



## ELECTROTECHNICAL EQUIPMENT

9



### Standards:

- EN/CEI 60900
- EN/CEI 61010-2-31 (if applicable)
- EN/CEI 10020

### Insulated D8mm pin

Designed to connect up a variety of electrotechnical equipment (for example: Shunt devices, current tapplings, connection cables, etc.)

#### Technical characteristics:

- For application on contacts with hole diameter 8 mm (e.g. insulated terminals D8 mm, perforated insulation terminals or terminal strips)
- Spreader pin can be spread open up to a  $\varnothing$  of 8.5 mm
- Contact protection of the contact pin by means of a springy insulating sleeve
- Clamping device for connecting the conductor (max. 35 mm<sup>2</sup>) inside the pin
- Identification of terminals with phase colour coding
- Elbow form
- Protection against short circuits 8kA for 0,2 sec. or 1,3kA for 60 sec.
- For currents up to 200A for 60 min. or 250A for 15 min.
- Nominal voltage up to 600V AC / DC (50-60 Hz)
- Slip protection according to EN CEI 60900

Description	Order No.	Dimensions	Weight
Pin D8 black neutral	21011	110x105x30 mm	160 g
Pin D8 grey R	21014	110x105x30 mm	160 g
Pin D8 brown S	21013	110x105x30 mm	160 g
Pin D8 black T	21012	110x105x30 mm	160 g
Pin D8 blue N	21015	110x105x30 mm	160 g



Strudy case - AB4712

### Connection cable with D8mm pin

Suitable for bridging a phase under load in LV systems (e.g. replacing / changing fuses, Connecting / disconnecting lines, etc.).

#### Technical characteristics:

- Connection by means of insulated spreader pins D8
- Flexible cable with double insulation according to IEC 228 standards
- Cable length 3 m
- Rated voltage of the cable up to U/U0 1.8 /3 kV
- Designed for a load of 200A for 60 min. or 250A for 15 min.
- Rated voltage up to 600V AC / DC (50-60Hz)
- Short-circuit strength 8kA for sec. or 1.3kA for 60 sec.

Description	Order No.	Color/Descrip.	Cable cross sect.
Connection cable	21195	black / L3	25 mm <sup>2</sup>
Connection cable	21192	blue / N	25 mm <sup>2</sup>
Connection cable	21196	brown / L2	25 mm <sup>2</sup>
Connection cable	21197	grey / L1	25 mm <sup>2</sup>

#### Set equipment:

- Connection cable - 2119...
- Strudy case

Other lenghts on request



Clamp 10 - 95 mm<sup>2</sup> - 2103 1



Clamp 70 - 240 mm<sup>2</sup> - 2103 4



Phases identified



Sturdy case - 2103 0

### Insulated perforation clamp

Designed to connect up a variety of electrotechnical equipment (for example: Shunt devices, current tappings, connection cables, etc.)

#### Technical characteristics:

- Connection by perforation of the insulating covering
- Size 10 - 95 for NS cables from 10 to approx. 95 mm<sup>2</sup> (outer diameter max.16 mm)
- Size 95 - 240 for NS-cable up to 240 mm<sup>2</sup>
- **Note:** Maximum thickness of the insulation wall 3 mm
- Shock protection for the perforating point by spring loaded insulating sleeve
- Identification of terminals with phase colour coding, definable by grip rotation
- Nominal voltage up to 600V AC / DC (50-60Hz)
- Insulation and slip protection based on EN / IEC 60900: 2004
- Contact protection based on DIN EN 61010-034
- Connection socket D4mm according to DIN EN 61010-034 designed for one load by max. 16A (see picture D4)
- Connection socket D8 designed for a load of 200A for 60 min. or 250A 15 min.
- Rated voltage up to 600V AC / DC (50-60Hz)
- Slip protection according to EN CEI 60900

#### Standards:

EN/CEI 60900  
EN/CEI 61010-2-31  
EN/CEI 10020

Description	Order No.	Dimensions	Weight
Set 10-95	21030	200x170x75 mm	878 g
Insulated perforation clamp 10-95	21033	175x35x42 mm	187 g
Set 95-240	21040	200x170x80 mm	1300 g
Insulated perforation clamp 95-240	21034	185x38x50 mm	300 g

#### Set equipment:

- 4 insulated perforation clamps
- Sturdy case



Socket D4 mm for current take-off and electric measurements



Socket D8 mm with D8 Intercable plug for shunts and current take-off



### Set of D4mm adapter for measurement kit

Used to connect up test or measurement instruments and equipment on hex or cylindrical heads and threaded bars or pins.

#### Technical characteristics:

- D4mm contact hole in compliance with standards EN CEI 61010-2-31
- Permanent use up to 32A
- Insulated terminals with 600V/Cat. III operating voltages

#### Standards:

EN/CEI 60900  
EN/CEI 10020  
EN/CEI 61010-2-31

Description	Order No.	Dimensions	Weight
Set: Measurement kit D6	22305	345x265x65 mm	1,8 kg
Case: empty	2209080	345x265x65 mm	-

Insulated clamp D4 mm  
2130 003



Insulated clamp D4 mm  
2130 002



Insulated clamp D4 mm  
2130 001



Insulated clamp D4 mm  
2130 005



Insulated clamp D4 mm  
2130 004





Model Version A



Model Version B

### Set adapters D8 mm for electrotechnical equipment

Adapter for current shunts and electrical measurements (e.g. shunts, current take-off devices, connection cables, measuring instruments, etc.) from hexagonal head bolts and socket head screws, studs, bolts and cylindrical plugs.

#### Technical characteristics:

- Connect the adapters or inserts using an insulated attachment handle
- Current capacity 200A for 60 min., 250A for 15 min.
- Nominal voltage up to 600 V AC / DC (50-60 Hz)

Description	Order No.	Dimensions
Set adapters with D6 (Vers. A) 1 pol.	22202	320x115x45 mm
Set adapters with D6 (Vers. A) 2 pol.	22204	320x115x45 mm
Set adapters with D6 (Vers. B) 3 pol.	22206	230x210x55 mm
Set adapters with D6 (Vers. B) 4 pol.	22208	230x210x55 mm
Set adapters with D6L (Vers. A) 1 pol.	22212	320x115x45 mm
Set adapters with D6L (Vers. A) 2 pol.	22214	320x115x45 mm
Set adapters with D6L (Vers. B) 3 pol.	22216	230x210x55 mm
Set adapters with D6L (Vers. B) 4 pol.	22218	230x210x55 mm
Version A empty: Transparent case	D990112	320x115x45 mm
Version B empty: Rigid case	AB22208	230x210x45 mm

- Short circuit protection 8 kA for 0,2 sec. or 1,3 kA for 60 sec.
- Slip protection according to IEC 60900

#### Set equipment: (\*depending on the number of poles)

- 1 insulated grip - 2101 1
- \* insulated clamp - 2202 1
- \* Hex tightening inserts 13/17/19 mm - 2203 0...
- \* Standard tightening insert D6 - 2203 106 or 2104 106
- Rigid case A or B



Insulated grip D8 mm - 2201 1



Allows adjustment of the connection torque of 10Nm via a torque wrench



Insulated D8 mm clamp - 2202 1



### Protection ultra-rapid AC waR

• For screw fuse holder Item No. 073326

Description	Order No.	Dimensions	Tension
Protection ultra-rapid AC aR	07343081	27 x 60 mm	12 A
	07343083	27 x 60 mm	32 A
	07343086	27 x 60 mm	63 A
	07343087	27 x 60 mm	100 A
	07343088	27 x 60 mm	125 A
	07343089	27 x 60 mm	160 A
	07343090	27 x 60 mm	200 A
	07343091	27 x 60 mm	250 A



### Insulated grip

• For assembly of insulated terminals D4mm/D8mm  
• To standards EN/IEC 60900

Description	Order No.	Dimensions	Weight
Insulated grip	22011	180 x 55 mm	164 g



### Insulated D4mm clamp for electrical measurements

• Connector D4mm to standards DIN EN 61010-031 for maximum current 16A  
• Nominal voltage up to 600V AC / DC (50-60Hz)  
• Over-volt protection category III

Description	Order No.	Color	Weight
Insulated clamp D4 mm	2130001	black	62 g
Insulated clamp D4 mm	2130002	green	64 g
Insulated clamp D4 mm	2130003	red	63 g
Insulated clamp D4 mm	2130004	blue	64 g
Insulated clamp D4 mm	2130005	yellow/green	62 g





### Standard D6 tightening insert

- For use only in combination with insulated terminals D4/D8
- The internal expansion mechanism guarantees perfect connection to the socket head screws
- Current load 200A for 60 min. or 250A for 15 min.
- Short circuit protection 8kA for 0,2 sec. or 1,3kA for 60 sec.

Description	Order No.	Dimensions	Weight
Insert D6	2203106	21 x 19 mm	18 g



### Hex tightening insert SW8-SW22 for insulated terminals

- For use only in combination with insulated terminals D4/D8
- The internal expansion mechanism guarantees perfect connection to the socket head screw
- Current load 200A for 60 min. or 250 A for 15 min.
- Short circuit protection 8kA for 0,2 sec. or 1,3kA for 60 sec.

Description	Order No.	Hex wrench	Weight
Insert SW8	2203008	SW8	16 g
Insert SW10	2203010	SW10	16 g
Insert SW11	2203011	SW11	16 g
Insert SW13	2203013	SW13	16 g
Insert SW14	2203014	SW14	12 g
Insert SW16	2203016	SW16	14 g
Insert SW17	2203017	SW17	14 g
Insert SW18	2203018	SW18	16 g
Insert SW19	2203019	SW19	28 g



### Tightening insert for allen screws

- For use only in combination with insulated terminals D4/D8
- The internal expansion mechanism guarantees perfect connection to the socket head screw
- Current load 200A for 60 min. or 250 A for 15 min.
- Short circuit protection 8kA for 0,2 sec. or 1,3kA for 60 sec..

Description	Order No.	Size	Dimensions	Weight
Insert I-S8	2208080	SW 8	35 x 20 mm	24 g



### Insulated clamp D8mm

- For shunts, current take-off devices, connection cables, etc.
- Connection socket D8mm
- Max. current load 200A for 60 min. or 250A for 15 min.
- Short circuit protection 8kA for 0,2 sec. or 1,3kA for 60 sec.
- Nominal voltage up to 600V AC / DC (50-60Hz)

Description	Order No.	Dimensions	Weight
Insulated clamp D8 mm	22021	45 x 39 mm	60 g



### Insert for hexagonal socket screws with insulated shank

- For use only in combination with insulated terminals D4/D8
- The internal expansion mechanism guarantees perfect connection to the socket head screws
- Current load 200A for 60 min. or 250A for 15 min.
- Short circuit protection: SW 5 = 5kA for 0,2 sec.  
SW 6 = 6kA for 0,2 sec.  
SW 10 = 7kA for 0,2 sec.
- Shank insulation in plastic material

Description	Order No.	Size	Dimensions	Weight
Insert I-S5L	2208050	SW 5	56 x 20 mm	30 g
Insert I-S6L	2208060	SW 6	56 x 20 mm	34 g
Insert I-S10L	2208100	SW 10	56 x 20 mm	40 g



### Insert for D8mm holes

- For use only in combination with insulated terminals D4/D8
- The internal expansion mechanism guarantees perfect connection to the socket head screws
- Current load 200A for 60 min. or 250A for 15 min.
- Short circuit protection 7kA for 0,2 sec.

Description	Order No.	Dimensions	Weight
Adapter D8	2209080	8 mm	approx. 40 g



### Hex cap nut SW13

- Used to make contact with threaded bolts M8, M10, M12 using SW13
- To allow correct assembly and disassembly, use an adapter for cap nuts and an insulated handle
- Current load 200A for 60 min. or 250A for 15 min.
- Short circuit protection 8kA for 0,2 sec. or 1,3kA for 60 sec.

Description	Order No.	Inside thread	Weight
Hex cap nut SW 13-M8	2206008	M8	10 g
Hex cap nut SW 13-M10	2208010	M10	8 g
Hex cap nut SW 13-M12	2208012	M12	4 g



### Insulated hex cap nut SW13

- Use exclusively in combination with isolated handle (Item No. 22011) and Intercable cap nut SW13
- To fasten the SW13 cap nut on threaded rods and bolts
- Electrocutation protection through plastic bushing

Description	Order No.	Dimensions	Weight
Hex cap nut	22051	-	38 g





### Magnetic adapter Ø 6,6 mm

Suitable for connecting measuring analyzers, e.g. for applications on machines, contact with magnet.

#### Technical characteristics:

- Overvoltage category 1000V CATIII / 600V CAT IV
- Completely isolated from touch
- Connection of measuring device by means of D4 mm socket
- Maximum current carrying capacity 4A

#### Standards:

IEC 61010-031

Description	Order No.	Dimensions	Weight
Magnet adapter	DA606/6,6	60x50x16 mm	approx. 18 g



Clamp 10 - 95 mm<sup>2</sup> - 2105 0

⚡1000V

### Perforation alligator clip

Suitable for measuring voltage by means of perforation directly on the cable.

#### Technical characteristics:

- Connection of measuring tips by means of a hole, lockable via a fixing screw
- Low perforation of the insulation on the cable

#### Standards:

EN/CEI 61010-031

Description	Order No.	Dimensions	Weight
Clamp 10 - 95 mm <sup>2</sup>	21050	-	approx. 44 g
Clamp 50 - 300 mm <sup>2</sup>	21051	-	approx. 52 g



Clamp 50 - 300 mm<sup>2</sup> - 2105 1

⚡1000V

#### Example of use:

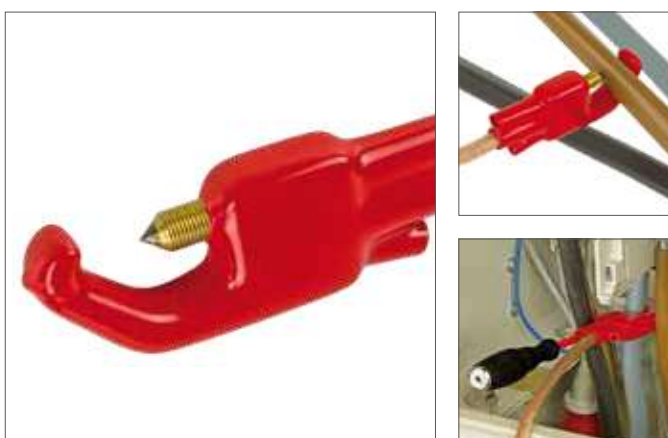




### PEN - Clamp compact for rails up to 10 mm

Very narrow insulated version for attaching to the PEN rail. Due to the clamping range up to 10 mm, it is ideally suited to the current rails.

Description	Order No.	Weight
PEN - Clamp compact for rails up to 10 mm	07311102	100 g



### Insulated perforation clamp up to 240 mm<sup>2</sup>

Very slim and compact design, especially for cramped connection conditions in the distribution cabinet or house connection box.

Description	Order No.	Weight
Insulated perforation clamp up to 240 mm <sup>2</sup>	073474	140 g

### Adapter extension D8

Suitable as a connection element for bridging devices and current collecting devices, especially in hard-to-reach places in various cable distribution systems.

#### Technical characteristics:

- For currents of 200A for 60 min and/or 250A for 15 min
- Nominal voltage 600 V AC/DC (50-60 Hz)
- Protection against short circuit 8kA/0,2 sec.
- Extra flexible cable with double insulation, cable cross section 35 mm<sup>2</sup>
- Socket D8mm for connecting the spreading systems (ship lifting devices)
- Adapter D8 for holding all clamping inserts
- Can only be used with insulated handle - 2201 1

Description	Order No.	Lenght	Weight
Adapter extension	21211	404 mm	ca. 24 g

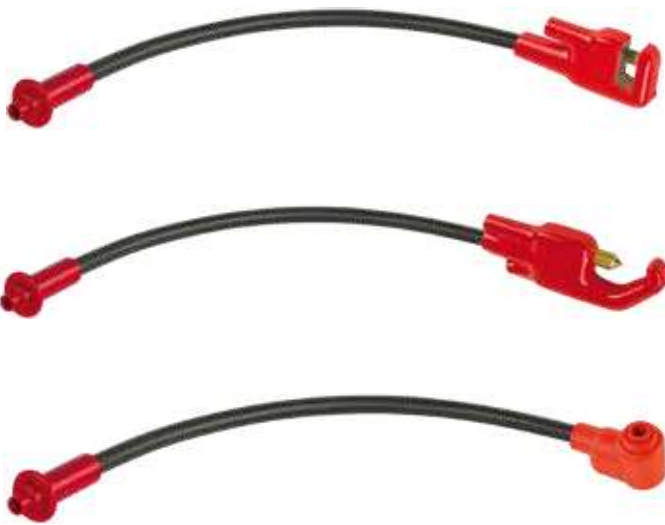
### Flexible connections for temporary connections 35 mm<sup>2</sup>

#### Application range:

- Input for current loads 63 amps at 230V AC
- Connection via insulated screw connector for 50 mm<sup>2</sup>

Description	Order No.	Cable length
Earthing screw cap E27 with cable and screw connector	073333	400 mm
Earthing screw cap E33 with cable and screw connector	073334	400 mm





### Flexible connections for temporary connections 35 mm<sup>2</sup>

#### Application range:

- For shunt device, current collection set and connection cable
- For current loads 250A for 3 min or 150A continuous load at 230V AC
- Connection via socket for insulated expansion pin D8 mm
- Fastening with hexagon socket screw SW4 mm to PEN and perforation clamp (Allen screwdriver SW4 Nr.: 2115304)

Description	Order No.	Cable length
Isolated PEN terminal with cable and D8 connector for expanding pin	07332302	400 mm
Insulated perforation clamp and D8 connection for expanding pin	073323	400 mm
Insulated terminal D8 mm with cable and D8 connection for expansion pin	073322	400 mm

### Flexible connections for temporary connections 35 mm<sup>2</sup>

#### Application range:

- For shunt device, current collection set and connection cable
- Taps with internal fuse Ultra Rapid AC 660V aR for current loads 250A for 3 min. or 150A continuous load at 230V AC
- Connection via socket for insulated expansion pin D8 mm
- Fuse must be ordered separately (No. 073430xx)

Description	Order No.	Cable length
Screw securing holder with terminal D8 mm	073325	400 mm

### Flexible connections for temporary connections 35 mm<sup>2</sup>

#### Application range:

- Connection cable (bypass) for connecting phase - phase or PEN - PEN
- For cable distribution systems for temporary bridging
- Taps with internal fuse Ultra Rapid AC 660V aR for current loads 250A for 3 min. or 150A continuous load at 230V AC
- Connection via D8m jack for adapter system for frame, clamp and V terminals Current load 250A for 15 min., 200A 60 min. and continuous load 150A, nominal voltage up to 600V AC / DC (50 - 60 Hz)
- Fuse must be ordered separately (No. 073430xx)

Description	Order No.	Cable length
Connecting cable with 2 perforation clamps and screw securing holder	073324	1500 mm
Connecting cable with 2 perforation clamps	073327	1500 mm
Connection cable with 2x D8 terminal 35 mm <sup>2</sup> and screw fuse holder	073468	2000 mm





A= with pin

B= with bush  
cable terminal

C= with PEN con-  
nection terminal



### Current tapping device 220V

Designed for two-pole tapping of currents up to 16A to power electrical equipment.

#### Technical characteristics:

- Protection contact sockets IP44, 2x16A-230V
- Rubber cover insulation grade IP44
- 2 connection cables 16 mm<sup>2</sup>, length 1500 mm
- Connection cable with double insulation; nominal voltage U/U0 1,8/3kV
- Overload switch 16A characteristic C, short circuit current 25kA
- Differential switch 0,03A
- Nominal voltage 230V AC / DC (50-60Hz)
- Short circuit protection 8kA for 0,2 sec or 1,3kA for 60 sec

#### Set equipment:

- Current tapping device
- Plastic case to contain the device housing

#### Standards (Housing):

- EN 61009
- EN 60493/4
- IEC 309

Description	Order No.	Connection	Weight
Current tapping device	2320212	2 x A	approx. 4,8 kg
Current tapping device	2320213	2 x B	approx. 4,8 kg
Current tapping device	-	A + C	approx. 4,8 kg
Current tapping device	-	B + C	approx. 4,8 kg





### Current tapping device 380V/16A three phase current

4 pole device for current take-off up to 16A for supply of electro-technical device.

#### Technical characteristics:

- 5 pole CEE three-phase sockets (3pol + N + PE) 380V/16a IP44
- Rubber cover protection grade IP44
- 4 connection cables 16 mm<sup>2</sup>, length 1500 mm
- Connection cable with double insulation; nominal voltage U/U0 1,8/3 kV
- Overload switch 16A characteristic C, short circuit current 25 kA
- Differential switch 0,03A
- Nominal voltage 380/400V AC / DC (50-60Hz)
- Short circuit protection 8 kA for 0,2 sec. or 1,3 kA for 60 sec.

#### Set equipment:

- Current tapping device
- Plastic case to contain the device housing

#### Standards (Housing):

- EN 61009
- EN 60493/4
- IEC 309

Description	Order No.	Dimensions	Connection	Weight
Current tapping device	2208060	500x380x190 mm	3xB + 1xC	approx. 8 kg



### Single-pole Shunt device

For opening and closing circuit breaker bridges in lines under load in low voltage systems (e.g. to replace fuses, connect/disconnect electric connections etc).

#### Technical characteristics:

- Red LED to signal polarity inversion
- Connection by insulated plug D8mm
- Cover protection grade IP44
- Connection cable 16 mm<sup>2</sup>, Length 1500 mm
- Connection cable with double insulation; nominal tension U/U0 1,8/3 kV
- With fixed overload cut-out level
- Nominal automatic switch current 160A; short circuit current 25 kA,
- Current load 160A for 30 min.
- Nominal tension max. 600V AC / DC (50-60Hz)
- Short circuit protection 8 kA for 0,2 sec. or 1,3 kA for 60 sec.

#### Set equipment:

- Single-pole Shunt device
- Plastic case to contain the Shunt device

Assembly option accessories for insulated terminal D8 + dies or insulation perforation terminal see page .xxx

Description	Order No.	Dimensions	Weight
Shunt device	21201160	430x310x120 mm	approx. 5,1 kg



### Multi-pole Shunt device

Suitable for 3-pole bridging of external conductors under load in LV systems up to 230 / 400V AC - 50Hz (e.g. replacement / replacement of intact fuses or fuse strips, connection / disconnection of cables, etc.) without interrupting the power supply.

#### Technical characteristics:

- Protection against polarity inversion for correct phase connection
- Digital counter for number of operation cycles
- Connection by insulated pin D8 mm
- Cover protection grade IP44
- Connection cable 35 mm<sup>2</sup>, length 6x1.800 mm
- Connection cable with double insulation, nominal tension U/U0-470/750V
- Circuit-breaker T3N-250-TMD (ABB) with thermomagnetic overcurrent release (TMD) 3-pole, rated current 200A. Rated operational voltage 380-415V AC, breaking capacity ICU 36kA, utilization category A acc.
- Max current load (maximum duration of use) of the bridging device: Current load (maximum operating time) of the bridging device: 200A for 60 minutes or 250A for 15 minutes at an ambient temperature of -5° C / + 40° C
- Short circuit protection 8kA for 0,2 sec. or 1,3kA for 60 sec.
- Integrated meter in the electronics for determining the maintenance intervals
- Display showing the phases (load supply side), faults, hazard warnings and prompts
- Push button green: Push button with integrated green light which signals that everything has been connected correctly and that the bridging can now be started by activating the circuit breaker
- Button: to acknowledge the buzzer in case of error message (approx. 5 sec.), as well as to acknowledge the message "Expiry of max. recommended circuits"
- LED red: Attention error, see display.
- Buzzer: electronic buzzer which sounds in the event of a fault during the bridging (if contacting of a spreader pin faulty, voltage drop)
- Electronic polarity reversal protection

#### Set equipment:

- Three-pole bridging device with electronic reverse polarity protection
- Plastic case to contain the Shunt device

Assembly option accessories for insulated terminal D8 and dies or insulation perforation terminal: see page 215.

Description	Order No.	Dimensions	Weight
Shunt 3-pole	212703250	430x310x200 mm	approx. 19,1 kg