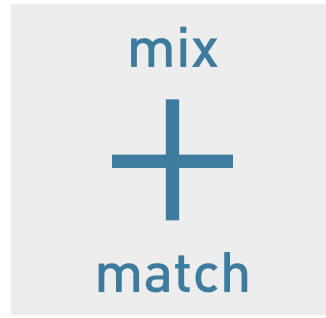
patch panel, 19", 1U,
for direct mounting



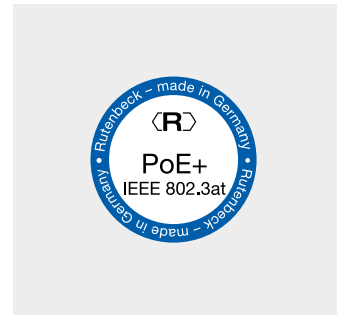
- Cat.6A iso U-components
- ClassEA iso U-components



- Cat.6A iso U-components
- ClassEA iso U-components



- suitable for mix-and-match use
- free choice of cable
- high reserves at cable lengths < 90 m



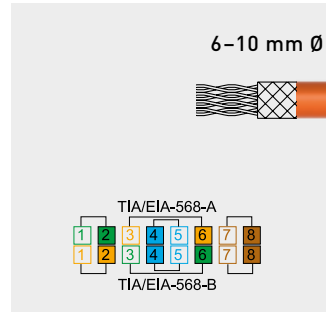
- suitable for PoE+ (Power over Ethernet) according to IEEE 802.3at



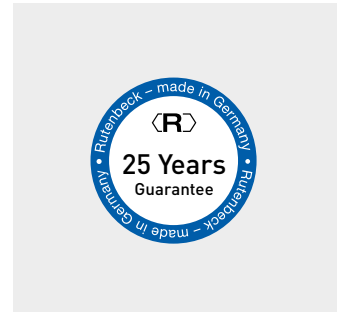
- for combination with design wall plates of all well-known manufacturers of electrical installation material for single and double flush mounting-solutions



- special socket construction guarantees reliable data transmission even if the RJ11/12 jack is inadvertently plugged in incorrectly
- at least 1000 insertion cycles with standardized RJ45 jacks (250 more than the standard requirement)



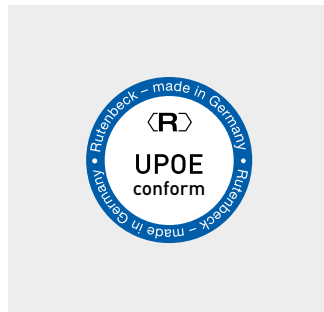
- for data cable with a diameter of 6-10 mm
- coding of terminals A and B in accordance with TIA/EIA-568-B.2



- made and tested in Germany
- 25 years guarantee



- suitable for HDBaseT-applications



- suitable for Cisco UPOE-standard

UTP – Cat.6A iso U
Modular connection technique,
unshielded,
for generic networks

Universal modular jacks –
professional und
practice-oriented

No compromising in design

Universal modular jacks from Rutenbeck are extending the selection of modular connecting systems with a type "direct" design compatibility. Meaning that, up to two Rutenbeck universal modular jacks can be completed with customary TAE wall plates. This allows the integration into any switch design.

In case three modular jacks are supposed to be put into one mounting box, this can be realized by using special mounting adapters and center plates.

Universal modular jacks from Rutenbeck fit the worldwide customary mounting openings of 19.3 x 14.7 mm.

Quick and easy connection

For mounting expensive and complicated special tools are not necessary. The cable only needs to be dismantled and prepared according. For the following steps a cutting tool is completely sufficient. The mounting wedge of the Rutenbeck universal modular jacks helps in case of friction-locked contacting and allows an assembly without any additional installation effort.

Product advantages:

- fits standard Keystone openings
- few pre-assembled parts, suitable for construction sites
- high mechanical stability
- terminals clearly labeled with color codes (A and B coding are of equal value)
- no tools needed for mounting due to mounting wedge
- quick one step mounting of strain relief
- for data cables Ø 6–10 mm
- for solid wires (AWG 24–22)
- for stranded wires (AWG 26)
- Module head can be connected up to 10 times without new cable assembly
- bend-radius optimized cable feeding of 30°

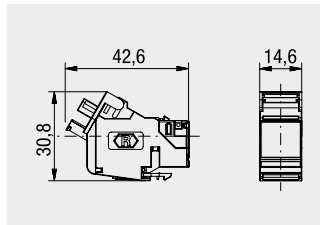
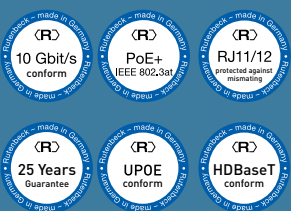
- built-in dust protection cap (removeable, if required, color-exchangeable)
- for combination with design all plates (TAE) of all well-known manufacturers of electrical installation material for single and double solutions
- triple flush mounting solution with special center plate
- 100% quality-proof
- 25 years warranty
- made and tested in Germany
- suitable for PoE+

High performance assets

Unshielded Cat.6A iso U-Universal modules from Rutenbeck comply to the data transmission product requirements according to EIA/TIA as well as with the requirements on the transmission channel according to EIA/TIA and ISO/IEC for 500 MHz bandwidth (10 Gbit/s). Furthermore, PoE+ (Power over Ethernet) is no problem for the Cat.6A iso U Universal modules from Rutenbeck.

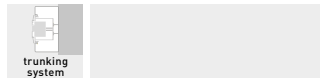
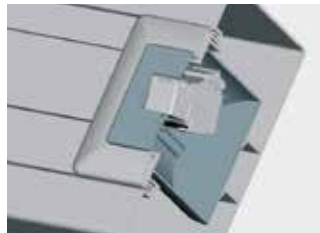
„Made and tested“ in Germany

Rutenbeck products are being produced at a very high technological level. They have to pass in Germany a very strict quality tests. For the fulfillment of all performance parameters, Rutenbeck grants 25 years guarantee for these universal modular components!

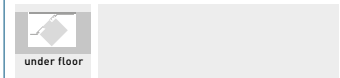
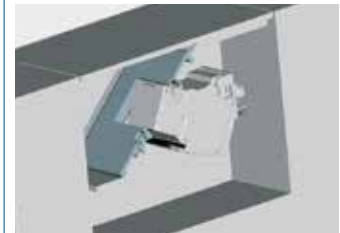


UM-Cat.6A iso U A
13700300 ●
Universal modular jack,
unshielded,
suitable for standard
Keystone openings,
15 x 31 x 43 mm, 27 g

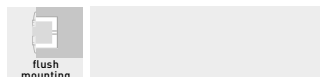
Installations in different environments



The 30°-cable entry of the universal modular jack prevents the data cable from touching the backside of the mounting box too soon. The cable can be laid without unacceptable kinks or too small bend radiuses.



In under floor applications the cable will be led almost parallel to the bottom to the back, because of the bend radius optimized cable feeding. Perfect for small installation situation.



For flush mounting installation a special mounting adapter is available, which allows an accurate cable feeding from the top or bottom, even in difficult situations where only very limited space is available. In order to accommodate the extra cable without bending the cable too much, a twin chamber mounting box should be installed.

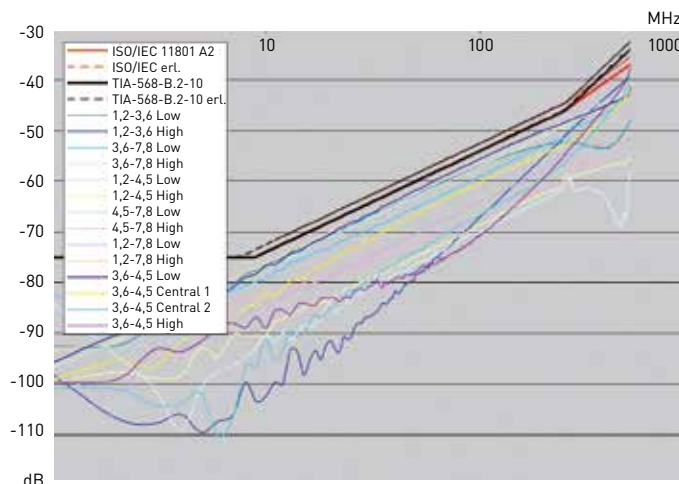
Technical data for unshielded UM-Cat.6A iso-U-connecting hardware

Mechanical characteristics	
General	
Housing	ABS, unshielded
Ambient temperature	-40 °C to +70 °C
Class according to EN 60529	IP21
Connector/outlet	
Design	DIN EN 60603-7-41:2011-01
Connection technique	
Solid wire	IDC terminals for wires Ø 0.51–0.64 mm, AWG 24–22, outer diameter 0.7–1.6 mm at PE, 1 wire each contact, maximum connections 10 times (at the same or larger cross-section)
Stranded wire	IDC terminals for wires 0.13–0.22 mm ² , AWG 26 (PE-Foamskin) – AWG 24 (PE-solid), outer diameter 0.9–1.1 mm at PE, 1 wire each contact, maximum connections 10 times (at the same or larger cross-section)
Assembly	flexible printed circuit board made of polyimid with mechanical spring elements (patented)
Contact material/-surface	1,5 µm Ni/0,8 µm Au
Material housing	PBT
Life (insertion and withdrawals)	≥ 750 cycles with plugs according to IEC 60 603-7

Electrical characteristics	
Voltage	72 V DC, suitable for TNV circuits, according to EN 60 950-1:2011-01
Operation current	500 mA, at 50 °C ambient temperature
PoE-compliant	suitable for PoE+ (Power over Ethernet) according to IEEE 802.3at
Voltage withstand	1000 V (contact – contact)
Isolation resistance	≥ 500 MΩ
Contact resistance	signal contact: 20 mΩ
Color code	T568A and T568B according to TIA/EIA-568-B.2

Transmission characteristics	
ISO/IEC 11801	Cat.6 _A , unshielded
DIN EN 50173-1	
DIN EN 60603-7-41	500 MHz, unshielded
TIA/EIA-568-C.2	Cat.6A, unshielded

Test- and approval marks



Extended NEXT for 10-Gigabit-Ethernet (typical values according to ISO/IEC and EIA/TIA)

Overview unshielded modular components, unshielded (construction kit system)

All products can be found in detail www.rutenbeck.com

Modular connecting hardware, Cat.6A iso U

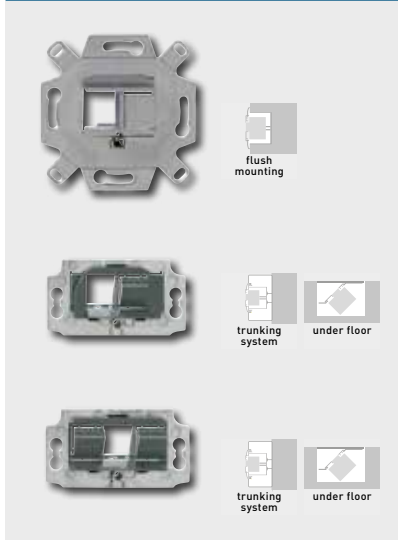
Construction kit system

Accessory for holding universal modular jacks



Cat.6A iso U

UM-Cat.6A iso U A
13700300
Universal modular jack, suitable for standard Keystone openings



UM-UMA 2 Up
2-way 13900004 ●

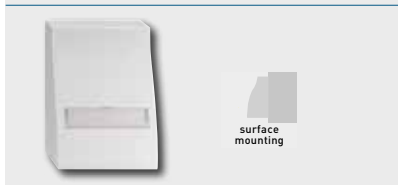
Flush mounting adapter, break off mounting ring can be converted into mounting bracket, without universal modular jacks

UM-MA 2 Up
2-way 13900001 ●

Flush mounting adapter, without universal modular jacks

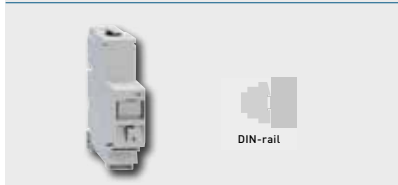
UM-MA 3 Up
3-way 13900002 ●

Flush mounting adapter, without universal modular jacks



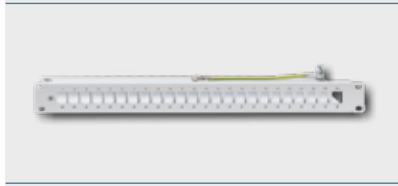
UMflex-ApG rw*
3-way 13911501 ●

Surface mounting housing, without universal modular jacks, cable entry only from top



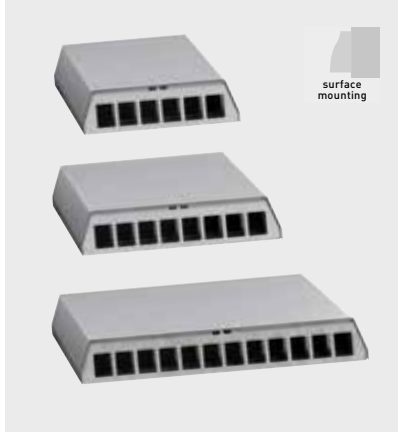
UM-MA REG
1-way 13900003 ●

DIN-rail mounting adapter, 1 DIN unit wide, without universal modular jack



PP-UM A-24/1
24-way 23900000 ●

patch panel, 19"/1 U, for direct mounting, without universal modular jacks



PP-UM A-6 Ap
6-way 23910106 ●

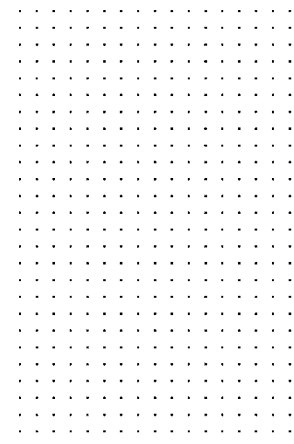
surface mounting-patch panel, without universal modular jacks

PP-UM A-8 Ap
8-way 23910108 ●

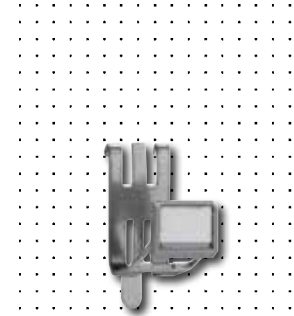
surface mounting-patch panel, without universal modular jacks

PP-UM A-12 Ap
12-way 23910116 ●

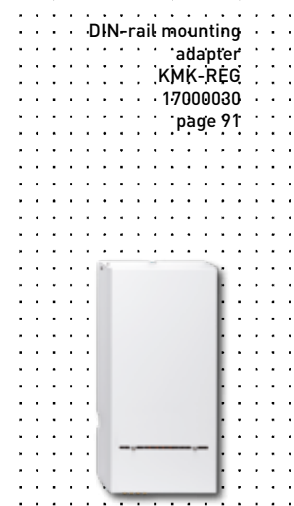
surface mounting-patch panel, without universal modular jacks



Consolidation Point
CP-UM A-12 Ap
23910112
page 19



DIN-rail mounting adapter
KMK-REG
17000030
page 91



Multimedia patch panel
MM Ap
23910118
page 25

Overview unshielded modular components, unshielded (Accessory)

All products can be found in detail www.rutenbeck.com

Modular connecting hardware, Cat.6A iso U

Accessory



Cat.6A iso U

UM-Cat.6A iso U A
 13700300
 Universal modular jack, suitable for standard Keystone openings



	Ap	Ap rw*
for center plate 2-way a. 3-way	10010001 ●	10010051 ●

Wall plate

	ZSt UM-MA 2	ZSt UM-MA 2 rw*
2-way	13910003 ●	13910053 ●

Center plate

	ZSt UM-MA 3	ZSt UM-MA 3 rw*
3-way	13910002 ●	13910052 ●

Center plate

*rw = pure white



DATA TECHNOLOGY

SOHO and special solutions

The repeatedly discussed „smart home“ with an integrated networking of all terminal equipment provides new challenges for the installations in a private homes in a new buildings as well as in refurbished homes. Universal system solutions are not only safer but also provide more comfort and even support an individual and self-determined living standard in the privacy of one’s own home.

The basis of such solutions is a future-oriented and powerful network infrastructure, which covers all necessary applications and offers sufficient power reserves for future applications.

Innovative products for the installation in the electrical distribution box ensure an easy integration of the network into classical home installation environments.

We especially designed our **line21®**- and our **DATA LIGHT** POF products for retrofitting.



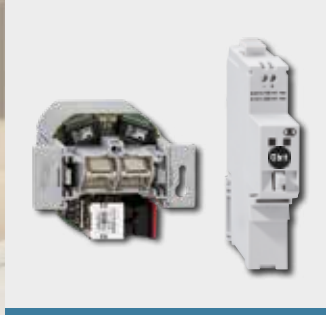
WIFI-Accesspoint for flush- and DIN-rail mounting
 page 54



Active and passive components for the electrical distribution box
 page 60



line21® for retrofitting
 page 66



DATA LIGHT
 page 68



AC WLAN

WLAN-Accesspoint in a data jack –
safe mobility for any network

AC WLAN

- WLAN in addition to data outlet
- 150 Mbit/s – IEEE802.11 b/g/n
- all known encryption methods
- adjustable range
- time profiles for LAN and WLAN
- indication of functions with illuminated jack
- guest access for easy surfing
- printer-/data connection via USB-interface
- with central management
- design compatible to fit the design covers of the switching industry or as DIN-rail version



Now with increased
data security!



WiFi - Safe and Plannable

The WiFi access point is the customized WiFi connection of mobile devices in all rooms of the house. The internet access of the router can be extended by use of a cable in the rooms. With the proper channel selection and the adapted transmission according to the size of the room, power overlapping with neighboring devices and therefore, data loss is omitted. For this reason a powerful, wired «meshed network» is developed and independent of the structural conditions of the building.

For all Installation Environments

Depending on the application, the power supply takes place directly with 230 V or by means of PoE. The WiFi access points are connected to the router with classical copper cables or with Polymer optical fibres (POF). The Rutenbeck WiFi access point is the only one in the world that fits into a commercial flush-mounting installation box. Due to the integrated antenna, it is compatible to the design programs of all well-known switch manufacturer.

PoE for retro-fitting

The PoE-version can be exchanged directly against existing data jacks, even if there is no 230-V supply available. It will not only be supplied with power and data by PoE, (PoE class 0), it also feeds devices connected at the RJ-45 outlet with PoE (PoE class 2, max. 6.49 W).

Putting into Operation via Management

The programming can be done via the web-interface. The integrated, central management of the Rutenbeck access points significantly simplifies the setting up, controlling and management of multiple devices.

Time Management

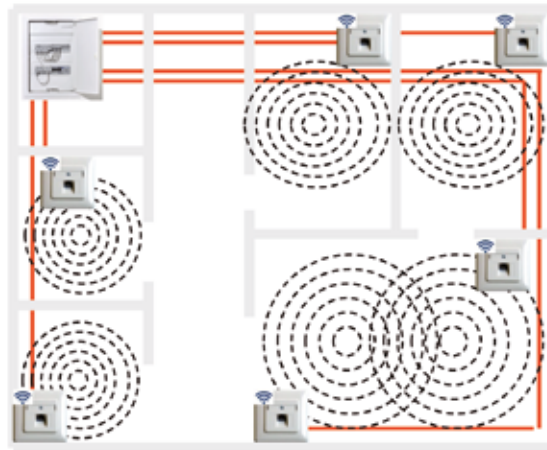
Individual settings allow the time-controlled activation/deactivation of the WiFi and LAN of the front jack. One can set daily, weekly or monthly programs and with the holiday function exceptional days can also be programmed.

Easy Access to the Internet – the Guest Access

The guest access allows i.e. visitors the uncomplicated access to the internet without having access to the local network. For this guest access different access data will be stored for the guests in the AC WLAN.

IT Security «by Design»

The current requirements of the IT-basic protection are fulfilled and with software updates continuously adapted, if necessary.



The «planned WiFi»

- WiFi access points in each room
- all data cables lead to the electrical distribution box (router)
- coverage adjusted to the size of the room
- less interference= high and stable WiFi-data rates

USB for additional functions

The AC WLAN UAE/USB offers network integration of USB-devices.



The power supply (2.5 W) is being done by the USB-interface.

Application examples:

- the Data Stick can be used as a network drive
- the USB-printer can be used as a network printer
- the AC WLAN can be used as a router by connecting a GSM/LTE stick

Industrial Applications

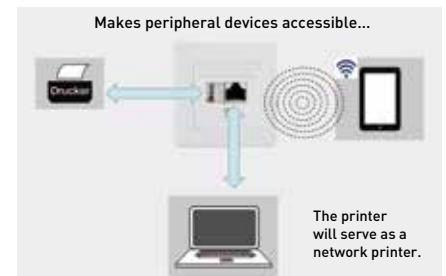
The version for DIN-rail mounting is the perfect solution for applications in industrial environments. The device has an external antenna (2 m, included with delivery) and can also be operated with an external 12 V power supply in case of power failure.



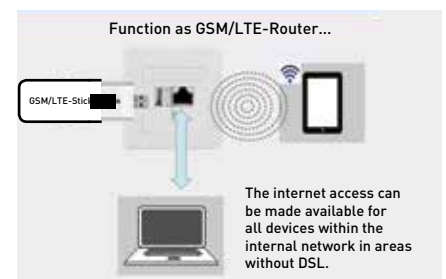
Connection USB-Data Stick



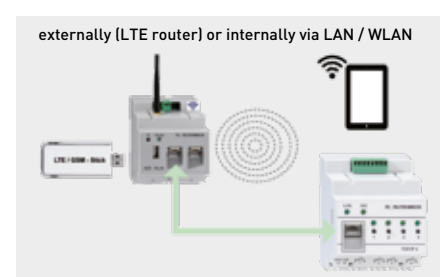
Connection USB-Printer

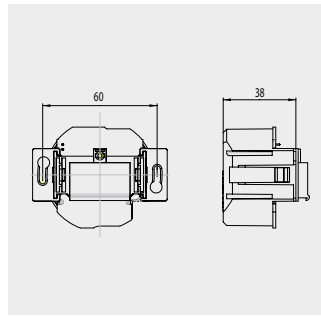


Extended Function GSM/LTE-Router

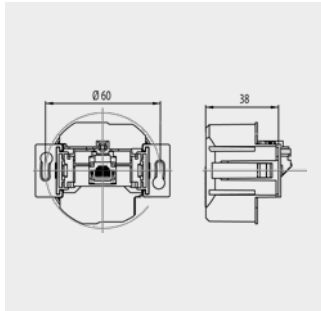


Remote Switching in Connection with TCR IP 4

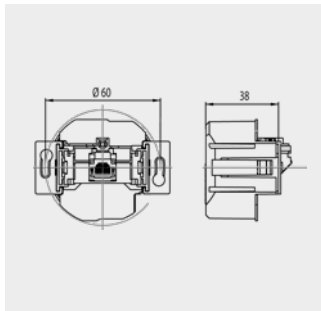


WLAN-Accesspoint
AC WLAN 230V**AC WLAN Up rw**
22610410

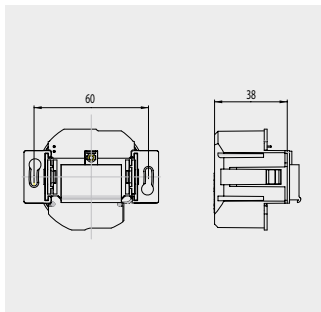
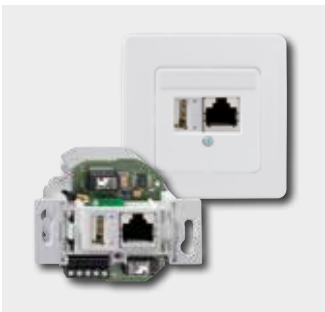
Flush mounting WLAN-Accesspoint, with center plate and wall plate, 150 Mbit/s, 802.11 b/g/n, WEP/WPA2, operating mode as well as bridge, repeater, with timer- and time switching function, indication of functions via LED, reset with reset magnet, network connection with screw terminals, rated operating voltage 100-240 V- / 50-60 Hz, 3 VA typical, pure white (similar RAL 9010), 80 x 80 x 50 mm, 112 g

**AC WLAN UAE Up rw**
226104030

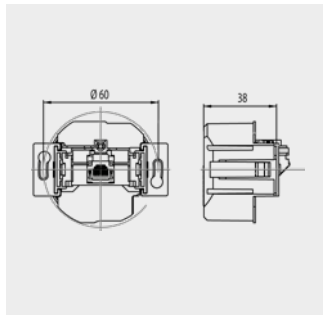
Flush mounting WLAN-Accesspoint, with center plate and wall plate, 150 Mbit/s, 802.11 b/g/n, WEP/WPA2, operating mode as well as bridge, repeater, indication of functions at RJ45-outlet (can be switched off), reset with reset magnet, integrated data outlet (RJ45) 100 Mbit/s, network connection with screw terminals, rated operating voltage 100-240 V- / 50-60 Hz, 3 VA typical, pure white (similar RAL 9010), 80 x 80 x 50 mm, 112 g

**AC WLAN POF/UAE**
1xUp rw 2,2 mm
226104050

Flush mounting WLAN-Accesspoint, with center plate and wall plate, 150 Mbit/s, 802.11 b/g/n, WEP/WPA2, operating mode as well as bridge, repeater, indication of functions at RJ45-outlet (can be switched off), reset with reset magnet, integrated data outlet (RJ45) 100 Mbit/s, POF network connection (2.2 mm), rated operating voltage 100-240 V- / 50-60 Hz, 3 VA typical, pure white (similar RAL 9010), 80 x 80 x 50 mm, 115 g

**AC WLAN UAE/USB Up rw**
22610407

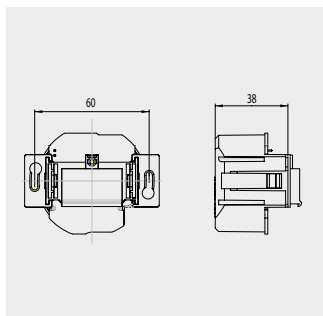
Flush mounting WLAN-Accesspoint, with center plate and wall plate, 150 Mbit/s; 802.11 b/g/n, WEP/WPA2, operating mode as well as bridge, repeater, with timer- and time switching function, indication of functions at RJ45 - outlet (can be switched off), reset with reset magnet, integrated data outlet (RJ45), 100 Mbit/s; integrated USB-2.0 interface (USB A / 2.5 W), network connection with screw terminals, rated operating voltage: 100-240 V- / 50-60 Hz, 3 VA typical, pure white (similar RAL 9010), 80 x 80 x 50 mm, 112 g



AC WLAN UAE PoE Up rw
22610406

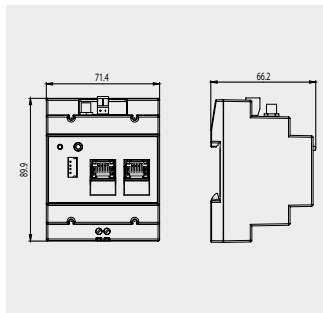
Flush mounting WLAN-Accesspoint, with center plate and wall plate, 150 Mbit/s, 802.11 b/g/n, WEP/WPA2, operating mode as well as bridge, repeater, with timer- and time switching function, indication of functions at RJ45-outlet (can be switched off), reset with reset magnet, integrated data outlet (RJ 45), 100 Mbit/s with PoE-feeding (class 2), Network- and power supply (PoE) with screw terminals, rated operating voltage: PoE (class 0), 3 VA typical, pure white (similar RAL 9010), 80 x 80 x 50 mm, 112 g

WLAN-Accesspoint
 AC WLAN PoE



AC WLAN UAE/USB PoE Up rw
22610409

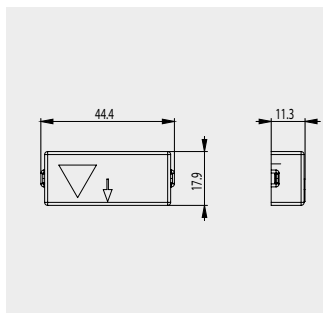
Flush mounting WLAN-Accesspoint, with center plate and wall plate, 150 Mbit/s, 802.11 b/g/n, WEP/WPA2, operating mode as well as bridge, repeater, with timer- and time switching function, indication of functions at RJ45-outlet (can be switched off), reset with reset magnet, integrated data outlet (RJ 45), 100 Mbit/s with PoE-feeding (class 2), integrated USB-2.0 interface (USB A/2.5 W), Network- and power supply (PoE) with screw terminals, rated operating voltage: PoE (class 0), 3 VA typical, pure white (similar RAL 9010), 80 x 80 x 50 mm, 112 g



ACR WLAN 3xUAE/USB
22610408

WLAN-Accesspoint for mounting on a DIN-rail, 150 Mbit/s, 802.11 b/g/n, WEP/WPA2, 2 integrated data outlets (RJ 45), 100 Mbit/s, integrated USB-2.0 interface (USB A/2.5 W), operating mode as well as bridge, repeater, with timer- and time switching function, indication of functions via LED, reset with push-button, power supply output: 12 V DC, 3 W rated operating voltage: 100-240 V~ / 50-60 Hz, 3 VA typical, alternatively 12 V DC / 3 W light grey (similar RAL 7035), 72 x 90 x 65 mm = 4 DIN units wide, 155 g

WLAN-Accesspoint
 ACR WLAN



RM
39200010
 Reset-magnet, for AC WLAN
 40 x 17 x 10 mm, 11 g

WLAN-Accesspoint
 Accessory



New installation

How to realize a network cabling in a new building.



PAGE **60**



Retro-fitting

The variants for retrofitting a future-proof network infrastructure.



PAGE **66**

Multimedia in Perfection

Safe and almost invisible – the up-to date multimedia cabling.



PAGE **78**

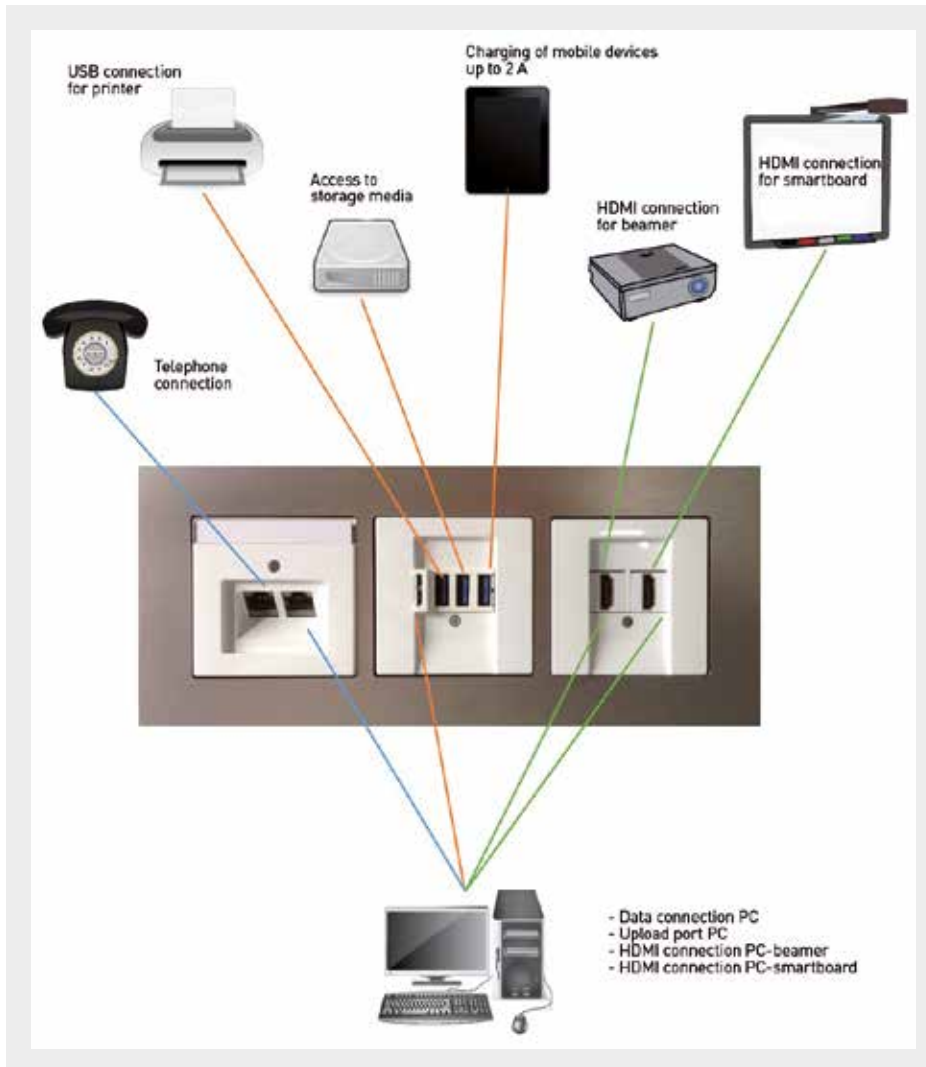
Example

Home cabling
3 room apartment

Rooms	Power outlets		Lighting circuits		Radio/communication <small>(antenna, network, internet)</small>		Information/communication <small>(telephone, network, internet)</small>	
	actual	target	actual	target	actual	target	actual	target
Living room	10 (2xUSB)	8-11	3	2-3	2	2-3	2	1-2
Dining room		5		1		1		1
Bed room	8	8-11	3	2-3	1	1	1	1-2
Kitchen	10 (1xUSB)	10	2	3	1	1	1	1
Child 1	8 (1xUSB)	8-11	2	2-3	0	1	1	1-2
Child 2		8-11		2-3		1		1-2
Child 3		8-11		2-3		1		1-2
Bath room	4 <small>(from that 2 x mirror cabinet)</small>	4	3 <small>(from that 1 x mirror cabinet)</small>	3	0	-	0	-
Toilet		2		1		-		-
Domestic w.		8		2		2		1
Home office		8-11		2-3		1		1-2
Hobby		6		2		1		1
Basement		2		1		-		-
Garage		2		1		-		-
Hallway	6		2		1		1	
Balcony	2		1		0		0	

Accessory – Example	
Data cable	250 Cat 7-cable (installation on site)
Patch cable	4 x 2m (Terminal equipment connection) , 6 x 0,35m (patching at electrical distribution box)
MM Ap	Multimedia patch panel for the installation of components(router, switch etc.)
HDMI	2 xHDMI- connection, for the connection between TV and Blu-ray player + 5 m HDMI-cable
Power outlets	2 x USB charger for charging smartphones etc. will be installed instead of power outlets

Installation example



Active system devices
Switch
SR 5TX GB



Gigabit-Switch for
DIN-rail mounting
SR 5TX GB

The SR 5TX GB is the best choice for dependable and permanent connection of IT-equipment to the network. After the connection of the 230 V five devices can be linked. If more devices need to be linked, another SR 5TX GB can be connected for cascading to any front port. Each port has a service LED which indicates the operating state.

Performance features	Functional features
- 6 DIN units wide	- data rate 10/100/1000 Mbit/s
- 5 x RJ45-ports (slanted outlet)	- multicast-capable
- Protection class: IP20 according to EN 60529	- autosensing, autonegotiation
- Insulation class II	- autpartitioning, MDI/MDIX
- integrated power supply 100-240 V	- VLAN support according to IEEE 802.3Q
- LEDs for operation and function	- energy efficient according to IEEE 802.3az
- cascading by using front ports	- wake-on-LAN-functionality
- extended temperature range (-40 - 55°C)	

Passive system devices
Midspan patch panel
PPR 6 PoE



Midspan patch panel
PPR 6 PoE

With PoE (Power over Ethernet) it is possible to power feed data terminals like IP webcams or IP telephones directly from the network – additional to the data without influencing them. Midspan solutions have the advantage of being able to use the already existing switches. The midspan patch panel joins the data ports of the switches with the power supply. The PoE Midspan patch panel contains all necessary methods for an uncomplicated plug-and play of the connected data terminals.

Performance features
- 6 DIN units wide
- standard-conform system solution
- for up to 3 PoE-devices
- max. 15.4 W at each port (class 0-3)
- 6 x RJ45-ports, 3 x data inputs, 3 x data+PoE-outputs (slanted outlet)
- Protection class: IP20 according to EN 60529
- Insulation class II

PoE-Power Supply
SVR 52 V PoE+



PoE-Power Supply
SVR 52 V PoE+

The PoE+ -power supply is optimal customized for the Rutenbeck PoE-solution. Up to 5 PoE devices (class 0-3) or 3 PoE+ -devices can be powered from the electrical distribution box. The connection takes place with a detachable terminal block, therefore, the PoE devices can be installed flexible and independently of each other in the electrical distribution box.

Performance features
- 6 DIN units wide
- optimized for PPR6 PoE and SR 10TX GB PoE
- 80-W- PoE-Power
- for up to 5 PoE-devices or
- for up to 3 PoE+ -devices
- LED for operation
- Protection class: IP20 according to EN 60529



**Gigabit-Switch for DIN-rail mounting
SR 10TX GB PoE**

The number of IP-based system devices is permanently increasing. In addition many devices are powered with Power over Ethernet (PoE). The needed space in central IP-distributor solutions increases accordingly, while the available space is anyway limited.

The SR 10TX GB PoE opens a totally new installation method in the market. Since additional patch panels are no longer needed, space can be saved in the electrical distribution box. Besides 4 Gigabit-front ports, additional 6 Gigabit ports are available at detachable screw terminals, which are located behind the cover after being mounted. Patch panels are not needed at this "direct connection" and the direct connected devices can be power fed with PoE. Up to total power of 45 W is at disposal. If more power is needed, a separate PoE power supply can be connected. Depending on the available power of the power supply, all 6 installation ports can be supplied with 25.5 W.

A special variant is available for applications where PoE is not needed.



The Rutenbeck PoE-power supply SVR 52 V PoE+ has 80 W PoE power and is for DIN-rail mounting.

Performance features

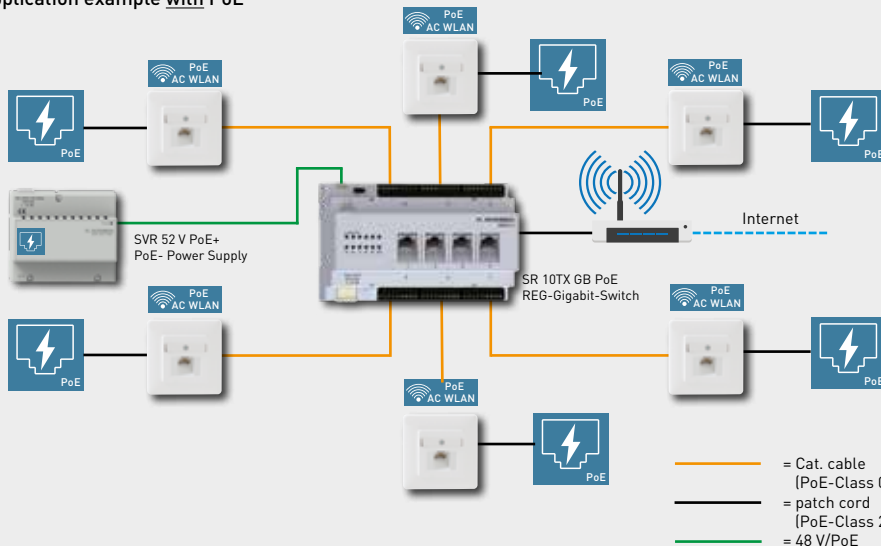
- 8 DIN units wide
- 4 x RJ45-ports (slanted outlet)
- 6 installation ports (detachable screw terminal block, 9poles)
- Protection class: IP20 according to EN 60529
- integrated power supply 230 V
- 45 W PoE-power at the installation ports
- 48 V-input for PoE- power extension to max. 30 W at the installation ports each
- LEDs for operation and service function

Functional features

- data rate 10/100/1000 Mbit/s
- multicast-capable
- autosensing, autonegotiation
- autopartitioning, MDI/MDIX
- VLAN support according to IEEE 802.3Q
- energy efficient according to IEEE 802.3az
- wake-on-LAN-functionality

**Active system devices
PoE-Switch
SR 10TX GB PoE**

Application example with PoE



Active and passive
FO (fibre optical)
system components



Splice box FO for DIN-rail mounting PPR 3SC-M

Since the introduction of fiber optic applications in private homes (FT-TH=Fibre To The Home) the desire to use the high performance of the optical fibre has consistently increased.

The splice box serves as the central distribution component in the electrical distribution box.

The splice box is fully equipped with splice tray, couplings, pigtails and cable gland/strain relief, which is located upper top right or upper top left (M20 bolting).

Due to the extended temperature range from -40°- 75°C, the splice box can also be used for various applications in industrial areas.

The standard design consists of 3 SC-Duplex –couplings (50 µm), however, additional variants are available upon request.

Performance features

- 6 DIN units wide
- 3 x SC Duplex (MM), (slanted outlet)
- integrated splice comb
- integrated with splice tray
- ready-to-splice couplings/pigtails
- with cable gland/strain relief
- Protection class: IP20 according to EN 60529
- Insulation class II
- extended temperature range for applications in industrial areas
- according to EN 60529 and DIN 43880



Switch FO for DIN-rail mounting SR 2TX/2SC

The FO-switch can be used for the connection of FO-data jacks and/or terminal devices at homes – or industrial networks and is the optimal supplement for the splice box PPR 3SC-M. All switches support Fast Ethernet (100 Mbit/s), which means more bandwidth than most Internet connection can supply.

The connection to the router or to other switches of the network takes place with the RJ-45 front ports.

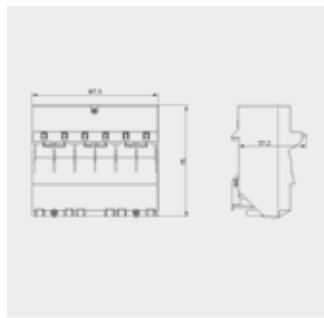
Two SC-Duplex ports for single- or multimode fibres are located at the front for fiber optical applications.

For Datalight an according variant with 4 connections is available. The power supply must be done with 12-60V DC, whereas extra redundancy requests from industrial areas can also be fulfilled. The temperature range for this environment has also been defined: -40° – 55°C.

Additional variants are available upon request.

Performance features

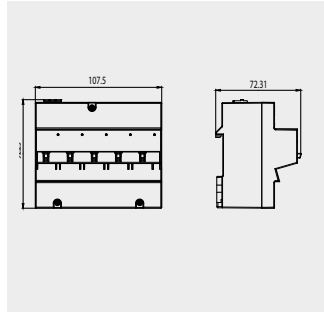
- 6 DIN units wide
- 2 x SC Duplex (SM or MM)
- 2 x RJ45
- data rate 10/100Mbit/s
- LEDs for operation and service function
- Protection class: IP20 according to EN 60529
- Insulation class II
- extended temperature range for applications in industrial areas
- according to EN 60529 and DIN 43880



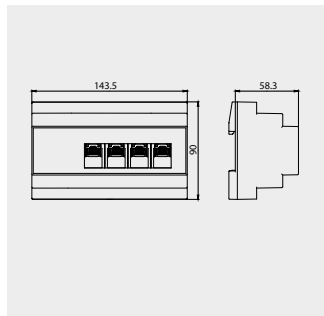
PPR 6*
23810200 ●
 Patch panel for DIN-rail mounting,
 6 x RJ45-ports, Cat.6/Class E,
 suitable for Gigabit-Ethernet,
 light grey (similar RAL 7035),
 108 x 95 x 58 mm = 6 DIN units wide,
 198 g

* modular version see page 19

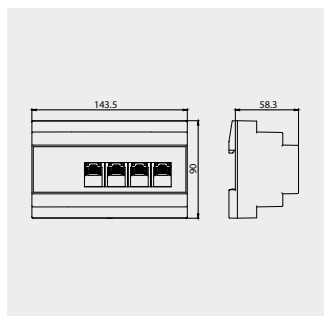
Active and passive
 system components for
 mounting in an electrical
 distribution box



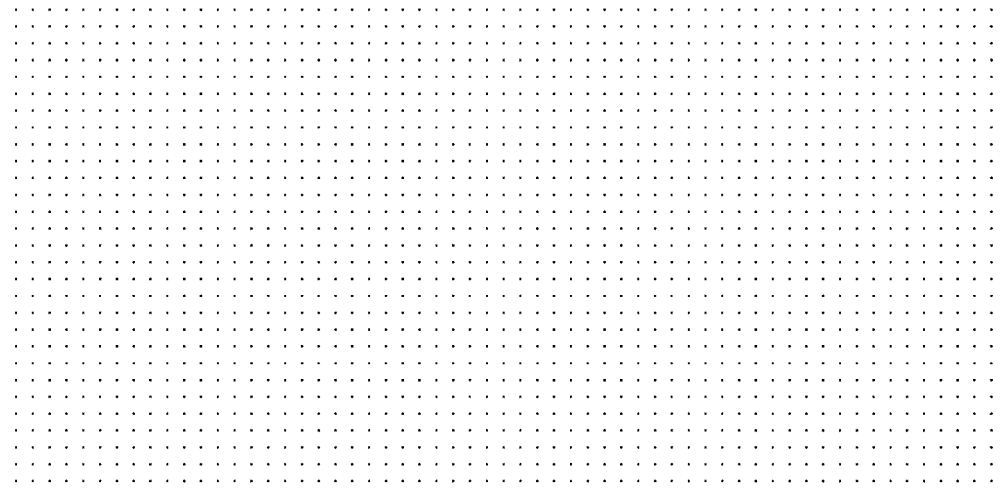
SR 5TX GB
23510503 ●
 Gigabit-switch for DIN-rail
 mounting, 5 x RJ45-port
 10/100/1000Mbit/s, multicast-ca-
 pable, VLAN-support,
 nominal operating voltage:
 100-240 V-/50-60 Hz, ≤ 4,3VA,
 ≤ 0,6VA in standby mode,
 light grey (similar RAL 7035),
 108 x 93 x 73 mm = 6 DIN units wide,
 194 g



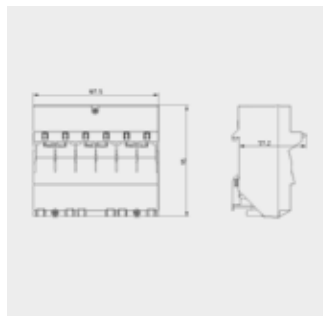
SR 10TX GB PoE
23510504 ●
 Gigabit-switch for DIN-rail
 mounting, 4 x RJ45-front ports
 10/100/1000 Mbit/s,
 6 x installation ports 10/100/1000
 Mbit/s, 45 W-PoE-power at the ins-
 tallations-ports – expandable to 180
 W with external 48 V-power supply
 (DC), multicast-capable,
 VLAN-Support,
 nominal operating voltage:
 100-240 V-/50-60 Hz, ≤10VA,
 light grey (similar RAL 7035),
 144 x 90 x 59 mm = 8 DIN units wide,
 327 g



SR 10TX GB
23510505 ●
 Gigabit-switch for DIN-rail moun-
 ting, 4 x RJ45-front ports 10/100/1000
 Mbit/s,
 6 x installation ports 10/100/1000
 Mbit/s, multicast-capable,
 VLAN-support,
 nominal operating voltage:
 100-240 V-/50-60 Hz, ≤10VA,
 light grey (similar RAL 7035),
 144 x 90 x 59 mm = 8 DIN units wide,
 289 g

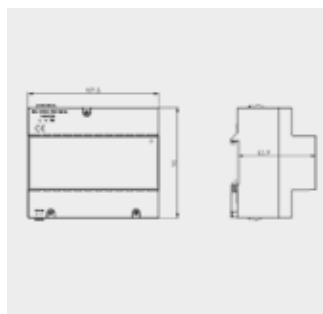


PoE und PoE+ system components



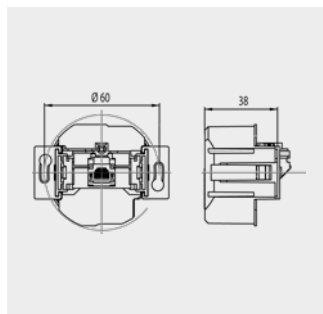
PPR 6 PoE
23510300 ●
 PoE-Patch panel for DIN-rail mounting, Midspan solution, 3 x RJ45-ports data inputs, 3 x RJ45-ports outputs, Data + PoE, suitable for 10/100 Mbit/s, Nominal operating voltage: 48 V DC, power consumption 1 A, light grey (similar RAL 7035), 108 x 95 x 58 mm = 6 DIN units wide, 190 g

NEW



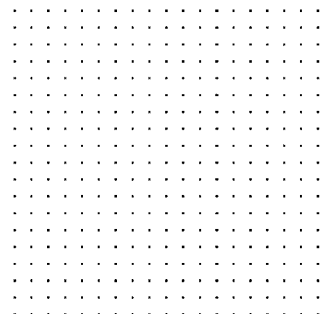
SVR 52 V PoE+
23510304 ●
 PoE+ -power supply for DIN-rail mounting, Output power: 48 W, for up to 3 PoE+ -devices (class 0-3), Operating voltage: 100-240 V~/50-60 Hz, light grey (similar RAL 7035), 108 x 90 x 64 mm = 6 DIN units wide, 365 g

NEW



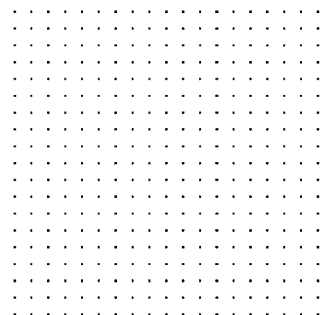
PoE-Injector 48 V Up rw
23511201 ●
 Flush mounting PoE-injector, with center plate and wall plate, network connection with screw terminals, data rates 10/100/1000 Mbit/s, PoE power 15.4 W (class 0-3), rated operating voltage: 100-240 V~/50-60 Hz, pure white (similar RAL 9010), 80 x 80 x 50 mm, 115 g

Accessory for SOHO-Components

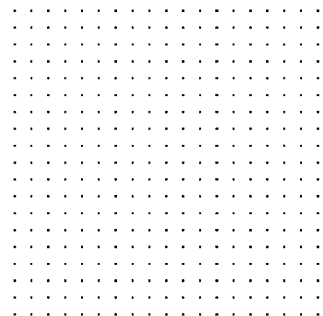


PK 0,35 m
23510201 ●
 Patch cord, 0.35 m for connection of DIN-components in the subdistribution, 350 mm, 30 g

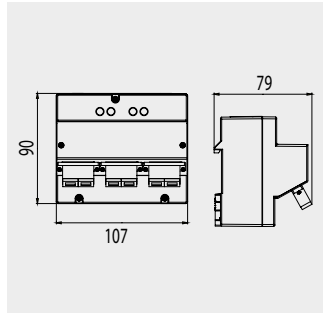
PK 0,23 m
23510202 ●
 Patch cord, 230 mm, 30 g



AW 2
39200000 ●
 Connection tool for LSA- and LSA-Plus-terminals, with pressure sensor and cutting blade, 38 x 177 x 21 mm, 80 g

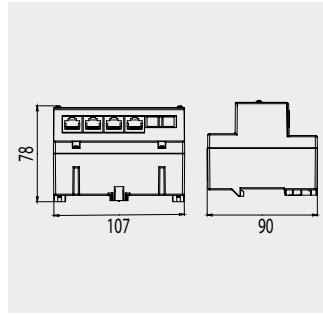


ADAP UAE/TAE 3x6 NFN
15400602 ●
 Adaptercord RJ 45/UAE, 0.15 m, for analog telephones in generic networks or for use with a line21®-UAE (8/8), black, 40 x 47 x 26 mm, 23 g

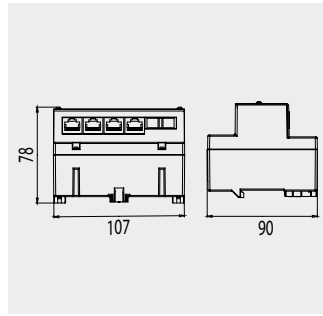


PPR 3SC-M
22810201 ●
 FO-splice box for DIN-rail mounting,
 3 x SC Duplex (MM/62µm),
 with splice comb and -tray,
 with couplings and pigtails,
 with cable glands and strain relief
 (M20),
 temperature range -40 - 75°C,
 light grey (similar RAL 7035),
 108 x 90 x 80 mm = 6 DIN units wide,
 264 g

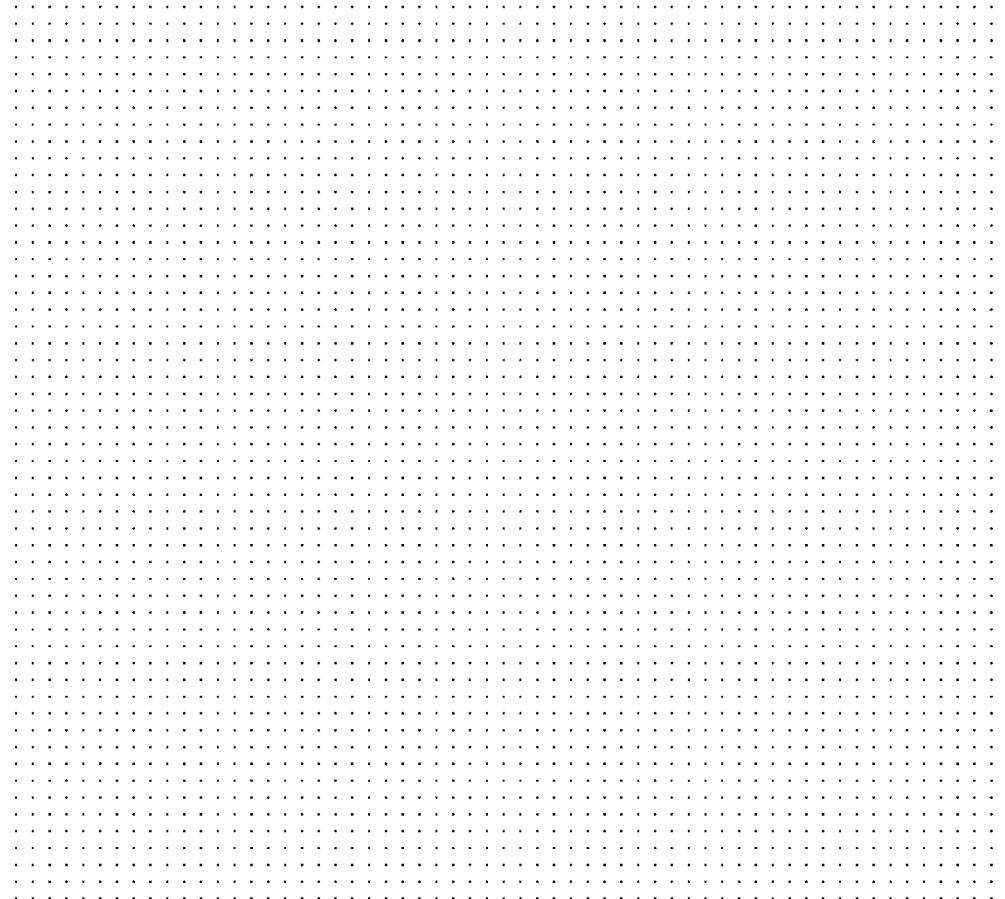
Active and passive
 FO (fibre optical)-
 system components for
 mounting in an electrical
 distribution box



SR 2TX/2SC-M
22810502 ●
 Switch for DIN-rail mounting,
 (2 x UAE/2 x SC Duplex
 (MM /62µm)),
 for applications up to 100 Mbit/s,
 nominal operating voltage:
 12-60V DC, 1A,
 temperature range -40-55°C,
 light grey (similar RAL 7035),
 108 x 90 x 77 mm = 6 DIN units wide,
 355 g



SR 2TX/2SC-S
22810501 ●
 Switch for DIN-rail mounting,
 (2 x UAE/2 x SC Duplex
 (SM/9/125µm)),
 for applications up to 100 Mbit/s,
 nominal operating voltage:
 12-60V DC, 1A,
 temperature range -40-55°C,
 light grey (similar RAL 7035),
 108 x 90 x 77 mm = 6 DIN units wide,
 357 g



RETROFITTING

RENOVATION WITH line21®

New technologies allow numerous applications without complex cable installations also in retrofitting. The technology of line21® allows the use of the existing analog telephone lines for the additional networking of PCs as well as for retrofitting of DSL-accesses, simply by replacing the existing jacks. The line still can be used for telephone calls, since the applications run parallel without interfering one another.

Data rates up to 100 Mbit/s on telephone lines up to 30 m do not cause any problems. At a transmission rate of 10 Mbit/s, the telephone line can be up to 50 m long. There are no application restrictions at all, neither for the telephone nor for the network.



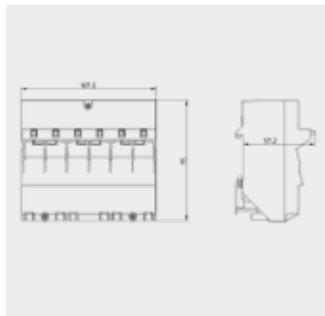
THE INSTALLATION

The installation is safe and easy. The jacks at the connection points of the terminal equipment will be replaced with line21®-jacks. The telephone line will be connected with terminal screws. The outlets in the front are suitable for the terminal equipment with UAE-plugs.

As always, these jacks can be used with the design covers of all well-known manufacturer of electrical installation material giving the user an optimal optical impression after the installation.

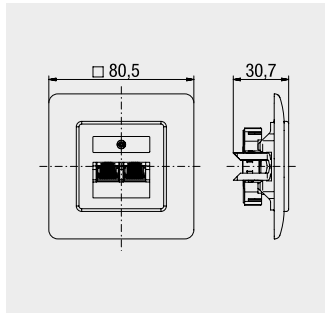
If a whole network and not only single link should be retrofitted, a patch panel as a central distributor sets up the necessary premises for the installation of up to 6 line21®-lines.

The connection of all cables takes place with the proven LSA-Plus-technique. The DIN-rail-mounting patch panel as well as additionally available products for DIN-rail mounting e. g. switch and router allow the use of standard distribution boxes for installing these and other necessary devices. An optimal optical solution for small installations by omitting additional 10'' - or 19'' -cabinets.

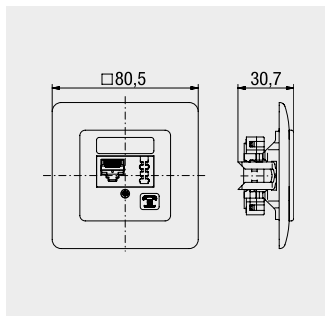
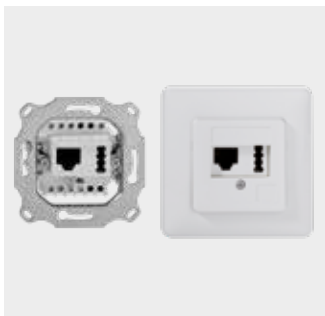


line21®-PPR 6
22510001 ●
 Patch panel for DIN-rail mounting,
 6 x RJ45-ports, for applications
 up to 100 Mbit/s,
 light grey (similar RAL 7035),
 108 x 95 x 56 mm = 6 DIN units wide,
 182 g

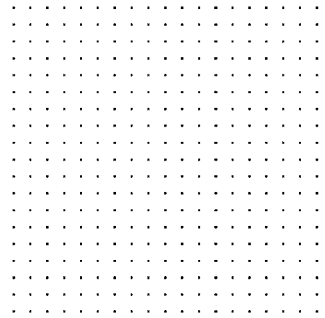
line21®-System devices
 for retrofitting



line21®-UAE 8/8 Up rw
22511201 ●
 Connection jack, 2 x 8 way,
 2 x 4 screw terminals for
 line21®-system line and fixed tele-
 phone connection data/telephone,
 with spreading claws,
 for applications up to 100Mbit/s,
 pure white (similar RAL 9010),
 80 x 80 x 31 mm, 52 g



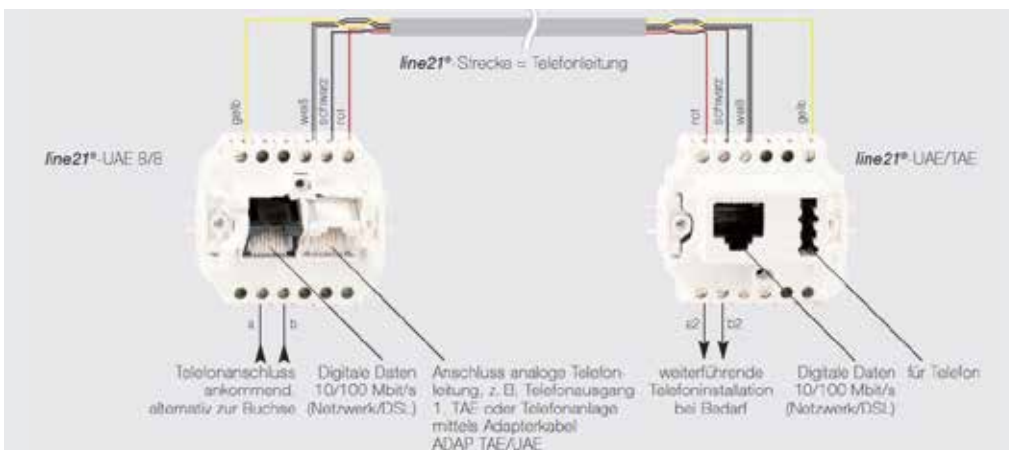
line21®-UAE/TAE Up rw
22511202 ●
 Connection jack, 2 x 6 way,
 2 x 4 screw terminals for
 line21®-system line and fixed tele-
 phone connection data/telephone,
 with spreading claws,
 for applications up to 100Mbit/s,
 pure white (similar RAL 9010),
 80 x 80 x 31 mm, 52 g



line21®-ADAP TAE/UAE
22510010 ●
 Adaptercord TAE/UAE,
 for feeding-in analog telephone
 signals in a line21®-line
 (i.e. 1. TAE to line 21®-UAE 8/8),
 black, 500 mm, 15 g

Accessory for line21®-
 system devices

Connection examples





RETROFITTING

POF- THE PROBLEM SOLVER FOR THE REFURBISHMENT

POF-cables (Polymer optical fibre) are being used in automobile- and lighting applications for years. Robust, easy, uncomplicated and safe connection as well as high data rates at very low costs are some of reasons for this success.

The next step is to use these advantages for home networking as well. With the multitude of new network based services in the home area (like "Triple-Quad-Play") the use of POF offers numerous of advantages for new installations and retrofitting.

 is a trademark and stands for high-quality installation components in the area of POF-applications. All  -products are mechanically and electrically compatible and use consistent connector-systems and POF-cable.

HOW DO I REALIZE A RETROFITTING WITH

The cable/fibre

Duplex cable with 2.2 mm diameter is being used. The cables are very thin and at the same time so robust that they can be installed without any trouble underneath wallpapers, baseboards or carpets. The maximum bending radiuses are much more uncritical than with glass fibre and therefore don't break as easily.

The connection

The connection takes place at the push-pull connector without any tools. After trimming the cable length, the fibres will be inserted in the optical push-pull connector and latched. Finished.

The tool

A simple cutting tool is necessary for parallel trimming of the cable. Basically, all sharp blades could be used for cutting.

The light

A visible light with a wave length of 650 nm is being used for the transmission. Unlike the laserlight, which is used for glass fibre, the light of POF is totally harmless.

Furthermore, the function of the link can be checked "optically" at any time.

The installation

Because of the small bending radiuses and the high robustness, the installation is very easy. Even a later retrofitting e. g. in pipes is possible. The installation next to 230-V-power cables is allowed. The maximum cable length is 100 m at data rates up to 100 Mbit/s and 55 m at 1000 Mbit/s.

The applications

For all applications with data rates up to 1000 Mbit/s. The high data rates meet the requirement of applications like "Triple-Quad-Play" (IP-TV and many more).

Certification

All POF-products are according the current standard requirements:

Cable: IEC 60793-1/2 class A4a.2

Application/tests: ETSI TS 105 175-1-1/1-2

soon supplemented with IEEE 802.3bv



POF-flush mounting solution

The permanent solution for fixed installations. Suitable for the commercially available design wall plates. Depending on the application there are solutions for 100 Mbit/s or 1000 Mbit/s are available. For retrofitting of WIFI in all rooms, the AC WLAN POF/UAE is the right choice!

Performance features

- transmission length
100 m with POF 2.2 mm (100 Mbit/s)
55 m with POF 2.2 mm (1000 Mbit/s)
- Nominal operating voltage:
100-240 V~/50-60 Hz
- optical connector:
2.2 mm Duplex POF (650 nm typically)

Functional features

- transmission rate 100 Mbit/s Ethernet 10/100 TX Ethernet 100 FX (Half-/full duplex, MDI/MDIX)
- alternatively
Ethernet 10/100/1000 TX Ethernet 1000 FX (Half-/full duplex, MDI/MDIX)
- for commercially available flush-mounting installation
- integrated 230-V-power supply
- safe, radiation-free data transmission
- harmless for the eyes
- suitable for IP-TV, Multimedia and data transmission (multicast-capable)

POF – The trendsetting cabling alternative



POF-DIN-rail mounting solution

The central component for the fixed installation. Enables the setup of a central POF-distributor in a conventional electrical distribution box.

Performance features

- transmission length
100 m with POF 2.2 mm (100 Mbit/s)
55 m with POF 2.2 mm (1000 Mbit/s)
- Nominal operating voltage:
SELV; AC/DC, via screw terminals
- optical connector:
2.2 mm Duplex POF (650 nm typically)
- 1 DIN unit wide = 18 mm
- insulation class II

Functional features

- transmission rate 100 Mbit/s Ethernet 10/100 TX Ethernet 100 FX (Half-/full duplex, MDI/MDIX)
- alternatively
Ethernet 10/100/1000 TX Ethernet 1000 FX (Half-/full duplex, MDI/MDIX)
- safe, radiation-free data transmission
- harmless for the eyes
- suitable for IP-TV, Multimedia and data transmission (multicast-capable)



POF-switch-solutions

POF-switch-solutions for DIN-rail mounting or Desktop solutions complete the portfolio. Depending on the application there are devices with various interfaces available.

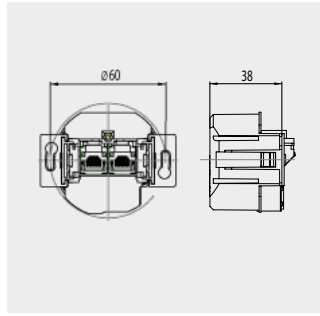
Performance features

- transmission length
100 m with POF 2.2 mm (100 Mbit/s)
- optical connector:
2.2 mm Duplex POF (650 nm typically)

Functional features

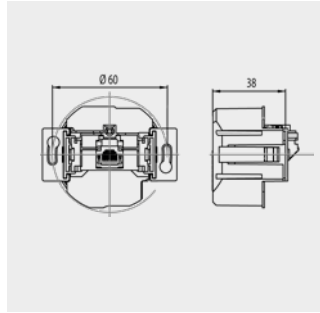
- transmission rate 100 Mbit/s Ethernet 10/100 TX Ethernet 100 FX (Half-/full duplex, MDI/MDIX)
- safe, radiation-free data transmission
- harmless for the eyes
- suitable for IP-TV, Multimedia and data transmission (multicast-capable)

Media converter/
AC WLAN, Switches,
POF/UAE

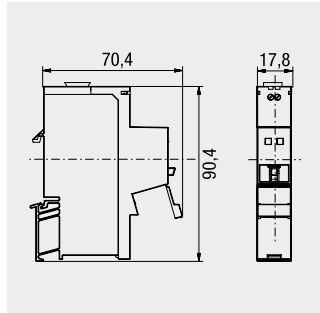


POF GB/UAE 2xUp rw 2,2 mm
180105070 ●
Flush-mounting media converter,
2-way, for applications up to
1000 Mbit/s,
Nominal operating voltage:
100-240 V~/50-60 Hz, 2,8 VA typ.,
80 x 80 x 50 mm, 75 g

POF/UAE 2xUp rw 2,2 mm
180104070 ●
for applications up to 100 Mbit/s

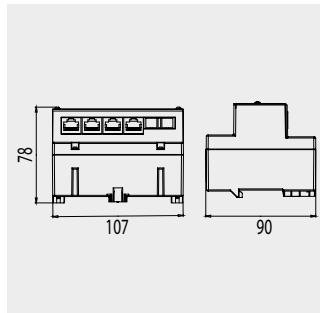


AC WLAN POF/UAE
1xUp rw 2,2 mm
226104050 ●
Flush mounting WLAN-Accesspoint,
with center plate and wall plate,
150 Mbit/s, 802.11 b/g/n, WEP/WPA2,
operating mode as well as bridge,
repeater, integrated data outlet
(RJ45) 100 Mbit/s, POF network
connection (2.2 mm), rated operating
voltage 100-240 V~/ 50-60 Hz, 3 VA
typical, pure white (similar RAL 9010),
80 x 80 x 50 mm, 115 g

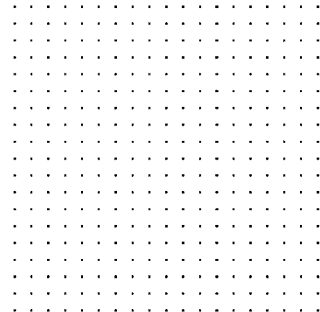


POF GB/UAE 1xPPR 2,2 mm
28010500 ●
DIN-rail mounting media converter,
1-way, for applications up to 1000
Mbit/s, Nominal operating voltage:
8-52 V DC, 1,9 VA typ,
light grey (similar RAL 7035),
18 x 90 x 70 mm = 1 DIN unit wide,
54 g

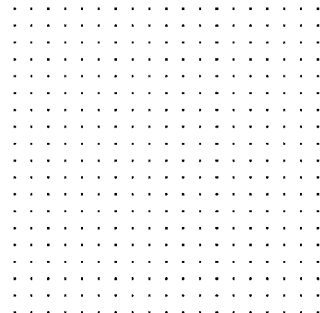
POF/UAE 1xPPR 2,2 mm
28010200 ●
for applications up to 100 Mbit/s



SR 1TX/4POF
28010501 ●
switch for DIN-rail mounting,
(1 x UAE/4 x POF),
for applications up to 100 Mbit/s ,
Nominal operating voltage:
12-60 V DC, 1A,
light grey (similar RAL 7035),
108 x 90 x 77 mm, 6 DIN units wide,
274 g



POF/UAE 4xAp 2,2mm
18010103 ●
Desktop-switch 4-way
(1 x UAE/3 x POF),
For applications up to 100 Mbit/s,
Operating voltage:
100-240 V~/50-60 Hz, 1,7 VA typ.,
greenblue (similar RAL 6004),
20 x 84 x 61 mm, 160 g



POF 5xAp 2,2mm
18010104 ●
Desktop-switch, 5-way (5 x POF),
For applications up to 100 Mbit/s,
Operating voltage:
100-240 V~/50-60 Hz, 3,6 VA typ.,
greenblue (similar RAL 6004),
120 x 20 x 80 mm, 250 g



POF/UAE/SFP 8xAp 2,2mm
18010105 ●
 Desktop-switch, 8-way
 (1 x UAE/1 x SFP/6 x POF),
 For applications up to 100 Mbit/s,
 Operating voltage:
 100-240 V~/50-60 Hz, 7,5 VA typ.,
 greenblue (similar RAL 6004),
 196 x 30 x 124 mm, 655 g



POF K 100 2,2 mm
18000004 ●
 POF-SI-cable, duplex, 100 m,
 Fibre diameter 2.2 mm,
 black (similar RAL 9005)
 800 g

Keystone-modul, cable
 und accessory for POF



KMK-POF
18000600 ●
 POF-Keystone-module,
 for mounting adapter KMK-MA Up
 and UM-MA x Up and other
 Keystone-receptacles,
 Connection: 2 x POF 2,2 mm,
 36 x 14 x 20 mm, 56 g



POF VB 2,2 mm
39200007 ●
 Connector for POF-fibres,
 Connection: 2 x POF 2,2 mm,
 mousegrey (similar RAL 7005),
 24 x 18 x 10 mm, 3 g

POF VB 1,5 mm
39200006 ●
 Connection: 2 x POF 1,5 mm

POF-VB 1,5/2,2 mm
392 000 08 ●
 Connection: 1 x POF 2,2 mm,
 1 x POF 1,5 mm



POF SW
39200004 ●
 Cutting tool for POF-fibres
 1.5/2.2 mm
 red (similar RAL 3000),
 44 x 31 x 8 mm, 15 g



DATA TECHNOLOGY

IP-ACTUATORS/SENSORS

Whether increasing security e.g. through presence simulation, saving energy by switching off unused devices or simply demanding more comfort by conveniently switching via APP directly from the sofa – Nowadays, all these requests and demands are a main focus of every home or apartment today as well as the need to have access from underway!

The Rutenbeck IP actuators carry out all these functions without any additional building system technologies, cloud-connections or ongoing costs. All one needs is an existing internet connection and a connection to the router.

In addition to the switching functions, all devices have an integrated time-switch function with at least 4 switching-on/off times per day. Besides the automated processes, manual switching can be done directly at the devices or with an APP or browser at any time. Besides switching functions, all outputs can be reprogrammed as output if required. In addition future devices will even offer a shutter control functionality.

Programming can be done with your browser or via an APP without any additional software. The product range is constantly being developed, enabling future devices to also offer sensor inputs for monitoring and reporting status changes. Via A/D-converter inputs additional sensors (0-10 V/ 4-20 mA) can be evaluated and displayed – «all over IP».





Ready to plug in IP-switching with temperature surveillance with the TC IP 1 page 75

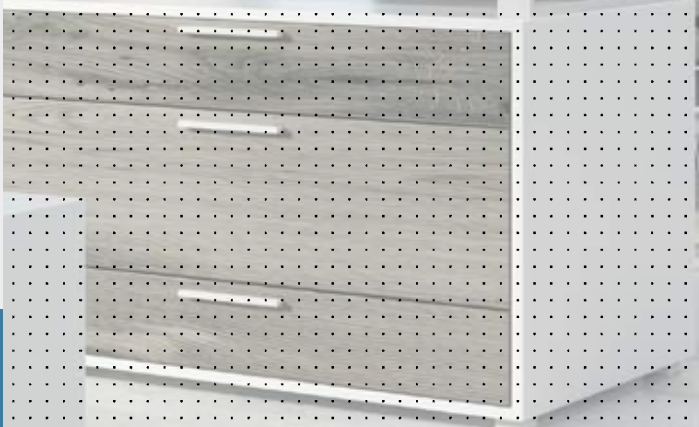


IP-switching (4-way) with temperature surveillance with the TCR IP 4 page 76

NEW



IP-switching – actuators and sensors page 77



Overview IP - Actuators/Sensors

Article description	TC IP 1	TCR IP 4	TCR IP 8
Housing/material	Plug-plug adapter (ABS V0)	REG (PC)	REG (PC)
Measurements in mm	66 x 136 x 76	72 x 90 x 59 (4 DIN units wide)	144 x 90 x 59 (8 DIN units wide)
Weight in g	170	298	400
Colour	pure white (similar RAL 9010)	light grey (similar RAL 7035)	light grey (similar RAL 7035)
Protection class	IP20	IP20	IP20
Power supply	100-240 V AC/50-60 Hz	100-240 V AC/50-60 Hz (screw ter.)	100-240 V AC/50-60 Hz (screw ter.)
Power consumption	1 - 1,6 W	1 - 3,5 W	1 - 8 W
Connection to LAN (RJ45)	10 Mbit/s	10 Mbit/s	100 Mbit/s
Integrated push-button for local switching of the switching output	•	•	•
Screw terminals for the connection of external push-buttons	-	•	•
LED on/off	•	•	•
LED link/activity	•	•	•
Connection of temperature sensor possible	•	•	-
USB for LTE-Stick	-	-	•
Programming and operation of the device	Browser	Browser	Browser
Access protection through passwords	for admin and user	for admin and user	for admin and user
Manual allocation of IP address or DHCP	•	•	•
Time switch	•	•	•
Operation as time switch	•	•	•
Time switches per switching output	4 switching on or switching off times	5 switching on or switching off times	5 switching on or switching off times
Automatic time synchronization via internet	•	•	•
Power reserve (after disconnection from 230 V power supply)	4 days	4 days	4 days
Time accuracy	≤ 1,7 s/day	≤ 1,7 s/day	≤ 1 s/day
Switching functions	•	•	•
Switching outputs	1	4	8
Switching power	16 A/230 V	10 A/230 V	16 A/230 V
Switching possibility at device	•	•	•
Switching possibility browser/internet	•	•	•
Potential free relay outputs	-	•	•
Sensor functions			
Connection possibility for temperature sensor	•	•	-
Temperature range	-25 bis +55°C	-25 bis +55°C	can be configured
Potential-free sensor inputs	-	-	8
A/D-input 0-10 V	-	-	•
A/D-input 4-20 mA	-	-	•
Article-No.	700902610	700802610	700802611

REG = DIN-rail-mounting housing

**Remote switching device
TC IP 1**

The TC IP 1 allows the switching of electrical devices (network printer, DSL-modem, IP-CAM and so on) via the TCP/IP-network.

The device is located in a plug-plug adapter housing. To put into operation the TC IP 1 simply has to be connected to a power outlet and the respective network. The device to be switched will be plugged into the provided power outlet of the TC IP 1.

The TC IP 1 can be switched from all computers of the same network with their web browser by IP-address 192.168.0.2.

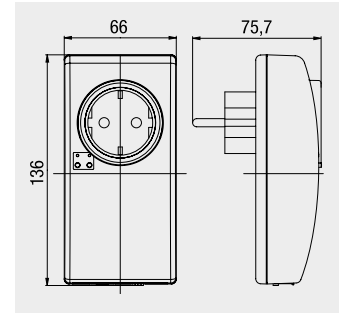
A local operation is possible with a push-button on the device. The actual switching state of the output is indicated by a LED at the push-button for switching.

The TC IP 1 has an integrated time switching function. Up to 4 switching on and 4 switching off times can be selected.

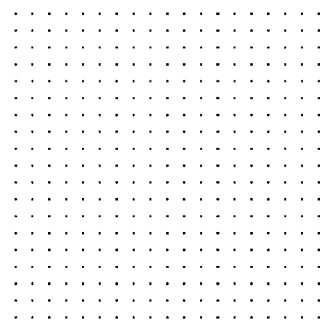
With a web browser it is possible to display the actual temperature at connected temperature sensor as well as the settings of the network characteristics and the time switch.

The TC IP 1 can also be operated from the Internet if there is a fixed IP-address or a DNS-server for the translation of the dynamic IP in a host name provided.

The TC IP 1 can also be operated from a mobile phone, if this supports JavaScript. More informations on www.rutenbeck.com.



TC IP 1
700902610 ●
pure white (similar RAL 9010),
66 x 136 x 76 mm, 170 g



Temperature sensor
700802201 ●
Resolution 1 °C,
B-value 3435 K ± 1%,
10 kΩ at 25 °C,
black (similar RAL 9005),
600 mm, 6 g

Performance features

- integrated power supply
- 1 switching output
16 Amps/230 V
- indication of the switching state of the switching output
- local operation of the switching output
- network connection RJ45
- link-/activity indication for the network connection
- analog input for the connection of a temperature sensor (optional)
- temperature surveillance with web browser, analysis range -25-55 °C, resolution 1 °C
- easy configuration with web browser
- can be reseted to factory settings
- buffering of all settings and time at a power failure
- automatic time synchronization via internet
- operation as time switch
- power consumption about 1 W
- cross-platform operation with web browser
- manual allocation of a fixed IP-address or dynamic IP-address via DHCP
- access protection through optional passwords
- controlling via UDP

Rutenbeck REMOTE

Iphone/iPad APP available free of charge in the APP-store.



**Remote switching device
TCR IP 4**

The TCR IP 4 allows the switching of electrical devices via the TCP/IP-network. The device is located in a housing for mounting on a DIN-rail.

The TCR IP 4 can be switched from all computers of the same network with their web browser by IP-address 192.168.0.3.

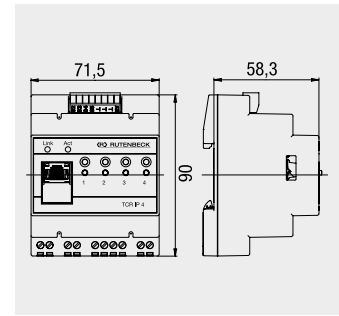
A local operation is possible with the built-in or external connected push-buttons. The actual switching state of an output is indicated by a LED located at the push-button for switching.

The TCR IP 4 has an integrated time switching function. For each switching output, up to 4 switching on and 4 switching off times can be selected.

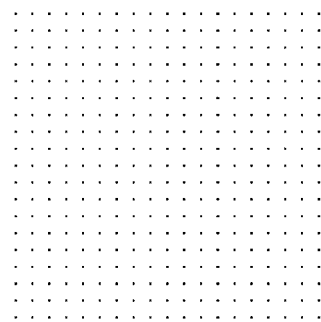
With a web browser it is possible to display the actual temperature at connected temperature sensor as well as the settings of the network characteristics and the time switch.

The TCR IP 4 can also be operated from the Internet if there is a fixed IP-address or a DNS-server for the translation of the dynamic IP in a host name provided.

The TCR IP 4 can also be operated from a mobile phone, if this supports JavaScript. More informations on www.rutenbeck.com.



TCR IP 4
700802610 ●
DIN-rail mounting housing
4 DIN units wide,
light grey (similar RAL 7035),
72 x 90 x 65 mm, 298 g



Temperature sensor
700802201 ●
Resolution 1 °C,
B-value 3435 K ± 1%,
10 kΩ at 25 °C,
black (similar RAL 9005),
600 mm, 6 g

Performance features

- integrated power supply
- 4 switching outputs, potentialfree contact max. 10 Amps/ 230 V
- indication of the switching
- state of the switching outputs
- network connection RJ45
- link-/activity indication for the network connection
- analog input for the connection of a temperature sensor (optional)
- temperature surveillance with web browser, analysis range -25-55 °C, resolution 1 °C
- easy configuration with web browser
- can be reseted to factory settings
- buffering of all settings and time at a power failure
- automatic time synchronisation via Internet
- operation as time switch with 4 switching outputs
- power consumption about 1 W
- cross-platform operation with web browser
- manual allocation of a fixed IP-address or dynamic IP-address via DHCP
- access protection through optional passwords
- controlling via UDP

Rutenbeck REMOTE

Iphone/iPad APP available free of charge in the APP-store.



IP Switch Actuators/Sensors TCR IP 8

The TCR IP 8 allows the switching of electrical devices via the TCP/ IP network, different sensor inputs are monitored as well.

The TCR IP 8 is located in a housing for DIN-rail mounting and can be switched from all computers on the same network with their web browser by IP-address 192.168.0.4. The integration in the network takes place with the RJ45 front port or by means of the integrated WIFI-interface.

A local operation is possible with the built-in or external connected push-buttons. The actual switching state of an output is indicated by a LED located at the push-button for switching.

Besides switching- and impulse functions 2 outputs can also be used for shutter control.

The TCR IP 8 has an integrated time switching function. For each switching output several switching-on and switching-off times are selectable.

Alternatively, the TCR IP 8 can be operated from the Internet or with a smartphone if there is a fixed IP-address or a DNS-server for the translation of a dynamic IP-address in a host name. For mobile devices is an APP available.

The TCR IP 8 can also be controlled by use of the User Datagram Protocol (UDP).

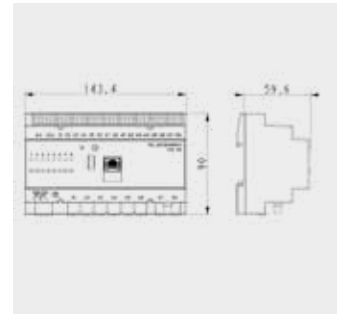
8 potential-free sensor inputs allow the monitoring of different devices. Two additional A/D – inputs (0-10 V / 4-20mA) allow a value dependent monitoring.

To integrate the TCR IP 8 in remote plants without Internet access, an GSM/LTE stick can be attached to the USB front port. The GSM/LTE-stick will work as a router and brings you in the Internet. Sufficient signal quality for the mobile phone reception provided.

NEW



Available from 2019

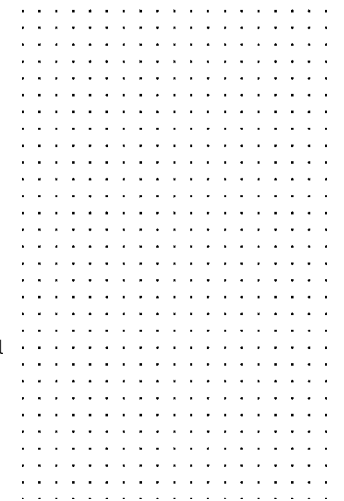


TCR IP 8
700802611 ●
DIN-rail mounting housing
4 DIN units wide,
light grey (similar RAL 7035),
144 x 90 x 59 mm, 450 g



Performance features

- integrated power supply
- 8 switching outputs, potentialfree contact max. 16 Amps/230 V
- outputs can be set to switching- or impulse function
- 2 outputs can be programmed for shutter control
- indication of the switching
- state of the switching outputs
- link-/activity indication for the network connection
- network connection RJ45 or integrated WIFI
- 8 potential-free sensor inputs
- 2 A/D inputs (0-10 V / 4-20 mA)
- easy configuration with web browser
- can be resetted to factory settings
- buffering of all settings and time at a power failure
- automatic time synchronisation via Internet
- operation as time switch with 4 switching outputs
- Operation as annual time switch with 8 switching outputs
- power consumption max. 8 W
- cross-platform operation with web browser
- manual allocation of a fixed IP-address or dynamic IP-address via DHCP
- access protection through optional passwords
- controlling via UDP



Rutenbeck REMOTE

Iphone/iPad APP available free of charge in the APP-store.



MULTIMEDIA

Communications adapter and cable solutions

Besides the networking of multimedia devices such as Smart TVs, beamers etc., the safe and optically appealing connection of these devices increases the requirements of the planning and installation. The so-called „communication adapters“ help to order the cable clutter in the living room or home office. With the right solution and a forward-looking planning, each cable simply disappears in the wall!

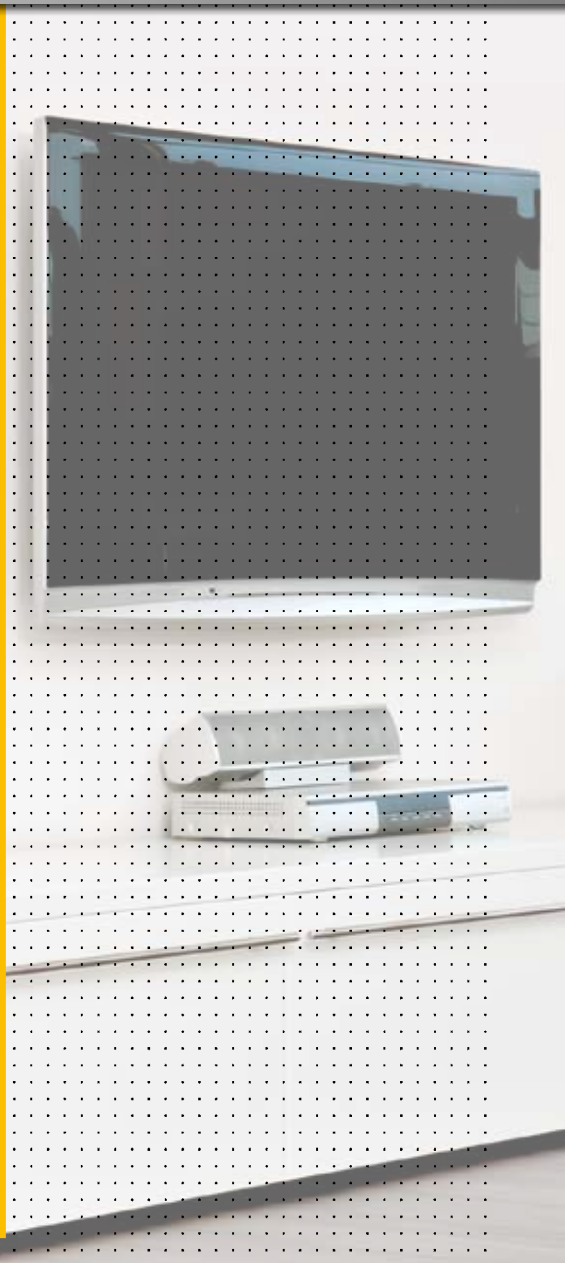
ACTIVE

The internet recipe on the Tablet PC in the kitchen is nowadays so common like the ebook besides the bed. To make sure that the digital assistants always have efficient power, it is important to have several fixed installed USB-chargers available to avoid unnecessary searching of the mobile charger. USB hubs with additional charging function also allow the connection and data exchange between USB devices. Due to the diminishing amount of USB interfaces in the terminals, a very useful supplement to the network connection at each work station is necessary.

PASSIVE

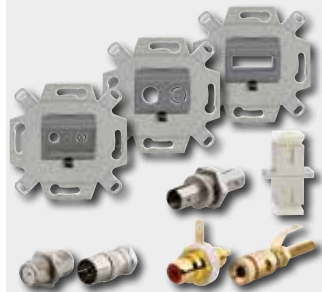
How can I connect the Smart-TV with the receiver and gaming console at the wall without the usual cable clutter? How to make the loud-speaker cables vanish in the wall?

The planning of the multimedia – infrastructure is as important as the planning of adequate power- and communication outlets. Several installation variants enable the nobtrusive integration to the installation environment and compatibility to any switching design. High-quality installation cables also make your multimedia installation future-proof!





active devices like
USB-charger and USB-Hub
page 80



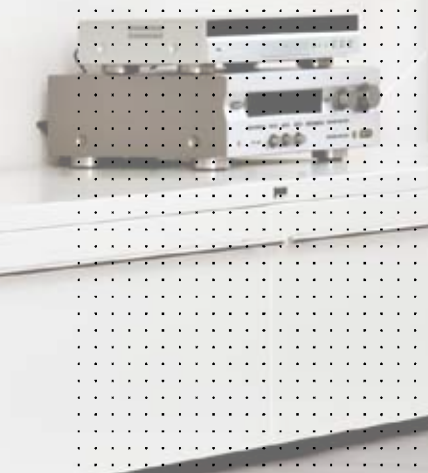
passive communications adapter
compact design
page 82



passive keystone-solutions
page 90



HDMI and VGA cable solutions
page 94



USB-CHARGER - STRONG, FAST AND SMART

A typical family situation – always when you need a suitable charger for your smartphone or tablet, it cannot be found or everybody in the family needs it at the same time. Since the Rutenbeck USB-Charger is integrated in the installation, this situation cannot occur. In this case adequate power is very important to avoid unnecessary long charging time and also to be able to charge more than one device at one charger.

The Rutenbeck USB-Charger is best solution for these applications and of course, suits your switching program.

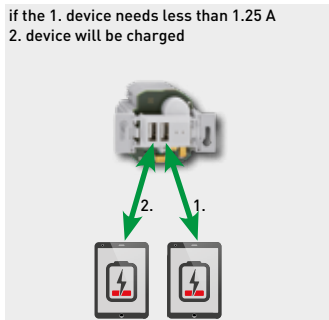
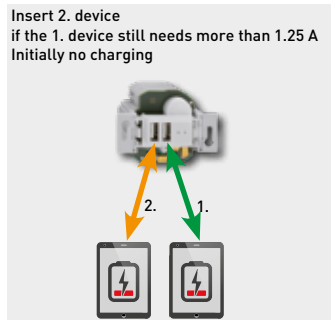
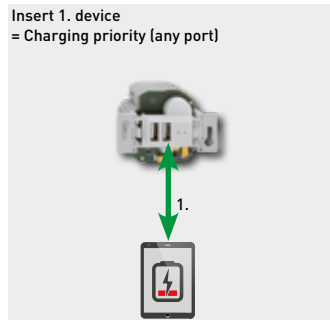
Maximum performance in flush-mounting design

The Rutenbeck USB-Charger with a charging current of 2.5 A is currently the most powerful charger on the market. The fast parallel charging of USB-devices is no problem. The standby power consumption is with less than 0.2 VA considerably lower compared to many other conventional plug power charger which means no extra costs for your budget.

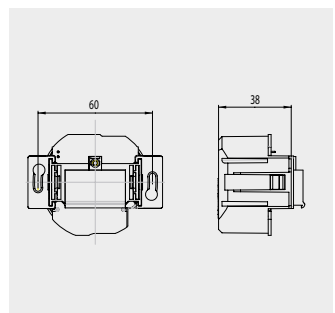
Of course, the Rutenbeck USB-Charger matches the switching program of your choice!

Parallel charging with management

With the most common chargers the parallel charging of USB-devices is only possible up to the maximum charging current and afterwards, they will shut off completely. Considering the increasing amount of devices that need and use more and more power, i.e. tablets, this can be a problem. Especially after a total discharge of an accumulator, the device can only be charged again with the original shipped plug power supply. However, this is no problem for the Rutenbeck USB-Charger. The state of the accumulator will be recognized and if necessary, re-adjusted. If an additional USB-device is connected, the first connected device will be charged until enough current for the second device is available. Then, both devices will be charged parallel up to 100%. Of course, defective accumulators (short-circuit) will be recognized and the charging function will be switched off in order to avoid any subsequent damage.



USB-solutions active



SV USB 2xUp rw 22710408 ●
USB charging device for flush mounting, 2-way, with center plate and wall plate, for smartphones/tablets etc., with power management, overload protection and operating indication, nominal operating voltage: 100–240 V~/50–60 Hz, 0,2VA typical (without USB devices), charging current max. 2.5A in total, pure white (similar RAL 9010), 80 x 80 x 50 mm, 140 g

USB-HUB - MORE THAN ONLY CHARGING

An everyday problem – with the constantly smaller dimensions of IT-equipment, the amount of available USB-interfaces decreases and are occupied instantly. In addition there is also the common “cable chaos” at desktop devices which makes the handling more difficult.

These problems can easily be solved with the Rutenbeck USB 3.0-Hub for flush mounting. Simply exchange it with a 230 V power outlet and the powerful charging of tablets with 2 A charging current will also be taken care of immediately. The perfect solution for every workplace in the office and at home and of course, the Rutenbeck Hub 3.0 also fits your switching program of your choice.

USB 3.0-“Maximum Speed”

After installation and connection of the Rutenbeck-USB Hub at 230 V, the Hub will be connected with the left port (Uplink=USB-type B (micro) to the PC. With the two ports in the middle (USB 3.0, type A) installed USB-devices as printers or scanners, as well as USB-storages or hard drives can be connected to the PC.

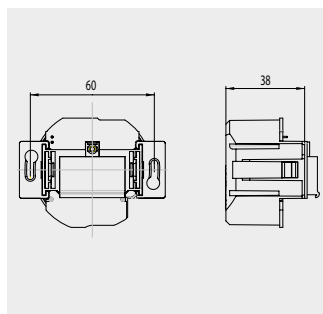
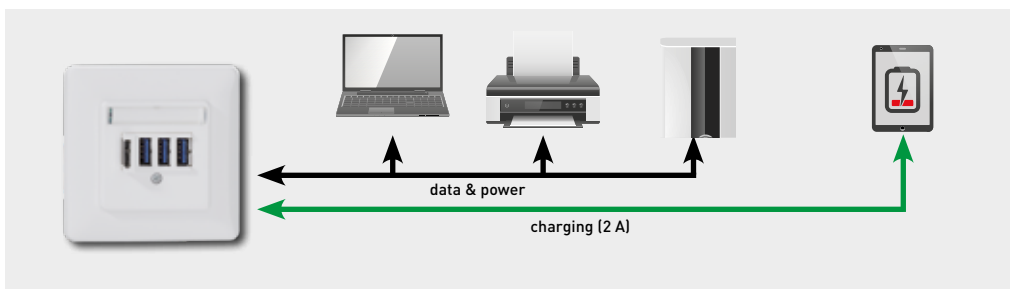
Each port delivers up to 900 mA for the necessary power supply of the connected device. With USB 3.0 the data transmission between the devices takes place with “Highspeed” up to 4.8 Gbit/s, therefore, parallel operation of the devices at the Hub is possible without any compromises.

The USB-Charger included

The port on the right side (USB type A) serves exclusively as a charging port for your tablet. With a charging current of 2A, connected USB-devices will be charged fast and effective.

Of course, mobile phones or smart phones can be charged with up to 900 mA with the center two ports. They are connected to the PC at the same time and also allow backups, updates and so on.

If the interfaces are not being used, the USB-Hub has a very low standby power consumption (0.5 VA), a lot less than the most plug power supplies, which means no extra costs for your next electricity bill.













USB 4xUp rw 22710407 ●




USB Hub for flush mounting, USB 3.0, with center plate and wall plate, 3-port hub for USB 3.0 devices, uplink to PC via USB 3.0 Micro USB, with charging function for Smartphones/tablets etc., quick charging outlet (right USB-port), with powermanagement and overload protection, nominal operating voltage: 100–240 V~/ 50–60 Hz, 0.5VA typical (without USB devices), charging current max. 2A in total, pure white (similar RAL 9010), 80 x 80 x 50 mm, 140 g








USB-solutions active


Overview Communications Adapter Copper (construction kit system)

	 KM-BNC-F 17000300	 KM-BNC-C 17000301	 KM-BNC-IEC 17000302 (only in combination with 17000300)	 KM-Cinch 17000304 (rw*) 17000305 (sw**) 17000306 (red) 17000307 (yellow)	 KM-MK 3,5 mm 17000303 (Stereo)	 KM-LS 17000308 (sw**) 17000309 (red) [Banana]
 BNC-F (Antenna)	Up**** 170 000 01 Up rw* 170 000 51 Up g*** 17000061					
 BNC-C/IEC/Cinch (Antenna/Koax)		Up **** 17000003 Up rw* 17000053 Up g*** 17000063	Up **** 17000003 Up rw* 17000053 Up g*** 17000063	Up**** 17000003 Up rw* 17000053 Up g*** 17000063		
 Mini-Klinke 3,5mm (Headphone)					Up**** 17000002 Up rw* 17000052 Up g*** 17000062	
 LS-MA Up (Loudspeaker)						Up**** 17000004 Up rw* 17000054 Up g*** 17000064

Overview Communications Adapter Copper (complete version)

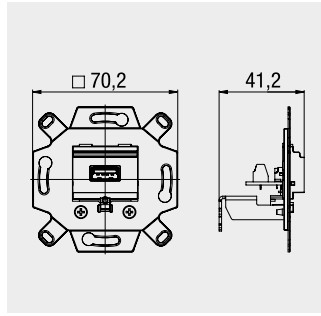
 USB 2.0	USB 2.0 -jack	Up 0**** 17010501	Up 0 rw* 17010551	Up 0 g*** 17010561
	USB 3.0 - jack	Up 0**** 17010504	Up 0 rw* 17010554	Up 0 g*** 17010564
 VGA	VGA- jack	Up 0**** 17010502	Up 0 rw* 17010552	Up 0 g*** 17010562
	VGA-jack with pigtail	Up 0**** 17010505	Up 0 rw* 17010555	Up 0 g*** 17010565
 HDMI	HDMI- jack	Up 0 17010503	Up 0 rw* 17010553	Up 0 g** 17010563

Overview Communications Adapter FOC, POF (construction kit system)				
				
	KM-SC-M 17200300	KM-SC-M Duplex 17200301	KM-LC-M 17200306	KM-ST-M 17200302
	KM-SC-S 17200303	KM-SC-S Duplex 17200304	KM-LC-S 17200307	KM-ST-S 17200305
 SC/LC (LWL)	Up**** 17200001 Up rw* 17200051 Up g*** 17200061		Up**** 17200001 Up rw* 17200051 Up g*** 17200061	
 SC-Duplex (LWL)		Up**** 17200002 Up rw* 17200052 Up g*** 17200062		
 ST (LWL)				Up**** 17200003 Up rw* 17200053 Up g*** 17200063

Wall plates and center plates, suitable for all Communications Adapter			
 Wall plate	Wall plate	AP 10010001	AP rw* 10010051
	Center plate	ZSt UM-MA 2 13910003	ZSt UM-MA 2 rw* 13910053

*rw = pure white *** g = grey ****phased out 2018

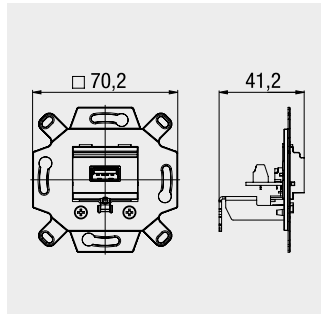
Communications adapter copper, jacks



KM-USB Up 0****
17010501 ●
 USB-jack, 1-way, with 5 screw terminals, for customary TAE-center plates, can be combined with ZSt UM-MA 2 and wall plate AP, break off mounting ring can be converted into mounting bracket, pearl white (similar RAL 1013), 70 x 70 x 41 mm, 43 g

KM-USB Up 0 rw
17010551 ●
 pure white (similar RAL 9010)

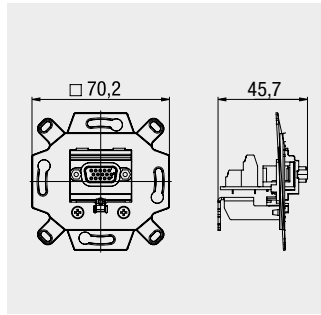
KM-USB Up 0 g
17010561 ●
 mousegrey (similar RAL 7005)



KM-USB 3.0 Up 0****
17010504 ●
 USB 3.0 -jack, 1-way, with 5 screw terminals, for customary TAE-center plates, can be combined with ZSt UM-MA 2 and wall plate AP, break off mounting ring can be converted into mounting bracket, pearl white (similar RAL 1013), 70 x 70 x 41 mm, 43 g

KM-USB 3.0 Up 0 rw
17010554 ●
 pure white (similar RAL 9010)

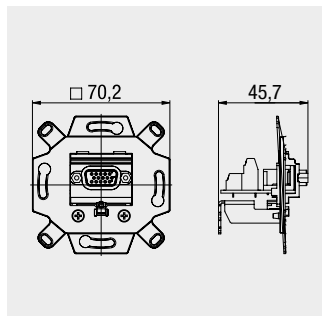
KM-USB 3.0 Up 0 g
17010564 ●
 mousegrey (similar RAL 7005)



KM-VGA Up 0****
17010502 ●
 VGA-jack, 1-way, with 14 screw terminals, for customary TAE-center plates, can be combined with ZSt UM-MA 2 and wall plate AP, break off mounting ring can be converted into mounting bracket, pearl white (similar RAL 1013), 70 x 70 x 46 mm, 58 g

KM-VGA Up 0 rw
17010552 ●
 pure white (similar RAL 9010)

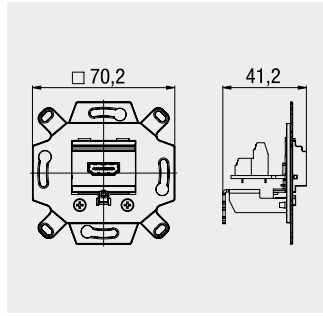
KM-VGA Up 0 g
17010562 ●
 mousegrey (similar RAL 7005)



KM-VGA KP Up 0****
17010505 ●
 VGA-jack, 1-way, with pigtail (30 cm), for customary TAE-center plates, can be combined with ZSt UM-MA 2 and wall plate AP, break off mounting ring can be converted into mounting bracket, pearl white (similar RAL 1013), 70 x 70 x 46 mm, 58 g

KM-VGA KP Up 0 rw
17010555 ●
 pure white (similar RAL 9010)

KM-VGA KP Up 0 g
170 105 65 ●
 mousegrey (similar RAL 7005)

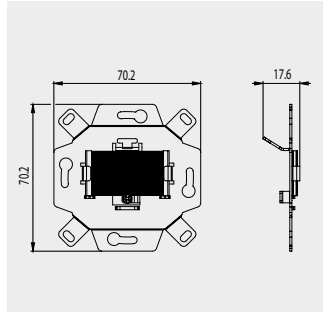


KM-HDMI Up 0****
17010503 ●
 HDMI-jack, 1-way,
 with 20 screw terminals,
 for customary TAE-center plates,
 can be combined with ZSt UM-MA 2
 and wall plate AP, break off
 mounting ring can be converted
 into mounting bracket,
 pearl white (similar RAL 1013),
 70 x 70 x 41 mm, 53 g

Communications adapter
 copper,
 jacks

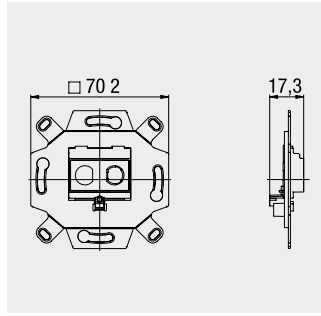
KM-HDMI Up 0 rw
17010553 ●
 pure white (similar RAL 9010)

KM-HDMI Up 0 g
17010563 ●
 mousegrey (similar RAL 7005)



KD Up 0
19310510 ●
 Universal cable feedthrough
 for flush mounting,
 cut out size of the cable feed th-
 rough 32.5 x 17.5 mm, for
 customary TAE-center plates,
 break off mounting ring can be
 converted into mounting bracket,
 with strain relief on the backside
 70 x 70 x 17 mm, 46 g

Communications adapter
copper,
mounting adapter



BNC-F-MA Up***

17000001 ●

Mounting adapter (flush mounting) for BNC-F, 2-way, for customary TAE-center plates, can be combined with ZSt UM-MA 2 and wall plate AP, break off mounting ring can be converted into mounting bracket, pearl white (similar RAL 1013), 70 x 70 x 17 mm, 25 g

BNC-F-MA Up rw

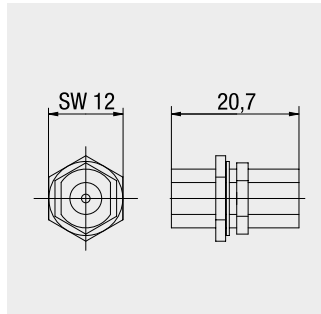
17000051 ●

pure white (similar RAL 9010)

BNC-F-MA Up g

17000061 ●

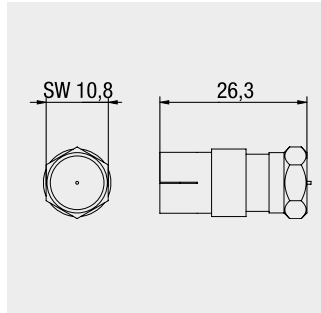
mousegrey (similar RAL 7005)



KM-BNC-F

17000300 ●

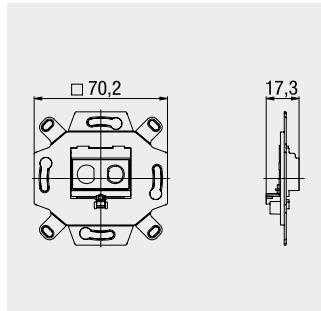
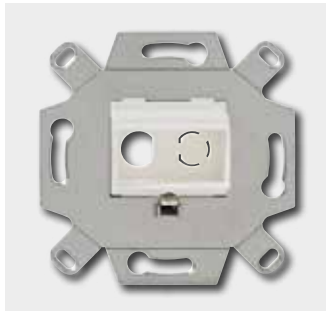
BNC-F-jack, 12 mm, for mounting adapter BNC-F-MA Up, screw connection, 12 x 12 x 21 mm, 5 g



KM-BNC-IEC

17000302 ●

BNC-IEC-jack, screw connection, only in combination with 170 003 00, 11 x 11 x 26 mm, 8 g



BNC-C/IEC/Cinch-MA Up***

17000003 ●

Mounting adapter (flush mounting) for BNC-C/IEC/Cinch-connections, 2-way, for customary TAE-center plates, can be combined with ZSt UM-MA 2 and wall plate AP, break off mounting ring can be converted into mounting bracket, pearl white (similar RAL 1013), 70 x 70 x 17 mm, 25 g

BNC-C/IEC/Cinch-MA Up rw

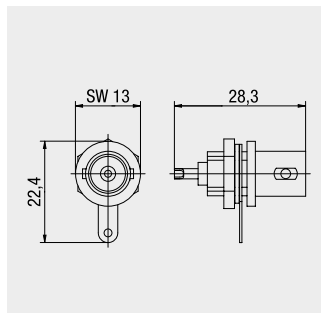
17000053 ●

pure white (similar RAL 9010)

BNC-C/IEC/Cinch-MA Up g

17000063 ●

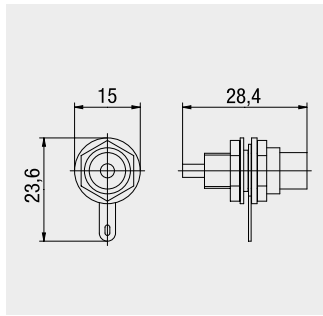
mousegrey (similar RAL 7005)



KM-BNC-C

17000301 ●

BNC-C-connector, for mounting adapter BNC-C/IEC/Cinch-MA Up, soldering tag, 22 x 13 x 28 mm, 6 g



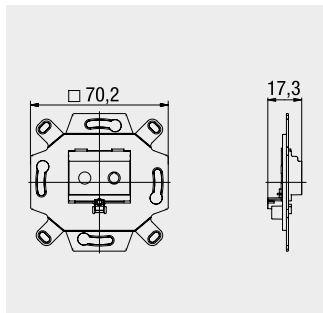
KM-Cinch rw
17000304 ●
Cinch-jack, for mounting adapter
BNC-C/IEC/Cinch-MA Up,
soldering tag, white,
15 x 24 x 28 mm, 8 g

KM-Cinch sw
17000305 ●
black (similar RAL 9005)

KM-Cinch rot
17000306 ●
red (similar RAL 3000)

KM-Cinch yellow
17000307 ●
yellow (similar RAL 1021)

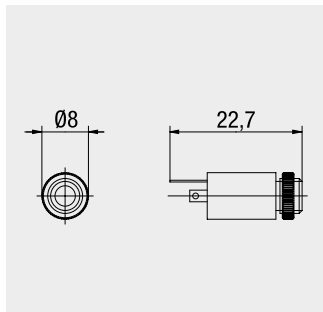
Communications adapter
copper,
mounting adapter



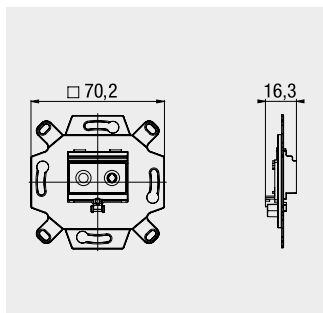
MK-MA Up****
17000002 ●
Mounting adapter (flush mounting)
for 3.5 mm mini-connections,
2-way, for customary TAE-center
plates, can be combined with ZSt
UM-MA 2 and wall plate AP,
break off mounting ring can be
converted into mounting bracket,
pearl white (similar RAL 1013),
70 x 70 x 17 mm, 25 g

MK-MA Up rw
17000052 ●
pure white (similar RAL 9010)

MK-MA Up g
17000062 ●
mousegrey (similar RAL 7005)



KM-MK 3,5 mm
17000303 ●
Mini-jack, 3.5 mm,
for mounting adapter MK-MA Up,
soldering tag,
8 x 8 x 23 mm, 3 g

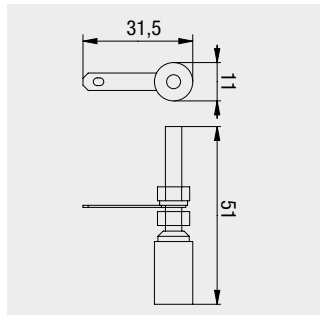


LS-MA Up****
17000004 ●
Mounting adapter (flush mounting)
for KM-LS-connections, 2-way,
for customary TAE-center plates,
can be combined with ZSt UM-MA 2
and wall plate AP,
break off mounting ring can be
converted into mounting bracket,
pearl white (similar RAL 1013),
70 x 70 x 17 mm, 25 g

LS-MA Up rw
17000054 ●
pure white (similar RAL 9010)

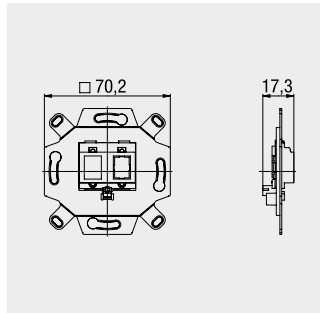
LS-MA Up g
17000064 ●
mousegrey (similar RAL 7005)

Communications adapter
copper, connectors,
fibre optics couplings



KM-LS sw
17000308 ●
LS-jack, for mounting adapter
LS-MA Up, cable lug/soldering tag
(ground),
for banana plugs \varnothing 6 mm,
connection for cable up to \varnothing 5 mm,
black (similar RAL 9005),
11 x 32 x 51 mm, 17 g

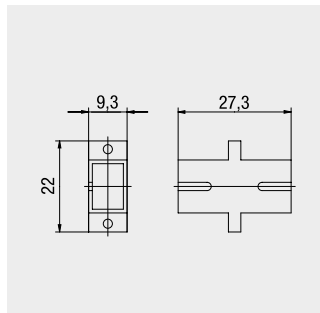
KM-LS rot
17000309 ●
red (similar RAL 3000)



SC/LC-MA Up****
17200001 ●
Mounting adapter (flush mounting)
for SC-connections, 2-way, for
customary TAE-center plates,
can be combined with ZSt UM-MA 2
and wall plate AP, break off
mounting ring can be converted
into mounting bracket,
pearl white (similar RAL 1013),
70 x 70 x 17 mm, 26 g

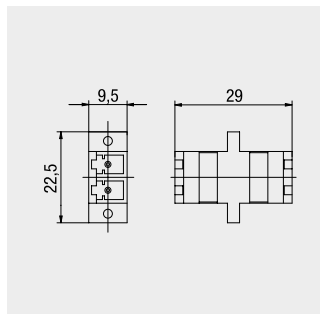
SC/LC-MA Up rw
17200051 ●
pure white (similar RAL 9010)

SC/LC-MA Up g
17200061 ●
mousegrey (similar RAL 7005)



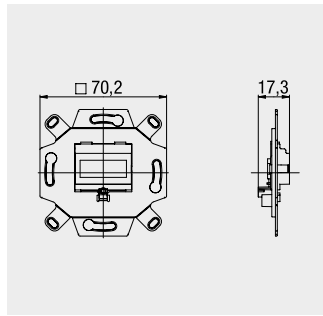
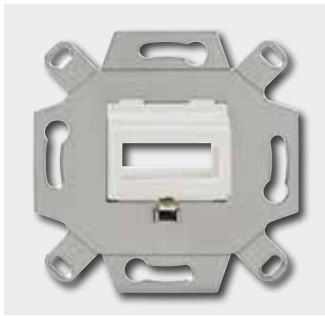
KM-SC-M
17200300 ●
SC-coupling, multimode,
for mounting adapter SC/LC-MA Up,
screw connection,
9 x 22 x 27 mm, 10 g

KM-SC-S
17200303 ●
SC-coupling, singlemode,
screw connection,
9 x 22 x 27 mm, 10 g



KM-LC-M
17200306 ●
LC-coupling, multimode,
for mounting adapter SC/LC-MA Up,
screw connection,
10 x 23 x 29 mm, 8 g

KM-LC-S
17200307 ●
LC-coupling,
singlemode

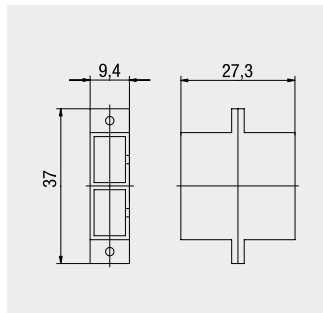


SC Duplex-MA Up***
 17200002 ●
 Mounting adapter (flush mounting) for SC-Duplex-connections, 1-way, for customary TAE-center plates, can be combined with ZSt UM-MA 2 and wall plate AP, break off mounting ring can be converted into mounting bracket, pearl white (similar RAL 1013), 70 x 70 x 17 mm, 26 g

Communications adapter,
 fibre optics couplings

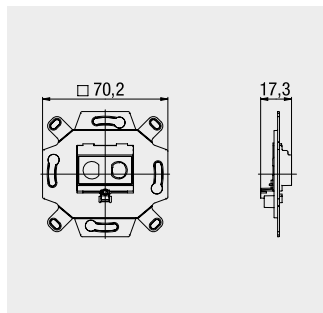
SC Duplex-MA Up rw
 17200052 ●
 pure white (similar RAL 9010)

SC Duplex-MA Up g
 17200062 ●
 mousegrey (similar RAL 7005)



KM-SC-M Duplex
 17200301 ●
 SC-Duplex-coupling, multimode, for mounting adapter SC Duplex-MA Up, screw connection, 9 x 37 x 27 mm, 19 g

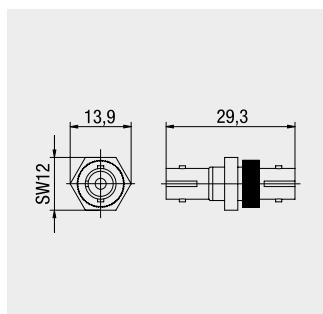
KM-SC-S Duplex
 17200304 ●
 SC-Duplex-coupling, singlemode, screw connection



ST-MA Up***
 17200003 ●
 Mounting adapter (flush mounting) for ST-connections, 2-way, for customary TAE-center plates, can be combined with ZSt UM-MA 2 and wall plate AP, break off mounting ring can be converted into mounting bracket, pearl white (similar RAL 1013), 70 x 70 x 17 mm, 26 g










ST-MA Up rw
 17200053 ●
 pure white (similar RAL 9010)

ST-MA Up g
 17200063 ●
 mousegrey (similar RAL 7005)



KM-ST-M
 17200302 ●
 ST-coupling, multimode, for mounting adapter ST-MA Up, single-hole assembly, 14 x 12 x 29 mm, 8 g

KM-ST-S
 17200305 ●
 ST-coupling, singlemode

Overview communications adapter FOC, POF (construction kit system)						
	<p>Cat.6 coupling 1390060</p> <p>Cat.6 Angular coupling 13900370</p>	<p>KMK-MA Up rw*</p> <p>17000055</p> <p>KMK-MA Up sw*</p> <p>17000065</p>	<p>UMflex-ApG rw*</p> <p>13911501</p> <p>Surface mounting housing, 3-way, without keystones, cable entry only from top page 19</p>	<p>PP-UM A-6 Ap</p> <p>23910106</p> <p>Surface mounting-patch panel, without keystones, page 23</p> <p>PP-UM A-8 Ap</p> <p>23910108</p> <p>Surface mounting-patch panel, without keystones, page 23</p> <p>PP-UM A-12 Ap</p> <p>23910116</p> <p>Surface mounting-patch panel, without keystones page 23</p> <p>CP-UM A-12 Ap</p> <p>23910112</p> <p>Surface mounting housing, 12-way, without keystones page 19</p> <p>MM Ap</p> <p>23910118</p> <p>Multimedia patch panel, without keystones, page 25</p>	<p>KMK-MA REG</p> <p>17000030</p> <p>DIN-rail mounting adapter, 1 DIN unit wide, without keystones, page 91</p>	<p>PP-UM A-24/1</p> <p>23900000</p> <p>Patch panel, 24 Ports, 19"/1 U, for direct mounting, without keystones page 23</p>
	<p>KMK-HDMI 17010653 (rw*) 17010663 (sw**)</p> <p>KMK-HDMI KP 17010652 (rw*) 17010662 (sw**)</p>	<p>Mounting adapter, 1/2-way, without keystones</p>				
	<p>KMK-USB 17010651 (rw*) 17010661 (sw**)</p> <p>KMK-USB 3.0 17010650 (rw*) 17010660 (sw**)</p>					
	<p>KMK-BNC-F 170 006 00 (rw*) 170 006 60 (sw**)</p>					
	<p>KMK-BNC-C 17000601 (rw*) 17000661 (sw**)</p>					
	<p>KMK-Cinch 17000604 (rw* rw*) 17000605 (sw** rw*) 17000606 (red rw*) 17000607 (yellow rw*) 17000664 (rw* sw**) 17000665 (sw** sw**) 17000666 (red sw**) 17000667 (yellow sw**)</p>					
	<p>KMK-LS 17000608 (sw** rw*) 17000609 (red rw*) 17000668 (sw** sw**) 17000669 (red sw**)</p>					
	<p>KMK-ST-M 17200602 (rw*) 17200662 (sw**)</p> <p>KMK-ST-S 17200605 (rw*) 17200665 (sw**)</p>					
	<p>KMK-LC-M 17200606 (rw*) 17200666 (sw**)</p> <p>KMK-LC-S 17200607 (rw*) 17200667 (sw**)</p>					



KMK-MA Up rw
17000055 ●
Mounting adapter (flush mounting) for Keystone-modules KMK, 2-way, for customary TAE-center plates, can be combined with ZSt UM-MA 2 and wall plate AP, break off mounting ring can be converted into mounting bracket, pure white (similar RAL 9010)
70 x 70 x 17 mm, 26 g

Communications adapter,
Keystone design,
mounting adapter

KMK-MA Up sw
17000065 ●
black (similar RAL 9005)

NEW



KMK-MA REG
17000030 ●
DIN-rail mounting adapter for keystone modules KMK, for mounting on a DIN-rail, light grey (similar RAL 7035)
69 x 18 x 50 mm, 20 g



KMK-HDMI rw
17010653 ●
HDMI-Keystone (jack/jack) for mounting adapter KMK-MA Up and other Keystone-receptacles, pure white (similar RAL 9010)

Communications adapter,
Keystone design,
Keystones

KMK-HDMI sw
17010663 ●
black (similar RAL 9005)



KMK-HDMI KP rw
17010652 ●
HDMI-Keystone (jack/jack) for mounting adapter KMK-MA Up, with pigtails (30 cm) and other Keystone-receptacles, pure white (similar RAL 9010)

KMK-HDMI KP sw
17010662 ●
black (similar RAL 9005)



KMK-USB rw
17010651 ●
USB-Keystone, USB 2.0 USB-A (jack/jack) for mounting adapter KMK-MA Up and other Keystone-receptacles, pure white (similar RAL 9010)

KMK-USB sw
17010661 ●
black (similar RAL 9005)



KMK-USB 3.0 rw
17010650 ●
USB-Keystone, USB 3.0 USB-A (jack/jack) for mounting adapter KMK-MA Up and other Keystone-receptacles, pure white (similar RAL 9010)

KMK-USB 3.0 sw
17010660 ●
black (similar RAL 9005)

Communications adapter,
Keystone design,
Keystones



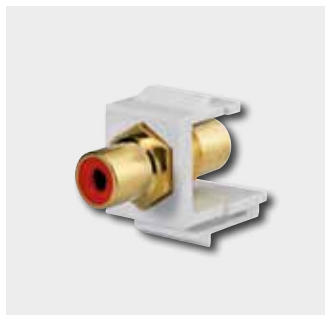
KMK-BNC-F rw
17000600 ●
BNC-F-Keystone, screw
connection (socket/socket),
for mounting adapter KMK-MA Up
and other Keystone-receptacles,
pure white (similar RAL 9010)

KMK-BNC-F sw
17000660 ●
black (similar RAL 9005)



KMK-BNC-C rw
17000601 ●
BNC-C-Keystone,
(socket/socket),
for mounting adapter KMK-MA Up
and other Keystone-receptacles,
pure white (similar RAL 9010)

KMK-BNC-C sw
17000661 ●
black (similar RAL 9005)



KMK-Cinch rw rw
17000604 ●
Cinch-Keystone, white,
(jack/jack)
for mounting adapter KMK-MA Up
and other Keystone-receptacles,
pure white (similar RAL 9010)

KMK-Cinch sw rw
17000605 ●
Cinch-Keystone, black,
pure white (similar RAL 9010)

KMK-Cinch rot rw
17000606 ●
Cinch-Keystone, red,
pure white (similar RAL 9010)

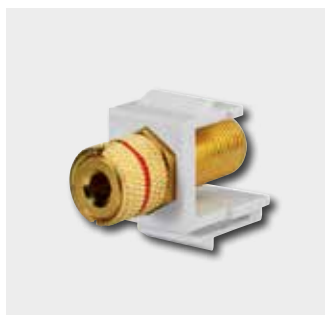
KMK-Cinch gelb rw
17000607 ●
Cinch-Keystone, yellow,
pure white (similar RAL 9010)

KMK-Cinch rw sw
17000664 ●
Cinch-Keystone, white,
black (similar RAL 9005)

KMK-Cinch sw sw
17000665 ●
Cinch-Keystone, black,
black (similar RAL 9005)

KMK-Cinch rot sw
17000666 ●
Cinch-Keystone, red,
black (similar RAL 9005)

KMK-Cinch gelb sw
17000667 ●
Cinch-Keystone, yellow,
black (similar RAL 9005)



KMK-LS sw rw
17000608 ●
LS-Keystone, black,
(jack/jack)
for mounting adapter KMK-MA Up
and other Keystone-receptacles,
pure white (similar RAL 9010)

KMK-LS rot rw
17000609 ●
LS-Keystone, red,
pure white (similar RAL 9010)

KMK-LS sw sw
17000668 ●
LS-Keystone, black,
black (similar RAL 9005)

KMK-LS rot sw
17000669 ●
LS-Keystone, red,
black (similar RAL 9005)



KMK-ST-M rw
17200602 ●
ST-coupling, Keystone,
multimode,
for mounting adapter KMK-MA Up
and other Keystone-receptacles,
pure white (similar RAL 9010)

KMK-ST-M sw
17200662 ●
black (similar RAL 9005)

KMK-ST-S rw
17200605 ●
ST-coupling, Keystone,
singlemode,
for mounting adapter KMK-MA Up
and other Keystone-receptacles,
pure white (similar RAL 9010)

KMK-ST-S sw
17200665 ●
black (similar RAL 9005)



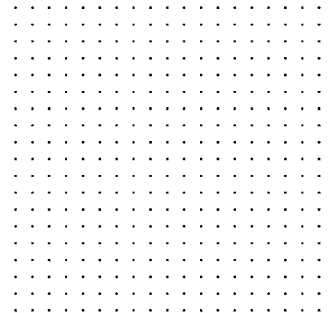
KMK-LC-M rw
17200606 ●
LC-coupling, Keystone,
multimode,
for mounting adapter KMK-MA Up
and other Keystone-receptacles,
pure white (similar RAL 9010)

KMK-LC-M sw
17200666 ●
black (similar RAL 9005)

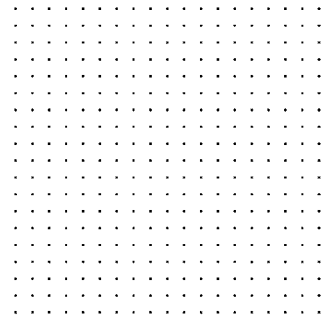
KMK-LC-S rw
17200607 ●
LC-coupling, Keystone,
singlemode,
for mounting adapter KMK-MA Up
and other Keystone-receptacles,
pure white (similar RAL 9010)

KMK-LC-S sw
17200667 ●
black (similar RAL 9005)

Communications adapter,
Keystone design,
Keystones

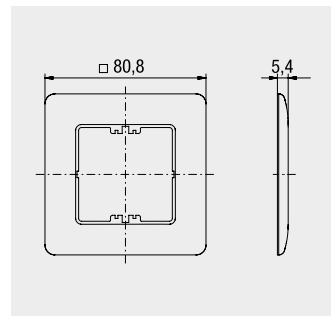


KMK-POF
18000600 ●
POF-coupling, Keystone,
for mounting adapter KMK-MA Up
and other Keystone-receptacles,
connection: 2x POF 2.2 mm,
black (similar RAL 9005),
36 x 14 x 20 mm, 56 g



KMK-BK rw
17010052 ●
Blind cover,
for mounting adapter KMK-MA Up
and other Keystone-receptacles,
pure white (similar RAL 9010)

KMK-BK sw
17010062 ●
black (similar RAL 9005)

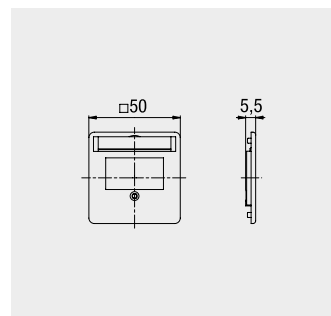
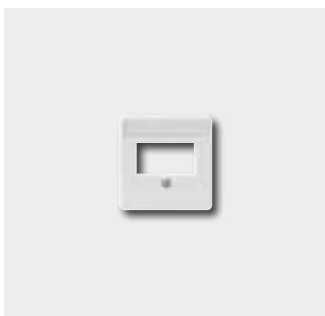


AP
10010001 ●
Wall plate, for mounting
adapter UM-MA 2 Up,
UM-MA 3 Up and for
communications adapter,
pearl white (similar RAL 1013),
80 x 80 x 5 mm, 12 g

AP rw
10010051 ●
pure white (similar RAL 9010)

Wall plates, center plates
and accessory for the
communications adapter

Wall plates and
center plates made of ABS,
available in pearl white
(similar RAL 1013) and
pure white (similar RAL 9010)



ZSt UM-MA 2
13910003 ●
Center plate,
for 2 modular outlets RJ 45,
with labelling strip,
for UM-MA 2 Up,
pearl white (similar RAL 1013),
50 x 50 x 6 mm, 6 g

ZSt UM-MA 2 rw
13910053 ●
pure white (similar RAL 9010)

HDMI

Through the optimized HDMI cables specifically designed for installation in professional applications, high bandwidths can be transmitted over long distances. All communication signals (data, clock, audio, etc.) are transmitted in this case, as well as the copy protection HDCP.



Technical characteristics								
Article-description	flame-retardant (FR)	flammability rate (V0)	Cable diameter	Connector types	HDMI Standard	HDMI High Speed	3D-capable	4k-capable
AK HDMI		x	12,0mm	connector/connector	x	up to 5 m	x	x
EK HDMI	x		10,0mm	connector/direct connection		x	x	x
K HDMI	x		10,0mm	connector/connector		x	x	x
K HDMI-CC	x		10,0mm	direct connection/direct connection		x	x	x
K HDMI 1m	x		10,0mm	additional length for K HDMI		x	x	x
AK ES HDMI		x	12,0mm	connector/round connector	x		x	x
AKE HDMI		x	7,5mm	connector/connector		x	x	x

Rutenbeck HDMI-cables are available as male/male or as a feeder cable. The feeder cables are already equipped with a male jack. At the other end of the cable, there is a pulling aid, with which the cable can be pulled, for example, into cable ducts.

The maximum resolution in relation to the length can be retrieved from the planning matrix on page 95.

VGA

Rutenbeck VGA-cables are available as male/female, male/male, or as a feeder cable. The feeder cables are already equipped with a male jack. At the other end of the cable, there is a pulling aid, with which the cable can be pulled, for example, into cable ducts.

The shrink-fitted cable loop is removed next. Then the crimped finished single wires can be immediately placed on male or female jacks. Special tools are

not needed. Both versions, finished cables as well as feeder solutions, are available in standard lengths of 5–20 m, in any intermediate/special lengths upon request.

In this case, order the prepackaged length (1 m) and corresponding required additional lengths (prepackaged length + X x additional length = total length). Crimp sets for male/female jacks and the required crimper can be ordered as well.

The maximum resolution in relation to the length can be retrieved from the planning matrix on page 98.

Technical characteristics						
Article-description	halogen-free (OH)	flame-retardant (FR)	flammability rate (V0)	Cable diameter	Connector types	VGA-solution
VK VGA		x		8,0 mm	connector/connector (incl. Gender Changer)	QXGA
EK VGA	x		x	7,3 mm	connector/crimp connection	WUXGA
K VGA-S	x		x	7,3 mm	connector/connector	WUXGA
K VGA-B	x		x	7,3 mm	connector/jack	WUXGA
K VGA-CC	x		x	7,3 mm	crimp connection/crimp connection	WUXGA
K VGA	x		x	7,3 mm	additional length for K VGA/S/B/CC	WUXGA
AK ES VGA		x		8,0 mm	connector/round connector	QXGA

QXGA = 2048 x 1536 dpi, WUXGA = 1920 x 1200 dpi

Rutenbeck multimedia solutions: Always right...

High-quality equipment in the field of audio and video with increasing demands require a high signal quality. Wrong cables or unsuitable connection and adapter solutions, however, can lead to significant performance losses and limit the listening and viewing pleasure, or even make viewing or listening completely impossible.

The use of matched and coordinated components is recommended. Multimedia cables and solutions offered by Rutenbeck enable extremely long connection paths when the supplying device (source) and the terminal device are linked directly without the need for additional amplification, signal conversion and without additional energy consumption. Connect – and you are done.

Since passive solutions do not require any power supplies, these solutions are energy savers in the truest sense of the word and therefore "green" solutions.

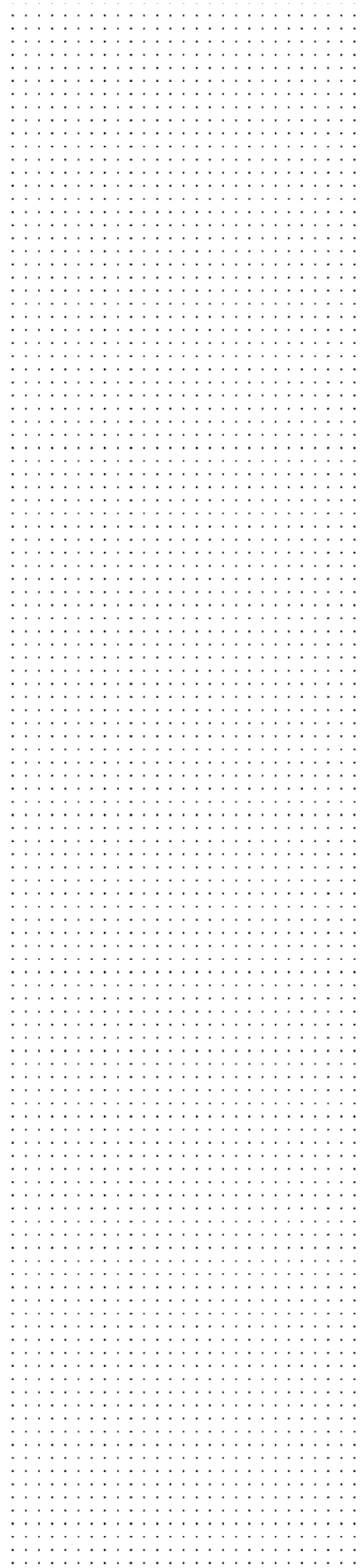


Accessories

Matching male/female jacks are available for the feeder cables with prefinished crimped wires.

Cable matrix HDMI								
Resol.	H	V	Refresh	MHz	5 m	10 m	15 m	20 m
SVGA	800	600	60	41	D1	D1	D1	D1
	800	600	75	51	D1	D1	D1	D1
	800	600	85	58	D1	D1	D1	D1
XGA	1024	768	60	67	D1	D1	D1	D1
	1024	768	75	84	D1	D1	D1	D1
	1024	768	85	95	D1	D1	D1	D1
WXGA	1366	768	60	89	D1	D1	D1	D1
	1366	768	75	112	D1	D1	D1	D1
	1366	768	85	127	D1	D1	D1	D1
SXGA	1280	1024	60	112	D1	D1	D1	D1
	1280	1024	75	140	D1	D1	D1	D1
	1280	1024	85	158	D1	D1	D1	D1
WSXGA	1600	1024	60	140	D1	D1	D1	D1
UXGA	1600	1280	60	164	D1	D1	D1	D1
WUXGA	1920	1280	60	165	D1	D1	D1	D1
WQXGA	2560	1600	60	330	D2	D2	D2	D2

Index: D1 = single cable D2 = 2 parallel cables



Installation solutions
HDMI connection cable
HDMI feeder cable

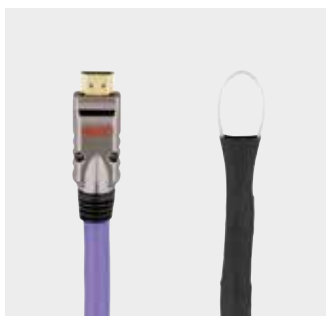


AK HDMI 5 m
21800050 ●
HDMI connection cable,
ready to connect,
black,
5 m (male/male),
12,0 mm Ø, 420 g

AK HDMI 10 m
218000100 ●
10 m (male/male),
12,0 mm Ø, 1500 g

AK HDMI 15 m
218000150 ●
15 m (male/male),
12,0 mm Ø, 2280 g

AK HDMI 20 m
218000200 ●
20 m (male/male),
12,0 mm Ø, 3040 g



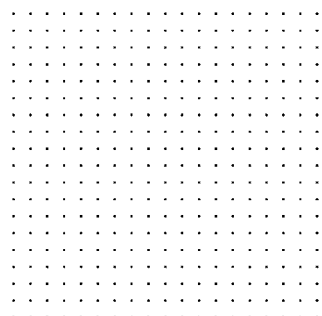
EK HDMI 5 m
21830005 ●
HDMI feeder cable,
ready to connect,
magenta,
5 m (male/crimp termination),
10,0 mm Ø, 1440 g

EK HDMI 10 m
21830010 ●
10 m (male/crimp termination),
10,0 mm Ø, 2100 g

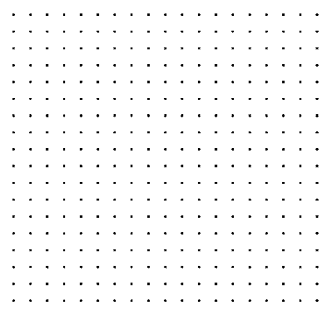
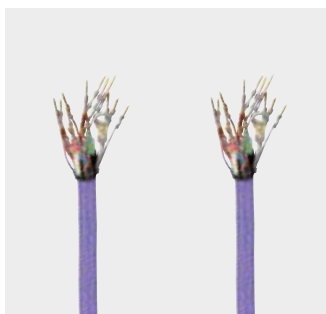
EK HDMI 15 m
21830015 ●
15 m (male/crimp termination),
10,0 mm Ø, 2800 g

EK HDMI 20 m
21830020 ●
20 m (male/crimp termination),
10,0 mm Ø, 3500 g

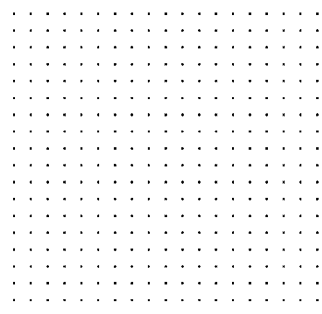
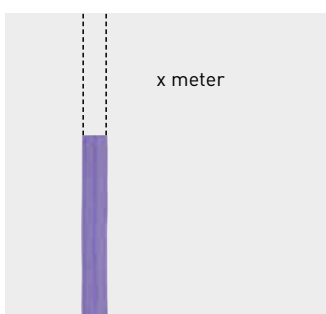
Installation solutions
HDMI cable
HDMI cable, customized



K HDMI
21820001 ●
HDMI connection cable,
ready to connect,
magenta,
1 m (male/male),
10,0 mm Ø



K HDMI-CC
21850001 ●
HDMI connection cable,
ready to connect,
magenta,
1 m (crimp termination/
crimp termination),
10,0 mm Ø



K HDMI 1 m
21820002 ●
HDMI additional lengths, 1 m,
to K HDMI and K HDMI-CC,
magenta,
10,0 mm Ø, 1440 g,*

K HDMI 100 m
21820000 ●
HDMI cable, 100 m, on bulk rolls,
magenta,
10,0 mm Ø, 144.000 g,*



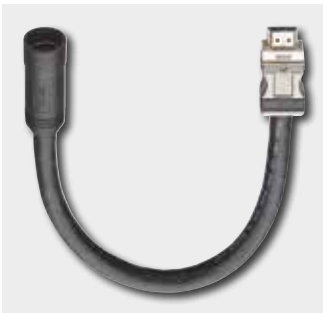
AK ES HDMI 4,7 m
21840005 ●
 HDMI-terminal devices- connection cable, flexible feeder cable, 4.7 m, with plug and round connector (ø 17 mm), black, 12,0 mm Ø, 480 g

AK ES HDMI 9,7 m
21840010 ●
 9.7m, with plug and round connector, black, 12,0 mm Ø, 950 g

AK ES HDMI 14,7 m
21840015 ●
 14.7 m, with plug and round connector, black, 12,0 mm Ø, 1490 g

AK ES HDMI 19,7 m
21840020 ●
 19.7 m, with plug and round connector, black, 12,0 mm Ø, 3000 g

Terminal devices – connection cable
 HDMI feeder cable



EKM HDMI-S 0,3 m
17610205 ●
 HDMI-Adapter cable for HDMI-feeder cable AK ES HDMI, 0.3 m, with plug and round connector (ø 17 mm), black, 12 mm Ø, 85 g

EKM HDMI-B 0,3 m
17610206 ●
 0.3 m, with jack and round connector (ø 17 mm), black, 12 mm Ø, 50 g



EZH
17610207 ●
 Pulling aid for HDMI/VGA-Feeder cable AK ES, 17 mm Ø, 25 g

Accessory for HDMI feeder cable



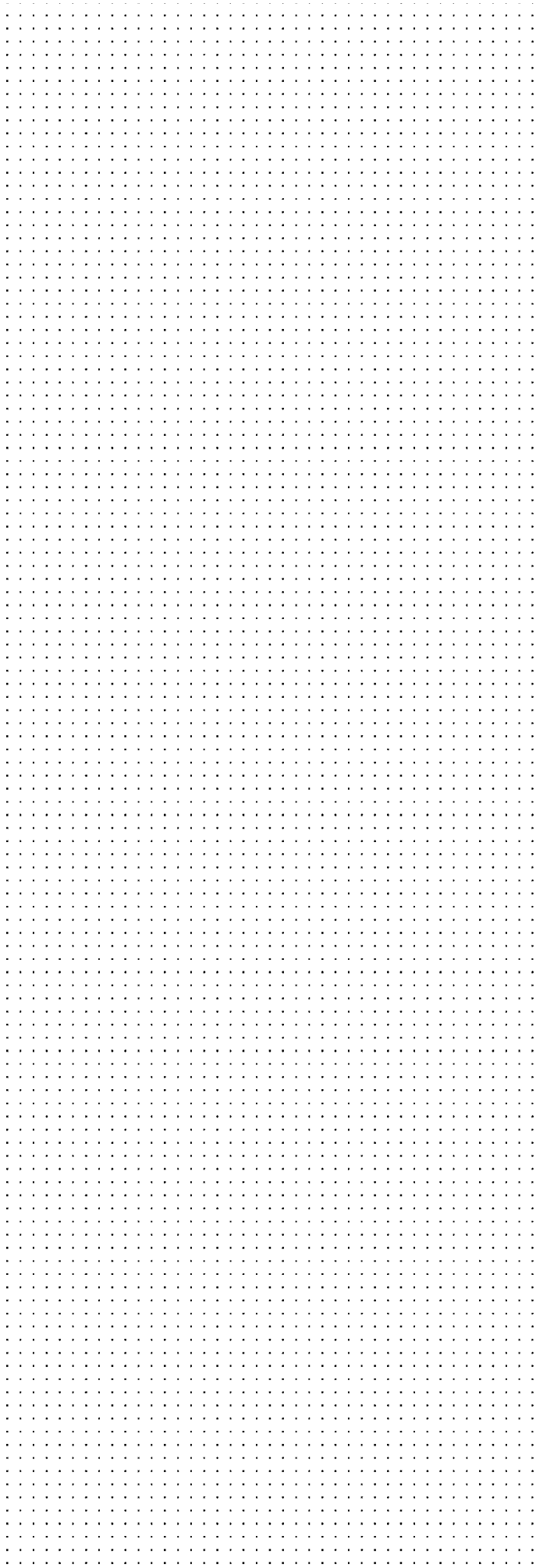
AKE HDMI 2 m
21810002 ●
 HDMI – terminal devices connection cable, 2 m (male/male), black, 7,5 mm Ø, 130 g

AKE HDMI 3 m
21810003 ●
 3 m (male/male), black, 7,5 mm Ø, 180 g

AKE HDMI 5 m
21810005 ●
 5 m (male/male), black, 7,5 mm Ø, 300 g

Terminal devices – connection cable
 HDMI connection cable

Cable matrix VGA								
Resol.	H	V	Refr.	MHz	5 m	10 m	15 m	20 m
VGA	640	480	60	26	1	1	1	1
	640	480	75	33	1	1	1	1
	640	480	85	37	1	1	1	1
SVGA	800	600	60	41	1	1	1	1
	800	600	75	51	1	1	1	1
	800	600	85	58	1	1	1	1
XGA	1024	768	60	67	1	1	1	1
	1024	768	75	84	1	1	1	1
	1024	768	85	95	1	1	1	1
WXGA	1366	768	60	89	1	1	1	1
	1366	768	75	112	1	1	1	1
	1366	768	85	127	1	1	1	1
SXGA	1280	1024	60	112	1	1	1	1
	1280	1024	75	140	1	1	1	1
	1280	1024	85	158	1	1	1	1
WSXGA	1600	1024	60	140	1	1	1	1
	1600	1024	75	174	1	1	1	1
	1600	1024	85	198	1	1	1	1
UXGA	1600	1280	60	164	1	1	1	1
	1600	1280	75	204	1	1	1	1
	1600	1280	85	232	1	1	1	1
WUXGA	1920	1280	60	196	1	1	1	1
	1920	1280	75	245	1	1	1	
	1920	1280	85	278	1	1		





VK VGA 5 m
217100050 ●
 VGA patch cable,
 ready to connect,
 blue,
 5 m (male/male),
 delivery with gender changer
 8 mm Ø, 471 g

VK VGA 10 m
217100100 ●
 10 m (male/male),
 8 mm Ø, 771 g

VK VGA 15 m
217100150 ●
 15 m (male/male),
 8 mm Ø, 1211 g

VK VGA 20 m
217100200 ●
 20 m (male/male),
 8 mm Ø, 1551 g

Installation solution
 VGA connection cable
 VGA feeder cable

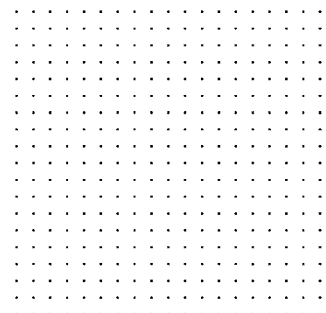


EK VGA 5 m
21730005 ●
 VGA feeder cable,
 ready to connect, green,
 5 m (male/crimp termination),
 7,3 mm Ø, 917 g

EK VGA 10 m
21730010 ●
 10 m (male/crimp termination),
 7,3 mm Ø, 1292 g

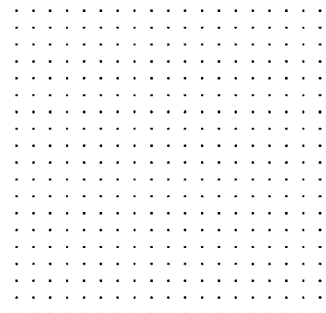
EK VGA 15 m
21730015 ●
 15 m (male/crimp termination),
 7,3 mm Ø, 1667 g

EK VGA 20 m
21730020 ●
 20 m (male/crimp termination),
 7,3 mm Ø, 2042 g



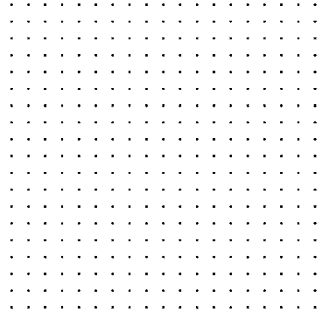
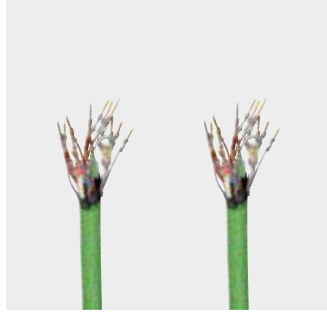
K VGA-S
21720001 ●
 VGA-connection cable,
 1 m (male/male),
 7,3 mm Ø

Communications adapter
 VGA cable, customized

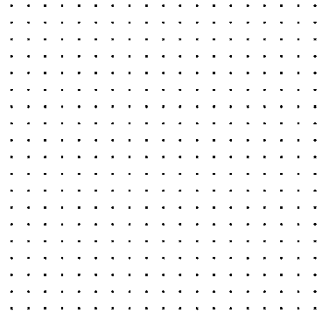
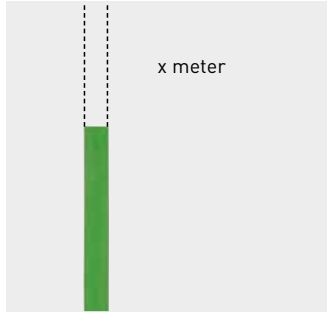


K VGA-B
21720002 ●
 VGA connection cable,
 ready to connect, free of halogen,
 flame-retarded, green,
 1 m (male/female),
 7,3 mm Ø

VGA cable,
customized



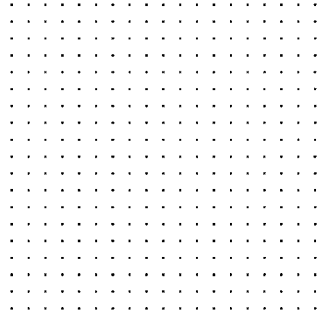
K VGA-CC
21750001 ●
VGA-connection cable,
ready to connect, green,
1 m (crimp termination/crimp
termination),
7,3 mm Ø



K VGA 1 m
21720003 ●
VGA additional lengths, 1 m, to K
VGA-S, K VGA-B und K VGA-CC,
green,
7,3 mm Ø, 800 g¹

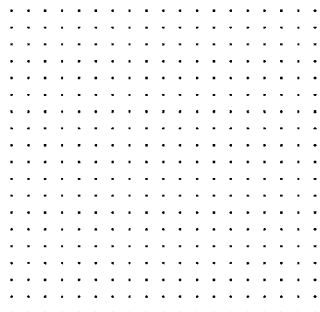
K VGA 100 m
21720000 ●
VGA cable, 100 m, on bulk rolls,
green,
7,3 mm Ø, 80.000 g¹

Accessories for
VGA cable



VGA-S C
17610201 ●
VGA plug,
for crimp termination,
in connection with EK-VGA

VGA-B C
17610202 ●
VGA socket,
für crimp termination,
in connection with EK-VGA



CZ
392 000 09 ●
Crimping tool, for assembling
VGA-S C/VGA-B C to K-VGA
100 m (bulk rolls),
1200 g



AK ES VGA 4,7 m
21760005 ●
 VGA-terminal devices-connection cable, flexible feeder cable, 4.7 m, with plug and round connector (ø 17 mm), blue, 8 mm Ø , 410 g

AK ES VGA 9,7 m
21760010 ●
 9.7 m, with plug and round connector, blue, 8 mm Ø , 780 g

AK ES VGA 14,7 m
21760015 ●
 14.7 m, with plug and round connector, blue, 8 mm Ø , 895 g

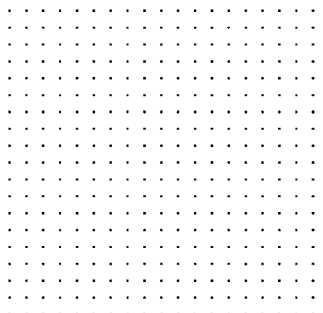
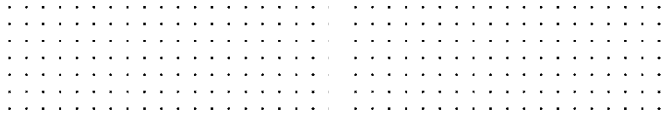
AK ES VGA 19,7 m
21760020 ●
 19.7 m, with plug and round connector, blue, 8 mm Ø , 1200 g

Terminal devices – connection cable
 VGA feeder cable



EKM VGA-S 0,3 m
17610203 ●
 VGA-Adapter cable for VGA-feeder cable AK ES VGA, 0.3 m, with plug and round connector (ø 17 mm), blue, 8 mm Ø , 70 g

EKM VGA-B 0,3 m
17610204 ●
 0.3 m, with jack and round connector, blue, 8 mm Ø , 70 g



EZH
17610207 ●
 Pulling aid for HDMI/VGA-feeder cable AK ES, 17 mm Ø , 25 g

Accessories for
 VGA feeder cable

TELEPHONE TECHNOLOGY

RJ45-jacks from Rutenbeck

It will be differentiated between UAE- and IAE/UAE-jacks. IAE/UAE-jacks from Rutenbeck can be used for ISDN and are suitable for the universal use with RJ12- and RJ45-plugs without any additional parts. A flat-levelled design without obstructive center or wall plates is ideal for the installation in window ducts and walls. The UAE-connector block can be – independent of the communication system – used universally.

TAE-jacks from Rutenbeck

TAE-jacks from Rutenbeck are mainly used as a connecting device in analog telephone installation. Stable metal mounting rings and gold-plated contacts provide for efficient function and operation at construction sites.

Compatible with the design center plates of the manufacturer of electrical installation material

The RJ45- and TAE jacks from Rutenbeck are compatible with the design center plates of the manufacturer of electrical installation material.



Universal-connector-blocks (UAE), combi jack (UAE/TAE) page 104



TAE-jacks (TAE) page 114



Electronical components (AMS, SAR, WK) page 119



Distribution boxes (VVD, UG, KVK, VKP) and Accessory, Anchoring clamps (AKL) page 121

ISDN-jacks for analog or ISDN-applications IAE/UAE

The design provides at least four contacts and four screw terminals. Any other 4-way connection can be realised with contacts 3, 4, 5 and 6.

Universal-jacks UAE

The design provides eight contacts and eight screw terminals. The connection of the contacts can be chosen freely.

Sockets, covers, center plates and wall plates made of ABS-material, pearl white (similar RAL 1013), pure white (similar RAL 9010), Contact carrier housing made of PBT-material.

Mounting rings made of sheet steel, galvanized.

The contacts of the outlets feature a squared cross section and are hard gold plated in the contact area.

The commonly used 6- and 8-way plugs can be alternatively be used in the outlets without any additional installation effort.

Protection class IP20 according to DIN EN 60529

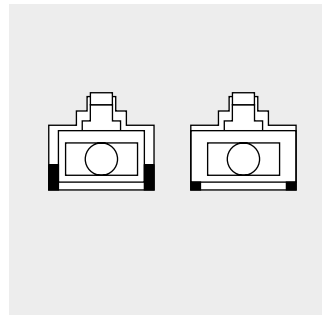
The connection of the cable wires takes place at the screw terminals or at LSA-terminals.

ISDN

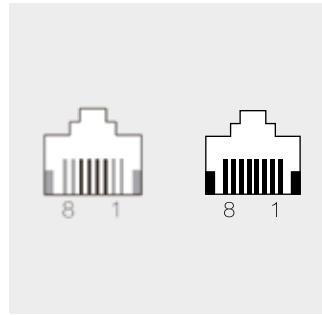
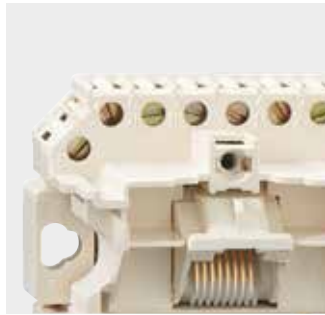
In addition to the marking 3 to 6, all ISDN screw terminals also have the ISDN marking printed on.

Category 3

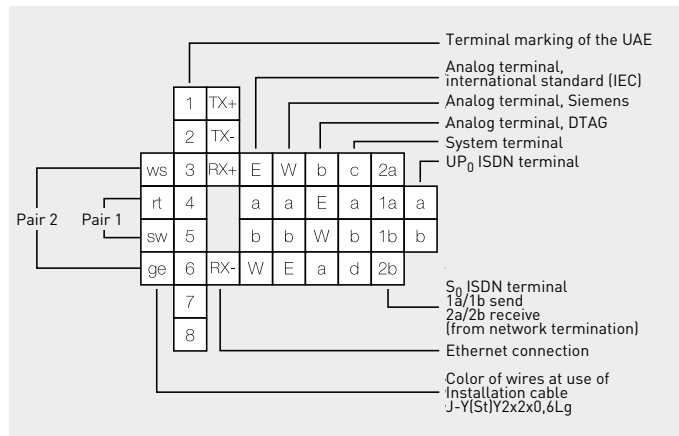
The IAE/UAE-system is suitable for data transmission rates up to 16 MHz, which are also required for Cat.3-jacks.



The main part of this system is an outlet for 8-way plugs with lateral reducing elements which work automatically and guarantee an exact position of the smaller 6-way RJ11-/RJ12-plugs in the outlet.



The designs have 1 or 2 plug openings, and the outlets are equipped with 8 contacts, at least 4 can be wired.



Mechanical characteristics

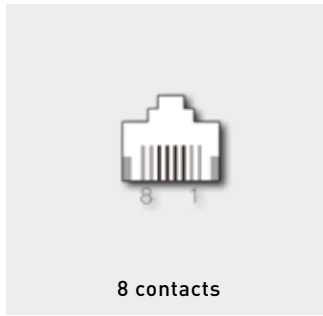
Connector/outlet	
Design	DIN EN 60603-7:2010-05
Connection technique	Screw terminals for wires up to 1mm Ø, 2 wires at each contact alternatively LSA-Plus-terminals for wires 0.4–0.63 mm Ø, AWG 26–22, outer diameter 0.7–1.6 mm, 1 wire at each terminal, max. number of connections > 50 x
Outlet universal use	for 6-way and 8-way plugs
Material spring contact outlet	CuSn
Surface spring contact outlet	1,5 µm Ni/1,3 µm Au
Life (insertions and withdrawals) outlet	> 2500 cycles
Material housing	PBT, POM, ABS

Electrical characteristics

Voltage	125 V DC
Operating current	1 Amp at 50 °C
Voltage withstand	1000 V, 50 Hz, 1 min.
Isolation resistance	> 500 MΩ
Contact resistance	< 20 mΩ

Transmission characteristics

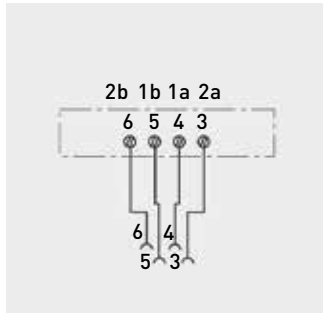
TIA/EIA-568-B.2-2001	Category 3
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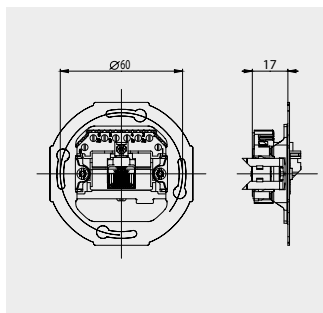
IAE/UAE 8 (4) Ap****
13010105 ●
4-way, 4 screw terminals,
pearl white (similar RAL 1013),
65 x 80 x 26 mm, 30 g

ISDN single-jacks
IAE/UAE 8 (4)

8 contacts

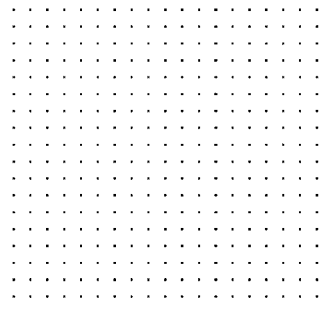


IAE/UAE 8 (4) Up****
13010209 ●
4-way, 4 screw terminals,
with center plate and wall plate,
with spreading claws,
pearl white (similar RAL 1013),
80 x 80 x 31 mm, 58 g

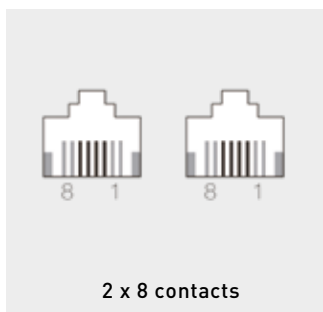


IAE/UAE 8 (4) Up 50****
13010305 ●
4-way, 4 screw terminals,
with center plate,
with spreading claws,
pearl white (similar RAL 1013),
70 x 70 x 31 mm, 47 g

IAE/UAE 8 (4) Up 50 rw****
13010336 ●
pearl white (similar RAL 9010)



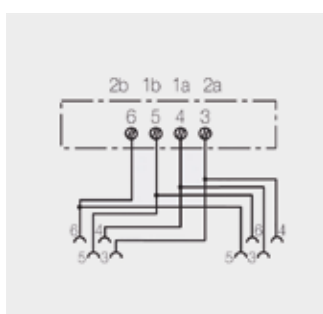
IAE/UAE 8 (4) Up 0****
13010404 ●
4-way, 4 screw terminals,
with spreading claws,
70 x 70 x 29 mm, 42 g



IAE/UAE 2x8 (4) Ap****
13010107 ●
2 x 4-way, 4 screw terminals,
pearl white (similar RAL 1013),
65 x 80 x 26 mm, 37 g

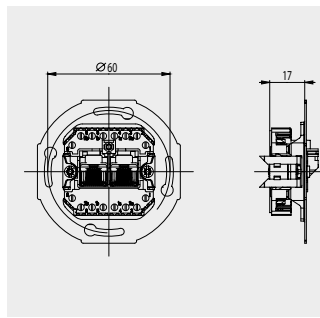
ISDN-double jacks
for one connection
IAE/UAE 2x8 (4)

2 x 8 contacts



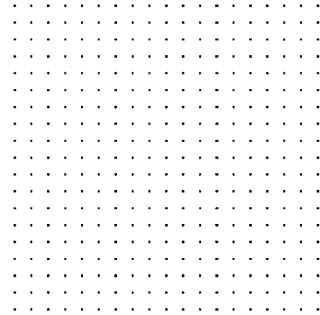
IAE/UAE 2x8 (4) Up****
13010211 ●
2 x 4-way, 4 screw terminals,
with center plate and wall plate,
with spreading claws,
pearl white (similar RAL 1013),
80 x 80 x 31 mm, 59 g

ISDN double-jacks
for one connection
IAE/UAE 2x8 (4)



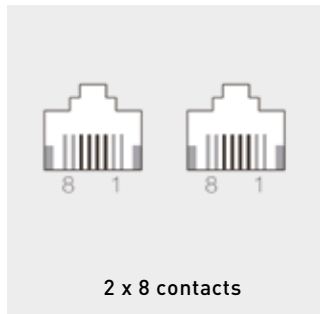
IAE/UAE 2x8 (4) Up 50****
13010307 ●
2 x 4-way, 4 screw terminals,
with center plate and wall plate,
with spreading claws,
pearl white (similar RAL 1013),
70 x 70 x 31 mm, 47 g

IAE/UAE 2x8 (4) Up 50 rw****
13010339 ●
pearl white (similar RAL 9010)



IAE/UAE 2x8 (4) Up 0****
13010411 ●
2 x 4-way, 4 screw terminals,
with spreading claws,
70 x 70 x 29 mm, 44 g

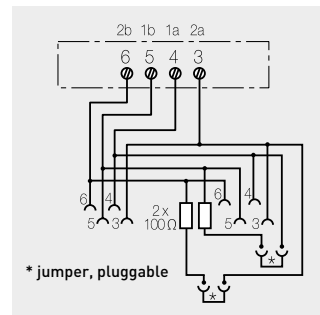
ISDN double-jacks
for one connection with
switchable resistors
IAE/UAE 2x8 (4) TRS



IAE/UAE 2x8 (4) TRS Ap****
13010140 ●
2 x 4-way, 4 screw terminals,
pearl white (similar RAL 1013),
65 x 80 x 26 mm, 39 g

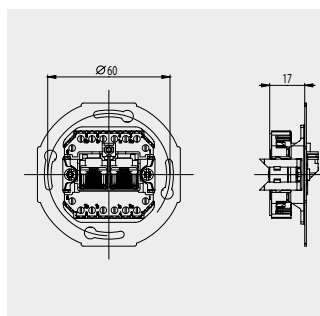
IAE/UAE 2x8 (4) TRS Ap rw
13011140 ●
pearl white (similar RAL 9010)

2 x 8 contacts

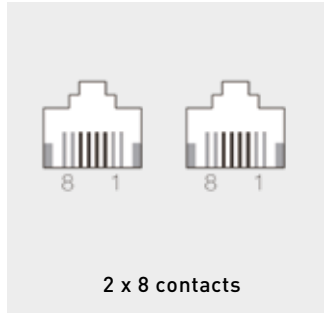


IAE/UAE 2x8 (4) TRS Up****
13010240 ●
2 x 4-way, 4 screw terminals,
with center plate and wall plate,
with spreading claws,
pearl white (similar RAL 1013),
80 x 80 x 31 mm, 61 g

IAE/UAE 2x8 (4) TRS Up rw
13011240 ●
pearl white (similar RAL 9010)

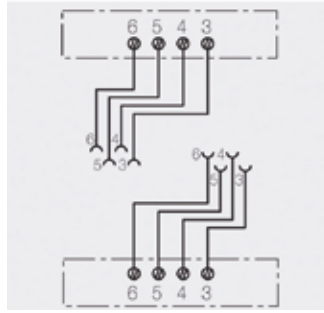


IAE/UAE 2x8 (4) TRS Up 0
13010440 ●
2 x 4-way, 4 screw terminals,
with spreading claws,
70 x 70 x 29 mm, 45 g

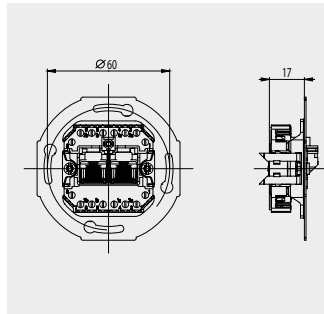


IAE/UAE 8/8 (4/4) Ap***
13010109 ●
 2 x 4-way, 2x4 screw terminals,
 pearl white (similar RAL 1013),
 65 x 80 x 26 mm, 41 g

ISDN double-jacks
 for two connections
 IAE/UAE 8/8 (4/4)

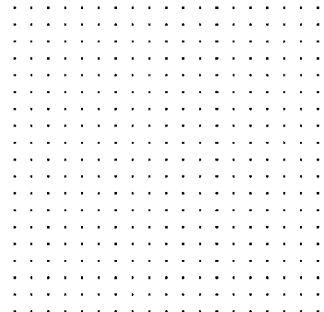


IAE/UAE 8/8 (4/4) Up***
13010213 ●
 2 x 4-way, 2x4 screw terminals,
 with center plate and wall plate,
 with spreading claws,
 pearl white (similar RAL 1013),
 80 x 80 x 31 mm, 63 g



IAE/UAE 8/8 (4/4) Up 50***
13010309 ●
 2 x 4-way, 2x4 screw terminals,
 with center plate and wall plate,
 with spreading claws,
 pearl white (similar RAL 1013),
 70 x 70 x 31 mm, 51 g

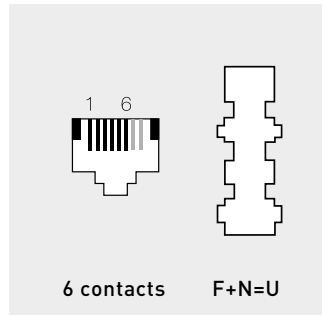
IAE/UAE 8/8 (4/4) Up 50 rw***
13010340 ●
 pearl white (similar RAL 9010)



IAE/UAE 8/8 (4/4) Up 0***
13010416 ●
 2 x 4-way, 2x4 screw terminals,
 with spreading claws,
 70 x 70 x 29 mm, 47 g

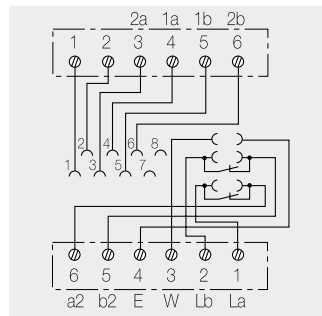
**ISDN double-jacks
for two connections
IAE/UAE 8 (6)-TAE 6 F+N**

This "Combi Jack" is compatible with the TAE-design center plate of the manufacturer of electrical installation material.



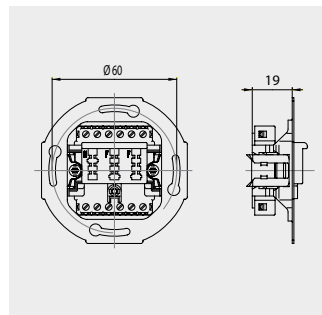
IAE/UAE 8 (6)-TAE 6 F+N Ap***
13310101 ●
2 x 6-way,
2 x 6 screw terminals,
pearl white (similar RAL 1013),
65 x 80 x 26 mm, 45 g

IAE/UAE 8 (6)-TAE 6 F+N Ap rw
13311101 ●
pure white (similar RAL 9010)



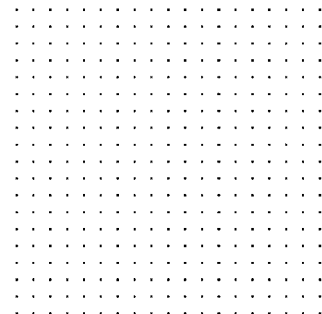
IAE/UAE 8 (6)-TAE 6 F+N Up***
13310201 ●
2 x 6-way, 2 x 6 screw terminals,
with center plate and wall plate,
with spreading claws,
pearl white (similar RAL 1013),
80 x 80 x 31 mm, 67 g

IAE/UAE 8 (6)-TAE 6 F+N Up rw
13311201 ●
pure white (similar RAL 9010)



IAE/UAE 8 (6)-TAE 6 F+N Up 50***
13310301 ●
2 x 6-way, 2 x 6 screw terminals,
with center plate,
with spreading claws,
pearl white (similar RAL 1013),
70 x 70 x 31 mm, 55 g

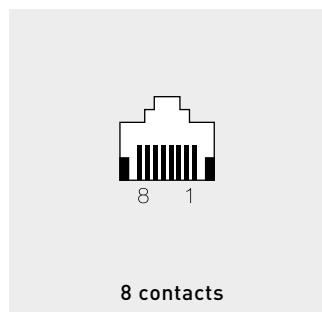
IAE/UAE 8 (6)-TAE 6 F+N Up 50 rw***
13311301 ●
pure white (similar RAL 9010)



IAE/UAE 8 (6)-TAE 6 F+N Up 0***
13310401 ●
2 x 6-way, 2 x 6 screw terminals,
with spreading claws,
pearl white (similar RAL 1013),
70 x 70 x 29 mm, 51 g

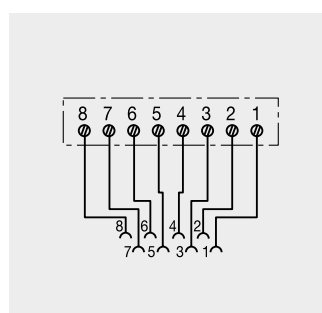
IAE/UAE 8 (6)-TAE 6 F+N Up 0 rw
13311401 ●
pure white (similar RAL 9010)

**UAE single-jacks
UAE 8 (8)**



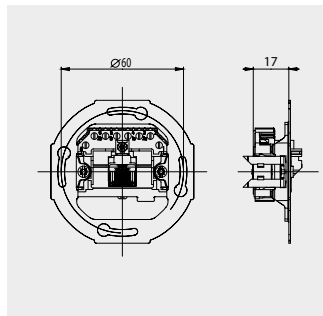
UAE 8 (8) Ap***
13010106 ●
8-way, 8 screw terminals,
pearl white (similar RAL 1013),
65 x 80 x 26 mm, 39 g

UAE 8 (8) Ap rw
13010129 ●
pure white (similar RAL 9010)



UAE 8 (8) Up***
13010210 ●
8-way, 8 screw terminals,
with center plate and wall plate,
with spreading claws,
pearl white (similar RAL 1013),
80 x 80 x 31 mm, 59 g

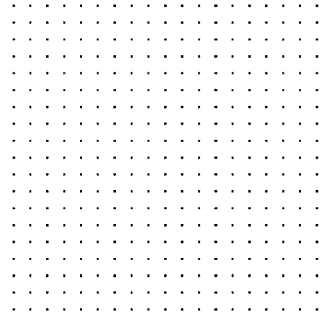
UAE 8 (8) Up rw
13010245 ●
pure white (similar RAL 9010)



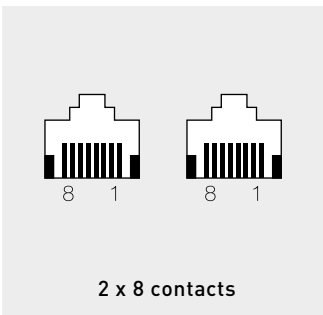
UAE 8 (8) Up 50***
13010306 ●
 8-way, 8 screw terminals,
 with center plate,
 with spreading claws,
 pearl white (similar RAL 1013),
 70 x 70 x 31 mm, 49 g

UAE 8 (8) Up 50 rw***
13010338 ●
 pure white (similar RAL 9010)

UAE single-jacks
 UAE 8 (8)



UAE 8 (8) Up 0
13010407 ●
 8-way, 8 screw terminals,
 with spreading claws,
 70 x 70 x 29 mm, 44 g

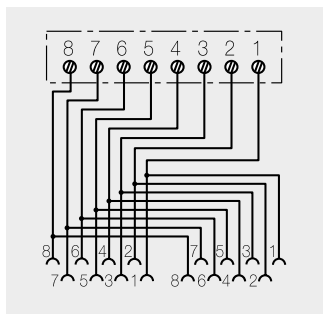


UAE 2x8 (8) Ap***
13010108 ●
 2 x 8-way, 8 screw terminals,
 pearl white (similar RAL 1013),
 65 x 80 x 26 mm, 38 g

UAE 2x8 (8) Ap rw
13010130 ●
 pure white (similar RAL 9010)

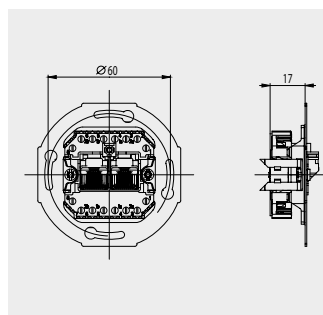
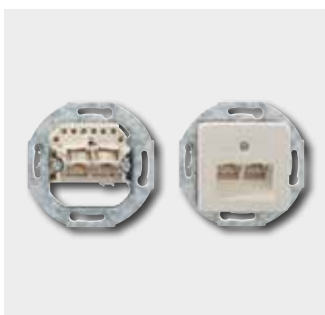
UAE double-jacks
 for one connection
 UAE 2x8 (8)

2 x 8 contacts



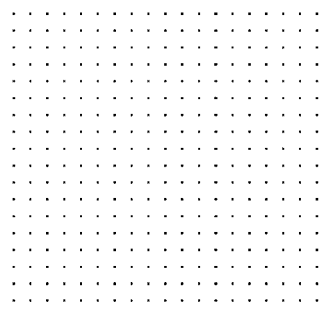
UAE 2x8 (8) Up***
13010212 ●
 2 x 8-way, 8 screw terminals,
 with center plate and wall plate,
 with spreading claws,
 pearl white (similar RAL 1013),
 80 x 80 x 31 mm, 61 g

UAE 2x8 (8) Up rw
13010246 ●
 pure white (similar RAL 9010)



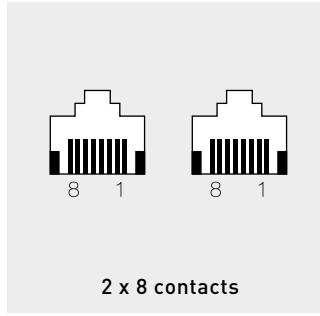
UAE 2x8 (8) Up 50***
13010308 ●
 2 x 8-way, 8 screw terminals,
 with center plate,
 with spreading claws,
 pearl white (similar RAL 1013),
 70 x 70 x 31 mm, 50 g

UAE 2x8 (8) Up 50 rw***
13010337 ●
 pure white (similar RAL 9010)



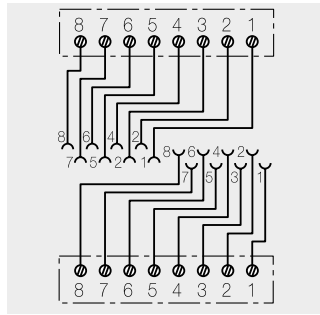
UAE 2x8 (8) Up 0
13010421 ●
 2 x 8-way, 8 screw terminals,
 with spreading claws,
 70 x 70 x 29 mm, 45 g

UAE double-jacks
for two connections
UAE 8/8 (8/8)



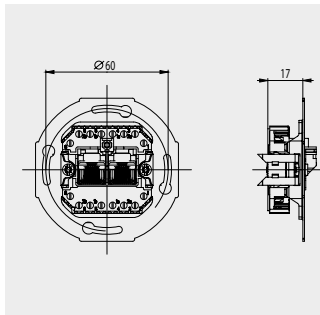
UAE 8/8 (8/8) Ap****
13010110 ●
2 x 8-way, 2 x 8 screw terminals,
pearl white (similar RAL 1013),
65 x 80 x 26 mm, 44 g

UAE 8/8 (8/8) Ap rw
13010131 ●
pure white (similar RAL 9010)



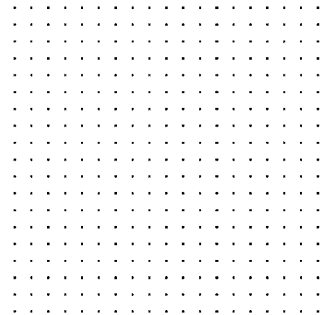
UAE 8/8 (8/8) Up****
13010214 ●
2 x 8-way, 2 x 8 screw terminals,
with center plate and wall plate,
with spreading claws,
pearl white (similar RAL 1013),
80 x 80 x 31 mm, 66 g

UAE 8/8 (8/8) Up rw
13010247 ●
pure white (similar RAL 9010)



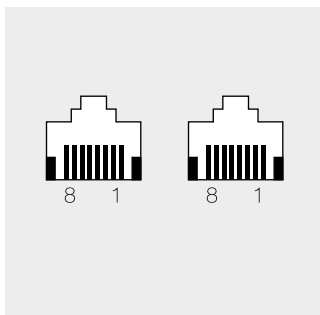
UAE 8/8 (8/8) Up 50****
13010310 ●
2 x 8-way, 2 x 8 screw terminals,
with center plate,
with spreading claws,
pearl white (similar RAL 1013),
70 x 70 x 31 mm, 47 g

UAE 8/8 (8/8) Up 50 rw****
13010341 ●
pure white (similar RAL 9010)



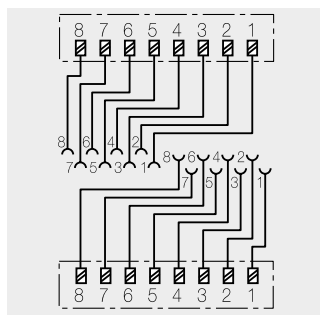
UAE 8/8 (8/8) Up 0
13010422 ●
2 x 8-way, 2 x 8 screw terminals,
with spreading claws,
70 x 70 x 29 mm, 40 g

UAE double-jacks
for two connections
UAE 8/8 (8/8) LSA



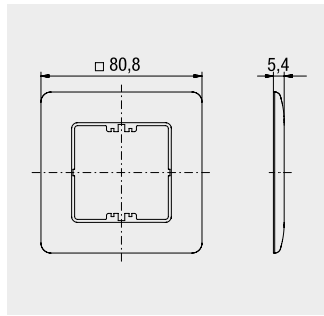
UAE 8/8 (8/8) LSA Ap****
13010112 ●
2 x 8-way, 2 x 8 LSA-contacts,
pearl white (similar RAL 1013),
65 x 80 x 26 mm, 45 g

UAE 8/8 (8/8) LSA Ap rw
13011112 ●
pure white (similar RAL 9010)



UAE 8/8 (8/8) LSA Up****
13010216 ●
2 x 8-way, 2 x 8 LSA-contacts, with
plastic mounting brackets, center
plate and wall plate, with spreading
claws,
pearl white (similar RAL 1013),
80 x 80 x 30 mm, 53 g

UAE 8/8 (8/8) LSA Up rw
13011216 ●
pure white (similar RAL 9010)

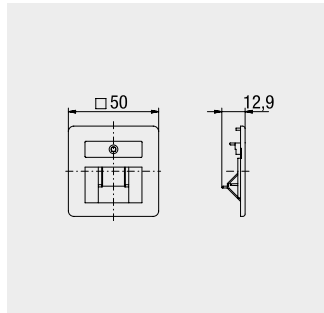


AP
10010001 ●
 wall plate,
 pearl white (similar RAL 1013),
 80 x 80 x 5 mm, 12 g

AP rw
10010051 ●
 pure white (similar RAL 9010)

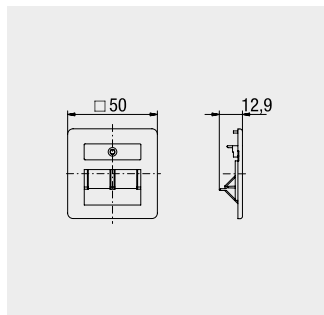
Wall plates and center plates for
 IAE/UAE-jacks
 and UAE-jacks
 AP, ZSt

Wall plates and center plates
 made of ABS-plastic,
 available in
 pearl white (similar RAL 1013) and
 pure white (similar RAL 9010).



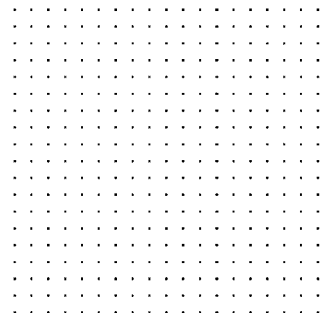
ZSt UAE-Cat. 8
13510002 ●
 Center plate with 1 outlet
 with a designation strip,
 pearl white (similar RAL 1013),
 50 x 50 x 13 mm, 6 g

ZSt-Cat. 8 rw
13510052 ●
 pure white (similar RAL 9010)



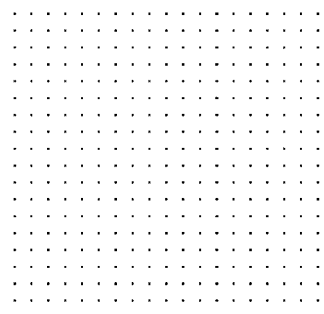
ZSt UAE-Cat. 8/8
13510003 ●
 Center plate with 2 outlets
 with a designation strip,
 pearl white (similar RAL 1013),
 50 x 50 x 13 mm, 6 g

ZSt UAE-Cat. 8/8 rw
13510053 ●
 pure white (similar RAL 9010)



ISDN-Termination resistor
681072 ●
 Termination resistor, 100 Ω
 termination resistor for use
 in ISDN-jacks
 100 Ω ± 5%, 0,33 W

Accessory for
 IAE/UAE-jacks and
 UAE-jacks

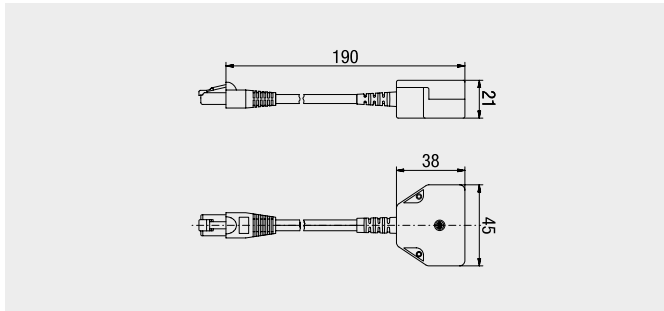


AW 2
39200000 ●
 Connection tool for LSA- and
 LSA-Plus-terminals,
 with pressure sensor
 and cutting blade,
 38 x 177 x 21 mm, 80 g

Shielded adapter for cable sharing T-ADAP

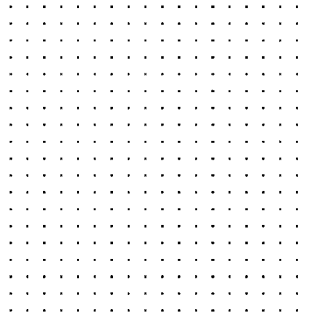
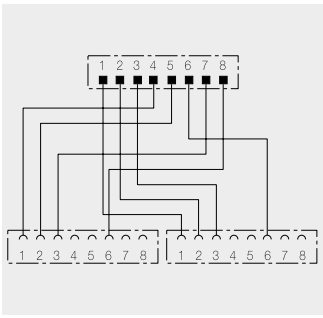
By use of cable sharing adapters, two services (4-wires) can be executed simultaneously at existing 8 wire cables. A data transmission rate of 100 Mbit/s can be used parallel to an ISDN terminal by using an adapter at the beginning and at the end of a 8-wire-link. Alternatively, two ISDN terminals can be connected parallel at a data jack, without modification of the wiring.

Alltogether, there are 4 practical adapters for the most common applications available.

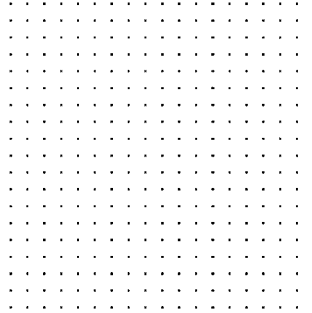
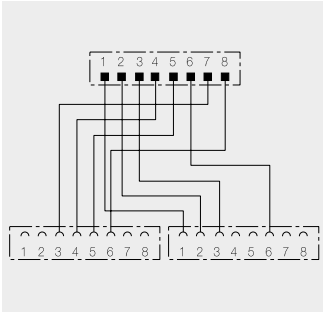


Performance features

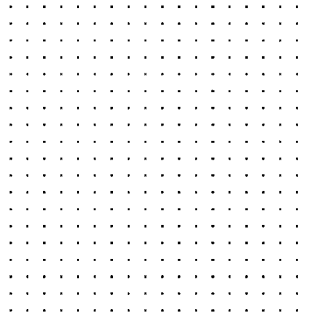
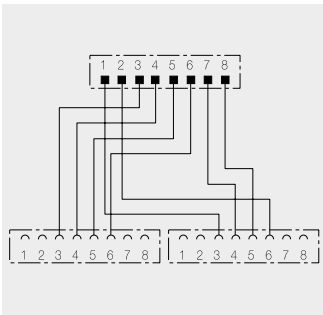
- 2 applications with a 8-wire cable
- easy back-/retrofitting of a link
- all adapters continuously shielded
- transmission characteristics according to Cat.5e/Class D
- mounting possibility with screws



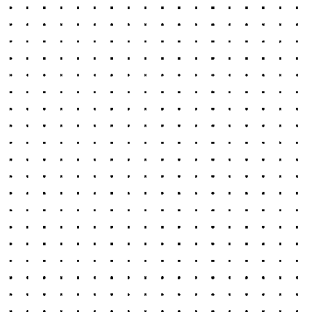
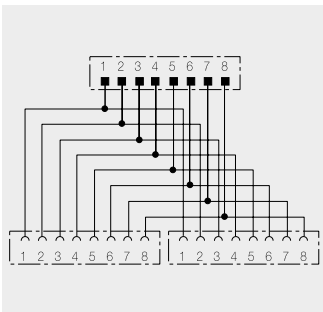
T-ADAP Ethernet/Ethernet
13510603 ●
 for cables sharing,
 Cat.5e, shielded,
 2 x 10/100 Mbit/s,
 45 x 21 x 38 mm, 50 g



T-ADAP Ethernet/ISDN
13510604 ●
 for cables sharing,
 Cat.5e, shielded,
 1 x 10/100 Mbit/s, 1 x ISDN,
 45 x 21 x 38 mm, 50 g



T-ADAP ISDN/ISDN
13510605 ●
 for cables sharing,
 shielded, 2 x ISDN,
 45 x 21 x 38 mm, 50 g



T-ADAP 2 x 8
13510606 ●
 for cables sharing,
 shielded, outlets 1:1 parallel,
 45 x 21 x 38 mm, 50 g

TAE-jacks

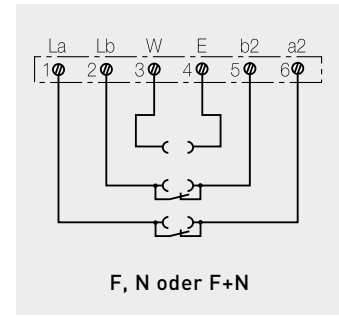
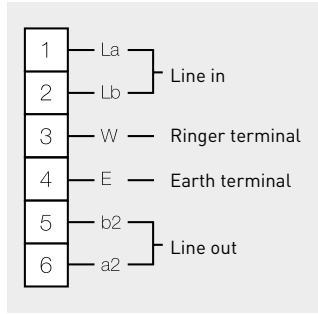
Sockets, covers, center plates and wall plates made of ABS-material, pearl white (similar RAL 1013), pure white (similar RAL 9013)

Contact carrier made of ABS-material, black (similar RAL 9005).

Contacts made of German silver, respectively, brass, tin-plated.

Metal mounting rings and mounting brackets, tinned.

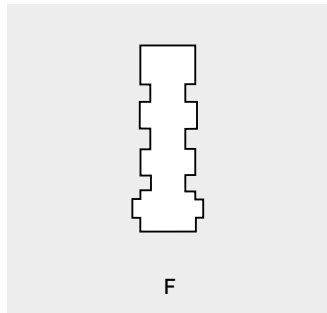
Protection class IP 20 according to DIN EN 60529



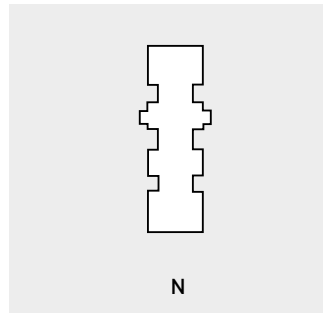
The codings on jacks and plugs guarantee a faultless connection.

- **Coding F** for telephones or telefax with telephone
- **Coding N** for ancillary equipment like telefax, answering machine, charge meter, modem or dialling device
- **Coding N+F**
Jacks with the coding F+N=U allow the plugging of any kind of terminal equipment.

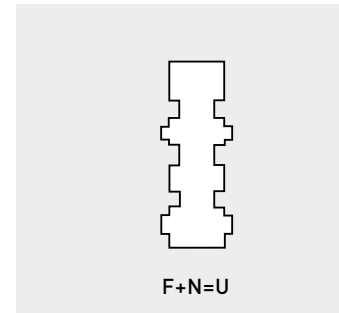
(only in connection with combi-jack page 108)



F

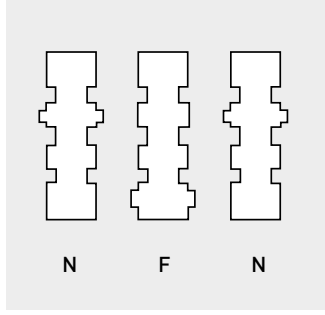


N



F+N=U

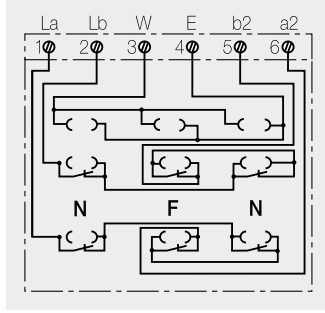
Mechanical characteristics	
Connector/outlet	
Built	according to DIN 41715:1991-05
Connection technique	screw terminals for wire 1 mm Ø, 2 wires at each contact
Outlet suitable	for 6-way plugs according to DIN 41715-3:1991-05
Material spring contact outlet	CuNi 18 Zn 20
Surface spring contact switching area	Ni 2 µm + AuAgCu
Life (insertions and withdrawals) outlet	> 10000 cycles
Material housing	PBT, ABS
Electrical characteristics	
Voltage	125 V DC/AC
Operating current	max. 10 VA
Voltage withstand	1000 V, 50 Hz, 1 Min.
Isolation resistance	≥ 200 MΩ
Contact resistance	≤ 20/30 mΩ



TAE 3x6 NFN Ap***
10210103 ●
 3 x 6-way, 6 screw terminals,
 pearl white (similar RAL 1013),
 65 x 80 x 27 mm, 41 g

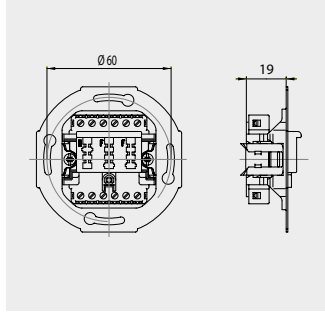
TAE 3x6 NFN Ap rw
10210109 ●
 pure white (similar RAL 9010)

TAE-triple jacks
 for one connection
 TAE 3x6 NFN



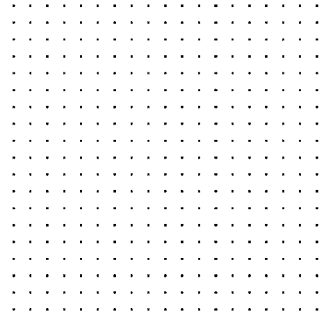
TAE 3x6 NFN Up***
10210203 ●
 3 x 6-way, 6 screw terminals,
 with center plate and wall plate,
 with spreading claws,
 pearl white (similar RAL 1013),
 80 x 80 x 31 mm, 67 g

TAE 3x6 NFN Up rw
10210204 ●
 pure white (similar RAL 9010)



TAE 3x6 NFN Up 50***
10210303 ●
 3 x 6-way, 6 screw terminals,
 with center plate,
 with spreading claws,
 pearl white (similar RAL 1013),
 70 x 70 x 31 mm, 52 g

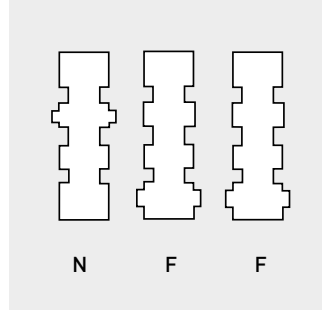
TAE 3x6 NFN Up 50 rw ***
10210305 ●
 pure white (similar RAL 9010)



TAE 3x6 NFN Up 0***
10210503 ●
 3 x 6-way, 6 screw terminals,
 with spreading claws,
 pearl white (similar RAL 1013),
 70 x 70 x 29 mm, 49 g

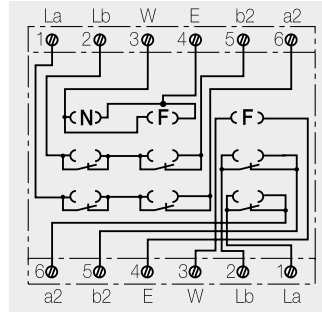
TAE 3x6 NFN Up 0 rw
10210517 ●
 pure white (similar RAL 9010)

TAE-triple jacks
for two connections
TAE 2x6/6 NFF



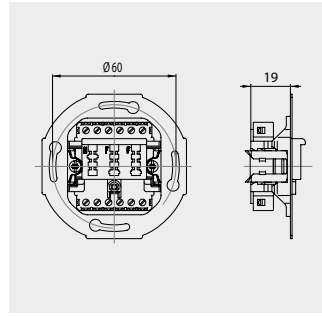
TAE 2x6/6 NFF Ap****
10310110 ●
3 x 6-way, 2 x 6 screw terminals,
pearl white (similar RAL 1013),
65 x 80 x 27 mm, 45 g

TAE 2x6/6 NFF Ap rw
10310114 ●
pure white (similar RAL 9010)



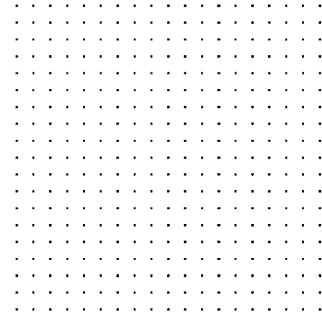
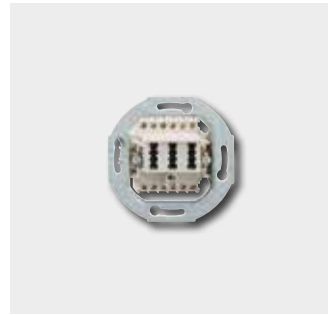
TAE 2x6/6 NFF Up****
10310210 ●
3 x 6-way, 2 x 6 screw terminals,
with center plate and wall plate,
with spreading claws,
pearl white (similar RAL 1013),
80 x 80 x 31 mm, 68 g

TAE 2x6/6 NFF Up rw
10310222 ●
pure white (similar RAL 9010)



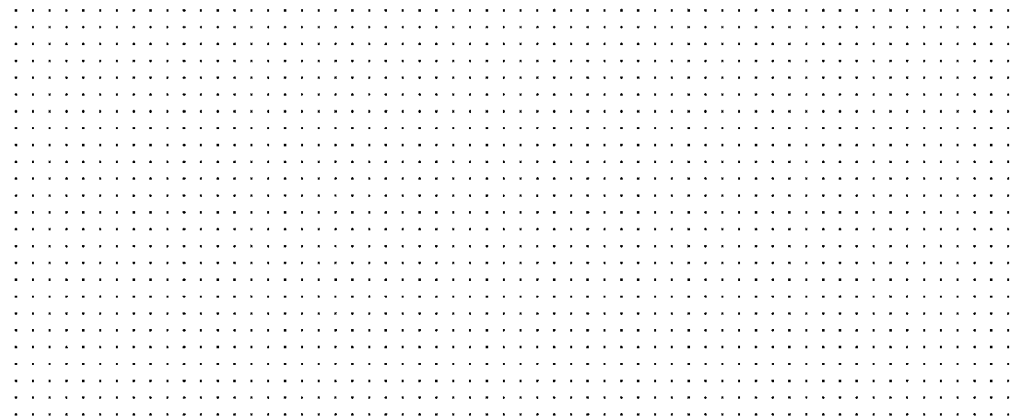
TAE 2x6/6 NFF Up 50****
10310310 ●
3 x 6-way, 2 x 6 screw terminals,
with center plate,
with spreading claws,
pearl white (similar RAL 1013),
70 x 70 x 31 mm, 56 g

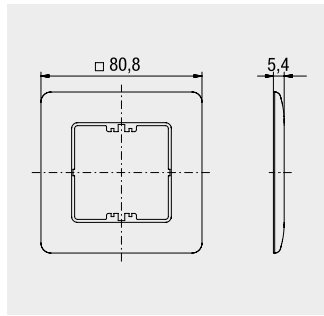
TAE 2x6/6 NFF Up 50 rw****
10310313 ●
pure white (similar RAL 9010)



TAE 2x6/6 NFF Up 0****
10310510 ●
3 x 6-way, 2 x 6 screw terminals,
with spreading claws,
pearl white (similar RAL 1013),
70 x 70 x 29 mm, 53 g

TAE 2x6/6 NFF Up 0 rw
10310518 ●
pure white (similar RAL 9010)



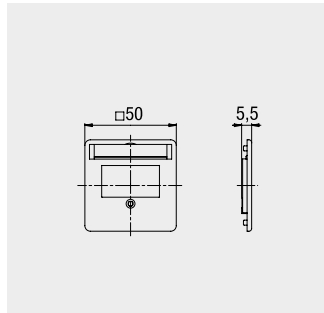


AP
10010001 ●
 Wall plate,
 pearl white (similar RAL 1013),
 80 x 80 x 5 mm, 12 g

AP rw
10010051 ●
 pure white (similar RAL 9010)

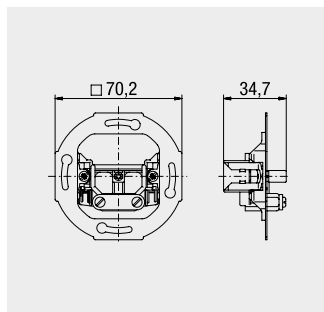
Wall plates and center plates
 for TAE-jacks
 AP, ZSt

Wall plates and center plates
 made of ABS, available in
 pearl white (similar RAL 1013)
 and
 pure white (similar RAL 9010).



ZSt UM-MA 2
13910003 ●
 Center plate,
 for 3 outlets TAE,
 with labeling strip,
 for UM-MA 2 Up,
 pearl white (similar RAL 1013),
 50 x 50 x 6 mm, 6 g

ZSt UM-MA 2 rw
13910053 ●
 pure white (similar RAL 9010))

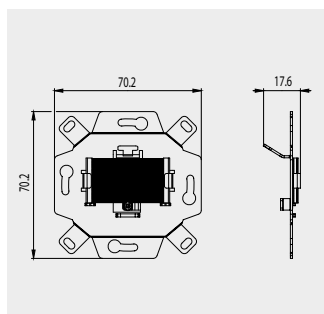


KA 9 Up 0
19310501 ●
 with spreading claws,
 70 x 70 x 35 mm, 40 g

Cable outlet KA

Sockets made of ABS-material,
 black (similar RAL 9005)

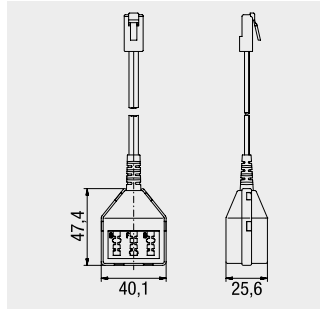
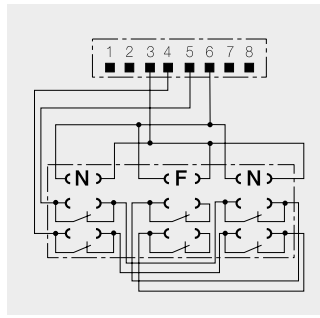
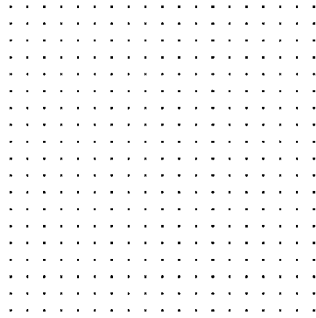
Protection class IP 20 according to
 DIN EN 60529



KD Up 0
19310510 ●
 Universal cable feedthrough
 for flush mounting,
 cut out size of the cable feed
 through 32.5 x 17.5 mm, for
 customary TAE-center plates,
 break off mounting ring can be
 converted into mounting bracket,
 with strain relief on the backside
 70 x 70 x 17 mm, 46 g

Cable feedthrough KD

Telephone-adapter
for analog telephones
in generic networks



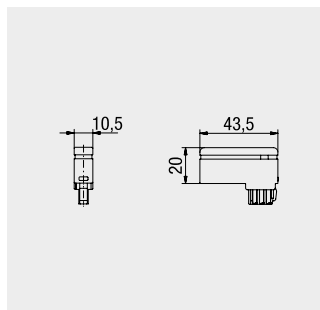
**ADAP UAE/TAE 3x6 NFN
15400602**

● Adaptercord RJ 45/UAE, 0.15 m,
for analog telephone in generic
networks or for use with a line 21®-
UAE (8/8),
black,
40 x 47 x 26 mm, 23 g

Telecommunications-
connector-plug
free pin assignment
for telephones (F) and
for ancillary equipment (N)

Plug made of PBT-material,
coding F black, coding N grey,
plug cap made of ABS-material,
grey.

Contacts German silver,
respectively, phosphor bronze,
hard gold-plated.

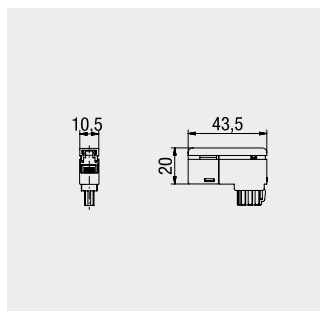


TS F

● 700101241
for telephones,
44 x 30 x 11 mm, 9 g

TS N

● 700101251
for ancillary equipment

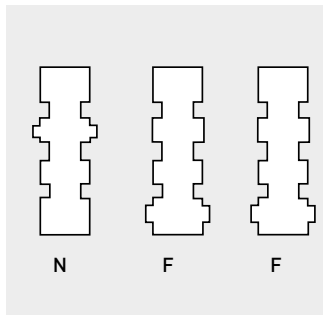
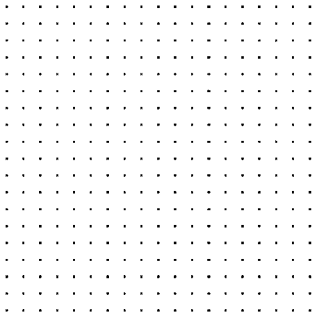


TS US F

● 700101243
for telephones with RJ11-/
RJ12-plug system ,
44 x 30 x 11 mm, 18 g

TS US N

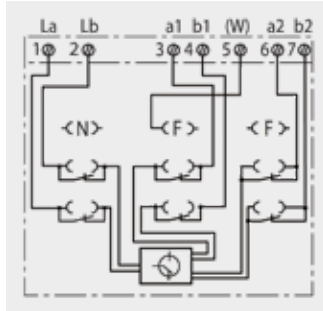
● 700101253
for ancillary equipment with
RJ11-/RJ12-plug system



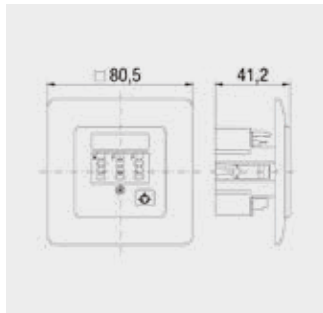
Coding F
 for telephones or telefax with telephone

Coding N
 for ancillary equipment like telefax, answering machine, charge meter, modem or dialling device

(no support of CLIP-function)



AMS 1/2 NFF Ap
16110119 ●
 with integrated TAE-opening for max. 2 telephones and 1 ancillary equipment, coding NFF, pearl white (similar RAL 1013), 65 x 80 x 28 mm, 82 g



AMS 1/2 NFF Up
16010119 ●
 with integrated TAE-opening for max. 2 telephones and 1 ancillary equipment, coding NFF, with centre plate and wall plate, pearl white (similar RAL 1013), 80 x 80 x 41 mm, 99 g

Automatic multiple switch AMS

For the connection of two telephones and one ancillary equipment at one subscriber or extension line. For pulse or DT-MF-dialling.

Signalling takes place at all devices. The call will be established where the handset is picked up first. Easy call transfer by picking up the handset and going on-hook. Two wire technique, power feeding from the public switched telephone network (PSTN).

Four ringing circuits are allowed if, connected to the subscriber line. With integrated opening for telephone 1.

Sockets, covers, centre plates and wall plates made of ABS-material, pearl white (similar RAL 1013).

Baseplate, cover and flush mounting-pot made of ABS-material, pearl white (similar RAL 1013).

Terminal strip made of PA-material.

Protection class IP20 according to DIN EN 60529

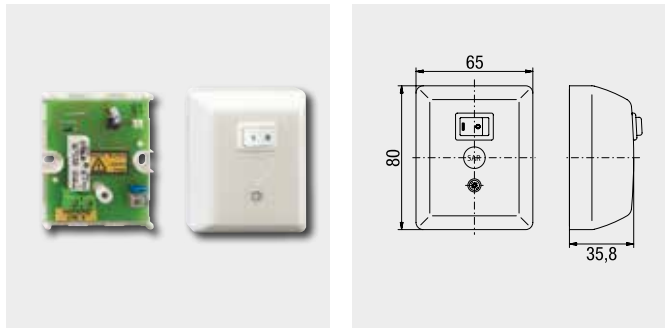
High-current switching on relay SAR

For call signalling to devices with independent power supply, e.g. 230 V horn or rotary beacon. The connection will be made with screw terminals, 2 pole. The screw terminals for the high-current equipment are touch protected. The switch S brings the relay into the operating mode.

Sockets and covers made of ABS-material, pearl white (similar RAL 1013).

According to VDE 0800.

Protection class IP20 according to DIN EN 60529



SAR Ap

50010102 ●

for the connection at the telephone line, Switching load 8A at 230V/50 Hz (at real load), Control voltage: 30-60V/ 23-55 Hz
pearl white (similar RAL 1013), 65 x 80 x 36 mm, 77 g

Additional ringer WK 955

The additional ringer enables the signalling of the incoming calls in separate rooms. The built-in TAE-outlet can be covered. The signalling takes place acoustically by a piezo-sound transformer and optically by a LED. Volume and signalling frequency are adjustable.

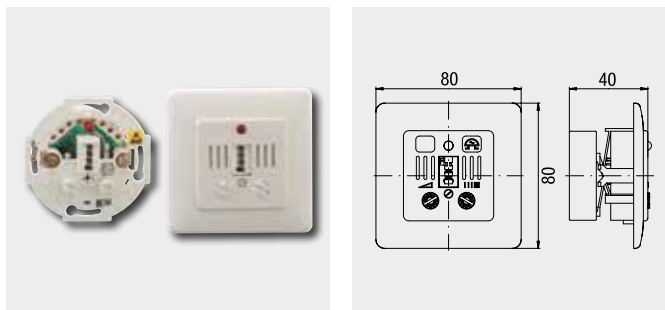
Protection class IP20 according to DIN EN 60529



WK 955 Ap

16210101 ●

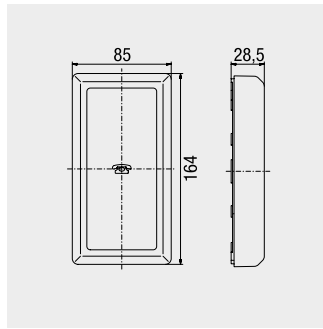
Operating voltage: 30-60V/ 23-55 Hz
Volume: >92 dB(A) measured in special room,
Signalling frequency: 800-1333 Hz
pearl white (similar RAL 1013), 65 x 80 x 30 mm, 77 g



WK 955 Up

16210201 ●

Operating voltage: 30-60V/ 23-55 Hz
Volume: >92 dB(A) measured in special room,
Signalling frequency: 800-1333 Hz
pearl white (similar RAL 1013), 80 x 80 x 40 mm, 101 g



VVD 85 Ap
24510102 ●
 for 10 pairs, 2 earth wires,
 pearl white (similar RAL 1013),
 85 x 164 x 29 mm, 168 g

**Distribution boxes with
 LSA-Plus-terminals
 VVD**

Sockets and covers made
 of ABS-material,

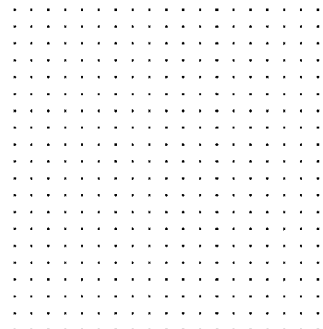
pearl white (similar RAL 1013).
 Connection elements made of
 PBT-material, grey.

LSA-Plus-terminals made
 of brass, silver plated.

LSA-Plus-terminal can hold
 solid conductors 0.4 mm
 to 0.8¹ mm Ø.

Protection Class IP30
 according to DIN EN 60529

¹ After connection with conductors
 ≥ 0,65 mm Ø a faultless connection of
 smaller conductors is not ensured.



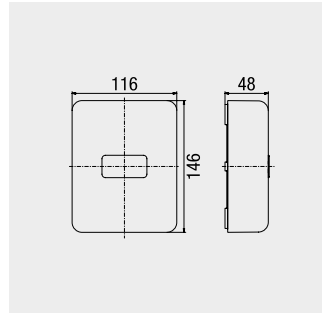
AW 2
39200000 ●
 Connection tool for LSA- and
 LSA-Plus-terminals,
 with pressure sensor and
 cutting blade,
 38 x 177 x 21 mm, 80 g

**Accessory
 for VVD**

**Universal housings
UG**

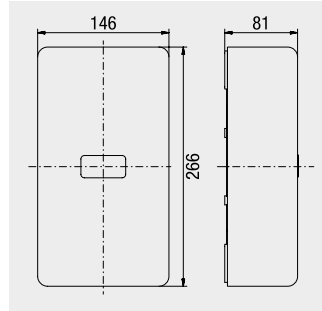
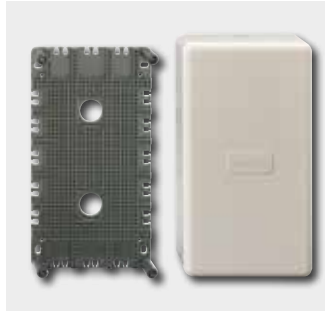
Housings made of ABS-material, base plate, black (similar RAL 9005), cover pearl white (similar RAL 1013) or light grey (similar RAL 7035).

Protection Class IP30 according to DIN EN 60529



UG 2 w
24000101 ●
cover,
pearl white (similar RAL 1013),
116 x 146 x 48 mm, 209 g,
Available inner height: 30,5 mm

Maximum capacity
3 x AsLe A 10 LSA = 30 pairs
or
2 x AsLe A 10 S/S = 20 pairs



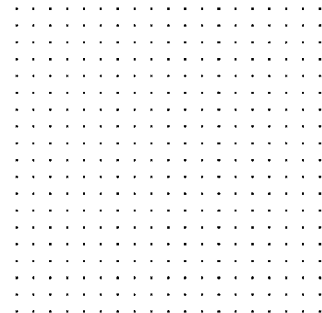
UG 3 w
22000101 ●
cover,
pearl white (similar RAL 1013),
146 x 266 x 81 mm, 540 g,
Available inner height: 66,5 mm

Maximum capacity
10 x VE 10 LSA¹ = 100 pairs
or
8 x AsLe A 10 LSA = 80 pairs
or
3 x AsLe B 20 LSA = 60 pairs
or
2 x AsLe B 20 S/S = 40 pairs
or
2 x AsLe B 20 S/L = 40 pairs

¹ in connection with mounting bars MB 10

**Accessory
for UG**

Mounting bar made of stainless steel, rust-proof



MB 4
221004 ●
mounting bar for LSA-connection elements, 10 pairs, grid dimension 22.5 mm, for 4 modules, Installation height: 22 mm, 104,5 x 87,5 x 42 mm, 98 g

MB 5
221007 ●
for 5 modules, 104,5 x 110 x 42 mm, 123 g

MB 10
221006 ●
for 10 modules, 104,5 x 222,5 x 42 mm, 246 g



KVK
27010310 ●
Compact distribution box,
1 earthing clamp (EKL 5)
with 2 terminal lug 6,3 mm,
with catch¹,
with labeling card and
installation material,
light grey (similar RAL 7035),
295 x 320 x 96 mm, 2065 g

Compact distribution box
KVK

The optimized dimensions of the KVK offer a maximum capacity to hold modern terminal strips. The KVK consists of base plate, removable head pieces and cover with catch. Grid on the rails and blocks for self-tapping screws. Maximum capacity up to 200 pairs.

Earth clamps made of sheet-steel, nickel-plated. Each earth clamp EKL 5 consists of two screw terminals for earth conductors up to 2.5 mm² and two terminal lugs.

Base plate and head pieces made of ABS flame retardant according to UL 94 VO, platinum grey (similar RAL 7036).

Cover made of sheet-steel, plastic coated, light grey (similar RAL 7035).

Protection Class IP30 according to DIN EN 60529

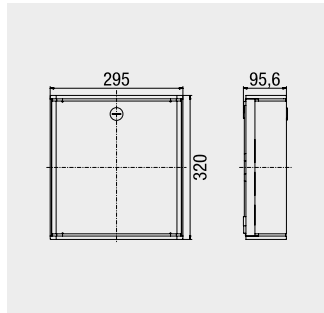
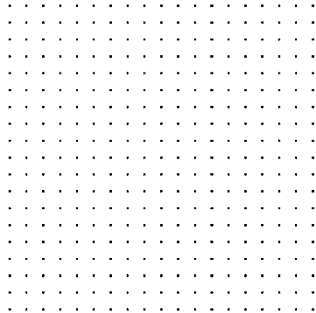
Maximum capacity

4 x AsLe B 20 S/S (S/L) = 80 pairs
or
6 x AsLe B 20 LSA = 120 pairs
or
16 x VE 10 LSA² = 160 pairs
or
20 x VE 10 LSA³ = 200 pairs

² on 4 x MB 4

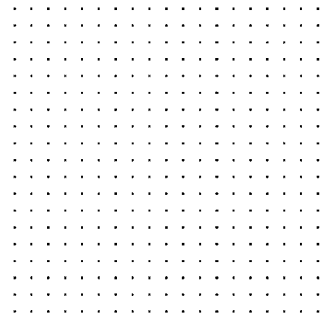
³ on 2 x MB 10

¹ Instead of built-in catch (delivery state) the lock set 690317 can also be installed afterwards.



KVK MB
27010313 ●
Compact distribution box
with flat fastening bar,
1 earthing clamp (EKL 5)
with 2 terminal lug 6,3 mm,
with catch¹,
with labeling card and
installation material,
light grey (similar RAL 7035),
295 x 320 x 96 mm, 2065 g

Accessory
for KVK



KVK Sch
690317 ●
Lock set for the
KVK and KVK MB,
locking cylinder and locking bar,
installation of lock set prevents
unauthorised opening,
165 x 23 x 202 mm, 109 g

Distribution boxes for private networks VKP 85 Surface mounting VKP 85 Ap

Base plates and covers made of sheet-steel, plastic-coated, pebble grey (similar RAL 7032).

Plastic corners, mounting rails and wiring guide rings made of ABS-material, black (similar RAL 9005).

Cable entry holes and catch made of ABS-material, grey.

Earth clamps made of sheet-steel, nickel-plated. Each earth clamp EKL 4 consists of two screw terminals for earth conductors up to 2.5 mm².

Instead of built-in catch (delivery state) a rotating bar lock 26010102 can also be installed afterwards.

VKP 85 Ap are to a major part in accordance with DIN 47615.

Protection class IP30 according to DIN EN 60529



VKP 85/2 Ap
27010101 ●
 with 2 mounting rails 170 mm, 2 earthing clamps (EKL 4) and 4 wiring guide rings, with catch, light grey (similar RAL 7035), 220 x 330 x 76 mm, 1919 g

Arrangement e.g.:

up to 3 terminal strips 260000 / 001 = 60 pairs
 up to 5 terminal strips 2600040 = 100 pairs



VKP 85/4 Ap
27010110 ●
 with 2 mounting rails 270 mm, 2 earthing clamps (EKL 4) and 8 wiring guide rings, with catch, light grey (similar RAL 7035), 320 x 330 x 76 mm, 2660 g

Arrangement e.g.:

up to 5 terminal strips 260000 / 001 = 100 pairs
 up to 8 terminal strips 2600040 = 160 pairs

VKP 85/8 Ap
27010120 ●
 with 4 mounting rails 270 mm, 4 earthing clamps (EKL 4) and 12 wiring guiderings, with catch, light grey (similar RAL 7035), 320 x 530 x 76 mm, 4120 g

Arrangement e.g.:

up to 10 terminal strips 260000 / 001 = 200 pairs
 up to 16 terminal strips 2600040 = 320 pairs

VKP 85/12 Ap
27010130 ●
 with 4 mounting rails 170 mm and 270 mm, 4 earthing clamps (EKL 4) and 16 wiring guide rings, with catch, light grey (similar RAL 7035), 520 x 530 x 76 mm, 6420 g

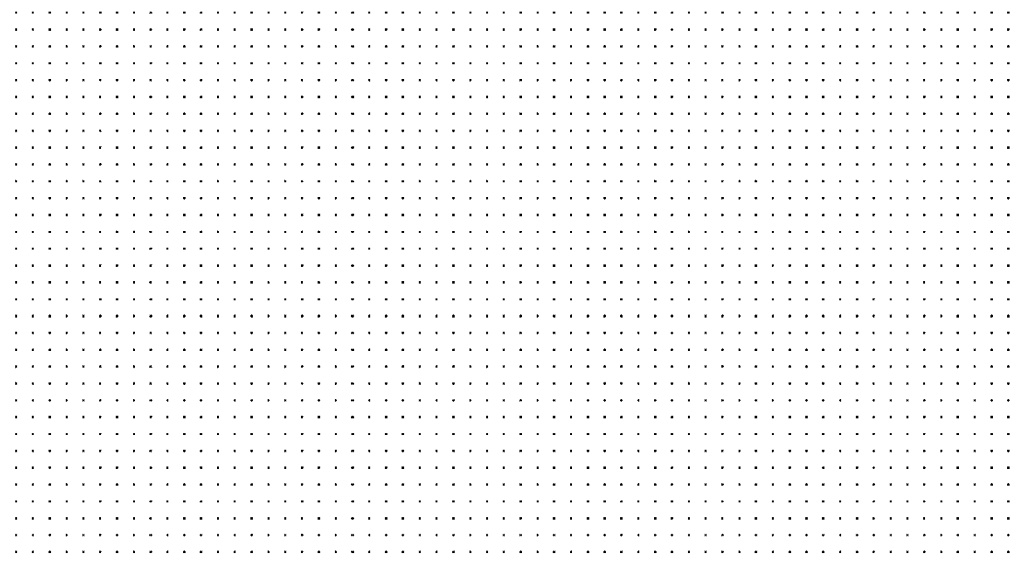
Arrangement e.g.:

up to 16 terminal strips 260000 / 001 = 320 pairs
 up to 26 terminal strips 2600040 = 520 pairs

Accessory for VKP



VK 85 Sch
26010102 ●
 rotating bar lock, for mounting in distribution boxes VKP 85, 80 x 22 x 130 mm, 69 g





AsLe A 10 LSA
2600060 ●
 Terminal strip with LSA-terminals,
 10 pairs,
 96 mm fixing gap,
 light grey (similar RAL 7035),
 30 x 122 x 24 mm, 46 g

AsLe B 20 LSA
2600040 ●
 Terminal strip with LSA-terminals,
 20 pairs,
 170 mm fixing gap,
 light grey (similar RAL 7035),
 30 x 180 x 27 mm, 89 g

Terminal strips according to
 DIN 47608 with solder free
 connection technique
LSA
AsLe

Isolation bodies of the
 LSA-terminal strips made
 of PBT-material. Contacts made of
 brass, silver-plated.

LSA-terminals of the AsLe
 are designed for one solid
 conductors of 0.4–0.8 mm Ø
 or for two solid conductors
 of the same diameter from
 0.4–0.8 mm Ø. Outer diameter
 of the isolation 0.7–1.6 mm.

LSA-terminals for earthing
 wires are designed for solid
 conductors with 0.4–0.8 mm Ø.
 After connection with conductors
 $\leq 0.65\text{ mm}$, a faultless connection
 of smaller conductors is not
 ensured.

Earthing terminals accept solid
 conductors up to 2.5 mm².



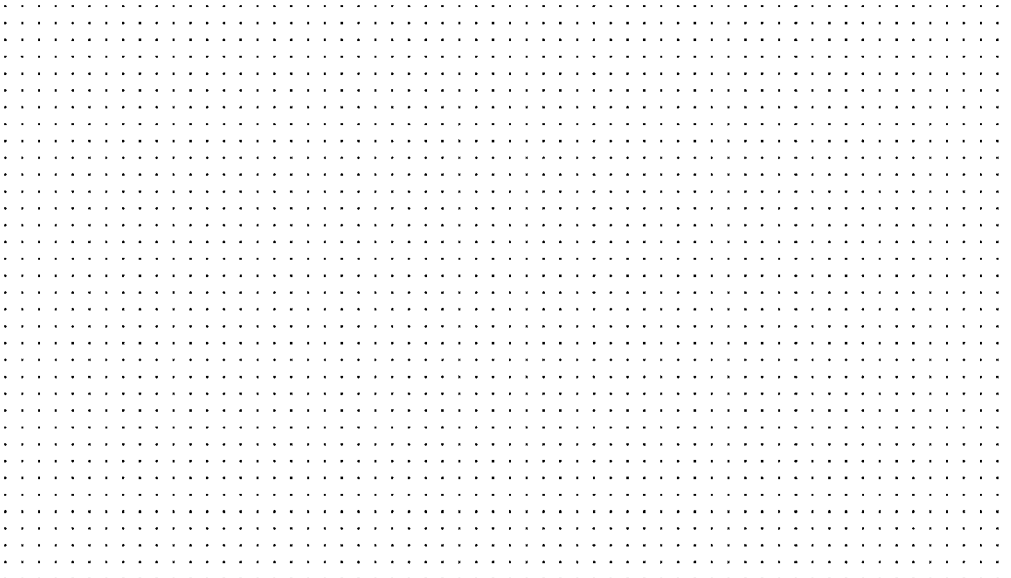
BST B LSA
2913700 ●
 Labeling strip for
 LSA-terminal strips with
 170 mm fixing gap,
 18 x 165 x 13 mm, 9 g



Test cord AsLe LSA
2903220 ●
 Test cord with test-plug for AsLe
 LSA, 2 ways with 2 sleeves,
 200 mm fixing gap, 12 g



AW 2
39200000 ●
 Connection tool for LSA-
 and LSA-Plus-terminals,
 with pressure sensor and
 cutting blade,
 38 x 177 x 21 mm, 80 g



Connection elements with solder free connection technic LSA for insertion on mounting bar VE

Isolation bodies of the VE 10 made of PBT-material, grey. Contacts made of brass, silver-plated.

Mounting bars made of stainless steel.

LSA-terminals of the VE 10 are designed for one solid conductors of 0.4–0.8 mm Ø or for two solid conductors of the same diameter from 0.4–0.65 mm Ø. Outer diameter of the isolation 0.7–1.6 mm.

LSA-terminals for earthing wires are designed for solid conductors with 0.4–0.8 mm Ø. After connection with conductors ≥ 0.65 mm, a faultless connection of smaller conductors is not ensured.



VE 10 LSA
2600270 ●
 Connection element with LSA-terminals, 10 pairs, installation height: 31 mm, grey, 22 x 124 x 42 mm, 53 g



BST VE 10 LSA
2915610 ●
 Folding labeling strip for VE 10 LSA, for tab width 9 mm, 14 x 108 mm, 8 g



MB 4
221004 ●
 Mounting bar for LSA-connection elements, 10 pairs, grid dimension 22.5 mm, for 4 modules, installation height: 22 mm, 104,5 x 87,5 x 42 mm, 98 g

MB 5
221007 ●
 for 5 modules, 104,5 x 110 x 42 mm, 123 g

MB 10
221006 ●
 for 10 modules, 104,5 x 222,5 x 42 mm, 246 g

Accessory for distribution boxes Terminal strips according to DIN 47614 AsLe

Isolation bodies of the AsLe made of ABS-material, grey.

Contacts made of brass, nickel-plated.



AsLe A 10 S/S
260033 ●
 10 pairs, screw terminals on both sides, 96 mm fixing gap, with a designation strip, 45 x 106 x 23 mm, 100 g



AsLe B 20 S/S
260000 ●
 20 pairs, screw terminals on both sides, 170 mm fixing gap, with a designation strip, 45 x 179 x 23 mm, 183 g

AsLe B 20 S/L
260001 ●
 20 pairs, screw terminals on one side and solder tags on the other, 170 mm fixing gap, with a designation strip, 45 x 179 x 23 mm, 125 g



DIN-rail adapter
221012 ●
 DIN-rail adapter for mounting terminal strips, mounting bars, telephone jacks or PP Ap on DIN rail, with screw M5, 14 x 50 x 7 mm, 5 g



AKL 801 XS
40100012 ●

AKL 802 S
40100014 ●

AKL 803 M
40100016 ●

AKL 804 L
40100018 ●

AKL 805 XL
40100020 ●

Anchoring clamps
for self supporting tele-
communication aerial cables
AKL

Housings of clamps made of
sheet steel, hot galvanized.

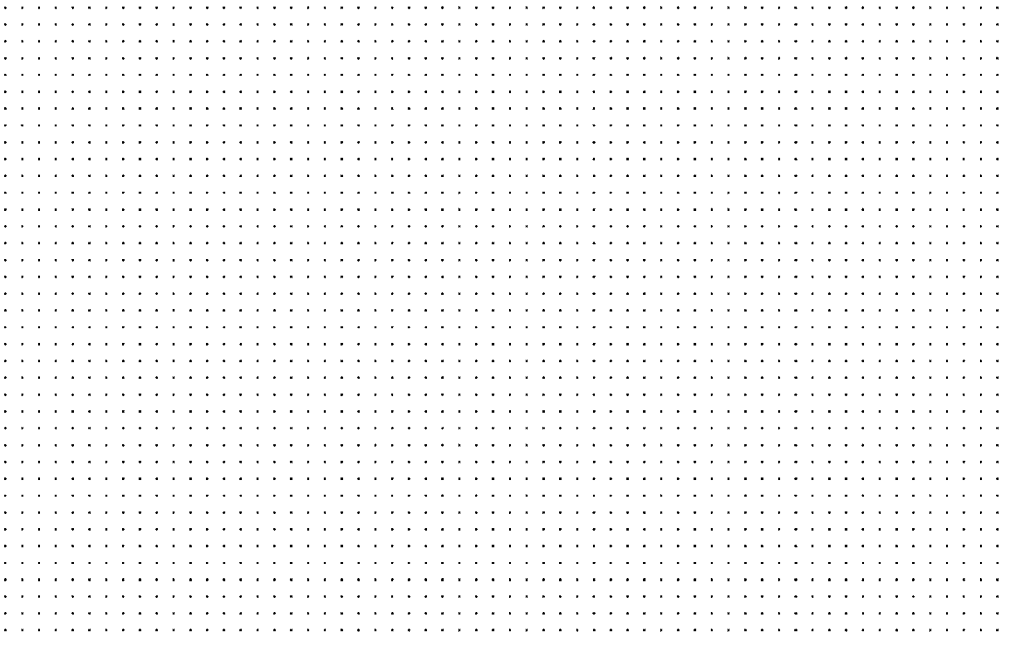
Clamping jaws and positioning
clips made of fibreglass
reinforced PA-material,
black (similar RAL 9005).



AKL 801 XS VA
40400012 ●
Housing made of stainless-steel 1.4301

AKL 802 S VA
40400014 ●
Housing made of stainless-steel 1.4301

Type	Clamping range mm Ø	Tensile strength max. kN	Dimensions mm	Weight g	Hook-Ø mm
AKL 801 XS (VA)	5,5 bis 10,5	2,5	174 x 45 x 32	162	20
AKL 802 S (VA)	8,5 bis 13,5	3,5	236 x 61 x 39	295	26
AKL 803 M	12,5 bis 17,5	4,5	276 x 70 x 47	522	28
AKL 804 L	16,5 bis 24,0	7,5	437 x 102 x 53	1385	36
AKL 805 XL	22,5 bis 30,0	11	499 x 122 x 60	2200	50



LOCKING SYSTEMS



FMT-Locking system solutions are already an important part of many installations in security sensitive environments.

In addition to many standard applications with a broad spectrum of passive solutions, specific customer- or OEM solutions are no problem.

High quality and robustness characterise all FMT - locking system solutions.

FMT, an enterprise of the Rutenbeck-group manufactures only in Germany and therefore, all products and solution are "Made in Germany"

All products can be found in detail at www.rutenbeck.com



Security container, Card safe, Accessoryr
page 136



Rim lock
page 138



As replacement or as supplement to the passive mechanical locking systems „proLock“ represents a flexible and electronic way of access control.

ProLock controls electric door openers or motor locks. Of course, other electrical devices can also be controlled if authorization is provided.

The worldwide available iButton serves as a key. Each iButton has a globally unique identifier, is waterproof and extremely robust and can not be copied mechanically. The perfect key, even in extreme surroundings.

Besides the standalone solutions for flush mounting, IP-based customer-specific solutions from our system partner **attento systems** are available.

The electronic protection fittings for profile half-cylinder and the key safes, which can also be operated with the iButton complete the product range.



proLock, proLock IP Secure,
 Accessory
 page 131



proLock Arx, proLock Tutor,
 Accessory
 page 134

Locking systems
Passive solutions
Security container,
tube safes, rim locks

Always secure

Whether used outside as a key depot or inside as a small safe for valuables like money or jewellery - security containers from FMT are the right choice for all applications.

Ideal for service providers

The keys or keycards stored in the security container enable uncomplicated access to buildings for service providers or utility companies. Employees are able to open the tube safes at their operation area with the company key. The complex administration and safe keeping of customer's keys or keycards is no longer necessary.

Fits always

The security containers are available in varying lengths and diameters for flush and surface wall mounting. Special locks with disc tumblers are either delivered directly with the containers or are available as accessory. Due to its special locking technology, the locks are insensitive against humidity, frost or pollution and offer additional protection against drilling.

Stainless steel - indestructible

High-quality solid stainless steel provides security against corrosion and guarantees for long term usage.

Flush in the walls

FMT-security containers were specifically constructed for flush-mounting in the masonry. The flush mounting in a concealed location offers ideal protection against break-in attempts. Additional measures at the locks support the protection even more. Furthermore, covers give an overall high-class appearance.

Installation

The security containers are to be mounted in the wall slanting slightly towards the front. Weatherproof locations should be preferred for outdoor areas. When installing with a core drill, the container is inserted in the hole with 2-component adhesive or quick-dry cement, making sure it is flush to the facade.

Product advantages:

- solid stainless steel construction for common profile half cylinder or integrated lock
- covers to optimise the installation
- independent, very safe profile half cylinder with drilling protection
- insensitive against frost, dirt and humidity
- special custom made solutions possible

Security container with integrated lock



Security container with profile half cylinder



Security container covers



Profile half cylinder



Locking systems
Active solutions,
proLock, proLock Secure,
proLock Tutor, proLock Arx

The Key

proLock uses the worldwide available iButton as a key. Besides the worldwide unique identifier, the as proKey designated systemkeys are additionally coded on the proLock system. Therefore, unauthorized access or copying are practically impossible. The keys are very robust (waterproof, chemicalresistant, crushresistant and much, much more)

proLock

proLock is a standalone solution and being used when the security requirements requested are set not too high. The proLock will be provided with 230V and will directly control an electric door opener or motor lock for inside doors. The easy programming takes place with the „proKey Master“. For the configuration and management of the system, the software proTego under www.rutenbeck.de is available free of charge. Up to 255 different proKey can be programmed at one proLock. Since the TAE center plate is available from all well known switch manufacturer, the proLock can be integrated in almost all design switch programmes.

proLock Secure

For applications with high security requirements, the contact and evaluation units are installed at separate locations. This will guarantee, that manipulations at the contact unit can not lead to access to the switching contacts of the evaluation unit and the door will still be protected. Performance features and programming are identical with proLock. The contact unit is also available for outside use (IP44).

proLock IP / proLock Secure IP

A central server manages the keyand access administration for the IP-based solutions. The software is available for Windows operating systems (Windows 7.0 /Windows Server 2012, or newer)

proLock Tutor / Arx

The advantages of the proLock system can also be used in combination with the magnetically locked protection fittings and key safes. If a special key is being used, even the key safe proKey Arx is independent of a local power supply.

Product advantages:

- application specific solutions
- complete solution (proLock)
- separate contact/evaluation unit (proLock Secure)
- 255 keys programmable (proKey)
- easy programming via proKey Master
- configuration- and server-software free of charge
- power supply 230V
- potential-free change-over contact: 1A/24V
- design compatible with design programs of well-known switch manufacturer (TAE center plate)
- fits in commercial flush-mount installation boxes
- Special solution:
 - proLock Tutor as protection fittings for profile halfcylinder
 - proLock Arx as key safe, independant of power

proLock / proLock Secure

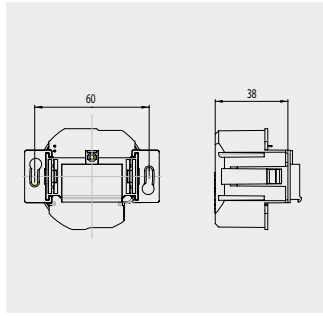


proLock Tutor



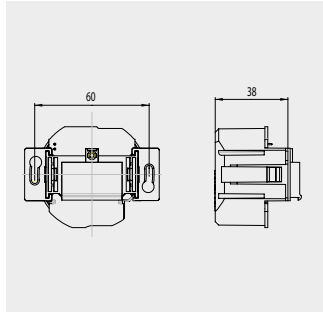
proLock Arx



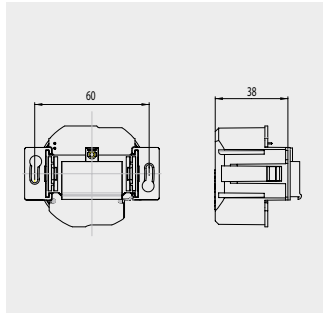


proLock Up rw
66011203 ●
proLock contact unit and evaluation unit, complete, for flush mounting, for customary TAE-center plates, 255 proKey programmable via proKey Master, nominal operating voltage: 100-240V / 50-60Hz, 3VA typical, switching capacity 24V/1A (changeover contact, potentialfree), pure white (similar RAL 9010) 80 x 80 x 50 mm, 100 g

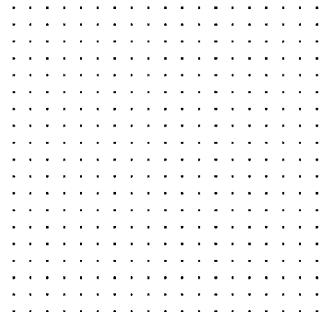
proLock
proLock Secure



proLock Secure KS Up rw
66011204 ●
proLock contact unit, for flush mounting, only in connection with proLock Secure AE or proLock IP Secure AE, for customary TAE-center plates pure white (similar RAL 9010) 80 x 80 x 50 mm, 100 g

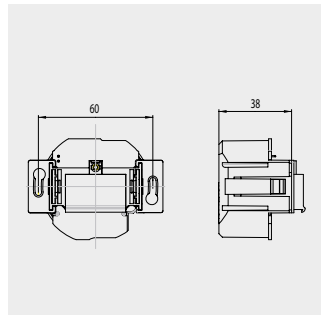


proLock Secure AE Up rw
66011205 ●
proLock evaluation unit, for flush mounting, for customary TAE-center plates, 255 proKey programmable via proKeyMaster, nominal operating voltage: 100-240V / 50-60Hz, 3VA typical, switching capacity 24V/1A (changeover contact, potentialfree), only in connection with proLock Secure KS, pure white (similar RAL 9010) 80 x 80 x 50 mm, 100 g

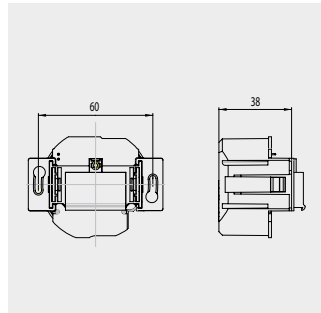


proLock Secure KS Ap
66011206 ●
proLock contact unit, for surface mounting, IP44, only in connection with proLock Secure AE or proLock IP Secure AE, aluminium, brushed 80 x 80 x 6 mm, 116 g

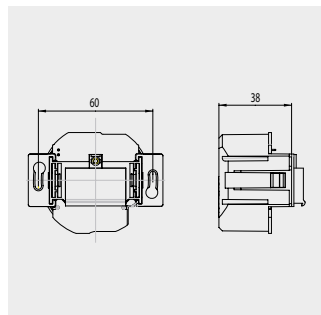
proLock IP
proLock IP Secure



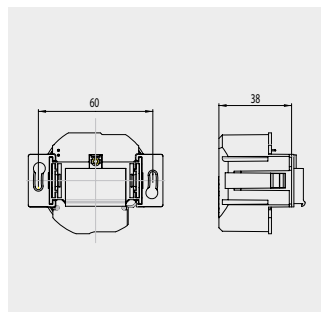
**proLock IP Up rw¹
66011410** ●
proLock contact unit and evaluation unit, complete, for flush mounting, for customary TAE-center plates, 255 proKey programmable via proKey Master, nominal operating voltage: 100-240V / 50-60Hz, 3VA typical, switching capacity 24V/1A (changeover contact, potentialfree), pure white (similar RAL 9010) 80 x 80 x 50 mm, 89 g



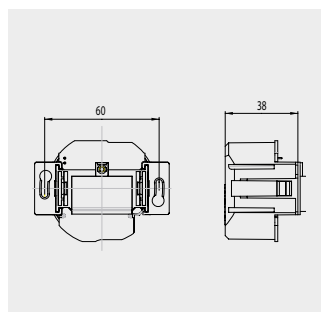
**proLock IP POF Up rw 2,2 mm¹
66011810** ●
proLock IP contact unit and evaluation unit, complete, for flush mounting, for customary TAE-center plates, POF-network connection (2,2mm), nominal operating voltage: 100-240V / 50-60Hz, 3VA typical, switching capacity 24V/1A (changeover contact, potentialfree), pure white (similar RAL 9010) 80 x 80 x 50 mm, 90 g



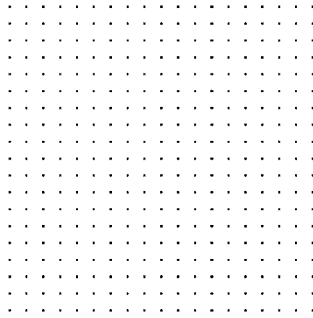
**proLock IP Secure AE Up rw¹
66011411** ●
proLock IP evaluation unit, complete, for flush mounting, for customary TAE-center plates, network connection with screw terminals, nominal operating voltage: 100-240V / 50-60Hz, 3VA typical, switching capacity 24V/1A (changeover contact, potentialfree), pure white (similar RAL 9010) 80 x 80 x 50 mm, 75 g



**proLock IP Secure POF
Up rw 2,2 mm¹
66011811** ●
proLock IP evaluation unit, complete, for flush mounting, for customary TAE-center plates, POF-network connection (2,2mm), nominal operating voltage: 100-240V / 50-60Hz, 3VA typical, switching capacity 24V/1A (changeover contact, potentialfree), pure white (similar RAL 9010) 80 x 80 x 50 mm, 77 g

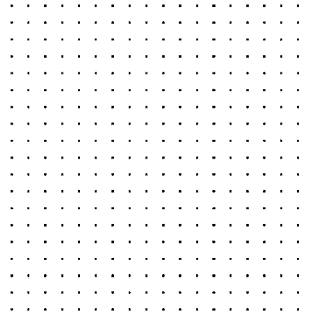


**proLock Secure KS Up rw
66011204** ●
proLock contact unit, for flush mounting, only in connection with proLock Secure AE or proLock IP Secure AE, for flush mounting, for customary TAE-center plates, pure white (similar RAL 9010) 80 x 80 x 50 mm, 49 g

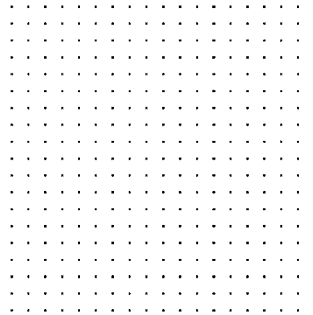


proKey Master
66000310 ●
 Masterkey (iButton) with system-coding, for the transmission of programming for up to 255 proKey in proLock, proLock Secure and proLock Tutor SB (each proLock AE/Tutor x necessary)
 red (similar RAL 4004)
 53 x 20 x 14 mm, 6 g

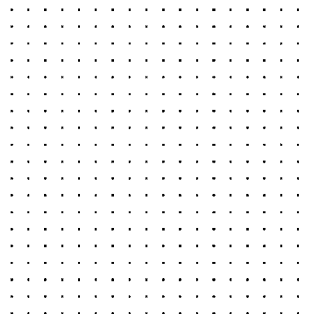
proLock
 Accessory



proKey
66000320 ●
 Userkey (iButton) with system-coding, as authorisation key for proLock, proLock IP, proLock Secure, proLock IP Secure and proLock Tutor SB (max. 255 keys programmable), black (similar RAL 9005)
 53 x 20 x 14 mm, 5 g



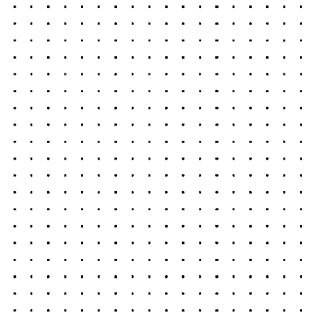
proLock PC LG
66000330 ●
 PC-programming device for proKey and proKey Master, USB-connection cable, can only be used with the programming software proTego¹
 40 x 20 x 50 mm, 66 g



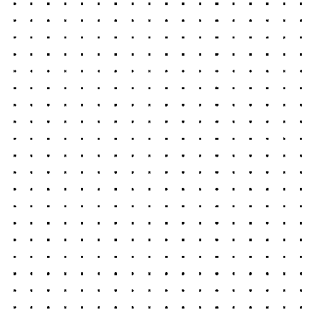
proLock V24 USB
66000360 ●
 Programming cable for proLock Up rw, proLock Secure AE Up rw and proLock Arx, USB/V24-connection cable
 80 x 20 x 12 mm, 35 g

¹Download under www.rutenbeck.com (free of charge)

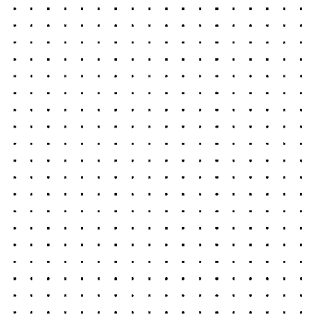
proLock Arx
accessory



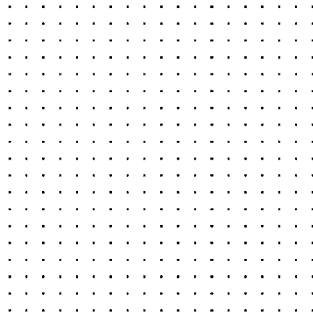
**proLock Arx
66020020** ●
proLock key safe, for surface
mounting, vandalproof, without
power supply via system key
proKey Arx (within delivery),
USB-programming interface,
programming with software
proTego¹
stainless steel
170 x 60 x 30 mm, 641 g



**proLock Arx MP
66020030** ●
Mounting plate, for the
attachment of the proLock Arx
on a levelled wall
stainless steel
78 x 184 x 12 mm, 630 g

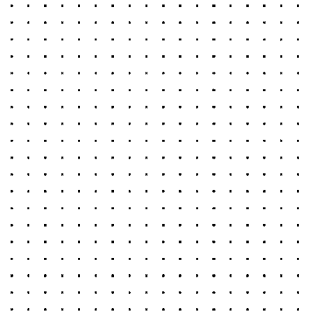
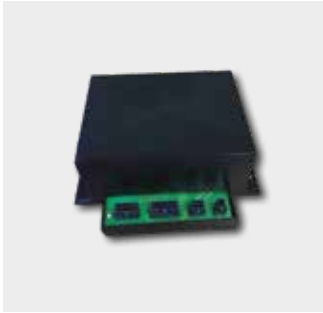


**proKey Arx
66000340** ●
Userkey (iButton), authorisation
key and power supply for proLock
Arx, with 12-figure keypad for entry
of authorization code,
power supply with battery,
charging via USB-interface,
black (similar RAL 9005)
75 x 40 x 16 mm, 40 g

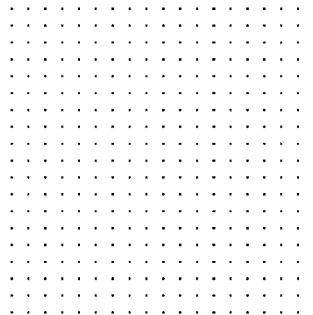
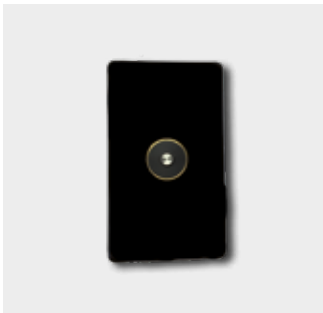


proLock Tutor SB
66020010 ●
 magnetically locked protective fitting for conventional profile half-cylinder, for surface mounting, (bolting from behind (M10)), vandal-proof, only in connection with proLock Secure AE or proLock AE Ap and external 12V DC (1A) power supply, stainless steel
 180 x 90 x 35 mm, 2576 g

proLock Tutor SB
 accessory



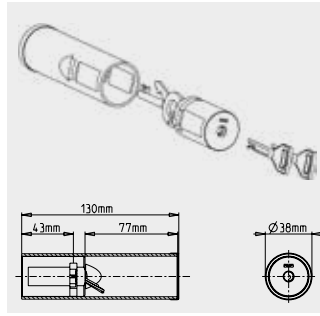
proLock Tutor AE Ap
66011606 ●
 proLock evaluation unit, for surface mounting, 255 proKey programmable via proKey Master, nominal operating voltage: 12V / 10 mA standby current / 800 mA during opening, switching capacity 24V/1A (changeover contact, potentialfree) emergency charging with proLock Tutor NLG, only in connection with proLock Tutor SB, programming software proTego¹ black (similar RAL 9005)
 131 x 44 x 114 mm, 304 g



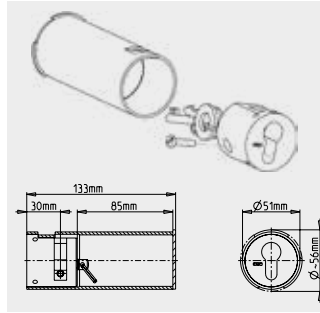
proLock Tutor NLG
66020040 ●
 Emergency charging device for proLock Tutor SB, for up to 10 emergency unlockings, charging via Micro-USB-connection, black (similar RAL 9005)
 85 x 50 x 25 mm, 79 g

¹Download under www.rutenbeck.com /free of charge

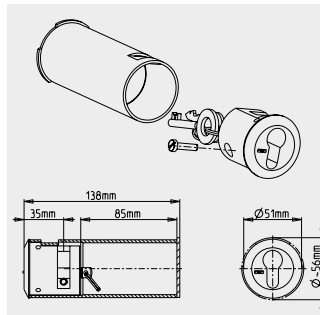
Tube safes:
Security container, accessory,
Wall mounting (flush and surface)



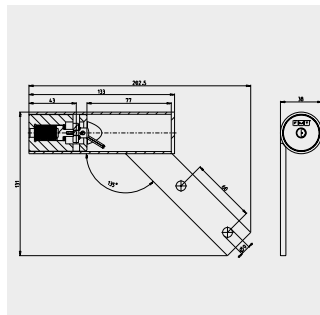
ST 38 Up
6035041 ●
Security container
for flush mounting,
length 130 mm,
with 2 keys
stainless steel,
38 mm Ø , 560 g



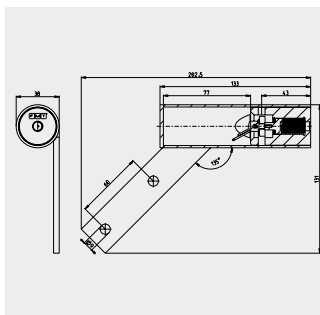
ST 56 PHZ Up
6032886 ●
Security container
for flush mounting,
length 133 mm,
straight closure,
for PHZ 10/30, stainless steel,
56 mm Ø , 860 g



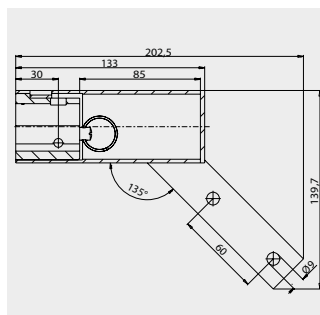
ST 56 W PHZ Up
6039894 ●
Security container
for flush mounting,
length 138 mm,
curved closure,
for PHZ 10/30, stainless steel,
56 mm Ø , 900 g



STL 38 Ap
6062725 ●
Security container
for surface mounting left,
length 130 mm,
with 2 keys,
stainless steel,
38 mm Ø , 560 g

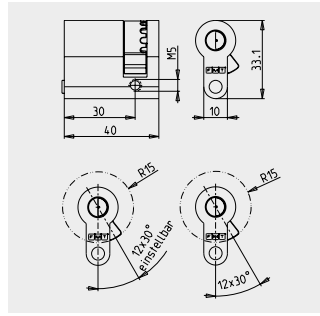


STR 38 Ap
6062724 ●
Security container
for surface mounting right,
length 130 mm,
with 2 keys,
stainless steel,
38 mm Ø , 560 g

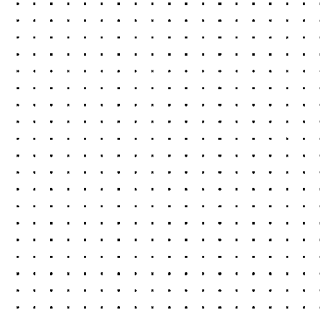


STL 56 PHZ Ap
6062723 ●
Security container
for surface mounting left,
length 130 mm,
for PHZ 10/30, stainless steel,
56 mm Ø , 860 g

Tube safes:
Security container, accessory



PHZ 10/30
6068621 ●
Profile half cylinder,
10/30 mm,
12-way adjustable locking nose,
with 2 keys,
145 g



Schlüssel (key)¹
6023471 ●
Customer specific spare- and extra
keys for key- and card safes,
16 g

¹ Contact the customer service from
Rutenbeck for customer specific
lockings

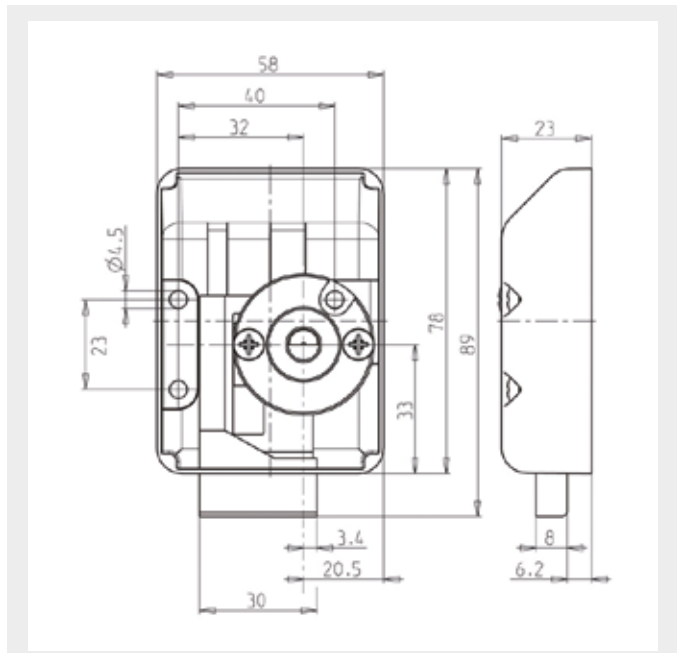
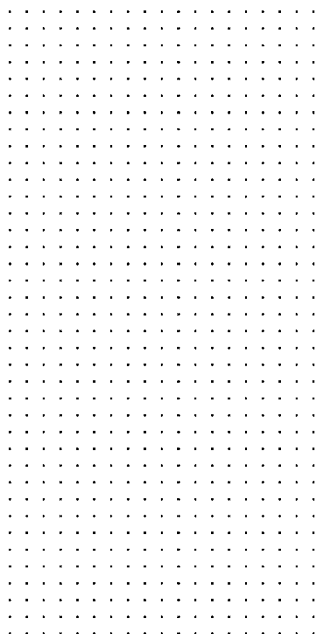
Rim lock

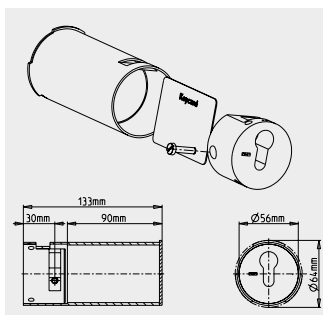
Secure, in the cabinet

The advantage of the special
locks with disc-type tumbler is
that they can not only be used for
the security container but can also
be used as rim locks as well.
These locks are also called cased
locks and are used i.e. p.o.-boxes
and safety deposit boxes.
The installation takes place in the
protected area, behind the door.



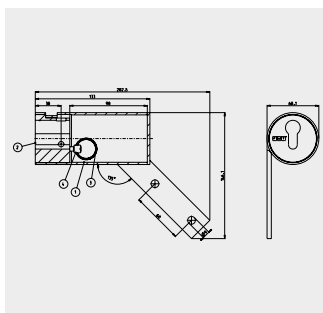
Fachschloss (rim lock)
6064912 ●
with 2 keys,
89 x 58 x 23 mm, 250 g



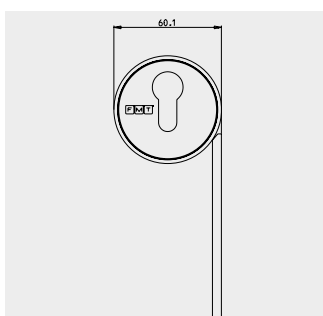


KT 64 PHZ Up
6065493 ●
 Card safe,
 for flush-mounting,
 length 133 mm
 for PHZ 10/30, stainless steel,
 64 mm Ø, 1200 g

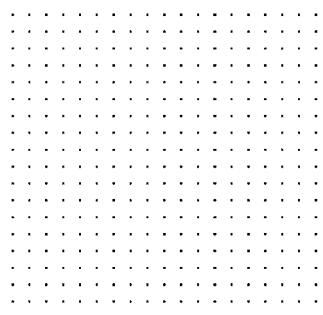
Tube safes:
 Card safe, accessory,
 Wall mounting (flush and surface)



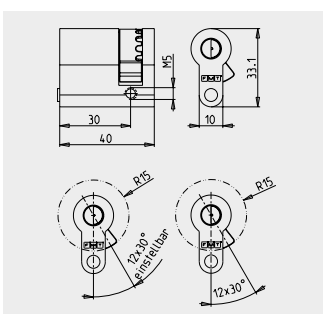
KTL 64 PHZ Ap
6062721 ●
 Card safe,
 for surface mounting left,
 length 130 mm, for PHZ 10/30,
 stainless steel,
 64 mm Ø, 1200 g



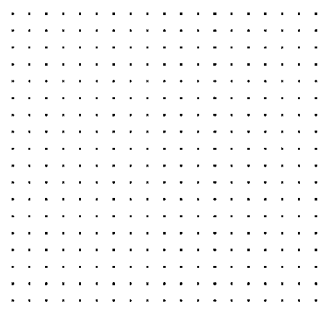
KTR 64 PHZ Ap
6062720 ●
 Card safe,
 for surface mounting right,
 length 130 mm, for PHZ 10/30,
 stainless steel,
 64 mm Ø, 1200 g



BKT 64
6066141 ●
 Cover
 for card safe KT 64,
 stainless steel,
 64 mm Ø, 20 g



PHZ 10/30
6068621 ●
 Profile half cylinder,
 10/30 mm,
 12-way adjustable locking nose
 with 2 keys,
 145 g



Schlüssell (key)¹
6023471 ●
 Customer specific spare- and
 extra keys for key- and card safes,
 16 g

¹ Contact the customer service
 from Rutenbeck for customer
 specific lockings.

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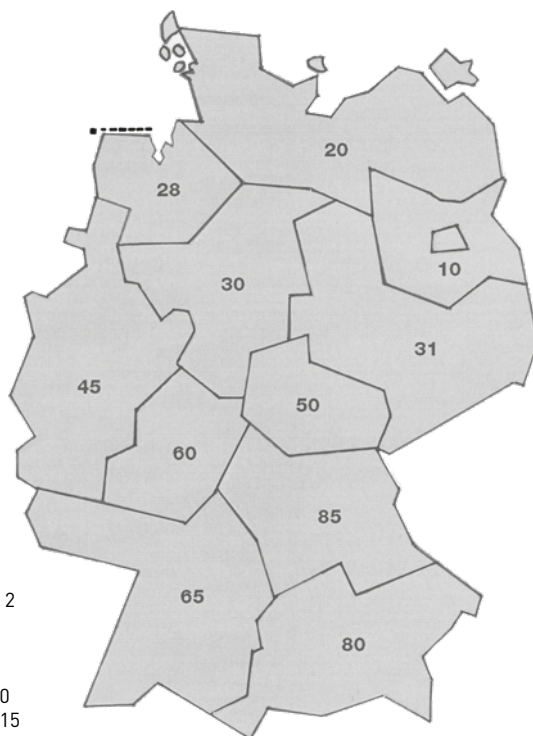
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