



... all over IP!

⟨R⟩ RUTENBECK

Program 2014



AC WLAN

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

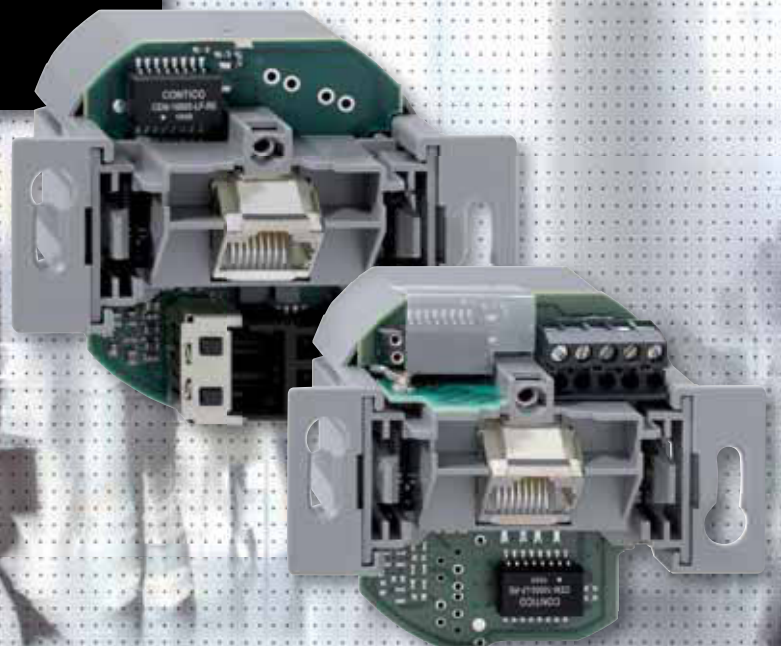
... all over IP!

 **RUTENBECK**

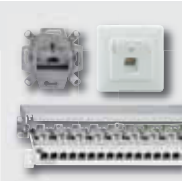

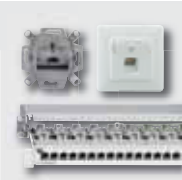

NEW!

AC WLAN **new features starting on page 56**

- WLAN in addition to data outlet
- 150 Mbit/s – IEEE 802.11 b/g/n
- all known encryption methods
- adjustable range
- design without compromise





⟨R⟩ DATA TECHNOLOGY - shielded [STP]

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⟨R⟩ CONNECTION TECHNOLOGY DSL

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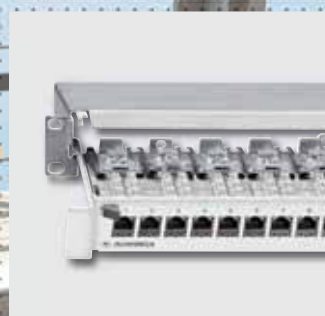
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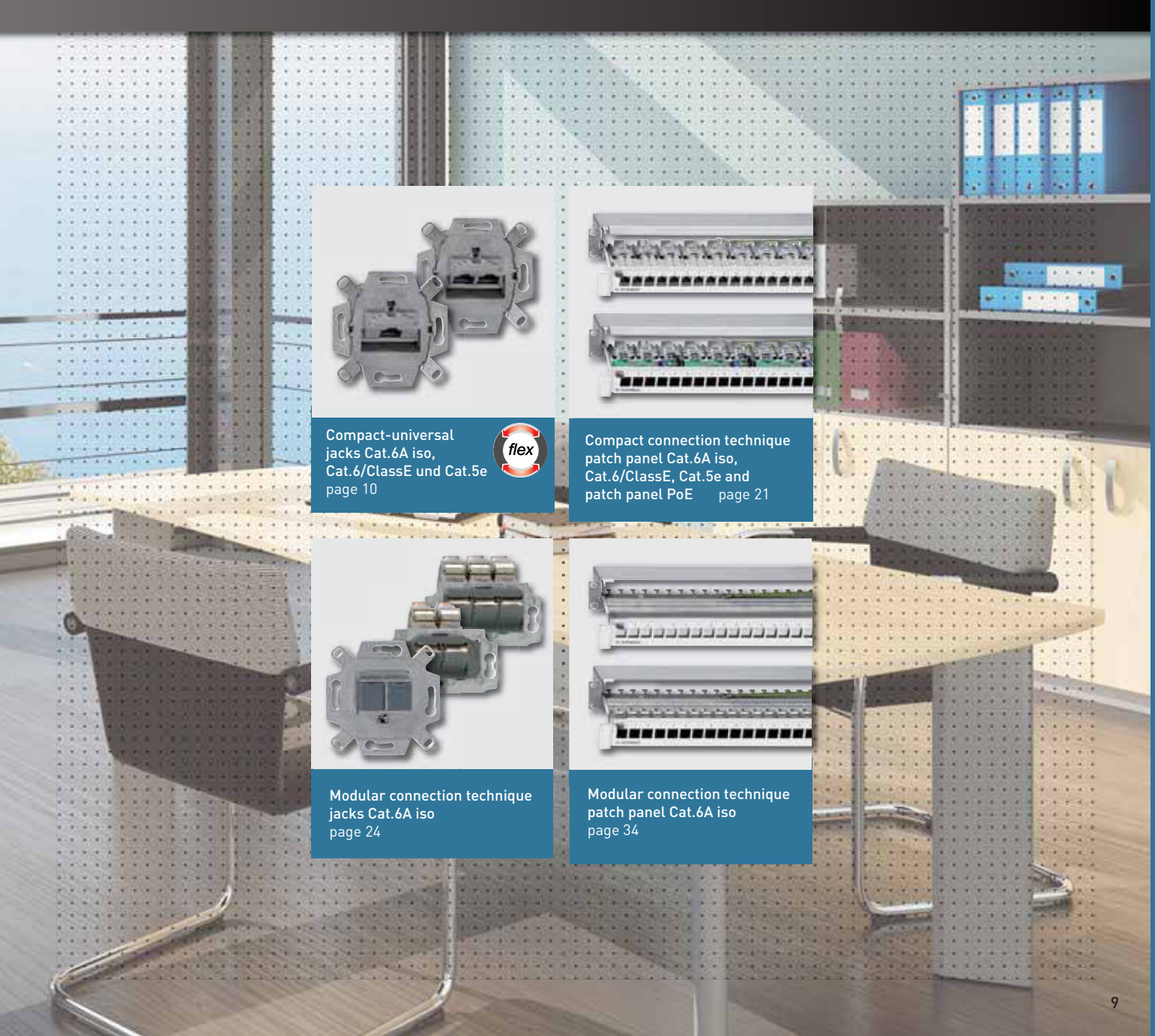
DATA TECHNOLOGY

shielded (STP)

High mechanical stability along with only a few pre-assembled parts are just two of the many product advantages of the data jacks from Rutenbeck for use at construction sites. Various designs, compact as well as modular, ensure that the special conditions of different installation requirements are taken into consideration. Rutenbeck-data jacks are designed to fit the design wall plates from all well-known manufacturers of electrical installation material.

Also with the patch panels, the central components of the structural cabling emphasize the installation advantages for use at construction sites, either in the compact connection technique, the especially installation-friendly patch panel with slide-in unit, in the modular connection technique or as DIN-rail mounting housing for conventional electrical distribution boxes.





Compact-universal
 jacks Cat.6A iso,
 Cat.6/ClassE und Cat.5e
 page 10



Compact connection technique
 patch panel Cat.6A iso,
 Cat.6/ClassE, Cat.5e and
 patch panel PoE page 21



Modular connection technique
 jacks Cat.6A iso
 page 24



Modular connection technique
 patch panel Cat.6A iso
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**STP – Cat.6A iso and Cat.5e
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 11801:2011-06 for 500 MHz bandwidth (10 Gbit/s).

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.

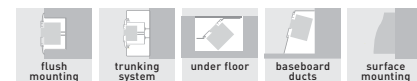
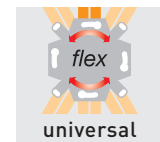
For the fulfillments of the performance parameter, Rutenbeck grants a 25 years guarantee for these products.



**Appropriate for all situations
The new 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.

The slide-in unit can be tilted and allows an easy installation of cables and connection of the wires. Additional mounting brackets are not necessary.

Testing and later expansions can be done fast and easy.

The slide-in unit will be fixed with two quick locks to the housing. It can also be removed.

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
- Metric screws suitable for design wall plates of all well known manufacturers of electrical installation material
- universal, flexible cable entry (+/- 30°)
- RJ11/12-protected against mismatching
- min. 1000 cycles

Technical data for shielded Cat.6A-iso-, Cat.6/Class E and Cat.5e-connecting hardware

Mechanical characteristics Cat.6A iso, Cat.6/ClassE and Cat.5e - 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, Cat.6/ClassE and Cat.5e	
Design Cat.6A iso	DIN EN 60 603-7-5:2011-01
Design Cat.6/ClassE	DIN EN 60 603-7-5:2011-03
Design Cat.5e	DIN EN 60 603-7-3:2010-06
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 Cat.6/ClassE	Universal outlet for 6- and 8-way plugs (patented)
Assembly Cat.5e	Universal outlet for 6- and 8-way plugs (patented)
Contact material/-surface	1,5 µm Ni/0,8 µm Au
Material housing	PBT
Life (insertion and withdrawals)	
Cat.6A iso	≥ 1000 cycles
Cat.6/ClassE	≥ 2500 cycles
Cat.5e	≥ 2500 cycles
	with plugs according to IEC 60 603-7

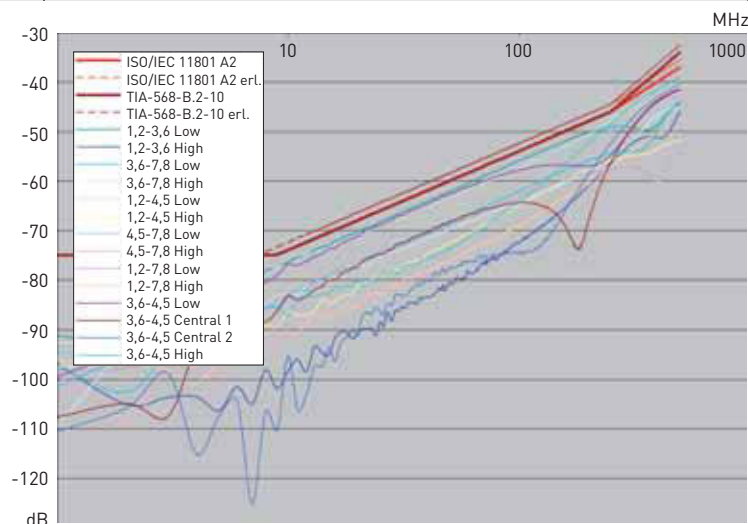
Electrical characteristics Cat.6A iso, Cat.6/ClassE and Cat.5e	
Voltage	72 V DC, suitable for TNV circuits, according to DIN EN 60 950-1:2011-01
Operation current	500 mA, at 50 °C ambient temperature
PoE-compliant	suitable for PoE+ (Power over Ethernet) according to IEEE 802.3at
Voltage withstand	1000 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 11801:2011-06	Cat.6 _A , Class E _A , shielded
DIN EN 50173-1:2011	
DIN EN 60 603-7-5:2011-01	500 MHz, shielded

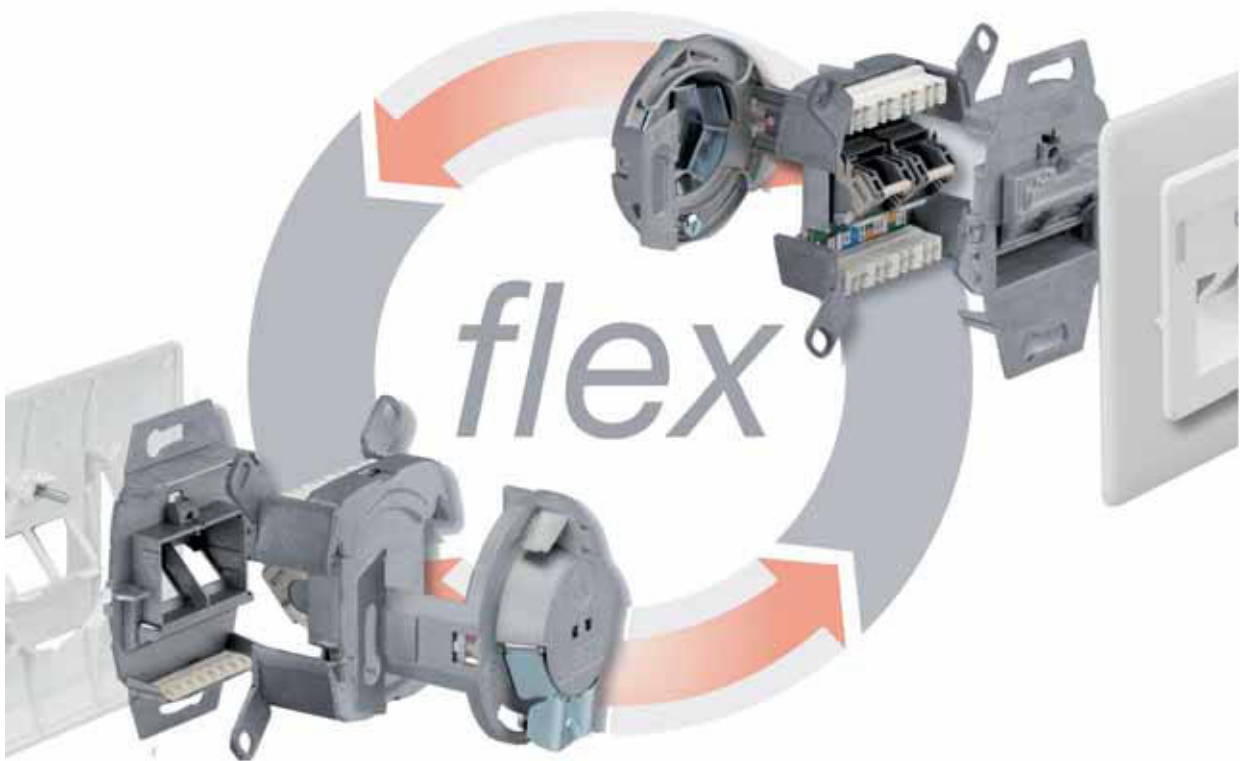
Transmission characteristics Cat.6/ClassE	
ISO/IEC 11801:2011-06	Category 6/ClassE, shielded
DIN EN 50173-1:2011-09	
DIN EN 60 603-7-5:2011-03	250 MHz, shielded

Transmission characteristics Cat.5e	
ISO/IEC 11801:2011-06	Category 5/Class D, shielded
DIN EN 50173-1:2011-09	
DIN EN 60 603-7-3:2011-03	100 MHz, shielded
TIA/EIA-568-B.2-2001	Category 5e

Test- and approval marks



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



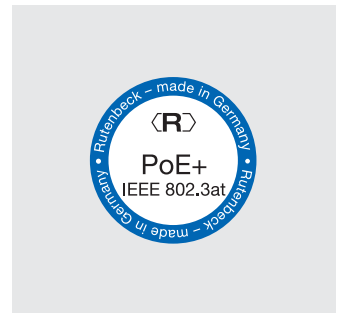
- Cat.6A iso-components
- Cat.6/ClassE-components



- Cat.6A iso-components



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



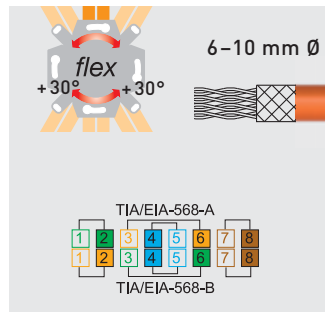
- suitable for PoE+ (Power over Ethernet) according to IEEE 802.3at



- 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)



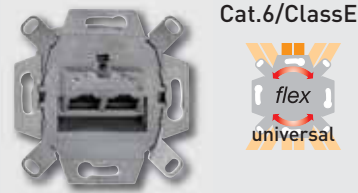
- universal, flexible cable entry (+/- 30°)
- for data cable with a diameter of 6-10 mm
- coding of terminals A and B in accordance with TIA/EIA-568-B.2
- shielding and strain relief in one step
- earthing terminal



- made and tested in Germany
- 25 years guarantee

Overview compact components Cat.6/ClassE and Cat.6A iso

Compact connecting hardware
Cat.6/ClassE and
Cat.6A iso



Cat.6/ClassE-compact-jacks
for generic networks



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

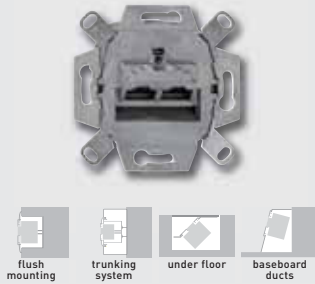


	Up	Up rw*
1-way	138 102 030	138 112 030
2-way	138 102 070	138 112 070

break off mounting ring
can be converted into
mounting bracket

	Up	Up rw*
1-way	136 102 030	136 112 030
2-way	136 102 070	136 112 070

break off mounting ring
can be converted into
mounting bracket



	Up 0
1-way	138 104 030
2-way	138 104 070

break off mounting ring
can be converted into
mounting bracket

	Up 0
1-way	136 104 030
2-way	136 104 070

break off mounting ring
can be converted into
mounting bracket



	Ap	Ap rw*
1-way	138 101 030	138 111 030
2-way	138 101 070	138 111 070

break off mounting ring
can be converted into
mounting bracket

	Ap	Ap rw*
1-way	136 101 030	136 111 030
2-way	136 101 070	136 111 070

break off mounting ring
can be converted into
mounting bracket

Patch panel
for generic networks



	PP-24/1 basic
24-way	238 101 100

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

	PP-24/1
24-way	236 101 000

patch panel; 19"/1 U;
with slide-in unit

surface mounting-patch panel
for generic networks



	PP-Cat.6/ClassE-6 Ap
6-way	238 101 06

	PP-Cat.6A iso-6 Ap
6-way	236 101 06

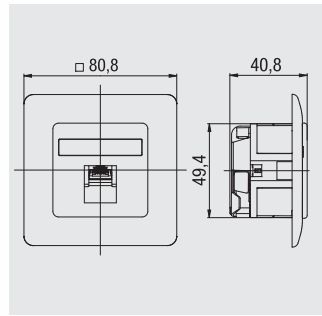
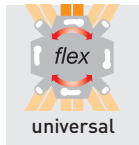
	PP-Cat.6/ClassE-12 Ap
12-way	238 101 12

	PP-Cat.6A iso-12 Ap
12-way	236 101 12

*rw = pure white

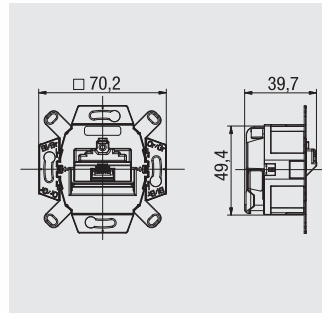
Cat.6A-iso-compact-universal-jacks

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

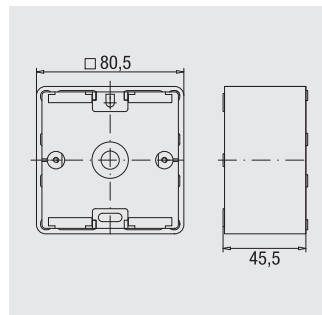


UAE-Cat.6A iso-8 Up 0
136 102 030 ●
 with center plate and wall plate; break off mounting ring can be converted into mounting bracket; pearl white (similar RAL 1013); 80 x 80 x 41 mm; 183 g

UAE-Cat.6A iso-8 Up rw
136 112 030 ●
 pure white (similar RAL 9010)

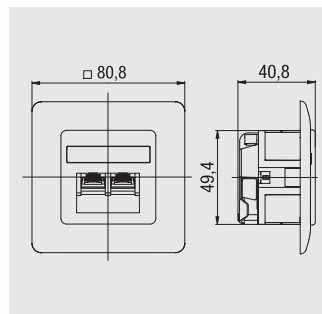


UAE-Cat.6A iso-8 Up 0
136 104 030 ●
 break off mounting ring can be converted into mounting bracket; 70 x 70 x 40 mm; 142 g



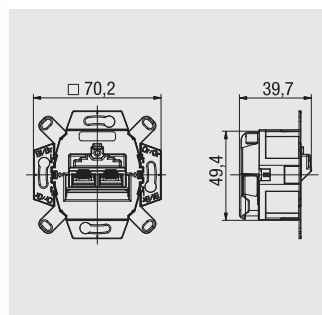
UAE-Cat.6A iso-8 Ap
136 101 030 ●
 with surface mounting housing, with center plate and wall plate; pearl white (similar RAL 1013); 80 x 80 x 46 mm; 253 g

UAE-Cat.6A iso-8 Ap rw
136 111 030 ●
 pure white (similar RAL 9010)

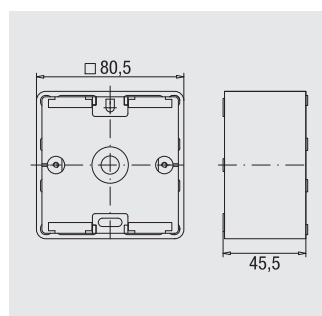


UAE-Cat.6A iso-8/8 Up
136 102 070 ●
 with center plate and wall plate; break off mounting ring can be converted into mounting bracket; pearl white (similar RAL 1013); 80 x 80 x 41 mm; 186 g

UAE-Cat.6A iso-8/8 Up rw
136 112 070 ●
 pure white (similar RAL 9010)

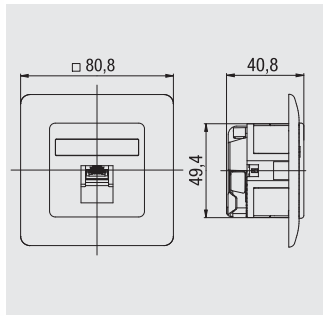


UAE-Cat.6A iso-8/8 Up 0
136 104 070 ●
 break off mounting ring can be converted into mounting bracket; 70 x 70 x 40 mm; 145 g



UAE-Cat.6A iso-8/8 Ap
136 101 070 ●
 with surface mounting housing, with center plate and wall plate; pearl white (similar RAL 1013); 80 x 80 x 46 mm; 256 g

UAE-Cat.6A iso-8/8 Ap rw
136 111 070 ●
 pure white (similar RAL 9010)

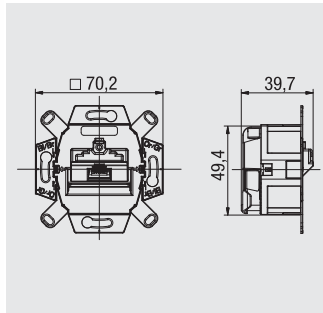
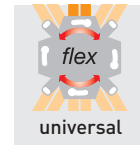


UAE-Cat.6/ClassE-8 Up
138 102 030 ●
with center plate and wall plate;
break off mounting ring can be
converted into mounting bracket;
pearl white (similar RAL 1013);
80 x 80 x 41 mm; 183 g

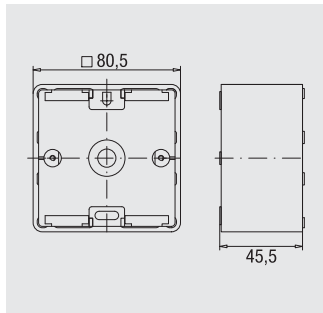
UAE-Cat.6/ClassE-8 Up rw
138 112 030 ●
pure white (similar RAL 9010)

Cat.6/ClassE-compact-
universal-jacks

UAE-Cat.6/ClassE,
shielded,
for generic networks

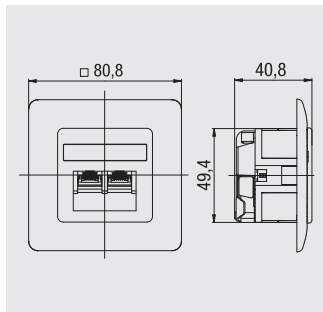


UAE-Cat.6/ClassE-8 Up 0
138 104 030 ●
break off mounting ring can be
converted into mounting bracket;
70 x 70 x 40 mm; 142 g



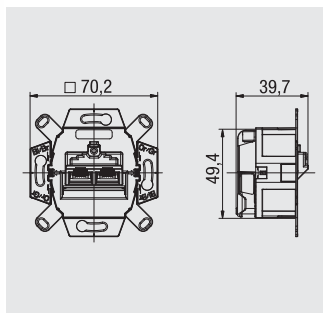
UAE-Cat.6/ClassE-8 Ap
138 101 030 ●
with surface mounting housing,
center plate and wall plate;
pearl white (similar RAL 1013);
80 x 80 x 46 mm; 253 g

UAE-Cat.6/ClassE-8 Ap rw
138 111 030 ●
pure white (similar RAL 9010)

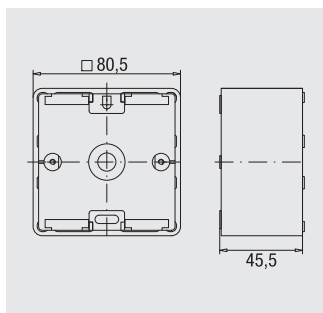


UAE-Cat.6/ClassE-8/8 Up
138 102 070 ●
with center plate and wall plate;
break off mounting ring can be
converted into mounting bracket;
pearl white (similar RAL 1013);
80 x 80 x 41 mm; 186 g

UAE-Cat.6/ClassE-8/8 Up rw
138 112 070 ●
pure white (similar RAL 9010)



UAE-Cat.6/ClassE-8/8 Up 0
138 104 070 ●
break off mounting ring can be
converted into mounting bracket;
70 x 70 x 40 mm; 145 g

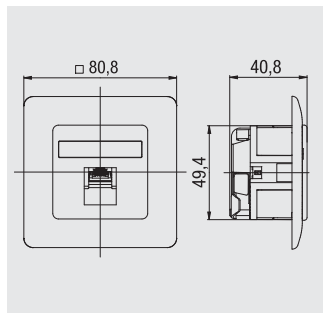
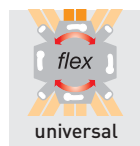


UAE-Cat.6/ClassE-8/8 Ap
138 101 070 ●
with surface mounting housing,
center plate and wall plate;
pearl white (similar RAL 1013);
80 x 80 x 46 mm; 256 g

UAE-Cat.6/ClassE-8/8 Ap rw
138 111 070 ●
pure white (similar RAL 9010)

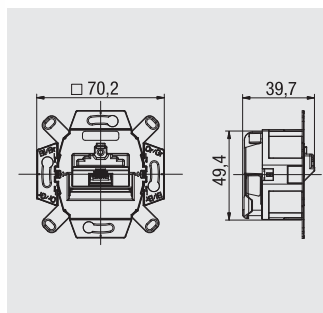
Cat.5e-compact-
universal-jacks

UAE-Cat.5e,
shielded,
for generic networks

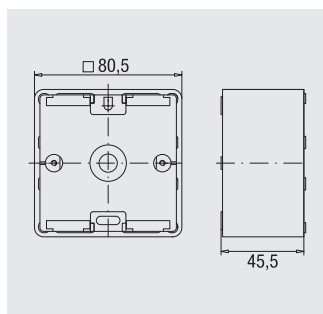


UAE-Cat.5e-8 Up
135 102 030 ●
with center plate and wall plate;
break off mounting ring can be
converted into mounting bracket;
pearl white (similar RAL 1013);
80 x 80 x 41 mm; 183 g

UAE-Cat.5e-8 Up rw
135 112 030 ●
pure white (similar RAL 9010)

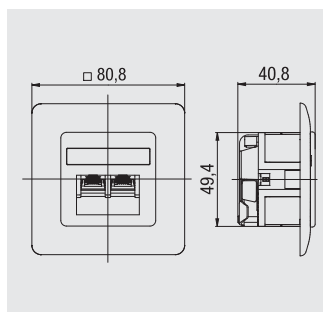


UAE-Cat.5e-8 Up 0
135 104 030 ●
break off mounting ring can be
converted into mounting bracket;
70 x 70 x 40 mm; 142 g



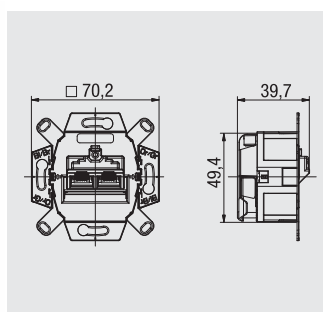
UAE-Cat.5e-8 Ap
135 101 030 ●
with surface mounting housing,
center plate and wall plate;
pearl white (similar RAL 1013);
80 x 80 x 46 mm; 253 g

UAE-Cat.5e-8 Ap rw
135 111 030 ●
pure white (similar RAL 9010)

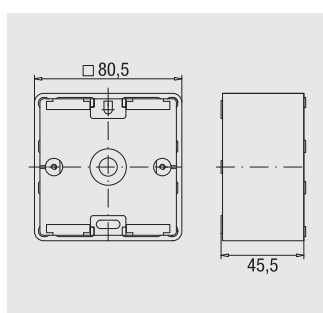


UAE-Cat.5e-8/8 Up
135 102 070 ●
with center plate and wall plate;
break off mounting ring can be
converted into mounting bracket;
pearl white (similar RAL 1013);
80 x 80 x 41 mm; 186 g

UAE-Cat.5e-8/8 Up rw
135 112 070 ●
pure white (similar RAL 9010)



UAE-Cat.5e-8/8 Up 0
135 104 070 ●
break off mounting ring can be
converted into mounting bracket;
70 x 70 x 40 mm; 145 g



UAE-Cat.5e-8/8 Ap
135 101 070 ●
with surface mounting housing,
center plate and wall plate;
pearl white (similar RAL 1013);
80 x 80 x 46 mm; 256 g

UAE-Cat.5e-8/8 Ap rw
135 111 070 ●
pure white (similar RAL 9010)

PP AP

Flexible surface mounting solution for the Network

... all over IP!

RUTENBECK

PP AP

- with 6 or 12 outlets
- for network and/or multimedia applications
- for private and professional applications
- for Keystone modules or with LSA connection
- for Gigabit or 10 Gigabit
- suitable for PoE+
- for desktop-, wall-, or DIN-rail mounting
- fully shielded, stable metall design
- potential equalisation set included

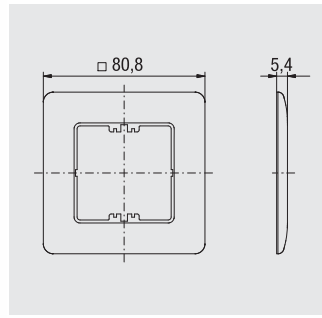
with LSA connection

modular



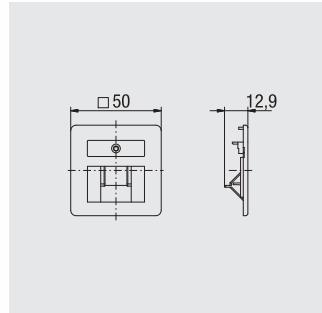
Wall plates, center plates and surface mounting housing for UAE-Cat.6A iso, UAE-Cat.6/ClassE and UAE-Cat.5e, shielded AP, ZSt, AP V, ApG

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



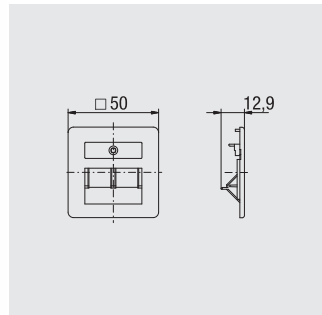
AP
100 100 01 ●
 Wall plate;
 pearl white (similar RAL 1013);
 80 x 80 x 5 mm; 12 g

AP rw
100 100 51 ●
 pure white (similar RAL 9010)



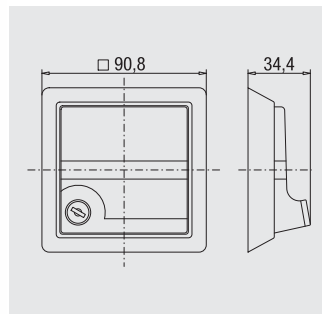
ZSt UAE-Cat.5e+6-8
135 100 02 ●
 Center plate with 1 outlet
 and inscription label;
 pearl white (similar RAL 1013);
 50 x 50 x 13 mm; 6 g

ZSt UAE-Cat.5e+6-8 rw
135 100 52 ●
 pure white (similar RAL 9010)

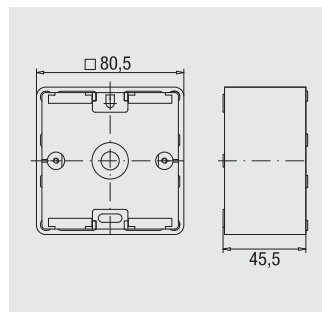


ZSt UAE-Cat.5e+6-8/8
135 100 03 ●
 Center plate with 2 outlets
 and inscription label;
 pearl white (similar RAL 1013);
 50 x 50 x 13 mm; 6 g

ZSt UAE-Cat.5e+6-8/8 rw
135 100 53 ●
 pure white (similar RAL 9010)



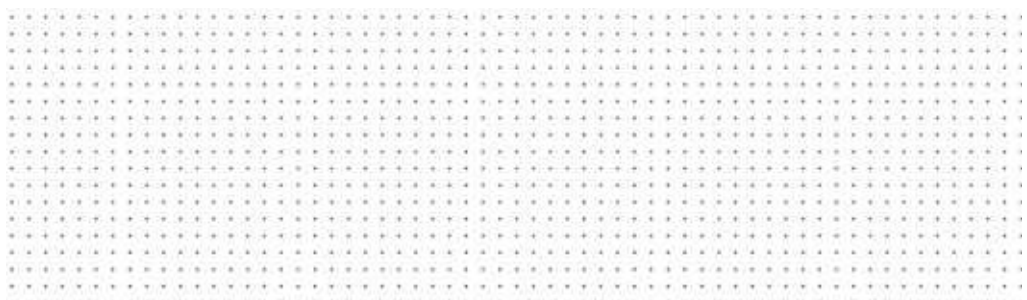
AP V rw
100 100 55 ●
 Wall plate;
 lockable, IP44;
 all keys individual, for all
 Rutenbeck flush-mounting sets
 in connection with center plates
 50 x 50 x 13 mm;
 pearl white (similar RAL 1013);
 91 x 91 x 34 mm; 10 g

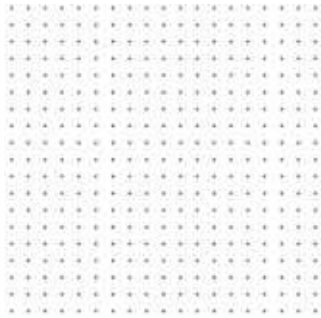


UAE-Cat.5e+6 ApG
135 105 03 ●
 Surface mounting housing*;
 for flush mounting designs;
 pearl white (similar RAL 1013);
 80 x 80 x 46 mm; 93 g

UAE-Cat.5e+6 ApG rw
135 115 03 ●
 pure white (similar RAL 9010)

*for standard-conform Cat.6a surface mounting-solutions in modular design see page 32

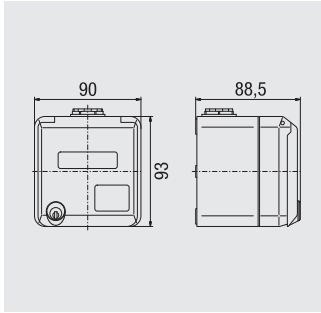




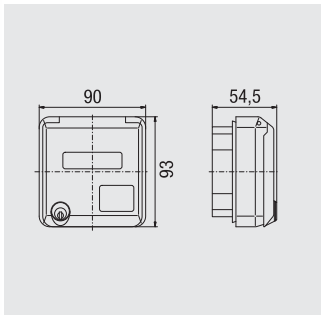
Schematic diagram of the mounting housings

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.

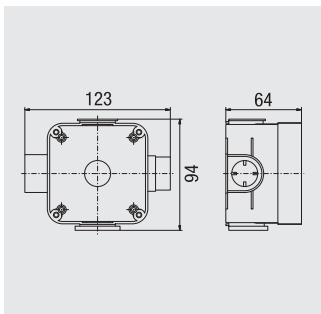


ApG-I g
100 100 56 ●
Surface mounting housing; for industrial use, IP44; for UAE-data jacks; light grey (similar RAL 7035); 90 x 93 x 89 mm; 260 g

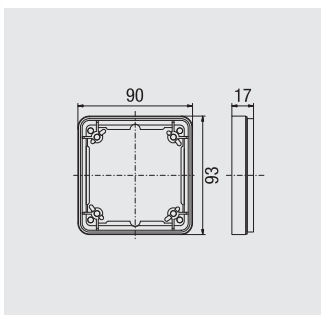


UpG-I g
100 100 57 ●
Flush mounting housing; for industrial use, IP44; light grey (similar RAL 7035); 90 x 93 x 55 mm; 157 g

UpG-I rw
100 100 58 ●
pure white (similar RAL 9010)

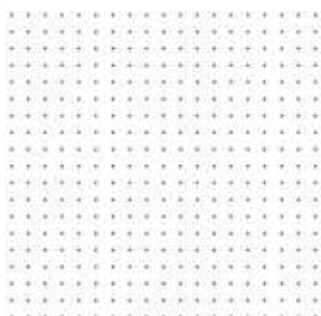


UpG-UpEd
100 100 62 ●
Wall box; for flush mounting housing UpG-I; light grey (similar RAL 7035); 123 x 94 x 64 mm; 97 g



UpG-DR g
100 100 60 ●
Wall box; for flush mounting housing UpG-I; light grey (similar RAL 7035); 90 x 93 x 17 mm; 27 g

UpG-DR rw
100 100 61 ●
pure white (similar RAL 9010)



ApG-KVS
100 100 59 ●
Cable gland; M 25; for surface mounting housing ApG-I; light grey (similar RAL 7035); 31 x 28 x 43 mm; 8 g

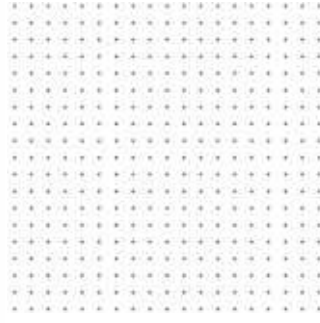
Performance features

- for Cat.6A-iso-, Cat.6/ClassE- and Cat.5e-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

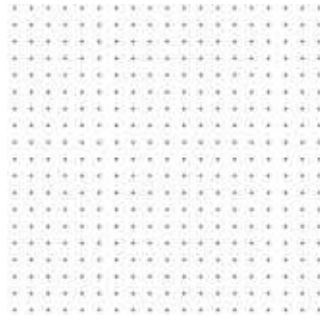
Application areas

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.

Accessory for
UAE-Cat.6A iso-, UAE-
Cat.6/ClassE- and UAE-Cat.5e-
jacks, shielded

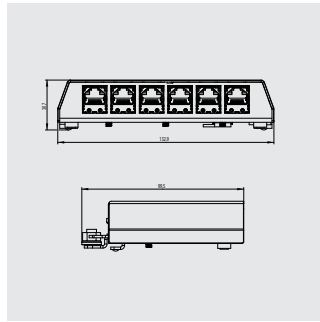


AW 2
392 000 00 ●
Connection tool
for LSA- and LSA-Plus-terminals;
with cutting blade;
38 x 177 x 21 mm; 80 g

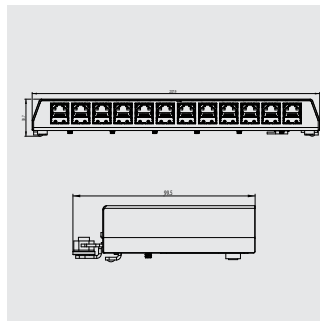


UAE-Cat.5e+6-BS
135 105 05 ●
Dummy plug for the protection
of unused RJ45-outlets;
black (similar RAL 9005);
15 x 15 x 20 mm; 2 g

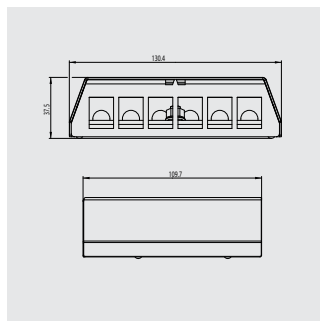
Cat.6A iso- and Cat.6/ClassE-
surface mounting patch panel
PP-AP-Cat.6A iso
and PP-AP-Cat.6/ClassE,
shielded,
for generic networks



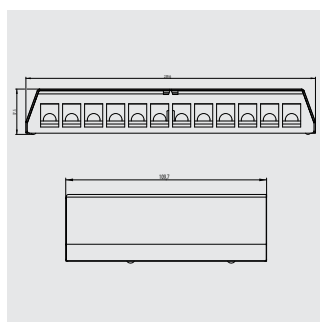
PP-Cat.6A iso-6Ap
236 101 06 ●
Category 6_A Patch Panel, Class E_A,
6 RJ45 outlets, for desktop- or wall
mounting, DIN-rail mounting with
DIN-rail mounting adapter 221 012,
fully shielded, stable metal design,
quick mounting with latching lid
light grey (similar RAL7035)
133 x 31 x 98 mm ; 360 g



PP-Cat.6A iso-12 Ap
236 101 12 ●
Category 6_A Patch Panel, Class E_A,
12 RJ45 outlets, for desktop- or wall
mounting, DIN-rail mounting with
DIN-rail mounting adapter 221 012,
fully shielded, stable metal design,
quick mounting with latching lid
light grey (similar RAL7035)
238 x 31 x 98 mm ; 650 g



PP-Cat.6/ClassE-6 Ap
238 101 06 ●
Category 6_A Patch Panel, Class E_A,
6 RJ45 outlets, for desktop- or wall
mounting, DIN-rail mounting with
DIN-rail mounting adapter 221 012,
fully shielded, stable metal design,
quick mounting with latching lid
light grey (similar RAL7035)
133 x 31 x 98 mm ; 360 g

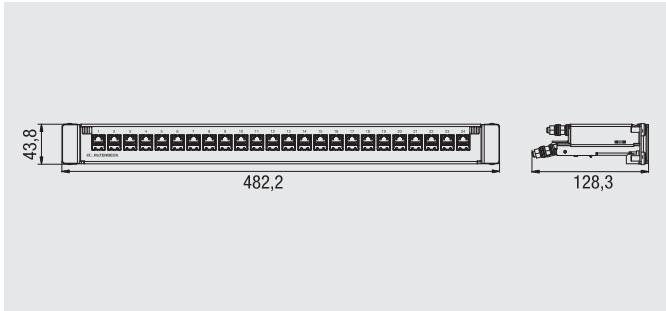


PP-Cat.6/ClassE-12 Ap
238 101 12 ●
Category 6_A Patch Panel, Class E_A,
12 RJ45 outlets, for desktop- or wall
mounting, DIN-rail mounting with
DIN-rail mounting adapter 221 012,
fully shielded, stable metal design,
quick mounting with latching lid
light grey (similar RAL7035)
238 x 31 x 98 mm ; 650 g



PP-Cat.6A iso-24/1
236 101 000 ●
Patch panel according to Category 6_A, Class E_A; 19"/1 U; with 24 RJ45-ports; with slide-in unit; front color: light grey (similar RAL 7035); 482 x 44 x 128 mm; 1955 g

Cat.6A-iso-, Cat.6/ClassE- and Cat.5e-patch panel
PP-Cat.6A iso, PP-Cat.6/ClassE and PP-Cat.5e, shielded, for generic networks



PP-Cat.5e-24/1
235 101 000 ●
Patch panel according to Category 5e, Class D; 19"/1 U; with 24 RJ45-ports; with slide-in unit; front color: light grey (similar RAL 7035); 482 x 44 x 128 mm; 1955 g



PP-Cat.6/ClassE-24/1 basic
238 101 100 ●
Patch panel according to Category 6, Class E; 19"/1 U; mit 24 RJ45-ports; for direct mounting front color: light grey (similar RAL 7035); 482 x 44 x 128 mm; 1955 g



PP-24/1 PoE
235 103 02 ●
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; front color: light grey (similar RAL 7035); 482 x 44 x 128 mm; 1815 g

PoE-patch panel
PP-PoE



SV-PP 48 V PoE
235 103 03 ●
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 panel PP-Cat.6A iso,
PP-Cat.6/ClassE and PP-Cat.5e,
shielded



PP-SSK grey
235 100 02 ●
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 red
235 100 03 ●
red (similar RAL 3000)

PP-SSK yellow
235 100 04 ●
yellow (similar RAL 1021)

PP-SSK blue
235 100 05 ●
blue (similar RAL 5015)

PP-SSK green
235 100 06 ●
green (similar RAL 6016)

PP-SSK rw
235 100 07 ●
pure white (similar RAL 9010)



AW 2
392 000 00 ●
for LSA- and LSA-Plus-terminals;
with cutting blade;
38 x 177 x 21 mm; 80 g



PK Cat.6A iso 0,5 m grey
 215 000 05 ●
 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
 215 000 10 ●
 1000 mm; 85 g

PK Cat.6A iso 2,0 m grey
 215 000 20 ●
 2000 mm; 170 g

PK Cat.6A iso 3,0 m grey
 215 000 30 ●
 3000 mm; 255 g

PK Cat.6A iso 5,0 m grey
 215 000 50 ●
 5000 mm; 425 g

PK Cat.6A iso 10,0 m grey
 215 000 00 ●
 10000 mm; 850 g

Cat.6A-iso- and
 Cat.5e-patch-cord,
 shielded,
 for generic networks



PK Cat.5e 0,5 m grey
 211 000 05 ●
 Patch cord, Category 5e,
 Class D; shielded;
 S/FTP; PVC; up to 1000 Mbit/s;
 grey (similar RAL 7035);
 500 mm; 45 g

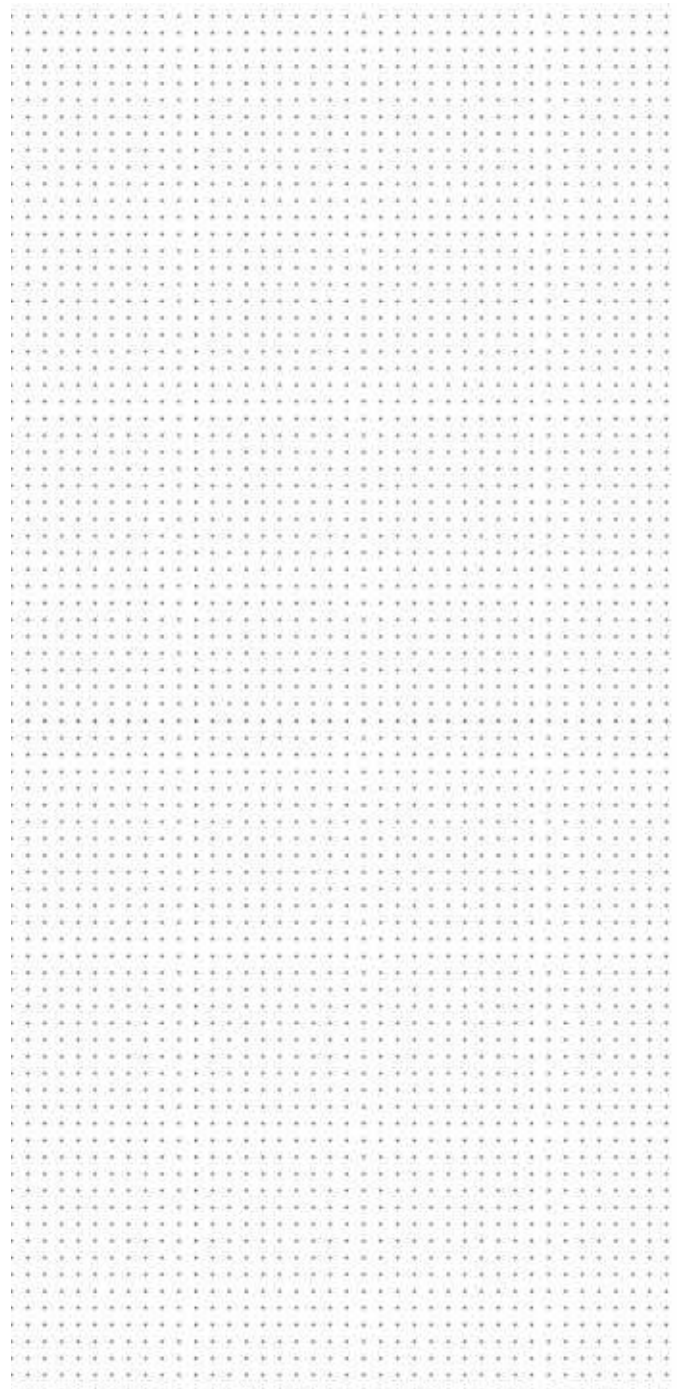
PK Cat.5e 1,0 m grey
 211 000 10 ●
 1000 mm; 85 g

PK Cat.5e 2,0 m grey
 211 000 20 ●
 2000 mm; 170 g

PK Cat.5e 3,0 m grey
 211 000 30 ●
 3000 mm; 255 g

PK Cat.5e 5,0 m grey
 211 000 50 ●
 5000 mm; 425 g

PK Cat.5e 10,0 m grey
 211 000 00 ●
 10000 mm; 850 g



Modular connection technique, for generic networks

Universal modular jacks – professional and 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+
- 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
- de-embedded-tested
- re-embedded-tested
- 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

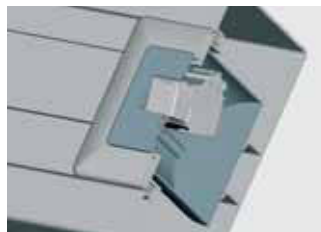
Rutenbeck products are being produced at a very high technological level. They have to pass in Germany a very strict quality tests. For the fulfillment of all performance parameters, Rutenbeck grants 25 years guarantee for these universal modular components!



Universal modular jack



Installations in different environments



trunking system

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.

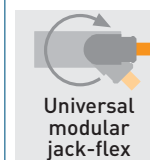


flush mounting

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.

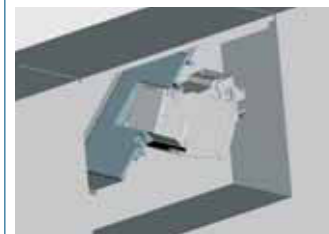


Universal modular jack-flex



baseboard ducts

With a straight cable entry, which can be change up to 360° if necessary – (cable entry from the back, front or from both sides) the universal modular jack-flex is perfect for very tight installation environments like baseboard ducts, module 45 systems, or in room-, table- or energy columns.

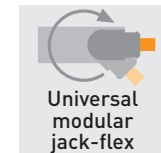


under floor

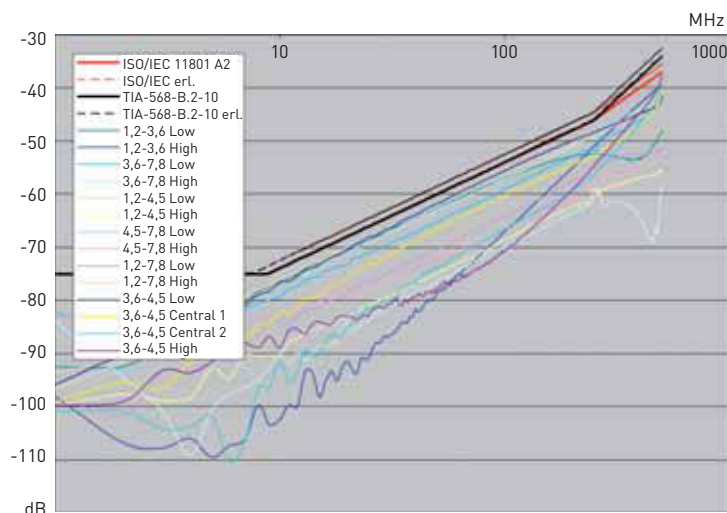
In under floor applications the cable will be led almost parallel to the bottom to the back, because of the bend radius optimized cable feeding. Perfect for small installation situation.

Technical data for shielded
UM-Cat.6A-iso- and UMflex-
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 60603-7-51:2011-01
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 11801:2011-06 DIN EN 50173-1:2011	Cat.6A, Class E _A , shielded
DIN EN 60 603-7-51:2011-01	500 MHz, shielded







Test- and approval marks




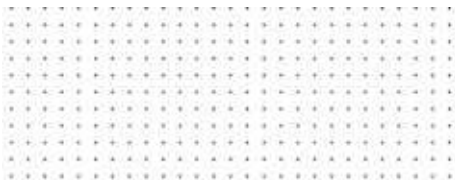


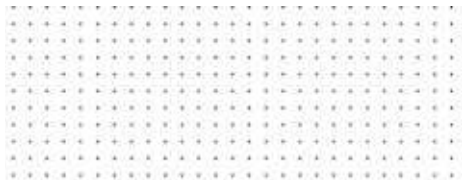

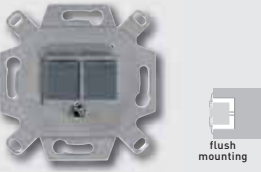



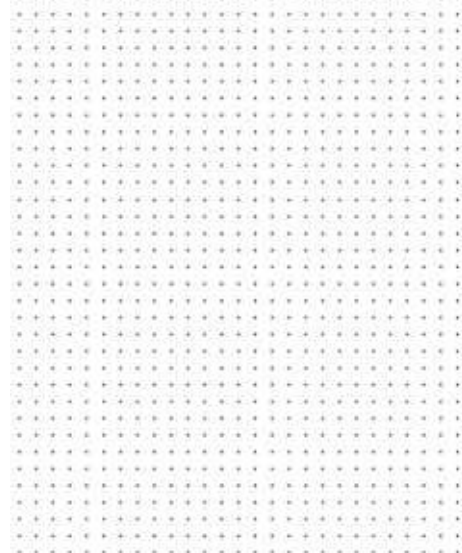


Extended NEXT
for 10-Gigabit-Ethernet
(typical values according
to ISO/IEC)

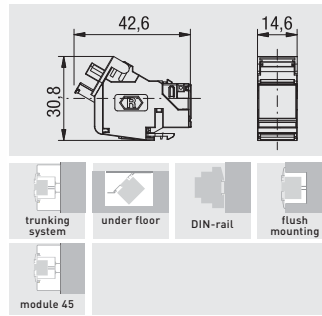
Overview modular components (construction kit system)

<p>Modular connecting hardware Cat.6A iso</p>	 <p>Cat.6A iso</p> <p>Universal modular jack</p> <p>UM-Cat.6A iso A 139 003 04 Universal modular jack; Keystone variante</p>	 <p>Cat.6A iso</p> <p>Universal modular jack-flex</p> <p>UMflex-Cat.6A iso A 139 003 05 Universal modular jack; with flexible cable entry</p>
 <p>flush mounting</p>  <p>trunking system under floor</p>  <p>trunking system under floor</p>	<p>UM-UMA 2 Up</p> <p>2-way 139 000 04</p> <p>Flush mounting adapter; break off mounting ring can be converted into mounting bracket; without universal modular jacks</p> <p>UM-MA 2 Up**</p> <p>2-way 139 000 01</p> <p>Flush mounting adapter; without universal modular jacks</p> <p>UM-MA 3 Up**</p> <p>3-way 139 000 02</p> <p>Flush mounting adapter; without universal modular jacks</p>	 <p>UM-MA 2 Up**</p> <p>2-way 139 000 01</p> <p>Flush mounting adapter; without universal modular jacks</p> <p>UM-MA 3 Up**</p> <p>3-way 139 000 02</p> <p>Flush mounting adapter; without universal modular jacks</p>
 <p>surface mounting</p>	<p>UMflex-ApG rw*, **</p> <p>3-way 139 115 01</p> <p>Surface mounting housing; without universal modular jacks; cable entry only from top</p>	<p>UMflex-ApG rw*, **</p> <p>3-way 139 115 01</p> <p>Surface mounting housing; without universal modular jacks; cable entry from all sides</p>
 <p>DIN-rail</p>	<p>UM-MA REG**</p> <p>1-way 139 000 03</p> <p>DIN-rail mounting adapter; 1 TE; without universal modular jack</p>	
 	<p>PP-UM A-24/1**</p> <p>24-way 239 000 000</p> <p>patch panel; 19"/1 U; slide-in unit; without universal modular jack</p> <p>PP-UM A-24/1 basic**</p> <p>24-way 239 000 00</p> <p>Patchpanel; 19"/1 U; for direct mounting; without universal modular jack</p>	
 <p>surface mounting</p>  <p>surface mounting</p>	<p>PP-UM A-6 Ap**</p> <p>6-way 239 101 06</p> <p>surface mounting-patch panel; without universal modular jack</p> <p>PP-UM A-12 Ap**</p> <p>12-way 239 101 16</p> <p>surface mounting-patch panel; without universal modular jack</p> <p>CP-UM A-12 Ap**</p> <p>12-way 239 101 12</p> <p>Consolidation point; without universal modular jack</p>	

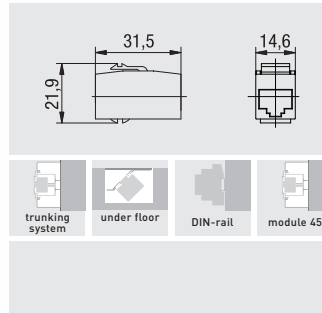
Overview modular components (complete version)

<p>Modular connecting hardware Cat.6A iso</p>	<p>Cat.6A iso</p>  <p>Universal modular jack</p> <p>UM-Cat.6A iso A 139 003 04 Universal modular jack; Keystone variante</p>	<p>Cat.6A iso</p>  <p>Universal modular jack-flex</p> <p>UMflex-Cat.6A iso A 139 003 05 Universal modular jack; with flexible cable entry</p>																		
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24-way	239 101 000																			

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

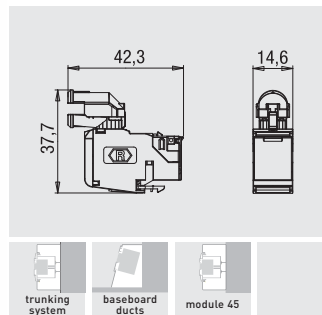


UM-Cat.6A iso A
139 003 04 ●
Universal modular jack;
suitable for standard
Keystone openings;
15 x 31 x 43 mm; 27 g

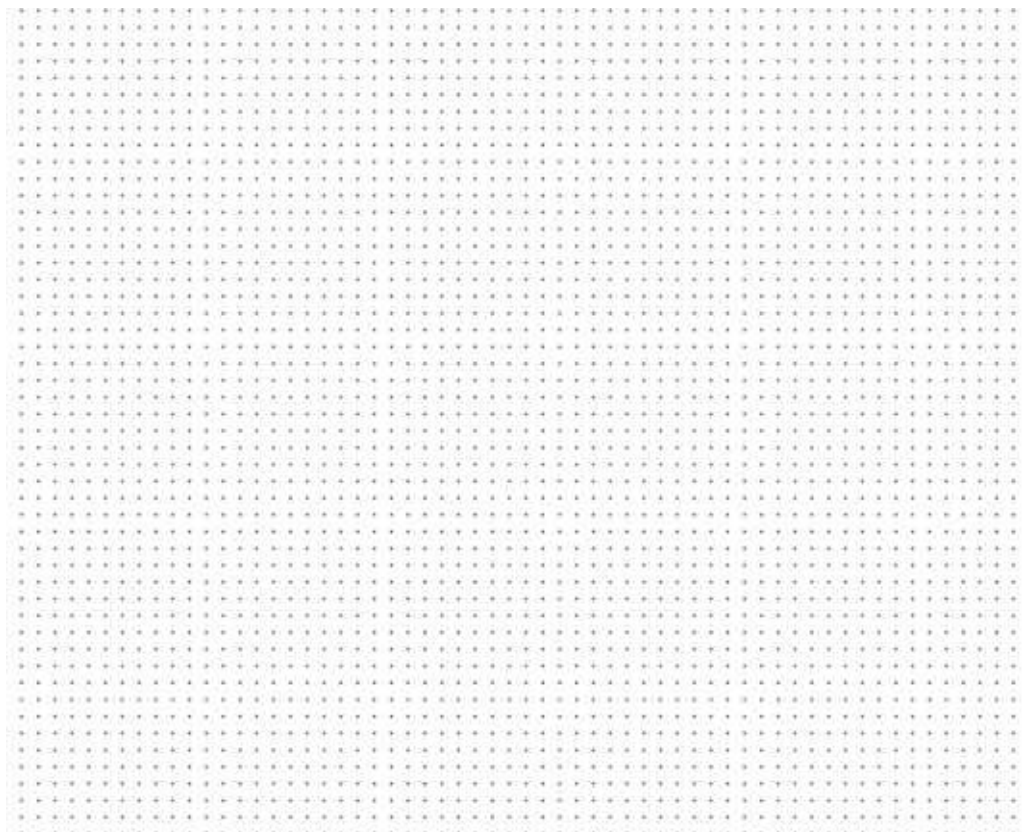


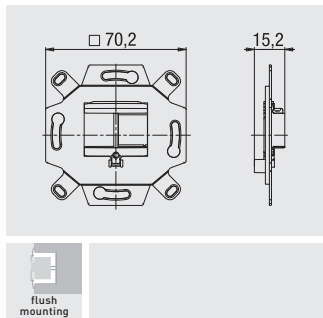
Cat.6-Kupplung
139 003 60 ●
Module coupler Cat.6/class E;
suitable for standard
Keystone openings;
15 x 22 x 32 mm; 27 g

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



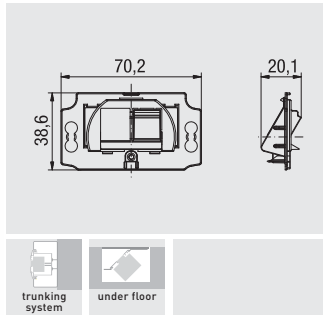
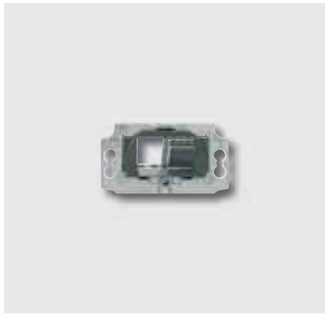
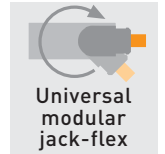
UMflex-Cat.6A iso A
139 003 05 ●
Universal modular jack;
with flexible cable entry;
for special installation situations;
suitable for standard
Keystone openings;
15 x 38 x 42 mm; 27 g



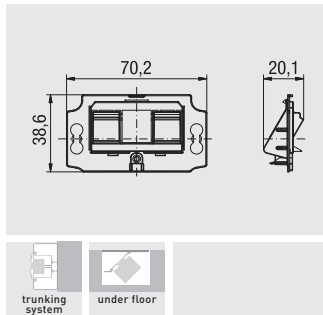


UM-UMA 2 Up
139 000 04 ●
Flush mounting adapter; 2-way;
for UM-Cat.6A iso A and UM-
real.Cat.6 U A; for mounting
in flush mounting jacks;
for customary TAE center plates;
for combination with ZSt UM-MA
2 and wall plate AP UM;
break off mounting ring can be
converted into mounting bracket;
70 x 70 x 15 mm; 20 g

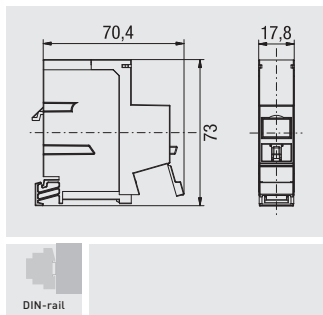
Mounting adapters and
backfitting sets for
UM-Cat.6A iso,
UMflex-Cat.6A iso,
shielded



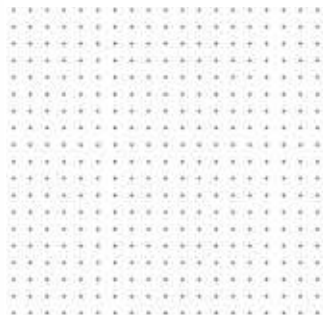
UM-MA 2 Up
139 000 01 ●
Mounting adapter; 2-way;
for all universal modular jacks
and the Cat.6-module coupler;
for customary TAE center plates;
for combination with ZSt TAE 3x6
and wall plate AP UM;
70 x 39 x 20 mm; 20 g



UM-MA 3 Up
139 000 02 ●
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 UM;
70 x 39 x 20 mm; 20 g

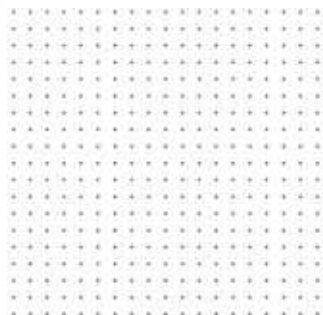


UM-MA REG
139 000 03 ●
DIN-rail mounting adapter;
for fixing an universal modular jack
UM-Cat.6A iso A, UM-
real.Cat.6 U A or a
Cat.6-module coupler onto
a DIN rail;
light grey (similar RAL 7035);
18 x 73 x 70 mm = 1 TE; 25 g



Backfitting set UM-MA 2 Up
139 000 90 ●
Backfitting UM-MA 2 Up
into pearl white;
pearl white (similar RAL 1013)

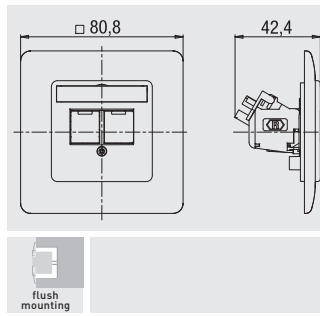
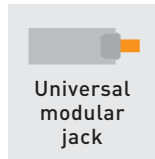
Backfitting set UM-MA 2 Up rw
139 115 90 ●
Backfitting UM-MA 2 Up
into pure white;
pure white (similar RAL 9010)



Backfitting set UM-MA 3 Up
139 000 91 ●
Backfitting UM-MA 3 Up
into pearl white;
pearl white (similar RAL 1013)

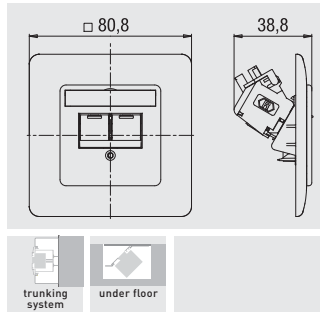
Backfitting set UM-MA 3 Up rw
139 115 91 ●
Backfitting UM-MA 3 Up
into pure white;
pure white (similar RAL 9010)

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



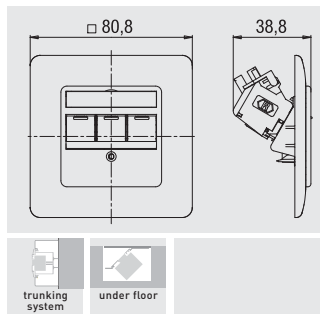
UM-Cat.6A iso-UMD 2 Up
139 102 040 ●
 Cat.6A iso modular jack; 2-way; with center plate, wall plate and 2 universal modular jacks; for flush mounting; break off mounting ring can be converted into mounting bracket; pearl white (similar RAL 1013); 80 x 80 x 42 mm; 91 g

UM-Cat.6A iso-UMD 2 Up rw
139 112 040 ●
 pure white (similar RAL 9010)



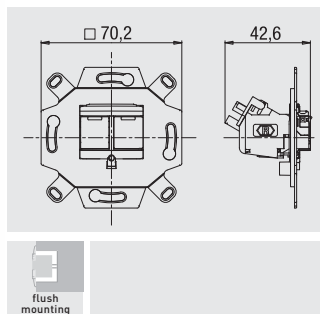
UM-Cat.6A iso-MD 2 Up
139 102 070 ●
 Cat.6A iso modular jack; 2-way; with center plate, wall plate and 2 universal modular jacks; pearl white (similar RAL 1013); 80 x 80 x 39 mm; 91 g

UM-Cat.6A iso-MD 2 Up rw
139 112 070 ●
 pure white (similar RAL 9010)

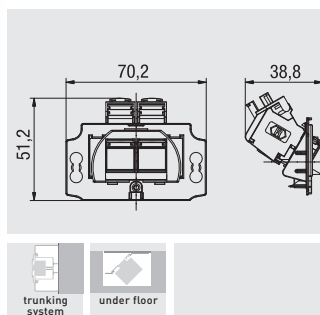


UM-Cat.6A iso-MD 3 Up
139 102 100 ●
 Cat.6A iso modular jack; 3-way; with center plate, wall plate and 3 universal modular jacks; pearl white (similar RAL 1013); 80 x 80 x 39 mm; 118 g

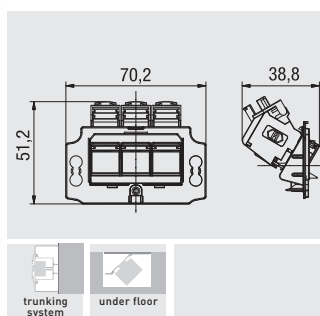
UM-Cat.6A iso-MD 3 Up rw
139 112 100 ●
 pure white (similar RAL 9010)



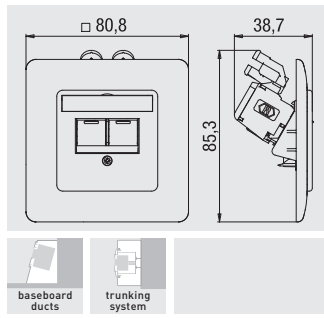
UM-Cat.6A iso-UMD 2 Up 0
139 104 040 ●
 Cat.6A iso modular jack; 2-way; with 2 universal modular jacks; for combination with customary TAE center plates; for flush mounting; for combination with ZSt UM-MA 2 and wall plate AP UM; break off mounting ring can be converted into mounting bracket; 70 x 70 x 43 mm; 74 g



UM-Cat.6A iso-MD 2 Up 0
139 104 070 ●
 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 UM; 70 x 51 x 39 mm; 74 g

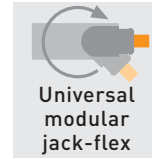


UM-Cat.6A iso-MD 3 Up 0
139 104 100 ●
 Cat.6A iso modular jack; 3-way; with 3 universal modular jacks; for ZSt UM-MA 3 and wall plate AP UM; 70 x 51 x 39 mm; 101 g

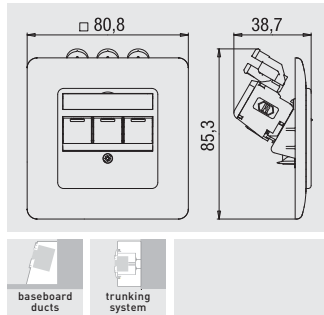


UMflex-Cat.6A iso-MD 2 Up
139 102 400 ●
 Cat.6A iso modular jack; 2-way;
 with center plate, wall plate and
 2 universal modular jacks;
 pearl white (similar RAL 1013);
 80 x 80 x 39 mm; 91 g

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

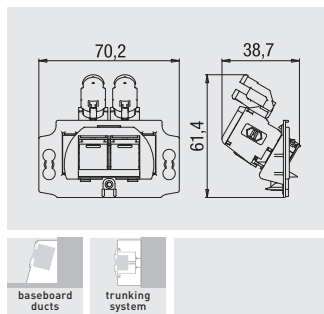


UMflex-Cat.6A iso-MD 2 Up rw
139 112 400 ●
 pure white (similar RAL 9010)

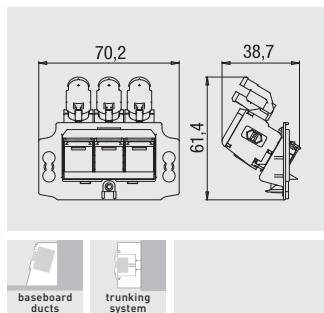


UMflex-Cat.6A iso-MD 3 Up
139 102 450 ●
 Cat.6A iso modular jack; 3-way;
 with center plate, wall plate and
 3 universal modular jacks;
 pearl white (similar RAL 1013);
 80 x 80 x 39 mm; 118 g

UMflex-Cat.6A iso-MD 3 Up rw
139 112 450 ●
 pure white (similar RAL 9010)

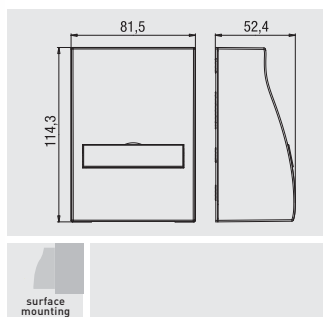


UMflex-Cat.6A iso-MD 2 Up 0
139 104 010 ●
 Cat.6A iso modular jack; 2-way;
 with 2 universal modular jacks;
 for combination with customary
 TAE center plates; for combination
 with ZSt UM-MA 2 and wall
 plate AP UM;
 70 x 61 x 39 mm; 74 g



UMflex-Cat.6A iso-MD 3 Up 0
139 104 020 ●
 Cat.6A iso modular jack; 3-way;
 with 3 universal modular jacks;
 for ZSt UM-MA 3 and
 wall plate AP UM;
 70 x 61 x 39 mm; 101 g

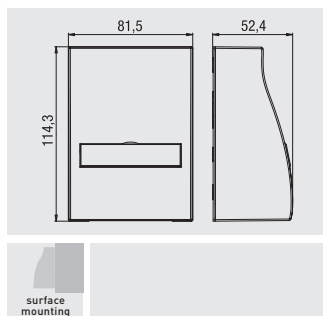
Modular jacks-flex, surface mounting, with UMflex-Cat.6A iso, shielded, for generic networks



UMflex-Cat.6A iso Ap 2 rw

139 111 020 ●

Surface mounting-jack Cat.6A iso, modular; 2-way; with 2 universal modular jacks UMflex-real.Cat.6a A; cable entry from all sides; can be installed side by side; pure white (similar RAL 9010); 82 x 114 x 52 mm; 199 g

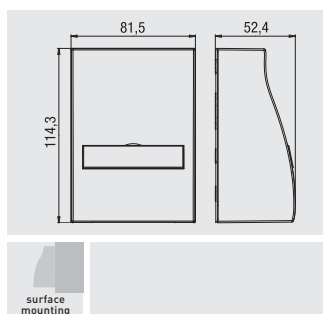


UMflex-Cat.6A iso Ap 3 rw

139 111 030 ●

Surface mounting-jack Cat.6A iso, modular; 3-way; with 3 universal modular jacks UMflex-real.Cat.6a A; cable entry from all sides; can be installed side by side; pure white (similar RAL 9010); 82 x 114 x 52 mm; 226 g

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

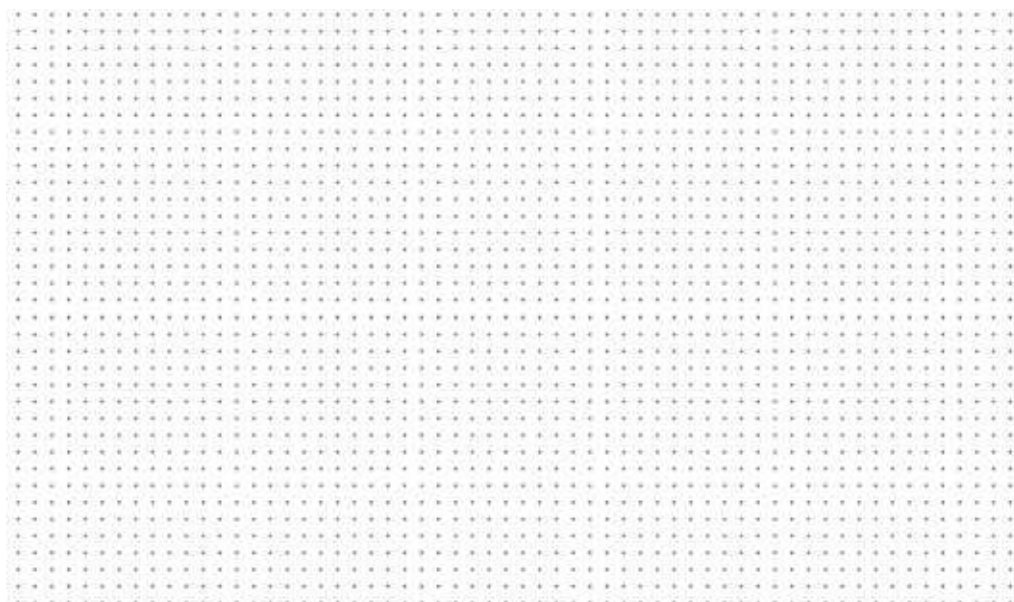


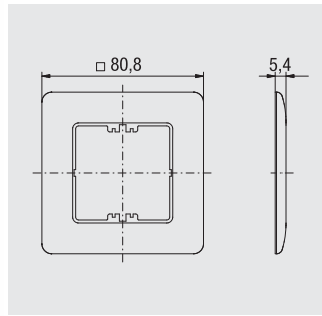
UMflex-ApG rw

139 115 01 ●

Surface mounting housing, modular; for up to 3 universal modular jacks UMflex-Cat.6A iso A, UMflex-real.Cat.6a A, UM-Cat.6A iso A* and UM-real.Cat.6a A*; pure white (similar RAL 9010); 82 x 114 x 52 mm; 145 g

* cable entry only from top



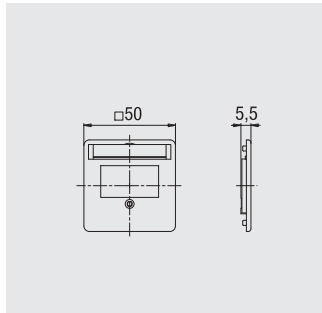


AP
100 100 01 ●
Wall plate; for mounting adapter
UM-MA 2 Up, UM-MA 3 Up and
UM-UMA 2 Up, and for
communications adapter;
pearl white (similar RAL 1013);
80 x 80 x 5 mm; 12 g

AP rw ●
100 100 51
pure white (similar RAL 9010)

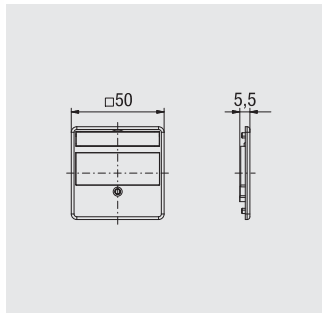
Wall plates, center plates and
accessory for
UM-Cat.6A iso,
UMflex-Cat.6A iso,
shielded

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



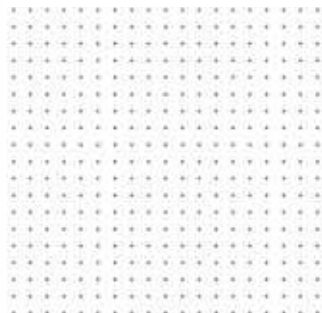
ZSt UM-MA 2
139 100 03 ●
Center plate; for 2 outlets RJ45;
with labeling strip;
for UM-MA 2 Up;
pearl white (similar RAL 1013);
50 x 50 x 6 mm; 6 g

ZSt UM-MA 2 rw
139 100 53 ●
pure white (similar RAL 9010)



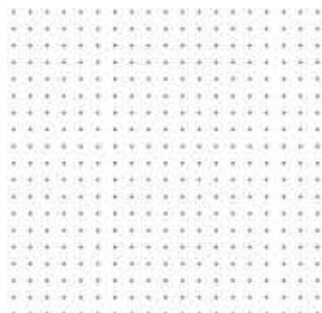
ZSt UM-MA 3
139 100 02 ●
Center plate for 3 outlets RJ45;
with labeling strip;
for UM-MA 3 Up;
pearl white (similar RAL 1013);
50 x 50 x 6 mm; 6 g

ZSt UM-MA 3 rw
139 100 52 ●
pure white (similar RAL 9010)



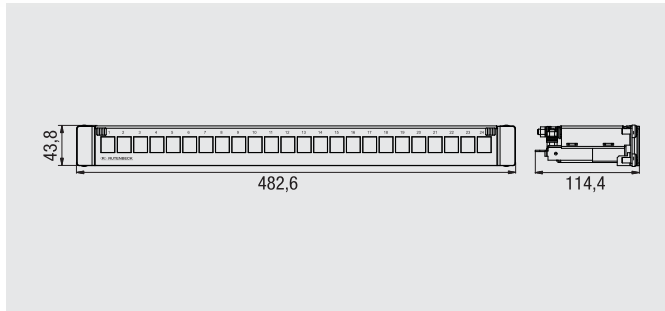
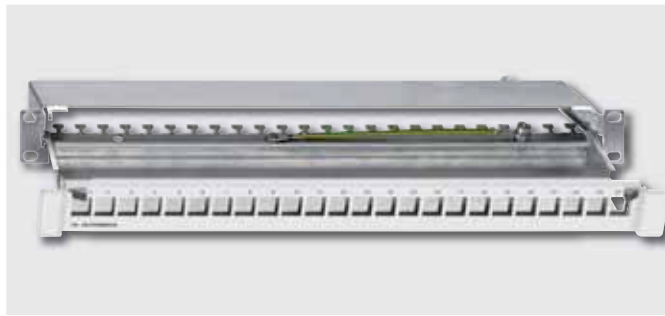
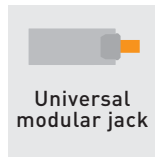
UA
392 000 02 ●
Universal wire stripping tool;
for data cable Ø 2–10 mm,
shielded or unshielded;
functions: cutting and stripping
of round and flat cables;
110 x 50 x 12 mm; 45 g

Accessory for
UM-Cat.6A iso,
UMflex-Cat.6A iso,
shielded



EPS
392 000 03 ●
Electronic-precision-cutting tool;
155 x 95 x 15; 80 g

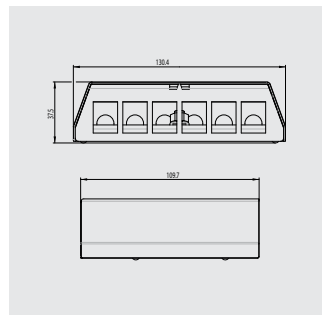
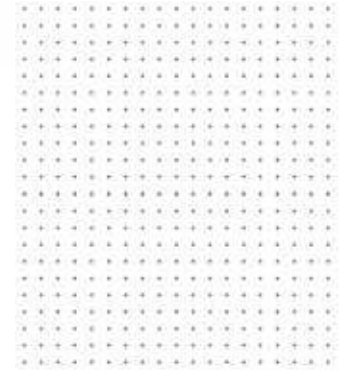
Patch panel for holding universal modular jacks



PP-UM A-24/1

239 000 000 ●

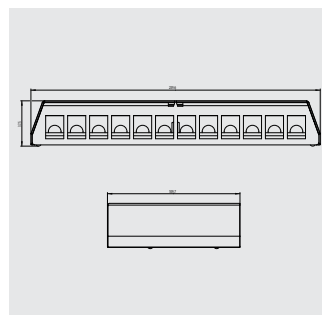
Patch panel holding up to 24 universal modular jacks UM-Cat.6A iso A, UM-real.Cat.6 U A and KMK-keystone modules; with slide-in unit; 19"/1 U; front color: light grey (similar RAL 7035); 483 x 44 x 114 mm; 990 g



PP-UM A-6 Ap

239 101 06 ●

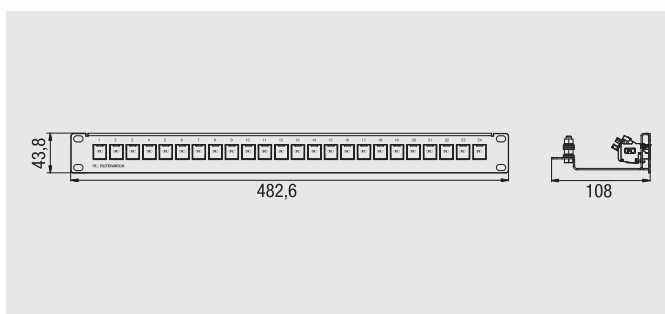
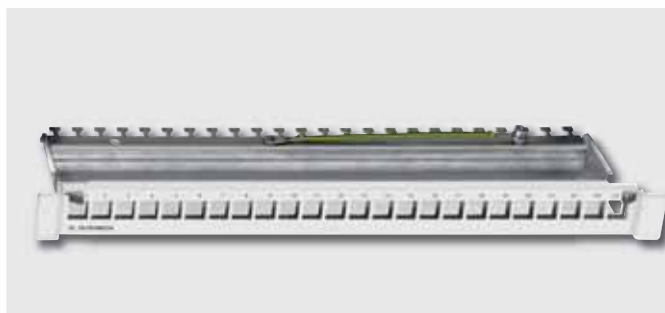
Patch Panel for holding up to 6 universal modular jacks UM-Cat.6A, UM-real.Cat.6 U and KMK-keystone modules, for desktop- or wall mounting, Din-rail mounting with DIN-rail mounting adapter 221 012, fully shielded, stable metal design quick mounting with latching lid light grey (similar RAL7035) 131 x 38 x 110 mm ; 405 g



PP-UM A-12 Ap

239 101 16 ●

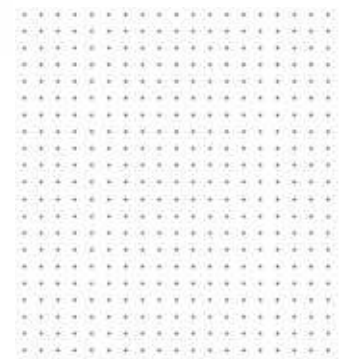
Patch Panel for holding up to 12 universal modular jacks UM-Cat.6A, UM-real.Cat.6 U and KMK-keystone modules, for desktop- or wall mounting, Din-rail mounting with DIN-rail mounting adapter 221 012, fully shielded, stable metal design quick mounting with latching lid light grey (similar RAL7035) 240 x 38 x 110 mm ; 710 g



PP-UM A-24/1 basic

239 000 00 ●

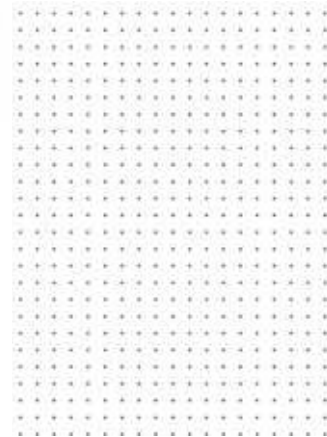
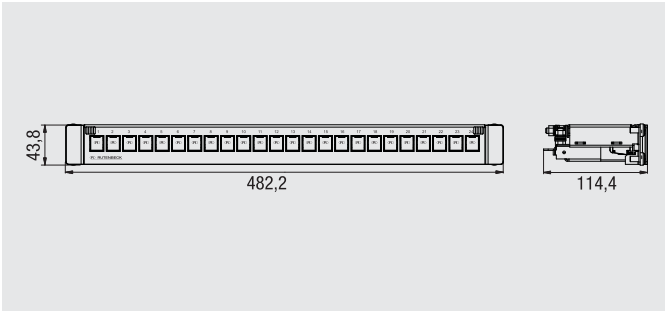
Patch panel holding up to 24 universal modular jacks UM-Cat.6A iso A, UM-real.Cat.6U A and KMK-keystone modules; for direct mounting; 19"/1 U; front color: light grey (similar RAL 7035); 483 x 44 x 108 mm; 1100 g



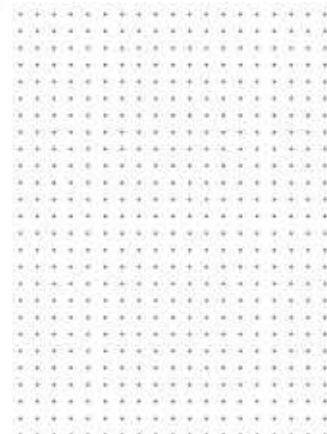
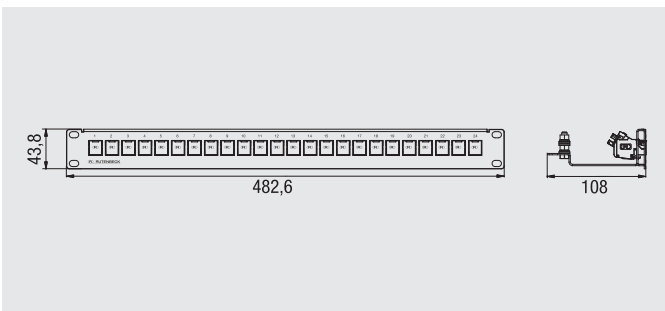


PP-UM-Cat.6A iso-24/24/1
 239 102 000 ●
 Patch panel with 24 universal modular jacks UM-Cat.6A iso A; with slide-in unit; 19"/1 U; front color: light grey (similar RAL 7035); 483 x 44 x 114 mm; 1800 g

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



PP-UM-Cat.6A iso-24/24/1 basic
 239 101 000 ●
 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



Consolidation point



CP-UM A-12 Ap
239 101 12 ●
 Consolidation point holding up to 12 universal modular jacks UMCat. 6A iso A, UM- real.Cat.6 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

Accessories for PP-UM



PP-BK
239 100 01 ●
 Sealing cover for PP-UM-openings; mousegrey (similar RAL 7005); 16 x 18 mm; 0,32 g



PP-SSK grey
235 100 02 ●
 Retrofitting dust cover for patch panel in basic-design and for all universal modular jacks from Rutenbeck; grey (similar RAL 7005); 14 x 16 mm; 1 g

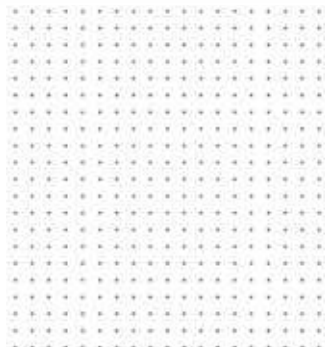
PP-SSK red
235 100 03 ●
 red (similar RAL 3000)

PP-SSK yellow
235 100 04 ●
 yellow (similar RAL 1021)

PP-SSK blue
235 100 05 ●
 blue (similar RAL 5015)

PP-SSK green
235 100 06 ●
 green (similar RAL 6016)

PP-SSK rw
235 100 07 ●
 pure white (similar RAL 9010)





PK Cat.6A iso 0,5 m grey
 215 000 05 ●
 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
 215 000 10 ●
 1000 mm; 85 g

PK Cat.6A iso 2,0 m grey
 215 000 20 ●
 2000 mm; 170 g

PK Cat.6A iso 3,0 m grey
 215 000 30 ●
 3000 mm; 255 g

PK Cat.6A iso 5,0 m grey
 215 000 50 ●
 5000 mm; 425 g

PK Cat.6A iso 10,0 m grey
 215 000 00 ●
 10000 mm; 850 g

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

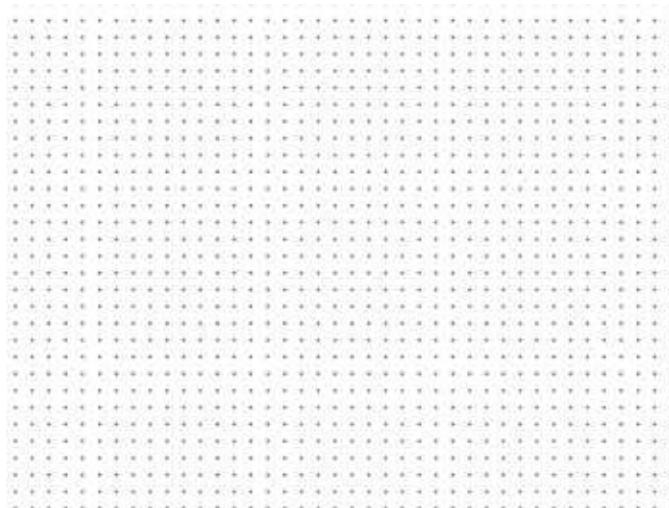


UA
 392 000 02 ●
 Universal wire stripping tool;
 for data cable Ø 2–10 mm,
 shielded or unshielded;
 functions: cutting and stripping
 of round and flat cables;
 110 x 50 x 12 mm; 45 g

Accessory for
 PP-UM



EPS
 392 000 03 ●
 Electronic-precision-cutting tool;
 155 x 95 x 15; 80 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 constructions 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

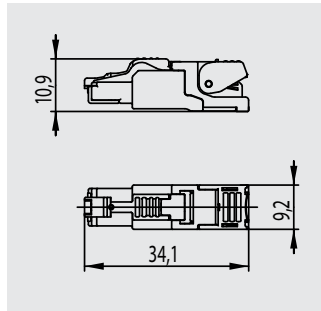
- for solid wires
AWG 24/1 – AWG 22/1
(0,51 – 0,64mm)

- for stranded wires
AWG 27/7 – AWG 22/7
(0,46 – 0,76mm)

- 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
139 003 20 ●
Cat. 6A iso- universal plug, RJ 45, shielded, for field assembly, without special tools, for solid wires: AWG 24/1 – AWG 22/1, for stranded wires: AWG 27/7 – AWG 22/7, TIA/EIA 568B, 49 x 14 17 mm; 22g



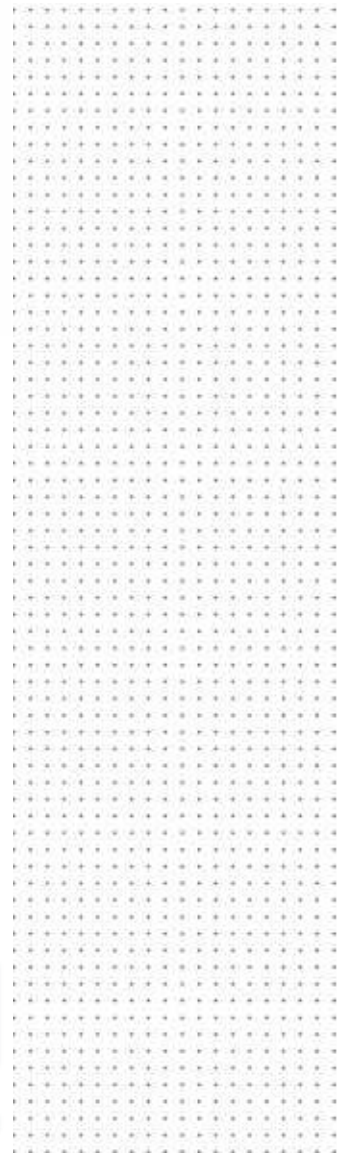
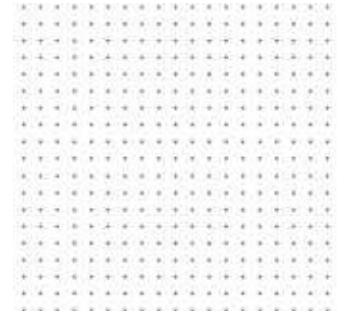
Universal plug
US Cat.6A iso



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

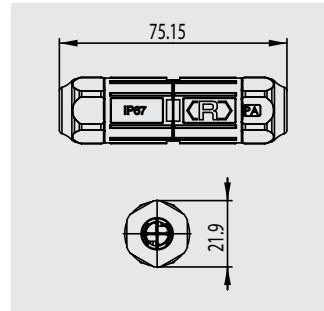
Class F_A-universal connection module from Rutenbeck comply fully to the current highest data transmission product requirements according to ISO/IEC 11801. Therefore, data rates up to 10 Gbit/s are no problem. Furthermore, the requirements for PoE+ are also fulfilled.

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 – 0,64mm)
- for stranded wires AWG 27/7 – AWG 22/7 (0,46 – 0,76mm)
- 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



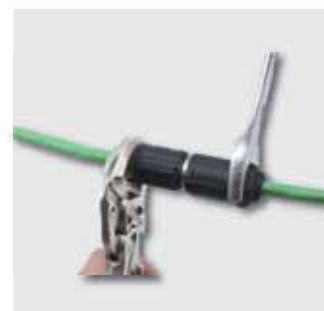
UV-Class FA
139 003 30 ●
Class F_A-universal connection module, shielded, insulated construction, for field assembly, without special tools, for solid wires: AWG 24/1 – AWG 22/1, for stranded wires: AWG 27/7 – AWG 22/7, 75 x 22 (ø) mm; 56 g



Universal connection module Class F_A



Few pre-assembled parts, suitable for construction sites



Assembly without special tools



CONNECTION TECHNOLOGY DSL

UTP – Cat.3 DSL- jacks

Cat.3 jacks are suitable for many network applications with data transmission rates up to 16 Mbit/s i.e. installation/retro-fitting of DSL-applications

The design provides 8 contacts and screw terminals for each outlet.

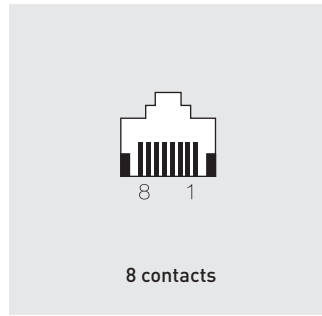
The contact material of the outlets is made of spring bronze and is hard gold plated in the contact area.

Product advantages:

- simple connection via screw terminals
- suitable for PoE+
- RJ11/12-protected against mismatching
- minimum 2500 insertion cycles
- for combination with design wall plates (UAE) of all well-known manufacturer of electrical installation material
- 100% quality-proof
- 25 years warranty
- made and tested in Germany

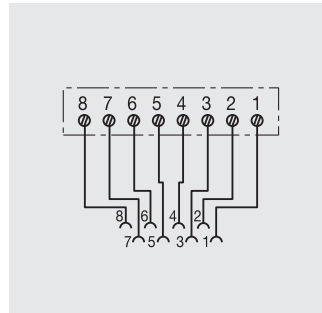


Cat.3 single-jacks,
with screw terminals



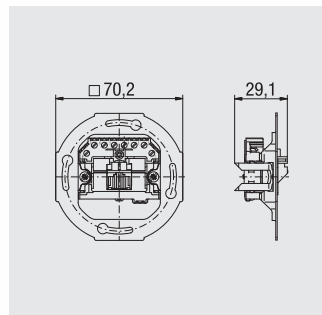
UAE 8 (8) Ap
130 101 06 ●
 8-way; 8 screw terminals;
 pearl white (similar RAL 1013);
 65 x 80 x 26 mm; 39 g

UAE 8 (8) Ap rw
130 101 29 ●
 pure white (similar RAL 9010)

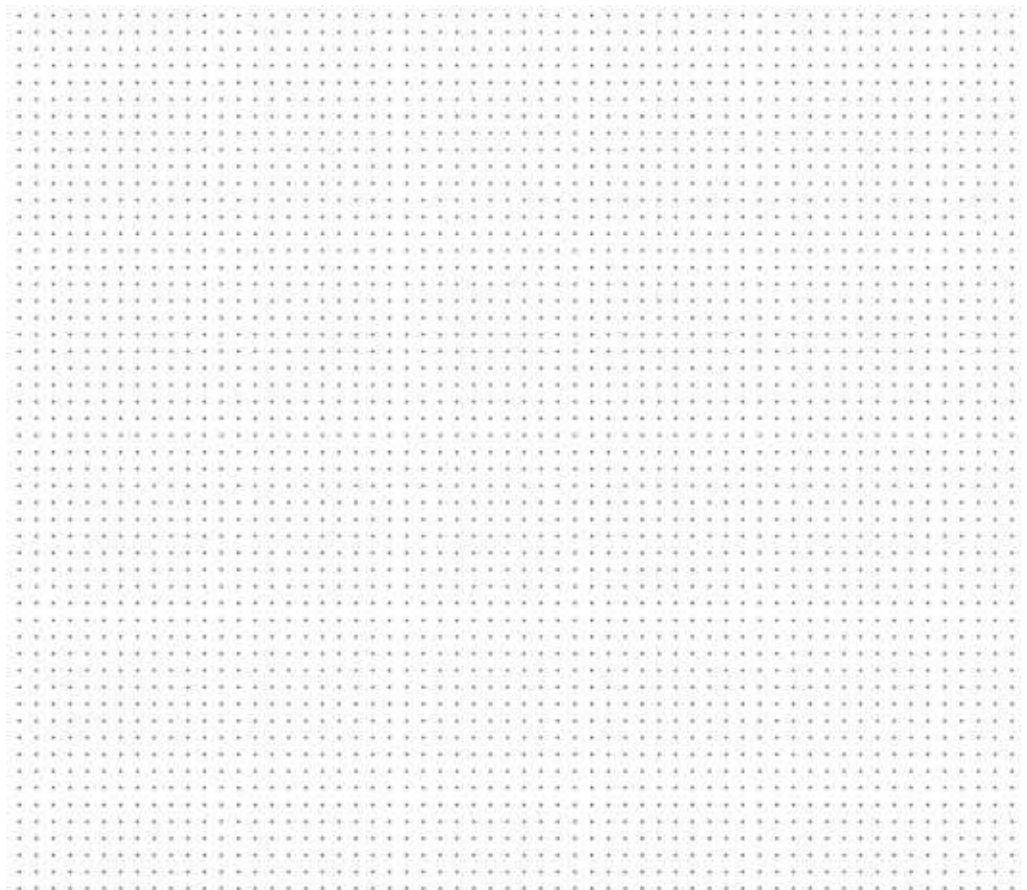


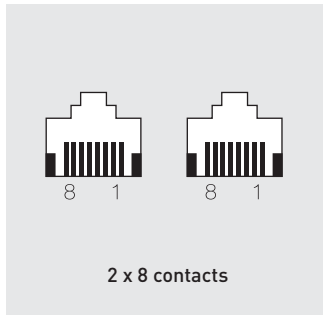
UAE 8 (8) Up
130 102 10 ●
 8-way; 8 screw terminals;
 with center plate and wall plate;
 with spreading claws;
 pearl white (similar RAL 1013);
 80 x 80 x 31 mm; 59 g

UAE 8 (8) Up rw
130 102 45 ●
 pure white (similar RAL 9010)



UAE 8 (8) Up 0
130 104 07 ●
 8-way; 8 screw terminals;
 with spreading claws;
 70 x 70 x 29 mm; 44 g

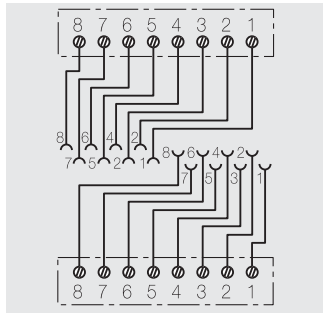




UAE 8/8 (8/8) Ap
130 101 10 ●
2 x 8-way; 2 x 8 screw terminals;
pearl white (similar RAL 1013);
65 x 80 x 26 mm; 44 g

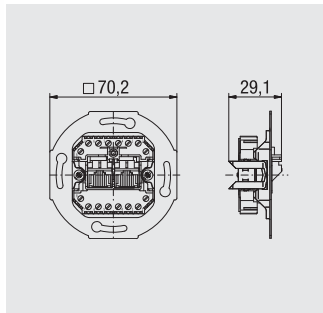
UAE 8/8 (8/8) Ap rw
130 101 31 ●
pure white (similar RAL 9010)

Cat.3 double-jacks
for two connections,
with screw terminals

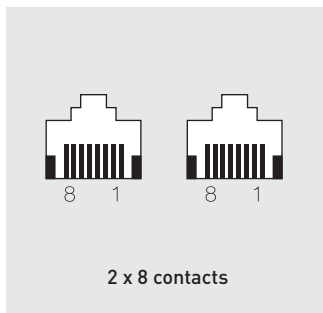


UAE 8/8 (8/8) Up
130 102 14 ●
2 x 8-way; 2 x 8 screw terminals;
with center plate and wall plate;
with spreading claws;
pearl white (similar RAL 1013);
80 x 80 x 31 mm; 66 g

UAE 8/8 (8/8) Up rw
130 102 47 ●
pure white (similar RAL 9010)



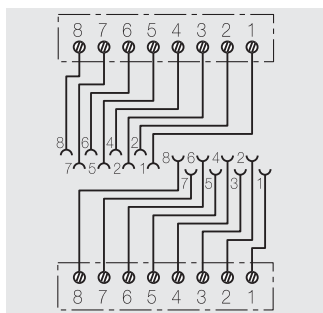
UAE 8/8 (8/8) Up 0
130 104 22 ●
2 x 8-way;
2 x 8 screw terminals;
with spreading claws;
70 x 70 x 29 mm; 40 g



UAE 8/8 (8/8) LSA Ap
130 101 12 ●
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
130 111 12 ●
pure white (similar RAL 9010)

Cat.3 double-jacks
for two connections
with LSA-terminals



UAE 8/8 (8/8) LSA Up
130 102 16 ●
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
130 112 16 ●
pure white (similar RAL 9010)

DATA TECHNOLOGY

unshielded (UTP)

World-wide there is a large 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
real.Cat.6 U and Cat.5e U
page 46



Compact connection
technique, patch panel
real.Cat.6 U and Cat.5e U
page 42



Modular connection
technique real.Cat.6 U
page 48



Modular connection technique,
unshielded, construction kit
system page 52



UTP – real.Cat.6 U and Cat.5e U, compact-jacks and patch panel, unshielded, for generic networks

Unshielded data processing products of Category 6 and Category 5e 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 24–22)
- for combination with design wall plates (UAE) of all well-known manufacturers of electrical installation
- de-embedded-tested
- re-embedded-tested
- 100% quality-proof
- 25 years guarantee
- made and tested in Germany
- suitable for PoE+

High performance assets

Unshielded real.Cat.6-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 real Cat.6-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

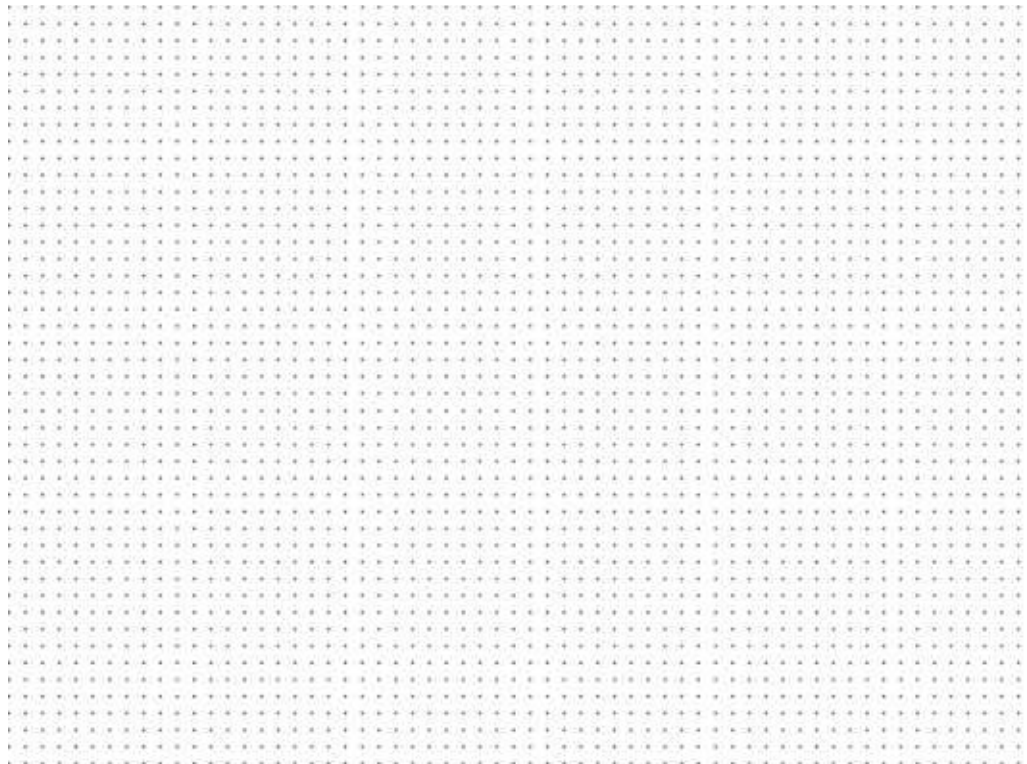
The patch panel represents the central connecting hardware of a network installation. In combination with the universal jacks, it enables the perfect setup of a structured cabling with optimal coordinated products.

High quality material guarantee for safe installation and data transmission.

The slide-in unit can be tilted and allows an easy installation of cables and connection of the wires. Additional mounting supports are not necessary.

Testing and later expansions can be done fast and easy.

The slide-in unit will be fixed with two quick locks to the housing. It can also be removed.



Technical data for unshielded real.Cat.6-U- and Cat.5e-U-connecting hardware

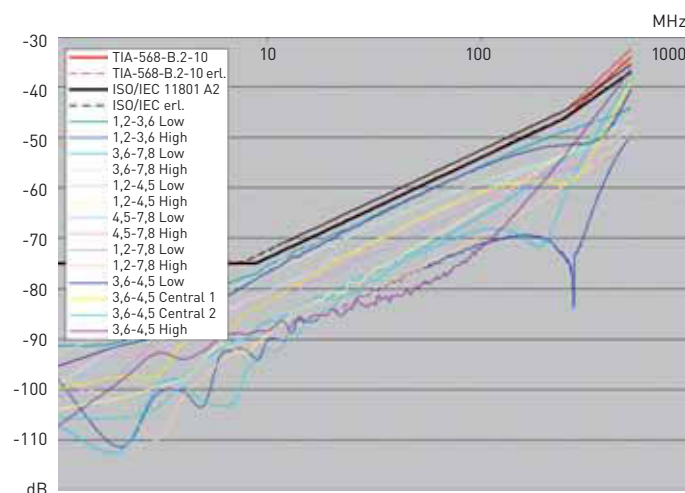
Mechanical characteristics	
General	
Housing	ABS, unshielded
Ambient temperature	-40 °C to +70 °C
Class according to EN 60 529	IP21
Connector/outlet real.Cat.6 U and Cat.5e U	
Design real.Cat.6A U	DIN EN 60603-7-41:2011-01
Design Cat.5e U	DIN EN 60603-7-2:2011-03
Connection technique	LSA-terminals for 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 real.Cat.6A U	flexible printed circuit board made of polyimid with mechanical spring elements (patented)
Assembly Cat.5e U	universal outlet for 6-way and 8-way plugs (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 real.Cat.6 U and Cat.5e 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 real.Cat.6 U	
ISO/IEC 11801:2011-06	Cat.6A, Class EA, unshielded
DIN EN 50173:2011-09	
DIN EN 60603-7-41:2011-01	500 MHz, unshielded
TIA/EIA-568-B.2-10 2008	Augmented Category 6 (Cat.6A/Class EA), unshielded

Transmission characteristics Cat.5e U	
ISO/IEC 11801:2002	Category 5/Class D, unshielded
DIN EN 50173:2011-09	
DIN EN 60603-7-2:2011	100 MHz, unshielded
TIA/EIA-568-B.2-2001	Category 5e, unshielded

Test- and approval marks



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

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

Overview compact components Cat.5e U, unshielded

Compact components
Cat.5e U

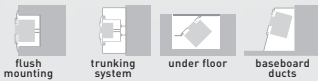


Cat.5e-U-Universal data jacks for generic networks



surface mounting

	Ap rw*	
1-way	132 115 01	●
2-way	132 115 03	●



flush mounting trunking system under floor baseboard ducts

	Up rw*	
1-way	132 112 01	●
2-way	132 112 05	●



Up 0

	UP 0	
1-way	132 104 01	●
2-way	132 104 05	●

patch panel for generic networks (24 Ports), with slide-in unit








Cat.5e U

	PP-24/1 U	
24-way	232 101 000	●

patch panel; 19"/1 U; slide-in-unit

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

Overview compact components real.Cat.6 U, unshielded													
<p>Compact components real.Cat.6 U</p>	<p>real.Cat.6 U</p>  <p>real.Cat.6-U-Universal data jacks for generic networks</p>												
 <p>surface mounting</p>	<table border="1"> <thead> <tr> <th colspan="2">Ap rw*</th> </tr> </thead> <tbody> <tr> <td>1-way</td> <td>134 115 01 ●</td> </tr> <tr> <td>2-way</td> <td>134 115 03 ●</td> </tr> </tbody> </table>	Ap rw*		1-way	134 115 01 ●	2-way	134 115 03 ●						
Ap rw*													
1-way	134 115 01 ●												
2-way	134 115 03 ●												
 <p>flush mounting trunking system under floor baseboard ducts</p>  <p>Up 0</p>	<table border="1"> <thead> <tr> <th colspan="2">Up rw*</th> </tr> </thead> <tbody> <tr> <td>1-way</td> <td>134 112 01 ●</td> </tr> <tr> <td>2-way</td> <td>134 112 05 ●</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="2">UP 0</th> </tr> </thead> <tbody> <tr> <td>1-way</td> <td>134 104 01 ●</td> </tr> <tr> <td>2-way</td> <td>134 104 05 ●</td> </tr> </tbody> </table>	Up rw*		1-way	134 112 01 ●	2-way	134 112 05 ●	UP 0		1-way	134 104 01 ●	2-way	134 104 05 ●
Up rw*													
1-way	134 112 01 ●												
2-way	134 112 05 ●												
UP 0													
1-way	134 104 01 ●												
2-way	134 104 05 ●												
<p>patch panel for generic networks (24 Ports), with slide-in unit</p> 	<p>real.Cat.6 U</p> <table border="1"> <thead> <tr> <th colspan="2">PP-24/1 U</th> </tr> </thead> <tbody> <tr> <td>24-way</td> <td>234 101 000 ●</td> </tr> </tbody> </table> <p>patch panel; 19"/1 U; slide-in-unit</p>	PP-24/1 U		24-way	234 101 000 ●								
PP-24/1 U													
24-way	234 101 000 ●												

UTP – real.Cat.6 U

Modular connection technique, unshielded, for generic networks

Universal modular jacks – professional and 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 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.

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 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
- 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
- de-embedded-tested
- re-embedded-tested
- 100% quality-proof
- 25 years warranty
- made and tested in Germany
- suitable for PoE+

High performance assets

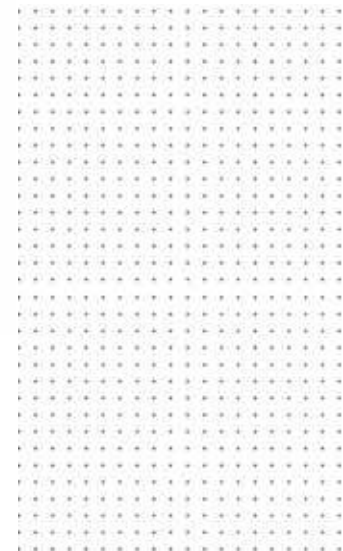
Unshielded real.Cat.6-U-Universal modules from Rutenbeck comply to the data transmission product requirements according to EIA/TIA as well as with the requirements on the transmission channel according to EIA/TIA and ISO/IEC for 500 MHz bandwidth (10 Gbit/s). Furthermore, PoE+ (Power over Ethernet) is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

„Made and tested“ in Germany

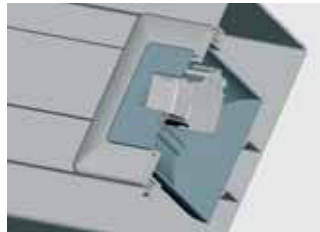
Rutenbeck products are being produced at a very high technological level. They have to pass in Germany a very strict quality tests. For the fulfillment of all performance parameters, Rutenbeck grants 25 years guarantee for these universal modular components!



Universal modular jack



Installations in different environments



trunking system



under floor

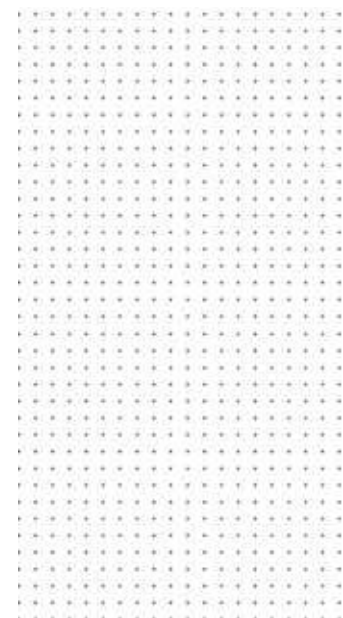
The 30°-cable entry of the universal modular jack prevents the data cable from touching the backside of the mounting box too soon. The cable can be laid without unacceptable kinks or too small bend radiuses.

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 unshielded
UM-real.Cat.6-U-connecting
hardware

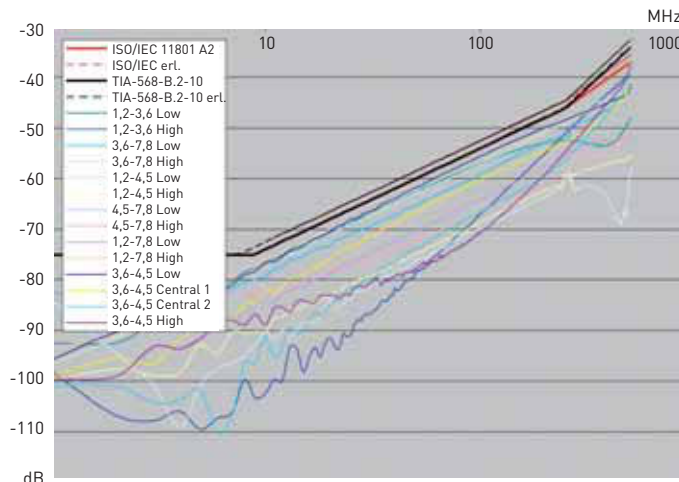


Mechanical characteristics	
General	
Housing	ABS, unshielded
Ambient temperature	-40 °C to +70 °C
Class according to EN 60529	IP21
Connector/outlet	
Design	DIN EN 60603-7-41:2011-01
Connection technique	
Solid wire	IDC terminals for wires Ø 0.51–0.64 mm, AWG 24–22, outer diameter 0.7–1.6 mm at PE, 1 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 11801:2011-06	Cat.6A, Class EA, unshielded
DIN EN 50173-1:2011-09	
DIN EN 60603-7-41:2011-01	500 MHz, unshielded
TIA/EIA-568-B.2-10 2008	Augmented Category 6 (Cat.6A/Class EA), unshielded

Test- and approval marks



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

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

Overview unshielded modular components (construction kit system)													
<p>Modular connecting hardware, real.Cat.6 U</p> <p>Accessory</p>	<p>real.Cat.6 U</p>  <p>Universal-modul jack</p> <p>UM-real.Cat.6 U A 137 003 00</p> <p>Universal modular jack; suitable for standard Keystone openings</p>												
 <p>flush mounting</p>  <p>trunking system</p>  <p>under floor</p>  <p>trunking system</p>  <p>under floor</p>	<table border="1"> <tr> <td colspan="2">UM-UMA 2 Up</td> </tr> <tr> <td>2-way</td> <td>139 000 04 ●</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</td> </tr> <tr> <td>2-way</td> <td>139 000 01 ●</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>139 000 02 ●</td> </tr> </table> <p>Flush mounting adapter; without universal modular jacks</p>	UM-UMA 2 Up		2-way	139 000 04 ●	UM-MA 2 Up		2-way	139 000 01 ●	UM-MA 3 Up		3-way	139 000 02 ●
UM-UMA 2 Up													
2-way	139 000 04 ●												
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2-way	139 000 01 ●												
UM-MA 3 Up													
3-way	139 000 02 ●												
 <p>surface mounting</p>	<table border="1"> <tr> <td colspan="2">UMflex-ApG rw*</td> </tr> <tr> <td>3-way</td> <td>139 115 01 ●</td> </tr> </table> <p>Surface mounting housing; without universal modular jacks; cable entry only from top</p>	UMflex-ApG rw*		3-way	139 115 01 ●								
UMflex-ApG rw*													
3-way	139 115 01 ●												
 <p>DIN-rail</p>	<table border="1"> <tr> <td colspan="2">UM-MA REG</td> </tr> <tr> <td>1-way</td> <td>139 000 03 ●</td> </tr> </table> <p>DIN-rail mounting adapter; 1 TE; without universal modular jack</p>	UM-MA REG		1-way	139 000 03 ●								
UM-MA REG													
1-way	139 000 03 ●												
 	<table border="1"> <tr> <td colspan="2">PP-UM A-24/1</td> </tr> <tr> <td>24-way</td> <td>239 000 000 ●</td> </tr> </table> <p>patch panel; 19"/1 U; slide-in-unit; without universal modular jacks</p> <table border="1"> <tr> <td colspan="2">PP-UM A-24/1 basic</td> </tr> <tr> <td>24-way</td> <td>239 000 00 ●</td> </tr> </table> <p>patch panel; 19"/1 U; for direct mounting; without universal modular jacks</p>	PP-UM A-24/1		24-way	239 000 000 ●	PP-UM A-24/1 basic		24-way	239 000 00 ●				
PP-UM A-24/1													
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PP-UM A-24/1 basic													
24-way	239 000 00 ●												
 <p>surface mounting</p>  <p>surface mounting</p>	<table border="1"> <tr> <td colspan="2">PP-UM A-6 Ap</td> </tr> <tr> <td>6-way</td> <td>239 101 06 ●</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>239 101 16 ●</td> </tr> </table> <p>surface mounting-patch panel; without universal modular jacks</p> <table border="1"> <tr> <td colspan="2">CP-UM A-12 Ap</td> </tr> <tr> <td>12-way</td> <td>239 101 12 ●</td> </tr> </table> <p>Consolidation point; without universal modular jacks</p>	PP-UM A-6 Ap		6-way	239 101 06 ●	PP-UM A-12 Ap		12-way	239 101 16 ●	CP-UM A-12 Ap		12-way	239 101 12 ●
PP-UM A-6 Ap													
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PP-UM A-12 Ap													
12-way	239 101 16 ●												
CP-UM A-12 Ap													
12-way	239 101 12 ●												

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

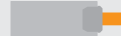
Overview unshielded modular components (construction kit system)

Modular connecting hardware, real.Cat.6 U

Accessory



real.Cat.6 U



Universal modular jack

UM-real.Cat.6 U A
 137 003 00

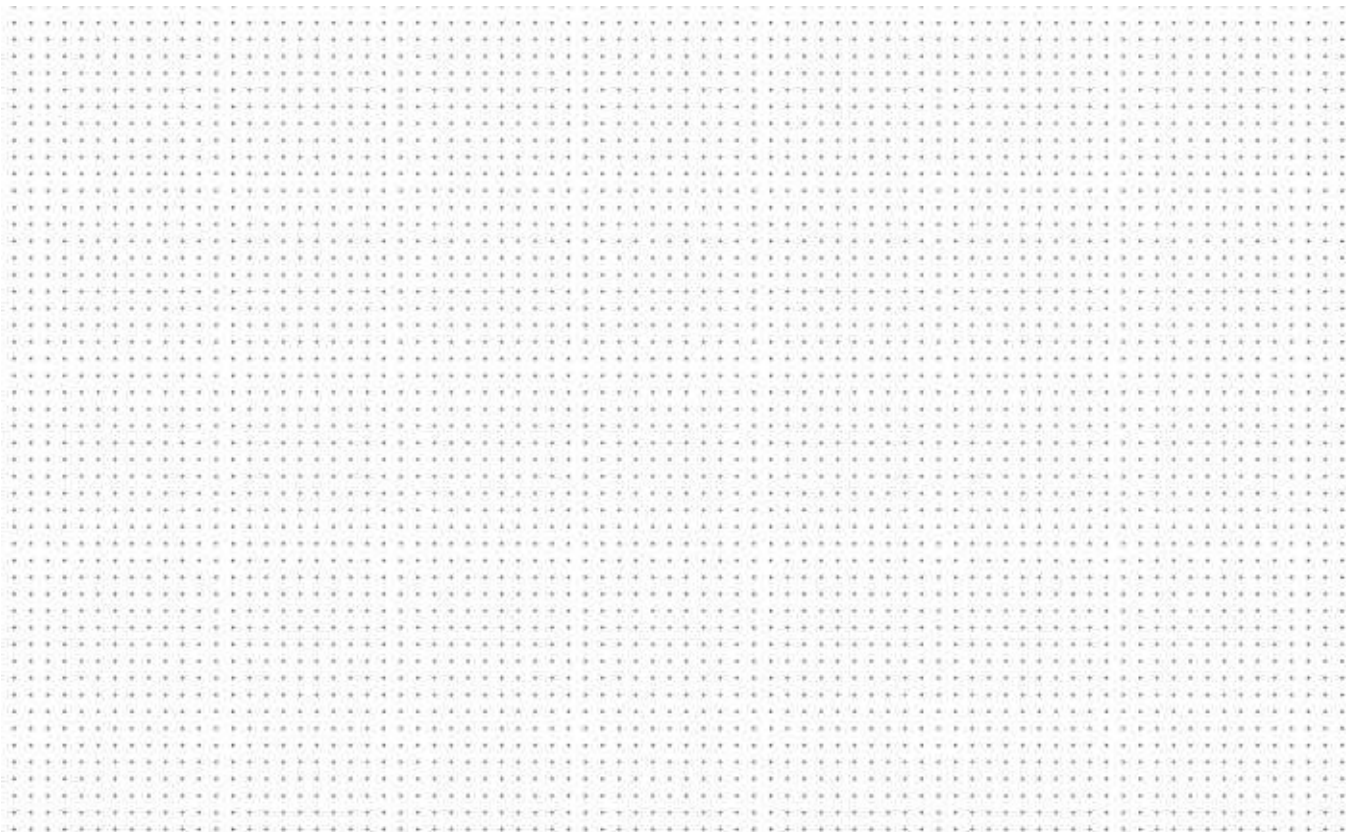
Universal modular jack; suitable for standard Keystone openings



	Ap	Ap rw*
for center plate 2-way a. 3-way	100 100 01 ●	100 100 51 ●
	Wall plate	

	ZSt UM-MA 2	ZSt UM-MA 2 rw*
2-way	139 100 03 ●	139 100 53 ●
	Center plate	

	ZSt UM-MA 3	ZSt UM-MA 3 rw*
3-way	139 100 02 ●	139 100 52 ●
	Center plate	



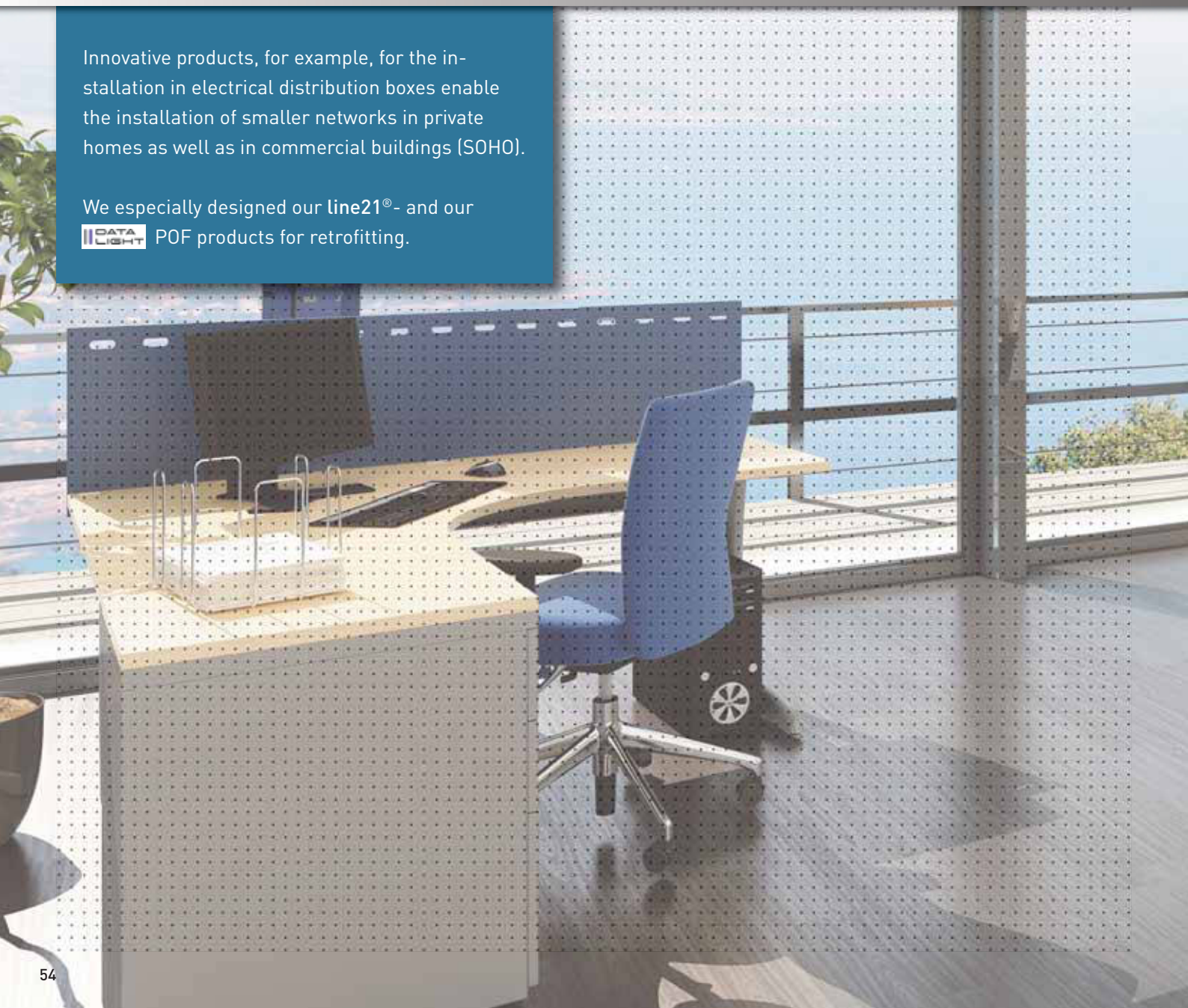


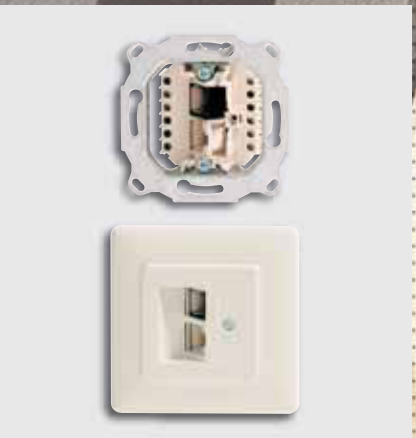
DATA TECHNOLOGY

SOHO and special solutions

Innovative products, for example, for the installation in electrical distribution boxes enable the installation of smaller networks in private homes as well as in commercial buildings (SOHO).

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





AC WLAN

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

WLAN – efficient and exactly as needed

The flush-mounting WLAN-Accesspoint offers an excellent alternative to meet the requirements for modern network infrastructures according to DIN 18015-2 and RAL RG 678 without sacrificing the flexible use of modern mobile technologies such as tablet PCs or laptops or limit the wireless data rates. In addition, the AC WLAN works like a normal wireless data outlet with an RJ45 jack for a conventional data terminal device (data rate of 100 Mbit/s). The power supply is directly over 230 V at the back of the unit. The AC WLAN is connected with the local data network via conventional copper data cable or via polymer optical fiber (POF).

The WLAN range can be adapted and limited to the conditions of the area. This creates powerful area radio cells, which ensure max. bandwidth within the area while working with low power consumption and low radiation.

Traditional WLAN-Accesspoints try to reach as many points in an object by using the highest possible output power. In addition to the high-energy requirement and increased radio emission for such solutions, this leads to delineation problems of the accesspoints with each other and thus to overcoupling of the WLAN areas and reduced data rates.

The Technology

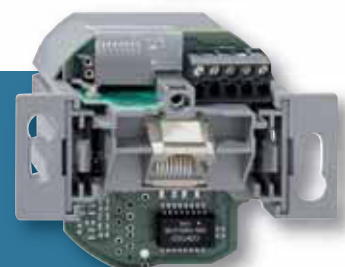
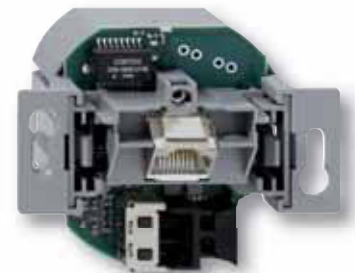
The Rutenbeck WLAN-Accesspoint is the world's first that fits into a commercial flush-mount installation box and is compatible with all the design programs of well-known switch manufactures.

PoE for retro-fitting

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

Application examples:

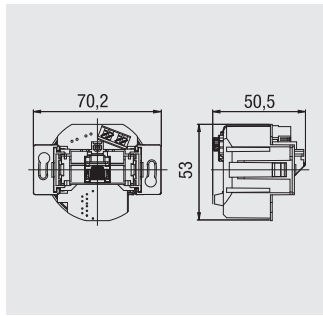
- Securely connects mobile devices in residential areas (iPad, netbooks, etc.)
- Connects stationary devices without cable (media players, TVs, IP cameras, etc.)
- WLAN retrofitting of existing network cable installation
- Reduces radio interference and radio emissions in the transmission area



Product advantage details:

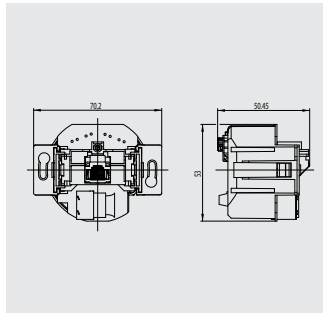
- wireless data rate: 150 Mbit/s
- wireless standards: IEEE 802.11 b/g/n
- security and encryption: WEP, WPA, WPA2
- types of function: Access point, repeater, bridge
- settings in integrated web server
- additional data output via RJ45 jack (100 Mbit/s)
- power supply: 230 V, 50 Hz or PoE (class 0)
- power consumption: ≤ 3 W
- integrated WLAN-antenna
- fits in commercial flush-mount installation boxes
- with copper or POF connector
- design compatible with design programs of well-known switch manufactures
- time switching- or timer function for LAN/WLAN
- indication of function LAN/WLAN at RJ45-outlet
- reset in built-in state with reset magnet

NEW!

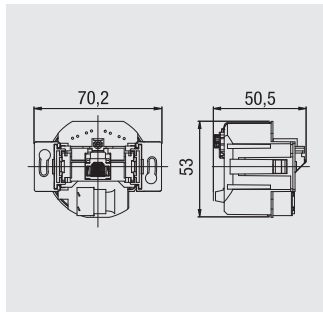


AC WLAN UAE Up rw
226 104 03 ●
 Flush mounting WLAN-Accesspoint;
 with center plate and wall plate;
 150 Mbit/s; 802.11 b/g/n;
 WEP/WPA2; operating mode as
 well as bridge, repeater;
 integrated data outlet (RJ45)
 100 Mbit/s; screw terminals
 network connection; rated
 operating voltage 100-240 V- /
 50-60 Hz, 3 VA typical;
 pure white (similar RAL 9010);
 80 x 80 x 50 mm; 112 g

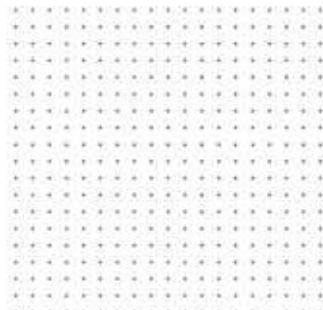
WLAN-Accesspoint
 AC WLAN



AC WLAN UAE PoE Up rw
226 104 06 ●
 Flush mounting WLAN-Accesspoint;
 With center plate and wall plate;
 150Mbit/s, 802.11 b/g/n;
 WEP/WPA2; operating mode as
 well as bridge, repeater;
 With timer- and time switching
 function; Indication of function at
 RJ45-outlet; Reset with reset
 magnet; Integrated data outlet
 (RJ 45); 100Mbit/s with PoE-feeding
 (class2); 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



AC WLAN POF/UAE
1xUp rw 2,2 mm
226 104 05 ●
 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



RM
392 000 10 ●
 Reset-magnet;
 for AC WLAN
 40 x 17 x 10 mm; 11 g

Components for Small Office- and Home Office-Applications (SOHO)

Increasing requirements in the performance and flexibility of data use and distribution in private homes as well as in commercial building (SOHO) demand new specialized installation solutions.

Now, national and international standards underline these requests with clear guidelines. As stated in the current drafts of the DIN 18 015-2 (minimum provisions for new installations in building), a network connection is required even for the minimum provision of an apartment. Under the aspect of long term maintenance value, this will be a very important issue in the future.

The components in DIN-rail mounting design for new as well as supplementary installations optimize the built-in installations and mounting. Data rates up to 1000 Mbit/s cover the needs of future applications and increase the value of the respective building.

Installation in conventional electrical distribution boxes or compact distribution boxes omit the data cabinets. The often needed additional devices can be embedded central and safely with an optimal optical impression.

Therefore, the requirements in the structural cabling according to EN 50173-1 are fulfilled as well as the requirements of DIN VDE, for example, Insulation Class II.

Active as passive components only need to be installed. The wide range of functions supports the performance without any additional programming or setting of parameters.

Just connect and all is set!

Saving natural resources and environmental protection



All active components will work at the same time with less power consumption. Green-IT-aspects derived from the professional environment will consequently be fulfilled even in smaller applications.

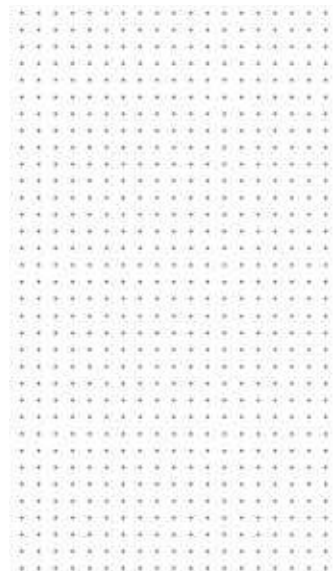


Suitable applications

- PC networking
- connection to Internet of one or several PCs
- telephone (analog/ISDN/ Internet-telephony, voice over IP)
- multimedia-applications (video-, picture-, sound-transmission)

System advantages

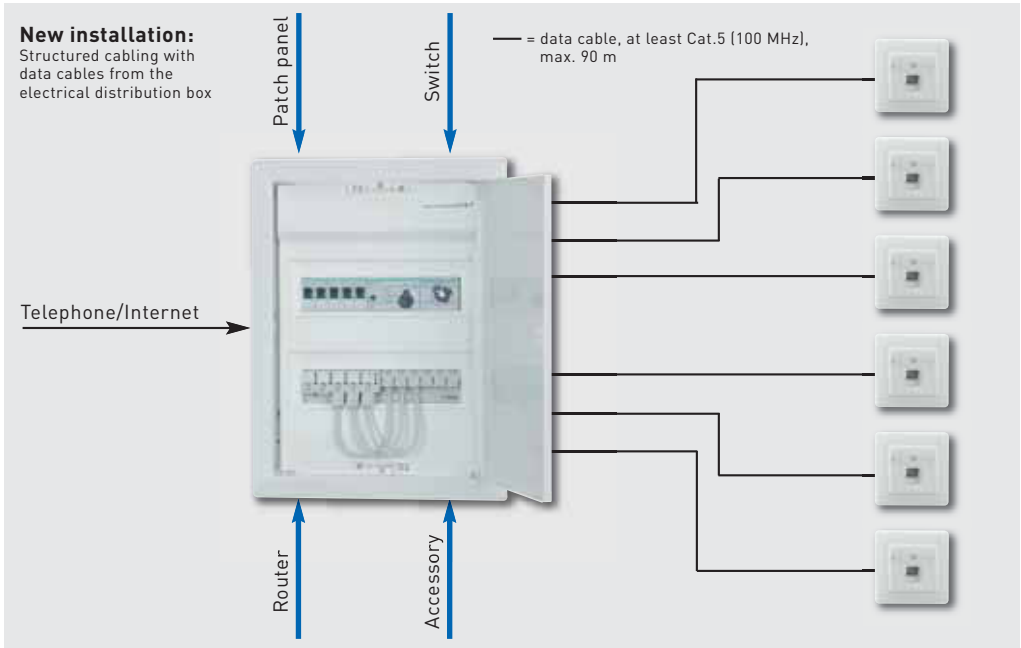
- structured, standard conform solution
- solution for DIN-rail-mounting according to Insulation Class II
- use in conventional installation surroundings
- easy installation and to put into operation
- expandable, if necessary
- compatible with present and future solutions
- "Green IT" – environmental friendly and preserving the natural resources



Nowadays, often like this ...



... and tomorrow maybe like this.

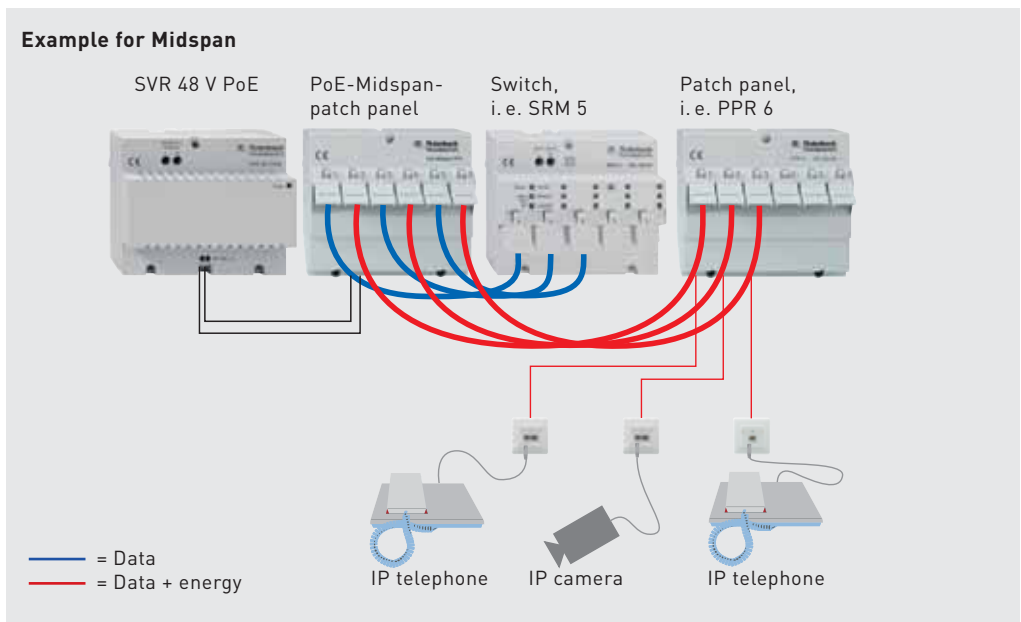


The generic network for new installations according to EN 50 173-4

With new installations, only structures which fulfill all the requirements of future applications should be installed, today. For this reason, a data jack is necessary at all present and not only at places where telephone- or PC applications should be used, but also at places where TV- or video will be used or music will be desired in the future.



The basis of this installation is represented by the central component, the patch panel for mounting on a DIN-rail in combination with our data jacks in compact or modular design.



PoE – data and power from one connection

PoE (Power over Ethernet) is a standardized method to power feed data terminals directly from the network, in addition to the data without influencing any data. The transmission takes place by use of conventional data cables. The data terminals will be connected with RJ45 with 8 contacts, like it always has been.

With this method not only the power feeding cable, respectively, the plug power supply for the terminals can be eliminated, but also the installation effort for the necessary power outlets.

The active system devices
Switch
SRM 5, SRS 5



DIN-rail mounting
switch-construction kit
SRM 5 (master), SRS 5 (slave)

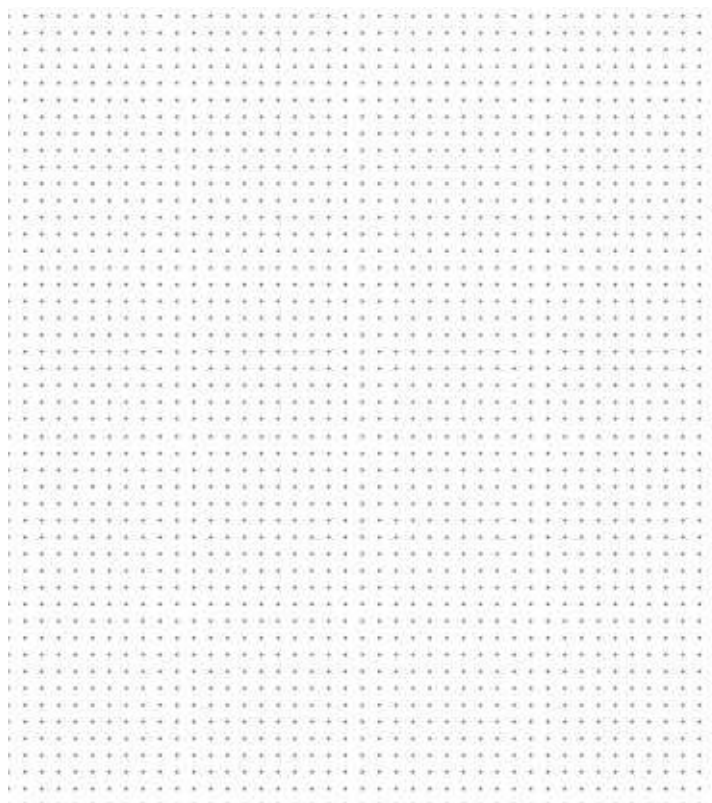
If more than five data-terminals are needed, the DIN-rail mounting switch-construction kit provides the perfect solution. Consisting of a master- and a slave-device, up to ten terminals can be connected. Each device has five front ports. With the interface on the side, master and slave can easily be connected by sliding them together without using a front port. Only the master has to be connected to the power supply. Both devices have a Gigabit-port.

Performance features

- 6 module width each
- 5 x RJ45-ports (slanted outlet)
- Dust cover for the ports
- marked ports
- Protection class IP20 according to EN 60529
- Insulation class II
- integrated power supply (master only)
- LEDs for operation and service function
- cascadable by using front ports

Functional features

- data rate 10/100/1000 Mbit/s
- layer-2-switch
- autosensing
- autonegotiation
- autopartitioning
- full-/halfduplex operation
- MDI/MDIx
- 4096 MAC-adresses
- Store-and-forward-method





**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. The quick and easy cabling, as well as the common space saving connection to power and data network reduces the setup costs considerably. 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 module width
- 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)
- closable ports, dust cover
- Protection class: IP20 according to EN 60529
- Insulation class II

Passive system devices
Midspan patch panel
PPR 6 PoE

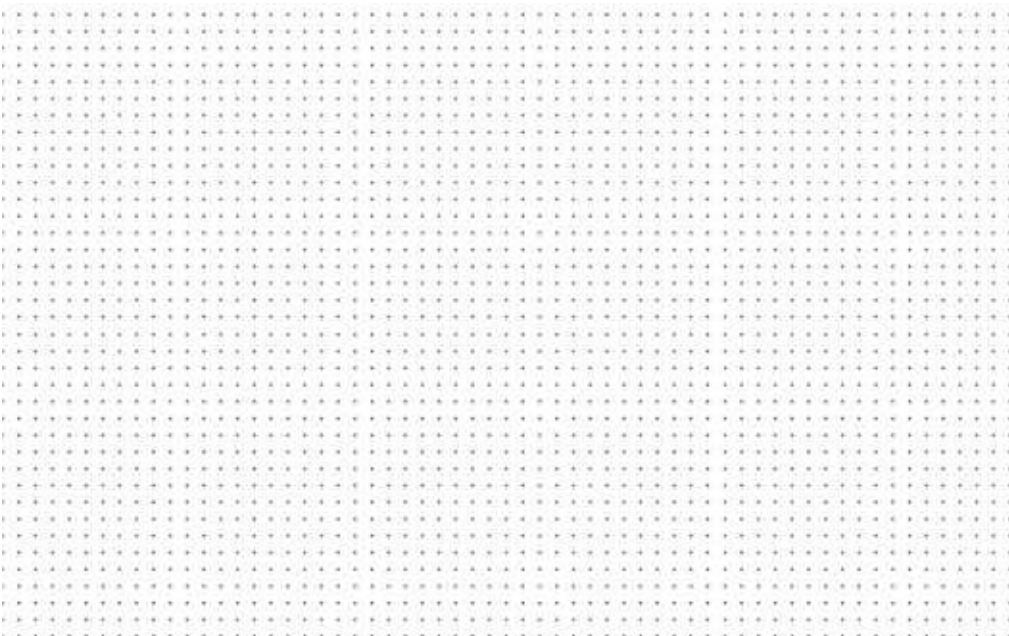


**PoE-Power Supply
SVR 48 V PoE**

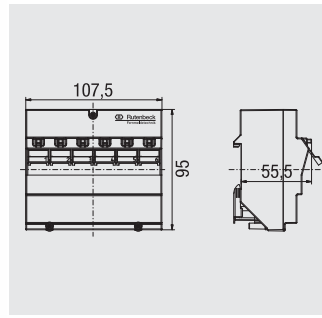
The PoE-power supply is optimal customized for the midspan patch panel PPR 6 PoE. Up to 3 PoE-devices (class 0-3) can be powered from the electrical distribution box. The connection takes place with screw terminals, therefore, the PoE patch panel and power supply can be installed flexible and independently of each other in the electrical distribution box.

Performance features

- 6 module width
- 48-W- PoE-Power
- LED for operation
- Protection class: IP20 according to EN 60529
- Insulation class II

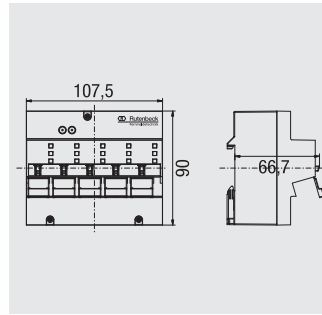


Active und passiv system components for mounting in an electrical distribution box

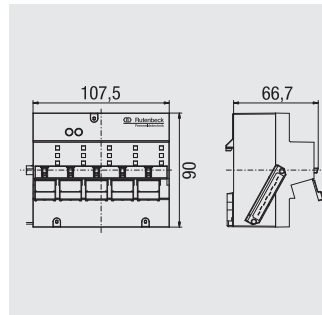


PPR 6*
235 102 00 ●
 Patch panel for DIN-rail mounting; 6 x RJ45-ports, Cat.5e, Class D; suitable for Gigabit-Ethernet; light grey (similar RAL 7035); 108 x 95 x 56 mm = 6 module width; 199 g

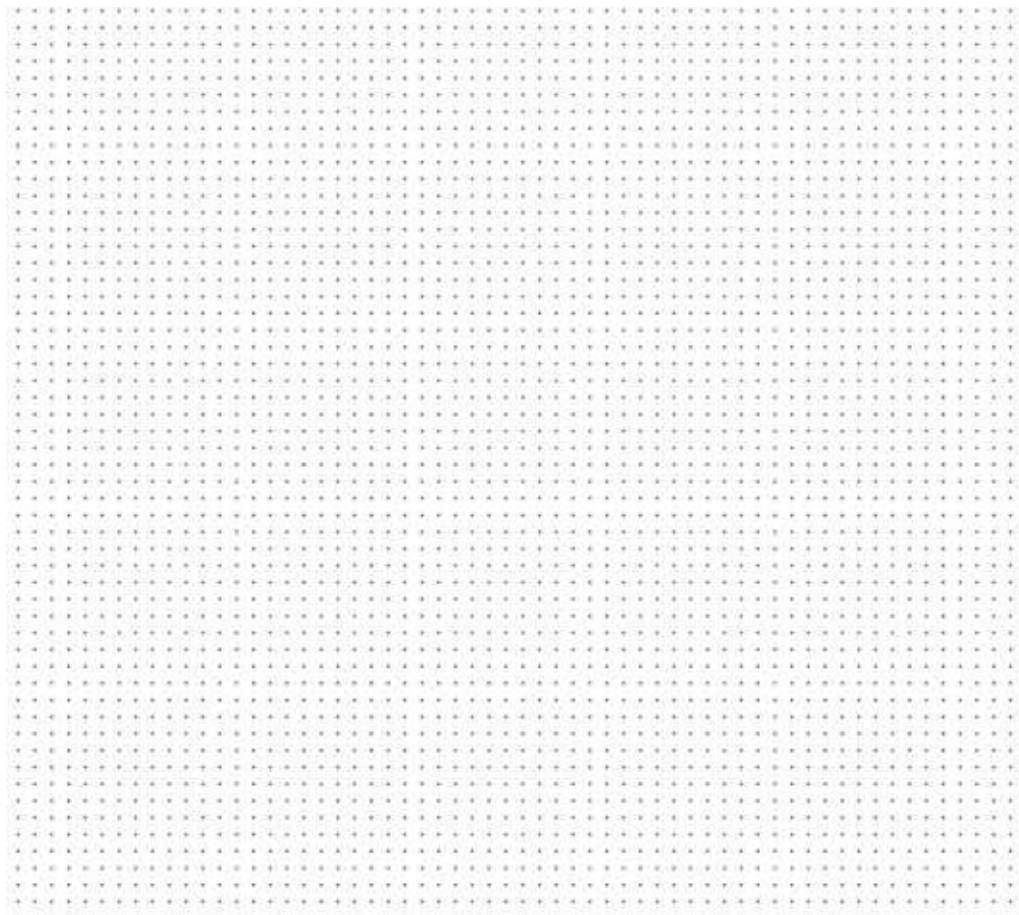
* modular version see page 29



SRM 5
235 105 01 ●
 Switch (Master) for DIN-rail mounting; 5 x RJ45-ports; extendable up to 10 ports with SRS 5; 10/100/1000 Mbit/s; autpartitioning; Nominal operating voltage: 100-240 V~/50-60 Hz; 1.7 VA typ.; light grey (similar RAL 7035); 108 x 90 x 67 mm = 6 module width; 350 g



SRS 5
235 105 02 ●
 Switch (Slave) for DIN-rail mounting; only in connection with SRM 5; 5 x RJ45-ports; 10/100/1000 Mbit/s; autpartitioning; Nominal operating voltage: 100-240 V~/50-60 Hz; 2.0 VA typ. (with SRM 5); light grey (similar RAL 7035); 108 x 90 x 67 mm = 6 module width; 230 g





PPR 6 PoE
235 103 00 ●
 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 56 mm = 6 module width; 190 g

Passiv system components for mounting in an electrical distribution box



SVR 48 V PoE
235 103 01 ●
 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 95 x 56 mm = 6 module width; 300 g



PK 0,35 m
235 102 01 ●
 Patch cord, 0.35 m for connection of DIN-components in the subdistribution; 350 mm; 30 g

PK 0,23 m
235 102 02 ●
 Patch cord; 230 mm; 30 g

Accessory for SOHO-Components



AW 2
392 000 00 ●
 Connection tool for LSA- and LSA-Plus-terminals; with cutting blade; 38 x 177 x 21 mm; 80 g



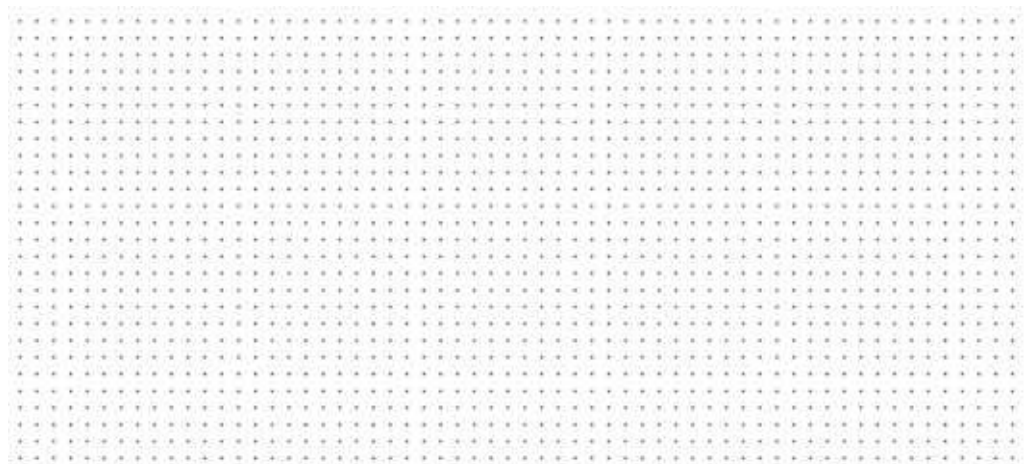
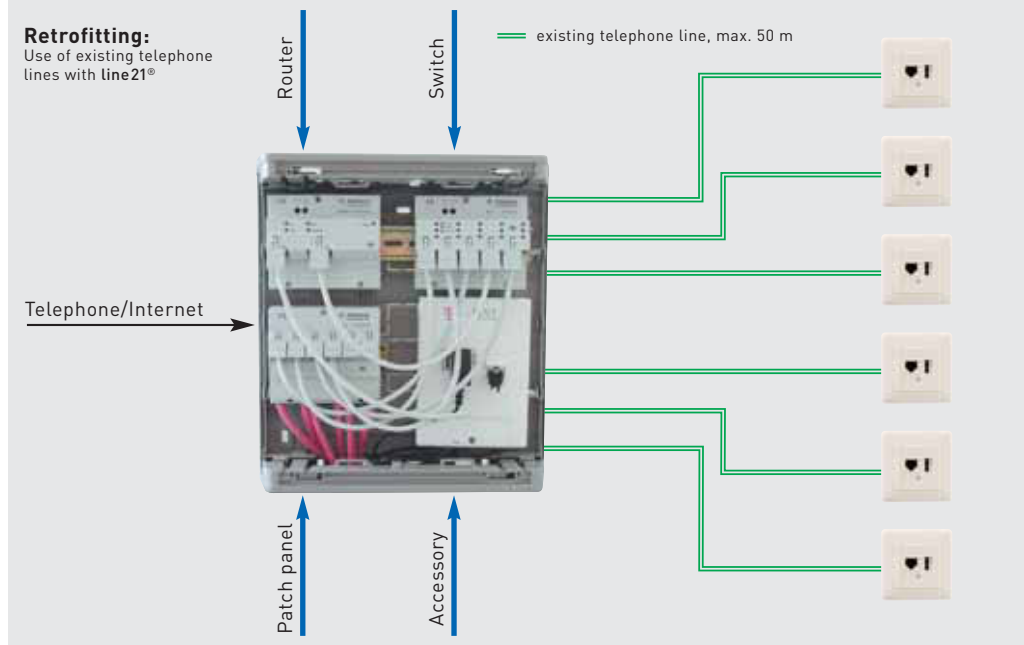
ADAP UAE/TAE 3x6 NFN
154 006 02 ●
 Adaptercord RJ 45/UAE; 0.15 m; for analog telephones in generic networks or for use with a line21®-UAE (8/8); black; 40 x 47 x 26 mm; 23 g

line21® for retrofitting

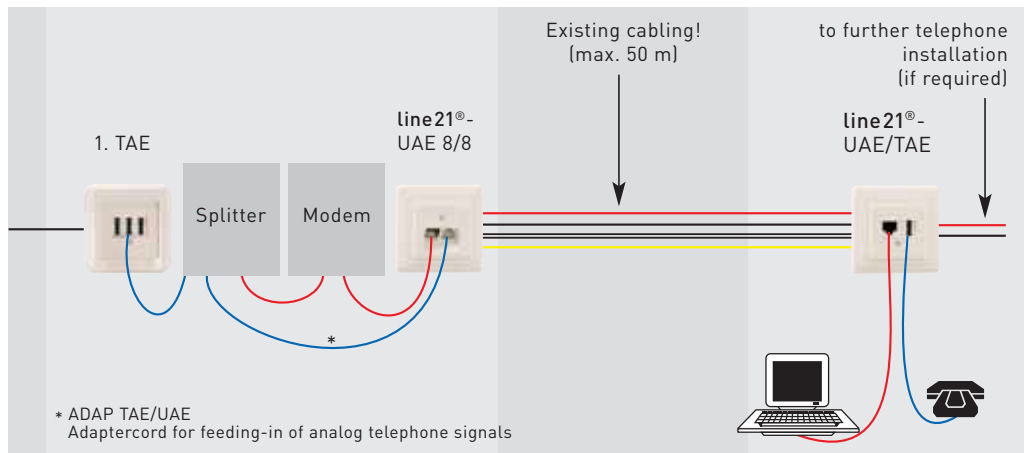
New technologies allow numerous applications without complex cable installations also in retrofitting. The technology of line21® allows the use of the existing analog telephone lines for the additional networking of PCs as well as for retrofitting of DSL-accesses, simply by replacing the existing jacks. 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.

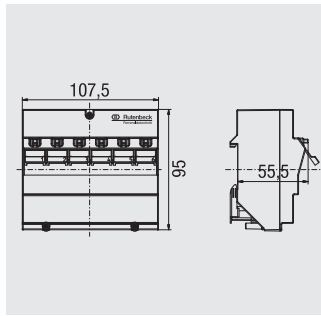
The installation

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.



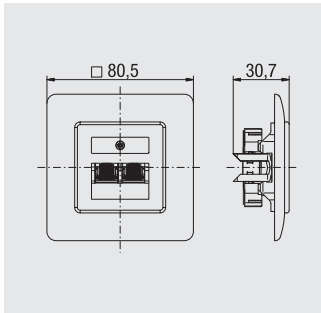
The application



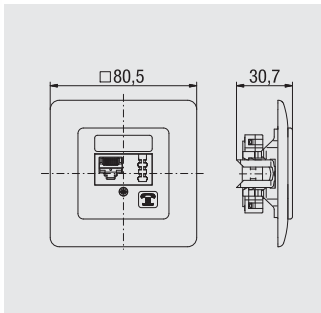


line21®-PPR 6
225 100 01 ●
 Patch panel for DIN-rail mounting;
 6 x RJ45-ports; for applications
 up to 100 Mbit/s;
 light grey (similar RAL 7035);
 108 x 95 x 56 mm = 6 module
 width; 182 g

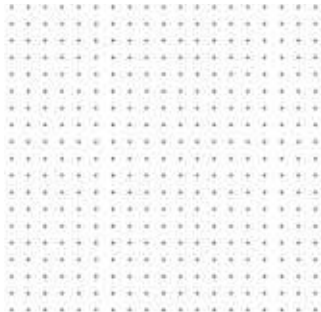
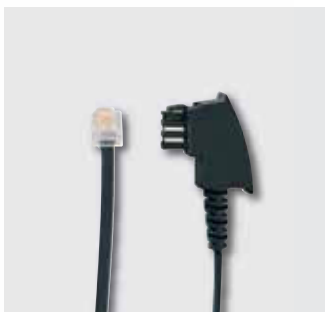
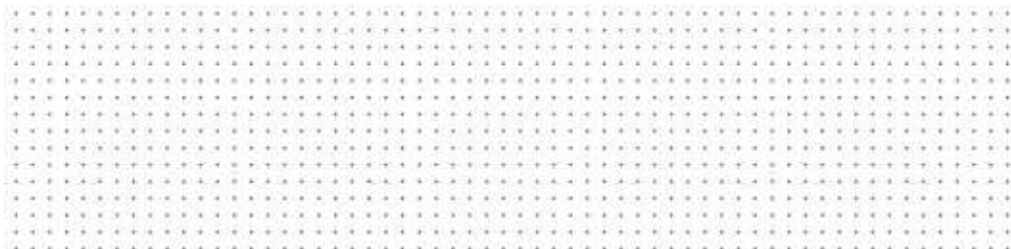
line21®-System devices
 for retrofitting



line21®-UAE 8/8 Up
225 102 01 ●
 Connection jack; 2 x 8 way;
 2 x 4 screw terminals for line21®-
 system line and fixed telephone
 connection data/telephone;
 with spreading claws;
 for applications up to 100Mbit/s;
 pearl white (similar RAL 1013);
 80 x 80 x 31 mm; 52 g



line21®-UAE/TAE Up
225 102 02 ●
 Connection jack; 2 x 6 way;
 2 x 4 screw terminals for line21®-
 system line and fixed telephone
 connection data/telephone;
 with spreading claws;
 for applications up to 100Mbit/s;
 pearl white (similar RAL 1013);
 80 x 80 x 31 mm; 52 g



line21®-ADAP TAE/UAE
225 100 10 ●
 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

POF – The trendsetting cabling alternative

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.

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

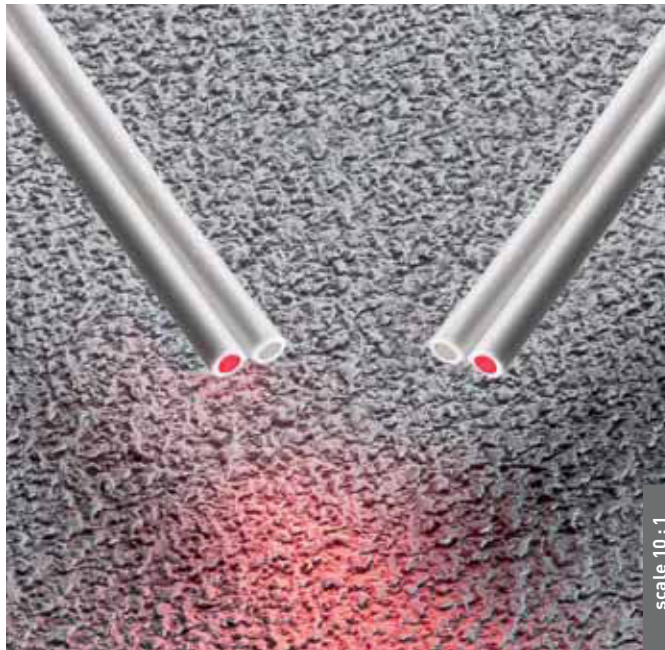
The connection takes place at the push-pull connector without any tools. After trimming the cable length, the fibres will be inserted in the optical push-pull connector and latched. Finished.

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.



scale 10 : 1

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 and data rates up to 100 Mbit/s.

The most important advantages at a glance:

- safe, radiation-free data transmission
- robust and safe connection up to 100 Mbit/s
- easy, tool-free installation and handling
- transmission with visible light (= function control at the same time)

The applications

For all applications with data rates up to 100 Mbit/s. The high data rates meet the requirement of applications like "Triple-Quad-Play" (IP-TV and many more).

Application areas

All network application for new installations and retrofitting (up to 100 Mbit/s):

- PC-networking
- internet access
- multimedia/"Triple-Quad-Play"
- online-Gaming
- multiroom-Audio



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

Certification

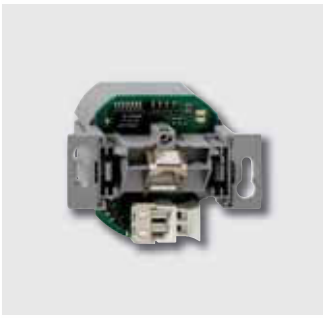
All POF-products are certified for transmission length up to 100 m.



Cable and Installation pipe solutions

Suitable cable and installation pipe solutions with integrated POF-fibre can be obtained at Fränkischen Rohrwerke.





POF-flush mounting solution

The permanent solution for fixed installations. Suitable for the commercially available design wall plates.

Performance features

- transmission length
100 m with POF 2.2 mm
- Nominal operating voltage:
100-240 V~/50-60 Hz;
1 VA typ.
- 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)
- 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

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

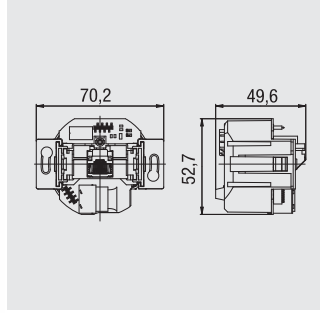
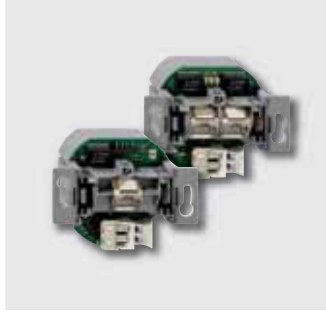
- transmission length
100 m with POF 2.2 mm
- Nominal operating voltage:
8-24 V AC/DC;
0.9 VA typ.
- optical connector:
2.2 mm Duplex POF
(650 nm typically)
- module width = 18 mm
- insulation class II

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

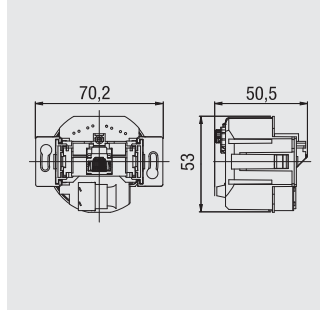


Media converter/Switches
POF/UAE

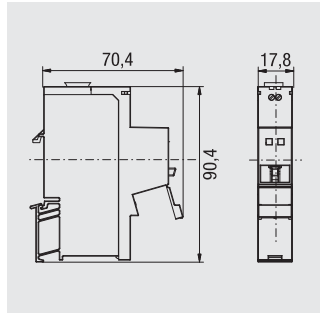


POF/UAE 1xUp 0 2,2 mm
180 104 03 ●
Flush-mounting media converter;
1-way; for applications up to
100 Mbit/s; Nominal operating
voltage: 100–240 V~/50–60 Hz;
1 VA typ; 70 x 53 x 50 mm; 100 g

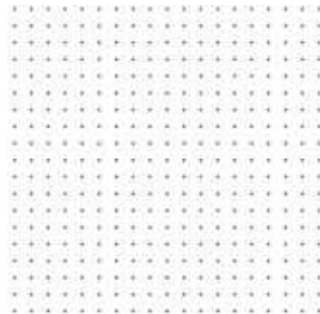
POF/UAE 2xUp 0 2,2 mm
180 104 07 ●
2-way [2 x UAE/1 x POF]



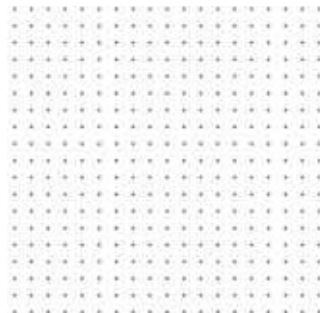
AC WLAN POF/UAE
1xUp rw 2,2 mm
226 104 05 ●
Flush mounting WLAN-Accesspoint;
with center plate and wall plate;
150 Mbit/s; 802.11 b/g/n; WEP/WPA2;
operating mode as well as bridge,
repeater; integrated data outlet
(RJ45) 100 Mbit/s; POF network
connection (2.2 mm); rated operating
voltage 100-240 V~ / 50-60 Hz, 3 VA
typical; pure white (similar RAL 9010);
80 x 80 x 50 mm; 115 g
(see page 57)



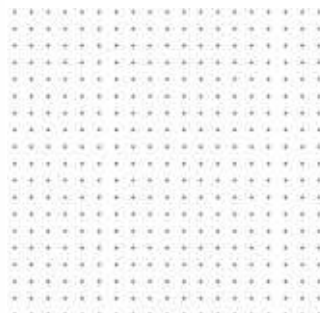
POF/UAE 1xPPR 2,2 mm
280 102 00 ●
DIN-rail mounting media converter;
1-way (1 x UAE/1 x POF);
for applications up to 100 Mbit/s;
Nominal operating voltage:
8–24 V AC/DC; 0,9 VA typ;
light grey (similar RAL 7035);
18 x 90 x 70 mm; 47 g



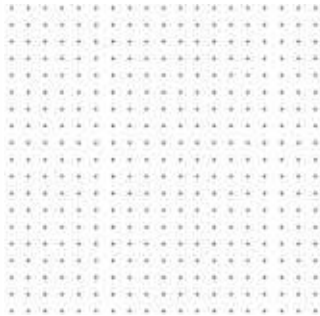
POF/UAE 4xAp 2,2mm
180 101 03 ●
Desktop-switch 4-way
(1 x UAE/3 x POF);
For applications up to 100 Mbit/s;
Operating voltage:
100–240 V~/50–60 Hz; 1,7 VA typ.;
greenblue (similar RAL 6004);
20 x 84 x 61 mm; 160 g



POF 5xAp 2,2mm
180 101 04 ●
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

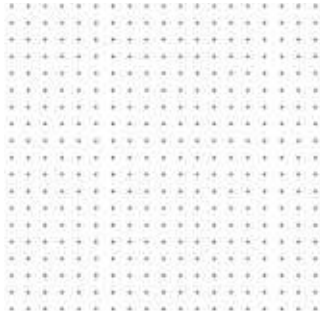


POF/UAE/SFP 8xAp 2,2mm
180 101 05 ●
Desktop-switch; 8-way
(1 x UAE/1 x SFP/6 x POF);
For applications up to 100 Mbit/s;
Operating voltage:
100–240 V~/50–60 Hz; 7,5 VA typ.;
greenblue (similar RAL 6004);
196 x 30 x 124 mm; 655 g

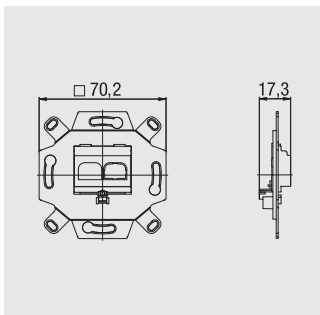


POF/UAE 8xAp 2,2mm
180 101 06 ●
 Desktop-switch, 8-way;
 (2xUAE/6xPOF);
 For applications up to 100 Mbit/s;
 Operating voltage:
 100-240V~/50-60Hz; 7,5VA typisch;
 greenblue (similar RAL 6004)
 196 x 30 x 124 mm; 655 g

Media converter/Switches
 POF/UAE



POF K 100 2,2 mm
180 000 04 ●
 POF-SI-cable; duplex; 100 m;
 Fibre diameter 2.2 mm;
 pure white (similar RAL 9010)
 800 g

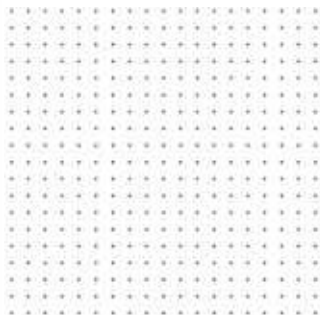


POF-MA Up
180 100 01 ●
 Mounting adapter for POF-SMI-Ad-
 apter; double; for customary TAE
 center plates; for combination with
 ZSt UM-MA 2 and wall plate AP
 UM; break off mounting ring can
 be converted into mounting bracket;
 pearl white (similar RAL 1013);
 70 x 70 x 17 mm; 25 g

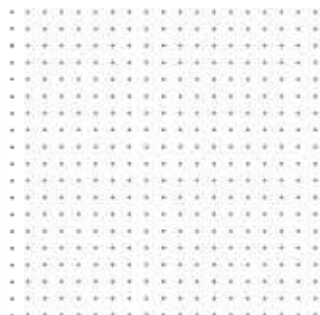
Communication adapter
 and POF-SMI-adapter for POF

POF-MA Up rw
180 100 51 ●
 pure white (similar RAL 9010)

POF-MA Up g
180 100 61 ●
 mouse-grey (similar RAL 7005)



KM-POF SMI 2,2 mm
180 100 02 ●
 POF-SMI-Adapter; for mounting
 adapter POF-MA Up; for
 POF-SMI-plug/jack 2.2 mm;
 13 x 9 x 24 mm; 1 g

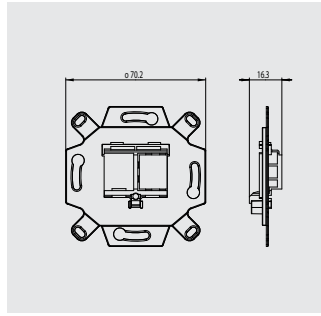
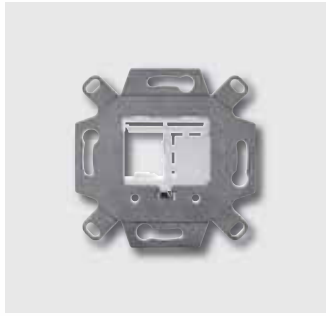


POF SMI
180 003 00 ●
 POF-SMI-jack; 2,2 mm;
 12 x 8 x 14 mm; 1 g

Plugs and accessory
 for POF-SMI-Adapter

POF SMI S
180 100 00 ●
 POF-SMI-plug; 2,2 mm;
 12 x 8 x 31 mm; 1 g

Communications adapter,
Keystone-modules and
accessory for POF

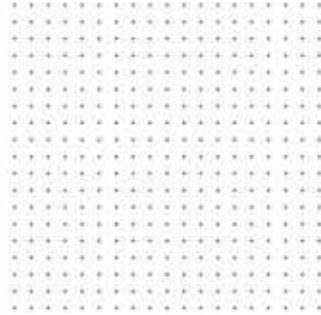


KMK-MA Up rw
170 000 55

●
Mounting adapter (flush mounting)
for Keystone-modules KMK; 2-way;
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;
pure white (similar RAL 9010)
70 x 70 x 17 mm; 26 g

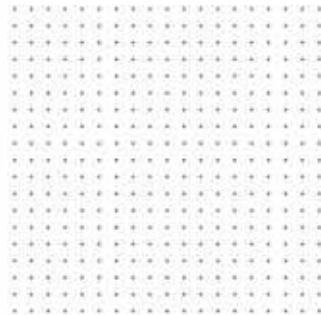
KMK-MA Up sw
170 000 65

●
black (similar RAL 9005)



KMK-POF
180 006 00

●
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
392 000 07

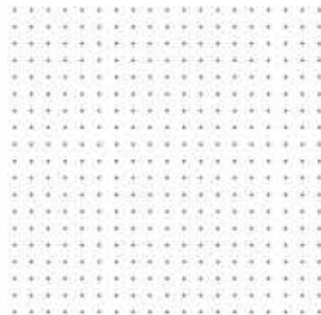
●
Connector for POF-fibres;
Connection: 2 x POF 2,2 mm;
mousegrey (similar RAL 7005);
24 x 18 x 10 mm; 3 g

POF VB 1,5 mm
392 000 06

●
Connection: 2 x POF 1,5 mm

POF-VB 1,5/2,2 mm
392 000 08

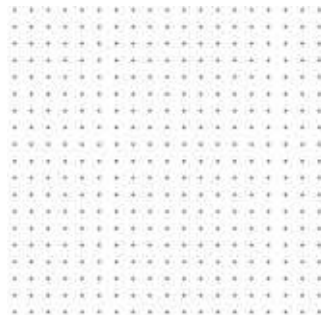
●
Connection: 1 x POF 2,2 mm,
1 x POF 1,5 mm



POF SW

392 000 04

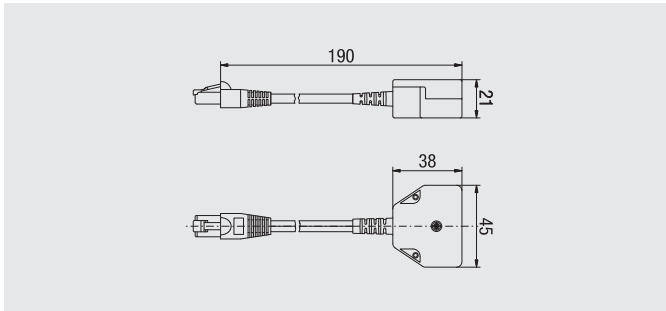
●
Cutting tool for POF-fibres
1.5/2.2 mm
red (similar RAL 3000);
44 x 31 x 8 mm; 15 g



POF SMI AW

392 000 05

●
Connection- and mounting-tool
for POF-SMI-plug/-jacks;
blue; 105 x 40 x 6 mm; 20 g



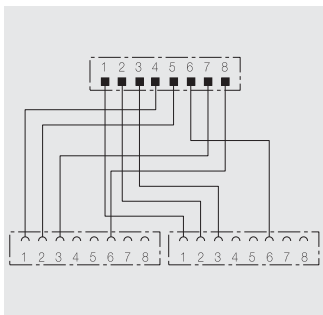
Shielded adapter for cable sharing T-ADAP

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.

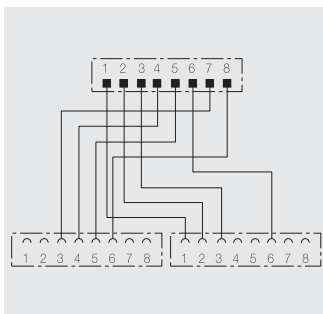
Alltogether, there are 4 practical adapters for the most common applications available.

Performance features

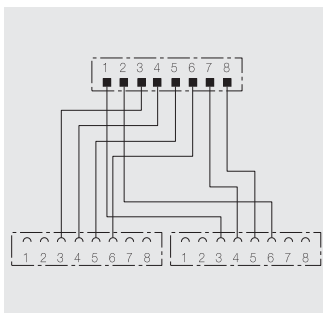
- 2 applications with a 8-wire cable
- easy back-/retrofitting of a link
- all adapter continuously shielded
- transmission characteristics according to Cat.5e/Class D
- mounting possibility with screws



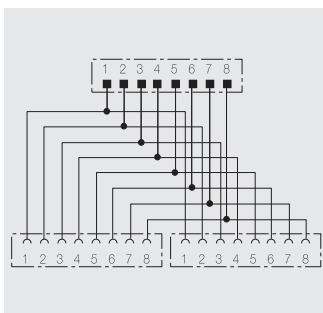
T-ADAP Ethernet/Ethernet 135 106 03 ●
 for cables sharing;
 Cat.5e; shielded;
 2 x 10/100 Mbit/s;
 45 x 21 x 38 mm; 50 g



T-ADAP Ethernet/ISDN 135 106 04 ●
 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 135 106 05 ●
 for cables sharing;
 shielded; 2 x ISDN;
 45 x 21 x 38 mm; 50 g



T-ADAP 2 x 8 135 106 06 ●
 for cables sharing;
 shielded; outlets 1:1 parallel;
 45 x 21 x 38 mm; 50 g

MULTIMEDIA

Communications adapter and cable solutions

New installations in apartments are nowadays equipped with a communications infrastructure in accordance with DIN 18015-2 and RAL 678 specifying a certain level of technology. Device connections are to be integrated in the future as well – and this is not covered by simply providing a sufficient number of wall outlets. Especially for modern LCD or Plasma TVs, which most often are to be installed directly onto the wall, a nest of patch cables, extension cords, and numerous other unsightly wiring and connection arrangements reduce the aesthetics of such high-grade solutions. Rutenbeck communication adapters help to reduce cable clutter in workrooms, offices, training and conference rooms. Ready to use plug-in solutions are also possible if there is enough space in such areas as desks or consoles.





**Installation solution
(HDMI example)**

For a trouble-free installation under consideration of the maximum bending-radiuses the use of the Kaiser "Electronics-box", Art.-No. 1068-02 or 9062-74 is recommended.



**Plug&play solution
(HDMI example)**



**Hybrid solutions:
When things get tight**

"Hybrid" solutions are recommended for multiple connections at one installation location where no room for additional jacks is available. Hybrid solutions combine all necessary connections in one jack suitable for HDMI or VGA applications.



**The right cable for all solutions:
From Rutenbeck, of course!**

For reliable operation at distances of up to 30 m, Rutenbeck provides the right VGA/HDMI cable – ready to be plugged in as feeder cable or from the reel in fixed or customized lengths.













The function of all VGA/HDMI cables is guaranteed over the entire installation length. Amplifiers are available for problematic installation situations or very long distances.






Such solutions always require sufficient space for rear input or to stow cables. Depending on the application case, designs with gender changer or breakout cables (length of 40 cm) are available. All solutions fit into the standard programs of the switch industry.










Overview Communications Adapter Copper (construction kit system)



	 KM-BNC-F 170 003 00	 KM-BNC-C 170 003 01	 KM-BNC-IEC 170 003 02 (only in combination with 170 003 00)	 KM-Cinch 170 003 04 (rw*) 170 003 05 (sw***) 170 003 06 (red) 170 003 07 (yellow)	 KM-MK 3,5 mm 170 003 03 (Stereo)	 KM-LS 170 003 08 (sw***) 170 003 09 (red) (Banana)
 BNC-F (Antenna)	Up 170 000 01 Up rw* 170 000 51 Up g** 170 000 61					
 BNC-C/IEC/Cinch (Antenna/Koax)		Up 170 000 03 Up rw* 170 000 53 Up g** 170 000 63	Up 170 000 03 Up rw* 170 000 53 Up g** 170 000 63	Up 170 000 03 Up rw* 170 000 53 Up g** 170 000 63		
 Mini-Klinke 3,5mm (Headphone)					Up 170 000 02 Up rw* 170 000 52 Up g** 170 000 62	
 LS-MA Up (Loudspeaker)						Up 170 000 04 Up rw* 170 000 54 Up g** 170 000 64

Overview Communications Adapter Copper (complete version)

 USB	USB-jack	Up 0 170 105 01	Up 0 rw* 170 105 51	Up 0 g** 170 105 61
 VGA	VGA-jack	Up 0 170 105 02	Up 0 rw* 170 105 52	Up 0 g** 170 105 62
 HDMI	HDMI-jack	Up 0 170 105 03	Up 0 rw* 170 105 53	Up 0 g** 170 105 63

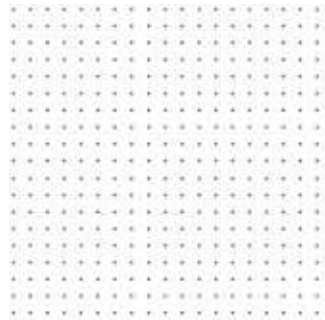
*rw = pure white
** g = grey
***sw = black

Overview Communications Adapter FOC, POF (construction kit system)									
	KM-SC-M 172 003 00		KM-SC-M Duplex 172 003 01		KM-LC-M 172 003 06		KM-ST-M 172 003 02		KM-POF SMI 2,2 mm 180 100 02
	KM-SC-S 172 003 03		KM-SC-S Duplex 172 003 04		KM-LC-S 172 003 07		KM-ST-S 172 003 05		
	Up 172 000 01			Up 172 000 01					
	Up rw* 172 000 51			Up rw* 172 000 51					
	Up g** 172 000 61			Up g** 172 000 61					
		Up 172 000 02							
		Up rw* 172 000 52							
		Up g** 172 000 62							
						Up 172 000 03			
						Up rw* 172 000 53			
						Up g** 172 000 63			
								Up 180 100 01	
								Up rw* 180 100 51	
								Up g** 180 100 61	

Wall plates and center plates, suitable for all Communications Adapter			
	Wall plate	AP 100 100 01	AP rw* 100 100 51
Wall plate			
	Center plate	ZSt UM-MA 2 170 105 02	ZSt UM-MA 2 rw* 170 105 52
Center plate			

*rw = pure white
** g = grey

Communications adapter
Hybrid solutions



KMM-VGA/USB GC Up 0

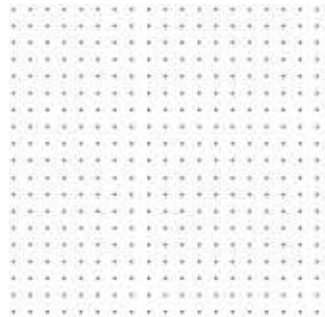
170 106 04 ●

Communications adapter for VGA; with additional USB-A socket and 3.5 mm (audio) mini-jack; VGA/USB as gender changer; mini-jack with breakout cable and jack (40 cm); for installation in all commonly available standard switch designs; aluminum, anodized; 50 x 50 x 1,5 mm; 204 g

KMM-VGA/USB KP Up 0

170 107 04 ●

Communications adapter for VGA; with additional USB-A socket and 3.5 mm (audio) mini-jack; VGA/USB/mini-jack with breakout cable and jack (40 cm); for installation in all commonly available standard switch designs; aluminum, anodized; 50 x 50 x 1,5 mm; 204 g



KMM-HDMI/USB GC Up 0

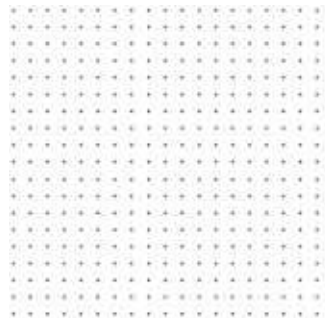
170 106 05 ●

Communications adapter for HDMI; with additional USB-A socket and Cat.6-module coupler; all jacks as gender changer; for installation in all commonly available standard switch designs; aluminum, anodized; 50 x 50 x 1,5 mm; 204 g

KMM-HDMI/USB KP Up 0

170 107 05 ●

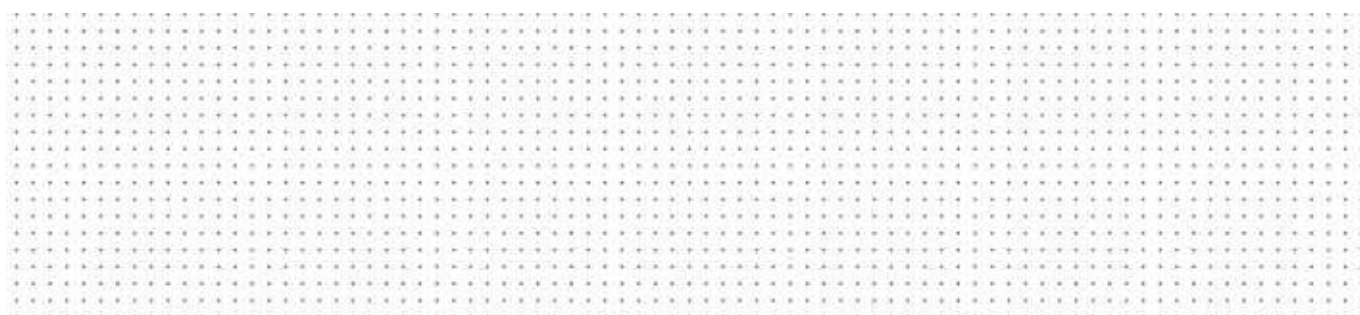
Communications adapter for HDMI; with additional USB-A socket and Cat.6-module coupler; HDMI and USB with breakout cable and jack (40 cm); for installation in all commonly available standard switch designs; aluminum, anodized; 50 x 50 x 1,5 mm; 204 g

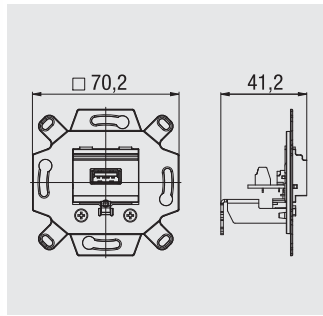
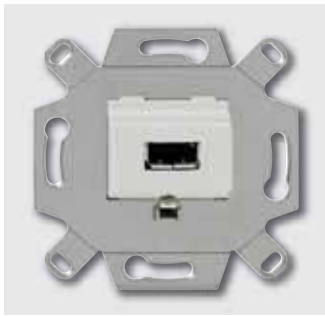


KMM-MA Up

170 000 07 ●

Mounting adapter; 1-way; for KMM-VGA/USB and KMM-HDMI/USB; aluminum, anodized; 67 x 67 x 1,5 mm ; 100 g



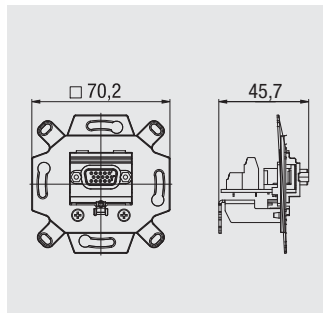


KM-USB Up 0
170 105 01 ●
USB-jack; 1-way;
with 5 screw terminals;
for customary TAE-center plates;
can be combined with ZSt UM-MA 2
and wall plate AP;
break off mounting ring can be con-
verted into mounting bracket;
pearl white (similar RAL 1013);
70 x 70 x 41 mm; 43 g

Communications adapter
copper, jacks

KM-USB Up 0 rw
170 105 51 ●
pure white (similar RAL 9010)

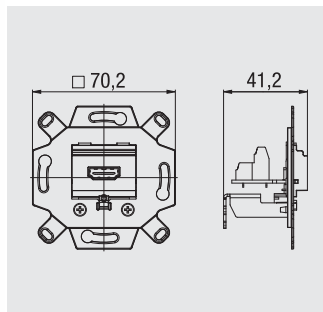
KM-USB Up 0 g
170 105 61 ●
mousegrey (similar RAL 7005)



KM-VGA Up 0
170 105 02 ●
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
170 105 52 ●
pure white (similar RAL 9010)

KM-VGA Up 0 g
170 105 62 ●
mousegrey (similar RAL 7005)

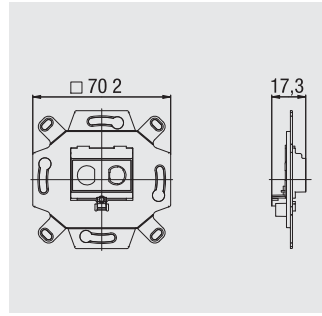
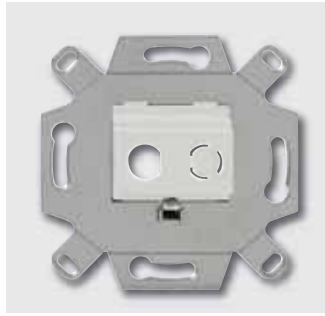


KM-HDMI Up 0
170 105 03 ●
HDMI-jack; 1-way;
with 20 screw terminals;
for customary TAE-center plates;
can be combined with ZSt UM-MA 2
and wall plate AP; break off
mounting ring can be converted
into mounting bracket;
pearl white (similar RAL 1013);
70 x 70 x 41 mm; 53 g

KM-HDMI Up 0 rw
170 105 53 ●
pure white (similar RAL 9010)

KM-HDMI Up 0 g
170 105 63 ●
mousegrey (similar RAL 7005)

Communications adapter
copper,
mounting adapter



BNC-F-MA Up

170 000 01 ●

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

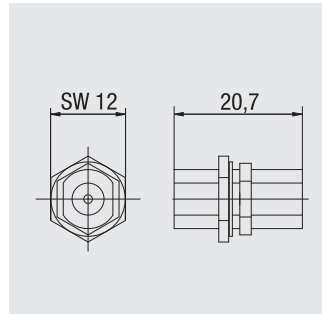
170 000 51 ●

pure white (similar RAL 9010)

BNC-F-MA Up g

170 000 61 ●

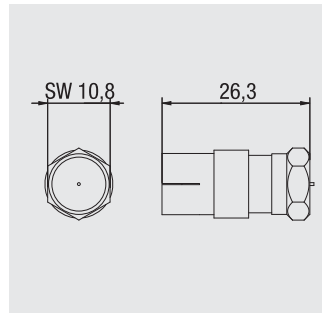
mousegrey (similar RAL 7005)



KM-BNC-F

170 003 00 ●

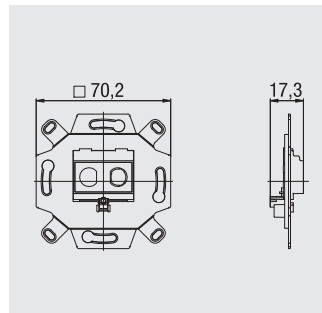
BNC-F-jack; 12 mm; for mounting adapter BNC-F-MA Up; screw connection; 12 x 12 x 21 mm; 5 g



KM-BNC-IEC

170 003 02 ●

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

170 000 03 ●

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

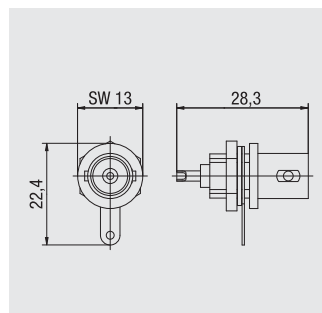
170 000 53 ●

pure white (similar RAL 9010)

BNC-C/IEC/Cinch-MA Up g

170 000 63 ●

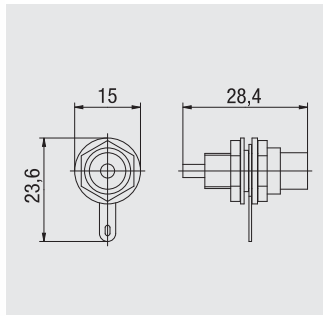
mousegrey (similar RAL 7005)



KM-BNC-C

170 003 01 ●

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



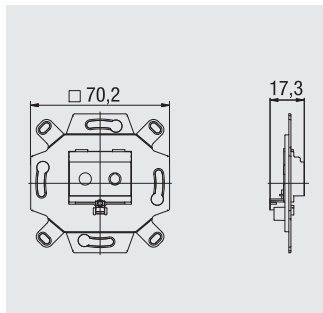
KM-Cinch rw
170 003 04 ●
Cinch-jack; for mounting adapter BNC-C/IEC/Cinch-MA Up; soldering tag; white; 15 x 24 x 28 mm; 8 g

KM-Cinch sw
170 003 05 ●
black (similar RAL 9005)

KM-Cinch red
170 003 06 ●
red (similar RAL 3000)

KM-Cinch yellow
170 003 07 ●
yellow (similar RAL 1021)

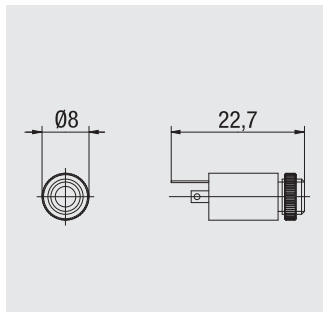
Communications adapter
copper,
mounting adapter



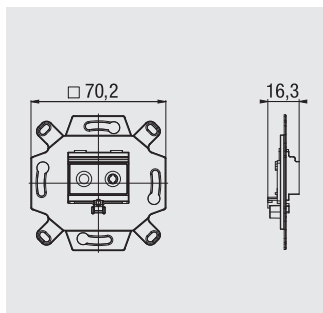
MK-MA Up
170 000 02 ●
Mounting adapter (flush mounting) for 3.5 mm mini-connections; 2-way; for customary TAE-center plates; can be combined with ZST UM-MA 2 and wall plate AP; break off mounting ring can be converted into mounting bracket; pearl white (similar RAL 1013); 70 x 70 x 17 mm; 25 g

MK-MA Up rw
170 000 52 ●
pure white (similar RAL 9010)

MK-MA Up g
170 000 62 ●
mousegrey (similar RAL 7005)



KM-MK 3,5 mm
170 003 03 ●
Mini-jack; 3.5 mm; for mounting adapter MK-MA Up; soldering tag; 8 x 8 x 23 mm; 3 g

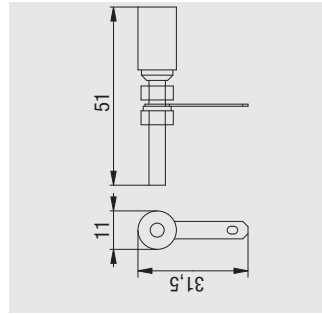


LS-MA Up
170 000 04 ●
Mounting adapter (flush mounting) for KM-LS-connections; 2-way; for customary TAE-center plates; can be combined with ZSt UM-MA 2 and wall plate AP; break off mounting ring can be converted into mounting bracket; pearl white (similar RAL 1013); 70 x 70 x 17 mm; 25 g

LS-MA Up rw
170 000 54 ●
pure white (similar RAL 9010)

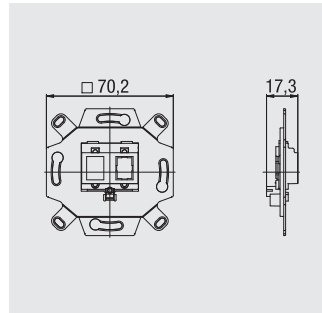
LS-MA Up g
170 000 64 ●
mousegrey (similar RAL 7005)

Communications adapter
copper, connectors,
fibre optics couplings



KM-LS sw
170 003 08 ●
LS-jack; for mounting adapter
LS-MA Up; cable lug/soldering tag
(ground);
black (similar RAL 9005);
11 x 32 x 51 mm; 17 g

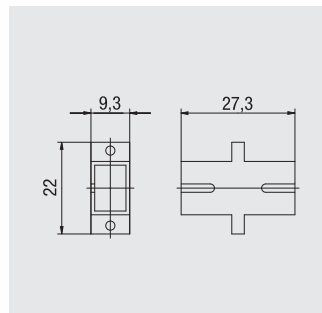
KM-LS rot
170 003 09 ●
red (similar RAL 3000)



SC/LC-MA Up
172 000 01 ●
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

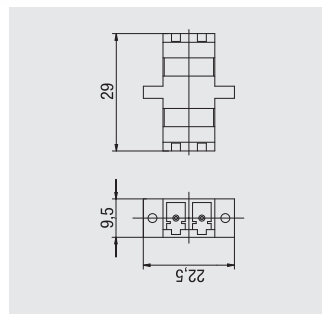
SC/LC-MA Up rw
172 000 51 ●
pure white (similar RAL 9010)

SC/LC-MA Up g
172 000 61 ●
mousegrey (similar RAL 7005)



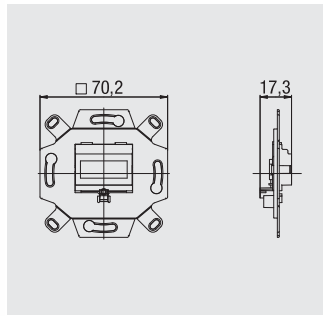
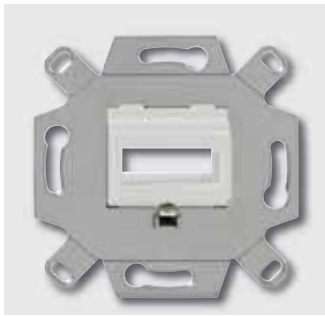
KM-SC-M
172 003 00 ●
SC-coupling; multimode;
for mounting adapter SC/LC-MA Up;
screw connection;
9 x 22 x 27 mm; 10 g

KM-SC-S
172 003 03 ●
SC-coupling; singlemode;
screw connection;
9 x 22 x 27 mm; 10 g



KM-LC-M
172 003 06 ●
LC-coupling; multimode;
for mounting adapter SC/LC-MA Up;
screw connection;
10 x 23 x 29 mm; 8 g

KM-LC-S
172 003 07 ●
LC-coupling;
singlemode

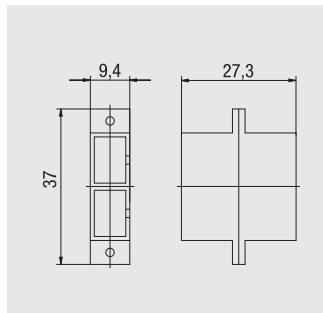


SC Duplex-MA Up
172 000 02 ●
 Mounting adapter (flush mounting) for SC-Duplex-connections; 1-way; for customary TAE-center plates; can be combined with ZSt UM-MA 2 and wall plate AP; break off mounting ring can be converted into mounting bracket; pearl white (similar RAL 1013); 70 x 70 x 17 mm; 26 g

Communications adapter,
 fibre optics couplings

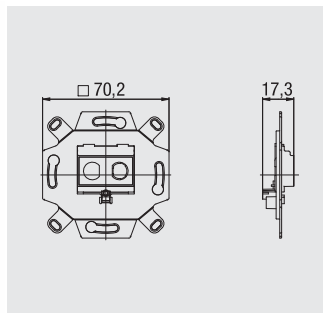
SC Duplex-MA Up rw
172 000 52 ●
 pure white (similar RAL 9010)

SC Duplex-MA Up g
172 000 62 ●
 mousegrey (similar RAL 7005)



KM-SC-M Duplex
172 003 01 ●
 SC-Duplex-coupling; multimode; for mounting adapter SC Duplex-MA Up; screw connection; 9 x 37 x 27 mm; 19 g

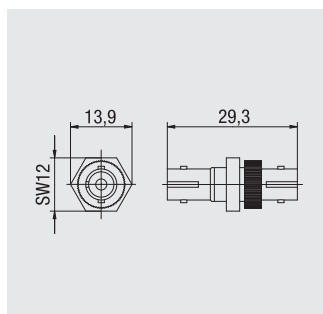
KM-SC-S Duplex
172 003 04 ●
 SC-Duplex-coupling; singlemode; screw connection



ST-MA Up
172 000 03 ●
 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
172 000 53 ●
 pure white (similar RAL 9010)

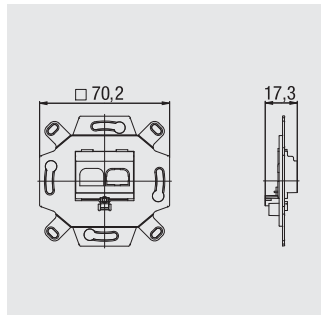
ST-MA Up g
172 000 63 ●
 mousegrey (similar RAL 7005)



KM-ST-M
172 003 02 ●
 ST-coupling; multimode; for mounting adapter ST-MA Up; single-hole assembly; 14 x 12 x 29 mm; 8 g

KM-ST-S
172 003 05 ●
 ST-coupling; singlemode

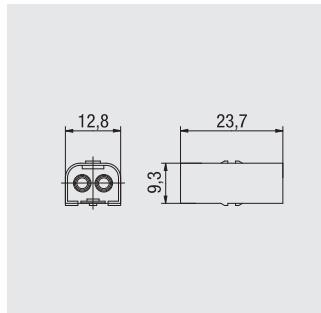
Communications adapter
POF,
POF-SMI-adapter



POF-MA Up
180 100 01 ●
Mounting adapter (flush mounting)
for POF-SMI-adapter; 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

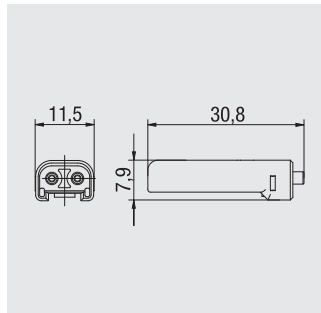
POF-MA Up rw
180 100 51 ●
pure white (similar RAL 9010)

POF-MA Up g
180 100 61 ●
mousegrey (similar RAL 7005)

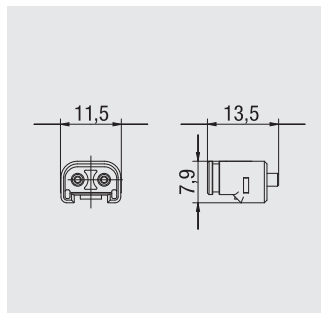


KM-POF SMI 2,2 mm
180 100 02 ●
POF-SMI-adapter;
for mounting adapter POF-MA Up;
SMI- plug/jack 2.2 mm;
13 x 9 x 24 mm; 1 g

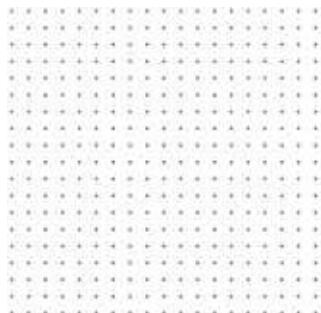
Connectors and accessory
for POF-SMI-adapter



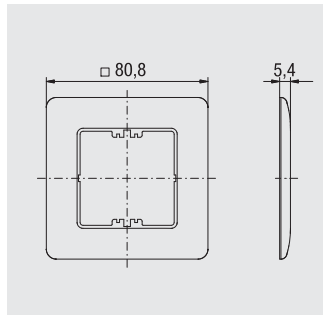
POF SMI S
180 100 00 ●
POF-SMI-plug; 2.2 mm;
12 x 8 x 31 mm; 1 g



POF SMI
180 003 00 ●
POF-SMI-jack; 2.2 mm;
12 x 8 x 14 mm; 1 g



POF SMI AW
392 000 05 ●
Connection- and mounting tool
for POF-SMI-plug/-jacks;
blue (similar RAL 5015);
105 x 40 x 6 mm; 20 g

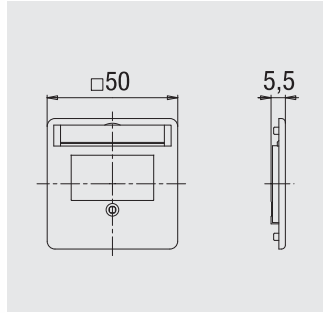


AP
100 100 01 ●
 Wall plate; for mounting
 adapter UM-MA 2 Up,
 UM-MA 3 Up and for
 communications adapter;
 pearl white (similar RAL 1013);
 80 x 80 x 5 mm; 12 g

AP rw
100 100 51 ●
 pure white (similar RAL 9010)

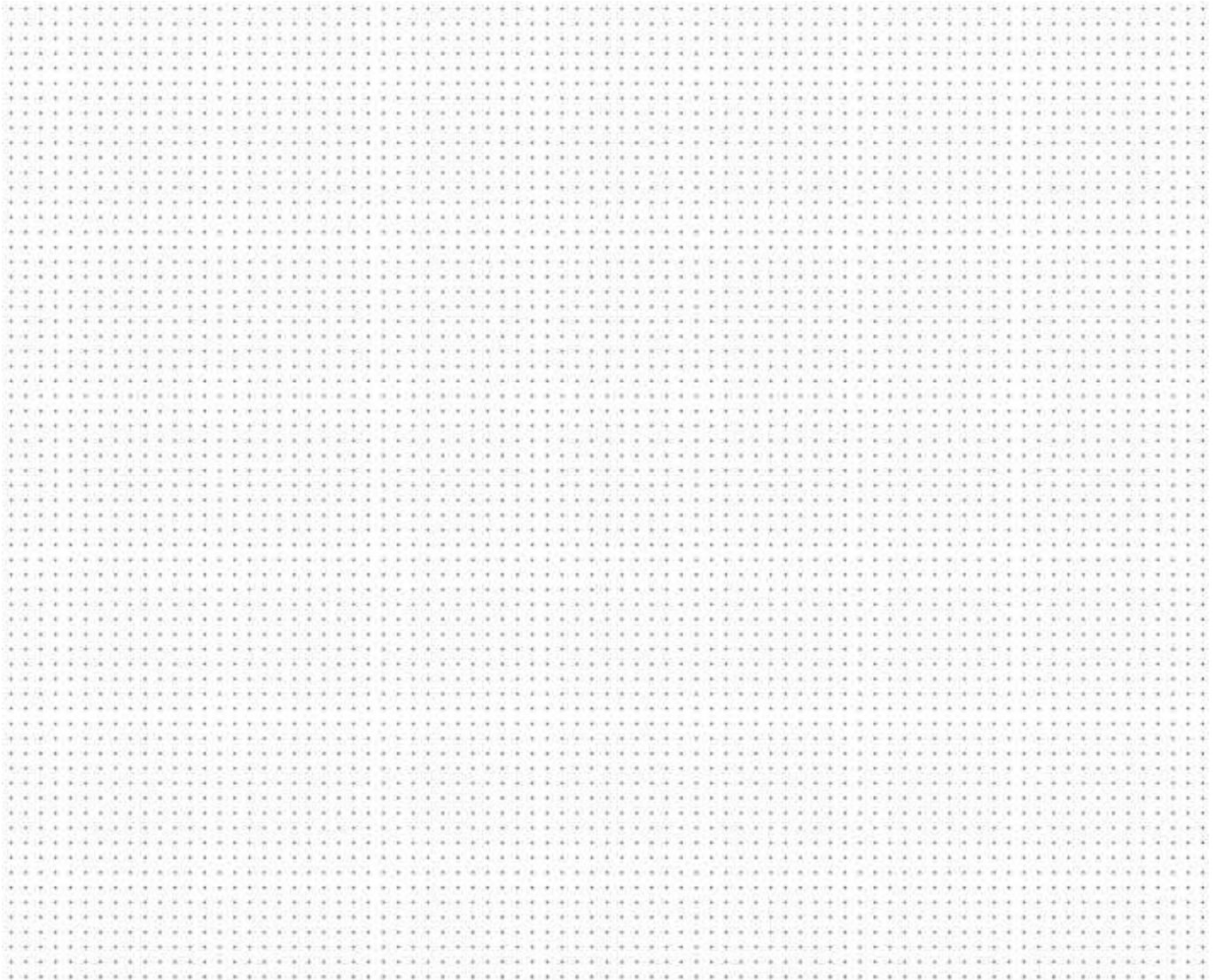
**Wall plate, Center plate
 and accessory for the
 communications adapter**

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

















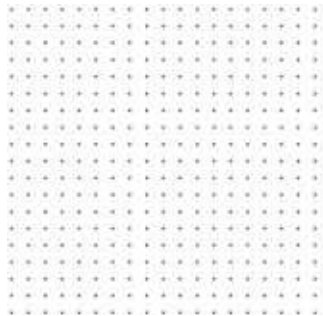
ZSt UM-MA 2
139 100 03 ●
 Center plate; for 2 modular
 outlets RJ 45; with labelling
 strips;
 for UM-MA 2 Up;
 pearl white (similar RAL 1013);
 50 x 50 x 6 mm; 6 g

ZSt UM-MA 2 rw
139 100 53 ●
 pure white (similar RAL 9010)



Overview communications adapter FOC, POF (construction kit system)

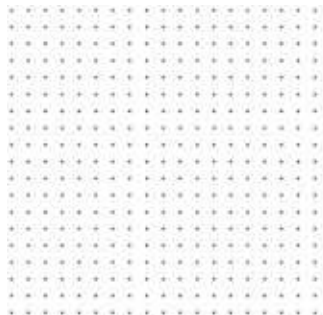
					
 <p>Cat. 6-Kupplung 139 003 60</p>	<p>KMK-MA Up rw* 170 000 55</p> <p>KMK-MA Up sw* 170 000 65</p>	<p>UMflex-APG rw* 139 115 01</p>	<p>PP-UM A-6 Ap 239 101 06</p>	<p>PP-UM A-24/1 239 000 000</p>	<p>CP-UM A-12 Ap 239 101 12</p>
 <p>KMK-HDMI 170 106 53 (rw*) 170 106 63 (sw**)</p> <p>KMK-HDMI KP 170 106 52 (rw*) 170 106 62 (sw**)</p>	<p>Mounting adapter; 1/2-way; without keystones</p>	<p>Surface mounting housing; 3-way; without keystones; cable entry only from top</p>	<p>Surface moun- ting-patch panel; without keystones</p> <p>PP-UM A-12 Ap 239 101 16</p> <p>Surface moun- ting-patch panel; without keystones</p>	<p>Patch panel; 24 Ports; 19"/1 U; with slide-in unit; without keystones</p> <p>PP-UM A-24/1 basic 239 000 00</p>	<p>Surface mounting housing; 12-way; without keystones</p>
 <p>KMK-USB 170 106 51 (rw*) 170 106 61 (sw**)</p> <p>KMK-USB 3.0 170 106 50 (rw*) 170 106 60 (sw**)</p>				<p>Patch panel; 24 Ports; 19"/1 U; for direct mounting; without keystones</p>	
 <p>KMK-BNC-F 170 006 00 (rw*) 170 006 60 (sw**)</p>					
 <p>KMK-BNC-C 170 006 01 (rw*) 170 006 61 (sw**)</p>					
 <p>KMK-Cinch 170 006 04 (rw* rw*) 170 006 05 (sw** rw*) 170 006 06 (rot rw*) 170 006 07 (gelb rw*) 170 006 64 (rw* sw**) 170 006 65 (sw** sw**) 170 006 66 (rot sw**) 170 006 67 (gelb sw**)</p>					
 <p>KMK-LS 170 006 08 (sw** rw*) 170 006 09 (rot rw*) 170 006 68 (sw** sw**) 170 006 69 (rot sw**)</p>					
 <p>KMK-ST-M 172 006 02 (rw*) 172 006 62 (sw**)</p> <p>KMK-ST-S 172 006 05 (rw*) 172 006 65 (sw**)</p>					
 <p>KMK-LC-M 172 006 06 (rw*) 172 006 66 (sw**)</p> <p>KMK-LC-S 172 006 07 (rw*) 172 006 67 (sw**)</p>					



KMK-MA Up rw
170 000 55 ●
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

KMK-MA Up sw
170 000 65 ●
black (similar RAL 9005)

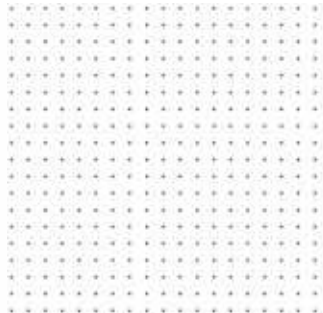
Communications adapter,
Keystone design,
mounting adapter



KMK-HDMI rw
170 106 53 ●
HDMI-Keystone (jack/jack) for mounting adapter KMK-MA Up and other Keystone-receptacles; pure white (similar RAL 9010)

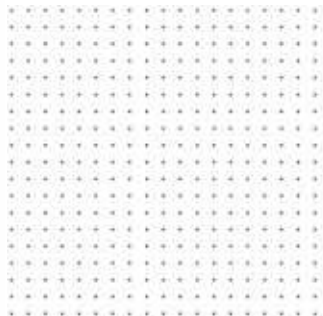
KMK-HDMI sw
170 106 63 ●
black (similar RAL 9005)

Communications adapter,
Keystone design,
Keystones



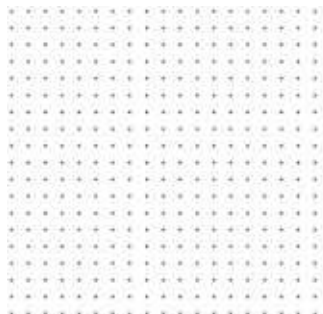
KMK-HDMI KP rw
170 106 52 ●
HDMI-Keystone (jack/jack) for mounting adapter KMK-MA Up; with pigtails (30 cm) and other Keystone-receptacles; pure white (similar RAL 9010)

KMK-HDMI KP sw
170 106 62 ●
black (similar RAL 9005)



KMK-USB rw
170 106 51 ●
USB-Keystone; USB 2.0 USB-A (jack/jack) for mounting adapter KMK-MA Up and other Keystone-receptacles; pure white (similar RAL 9010)

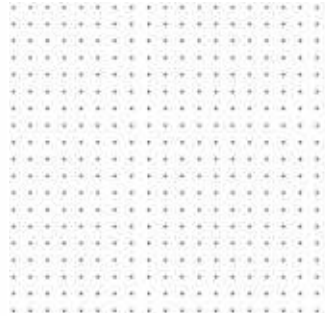
KMK-USB sw
170 106 61 ●
black (similar RAL 9005)



KMK-USB 3.0 rw
170 106 50 ●
USB-Keystone; USB 3.0 USB-A (jack/jack) for mounting adapter KMK-MA Up and other Keystone-receptacles; pure white (similar RAL 9010)

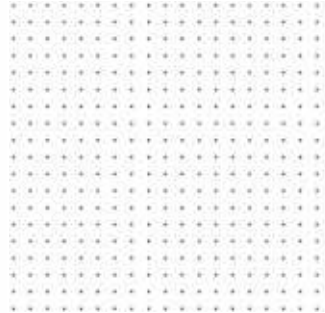
KMK-USB 3.0 sw
170 106 60 ●
black (similar RAL 9005)

Communications adapter,
Keystone design,
Keystones



KMK-BNC-F rw
170 006 00 ●
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
170 006 60 ●
black (similar RAL 9005)



KMK-BNC-C rw
170 006 01 ●
BNC-C-Keystone;
(socket/socket);
for mounting adapter KMK-MA Up
and other Keystone-receptacles;
pure white (similar RAL 9010)

KMK-BNC-C sw
170 006 61 ●
black (similar RAL 9005)



KMK-Cinch rw rw
170 006 04 ●
Cinch-Keystone; white;
(jack/jack)
for mounting adapter KMK-MA Up
and other Keystone-receptacles;
pure white (similar RAL 9010)

KMK-Cinch sw rw
170 006 05 ●
Cinch-Keystone; black;
pure white (similar RAL 9010)

KMK-Cinch rot rw
170 006 06 ●
Cinch-Keystone; red;
pure white (similar RAL 9010)

KMK-Cinch gelb rw
170 006 07 ●
Cinch-Keystone; yellow;
pure white (similar RAL 9010)

KMK-Cinch rw sw
170 006 64 ●
Cinch-Keystone; white;
black (similar RAL 9005)

KMK-Cinch sw sw
170 006 65 ●
Cinch-Keystone; black;
black (similar RAL 9005)

KMK-Cinch rot sw
170 006 66 ●
Cinch-Keystone; red;
black (similar RAL 9005)

KMK-Cinch gelb sw
170 006 67 ●
Cinch-Keystone; yellow;
black (similar RAL 9005)



KMK-LS sw rw
170 006 08 ●
LS-Keystone; black;
(jack/jack)
for mounting adapter KMK-MA Up
and other Keystone-receptacles;
pure white (similar RAL 9010)

KMK-LS rot rw
170 006 09 ●
LS-Keystone; red;
pure white (similar RAL 9010)

KMK-LS sw sw
170 006 68 ●
LS-Keystone; black;
black (similar RAL 9005)

KMK-LS rot sw
170 006 69 ●
LS-Keystone; red;
black (similar RAL 9005)



KMK-ST-M rw
172 006 02 ●
ST-coupling; Keystone;
multimode;
for mounting adapter KMK-MA Up
and other Keystone-receptacles;
pure white (similar RAL 9010)

KMK-ST-M sw
172 006 62 ●
black (similar RAL 9005)

KMK-ST-S rw
172 006 05 ●
ST-coupling; Keystone;
singlemode;
for mounting adapter KMK-MA Up
and other Keystone-receptacles;
pure white (similar RAL 9010)

KMK-ST-S sw
172 006 65 ●
black (similar RAL 9005)



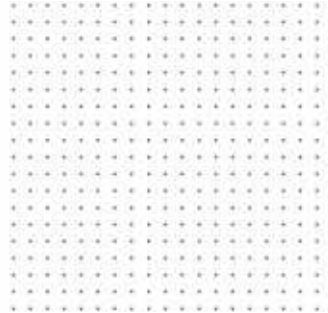
KMK-LC-M rw
172 006 06 ●
LC-coupling; Keystone;
multimode;
for mounting adapter KMK-MA Up
and other Keystone-receptacles;
pure white (similar RAL 9010)

KMK-LC-M sw
172 006 66 ●
black (similar RAL 9005)

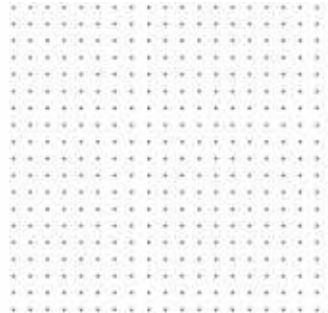
KMK-LC-S rw
172 006 07 ●
LC-coupling; Keystone;
singlemode;
for mounting adapter KMK-MA Up
and other Keystone-receptacles;
pure white (similar RAL 9010)

KMK-LC-S sw
172 006 67 ●
black (similar RAL 9005)

Communications adapter,
Keystone design,
Keystones

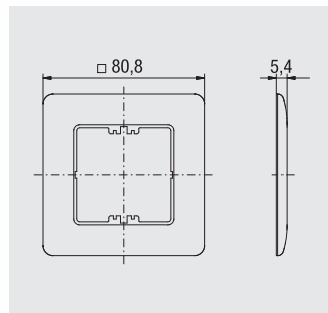


KMK-POF
180 006 00 ●
POF-coupling; Keystone;
for mounting adapter KMK-MA Up
and other Keystone-receptacles;
connection: 2x POF 2.2 mm;
black (similar RAL 9005);
36 x 14 x 20 mm; 56 g



KMK-BK rw
170 100 52 ●
Blind cover;
for mounting adapter KMK-MA Up
and other Keystone-receptacles;
pure white (similar RAL 9010)

KMK-BK sw
170 100 62
black (similar RAL 9005)

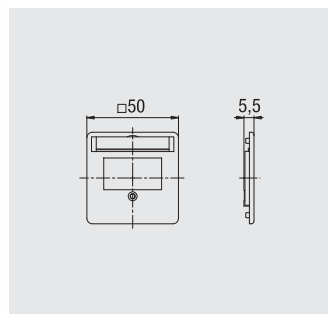


AP
100 100 01 ●
Wall plate; for mounting
adapter UM-MA 2 Up,
UM-MA 3 Up and for
communications adapter;
pearl white (similar RAL 1013);
80 x 80 x 5 mm; 12 g

AP rw
100 100 51 ●
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
139 100 03 ●
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
139 100 53 ●
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 and the remote control protocols CEC and AV.link. Customer specific length and feeder cables are besides the standard length available.

The maximum resolution in relation to the length can be retrieved from the planning matrix on page 89.



Technical Data	
Dimensions	4 x twisted pair 0,64 mm Ø 6 x 0,14 mm ²
Impedance	100 Ω +/- 10%
Damping	15 db / 100 m (f = 100 MHz)
Outer diameter	10 +/- 0,3 mm
Bending radius	80 mm
Temperature range	-20 to + 60 °C
Resolution	max. 1920 x 1200 Pixel
Transmission distance	acc. to cable matrix

VGA

VGA cables are available in two grades. In both cases, the VGA signal and 7 control lines for DDC mode, hardware detection, and H/V synchronization are included. The "standard cable" has a range of 100 meters (resolution of 640 x 480).

At higher resolutions (1280 x 1024), up to 40 m are possible. Cables are finished 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 an insertion tool, with which the cable can be fed, 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 5–30 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).

VGA cables are also available in bulk on rolls (100 m). Crimp sets for male/female jacks and the required crimper can be ordered as well.

A specially dimensioned high-end VGA cable is also available for lengths over 100 m. This means distances of 180 m can be covered with a resolution of 640 x 480 and 40 m at a resolution of 1280 x 1024 without requiring amplification.

This cable is available in customized solutions. Of course, all cables are free of halogens (DIN EN 50 267) and flame retarded (DIN EN 50 265) for use in public buildings/applications.

Technical Data	
Dimensions	3 x 0,5 mm Ø (Koax) 1 x 0,4 mm Ø (geschirmt) 4 x 0,08 mm ² 4 x 0,08 mm ² (geschirmt)
Impedance	75 Ω
Damping	1,3 db / 100 m (f = 1 MHz) 4,6 db / 100 m (f = 10 MHz) 14,5 db / 100 m (f = 100 MHz)
Outer diameter	7,3 +/- 0,4 mm
Bending radius	73 mm
Temperature range	-5 to + 70 °C
Transmission distance	acc. to cable matrix

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.



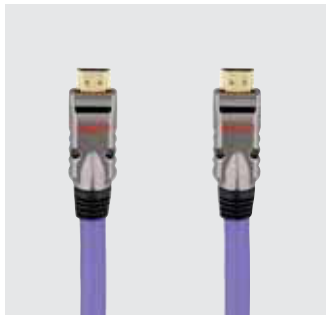
Accessories

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	25 m	30 m	35 m	40 m	45 m	50 m
SVGA	800	600	60	41	D1	D1	D1	D1	D1	D1	D1	D1	D1	D1
	800	600	75	51	D1	D1	D1	D1	D1	D1	D1	D1	D1	
	800	600	85	58	D1	D1	D1	D1	D1	D1	D1	D1	D1	
XGA	1024	768	60	67	D1	D1	D1	D1	D1	D1	D1	D1	D1	
	1024	768	75	84	D1	D1	D1	D1	D1	D1	D1	D1		
	1024	768	85	95	D1	D1	D1	D1	D1	D1	D1	D1		
WXGA	1366	768	60	89	D1	D1	D1	D1	D1	D1	D1	D1		
	1366	768	75	112	D1	D1	D1	D1	D1	D1	D1			
	1366	768	85	127	D1	D1	D1	D1	D1	D1	D1			
SXGA	1280	1024	60	112	D1	D1	D1	D1	D1	D1	D1			
	1280	1024	75	140	D1	D1	D1	D1	D1	D1				
	1280	1024	85	158	D1	D1	D1	D1	D1	D1				
WSXGA	1600	1024	60	140	D1	D1	D1	D1	D1	D1				
UXGA	1600	1280	60	164	D1	D1	D1	D1	D1					
WUXGA	1920	1280	60	165	D1	D1	D1	D1	D1					
WQXGA	2560	1600	60	330	D2	D2	D2	D2	D2					

Index: D1 = single cable D2 = 2 parallel cables

Installation solutions
HDMI connection cable
HDMI feeder cable

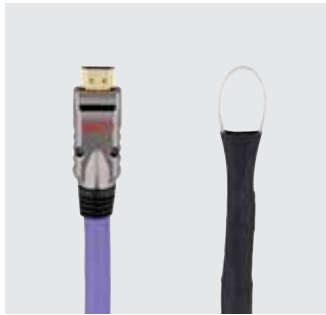


AK HDMI 5 m
218 000 05 ●
HDMI connection cable;
ready to connect; free of halogen;
flame-retarded; magenta;
5 m (male/male);
10,0 mm Ø; 1440 g

AK HDMI 10 m
218 000 10 ●
10 m (male/male);
10,0 mm Ø; 2100 g

AK HDMI 15 m
218 000 15 ●
15 m (male/male);
10,0 mm Ø; 2800 g

AK HDMI 20 m
218 000 20 ●
20 m (male/male);
10,0 mm Ø; 3500 g



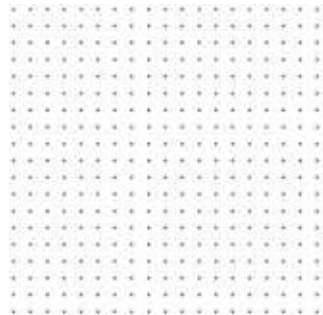
EK HDMI 5 m
218 300 05 ●
HDMI feeder cable;
ready to connect; free of halogen;
flame-retarded; magenta;
5 m (male/crimp termination);
10,0 mm Ø; 1440 g

EK HDMI 10 m
218 300 10 ●
10 m (male/crimp termination);
10,0 mm Ø; 2100 g

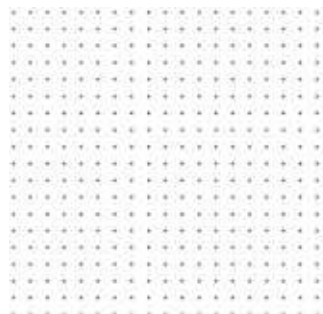
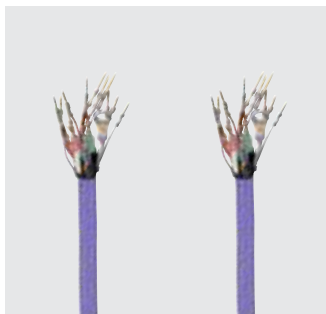
EK HDMI 15 m
218 300 15 ●
15 m (male/crimp termination);
10,0 mm Ø; 2800 g

EK HDMI 20 m
218 300 20 ●
20 m (male/crimp termination);
10,0 mm Ø; 3500 g

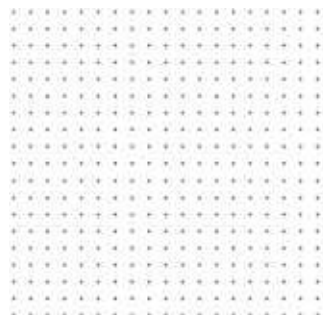
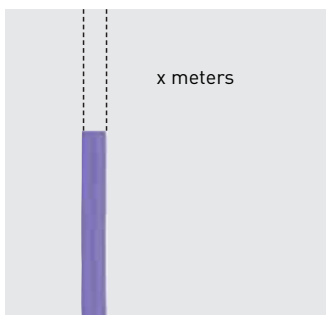
Installation solutions
HDMI cable
HDMI cable, customized



K HDMI
218 200 01 ●
HDMI connection cable;
ready to connect; free of halogen;
flame-retarded; magenta;
1 m (male/male);
10,0 mm Ø



K HDMI-CC
218 500 01 ●
HDMI connection cable;
ready to connect; free of halogen;
flame-retarded; magenta;
1 m (crimp termination/
crimp termination);
10,0 mm Ø



K HDMI 1 m
218 200 02 ●
HDMI additional lengths;
1 m; to K HDMI and K HDMI-CC,
free of halogen; flame-retarded;
magenta; 10,0 mm Ø; 1440 g;*

K HDMI 100 m
218 200 00 ●
HDMI cable;
100 m; on bulk rolls;
free of halogen; flame-retarded;
10,0 mm Ø; 144.000 g;*



AK ES HDMI 4,7 m
218 400 05 ●
 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
218 400 10 ●
 9.7m, with plug and round connector, black, 12,0 mm Ø; 950 g

AK ES HDMI 14,7 m
218 400 15 ●
 14.7 m, with plug and round connector, black, 12,0 mm Ø; 1490 g

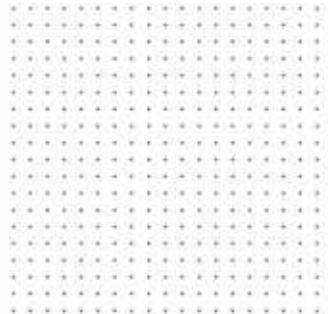
AK ES HDMI 19,7 m
218 400 20 ●
 19.7 m, with plug and round connector, black, 12,0 mm Ø; 3000 g

Terminal devices –
 connection cable
 HDMI feeder cable



EKM HDMI-S 0,3 m
176 102 05 ●
 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
176 102 06 ●
 0.3 m, with plug and round connector (ø 17 mm), black, 12 mm Ø ; 50 g



EZH
176 102 07 ●
 Pulling aid for HDMI/VGA-Feeder cable AK ES, 17 mm Ø ; 25 g

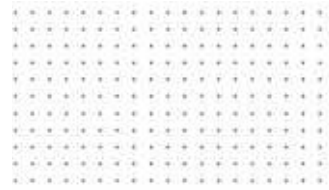
Accessory
 for HDMI feeder cable



AKE HDMI 2 m
218 100 02 ●
 HDMI – terminal devices connection cable, 2 m (male/male), black, 7,5 mm Ø ; 130 g

AKE HDMI 3 m
218 100 03 ●
 3 m (male/male), black, 7,5 mm Ø ; 180 g

AKE HDMI 5 m
218 100 05 ●
 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	25 m	30 m	40 m	50 m	60 m	70 m	80 m	90 m	100 m	120 m			
VGA	640	480	60	26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2		
	640	480	75	33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2	1 V3	
	640	480	85	37	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V1	1 V3	
SVGA	800	600	60	41	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2	1 V3	
	800	600	75	51	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V1	1 V2	1
	800	600	85	58	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2	1 V3	
XGA	1024	768	60	67	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2	1 V3	
	1024	768	75	84	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2	1 V3	
	1024	768	85	95	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V3		
WXGA	1366	768	60	89	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2		
	1366	768	75	112	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2		
	1366	768	85	127	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V3		
SXGA	1280	1024	60	112	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2		
	1280	1024	75	140	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2		
	1280	1024	85	158	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V1	1 V3	
WSXGA	1600	1024	60	140	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2		
	1600	1024	75	174	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V3		
	1600	1024	85	198	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V3		
UXGA	1600	1280	60	164	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2		
	1600	1280	75	204	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V3		
	1600	1280	85	232	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V3		
WUXGA	1920	1280	60	196	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2		
	1920	1280	75	245	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 V2		
	1920	1280	85	278	1	1															



AK VGA 5 m
 217 000 05 ●
 VGA connection cable;
 ready to connect; free of halogen;
 flame-retarded; green;
 5 m (male/female);
 7,3 mm Ø; 917 g

AK VGA 10 m
 217 000 10 ●
 10 m (male/female);
 7,3 mm Ø; 1292 g

AK VGA 15 m
 217 000 15 ●
 15 m (male/female);
 7,3 mm Ø; 1667 g

AK VGA 20 m
 217 000 20 ●
 20 m (male/female);
 7,3 mm Ø; 2042 g

AK VGA 25 m
 217 000 25 ●
 25 m (male/female);
 7,3 mm Ø; 2417 g

AK VGA 30 m
 217 000 30 ●
 30 m (male/female);
 7,3 mm Ø; 2792 g

Communications adapter
 VGA connection cable
 VGA patch cable
 VGA feeder cable



VK VGA 5 m
 217 100 05 ●
 VGA patch cable;
 ready to connect; free of halogen;
 flame-retarded; green;
 5 m (male/male);
 7,3 mm Ø; 917 g

VK VGA 10 m
 217 100 10 ●
 10 m (male/male);
 7,3 mm Ø; 1292 g

VK VGA 15 m
 217 100 15 ●
 15 m (male/male);
 7,3 mm Ø; 1667 g

VK VGA 20 m
 217 100 20 ●
 20 m (male/male);
 7,3 mm Ø; 2042 g

VK VGA 25 m
 217 100 25 ●
 25 m (male/male);
 7,3 mm Ø; 2417 g

VK VGA 30 m
 217 100 30 ●
 30 m (male/male);
 7,3 mm Ø; 2792 g



EK VGA 5 m
 217 300 05 ●
 VGA feeder cable;
 ready to connect; free of halogen;
 flame-retarded; green;
 5 m (male/crimp termination);
 7,3 mm Ø; 917 g

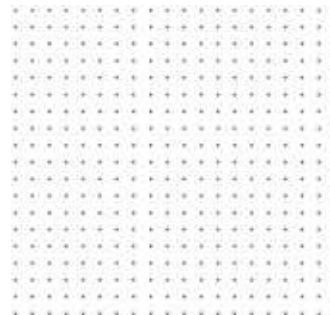
EK VGA 10 m
 217 300 10 ●
 10 m (male/crimp termination);
 7,3 mm Ø; 1292 g

EK VGA 15 m
 217 300 15 ●
 15 m (male/crimp termination);
 7,3 mm Ø; 1667 g

EK VGA 20 m
 217 300 20 ●
 20 m (male/crimp termination);
 7,3 mm Ø; 2042 g

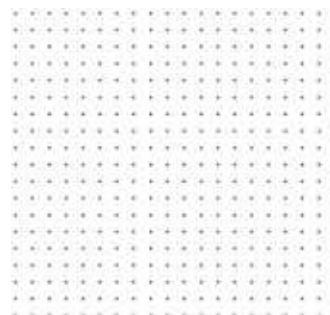
EK VGA 25 m
 217 300 25 ●
 25 m (male/crimp termination);
 7,3 mm Ø; 2417 g

EK VGA 30 m
 217 300 30 ●
 30 m (male/crimp termination);
 7,3 mm Ø; 2792 g



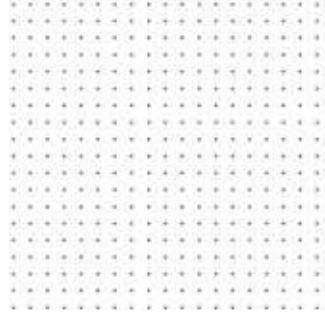
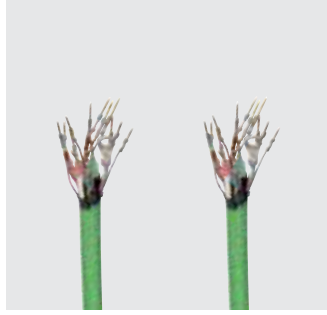
K VGA-S
 217 200 01 ●
 VGA-connection cable;
 1 m (male/male);
 7,3 mm Ø

Communications adapter
 VGA cable, customized

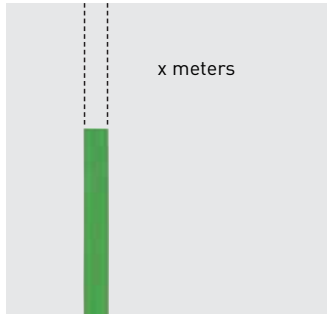


K VGA-B
 217 200 02 ●
 VGA connection cable;
 ready to connect; free of halogen;
 flame-retarded; green;
 1 m (male/female);
 7,3 mm Ø

VGA cable,
customized



K VGA-CC
217 500 01 ●
VGA-connection cable;
ready to connect; free of halogen;
flame-retarded; green;
1 m (crimp termination/crimp
termination);
7,3 mm Ø

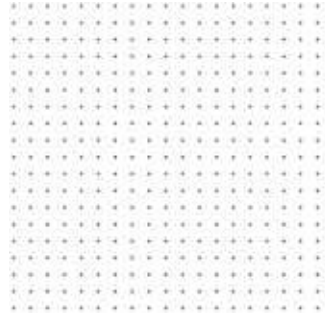


K VGA 1 m
217 200 03
VGA additional lengths; 1 m; to K
VGA-S, K VGA-B und K VGA-CC;
free of halogen; flame-retarded;
green;
7,3 mm Ø; 800 g;*

K VGA 100 m
217 200 00 ●
VGA cable; 100 m; on bulk rolls;
free of halogen; flame-retarded;
green;
7,3 mm Ø; 80.000 g;*

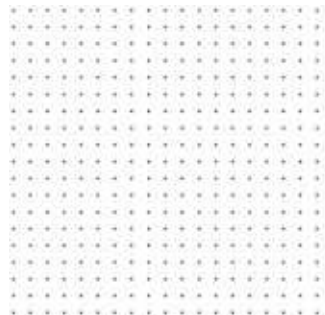
* max. transmission length see VGA
cable matrix on page 92.

Accessories for
VGA cable



VGA-S C
176 102 01 ●
VGA plug;
for crimp termination;
in connection with EK-VGA

VGA-B C
176 102 02
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
217 600 05 ●
 VGA-terminal devices-connection cable; flexible feeder cable, 4.7 m, with plug and round connector (ø 17 mm), black, 8 mm Ø ; 410 g

AK ES VGA 9,7 m
217 600 10 ●
 9,7 m, with plug and round connector, black, 8 mm Ø ; 780 g

AK ES VGA 14,7 m
217 600 15 ●
 14,7 m, with plug and round connector, black, 8 mm Ø ; 895 g

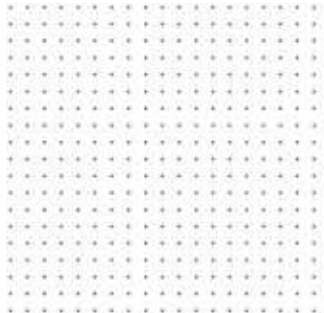
AK ES VGA 19,7 m
217 600 20 ●
 19,7 m, with plug and round connector, black, 8 mm Ø ; 1200 g

Terminal devices –
 connection cable
 VGA feeder cable



EKM VGA-S 0,3 m
176 102 03 ●
 VGA-Adapter cable for VGA-feeder cable AK ES VGA, 0.3 m, with plug and round connector (ø 17 mm), black, 8 mm Ø ; 70 g

EKM VGA-B 0,3 m
176 102 04 ●
 0.3 m, with jack and round connector, black, 8 mm Ø ; 70 g



EZH
176 102 07 ●
 Pulling aid for HDMI/VGA-feeder cable AK ES, 17 mm Ø ; 25 g

Accessories for
 VGA feeder cable

VGA signal amplification

If the performance of the supply source is not sufficient for a VGA line in special cases, (e. g. length provided by the factory for a netbook), signal amplifiers offer a solution.

Signal amplification up to 50 m – 50 SV VGA

A weak supply level of the source may also be to blame if image generation fails across the distance. In such cases, the SV VGA 50 constitutes a simple and straightforward solution.

Simply plugged into the VGA output of the netbook or laptop, for example, the gain is increased accordingly, and distances up to 50 meters can be achieved easily.

An external power supply is not required since the device is supplied via the VGA output of the source. All VGA signals are supported.

Signal amplification up to 200 m – SV VGA 200

The SV VGA 200 is the right amplifier solution for long distances up to 200 m.

Simply plugged into the VGA output of the netbook or laptop, for example, the gain is increased accordingly, and distances up to 200 meters can be achieved easily.

Power is supplied via the VGA port or a free USB port of the source. You can also use an external power supply. This as well as a matching USB cable are included in the delivery scope of the device.

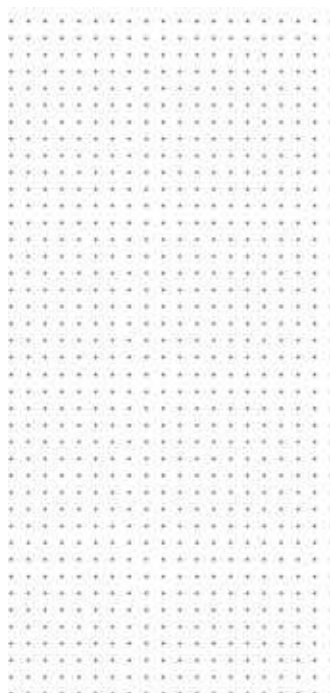


Technical Data	
Operation	Plug & play (DDC mode, hardware detect)
Power supply	PIN9 of the supplying VGA source
Output signal	0,7 Vpp / 75 Ω RGB
Bandwidth/resolution	500 MHz / 2048 x 1536 pixels
Transmission distance	50 m
Connections/ports	VGA plug/VGA socket



Technical Data	
Operation	Plug & play (DDC mode, hardware detect)
Power supply	PIN9 of the supplying VGA source, USB or ext. power supply (power = 1W)
Output signal	0,7 Vpp / 75 Ω RGB
Bandwidth/resolution	500 MHz / 2048 x 1536 pixels
Transmission distance	200 m
Connections/ports	2 VGA sockets

Signal amplifier VGA



SV VGA 50
176 101 01 ●
Signal amplifier; VGA to boost weak signals such as from netbooks, for distances up to 50 m; max. resolution 2048 x 1536 pixels; without external power supply; adapter-type (male/female); LED function light; light grey (similar RAL 7035); 38 x 22 x 63 mm; 168 g



SV VGA 200
176 101 02 ●
Signal amplifier; VGA to boost weak signals such as from netbooks, for distances up to 200 m; max. resolution 2048 x 1536 pixels; external power supply (included) or USB-powered; surface-mounted adapter-type (female/female); LED function light; light grey (similar RAL 7035); 66 x 30 x 80 mm; 207 g

USB signal amplifier SV USB 50

USB ports are limited according to the technical specification to a distance of 5 m. For longer distances and/or the need for several USB ports in one place, hub and amplifier solutions are required.

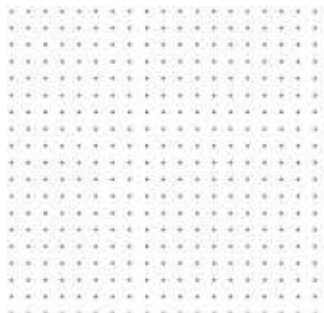
The SV 50 USB can extend the USB port of a source via a standard data cable. The data cables then must meet or exceed the requirements of Cat5e (100 MHz) with distances up to 50 m. The VGA signal in/out coupling at the start and end of the line uses a standard USB cable. The power supply of the active devices is handled by a separate power adapter. At the end of the extended distance, a total of 4 USB outputs (USB 1.1) are available. The overall capacity of the 4 outputs is 0.5 W, which means the charging of active USB devices (e. g. smart phone) is possible as well.



USB signal amplifier/hub

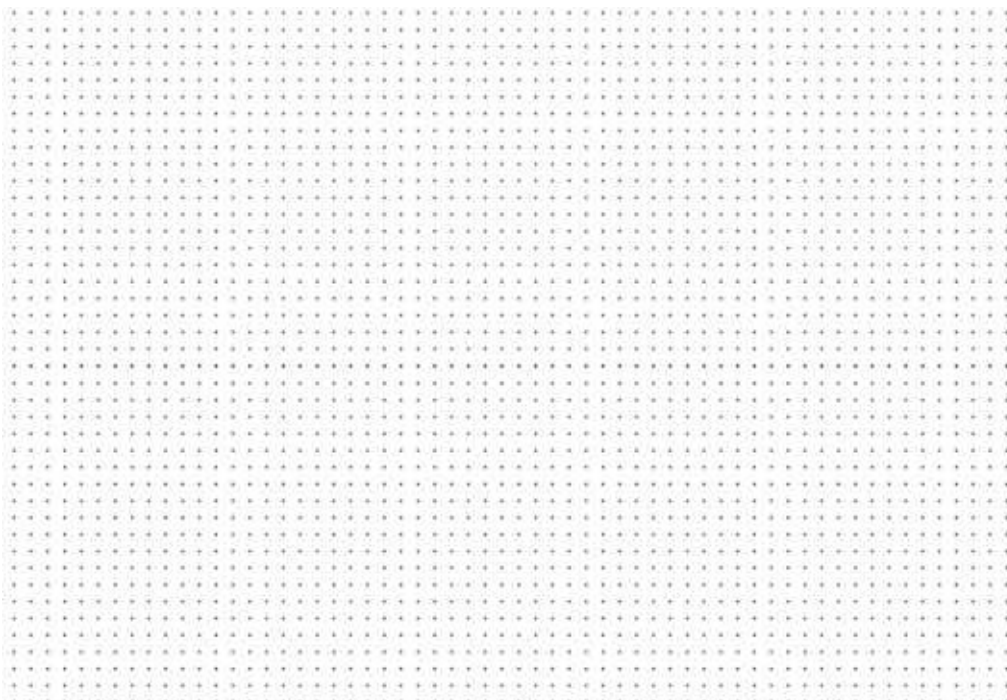
Technical Data

Operation	Plug & play
Power supply	7V DC / 0,5 A using power adapters
USB applications	USB 1.1
Transmission distance	50 m
Ports	1 USB-B each 1 RJ45 jack each 4 USB-A on hub



SV USB 50
176 101 03 ●
Signal amplifier/line extender for USB; to extend a USB distance up to 50 m via Cat.5e cable; 4 outputs (USB 1.0/0.5 W); powered by external power supply (included); surface-mounted; USB-B input; Cat.5e via RJ45; 4 USB-A output; LED function light; light grey (similar RAL 7035); 152 x 26 x 69 mm; 945 g

Signal amplifier
USB



TELEMATIC

Saving Energy with Green IT



Today, saving energy is becoming more important due to the climate changes and increasing energy costs. We contribute to this topic by continually developing new products which help to protect the environment as well as to save energy. The remote switching and alarm dialling devices from Rutenbeck allow you to switch your devices as needed. Consequently, saving energy and money.

Do you want to monitor machines and production facilities?

Do you want to control a heating, which needs a different setting due to change of weather or simply the signs in your window display?

Our high performance telecontrol-devices are perfect for all these tasks and more.

You don't only depend on the neighbours or janitors but instead want to be directly alarmed of a burglary or of a malfunction in your vacation home! The telecontrol-devices always inform you of occurring problems at a desired telephone number or mobile phone so that you are able to react immediately and switch the desired devices. Your desires have hardly any limitations!

You operate your telecontrol via your telephone or mobile phone with DTMF-signals and will be speech supported informed of the carried out switching and the current state of the connected devices.



Overview remote switching and alarm dialing devices (analog/GSM)

Article description	TCR easy Plus	TC GSM/GPS	TCR GSM/GPS
Housing	REG	Wall mounting	REG
Measurements in mm	72x90x65	143x81x28	144x90x65
Weight in g	310	438	325
Protection class	IP20	IP30	IP20
Power supply	integrated	Plug power supply	integrated
UPS connectable	•	yes, accu integrated	yes, accu integrated
Speech output	•	-	-
Access protection via 4 digit PIN	•	•	•
Telephone line monitoring	-	•	•
R&TTE-conform	•	•	•
Programming of the device	Telephone	Telephone call, SMS, PC	Telephone call, SMS, PC
Integrated push-button for local switching of the switching output	•	•	•
Screw terminals for the connection of external push-buttons	•	•	•
Connection of temperature sensor possible	1	2	2
Temperature range	-10 to +40 °C	-25 to +50 °C	-25 to +50 °C
Connection to analog phone line	•	-	-
Connection to GSM (SIM card needed)	-	•	•
Alarm dialling function	•	•	•
Alarm inputs (conventional)	2	2	2
Alarm phone numbers	2	4x4	4x4
Alarmtransfer via voice	•	-	-
Alarmtransfer via SMS	-	•	•
Alarmtransfer via FAX	-	•	•
Alarmtransfer via E-mail	-	•	•
Remote switching function	•	•	•
Remote switching per DTMF or SMS	DTMF	SMS	SMS
Remote switching per CLIP	-	•	•
Switching outputs (conventional)	1	2	2
Local alarm	-	-	-
Switching possibility at device	•	•	•
Potential free relay outputs	1	2	2
Operation instructions	293 531	on CD	on CD
Short guide	-	293 565	293 635
Article-No.	700 802 200	700 902 600	700 802 600

Overview remote switching and alarm dialing devices (IP)

Article description	Energy Manager TC IP 1 WLAN	TC IP 1	TCR IP 4
Housing	Plug-plug adapter	Plug-plug adapter	REG
Measurements in mm	66 x 136 x 76	66 x 136 x 76	72 x 90 x 65
Weight in g	200	170	298
Color	pure white (similar RAL 9010)	pure white (similar RAL 9010)	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	100-240 V AC/50-60 Hz (Klemmen)
Power consumption	1,8 – 3,1 W	1 – 1,6 W	1 – 3,5 W
Connection to LAN (RJ45)	10/100 Mbit/s	10 Mbit/s	10 Mbit/s
Connection to WLAN IEEE (802.11 b/g)	11/54 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	•	•	•
Temperature range	-25 bis +55 °C	-25 bis +55 °C	-25 bis +55 °C
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	20 switching on or switching off times	4 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	≤ 1,7 s/day
Surveillance	•	–	–
Temperature surveillance (via E-mail and switching function)	•	–	–
Power surveillance (via E-mail and switching function)	•	–	–
Remote switching function	•	•	•
Switching outputs	1	1	4
Switching power	13 A/230 V	16 A/230 V	10 A/230 V
Switching possibility at device	•	•	•
Current measurement of the connected device	•	–	–
Switching possibility via browser/internet	•	•	•
Potential free relay outputs	–	–	•
Operation instructions	293 682	293 636	293 656
Article-No.	700 902 620	700 902 610	700 802 610

REG = DIN-rail-mounting housing

**Telecontrol-device
TCR easy Plus**

The TCR easy Plus can be used in many applications, when talking about alarming and remote switching via the telephone. After activation of the alarm input – by closing a potential-free contact – the alarm will be sent as voice message to the recipient. The phone number to call can be individually programmed. Remote switching can be performed world-wide by use of a telephone.

The configuration of the device is supported by well-defined announcements. This allows the comfortable entry of all settings and individual data by use of a DTMF telephone or DTMF pocket dialler.

If a temperature sensor (available as accessory) is connected, the actual temperature can easily and conveniently be inquired via the telephone from the distance. Furthermore, the device can be configured so that exceeding or falling below a previous set temperature level will result in an alarm call to a telephone.

The TCR easy Plus has one switching output and two alarm inputs.

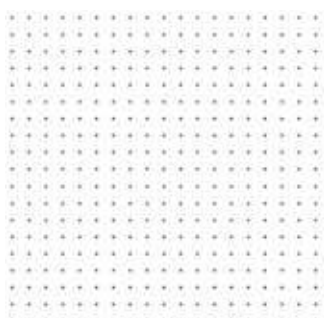
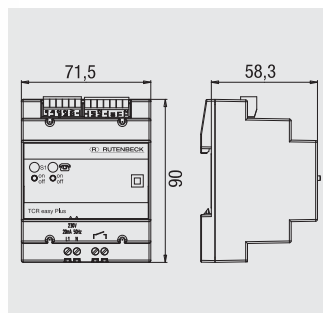
The devices will be shipped with detailed operating instructions.

TCR easy Plus:
Housing made of PC-plastic (polycarbonate)

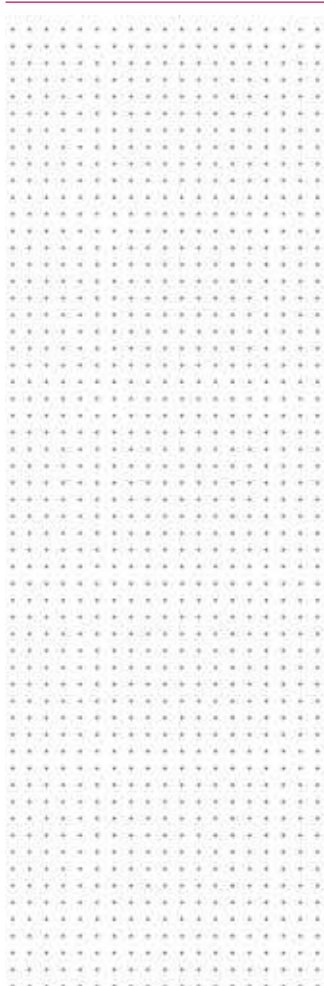
Protection class IP30 according to EN 60529



TCR easy Plus
700 802 200 ●
light grey (similar RAL 7035);
72 x 90 x 65 mm = 4 TE; 310 g

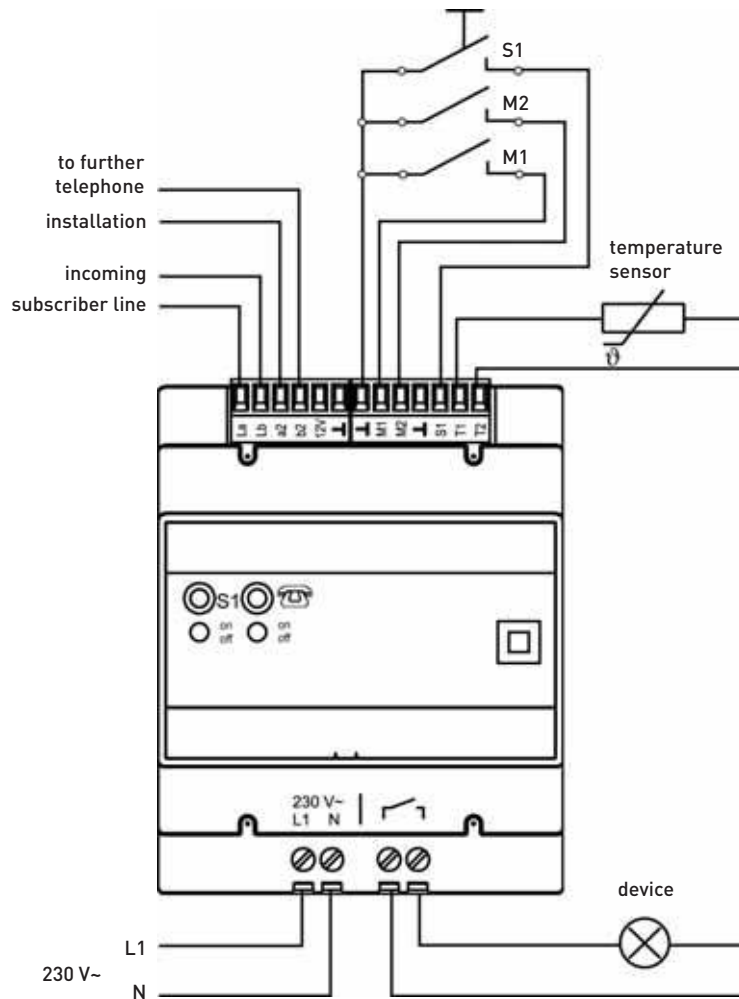


Temperature sensor
700 802 201 ●
Resolution 1 °C;
B-value 3435 K ± 1%;
10 kΩ at 25 °C;
black (similar RAL 9005);
600 mm; 6 g



Performance features TCR easy Plus

- 2 alarm inputs, activated with potential-free contacts
- each alarm input dials one phone number in case of an alarm
- alarming via telephone at exceeding/falling below temperature level
- 1 switching output, potential-free contact max. 16 Amps/230 V AC (real load)
- timer function (up to 24 hours) for the switching outputs, can be set to seconds, minutes and hours.
- display of the switching state of the connected devices with LED
- state inquiry via telephone, information about the switching state of the device with announcements
- temperature inquiry at connected temperature sensor (optional)
- access protection through 4-digit code number
- switching by use of externally connected push-buttons or built-in push-buttons
- the switching will either be performed with a telephone also mobile phone) via DTMF
- integrated power supply
- nominal voltage 230 V AC (+6%, -10%) 50 Hz
- power consumption max. 1,5 VAmPs
- buffering of all settings at a power failure
- connection of the TCR easy Plus to the analog subscriber line with installation cable
- connection at extensions of PABXs
- with pan-European approval according to:
1999/5 EG
2004/108/EG
2006/95/EG
2011/65/EU



Functional description

The controlling of remote switching of devices will be done with a telephone (also mobile phone) via DTMF.

Before using the TCR easy Plus for the first time, some necessary parameters must be configured. The programming will be performed by phone. By calling the TCR easy Plus after entering the correct code number, the speech-supported menu for the settings can be accessed by dialing digit "9". Therefore, all necessary settings can be done from a distance through the telephone.

At an incoming call the TCR easy Plus will be activated after the number of programmed ringing signals. There will be a speech output "Here is the TCR easy Plus. Please dial the code number". If a wrong code number is dialed, there will be a message "The code number is wrong. Please dial the code number". After three unsuccessful trials, the connection will be released.

If the appropriate code number has been dialed, there will be a speech output "Please, dial a digit". By dialing digits up to five conventional devices can be turned on or off.

If, for instance, the digits 1-1 are dialed, the device 1 is turned on. There will be a speech output "The device 1 is turned on".

By dialing digits 1-0 the device 1 will be turned off. There will be a speech output "The device 1 is turned off". By dialing digits 1-6, the device 1 can be activated for a pre-determined time. If e.g. an impulse time of 3 seconds has been selected, the following announcement can be heard "The device 1 is turned on. Impulse time 3 seconds." By dialing digit 6 the announcement of the actual temperature takes place, if a temperature sensor is connected.

By dialing the #-button, the state of all devices will be announced and by dialing the *-button, the connection will be released.

If an alarm occurs and therefore alarm input 1 has been activated, the TCR easy Plus calls the programmed parties and the announcement "Here is the TCR easy Plus. The alarm 1 has been activated" can be heard. The speech output will be repeated for approx. 1 minute. The alarm can be confirmed by dialing the *-button. There will be a speech output "The alarm has been confirmed". Please dial the code number". At this point the connection can be released or by dialing the code number, devices can be switched.

If a temperature sensor is connected to the analog input, an alarm call can be initiated, if a certain temperature level has been reached. In this case, the alarm phone number 1 will be called and an announcement will inform about the temperature.

All states of the TCR easy Plus are time supervised, if no communication takes place within 60 seconds, the connection will be released.

**Telecontrol-device
TCR GSM/GPS, TC GSM/GPS**

Alarming, remote switching and temperature surveillance with SMS.

The TC(R) GSM/GPS is an alarming and remote switching device for the mobile network in a surface mounting housing. For operation an activated SIM-card of any service provider is needed. The TC(R) GSM/GPS has two switching outputs, two alarm inputs and two analog inputs for the connection of temperature sensors. In changing of state at the inputs, the TC(R) GSM/GPS automatically sends short messages (SMS) via mobile network to up to four phone numbers.

The programming of the device can be done

- with a telephone call ,
- with SMS,
- via the USB-interface of a PC or
- from a distance from a PC with GSM-modem.

Temperature sensors can be connected at two analog inputs. The temperature can be requested with a SMS. An alarm SMS can be initiated at certain temperature levels.

The switching states of the outputs and the settings are saved at a power failure and will be restored, when the power returns. The power supply is monitored, so when switching on power and at power failure, a SMS will be sent to up to four phone numbers. The accumulator buffering allows the sending and reception of SMS for a longer period of time.

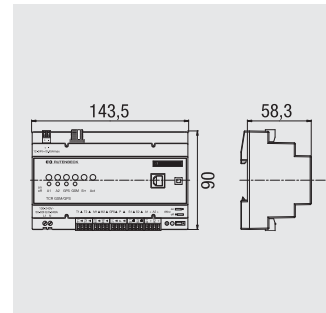
The TC(R) GSM/GPS will be shipped with plug power supply, GSM antenna, USB-cable and a CD, which contains detailed operating instructions and the PC-program for easy programming.

TCR GSM/GPS:
Housing made of PC

Protection class IP20 according to EN 60 529

TC GSM/GPS:
Housing made of ABS

Protection class IP30 according to EN 60 529



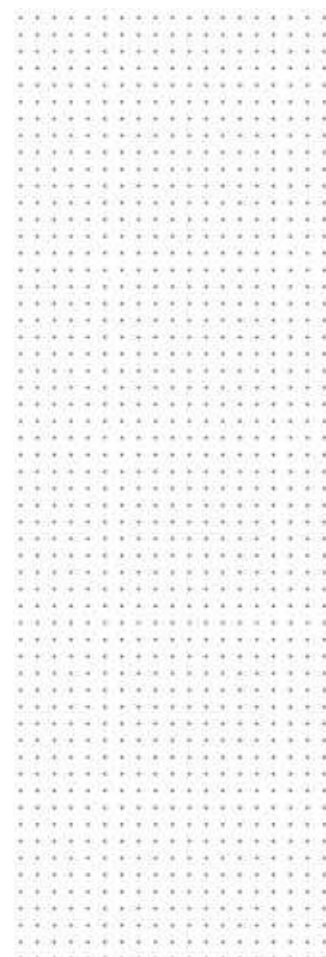
**TCR GSM/GPS
700 802 600** ●
with external FME-Magnetic foot antenna (3 m);
light grey (similar RAL 7035);
144 x 90 x 65 mm = 8 TE; 325 g

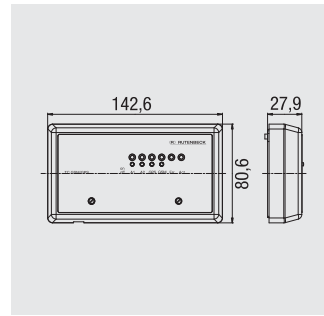
Performance features

- 2 alarm inputs, activated with potential-free contacts, activation time and make-/break operation can be set
- each alarm input sends in case of alarm a SMS to up to four phone numbers
- 2 analog inputs for the connection of temperature sensors (optional)
- alarming with SMS at exceeding/falling below temperature level (optional)
- inquiry of temperature with SMS at connected temperature sensors -25 to +50 °C, (optional)
- 2 switching outputs (potential free contact 48 V/2 Amps)
- timer function (up to 24 hours) for the switching outputs
- display of the switching state of the connected devices with LEDs
- switching by use of externally connected push-buttons or built-in push-buttons
- easy configuration with a simple telephone call
- programming with SMS, via the USB-interface of a PC or from a distance from a PC with GSM-modem
- PC program for the configuration included
- possibility to reset to factory settings with SMS or push-buttons
- alarming and remote switching with SMS
- checking of the function standby by sending SMS in routine intervals (ALIVE-function)
- evaluation of the CLIP-function for switching of switching output 1
- surveillance of power supply
- buffering of all switching states and settings at power failure
- SMS at powering up and at power failure
- accumulator buffering allows the sending and the reception of SMS for a longer term
- display of credit with SMS at prepaid-cards
- plus power supply of the TC GSM/GPS (Input: 100-240 V AC/47-63 Hz, Output: 12 V DC/1.25 A)
- integrated power supply of the TCR GSM/GPS, nominal voltage 230 V AC, 50-60 Hz

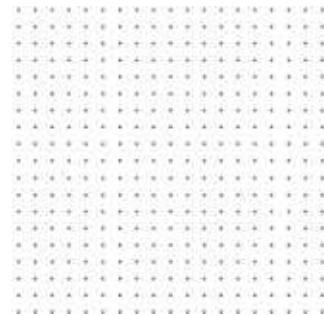
GPS (optional, for boats and mobile homes)

- GPS-receiver connectable and can be activated/de-activated
- GPS-tracking, time interval for sending of coordinates can be set
- surveillance of the GPS position, alarming with SMS at alteration





TC GSM/GPS
700 902 600 ●
with internal SMA-rod-antenna;
pure white (similar RAL 9010);
143 x 81 x 28 mm; 438 g



Functional description

The controlling takes place with a telephone call, SMS or with push-buttons at the device.

For easy applications the device can be configured with a telephone call. The device can also be configured with SMS, via the USB-interface of a PC or from a distance from a PC with GSM-modem.

By configuration with a telephone call, the phone number of the caller will be saved as phone number 1 for all functions; viz. a SMS will be sent to phone number 1, when alarm input 1 or 2 is activated. A SMS is also sent to phone number 1 when switching-on or switching-off the power supply.

After the configuration with a telephone call, the switching output 1 can be activated with a free of charge telephone call (CLIP-function). Here the phone number of the caller is recognized by the TC(R) GSM/GPS and the switching output 1 is activated without the incoming call being accepted (the call is free of charge). The duration of the switching-impulses can be set at both outputs. The impulse time can be set between 1 second and 24 hours.

The switching outputs are equipped with relays, at which devices with low-voltages up to 48 V can be connected. The switching of the outputs can be done with SMS or with push-buttons and will be indicated at two LEDs. The outputs can be on for a programmable time (impulse operation).

The states of all input and outputs can be recalled per SMS at any time.

With prepaid cards the TC(R) GSM/GPS will send a notification per SMS if a programmable minimum credit level has been reached

At the PS2-receptacle an external GPS-receiver (optional) can be activated by push-button at the device for the surveillance of position. The position data can be recalled with SMS. A change of position will be sent from TC(R) GSM/GPS with SMS. The time span between the short messages is programmable.



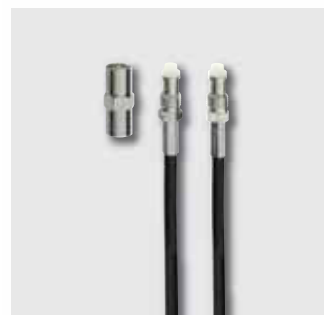
Temperature sensor
700 802 201 ●
Resolution 1 °C;
B-value 3435 K ± 1%;
10 kΩ at 25 °C;
black (similar RAL 9005);
600 mm; 6 g



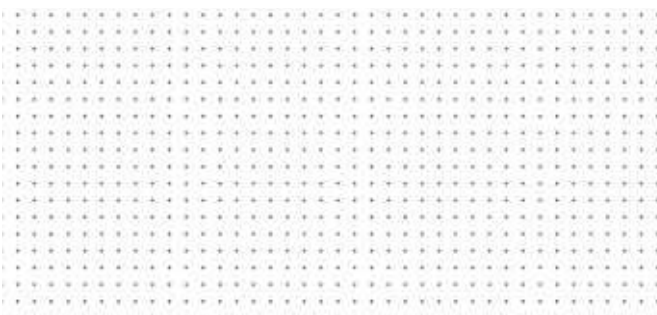
GPS receiver NL-303P
700 902 601 ●
Perfectly suitable for the determination of positions in connection with the TC GSM/GPS; SIRF Star III/ Low Power Chipset; magnetic and non-slip bottom; waterproof housing; LED-indicator for GPS status
Ø 53 x 19 mm;
Cable length 1650 mm; 71 g



FME-Magnetic foot antenna
700 902 602 ●
Consisting of a GSM-antenna and a FME-SMA-adapter; the set is needed in order to replace the internal SMA-rod-antenna of the TC GSM/GPS with an external FME-magnetic foot antenna; cable length 3000 mm; 70 g



FME-Extension
700 902 603 ●
Consisting of extension cable and a FME-coupling; the set is needed in order to extend the cable of the external FME-magnetic foot antenna;
cable length 4000 mm; 158 g



Remote switching device Energy Manager TC IP 1 WLAN

With the Energy Manager electrical devices can be switched via a wired or wireless network.

In addition, the Energy manager comes with a current sensor that determines the load current and all other parameter of the connected device.

The measured values permit the display of real-, apparent- and reactive power as well as phase shift angle, current and voltage. The storage of the measure values provides a later graphic evaluation of the power consumption. An expense forecast will be immediately displayed once the cost for a KWh has been entered. A load dependant switching of the integrated power outlet when a load exceeds, respectively, falls below a certain load will be additionally reported by e-mail.

The device is located in a plug-plug adapter housing. To put into operation the Energy Manager simply has to be connected to a power outlet and with a patch cable with the local network. In delivery state the device has the IP-address 192.168.0.4.

After configuration the connection to the network can be done by WLAN or network connection.

The encryption methods WEP, WPA and WPA2 are offered to guarantee security in the WLAN.

The device to be switched will be plugged into the provided power outlet of the Energy Manager. The Energy Manager can be switched from all computers of the same network with their network name, respectively, the IP-address.

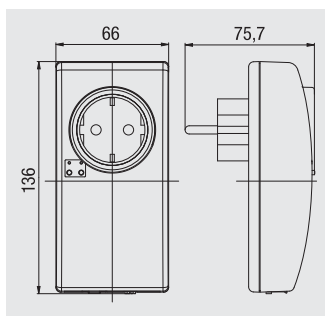
A local operation is possible with a push-button on the device. The actual switching state of the output is indicated by a LED at the push-button for switching.

The Energy Manager has an integrated time switching function. Up to 20 switching on or switching off times can be selected.

With a web browser it is possible to display the actual temperature at connected temperature sensor. A temperature dependant switching of the integrated power outlet and a alarming by E-mail



**Energy Manager
TC IP 1 WLAN**
700 902 620 ●
pure white (similar RAL 9010);
66 x 136 x 76 mm; 200 g



Temperature sensor
700 802 201 ●
Resolution 1 °C;
B-value 3435 K ± 1%;
10 kΩ at 25 °C;
black (similar RAL 9005);
600 mm; 6 g

when exceeding, respectively, falling below a temperature will be reported.

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

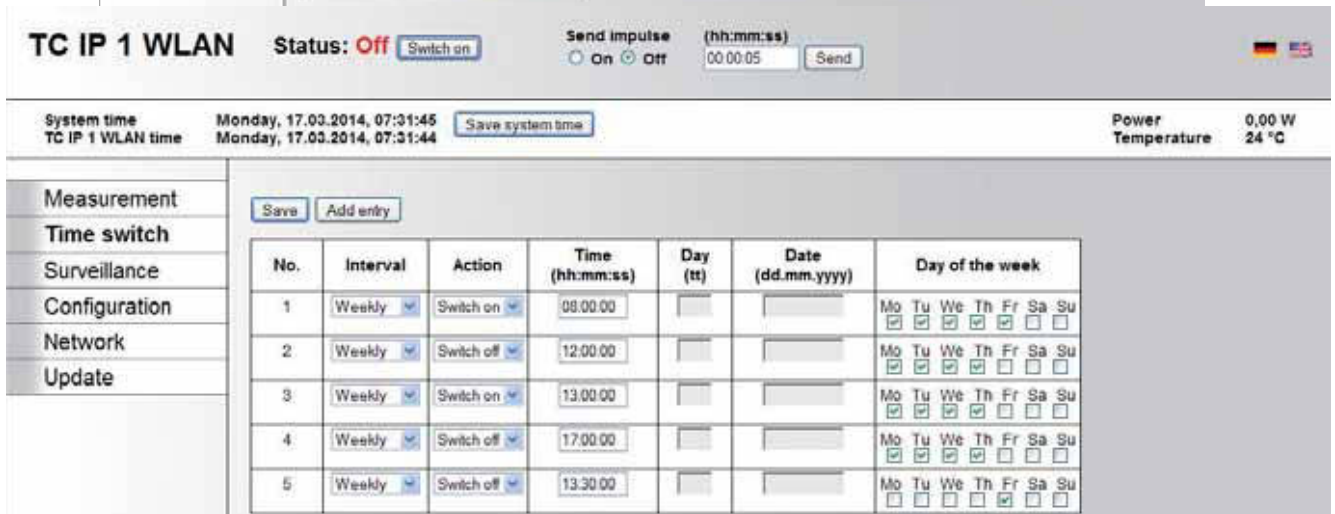
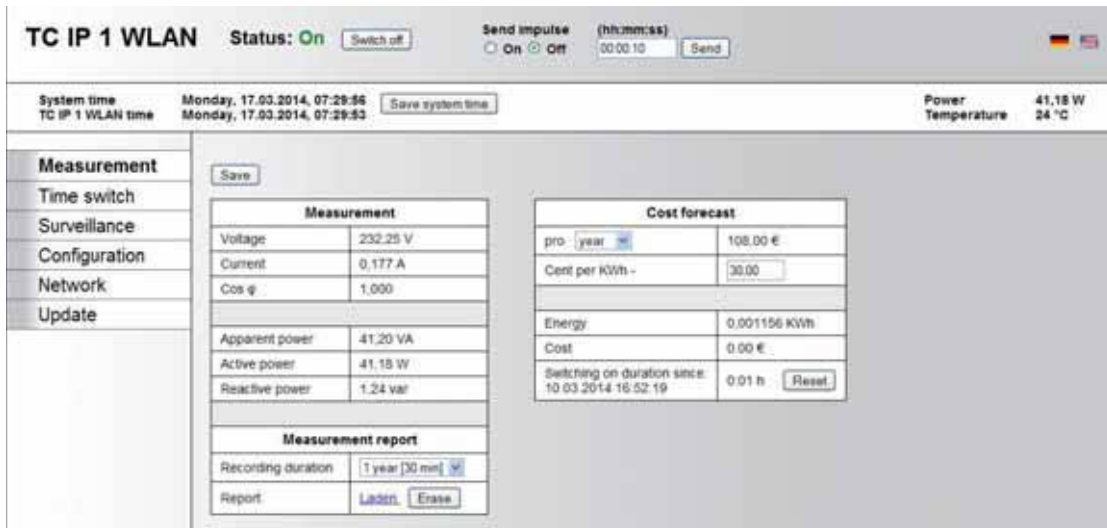
The Energy Manager will be delivered with detailed operating instructions.

**Energy Manager
TC IP 1 WLAN:**
Housing made of ABS V0
(flame-retardant)

Protection class IP20
according to EN 60 529

Performance features

- integrated power supply
- 1 switching output 13 Amps/230 V
- indication of the switching state of the switching output
- local operation of the switching output
- network connections RJ45 and WLAN
- link-/activity indication for the network connections
- analog input for the connection of a temperature sensor (optional)
- temperature surveillance with web browser, analysis range -25 to +55 °C, resolution 1 °C
- temperature dependant switching of the integrated power outlet
- alarming by E-mail when exceeding, respectively, falling below a temperature
- power measurement of the connected load
- load dependant switching of the integrated power outlet
- alarming by E-mail when the load exceeds, respectively, falls below the value
- can be resetted to factory settings
- can be update via LAN and WLAN
- buffering of the time at power failure for 4 days
- buffering of all settings at power failure
- automatic time synchronization via internet
- operation as time switch, 20 switching on or switching off times can be selected
- random switching
- power consumption < 3 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



Application example

First connect the Energy Manager with a patch cord to the local network. After this the temperature sensor (optional) will be connected at the spring terminals.

After the connection to a power outlet the Energy Manager can be reached with a browser. After entering the address <http://192.168.0.4> or <http://TCIP1W> the main menu of the Energy Manager opens (see picture above).

One will be automatically be lead to the action field „Measurement“, where the measured values of the connected load will be displayed. Furthermore, a cost prognosis is available.

The Energy Manager has an integrated time switch function. In the action field „Time switch“ and the button „New entry“ up to 20 switching on or switching off times can be activated“.

The settings will be stored in the Energy Manager with „Save“. The desired reactions at temperature-, respectively, load deviation will be set by entering the action field „Surveillance“ in the main menu.

With the action field „Configuration“ in the main menu, one will come to the settings in order to restrict the user rights. In addition the information will be entered here for the own E-mail-account.

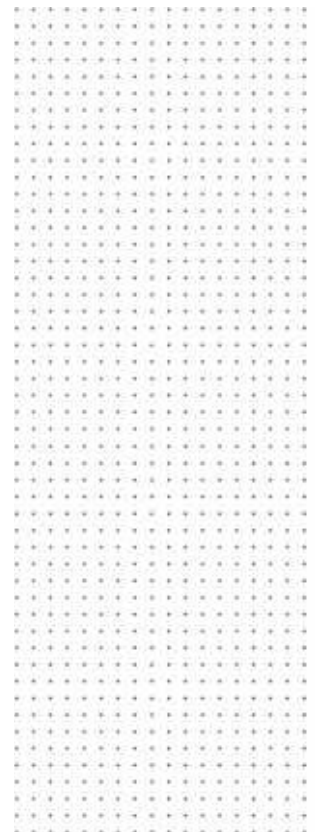
With the action field „Network“ in the main menu you will be lead to the system settings of the Energy Manager where the IP-address, network name and encryption for the WLAN van be entered.

The switching functions as well as the indication of links, temperature and time are located in the upper area of the screen and therefore available in all menus.

In the example above a company's laser printer is connected at the Energy Manager. The printer is connected to the wired network connection. The Energy Manager will be connected to a WLAN-Access-Point. The printer will be switched on from Monday to Friday at 8 o'clock in the morning and switched off at 12 o'clock. After the lunch break the printer will be switched on again at 13 o'clock and switched off at 17 o'clock. On Fridays the printer will be turned on at 8 o'clock in the morning and

switched off at 13:30 o'clock. On weekends is the printer not in use. If the printer is needed outside the programmed times, the user is able to switch the printer on at any time either with the built-in push-button or from the website.

The output can be switched in impulse mode if needed. It will be distinguished between two kinds of impulses. The on-impulse switches on the output for the selected time and the off-impulse switches off the output for the selected time. If the output is already switched on while sending an on -impulse, it will be switched off after passing the impulse time.



**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-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 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.

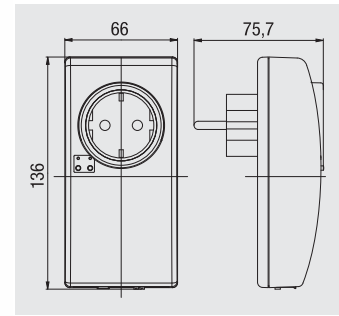
The TC IP 1 can also be operated from a mobile phone, if this supports JavaScript. More informations on www.rutenbeck.com.

The TC IP 1 will be delivered with a CD, which contains detailed operating instructions.

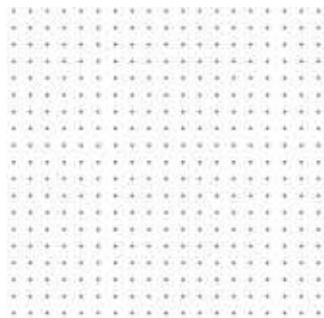
TC IP 1:

Housing made of ABS V0 (flame-retardant)

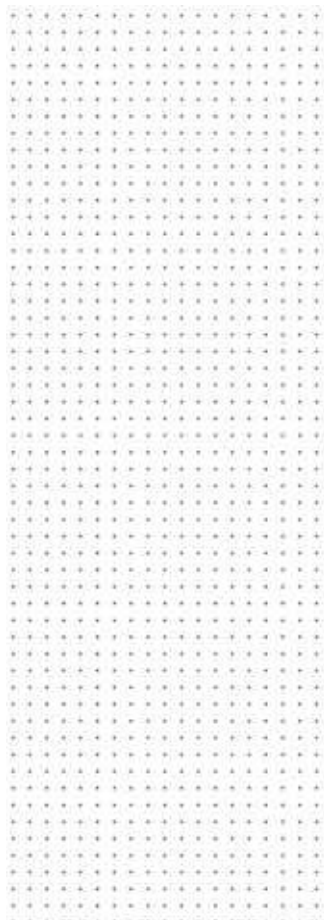
Protection class IP20 according to EN 60529



TC IP 1
700 902 610 ●
pure white [similar RAL 9010];
66 x 136 x 76 mm; 170 g

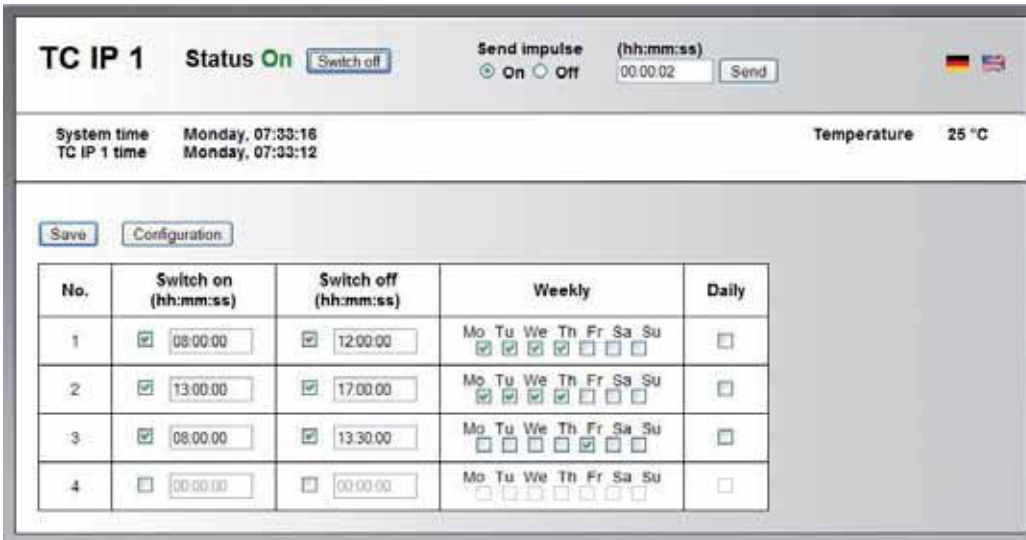


Temperature sensor
700 802 201 ●
Resolution 1 °C;
B-value 3435 K ± 1%;
10 kΩ at 25 °C;
black [similar RAL 9005];
600 mm; 6 g



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 resetted 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



Application example

First the TC IP 1 will be connected with a patch cord to the local network. After this the temperature sensor (optional) will be connected at the spring terminals.

outlet the TC IP 1 can be reached with a browser. After entering the address <http://192.168.0.2> the main menu of the TC IP 1 opens (see picture above).

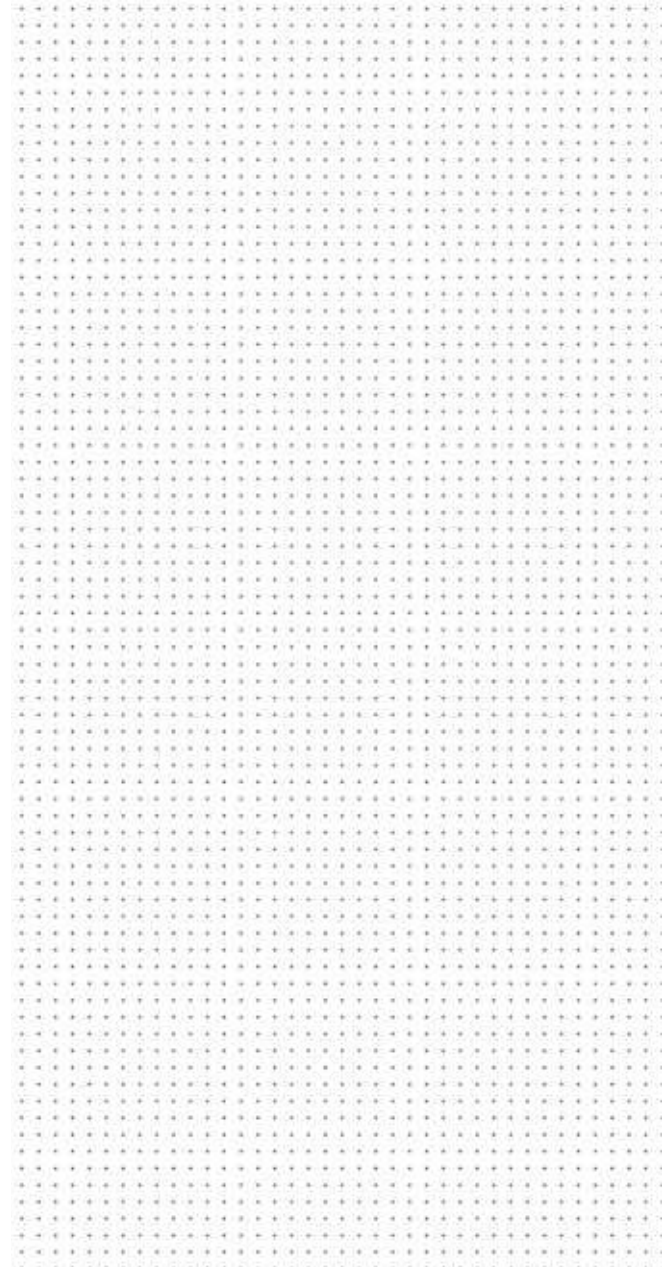
With the button „Configuration“ in the main menu you will access the system settings of TC IP 1. Here you can enter and modify IP-address and passwords.

The TC IP 1 has an integrated time switching function. Up to 4 switching on and 4 switching off times can be selected. At any one time one switching on time is combined in a group with a switching off time. The days of a week can be allocated to each group.

In the above example a laser printer of a company is connected at the TC IP 1. The printer will

be switched on from Monday to Friday at 8 o'clock in the morning and switched off at 12 o'clock. After the lunch break the printer will be switched on again at 13 o'clock and switched off at 17 o'clock. On Fridays the printer will be turned on at 8 o'clock in the morning and switched off at 13:30 o'clock. On weekends is the printer not in use. If the printer is needed outside the programmed times, the user is able to switch the printer on at any time either with the built-in pushbutton or from the website.

The output can be switched in impulse mode if needed. It will be distinguished between two kinds of impulses. The on-impulse switches on the output for the selected time and the off-impulse switches off the output for the selected time. If the output is already switched on while sending an on-impulse, it will be switched off after passing the impulse time. The light bulb on the website indicates the actual switching state.



**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.

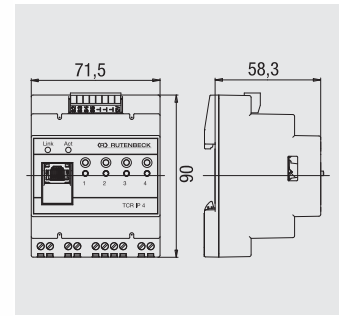
The TCR IP 4 can also be operated from the Internet if there is a fixed IP-address or a DNS-server for the translation of the dynamic IP in a host name provided.

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

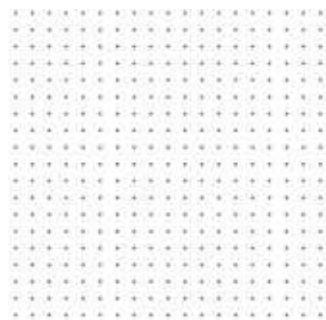
The TCR IP 4 will be delivered with a CD, which contains detailed operating instructions.

TCR IP 4:
Housing made of PC

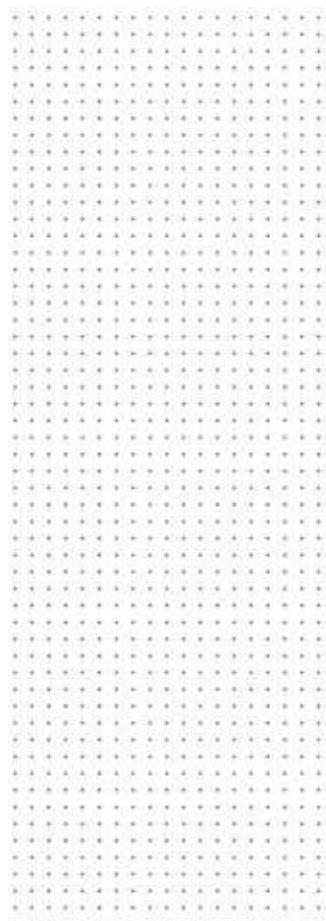
Protection class IP20
according to EN 60529



TCR IP 4
700 802 610 ●
DIN-rail mounting housing 4 TE;
light grey (similar RAL 7035);
72 x 90 x 65 mm; 298 g



Temperature sensor
700 802 201 ●
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 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
- 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

No.	Interval	Action	Time (hh:mm:ss)	Day (tt)	Date (dd.mm.yyyy)	Day of the week
1	Weekly	Switch off	05:30:00			Mo Tu We Th Fr Sa Su <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2	Weekly	Switch on	17:30:00			Mo Tu We Th Fr Sa Su <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3	Disabled	Switch on				Mo Tu We Th Fr Sa Su <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4	Disabled	Switch on				Mo Tu We Th Fr Sa Su <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5	Disabled	Switch on				Mo Tu We Th Fr Sa Su <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Application example

First the TCR IP 4 will be connected with a patch cord to the local network. After this the temperature sensor (optional) will be connected at the screw terminals.

230-V-power supply the TCR IP 4 can be reached with a browser. After entering the address <http://192.168.0.3> the main menu of the TCR IP 4 opens (see picture above).

With the button „network configuration“ in the main menu you will access the system settings of TCR IP 4. Here you can enter and modify IP-address and passwords.

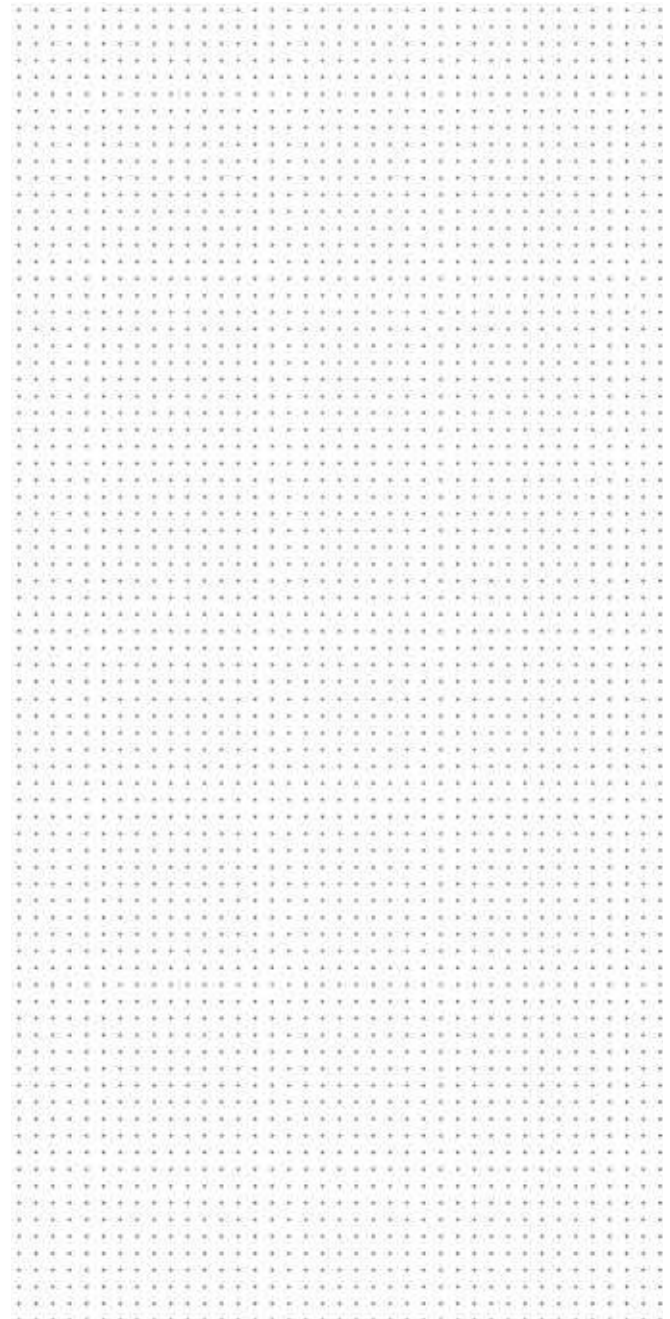
The TCR IP 4 has an integrated time switching function. For each switching output, up to 4 switching on and 4 switching off times can be selected. At any on time one switching on time is combined in a group with a switching off time. The days of a week can be allocated to each group.

In the above example the lighting of a company is controlled from a TCR IP 4. The lighting of the hall is connected to the switching output 1 of the TCR IP 4 and will be switched on from Monday to Friday at 5:30 o'clock in the morning and switched off at 17 o'clock. The lighting of the hall is not switched on Saturdays and Sundays, since it will not be worked in the hall on the weekends. Furthermore a temperature sensor is installed in the hall. The temperature in the hall can be checked from the website.

At switching output 2 is the lighting of the staircase of the company connected. The staircase lighting will be switched on from Monday to Friday at 5 o'clock in the morning and switched off at 9 o'clock. On the weekends is the staircase lighting switched off.

The lighting of the courtyard is connected to the switching output 3 of the TCR IP 4. The lighting of the courtyard will be switched on from Monday to Friday at 5 o'clock in the morning and switched off at 9 o'clock. In the evening the courtyard lighting will be switched on again at 17 o'clock and switched off at 23:30 o'clock.

The user is also able to switch on the lighting outside the programmed times directly at the push-buttons or through the website. The output can be switched in impulse mode if needed. The on-impulse switches the output on for the selected time. This allows to switch on the lighting for a certain time (i. e. 1 hour). After the hour the lighting is automatically switched off. The light bulb on the website indicates the actual switching state.



TELEPHONE TECHNOLOGY

RJ45-jacks from Rutenbeck

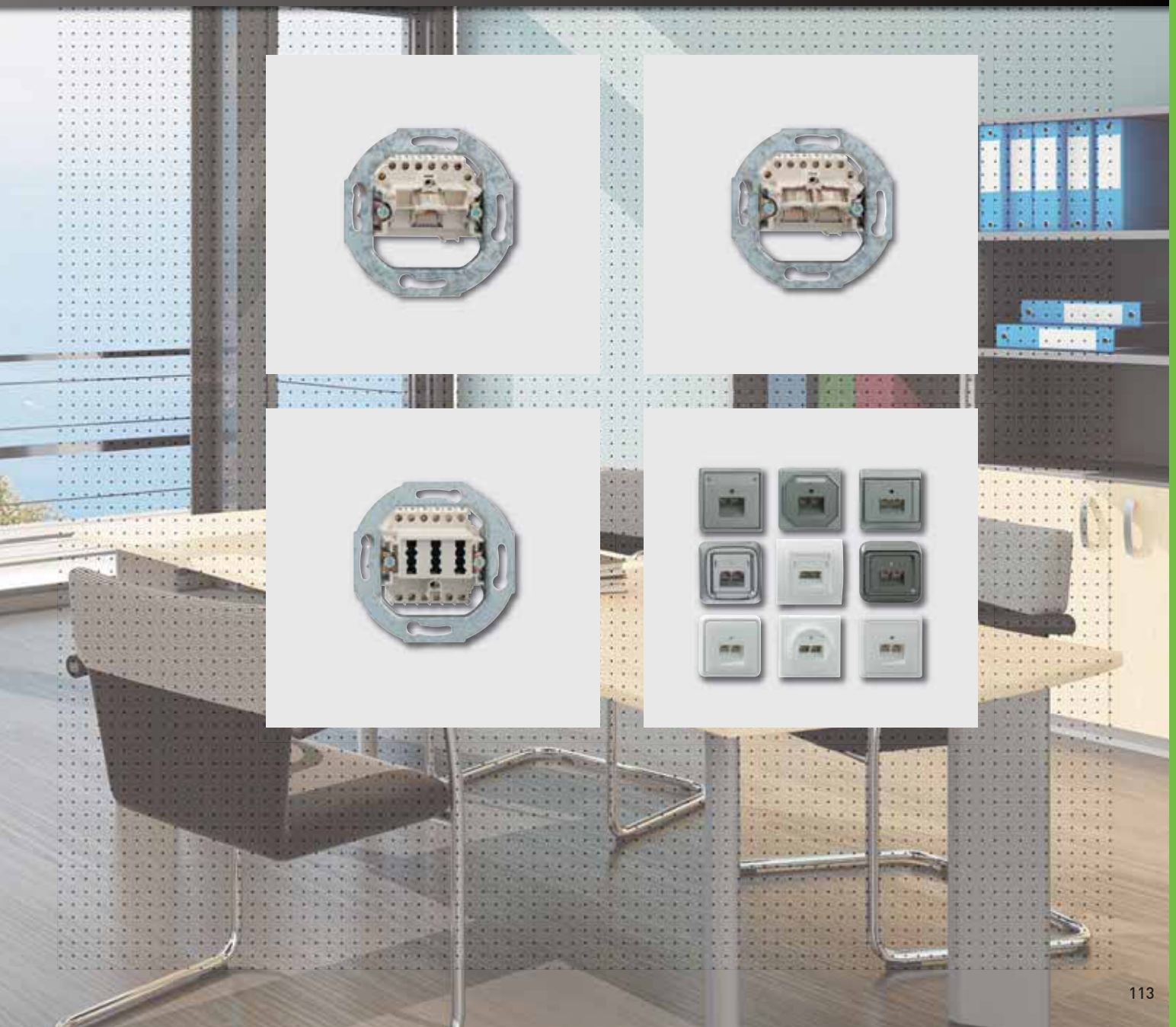
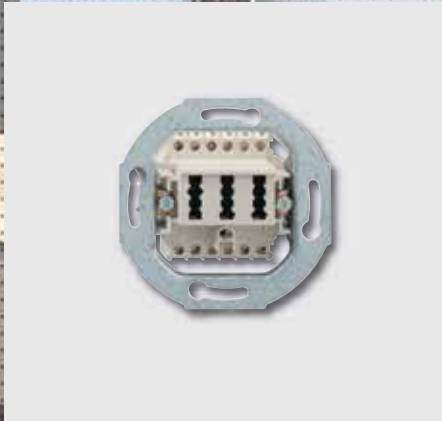
It will be differentiated between UAE- and IAE/UAE-jacks. IAE/UAE-jacks from Rutenbeck can be used for ISDN and are suitable for the universal use with RJ12- and RJ45-plugs without any additional parts. A flat-levelled design without obstructive center or wall plates is ideal for the installation inwindow 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

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



**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 EN 60529

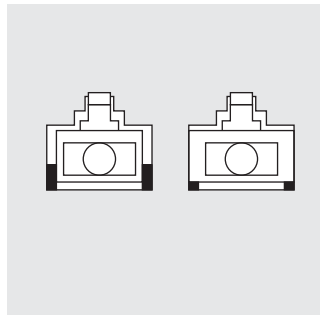
The connection of the cable wires takes place at the screw terminals or at LSA-terminals.

ISDN

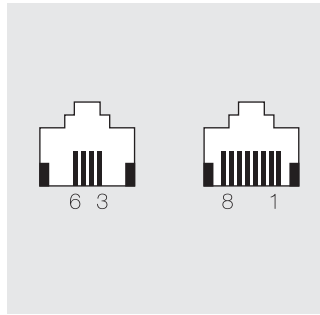
In addition to the marking 3 to 6, all ISDN screw terminals also have the ISDN marking printed on.

Category 3

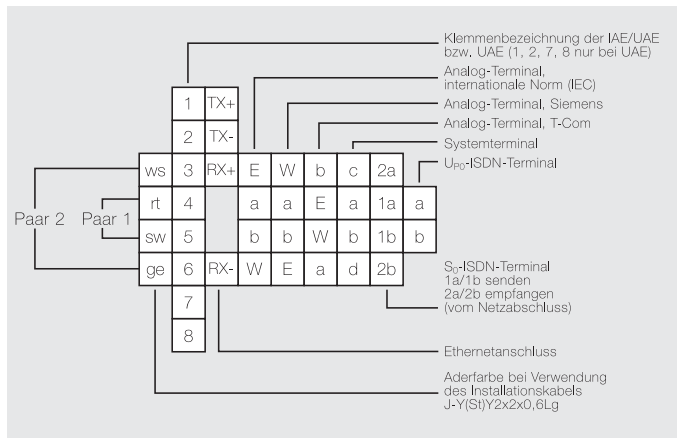
The IAE/UAE-system is suitable for data transmission rates up to 16 MHz, which are also required for Cat.3-jacks.



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.

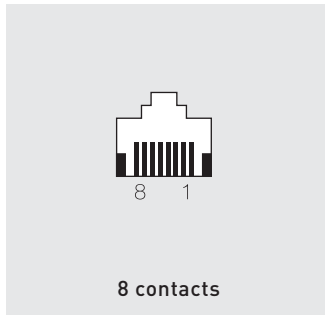


The designs have 1 or 2 plug openings, and the outlets are equipped either with 4 or 8 contacts (numbering according to IEC 60603-7, EN 60603-7).



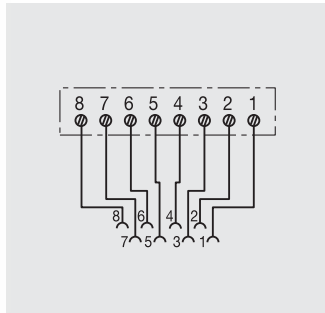
Mechanical characteristics

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/IAE-568-B.2-2001	Category 3

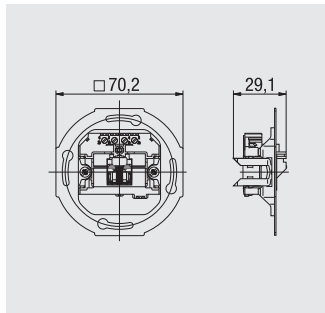


IAE/UAE 8 (4) Ap
130 101 05 ●
4-way; 4 screw terminals;
pearl white (similar RAL 1013);
65 x 80 x 26 mm; 30 g

ISDN single-jacks
IAE/UAE 8 (4)

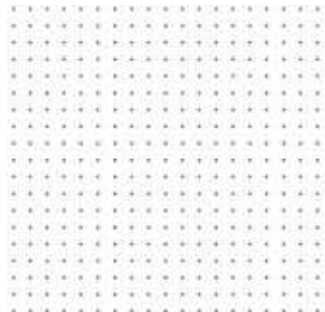


IAE/UAE 8 (4) Up
130 102 09 ●
4-way; 4 screw terminals;
with center plate and wall plate;
with spreading claws;
pearl white (similar RAL 1013);
80 x 80 x 31 mm; 58 g

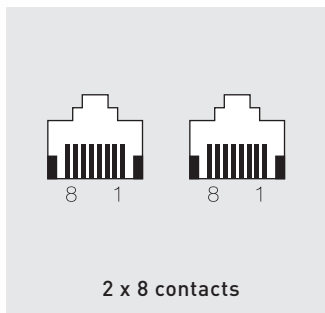


IAE/UAE 8 (4) Up 50
130 103 05 ●
4-way; 4 screw terminals;
with center plate;
with spreading claws;
pearl white (similar RAL 1013);
70 x 70 x 31 mm; 47 g

IAE/UAE 8 (4) Up 50 rw
130 103 36 ●
pearl white (similar RAL 9010)

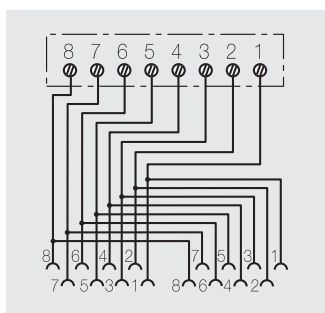


IAE/UAE 8 (4) Up 0
130 104 04 ●
4-way; 4 screw terminals;
with spreading claws;
70 x 70 x 29 mm; 42 g



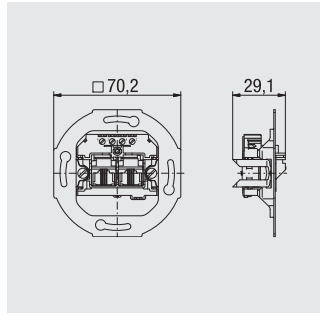
IAE/UAE 2x8 (4) Ap
130 101 07 ●
2 x 4-way; 4 screw terminals;
pearl white (similar RAL 1013);
65 x 80 x 26 mm; 37 g

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



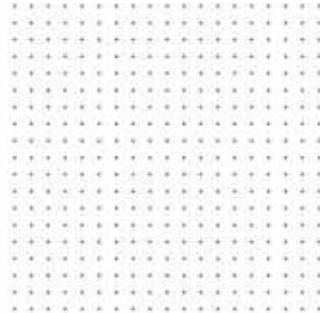
IAE/UAE 2x8 (4) Up
130 102 11 ●
2 x 4-way; 4 screw terminals;
with center plate and wall plate;
with spreading claws;
pearl white (similar RAL 1013);
80 x 80 x 31 mm; 59 g

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



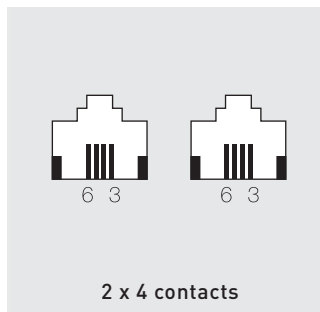
IAE/UAE 2x8 (4) Up 50
130 103 07 ●
2 x 4-way; 4 screw terminals;
with center plate and wall plate;
with spreading claws;
pearl white (similar RAL 1013);
70 x 70 x 31 mm; 47 g

IAE/UAE 2x8 (4) Up 50 rw
130 103 39 ●
pearl white (similar RAL 9010)



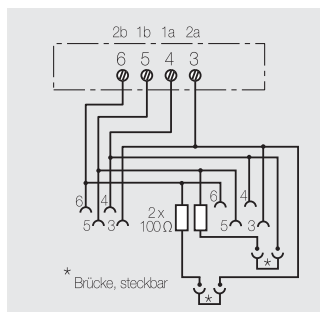
IAE/UAE 2x8 (4) Up 0
130 104 11 ●
2 x 4-way; 4 screw terminals;
with spreading claws;
70 x 70 x 29 mm; 44 g

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



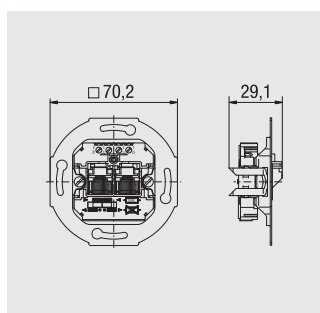
IAE/UAE 2x8 (4) TRS Ap
130 101 40 ●
2 x 4-way; 4 screw terminals;
pearl white (similar RAL 1013);
65 x 80 x 26 mm; 39 g

IAE/UAE 2x8 (4) TRS Ap rw
130 111 40 ●
pearl white (similar RAL 9010)

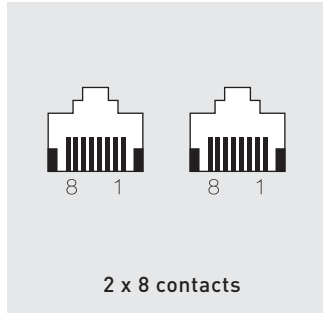


IAE/UAE 2x8 (4) TRS Up
130 102 40
2 x 4-way; 4 screw terminals;
with center plate and wall plate;
with spreading claws;
pearl white (similar RAL 1013);
80 x 80 x 31 mm; 61 g

IAE/UAE 2x8 (4) TRS Up rw
130 112 40
pearl white (similar RAL 9010)

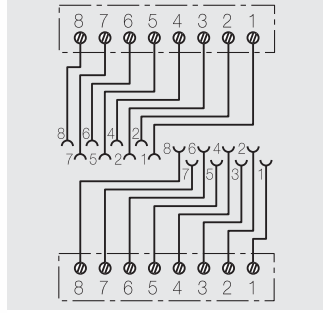


IAE/UAE 2x8 (4) TRS Up 0
130 104 40 ●
2 x 4-way; 4 screw terminals;
with spreading claws;
70 x 70 x 29 mm; 45 g

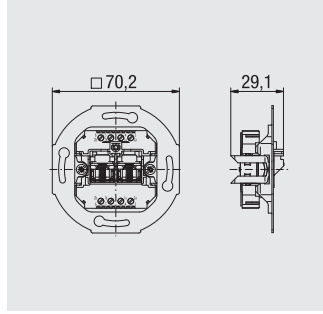


IAE/UAE 8/8 (4/4) Ap
130 101 09 ●
 2 x 4-way; 4 screw terminals;
 pearl white (similar RAL 1013);
 65 x 80 x 26 mm; 41 g

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

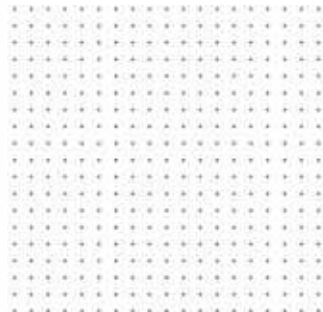


IAE/UAE 8/8 (4/4) Up
130 102 13 ●
 2 x 4-way; 4 screw terminals;
 with center plate and wall plate;
 with spreading claws;
 pearl white (similar RAL 1013);
 80 x 80 x 31 mm; 63 g



IAE/UAE 8/8 (4/4) Up 50
130 103 09 ●
 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; 51 g

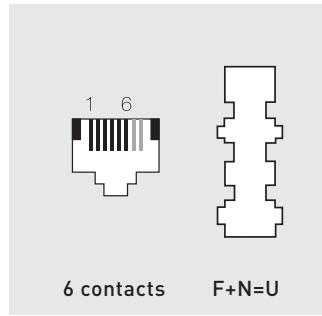
IAE/UAE 8/8 (4/4) Up 50 rw
130 103 40 ●
 pearl white (similar RAL 9010)



IAE/UAE 8/8 (4/4) Up 0
130 104 16 ●
 2 x 4-way; 4 screw terminals;
 with spreading claws;
 70 x 70 x 29 mm; 47 g

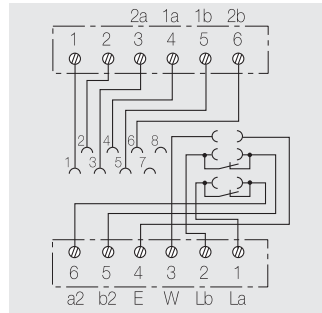
ISDN double-jacks
for two connections
IAE/UAE 8 (6)-TAE 6 F+N

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



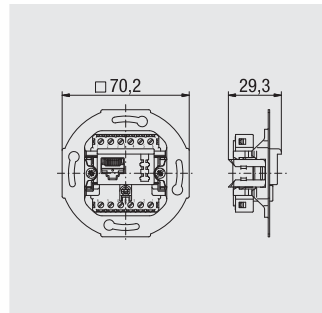
IAE/UAE 8 (6)-TAE 6 F+N Ap
133 101 01 ●
2 x 6-way;
2 x 6 screw terminals;
pearl white (similar RAL 1013);
65 x 80 x 26 mm; 45 g

IAE/UAE 8 (6)-TAE 6 F+N
Ap rw
133 111 01 ●
pure white (similar RAL 9010)



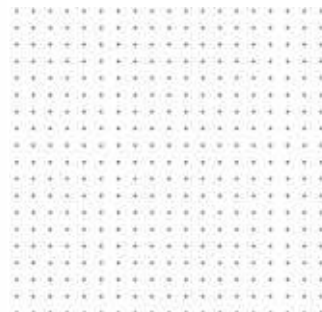
IAE/UAE 8 (6)-TAE 6 F+N Up
133 102 01 ●
2 x 6-way; 2 x 6 screw terminals;
with center plate and wall plate;
with spreading claws;
pearl white (similar RAL 1013);
80 x 80 x 31 mm; 67 g

IAE/UAE 8 (6)-TAE 6 F+N
Up rw
133 112 01 ●
pure white (similar RAL 9010)



IAE/UAE 8 (6)-TAE 6 F+N Up 50
133 103 01 ●
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

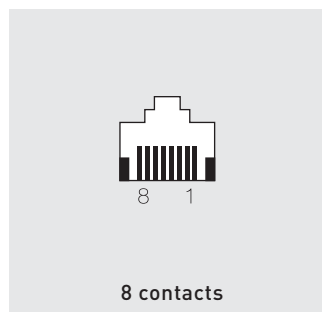
IAE/UAE 8 (6)-TAE 6 F+N
Up 50 rw
133 113 01 ●
pure white (similar RAL 9010)



IAE/UAE 8 (6)-TAE 6 F+N Up 0
133 104 01 ●
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

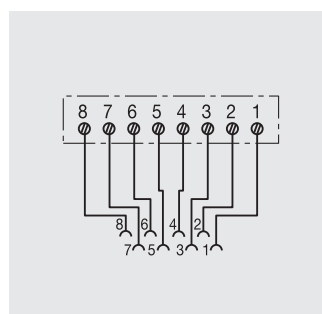
IAE/UAE 8 (6)-TAE 6 F+N Up 0 rw
133 114 01 ●
pure white (similar RAL 9010)

UAE single-jacks
UAE 8 (8)



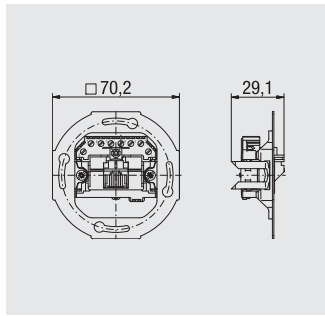
UAE 8 (8) Ap
130 101 06 ●
8-way; 8 screw terminals;
pearl white (similar RAL 1013);
65 x 80 x 26 mm; 39 g

UAE 8 (8) Ap rw
130 101 29 ●
pure white (similar RAL 9010)



UAE 8 (8) Up
130 102 10 ●
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

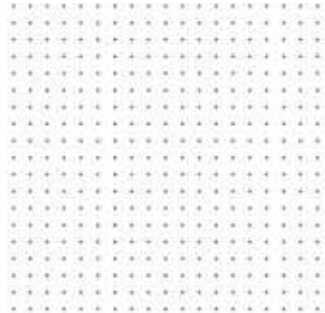
UAE 8 (8) Up rw
130 102 45 ●
pure white (similar RAL 9010)



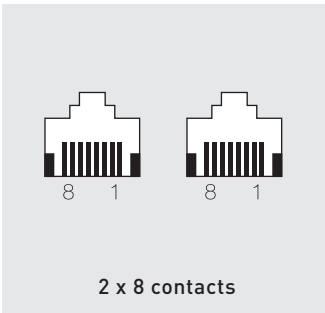
UAE 8 (8) Up 50
 130 103 06 ●
 8-way; 8 screw terminals;
 with center plate;
 with spreading claws;
 pearl white (similar RAL 1013);
 70 x 70 x 31 mm; 49 g

UAE 8 (8) Up 50 rw
 130 103 38 ●
 pure white (similar RAL 9010)

UAE single-jacks
 UAE 8 (8)



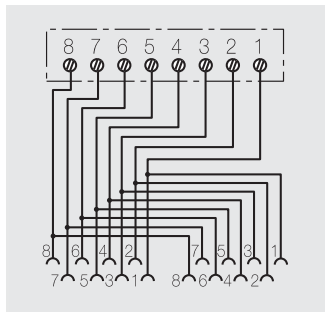
UAE 8 (8) Up 0
 130 104 07 ●
 8-way; 8 screw terminals;
 with spreading claws;
 70 x 70 x 29 mm; 44 g



UAE 2x8 (8) Ap
 130 101 08 ●
 2 x 8-way; 8 screw terminals;
 pearl white (similar RAL 1013);
 65 x 80 x 26 mm; 38 g

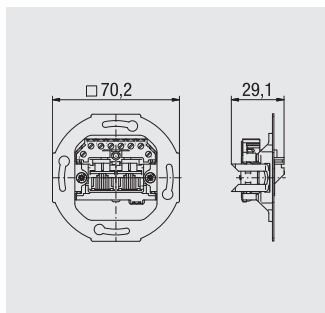
UAE 2x8 (8) Ap rw
 130 101 30 ●
 pure white (similar RAL 9010)

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



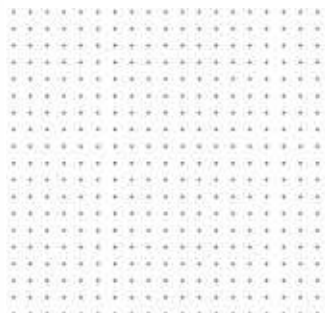
UAE 2x8 (8) Up
 130 102 12 ●
 2 x 8-way; 8 screw terminals;
 with center plate and wall plate;
 with spreading claws;
 pearl white (similar RAL 1013);
 80 x 80 x 31 mm; 61 g

UAE 2x8 (8) Up rw
 130 102 46 ●
 pure white (similar RAL 9010)



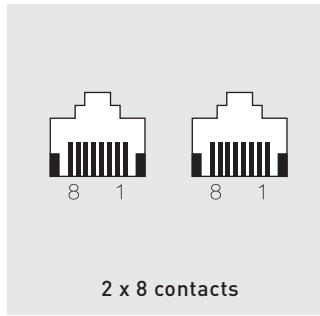
UAE 2x8 (8) Up 50
 130 103 08 ●
 2 x 8-way; 8 screw terminals;
 with center plate;
 with spreading claws;
 pearl white (similar RAL 1013);
 70 x 70 x 31 mm; 50 g

UAE 2x8 (8) Up 50 rw
 130 103 37 ●
 pure white (similar RAL 9010)



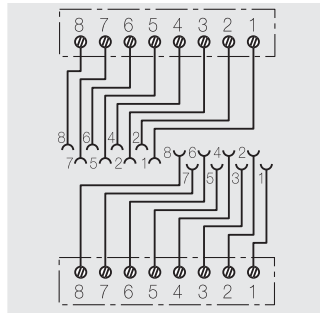
UAE 2x8 (8) Up 0
 130 104 21 ●
 2 x 8-way; 8 screw terminals;
 with spreading claws;
 70 x 70 x 29 mm; 45 g

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



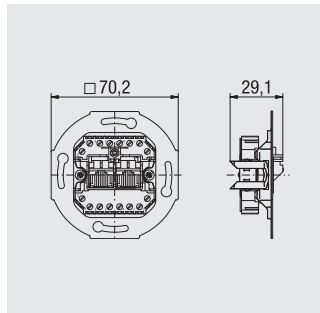
UAE 8/8 (8/8) Ap
130 101 10 ●
2 x 8-way; 2 x 8 screw terminals;
pearl white (similar RAL 1013);
65 x 80 x 26 mm; 44 g

UAE 8/8 (8/8) Ap rw
130 101 31 ●
pure white (similar RAL 9010)



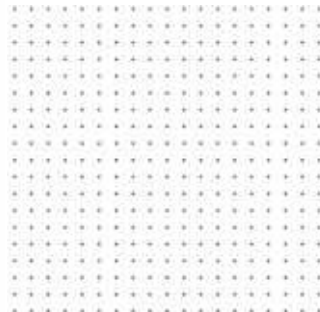
UAE 8/8 (8/8) Up
130 102 14 ●
2 x 8-way; 2 x 8 screw terminals;
with center plate and wall plate;
with spreading claws;
pearl white (similar RAL 1013);
80 x 80 x 31 mm; 66 g

UAE 8/8 (8/8) Up rw
130 102 47 ●
pure white (similar RAL 9010)



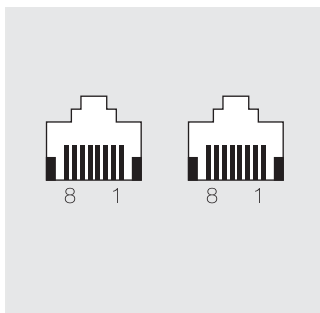
UAE 8/8 (8/8) Up 50
130 103 10 ●
2 x 8-way; 2 x 8 screw terminals;
with center plate;
with spreading claws;
pearl white (similar RAL 1013);
70 x 70 x 31 mm; 47 g

UAE 8/8 (8/8) Up 50 rw
130 103 41 ●
pure white (similar RAL 9010)



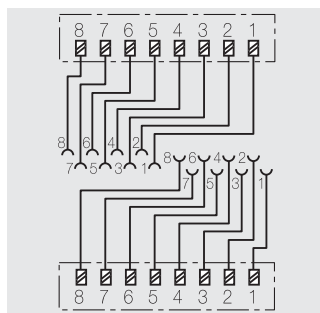
UAE 8/8 (8/8) Up 0
130 104 22 ●
2 x 8-way; 2 x 8 screw terminals;
with spreading claws;
70 x 70 x 29 mm; 40 g

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



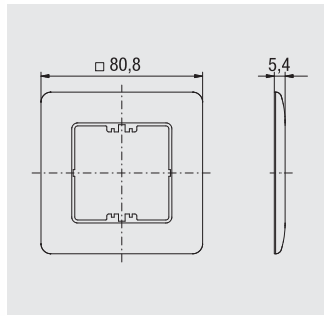
UAE 8/8 (8/8) LSA Ap
130 101 12 ●
2 x 8-way; 2 x 8 LSA-contacts;
pearl white (similar RAL 1013);
65 x 80 x 26 mm; 45 g

UAE 8/8 (8/8) LSA Ap rw
130 111 12 ●
pure white (similar RAL 9010)



UAE 8/8 (8/8) LSA Up
130 102 16 ●
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
130 112 16 ●
pure white (similar RAL 9010)

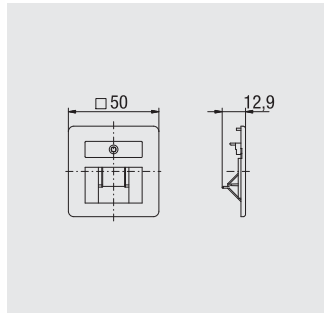


AP
100 100 01 ●
wall plate;
pearl white (similar RAL 1013);
80 x 80 x 5 mm; 12 g

AP rw
100 100 51 ●
pure white (similar RAL 9010)

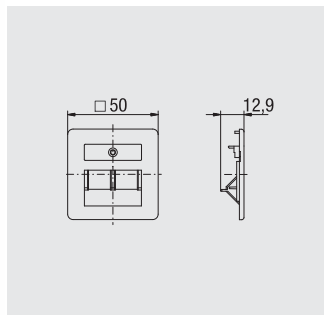
Wall plates and center plates for
IAE/UAE-jacks
and UAE-jacks
AP, ZSt

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



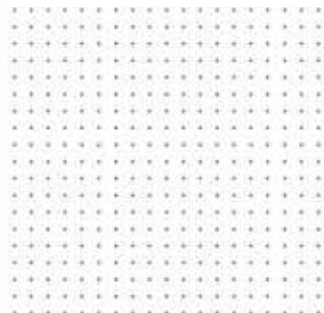
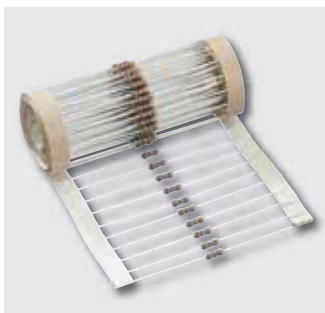
ZSt UAE-Cat.5e+6-8
135 100 02 ●
Center plate with 1 outlet
with a designation strip;
pearl white (similar RAL 1013);
50 x 50 x 13 mm; 6 g

ZSt UAE-Cat.5e+6-8 rw
135 100 52 ●
pure white (similar RAL 9010)



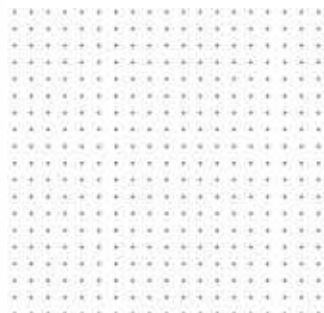
ZSt UAE-Cat.5e+6-8/8
135 100 03 ●
Center plate with 2 outlets
with a designation strip;
pearl white (similar RAL 1013);
50 x 50 x 13 mm; 6 g

ZSt UAE-Cat.5e+6-8/8 rw
135 100 53 ●
pure white (similar RAL 9010)



ISDN-Termination resistor
681 072 ●
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

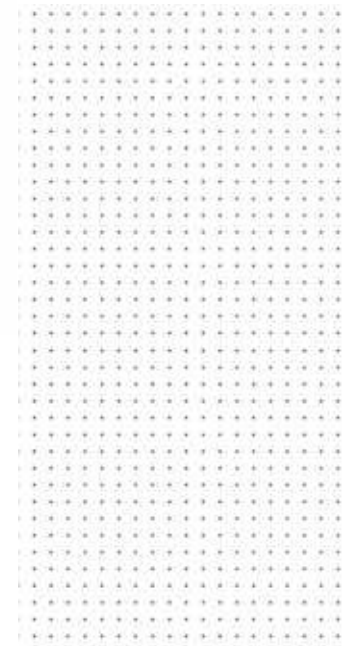
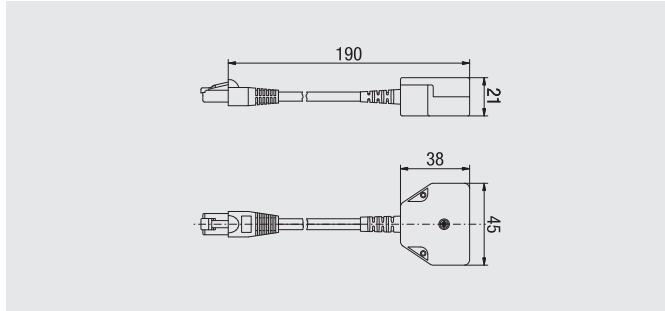


AW 2
392 000 00 ●
Connection tool for LSA- and
LSA-Plus-terminals;
with pressure sensor
and cutting blade;
38 x 177 x 21 mm; 80 g

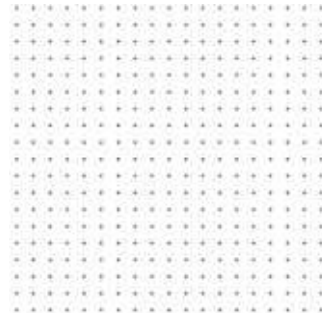
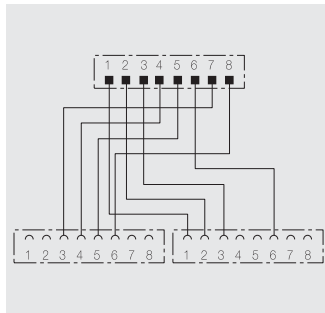
Shielded adapter for cable sharing T-ADAP

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.

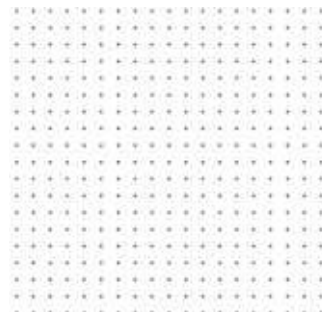
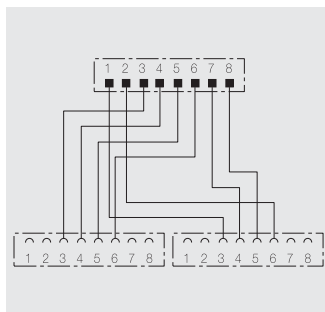
Alltogether, there are 3 practical adapters for the most common applications available.



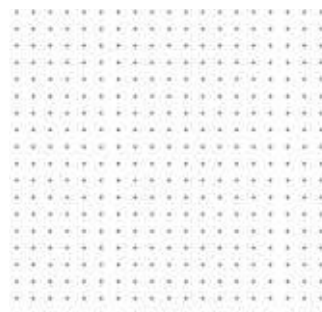
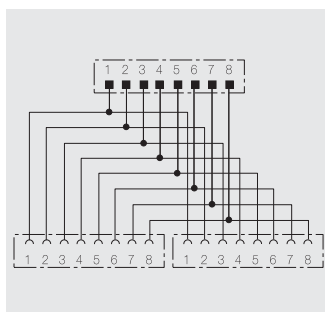
- Performance features**
- 2 applications with a 8-wire cable
 - easy back-/retrofitting of a link
 - all adapters continuously shielded
 - transmission characteristics according to Cat.5e/Class D
 - mounting possibility with screws



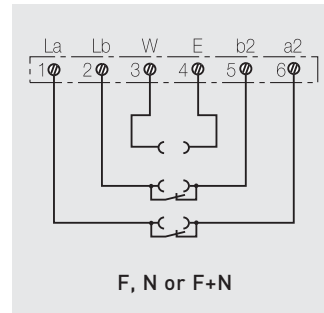
T-ADAP Ethernet/ISDN 135 106 04 ●
for cables sharing;
Cat.5e; shielded;
1 x 10/100 Mbit/s, 1 x ISDN;
45 x 21 x 38 mm; 50 g



T-ADAP ISDN/ISDN 135 106 05 ●
for cables sharing;
shielded; 2 x ISDN;
45 x 21 x 38 mm; 50 g



T-ADAP 2 x 8 135 106 06 ●
for cables sharing;
shielded; outlets 1:1 parallel;
45 x 21 x 38 mm; 50 g



TAE-jacks

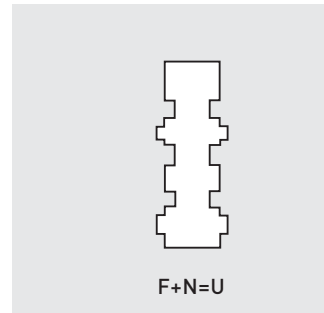
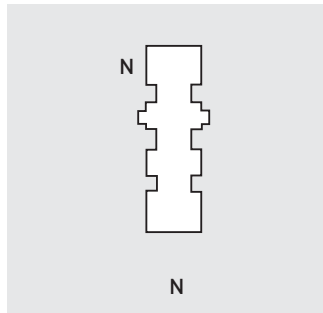
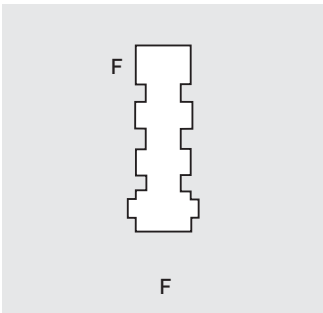
Sockets, covers, center plates and wall plates made of ABS-material, pearl white (similar RAL 1013); pure white (similar RAL 9013)

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

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

Metall 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.

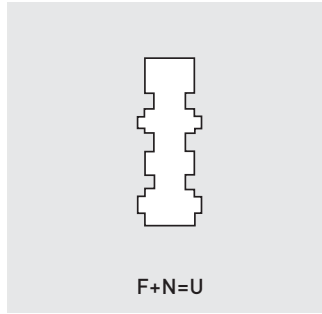
- Coding **F** for telephones or telefax with telephone
- Coding **N** for ancillary equipment like telefax, answering machine, charge meter, modem or dialling device
- Coding **N+F** universal use

Mechanical characteristics

Connector/outlet

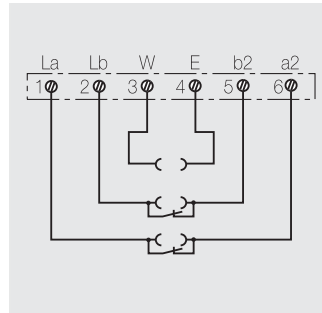
Built	according to DIN 41715:1991-05
Connection technique	screw terminals for wire 1 mm Ø, 2 wires at each contact
Outlet suitable	for 6-way plugs according to DIN 41715-3:1991-05
Material spring contact outlet	CuNi 18 Zn 20
Surface spring contact switching area	Ni 2 µm + AuAgCu
Life (insertions and 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 single-jacks
TAE 6 F+N



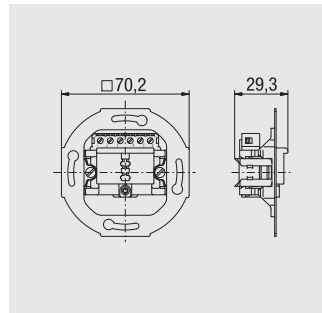
TAE 6 F+N Ap
100 101 51* ●
6-way; 6 screw terminals;
pearl white (similar RAL 1013);
65 x 80 x 27 mm; 42 g

TAE 6 F+N Ap rw
100 111 51 ●
pure white (similar RAL 9010)



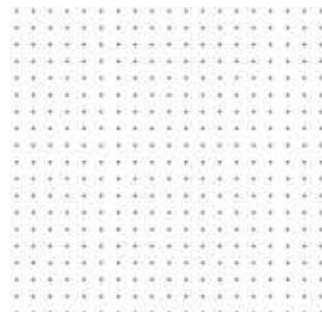
TAE 6 F+N Up
100 102 51* ●
6-way; 6 screw terminals;
with center plate and wall plate;
with spreading claws;
pearl white (similar RAL 1013);
80 x 80 x 31 mm; 60 g

TAE 6 F+N Up rw
100 112 51 ●
pure white (similar RAL 9010)



TAE 6 F+N Up 50
100 103 51* ●
6-way; 6 screw terminals;
with center plate;
with spreading claws;
pearl white (similar RAL 1013);
70 x 70 x 31 mm; 50 g

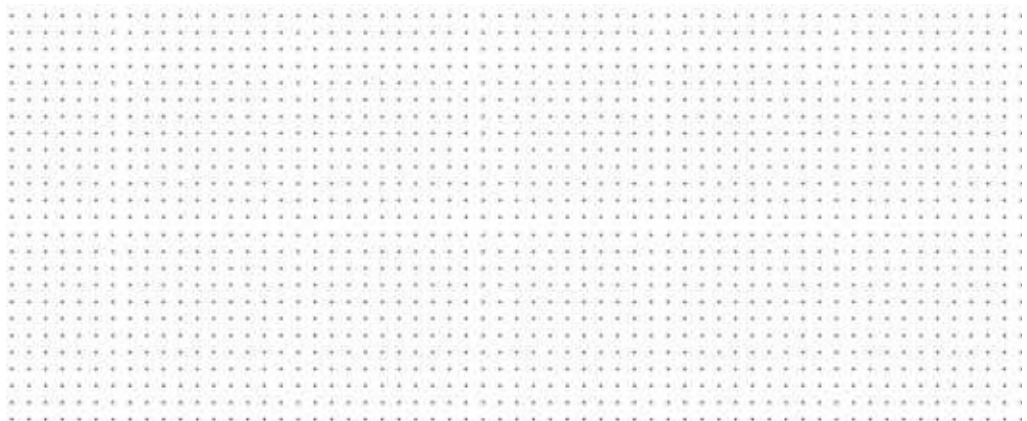
TAE 6 F+N Up 50 rw
100 113 51 ●
pure white (similar RAL 9010)

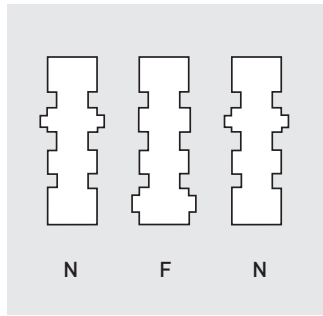


TAE 6 F+N Up 0
100 105 51* ●
6-way; 6 screw terminals;
with spreading claws;
pearl white (similar RAL 1013);
70 x 70 x 29 mm; 45 g

TAE 6 F+N Up 0 rw
100 115 51 ●
pure white (similar RAL 9010)

TAE 6 F+N Up 0 sw
100 105 52 ●
black (similar RAL 9005)

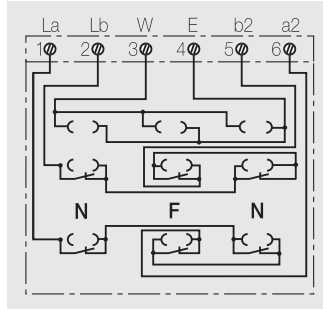




TAE 3x6 NFN Ap
102 101 03 ●
3 x 6-way; 6 screw terminals;
pearl white (similar RAL 1013);
65 x 80 x 27 mm; 41 g

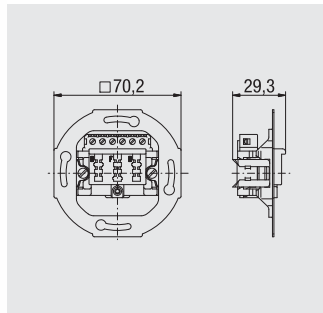
TAE 3x6 NFN Ap rw
102 101 09 ●
pure white (similar RAL 9010)

TAE-triple jacks
for one connection
TAE 3x6 NFN



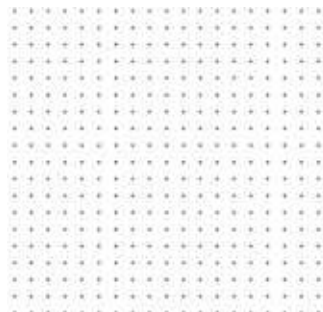
TAE 3x6 NFN Up
102 102 03 ●
3 x 6-way; 6 screw terminals;
with center plate and wall plate;
with spreading claws;
pearl white (similar RAL 1013);
80 x 80 x 31 mm; 67 g

TAE 3x6 NFN Up rw
102 102 04 ●
pure white (similar RAL 9010)



TAE 3x6 NFN Up 50
102 103 03 ●
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

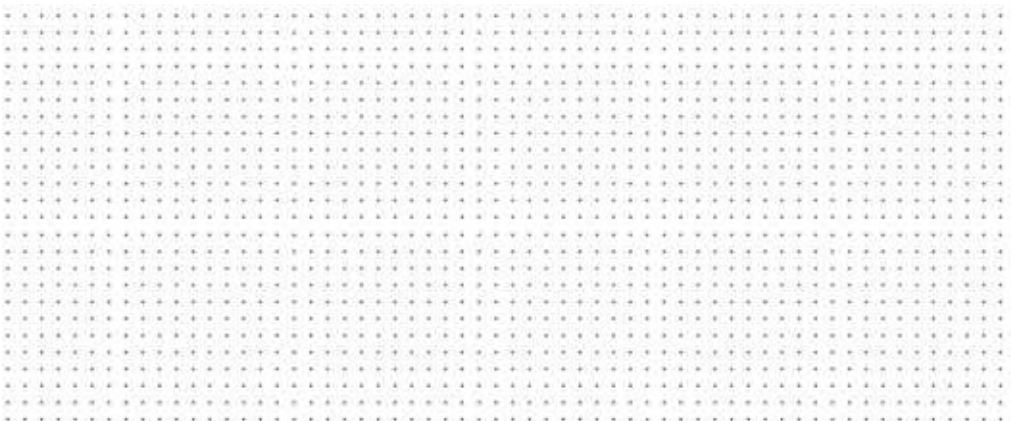
TAE 3x6 NFN Up 50 rw
102 103 05 ●
pure white (similar RAL 9010)



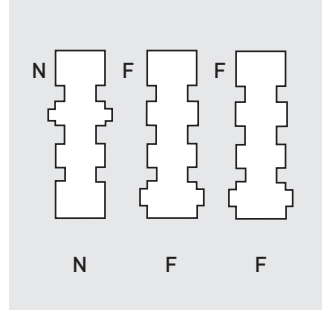
TAE 3x6 NFN Up 0
102 105 03 ●
3 x 6-way; 6 screw terminals;
with spreading claws;
pearl white (similar RAL 1013);
70 x 70 x 29 mm; 49 g

TAE 3x6 NFN Up 0 rw
102 105 17 ●
pure white (similar RAL 9010)

TAE 3x6 NFN Up 0 sw
102 105 04 ●
black (similar RAL 9005)

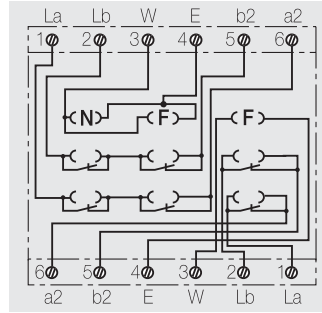


TAE-triple jacks
for two connections
TAE 2x6/6 NFF



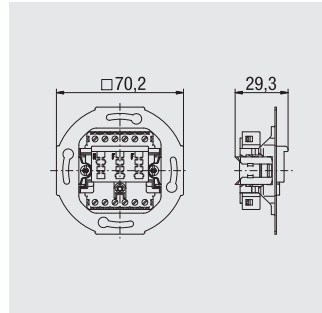
TAE 2x6/6 NFF Ap
103 101 10 ●
3 x 6-way; 2 x 6 screw terminals;
pearl white (similar RAL 1013);
65 x 80 x 27 mm; 45 g

TAE 2x6/6 NFF Ap rw
103 101 14 ●
pure white (similar RAL 9010)



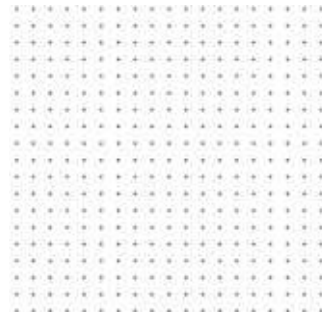
TAE 2x6/6 NFF Up
103 102 10 ●
3 x 6-way; 2 x 6 screw terminals;
with center plate and wall plate;
with spreading claws;
pearl white (similar RAL 1013);
80 x 80 x 31 mm; 68 g

TAE 2x6/6 NFF Up rw
103 102 22 ●
pure white (similar RAL 9010)



TAE 2x6/6 NFF Up 50
103 103 10 ●
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

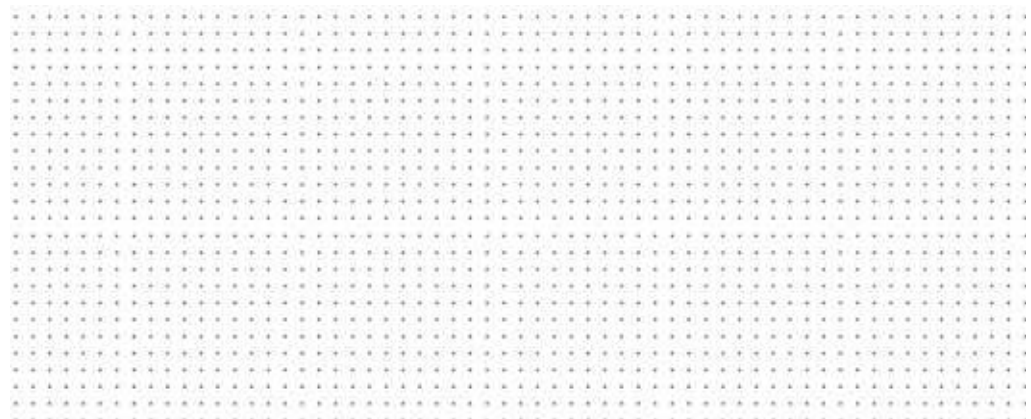
TAE 2x6/6 NFF Up 50 rw
103 103 13 ●
pure white (similar RAL 9010)

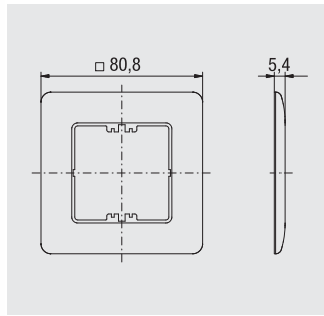


TAE 2x6/6 NFF Up 0
103 105 10 ●
3 x 6-way; 2 x 6 screw terminals;
with spreading claws;
pearl white (similar RAL 1013);
70 x 70 x 29 mm; 53 g

TAE 2x6/6 NFF Up 0 rw
103 105 18 ●
pure white (similar RAL 9010)

TAE 2x6/6 NFF Up 0 sw
103 105 11 ●
black (similar RAL 9005)



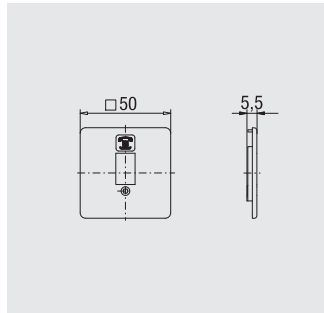


AP
100 100 01 ●
Wall plate;
pearl white (similar RAL 1013);
80 x 80 x 5 mm; 12 g

AP rw
100 100 51 ●
pure white (similar RAL 9010)

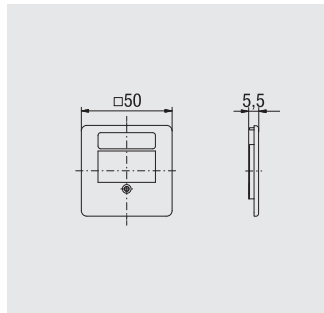
Wall plates and center plates
for TAE-jacks
AP, ZSt

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



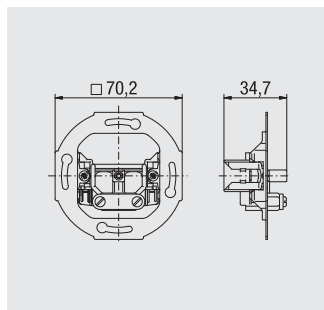
ZSt TAE 6
100 100 02 ●
Center plate with 1 outlet;
pearl white (similar RAL 1013);
50 x 50 x 6 mm; 5 g

ZSt TAE 6 rw
100 100 52 ●
pure white (similar RAL 9010)



ZSt TAE 3x6
100 100 03 ●
Center plate with 3 outlets;
pearl white (similar RAL 1013);
50 x 50 x 6 mm; 5 g

ZSt TAE 3x6 rw
100 100 53 ●
pure white (similar RAL 9010)



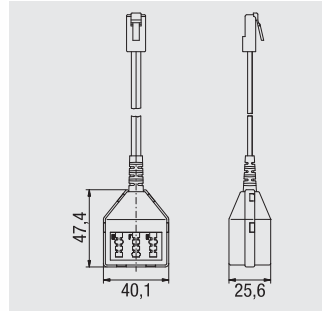
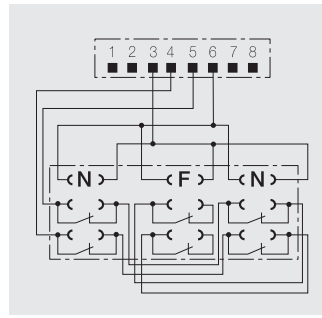
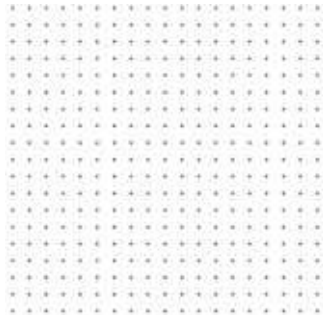
KA 9 Up 0
193 105 01 ●
with spreading claws;
70 x 70 x 35 mm; 40 g

Cable outlet KA

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

Protection class IP 20 according to
DIN EN 60529

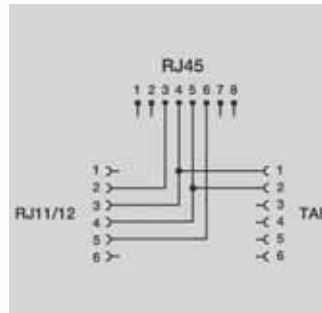
Telephone-adapter
for analog telephones
in generic networks



ADAP UAE/TAE 3x6 NFN

154 006 02 ●

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



ADAP-Kombi

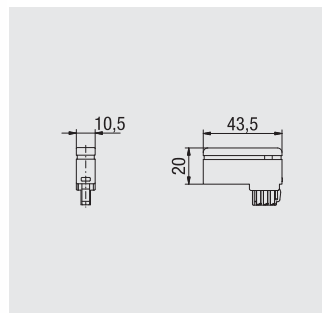
154 006 05 ●

Adaptercord RJ 45/TAE; 0.15 m;
grey;
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

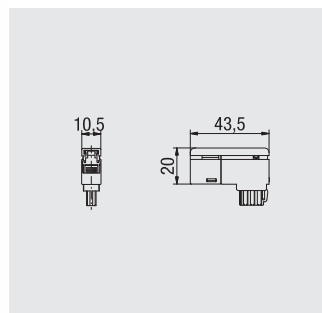
700 101 241 ●

for telephones;
44 x 30 x 11 mm; 9 g

TS N

700 101 251 ●

for ancillary equipment



TS US F

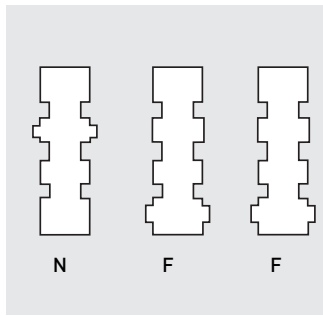
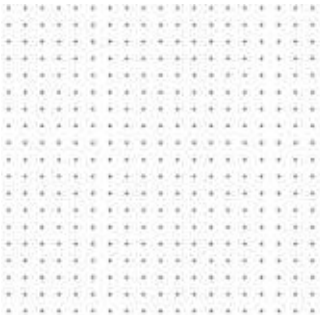
700 101 243 ●

for telephones with RJ11-/
RJ12-plug system ;
44 x 30 x 11 mm; 18 g

TS US N

700 101 253 ●

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

Automatic multiple switch AMS

For the connection of two telephones and one ancillary equipment at one subscriber or extension line. For pulse or DTMF-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).

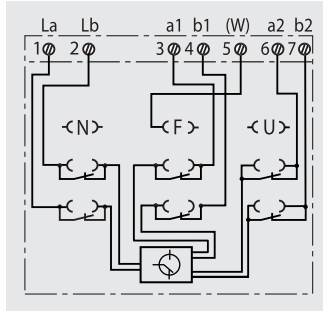
Four ringing circuits are allowed if, connected to the subscriber line. With integrated opening for telephone 1.

Sockets, covers, centre plates and wall plates made of ABS-material, pearl white (similar RAL 1013);

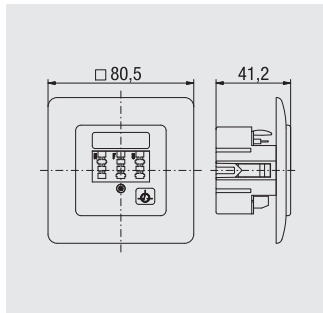
Baseplate, cover and flush mounting-pot made of ABS-material, pearl white (similar RAL 1013).

Terminal strip made of PA-material.

Protection class IP20 according to DIN EN 60529



AMS 1/2 NFF Ap
161 101 19 ●
 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
160 101 19 ●
 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

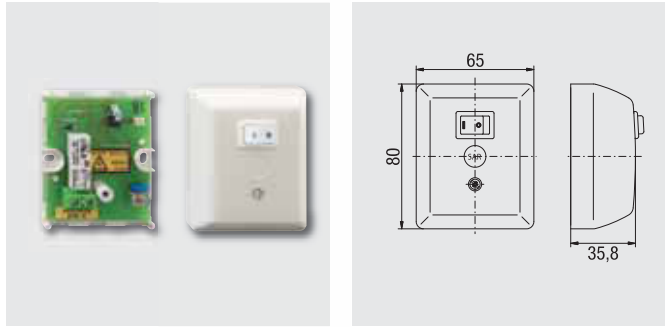
High-current switching on relay SAR

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

500 101 02 ●

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.

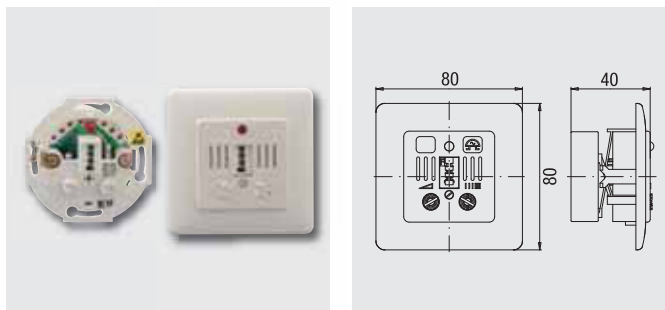
Protection class IP20 according to DIN EN 60529



WK 955 Ap

162 101 01 ●

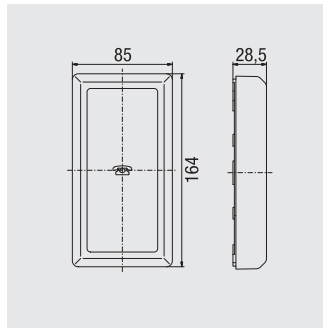
Operating voltage: 30-60V/ 23-55 Hz
Volume: >92 dB(A) measured in special room;
Signalling frequency: 800-1333 Hz
pearl white (similar RAL 1013); 65 x 80 x 30 mm; 77 g



WK 955 Up

162 102 01 ●

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
245 101 02 ●
 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,

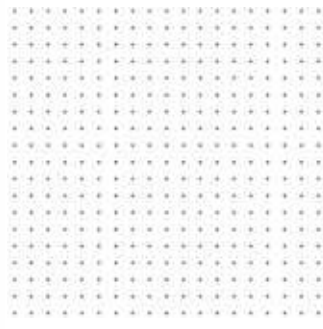
pearl white (similar RAL 1013).
 Connection elements made of
 PBT-material, grey.

LSA-Plus-terminals made
 of brass, silver plated.

LSA-Plus-terminal can hold
 solid conductors 0.4 mm
 to 0.8* mm Ø.

Protection Class IP30
 according to EN 60 529

* After connection with conductors
 $\geq 0,65$ mm Ø a faultless connection of
 smaller conductors is not ensured.



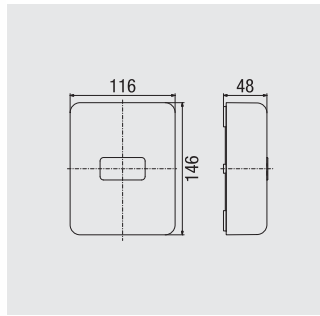
AW 2
392 000 00 ●
 Connection tool for LSA- and
 LSA-Plus-terminals; with
 pressure sensor and cutting blade;
 38 x 177 x 21 mm; 80

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).

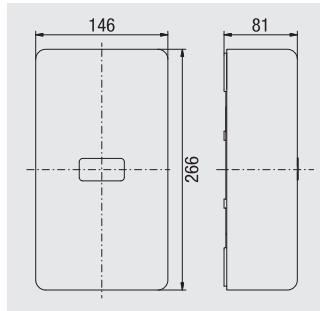
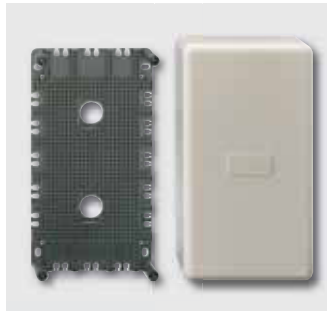
Protection Class IP30
according to EN 60 529



UG 2 w
240 001 01 ●

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-Plus = 30 pairs
oder
2 x AsLe A 10 S/S = 20 pairs



UG 3 w
220 001 01 ●

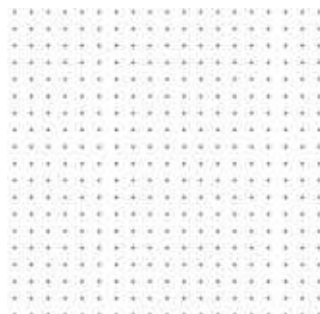
cover;
pearl white (similar RAL 1013);
146 x 266 x 81 mm; 540 g;
Available inner height: 66,5 mm

Maximum capacity
10 x VE 10 LSA-Plus* = 100 pairs
oder
10 x VE 10 LSA-Plus TR* = 100 pairs
oder
8 x AsLe A 10 LSA-Plus = 80 pairs
oder
3 x AsLe B 20 LSA-Plus = 60 pairs
oder
2 x AsLe B 20 S/S = 40 pairs
oder
2 x AsLe B 20 S/L = 40 pairs

* in connection with mounting bars
MB 10 or MB 10 flach

Accessory
for UG

Mounting bar made of stainless
steel, rust-proof



MB 4
221 004 ●
mounting bar for LSA-Plus-
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
221 007 ●
for 5 modules;
104,5 x 110 x 42 mm; 123 g

MB 10
221 006 ●
for 10 modules;
104,5 x 222,5 x 42 mm; 246 g



KVK
270 103 10 ●
Compact distribution box; 1 EKL 5;
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.

Base plate and head pieces made of ABS flame retardent according to UL 94 V0, platinum grey (similar RAL 7036).

Cover made of sheet-steel, plastic coated, light grey (similar RAL 7035).

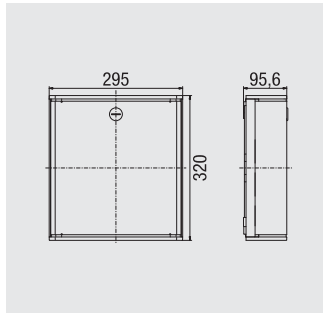
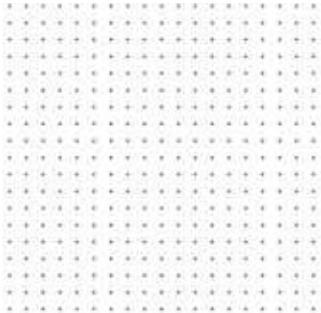
Protection Class IP30 according to EN 60 529

Maximum capacity

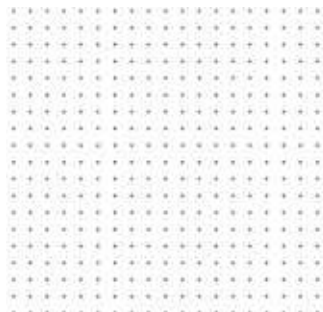
4 x AsLe B 20 S/S (S/L) = 80 pairs
or
6 x AsLe B 20 LSA-Plus = 120 pairs
or
16 x VE 10 LSA-Plus* = 160 pairs
or
20 x VE 10 LSA-Plus** = 200 pairs

* on 4 x MB 4
** on 2 x MB 10

¹ Instead of built-in catch (delivery state) the lock set 290 317 can also be installed afterwards.



KVK MB
270 103 13 ●
Compact distribution box;
earthing of cover; with catch¹;
with labeling card and
installation material;
light grey (similar RAL 7035);
295 x 320 x 96 mm; 2065 g



KVK Sch
690 317 ●
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 290 016 (see page 139) can also be installed afterwards.

VKP 85 Ap and Up are to a major part in accordance with DIN 47615.

Protection class IP30 according to EN 60 529



VKP 85/2 Ap
270 101 01 ●
with 2 mounting rails 170 mm;
2 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 group 1 = 60 pairs
up to 5 terminal strips group 2 = 100 pairs



VKP 85/4 Ap
270 101 10 ●
with 2 mounting rails 270 mm,
2 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 group 1 = 100 pairs
up to 8 terminal strips group 2 = 160 pairs

VKP 85/8 Ap
270 101 20 ●
with 4 mounting rails 270 mm;
4 EKL 4 and 12 wiring guide
rings; with catch;
light grey (similar RAL 7035);
320 x 530 x 76 mm; 4120 g

Arrangement e.g.:

up to 10 terminal strips group 1 = 200 pairs
up to 16 terminal strips group 2 = 320 pairs

VKP 85/12 Ap
270 101 30 ●
with 4 mounting rails 170 mm
and 270 mm; 4 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.:

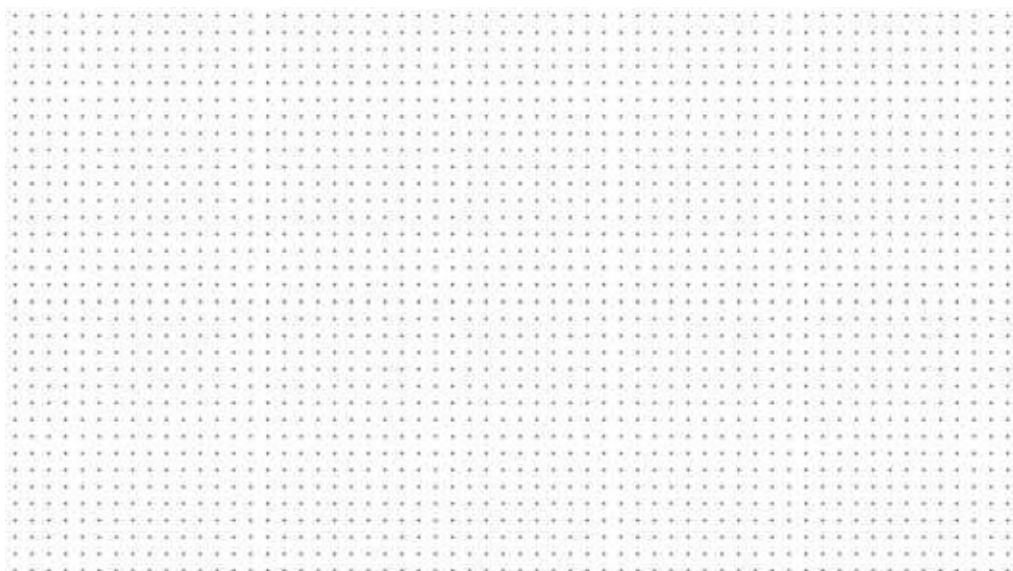
up to 16 terminal strips group 1 = 320 pairs
up to 26 terminal strips group 2 = 520 pairs

**Accessory
for VKP**



VK 85 Sch
260 101 02 ●
rotating bar lock; for mounting
in distribution boxes VKP 85;
80 x 22 x 130 mm; 69 g

Special types upon request.





AsLe A 10 LSA-Plus*
260 006 ●
Terminal strip with LSA-Plusterminals; 10 pairs; 96 mm fixing gap; light grey (similar RAL 7035); 26 x 105 x 22 mm; 97 g

AsLe B 20 LSA-Plus*
260 004 ●
20 pairs; 170 mm fixing gap; light grey (similar RAL 7035); 26 x 178 x 22 mm; 96 g

Terminal strips according to DIN 47608 with solder free connection technique LSA-Plus AsLe

Isolation bodies of the LSA-Plus-terminal strips made of PBT-material. Contacts made of brass, silver-plated.

LSA-Plus 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-Plus terminals for earthing wires are designed for solid conductors with 0.4–0.8 mm Ø. After connection with conductors \approx 0.65 mm, a faultless connection of smaller conductors is not ensured.

Earthing terminals accept solid conductors up to 2.5 mm².

*Product diversification planned
** phased out 2015



BST A LSA-Plus
291 371 ●
Labeling strip for LSA-Plus-terminal strips with 96 mm fixing gap; 22 x 104 x 7 mm; 8 g

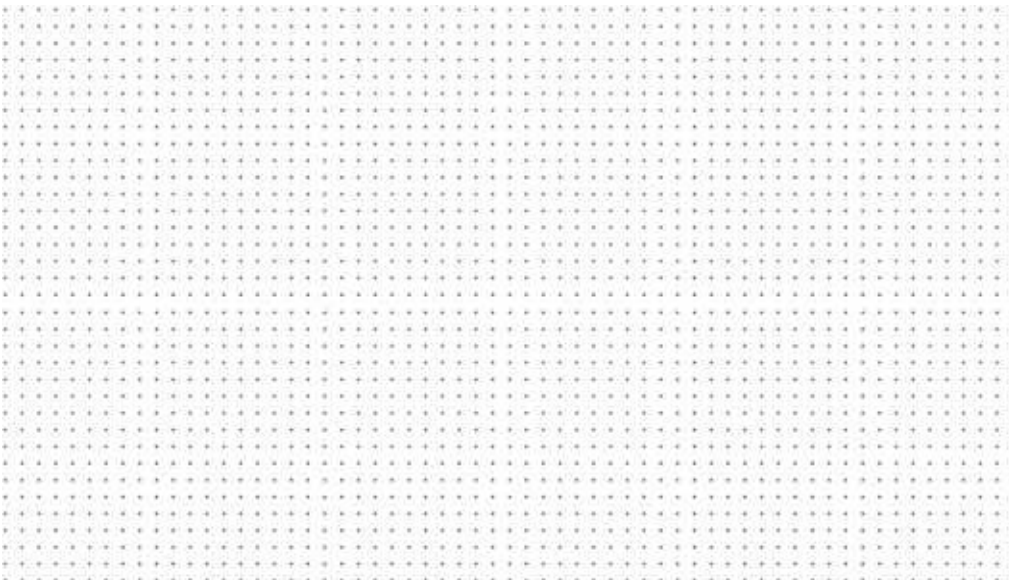
BST B LSA-Plus
291 370 ●
Labeling strip for LSA-Plus terminal strips with 170 mm fixing gap; 22 x 178 x 12 mm; 12 g



Test cord AsLe LSA-Plus**
290 322 ●
Test cord with test-plug for AsLe LSA-Plus; 2 ways with 2 sleeves; 200 mm fixing gap; 12 g



AW 2
392 000 00 ●
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-Plus for insertion on mounting bar VE

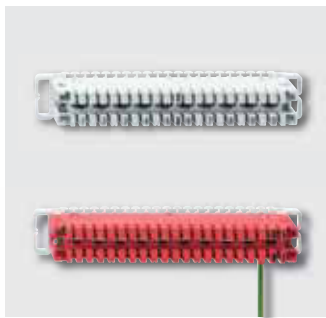
Isolation bodies of the VE 10 made of PBT-material, grey. Contacts made of brass, silver-plated.

Mounting bars made of stainless steel.

LSA-Plus 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-Plus 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.

*Product diversification planned



VE 10 LSA-Plus*
260 027 ●
 Connection element with LSA-Plus-terminals; for overvoltage protection cartridges MVE 10 can be attached; 10 pairs; grey; installation height: 31 mm; 22 x 124 x 39 mm; 56 g

VE 10 LSA-Plus Tr*
260 026 ●
 Connection element with LSA-Plus-terminals and disconnection possibility, 10 pairs; white; 22 x 124 x 39 mm; 58 g

VE 10 LSA-Plus E*
260 090
 Connection element for 38 earth wires; with earth connection wire green/yellow, 500 mm; red (similar RAL 3000); 22 x 124 x 39 mm; 56 g



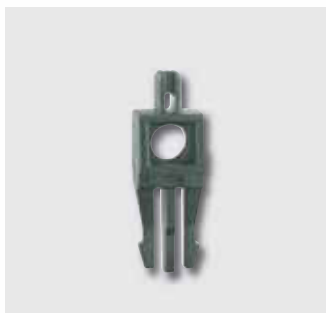
MB 4
221 004 ●
 Mounting bar for LSA-Plus-connection elements; 10 pairs; grid dimension 22.5 mm; for 4 modules; installation height: 22 mm; 104,5 x 87,5 x 42 mm; 98 g

MB 5
221 007 ●
 for 5 modules; 104,5 x 110 x 42 mm; 123 g

MB 10
221 006
 for 10 modules; 104,5 x 222,5 x 42 mm; 246 g



BST VE 10 LSA-Plus
291 561 ●
 Folding labeling strip for VE 10 LSA-Plus; for tab width 9 mm; 15 x 107 mm; 7 g



TrS LSA-Plus
294 400 00 ●
 Disconnection plug for 1 pair; black (similar RAL 9005); 9 x 28 x 7 mm; 1 g



Test cord VE 10 LSA-Plus
290 321 ●
 Test cord with test-plug for VE 10; 2 ways with 2 sleeves; cable length 2000 mm; 35 g



AsLe A 10 S/S
260 033 ●
10 pairs; screw terminals on both sides; 96 mm fixing gap; with a designation strip; 45 x 106 x 23 mm; 100 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 B 20 S/S
260 000 ●
20 pairs; screw terminals on both sides; 170 mm fixing gap; 45 x 179 x 23 mm; 183 g

AsLe B 20 S/L
260 001 ●
Screw terminals on one side and solder tags on the other; with a designation strip; 45 x 179 x 23 mm; 125 g



DIN-rail adapter
221 012 ●
DIN-rail adapter for mounting terminal strips, mounting bars and telephone jacks on a DIN rail; with screw M5; 14 x 50 x 7 mm; 5 g



AKL 801 XS
401 000 12 ●

AKL 802 S
401 000 14 ●

AKL 803 M
401 000 16 ●

AKL 804 L
401 000 18 ●

AKL 805 XL
401 000 20 ●

Anchoring clamps for self supporting telecommunication 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
404 000 12 ●
Housing made of stainless-steel 1.4301

AKL 802 S VA
404 000 14 ●
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



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

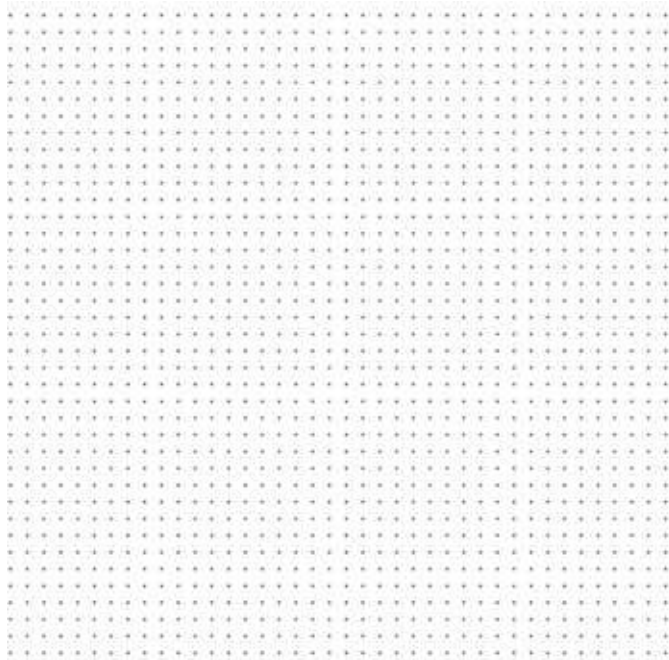


Profile half cylinder

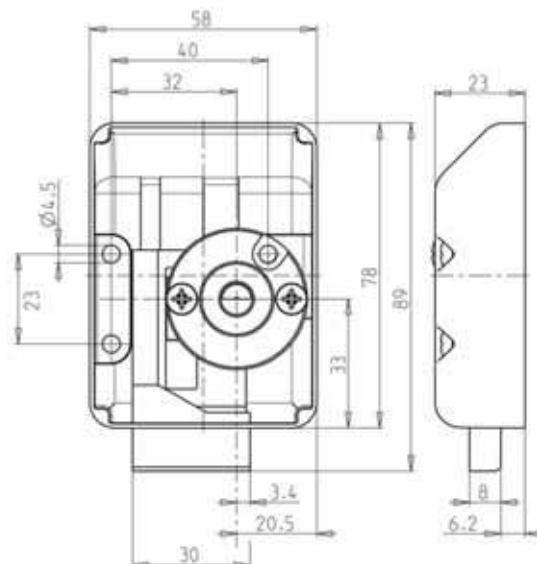


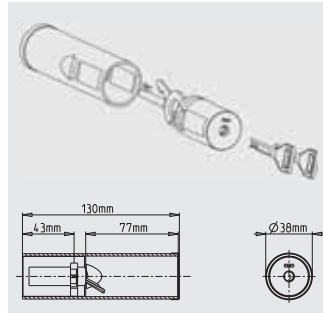
Secure, in the cabinet

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.



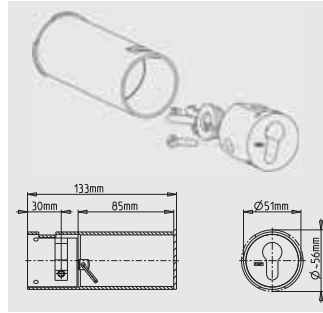
Rim lock 606 49 12 ●
with 2 keys,
89 x 58 x 23 mm, 250 g



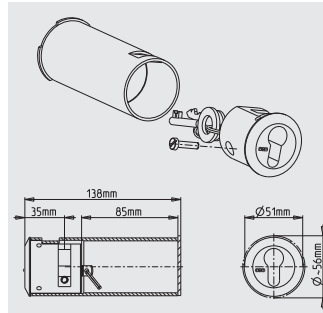


ST 38 Up
603 50 41 ●
 Security container
 for flush mounting,
 length 130 mm,
 with 2 keys
 stainless steel,
 38 mm Ø ; 560 g

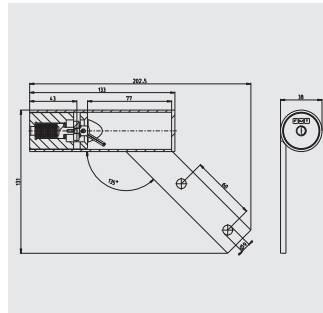
Tube safes:
 Security container, accessory,
 Wall mounting (flush and surface)



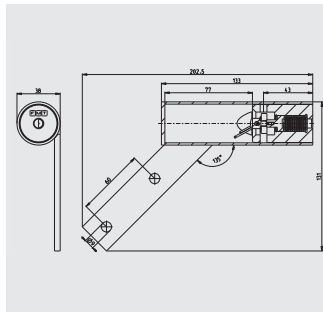
ST 56 PHZ Up
603 28 86 ●
 Security container
 for flush mounting,
 length 133 mm,
 straight closure,
 for PHZ 10/30, stainless steel,
 56 mm Ø ; 860 g



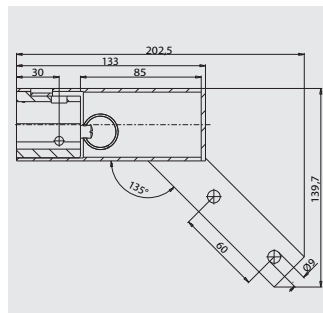
ST 56 W PHZ Up
603 98 94 ●
 Security container
 for flush mounting,
 length 138 mm,
 curved closure,
 for PHZ 10/30, stainless steel,
 56 mm Ø ; 900 g



STL 38 Ap
606 27 25 ●
 Security container
 for surface mounting left,
 length 130 mm,
 with 2 keys,
 stainless steel,
 38 mm Ø ; 560 g

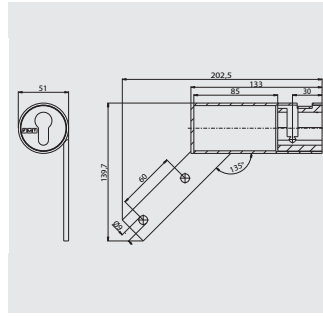


STR 38 Ap
606 27 24 ●
 Security container
 for surface mounting right,
 length 130 mm,
 with 2 keys,
 stainless steel,
 38 mm Ø ; 560 g

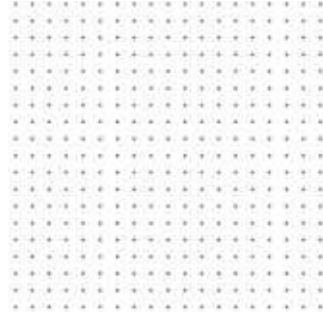


STL 56 PHZ Ap
606 27 23 ●
 Security container
 for surface mounting left,
 length 130 mm,
 for PHZ 10/30, stainless steel,
 56 mm Ø ; 860 g

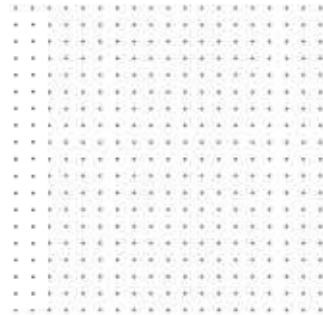
Tube safes:
Security container, accessory,
Wall mounting (flush and surface)



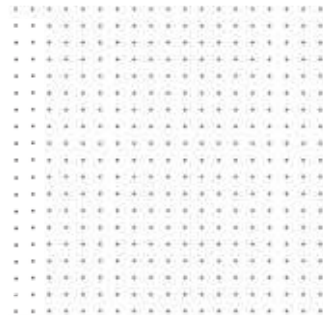
STR 56 PHZ Ap
606 27 22 ●
Security container
for surface mounting right,
length 130 mm,
for PHZ 10/30, stainless steel,
56 mm Ø ; 860 g



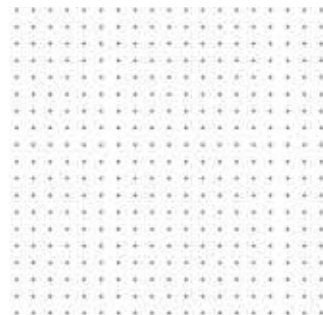
BST 38
606 61 32 ●
security container cover,
for security container ST 38,
stainless steel,
38 mm Ø ; 20 g



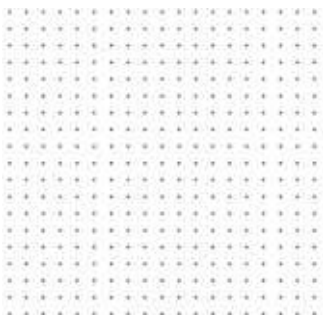
BSTS 38
606 69 33 ●
security container cover,
for security container ST 38,
with dust cover,
stainless steel,
38 mm Ø ; 40 g



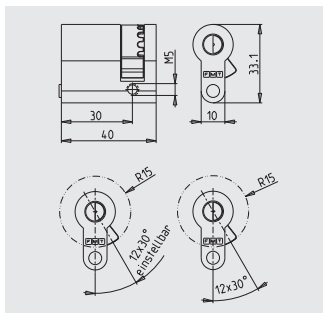
BST 56
606 61 40 ●
security container cover,
for security container ST 56,
stainless steel,
56 mm Ø ; 21 g



BSTS 56
606 69 40 ●
security container cover,
for security container ST 56,
with dust cover,
stainless steel,
56 mm Ø ; 40 g

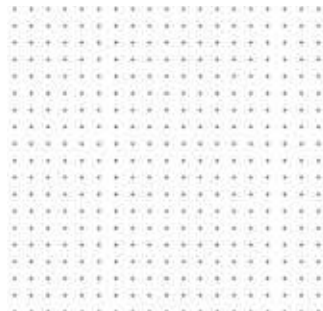


Key ring
604 03 62 ●
for fastening of keys in security
containers ST 38 and ST 56;
with mounting accessory,
11 g



PHZ 10/30
606 86 21 ●
 Profile half cylinder,
 10/30 mm,
 12-way adjustable locking nose,
 with 2 keys,
 145 g

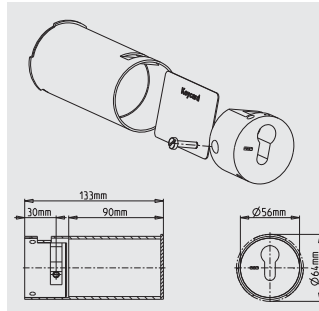
Tube safes:
 Security container, accessory



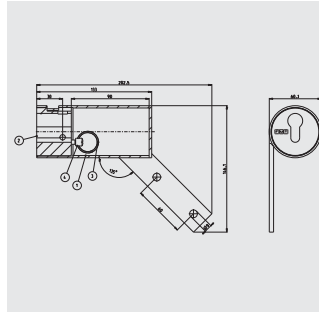
Key*
602 34 71 ●
 Customer specific spare- and extra
 keys for key- and card safes,
 16 g

* Contact the customer service from
 Rutenbeck for customer specific
 lockings

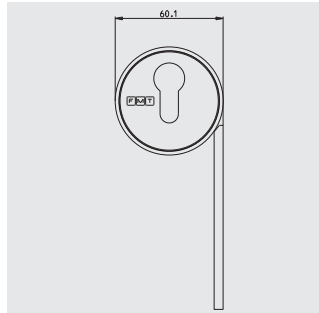
Tube safes:
Card safe, accessory,
Wall mounting (flush and surface)



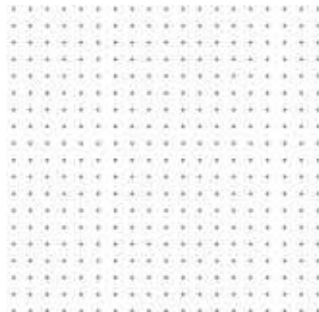
KT 64 PHZ Up
606 54 93 ●
Card safe,
for flush-mounting,
length 130 mm
for PHZ 10/30, stainless steel,
64 mm Ø; 1200 g



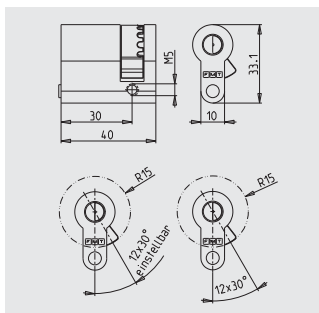
KTL 64 PHZ Ap
606 27 21 ●
Card safe,
for surface mounting left,
length 130 mm, for PHZ 10/30,
stainless steel,
64 mm Ø; 1200 g



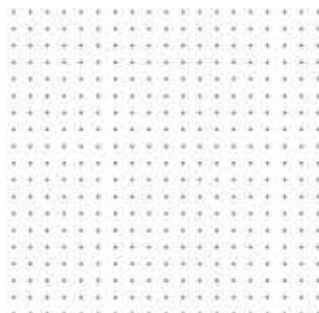
KTR 64 PHZ Ap
606 27 20 ●
Card safe,
for surface mounting right,
length 130 mm, for PHZ 10/30,
stainless steel,
64 mm Ø; 1200 g



BKT 64
606 61 41 ●
Cover
for card safe KT 64,
stainless steel,
64 mm Ø; 20 g



PHZ 10/30
606 86 21 ●
Profile half cylinder,
10/30 mm,
12-way adjustable locking nose
with 2 keys,
145 g



Key*
602 34 71 ●
Customer specific spare- and
extra keys for key- and card safes,
16 g

* Contact the customer service
from Rutenbeck for customer
specific lockings.

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100 102 51	TAE 6 F+N Up	24	132 112 05	UAE-Cat.5e-8/8 U Up mK rw	48
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100 112 51	TAE 6 F+N Up rw	24	133 103 01	IAE/UAE 8 (6)-TAE 6 F+N Up 50	118
100 113 51	TAE 6 F+N Up 50 rw	24	133 104 01	IAE/UAE 8 (6)-TAE 6 F+N Up 0	118
100 115 51	TAE 6 F+N Up 0 rw	24	133 111 01	IAE/UAE 8 (6)-TAE 6 F+N Ap rw	118
102 101 03	TAE 3x6 NFN Ap	125	133 112 01	IAE/UAE 8 (6)-TAE 6 F+N Up rw	118
102 101 09	TAE 3x6 NFN Ap rw	125	133 113 01	IAE/UAE 8 (6)-TAE 6 F+N Up 50 rw	118
102 102 03	TAE 3x6 NFN Up	125	133 114 01	IAE/UAE 8 (6)-TAE 6 F+N Up 0 rw	118
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102 103 05	TAE 3x6 NFN Up 50 rw	125	134 112 01	UAE-real.Cat.6-8 U Up mK rw	49
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103 105 11	TAE 2x6/6 NFF Up 0 sw	126	135 102 070	UAE-Cat.5e-8/8 Up	16
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130 103 06	UAE 8 (8) Up 50	119			
130 103 07	IAE/UAE 2x8 (4) Up 50	116			
130 103 08	UAE 2x8 (8) Up 50	119			
130 103 09	IAE/UAE 8/8 (4/4) Up 50	117			
130 103 10	UAE 8/8 (8/8) Up 50	120			
130 103 36	IAE/UAE 8 (4) Up 50	115			
130 103 37	UAE 2x8 (8) Up 50	119			
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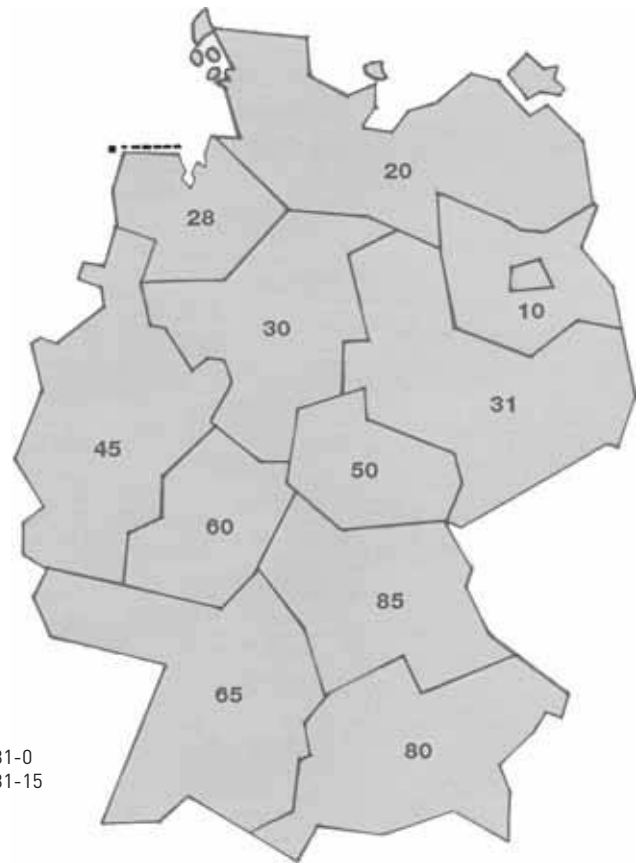
International

**Wilhelm Rutenbeck
GmbH & Co. KG**
Klagebach 33
58579 Schalksmühle
GERMANY

Mr. Frank Schönhoff

Phone: +49 (0) 23 55-82-0
Fax : +49 (0)23 55-82-105

mail@rutenbeck.de
www.rutenbeck.com



**10 Wilhelm Rutenbeck
GmbH & Co. KG**
Klagebach 33
58579 Schalksmühle
GERMANY

Mr. Bernd Linß

Phone: +49 (0) 23 55-82-0
Fax : +49 (0)23 55-82-105

mail@rutenbeck.de
www.rutenbeck.com

31 Detlef Sikora GmbH
Gewerbegebiet Süd Nr. 2
39443 Staßfurt
GERMANY

Phone: +49 (0)3 92 66-9 31-0
Fax: +49 (0)3 92 66-9 31-15

stassfurt@sikora.de
www.sikora.de

20 Hans J. Möller
Inh. Andreas Möller
Elektrovertretung
Wendenstraße 195 A
20537 Hamburg
GERMANY

Phone: +49 (0) 40-2 51 40 61
Fax: +49 (0)40-2 51 46 14

info@hjmoeller.de
www.hjmoeller.de

**45 Wilhelm Rutenbeck
GmbH & Co. KG**
Klagebach 33
58579 Schalksmühle
GERMANY

Mrs. Özlem Aslan

Phone: +49 (0)23 55-82-0
Fax: +49 (0)23 55-82-105

mail@rutenbeck.de
www.rutenbeck.com

**65 Wilhelm Rutenbeck
GmbH & Co. KG**
Klagebach 33
58579 Schalksmühle
GERMANY

Mr. Holger Rutenbeck

Phone: +49 (0)23 55-82-0
Fax: +49 (0) 23 55-82-105

mail@rutenbeck.de
www.rutenbeck.com

28 Hermann Steinbeck e. K.
Elektro-Industrievertretung
Carl-Benz-Straße 5
28816 Stuhr
GERMANY

Phone: +49 (0)4 21-87 40 57/58
Fax: +49 (0) 4 21-87 57 37

info@steinbeck-online.de
www.steinbeck-online.de

**50 Wilhelm Rutenbeck
GmbH & Co. KG**
Klagebach 33
58579 Schalksmühle
GERMANY

Mr. Bernd Linß

Phone: +49 (0) 23 55-82-0
Fax: +49 (0) 23 55-82-105

mail@rutenbeck.de
www.rutenbeck.com

80 Alfons Brummer & Co. GmbH
Office:
Felix-Wankel-Straße 4
82152 Krailing
GERMANY

Phone: +49 (0) 89-89 99 68-0
Fax: +49 (0) 89-89 99 68-23

info@brummer.de
www.brummer.de

30 Detlef Sikora GmbH
Lägenfeldstraße 7
30952 Ronnenberg-Empelde
GERMANY

Postfach 100 236
30940 Ronnenberg

Phone: +49 (0) 5 11-4 38 04-0
Fax: +49 (0)5 11-4 38 04-49

hannover@sikora.de
www.sikora.de

60 PLP Vertriebs GmbH
Siegfried Twers + Team
Theodor-Heuss-Straße 32
61118 Bad Vilbel
GERMANY

Phone: +49 (0) 61 01-55 96-0
Fax: +49 (0) 61 01-55 96-55

info@plpteam.de
www.plpteam.de

85 Horst Rock GmbH
Am Kiefernschlag 20
91126 Schwabach
GERMANY

Phone: +49 (0) 91 22-6 11-79
Fax: +49 (0) 91 22-6 11-59

info@rockundroll.de
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**Wilhelm Rutenbeck
GmbH & Co. KG**

Klagebach 33
58579 Schalksmühle
Germany

Phone +49 (0) 23 55 82-0
Fax +49 (0) 23 55 82-105

mail@rutenbeck.de
www.rutenbeck.com

Customer service:

Phone +49 (0) 3 69 25-9 00 90
Fax: +49 (0) 3 69 25-9 00 92
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