

Connection Systems DATASHEET

JUNHO 2013

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Junction box

Features

- Wide temperature range
- Cold-applied technology
- Flame-retardant
- Shock-resistant
- System approval

Description

Inside the standard polyester junction box one or several heating circuits are connected to the supply AC 254 V.

One cable gland size M25 for the supply voltage is already assembled at the junction box. The enclosure is prepared with threads for heating cable glands size M20.

Explosion protection

Ex protection type System

Ex II 2G Ex e II T5

Ex II 2D Ex tD A21 IP 65 T 95 °C

Certification System

KEMA 08 ATEX 0112

IECEx KEM 09.0085

Technical data

Protection class according to EN 60529

seal of cover IP 65

cable gland IP 65

Ambient temperature

-55 °C up to + 55 °C

Dimensions

Junction box for one heating circuit:

122 x 120 x 90 mm

Junction box for 2/3 heating circuits:

220 x 120 x 90 mm

Material

Polyester, glass fibre reinforce

Voltage

AC 254 V

Terminals

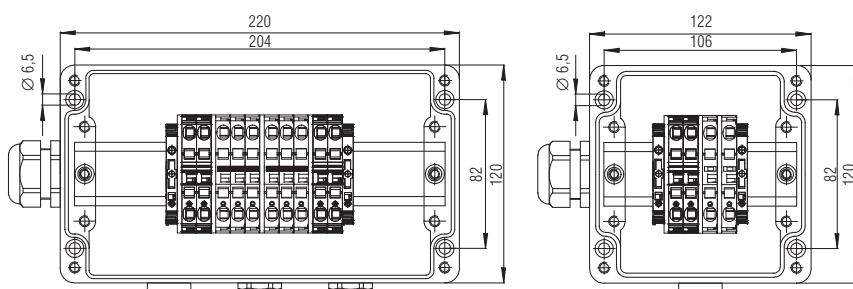
Cross section 0.5 mm² to 6.0 mm²

Fuse

Max. 16 A

(dependant on the heating circuit length)

Dimensions





Cold-applied technology

Features

- Direct connection of self-limiting heating cable into the junction box
- Connection and termination in one set
- Small place saving and economic solution
- Easy project and assembling with silicone cold applied technology



explosion protected



media protected

Description

For direct connection of self-limiting heating cable type PSBL (Order no. 07-5807-....) into the junction box the 2 supply leads are insulated by silicone glue and a silicone hose. A green yellow protection tube is pulled over the tinned copper braiding inside the insulation sheath.

The copper braiding and the metal cable glands with an extra lead are prepared to be connected to the protective earth. The end of the self-limiting heating cable is insulated with silicone glue and silicone end cap.

Description

For direct connection of self-limiting heating cable type PSBL (Order no. 07-5807-....) into the junction box the 2 supply leads are insulated by silicone glue and a silicone hose. A green yellow protection tube is pulled over the tinned copper braiding inside the insulation sheath.

The copper braiding is prepared to be connected to the protective earth. The end of the self-limiting heating cable is insulated with silicone glue and silicone end cap.

➔ Explosion protection

Ex protection type System

Ex II 2G Ex e II T5
Ex II 2D Ex tD A21 IP 65 T 95 °C

Certification System

KEMA 08 ATEX 0112
IECEX KEM 09.6085

➔ Technical data

Ambient temperature range

depends on used junction box

-55 °C up to +55 °C
Standard polyester Type 27-5452-4...

for heating cable switched on
up to +65 °C

■ Electrical data

Nominal voltage

AC 208 V up to AC 254 V
AC 110 V up to AC 120 V

Power rating

10, 15, 20, 25, 30 W/m

➔ Technical data

Ambient temperature range

depends on used junction box

-20 °C up to +40 °C
Standard polyester
Type 07-5177-9024, -9025, -9026

for heating cable switched on
up to +65 °C

■ Electrical data

Nominal voltage

AC 208 V up to AC 254 V
AC 110 V up to AC 120 V

Power rating

10, 15, 20, 25, 30 W/m



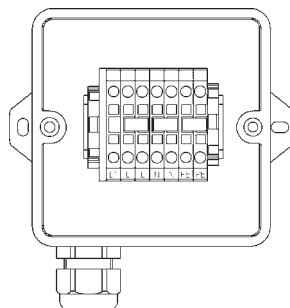
Terminal box



Description

The terminal box is suitable for indoor as well as for protected outdoor installations.

Terminal box



Technical data

Dimensions

88 mm x 88 mm x 53 mm
(without external mounting parts)

Protection class

IP 65/EN 60529

Permissible ambient temperature

-25 °C up to +40 °C

Enclosure material

thermoplastic

Cable gland

1 x M20

Terminal blocks

7 x AKZ 2.5 mm²

Rated insulation voltage

AC 250 V

Mini-thermostat



Description

This mini-thermostat is used both for monitoring the temperature outside the heating systems and also for regulating the temperature inside transmitter protection boxes or switch and control cabinets.

It can also be used for monitoring (indicating) temperatures that are too high or too low and it can serve as an alarm contact.

Technical data

Protection class

IP 66/EN 60529

Connection strands

2 x H07G-K 1.5 mm
0.5 m long

Enclosure material

Polyamide

Max. temperature at the site of utilisation

+70 °C

Minimum storage temperature

-20 °C

Electrical data

Switching capacity

AC 230 V/6 A

Contact element

N/C contact
(opens when temperature increases)

Tolerance for switching points

14 °C ± 5 K

4 °C ± 3 K

25 °C ± 3.5 K

15 °C ± 3.5 K



PLEXO TCS

Features

- No need for a junction box
- Cross-section of connection terminals up to 4 mm²
- Operating temperature range from -60 °C to +180 °C
- Integrated strain relief; high electrical and mechanical safety
- Quick and easy installation, with simple tools
- System approval in conformance to IEC/EN 60079, utilisation in the hazardous area

Description

The PLEXO TCS connection system can be used for BARTEC's self-limiting heating tapes. This modular connection technology allows an easy and reliable assembly of supply connections, splicing and remote-end terminations. The PLEXO TCS components can be plugged in and they become part of a system which contains patented sealing and clamping technology. Maintenance work and later modifications to the heating circuit can be done quickly and with a high degree of flexibility.

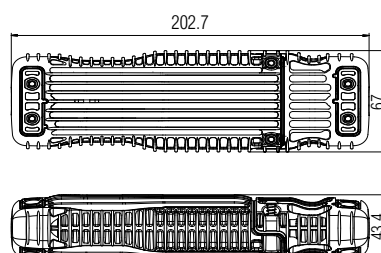
The strands from the self-limiting heating tapes or the supply cable are fixed in place securely by spring-loaded terminals in the internal clamping technology.

A cleverly devised sealing system offers reliable protection for electrical apparatus even against extreme environmental influences.

The flexibility of this connection technology allows the heating tape to be joined directly to the supply cable for connection to a remote distribution box or a junction box. Two heating cables of the same type can be plugged into each other by means of a connecting element, allowing easy access for servicing and maintenance. The PLEXO TCS makes it possible and easier to extend the heating circuit at a later date.

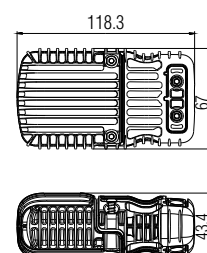
Dimensions (in mm)

Type 27-59P1-*0100000 and Type 27-59P2-01100000



Dimensions (in mm)



Type 27-59P3-00100000







➤ Explosion protection

Ex protection type System

PSBL  II 2G Ex e IIC T5 Gb
 II 2D Ex tb IIIC T95°C Db

PSB  II 2G Ex e IIC T5, T6 Gb
 II 2D Ex tb IIIC T95°C, T80°C Db

MSB  II 2G Ex e IIC 150°C (T3), T4 Gb
 II 2D Ex tb IIIC T150°C, T130°C Db

HSB  II 2G Ex e IIC 180°C (T3), T4 Gb
 II 2D Ex tb IIIC T180°C, T130°C Db

Certification System

BVS 13 ATEX E 040 X
IECEx BVS 13.0048 X

➤ Technical data

Rated voltage

max. 254 V

Protection by automatic circuit breaker (C characteristic)

max. 32 A (dependent on the heating cable)

Protection class

EN 60079-0 IP 65
EN 60529 IP 66/IP 68

Operating temperature range

Ex version: -60 °C to +180 °C
Non Ex version: -60 °C to +200 °C

Rated cross-section of supply cable

max. 4 mm²

Minimum installation temperature

-40 °C for MSB
-55 °C for PSBL/PSB
-60 °C for HSB

Sealing area supply cable

see type selection



Junction box

Features

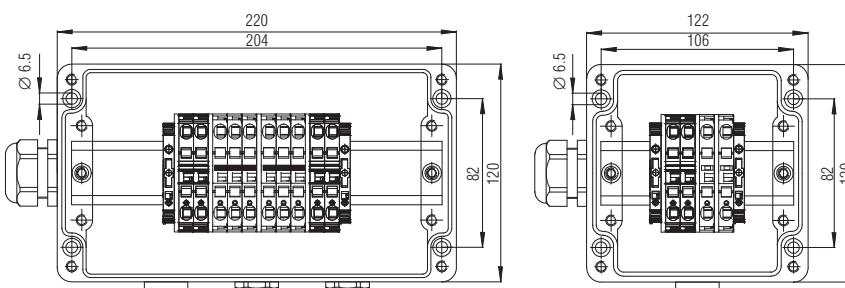
- Wide temperature range
- Cold-applied technology and connection technology PLEXO P
- Flame-retardant
- Shock-resistant
- System approval

Description

Inside the standard polyester junction box one or several heating circuits are connected to the supply AC 254 V.

One cable gland size M25 for the supply voltage is already assembled at the junction box. The enclosure is prepared with threads for heating cable glands size M20.

Dimensions



➔ Explosion protection

Ex protection type

Ex II 2G Ex e II T5, T6

Ex II 2D Ex tD A21 IP 65 T 95 °C, T 80 °C

Certification System

KEMA 08 ATEX 0111

IECEx KEM 09.0084

➔ Technical data

Protection class

according to EN 60529

seal of cover IP 65

cable gland IP 65

Ambient temperature

-55 °C up to +55 °C

Dimensions

Junction box for one heating circuit
122 x 120 x 90 mm

Junction box for 2/3 heating circuits
220 x 120 x 90 mm

Material

Polyester, glass fibre reinforce

Voltage

AC 254 V

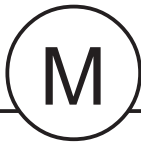
Terminals

Cross section 0.5 mm² up to 6.0 mm²

Fuse

Max. 32 A

(dependant on the heating circuit length)



Cold-applied technology



explosion protected



media protected

Features

- Direct connection of self-limiting heating cable into the junction box
- Connection and termination in one set
- Small place saving and economic solution
- Easy project and assembling with silicone cold applied technology

Description

For direct connection of self-limiting heating cable Type PSB (Order no. 07-5801-...) into the junction box the 2 supply leads are insulated by silicone glue and a silicone hose. A green yellow protection tube is pulled over the tinned copper braiding inside the insulation sheath.

The copper braiding and the metal cable glands with an extra lead are prepared to be connected to the protective earth. The end of the self-limiting heating cable is insulated with silicone glue and silicone end cap.

Description

For direct connection of self-limiting heating cable Type PSBL (Order no. 07-5801-...) into the junction box the 2 supply leads are insulated by silicone glue and a silicone hose. A green yellow protection tube is pulled over the tinned copper braiding inside the insulation sheath.

The copper braiding is prepared to be connected to the protective earth. The end of the self-limiting heating cable is insulated with silicone glue and silicone end cap.

➔ Explosion protection

Ex protection type

- Ex II 2G Ex e II T5, T6
- Ex II 2D Ex tD A21 IP 65 T 95 °C, T 80 °C

Certification System

KEMA 08 ATEX 0111
IECEx KEM 09.0084

➔ Technical data

Ambient temperature range

depends on used junction box

-55 °C up to +55 °C
Standard polyester Type 27-5452-4...

for heating cable switched on
up to +65 °C

■ Electrical data

Nominal voltage

AC 208 V up to AC 254 V
AC 110 V up to AC 120 V

Power rating

10, 13, 15, 26, 33 W/m

➔ Technical data

Ambient temperature range

depends on used junction box

-20 °C up to +40 °C
Standard polyester
Type 07-5177-9024, -9025, -9026

for heating cable switched on up to +65 °C

■ Electrical data

Nominal voltage

AC 208 V up to AC 254 V
AC 110 V up to AC 120 V

Power rating

10, 13, 15, 26, 33 W/m



Heat shrink technology

Features

- Direct insertion of a heating cable into an Ex e junction box or in an plastic enclosure
- Space-saving, favourable dimensions
- Flexible connection-heating cable/cold cable



explosion protected

Description

The heat shrink technology is approved for the heating circuit Type 27-1680-1.00/..., system approval EN 60079 is in preparation.

Heat shrink technology is reliable technology for connecting heating cables.

The principle is easy. After stripping the heating cable, insulation tubes are shrunk over the supply lines and the twisted protective braiding and wire end sleeves are put on. As a basic rule, the heating cable is connected to terminals in an enclosure that has "increased safety". The heating circuit end is also closed with shrinkable tubes.

➔ Explosion protection

Heating circuit

Ex protection type

Ex II 2G EEx em II T6

Certification

KEMA 03 ATEX 2529 X

➔ Technical data

Ambient temperature area

depends on used junction box

for heating cable switched on
-20 °C up to +65 °C

for heating cable switched off
-20 °C up to +85 °C (cum. 1000 h)

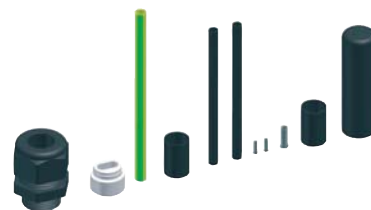
■ Electrical data

Nominal voltage

AC 230 V; AC 120 V

Power rating

10, 13, 15 and 26 W/m



media protected

Description

If the enclosure is connected directly, the heating tape is first stripped and then insulation tubes are shrunk over the supply lines and the twisted protective braiding and wire end sleeves are put on. The heating cable is connected directly to terminals in a junction box, IP 65 protection class.

As an alternative, the heating cable can be connected directly to a supply cable by means of a crimp connector. The heating circuit end is closed in each case with a heat shrinkable end cap.

➔ Technical data

Ambient temperature range

for junction box

Standard -20 °C up to +65 °C

for heating cable switched on
-20 °C up to +65 °C

for heating cable switched off
-20 °C up to +85 °C (cum. 1000 h)

■ Electrical data

Nominal voltage

AC 254 V

AC 120 V

Power rating

10, 13, 15, 26 and 33 W/m

Features

- Cost savings because the assembly time is reduced
- Great reliability of assembly because the work steps are few and simple

Connection technology TWISTO-B

Description

Still simpler and safer to use, yet at the same time faster and thus cheaper, is how the major benefits of the TWISTO-B can be described. This method of connection is solely intended for use with BARTEC's PSB heating cables of series 07-5801-2....

All that is needed to wire up a heating circuit is a knife and diagonal cutters. This dispenses with the time-consuming work of exposing the two conductors, the laborious splicing and twisting of the protective braiding and then connecting to a terminal. Just a piece of the outer protective sleeve is removed, a clamping sheet is fitted over a part of the exposed braiding, the remaining part is pulled back over the clamping sheet.

The heating cable is then inserted into the clamp cutting fixture and by twisting together the two outer sleeves (one sleeve comes ready prepared with a 1.5 m long connection cable), the heating cable is contacted in the clamp cutting fixture. The end terminal consists of just one part, whereby the end of the heating cable is shortened and inserted into the terminal piece.

Technical data

Nominal voltage
AC 250 V

Nominal current
16 A

Ambient temperatures
-40 °C to +80 °C
short-term to +100 °C

Protection class
IP 66, IP 68

Dimensions
Connection/union
Diameter 33 x 125 (135) mm long
End terminal 23 x 20 x 37.5 mm long

Connection
with 1.5 m ready-prepared
connector cable (3 x 1.5 mm²)





Junction boxes for heat shrink technology

Description

Junction boxes are used to connect one or more heating circuits to the power supply.

Polyester enclosures are available with the necessary cable glands and threaded cable entries.

Aluminium junction boxes are available upon request.

Explosion protection

Ex protection type

- Ex II 2G Ex e II T6 or T5
- Ex II 2D Ex tD A21 IP 6x T 95 °C
- Ex II 2D Ex tD A21 IP 6x T 80 °C

Certification

PTB 08 ATEX 1064
IBExU 00 ATEX1081

More versions are available for:
USA, Canada, Russia

Technical data

Protection class according to EN 60529

Cover gasket IP 65
Cable gland for power supply cables IP 67

Supply voltage

max. AC 254 V

Supply cable, cross section

2.5 mm² up to 6.0 mm²

Impact resistance

7 Nm

Material

polyester, glass-fibre reinforced

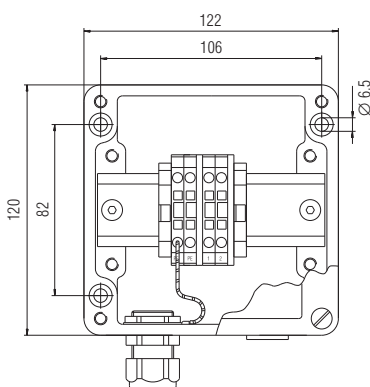
Gland size Cable diameter

M20 Ø 6 up to 12 mm
M25 Ø 7 up to 12/17 mm

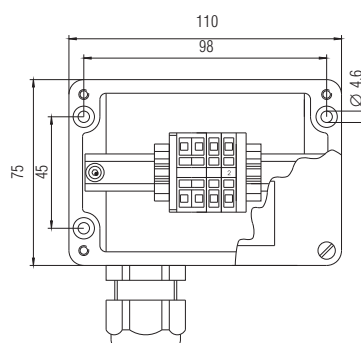
Standard seals

EPDM -20 °C up to +100 °C
EPDM -55 °C up to +100 °C on request

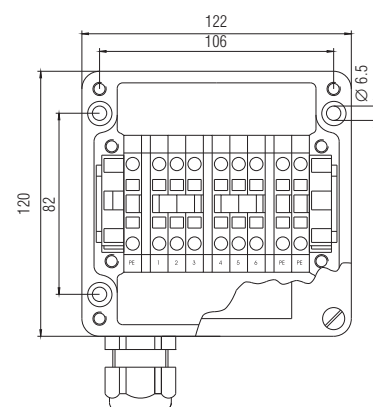
Junction box single
-55 °C up to +40 °C



Junction box single



Junction box double, triple





Junction boxes for connection system TWISTO-B

Description

Junction boxes are used to connect one or more heating circuits to the power supply.

Polyester enclosures are available with the necessary cable glands and threaded cable entries.

Aluminium junction boxes are available upon request.

➤ Technical data

Protection class according to EN 60529

Cover gasket IP 65

Cable gland IP 67
for power supply cables

Supply voltage

max. AC 254 V

Supply cable, cross section

2.5 mm² up to 6.0 mm²

Impact resistance

7 Nm

Material

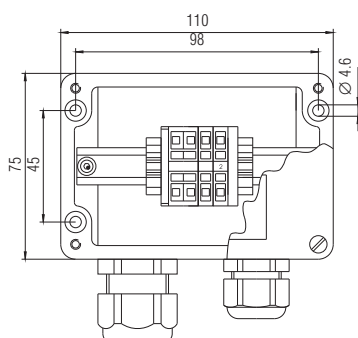
polyester, glass-fibre reinforced

Gland size cable diameter

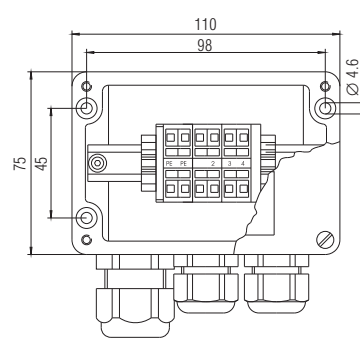
M20 Ø 6 up to 13 mm

M25 Ø 7 up to 12/17 mm

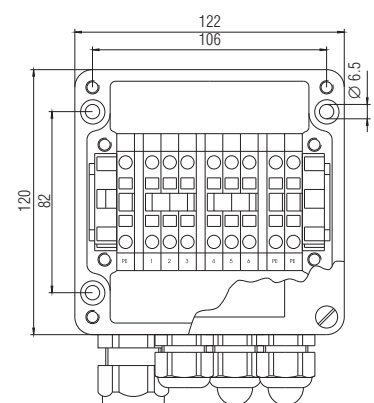
Junction box single



Junction box double



Junction box triple





Junction boxes for heat shrink and cold-applied technology

Description

Junction boxes are used to connect one or more heating circuits to the power supply.

Polyester enclosures are available with the necessary cable glands and threaded cable entries.

Aluminium junction boxes are available upon request.

➔ Technical data

Protection class according to EN 60529

Cover gasket IP 65

Cable gland IP 67
for power supply cables

Supply voltage

max. 254 V

Supply cable, cross section

2.5 mm² up to 6.0 mm²

Impact resistance

7 Nm

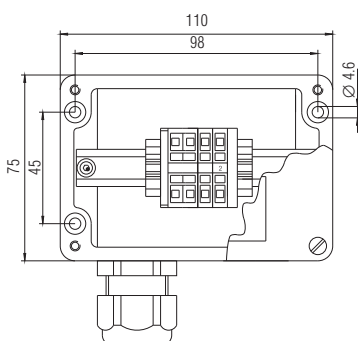
Material

polyester, glass-fibre reinforced

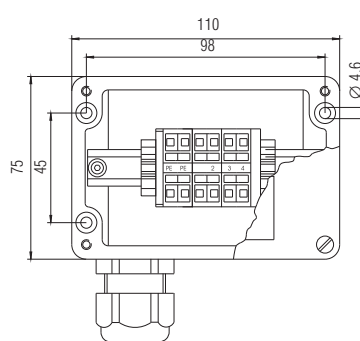
Gland size Cable diameter

M 20 Ø 10 up to 14 mm

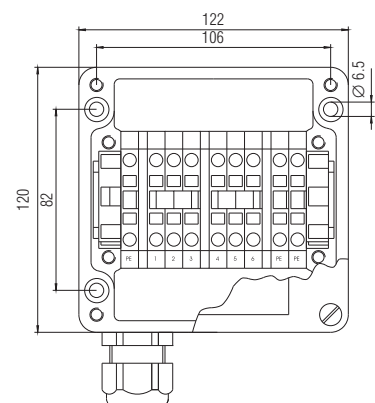
Junction box single



Junction box double



Junction box triple





Junction box

Features

- Wide temperature range
- PLEXO connection system, cold-applied connection and shrinkable tubing technology
- Flame-retardant
- Shock-resistant
- System approval

Description

Inside the standard polyester junction box one or several heating circuits are connected to the supply AC 254 V.

One cable gland size M25 for the supply voltage is already assembled at the junction box. The enclosure is prepared with threads for heating cable glands size M20.

Explosion protection

Ex protection type

- Ex II 2G Ex e IIC 150 °C (T3), T4
- Ex II 2D Ex tD A21 IP 65 T 150 °C, T 130 °C

Certification System

KEMA 08 ATEX 0110
IECEx KEM 09.0083

Technical data

Protection class according to EN 60529

Seal of cover IP 65
Cable gland IP 65

Ambient condition

-55 °C up to + 55 °C

Dimensions

Junction box for one heating circuit
122 x 120 x 90 mm

Junction box for 2/3 heating circuits
220 x 120 x 90 mm

Material

Polyester, glass fibre reinforce

Nominal voltage

AC 254 V

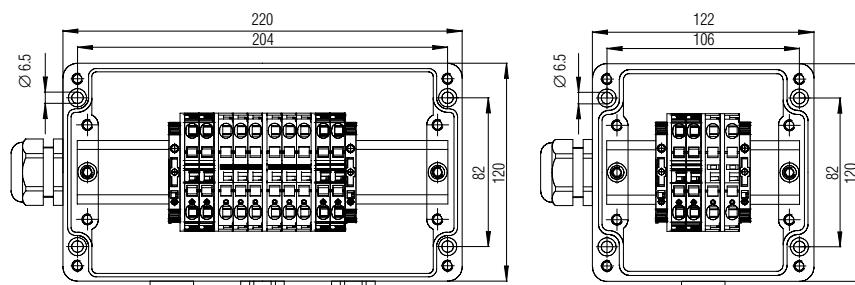
Terminals

Cross section 0.5 mm² up to 6.0 mm²

Protection

Max. 32 A
(dependant on the heating circuit length)

Dimensions





Cold-applied technology

Features

- Direct connection of self-limiting heating cable into the junction box
- Connection and termination in one set
- Small place saving and economic solution
- Easy to project and assembling with silicone cold-applied technology

Description

For direct connection of self-limiting heating cable Type MSB (Order no. 07-5804-2..X and 07-5804-2..Y) into the junction box the 2 supply leads are insulated by silicone glue and a silicone hose. A green yellow protection tube is pulled over the tinned copper braiding inside the insulation sheath. The copper braiding and the metal cable glands with an extra lead are prepared to be connected to the protective earth. The end of the self-limiting heating cable is insulated with silicone glue and silicone end cap.

Explosion protection

Ex protection type

- Ex II 2G Ex e IIC 150 °C (T3), T4
- Ex II 2D Ex tD A21 IP 65 T 150 °C, T 130 °C

Certification System

KEMA 08 ATEX 0110
IECEx KEM 09.0083

Technical data

Ambient temperature range

depends on used junction box

-40 °C up to +55 °C

Standard polyester Type 27-5452-4.....

for heating cable switched on
up to +110 °C

for heating cable switched off
up to +130 °C

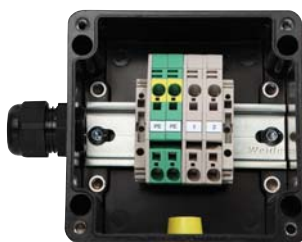
Electrical data

Nominal voltage

AC 208 V up to AC 254 V

Power rating

13 W/m, 19.5 W/m, 27.5 W/m,
34.5 W/m, 44 W/m



Junction box

Features

- Wide temperature range
- PLEXO connection system, cold-applied connection and shrinkable tubing technology
- Flame-retardant
- Shock-resistant
- System approval

Description

Inside the standard polyester junction box one or several heating circuits are connected to the supply AC 254 V.

One cable gland size M25 for the supply voltage is already assembled at the junction box. The enclosure is prepared with threads for heating cable glands size M20.

Explosion protection

Ex protection type

Ex II 2G Ex e II 200 °C (T2), T3, T4
Ex II 2D Ex tD A21 IP 65 T 200 °C,
T 195 °C, T 130 °C

Certification System

KEMA 08 ATEX 0110
IECEx KEM09.0083

Technical data

Protection class according to EN 60529

Seal of cover IP 65
Cable gland IP 65

Ambient condition

-55 °C up to + 55 °C

Dimensions

Junction box for one heating circuit
122 x 120 x 90 mm

Junction box for 2/3 heating circuits
220 x 120 x 90 mm

Material

Polyester, glass fibre reinforce

Nominal voltage

AC 254 V

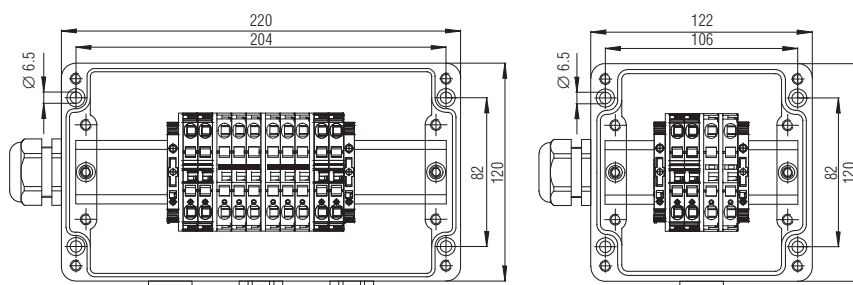
Terminals

Cross section 0.5 mm² up to 6.0 mm²

Protection

Max. 32 A
(dependant on the heating circuit length)

Dimensions





Cold-applied technology

Features

- Direct connection of self-limiting heating cable into the junction box
- Connection and termination in one set
- Small place saving and economic solution
- Easy project and assembling with silicone cold-applied technology

Description

For direct connection of self-limiting heating cable Type HSB (Order no. 07-5803-....) into the junction box the 2 supply leads are insulated by silicone glue and a silicone hose.

A green yellow protection tube is pulled over the tinned copper braiding inside the insulation sheath. The copper braiding and the metal cable glands with an extra lead are prepared to be connected to the protective earth. The end of the self-limiting heating cable is insulated with silicone glue and silicone end cap.

Explosion protection

Ex protection type

- ⊕ II 2G Ex e II 200 °C (T2), T3, T4
- ⊕ II 2D Ex tD A21 IP 65 T 200 °C, T 195 °C, T 130 °C

Certification System

KEMA 08 ATEX 0110
IECEx KEM 09.0083

Technical data

Ambient temperature range

depends on used junction box

-55 °C up to +55 °C

Standard polyester Type 27-5452-4.....

for heating cable switched on
up to +120 °C

Electrical data

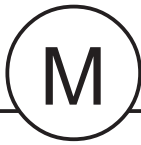
Nominal voltage

AC 208 V up to AC 254 V

AC 110 V up to AC 120 V

Power rating

10, 15, 25, 30, 45, 60 W/m



Heat shrink technology

explosion protected

media protected

Features

- Direct insertion of a heating cable into an Ex e junction box or plastic enclosures
- Flexible connection - heating cable/cold cable
- Space-saving, favourable dimensions
- Simple project planning

Description

Heat shrink technology is reliable technology for connecting heating cables Type HSB (Order no. 07-5803-...).

The principle is easy. After stripping the heating tape, insulation tubes are shrunk over the supply lines and the twisted protective braiding and wire end sleeves are put on. As a basic rule, the heating cable is connected to terminals in an enclosure that has "increased safety".

The heating circuit end is also closed with shrinkable tubes.

Description

If the enclosure is connected directly, the heating cable is first stripped and then insulation tubes are shrunk over the supply lines and the twisted protective braiding and wire end sleeves are put on. The heating cable is connected directly to terminals in a junction box, IP 65 protection class.

As an alternative, the heating cable can be connected directly to a supply cable by means of a butt connector. The heating circuit end is closed in each case with a heat shrinkable end cap.

➔ Explosion protection

Ex protection type (heating circuit)

Ex II 2G Ex e II 200 °C (T2), T3, T4
Ex II 2D Ex tD A21 IP 65 T 200 °C,
T 195 °C, T 130 °C

Certification System

KEMA 08 ATEX 0110
IECEx KEM 09.0083

➔ Technical data

Ambient temperature

-40 °C up to +55 °C
for heating cable switched on
-40 °C up to +120 °C
for heating cable switched off
-40 °C up to +185 °C (cum. 1000 h)

■ Electrical data

Nominal voltage

AC 208 V up to 254 V
AC 110 V up to 120 V

Power rating

10, 15, 25, 30, 45 and 60 W/m

➔ Technical data

Ambient temperature range

depends on used junction box
for heating cable switched on
up to +120 °C
for heating cable switched off
+185 °C (cum. 1000 h)

■ Electrical data

Nominal voltage

AC 110 V, 230 V, 254 V

Power rating

10, 15, 25, 30, 45 and 60 W/m



Connection system CONPAC

Features

- Quick and easy installation
- Few tools needed
- Cut-to-length heating cable
- Easily dismantled
- UV resistant

Description

CONPAC HSB is the ideal connection system for high temperature self-limiting parallel circuit heating cables, Type HSB, when used in industrial applications.

With its wide variety of advantages CONPAC HSB is a true technological innovation with regards to connection systems for self-limiting heating cables.

Its extremely compact design allows CONPAC to be mounted directly on the pipe to be heated under the thermal insulation. Not only is this economical but also eliminates the risk of any damage to the heating tape where it conventionally passes through the thermal insulation and outer cladding.

The CONPAC connection system can be installed in a quick and easy way with the aid of only a few tools. Special tools such as hot air guns for heat-shrink sleeves are no longer necessary. As a rule mounting brackets or additional junction boxes are not needed. Maintenance and repair work is made considerably easier since connections and supply cables can be quickly dismantled.

Technical data

Protection class

IP 68 (according to EN 60529)

Certification

VDE license no. 128264 (heating cable)

Rated voltage

AC 230 V

Rated current

16 A

Supply cable, cross section

max. 3 x 2.5 mm²

Supply cable

Silicon hose line

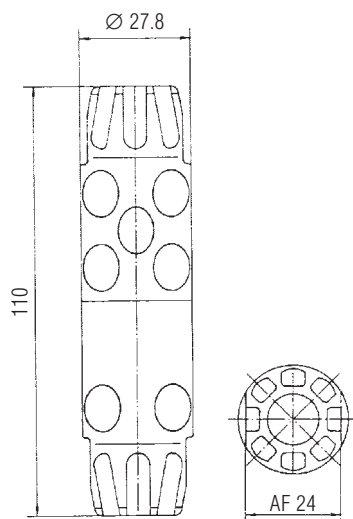
Ambient temperature

max. +120 °C for set
max. +190 °C (cumulative 1 000 h)

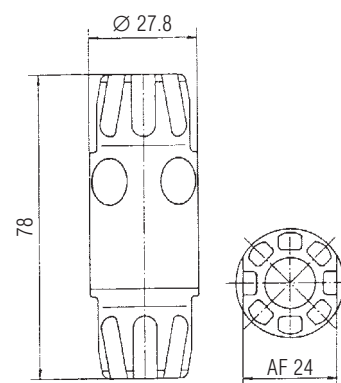
Enclosure material

high-temperature resistant polyamide

Dimensions (mm)
CA-H/CV-H



Dimensions (mm)
CE-H





Junction boxes for heat shrink technology

Description

Junction boxes are used to connect one or more heating circuits to the power supply. Polyester enclosures are available with the necessary cable glands and threaded cable entries.

Aluminium junction boxes are available upon request.

Explosion protection

Ex protection type

- Ex II 2G Ex II T6 or T5
- Ex II 2D Ex tD A21 IP 6x T 95 °C
- Ex II 2D Ex tD A21 IP 6x T 80 °C

Certification

PTB 08 ATEX 1064
IBExU 00 ATEX 1081

More versions are available for:
USA, Canada, Russia

Technical data

Protection class according to EN 60529

Cover gasket	IP 65
Cable gland for power supply cables	IP 67

Supply voltage

max. AC 254 V

Supply cable, cross section

2.5 mm² up to 6.0 mm²

Impact resistance

7 Nm

Material

polyester, glass-fibre reinforced

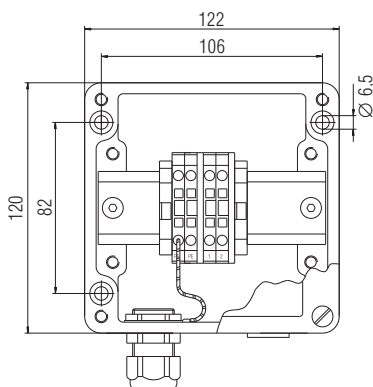
Gland size cable diameter

M20	Ø 6 up to 12 mm
M25	Ø 7 up to 12/17 mm

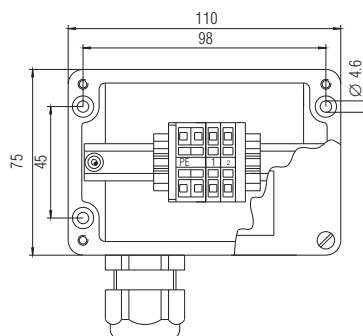
Standard seals

EPDM	-20 °C up to +100 °C
Silikon	-55 °C up to +100 °C

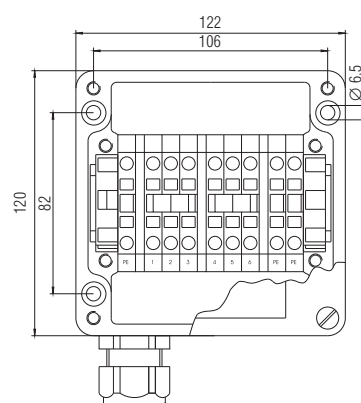
Junction box single
-55 °C up to +40 °C



Junction box single



Junction box double/triple





Junction boxes for connection system CONPAC

Description

Junction boxes are used to connect one or more heating circuits to the power supply.

Polyester enclosures are available with the necessary cable glands and threaded cable entries.

Aluminium junction boxes are available upon request.

Technical data

Protection class according to EN 60529

Cover gasket IP 65

Cable gland for power supply cables IP 67

Supply voltage

max. AC 254 V

Supply cable, cross section

2.5 mm² up to 6.0 mm²

Impact resistance

7 Nm

Material

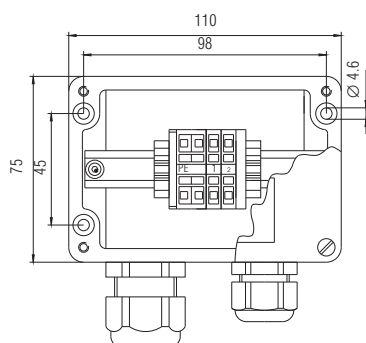
polyester, glass-fibre reinforced

Gland size cable diameter

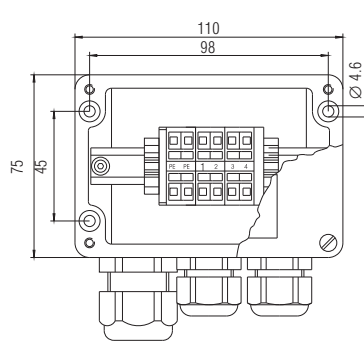
M20 Ø 6 up to 13 mm

M25 Ø 7 up to 12/17 mm

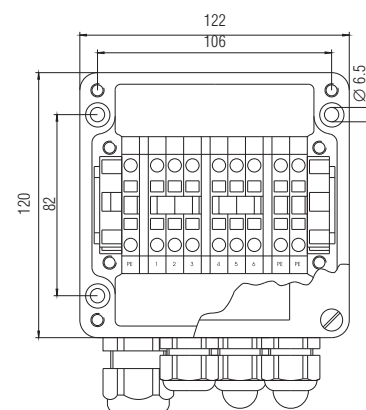
Junction box single



Junction box double



Junction box triple





HSB system

Junction boxes for heat shrink technology and cold-applied technology

BARTEC



*Junction boxes for
heat shrink and cold-applied technology*

Description

Junction boxes are used to connect one or more heating circuits to the power supply.

Polyester enclosures are available with the necessary cable glands and threaded cable entries.

Aluminium junction boxes are available upon request.

Technical data

Protection class according to EN 60529

Cover gasket IP 65

Cable gland for power supply cables IP 67

Supply voltage

max. 254 V

Supply cable, cross section

2.5 mm² up to 6.0 mm²

Impact resistance

7 Nm

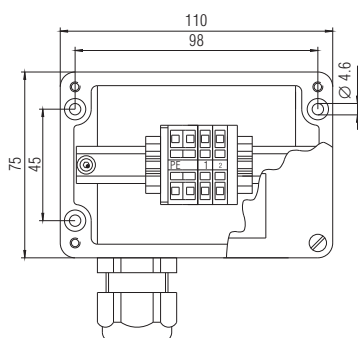
Material

polyester, glass-fibre reinforced

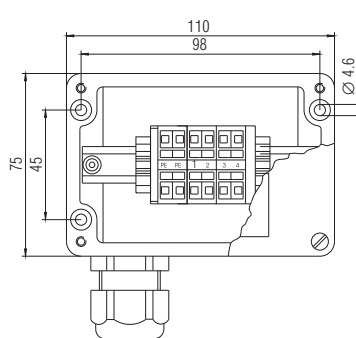
Gland size cable diameter

M20 Ø 10 up to 14 mm

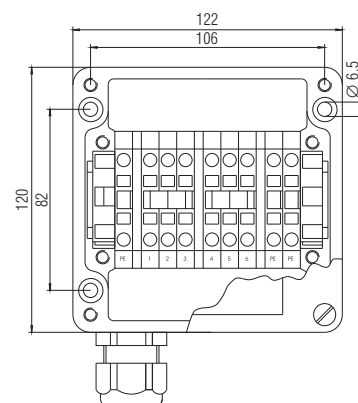
Junction box single



Junction box double



Junction box double/triple





Cold-applied technology

with brass cable gland explosion protected

Features

- Direct connection of self-limiting heating cable into the junction box
- Connection and termination in one set
- Small place saving and economic solution
- Easy project and assembling with silicone cold applied technology

Description

When an enclosure is connected directly, the heating tape (Type no. 07-5819-...2) is first stripped and then a silicone hose wetted with adhesive is pushed over the supply line.

A green/yellow protective hose is pulled on over the braiding.

The braiding and the brass cable gland is to be prepared for connection to protective earth.

Likewise after stripping the end of the tape, a silicone cap wetted with adhesive is put on it.

The adhesive is completely set hard after 24 h and room temperature in the ambient cure time. The heating cable can be mounted after a hardening time of 15 min. tack-free time.

➤ Explosion protection

Ex protection type

Heating cable and silicone parts

Ex II 2GD IP 6X

Ex e IIC T2 Gb

Ex t IIIC T300 °C Db

Cable gland

Ex II 2GD

Ex e II

Ex tD A21 IP 68

Certification

Sira 10 ATEX3268

Sira 01 ATEX1270 X

Ambient temperature range

depends on used junction box

-40 °C to +180 °C

➤ Technical data

Permissible ambient temperature

for heating cable switched on

-40 °C to +180 °C

for heating cable switched off

-40 °C to +180 °C

■ Electrical data

Nominal voltage

AC 110 V to AC 120 V

AV 220 V to AC 277 V

Nominal power output

15 W/m to 90 W/m



Junction boxes for cold applied technology

Description

Junction boxes are used to connect one or more heating circuits to the power supply.

Polyester enclosures are available with the necessary cable glands and threaded cable entries.

Explosion protection

Ex protection type

- Ex II 2G Ex e II T6 or T5
- Ex II 2D Ex tD A21 IP 6x T 95 °C
- Ex II 2D Ex tD A21 IP 6x T 80 °C

Certification

PTB 08 ATEX 1064
IBExU 00 ATEX1081

Technical data

Protection class according to EN 60529

Cover gasket	IP 65
Cable gland for power supply cables	IP 67

Supply voltage

max. AC 277 V

Thermal rated current

20 A (at 230 V and $T_a = +55\text{ °C}$)

Supply cable, cross section

2.5 mm² up to 6.0 mm²

Impact resistance

7 Nm

Material

Enclosure
polyester, glass-fibre reinforced

Cable Gland
brass

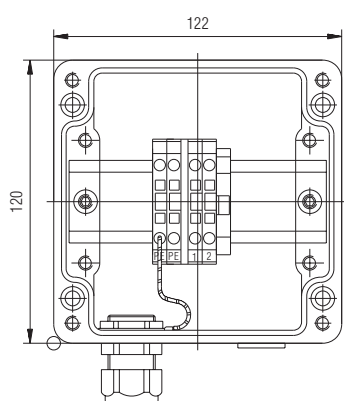
Gland size Cable diameter

M20 Ø 6 up to 12 mm

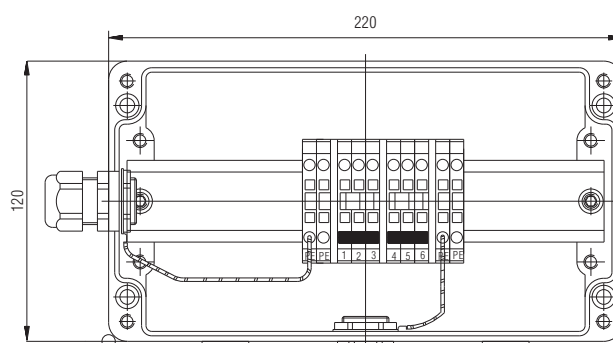
Standard seals

Silicone -55 °C up to +100 °C

Junction box single



Junction box double, triple





Connection system CONPAC



Features

- Quick and easy installation
- Few tools needed
- Cut-to-length heating tape
- Easily dismantled
- UV resistant

Description

Its extremely compact design allows CONPAC to be mounted directly on the pipe to be heated under the thermal insulation. Not only is this economical but also eliminates the risk of any damage to the heating cable where it conventionally passes through the thermal insulation and outer cladding. The CONPAC connection system can be installed in a quick and easy way with the aid of only a few tools. Special tools such as hot air guns for heat-shrink sleeves are no longer necessary. As a rule mounting brackets or additional junction boxes are not needed. Maintenance and repair work is made considerably easier since connections and supply cables can be quickly dismantled.

➔ Technical data

Protection type

IP 68 (to EN 60529)

Material

high temperature resistant termoplastic

Seals

Fluorelastomer

Max. rated voltage

500 V

Max. rated current

32 A

Max. cable cross section

4 mm²

Protection class

IP 68 (according DIN 40050/IEC 60529)

Max. permissible temperature

220 °C at rated load

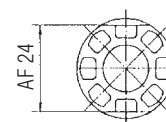
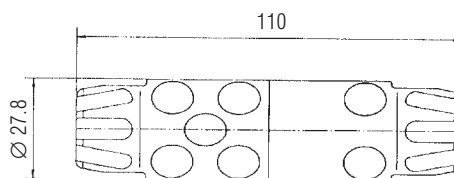
Dimensions

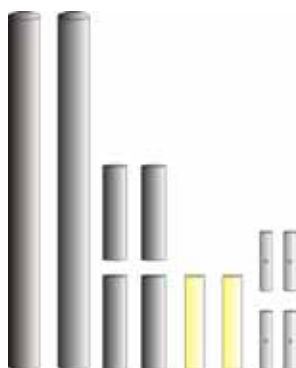
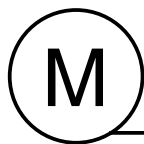
L = 110 mm

Ø = 27.8 mm

AF 24, AF 16

Dimensions (mm) heating cable connection





Heat Shrink Technology

Features

- Easy & quick installation thanks to the short shrinking times
- Space-saving dimensions
- Low storage, connection or splicing requirements
- High resistance to almost all industrial chemicals and solvents

Description

The heat shrink technology is suitable for EKL light und EKL medium. It can be used in industrial and commercial areas.

The set serves to join two cold leads or to form two heating tape connections.

The electrical connection of the heating conductor and protective braid is established by means of a crimp connection. The connection is sealed by the shrinkable tubes.

With pre-assembled cold leads and our connection technology, heating circuits can be set up quickly and flexibly.

➤ Technical data

Max. nominal voltage
750 V

Max. nominal current
25 A

Max. supply cable cross-section
2.5 mm²

Working temperature
-55 °C to + 200 °C

Mechanical strength
4 joules (in conformance to EN 62395-1)

Dimensions (length)
150 mm

Outer diameter of cable
3.0 mm to 6 mm

■ Applied standards

Electrical Safety
EN 62395-1



Junction box for EKL light

Features

- Chemical-resistant
- Temperature-resistant
- Flame-retardant
- Absolutely corrosion-proof
- Seawater-proof

Description

Polyester enclosures have proven their worth in many industrial plants. They offer safe protection even when they are used under extremely unfavorable conditions, on exposure to aggressive chemical media or hard mechanical conditions.

The inside base of the enclosure has at its sides, threaded bushings for the fastening of mounting rails or panels.

The enclosure is mounted by means of insulated screws outside of the lid seal.

Technical data

Material

glass-fiber reinforced polyester, EN 50014
surface resistance $>10^{12} \Omega$

Colour

RAL 7000/RAL 7001, grey

Mechanical resistance

impact energy 7 Nm

Protection class

according to EN 60529/IEC 60529
IP 66/IP 67

Cable gland

IP 65

Gland size

7 up to 12/17 mm

Supply voltage

240 V/415 V

Standard seal

EPDM -20 °C up to +100 °C
Silikon -55 °C up to +100 °C

Lid screws

Stainless steel cross slot (+ -)

Selection chart

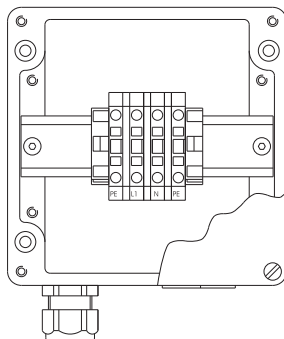
Enclosure Short form title	Enclosure sizes	Qty/ Terminal sizes	Terminal identification	Qty/Earth terminals	Glands per enclosure	Terminal range	
300	160 x 160 x 90	2/6 mm ²	L, N	2 each 6 mm ²	1 x M25 2 x threaded M20	Ø 7 up to 17 mm	
400 S	160 x 160 x 90	3/6 mm ²	L1; L2, L3	4 each 6 mm ²	1 x M25 4 x threaded M20	Ø 7 up to 17 mm	
400 D	260 x 160 x 90	6/6 mm ²	2 x L1; 2 x L2; 2 x L3	6 each 6 mm ²	1 x M25 6 x threaded M20	Ø 7 up to 17 mm	

Cold leads cable length 1.2 m, gland M20

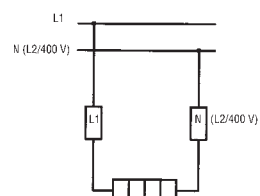
Cable cross section 4 mm²

Cable cross section 2.5 mm²

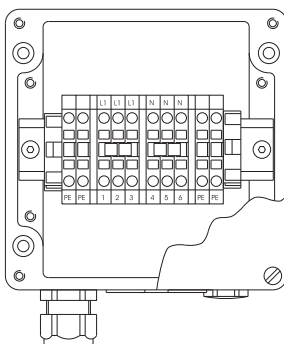
Junction box 300



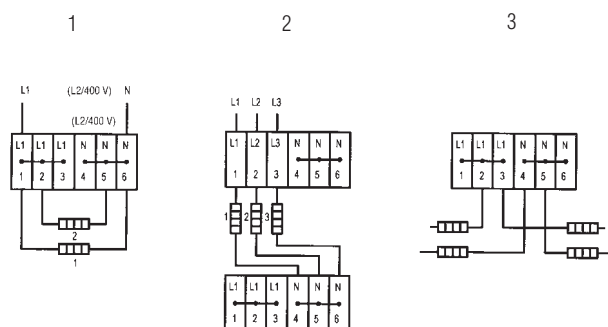
Connection diagramm for junction box 300



Junction/termination box 400 S

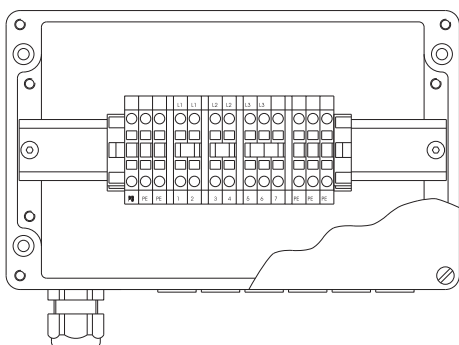


Connection diagramm for junction box 400 S

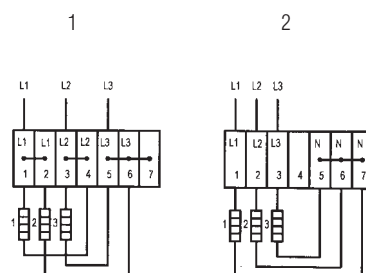


- 1 Double junction box
- 2 Star connection
- 3 Intermediate junction box

Heating circuit junction box 400 D



Connection diagramm for junction box 400 D



- 1 Delta connection
- 2 Star connection



Plug-in connection system PLEXO



Features

- Universal applications thanks to the plug and socket connection technology
- Quick and easy installation
- Easy to service and to maintain

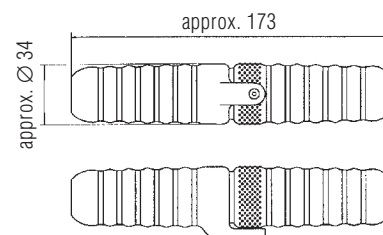
Description

PLEXO is a plug-in connection system for heating cables used in potentially explosive atmospheres. Installation time and expense are substantially reduced with this innovative method. Maintenance work of future modifications of the heating circuit can be carried out more efficiently.

The connection system can be used for both self-limiting parallel circuit heating cables, types PSB and HSB, as well as for single-core synthetic sheathed EKL heating cables.

The heating cable and power supply connection cable are connected via safe spring creating the requisite pressure, eliminating any need for unravelling or twisting. A sophisticated sealing system offers safe and reliable protection against adverse weather conditions.

Plug and socket/splice



Explosion protection

Ex protection type

- Ex II 2G Ex e
- Ex II 2D Ex tD A21 IP6X

Certification

KEMA 09 ATEX 0184 U
IECEx KEM 09.0086 U

Operating temperatur

-60 °C up to +120 °C

Technical data

Protection class

IP 66 according to EN 60529

Min. installation temperature

-30 °C

Diame ter

of the heating conductor or the PTC resistor to be used
3 mm to 7.5 mm

Supply voltage

max. 420 V

Rated current

max. 32 A

Rated connection capacity

2,5 mm²





Material

Enclosure high-temperature thermoplastic
Seals Silicone rubber

Weight

Plug and socket (splice) 240 g

Selection chart

Description	Designation	
Connection for EKL medium		
Heating cable plug and socket 10 Ω/km up to 8000 Ω/km		PLEXO E-KK
Heating cable connection 7.2 Ω/km		PLEXO E-GG
Heating cable connection Side G: 7.2 Ω/km Side K: 10 Ω/km up to 8000 Ω/km		PLEXO E-GK
Blanking cap		
Protective end cap		PLEXO H-2
EKL cold tail Ex		
Length 1.2 m; 2.5 mm ² ; M20 x 1.5		



Junction box EKL premium

Features

- Chemical-resistant
- Temperature-resistant
- Flame-retardant
- For use in ex areas with surface resistance $< 10^9 \Omega$
- Absolutely corrosion-proof
- Seawater-proof

Description

Polyester enclosures have proven their worth in many industrial plants.

They offer safe protection even when they are used under extremely unfavorable conditions, on exposure to aggressive chemical media or hard mechanical conditions.

The inside base of the enclosure has at its sides, threaded bushings for the fastening of mounting rails or panels.

The enclosure is mounted by means of insulated screws outside of the lid seal.

Explosion protection

Ex protection type

- Ex II 2G Ex e ia/ib IIA, IIB or IIC T6 or T5
- Ex II 2D Ex tD A21 IP 6x T 95 °C
-55 °C $\leq T_a \leq$ +55 °C
- Ex II 2D Ex tD A21 IP 6x T 80 °C
-55 °C $\leq T_a \leq$ +40 °C

Certification

PTB 08 ATEX 1064
IBExU00ATEX1081

Technical data

Material

glass-fiber reinforced polyester,
surface resistance $< 10^9 \Omega$

Colour

RAL 9005, black

Mechanical resistance

impact energy 7 Nm

Protection class (EN 60529/IEC 60529)

IP 66/67

Cable gland

IP 65

Supply voltage

240 V/415 V

Standard seal

EPDM -20 °C up to +100 °C
Silikon -55 °C up to +100 °C

Lid screws

Stainless steel cross slot (+ -)

Selection chart

Enclosure Short form title	Enclosure sizes	Terminals/ cross section	Terminal identification	Earth terminals/ cross section	Glands/ bore holes	Terminal range	
Ex 300	160 x 160 x 90	2/6 mm ²	L, N	2 with 6 mm ²	1 x M25 2 x threaded M20	8 up to 17 mm	
Ex 400 S	160 x 160 x 90	3/6 mm ²	L1; L2, L3	4 with 6 mm ²	1 x M25 4 x threaded M20	8 up to 17 mm	
Ex 400 D	260 x 160 x 90	6/6 mm ²	2 x L1; 2 x L2; 2 x L3	each 6/6 mm ²	1 x M25 6 x threaded M20	8 up to 17 mm	

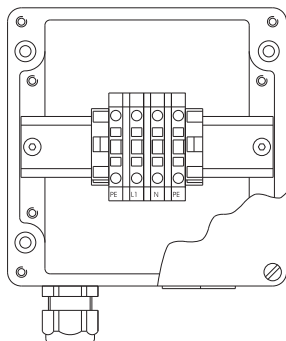
Cold leads cable length 1.2 m, gland M20

Cable cross section 4 mm²

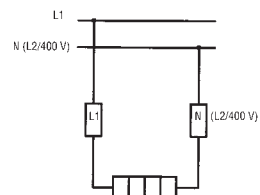
Cable cross section 2.5 mm²



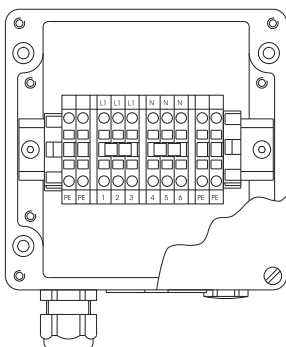
Junction box Ex 300



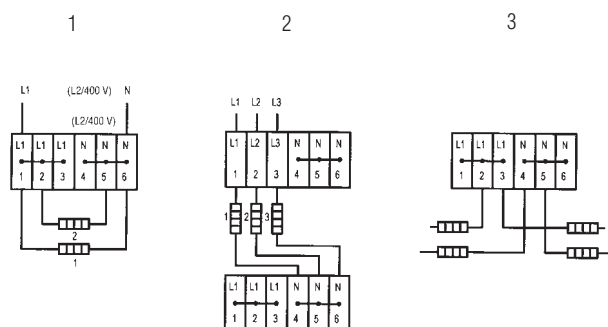
Connection diagram for junction box Ex 300



Junction box/terminal box Ex 400 S

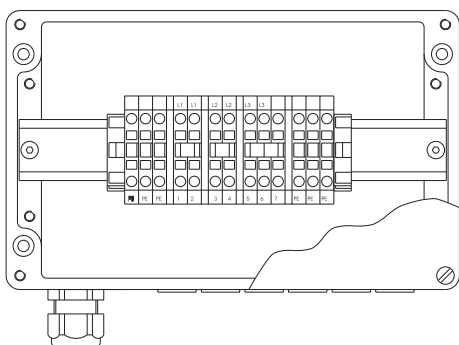


Connection diagram for junction box Ex 400 S

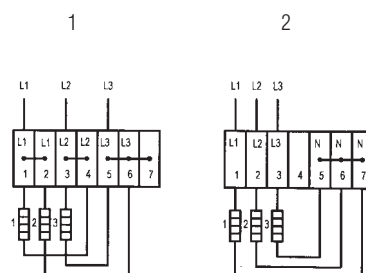


- 1 Double junction box
- 2 Star connection
- 3 Intermediate junction box

Junction box Ex 400 D



Connection diagram for junction box Ex 400 D



- 1 Delta connection
- 2 Star connection



Plug-in connection system PLEXO



Features

- Universal applications thanks to the plug and socket connection technology
- Quick and easy installation
- Easy to service and to maintain

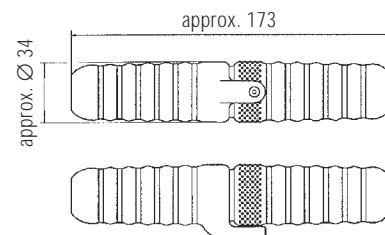
Description

PLEXO is a plug-in connection system for heating cables used in potentially explosive atmospheres. Installation time and expense are substantially reduced with this innovative method. Maintenance work of future modifications of the heating circuit can be carried out more efficiently.

The connection system can be used for both self-limiting parallel circuit heating cables, types PSB and HSB, as well as for single-core synthetic sheathed EKL heating cables.

The heating cable and power supply connection cable are connected via safe spring creating the requisite pressure, eliminating any need for unravelling or twisting. A sophisticated sealing system offers safe and reliable protection against adverse weather conditions.

Plug and socket/splice



Explosion protection

Ex protection type

- Ex II 2G Ex e II
- Ex II 2D Ex tD A21 IP6X

Certification

KEMA 09 ATEX 0184 U
IECEX KEM 09.0086 U

Operating temperature

-60 °C up to +120 °C

Technical data

Protection class

IP 66 according to EN 60529

Min. installation temperature

-30 °C

Diameter

of the heating conductor or the PTC resistor to be used

3 mm to 7.5 mm

Supply voltage

max. 420 V

Rated current

max. 32 A

Rated connection capacity

2,5 mm²





Material

Enclosure high-temperature thermoplastic
Seals Silicone rubber

Weight

Plug and socket (splice) 240 g

Selection chart

Description	Designation	
Connection for EKL premium		
Heating cable plug and socket 10 Ω/km up to 8000 Ω/km		PLEXO E-KK
Heating cable connection 7,2 Ω/km		PLEXO E-GG
Heating cable connection Side G: 7,2 Ω/km Side K: 10 Ω/km up to 8000 Ω/km		PLEXO E-GK
Blanking cap		
Protective end cap		PLEXO H-2
EKL cold tail Ex		
Length 1,2 m; 2,5 mm ² ; M20 x 1,5		



Junction box for EKL medium

Description

Polyester enclosures have proven their worth in many industrial plants.

They offer safe protection even when they are used under extremely unfavorable conditions, on exposure to aggressive chemical media or hard mechanical conditions.

The inside base of the enclosure has at its sides, threaded bushings for the fastening of mounting rails or panels.

The enclosure is mounted by means of insulated screws outside of the lid seal.

Explosion protection

Ex protection type

- Ex II 2G Ex e II T6 or T5
- Ex II 2D Ex tD A21 IP 6X T 95 °C
- Ex II 2D Ex tD A21 IP 6X T 80 °C

Certification

PTB 08 ATEX 1064
IBExU00ATEX1081

Technical data

Material

glass-fiber reinforced polyester,
surface resistance $< 10^9 \Omega$

Colour

RAL 9005, black

Mechanical resistance

impact energy 7 Nm

Features

- Chemical-resistant
- Temperature-resistant
- Flame-retardant
- For use in ex areas with surface resistance $< 10^9 \Omega$
- Absolutely corrosion-proof
- Seawater-proof

Protection class (EN 60529/IEC 60529)
IP 66/67

Cable gland
IP 65

Gland size
7 mm up to 12 mm/17 mm

Supply voltage
240 V/415 V

Standard seal
EPDM -20 °C up to +100 °C
Silikon -55 °C up to +100 °C

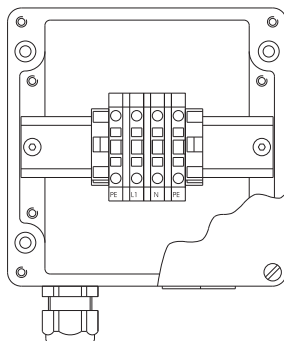
Lid screws
Stainless steel cross slot (+ -)

Selection chart

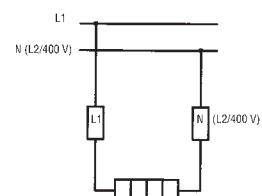
Short form title	Enclosure sizes	Qty/ Terminal size	Terminal identification	Qty/Earth terminal	Glands per enclosure	Terminal range	
Ex 300	160 x 160 x 90	2/6 mm ²	L, N	2/6 mm ²	1 x M25 2 x threaded M20	Ø 7 to 17 mm	
Ex 400 S	160 x 160 x 90	3/6 mm ²	L1; L2, L3	4/6 mm ²	1 x M25 4 x threaded M20	Ø 7 to 17 mm	
Ex 400 D	260 x 160 x 90	6/6 mm ²	2 x L1; 2 x L2; 2 x L3	each 6/6 mm ²	1 x M25 6 x threaded M20	Ø 7 to 17 mm	



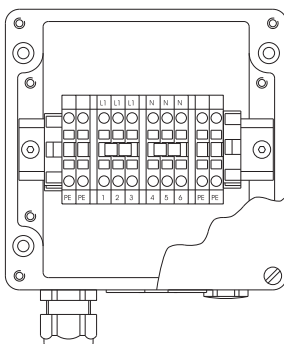
Junction box Ex 300



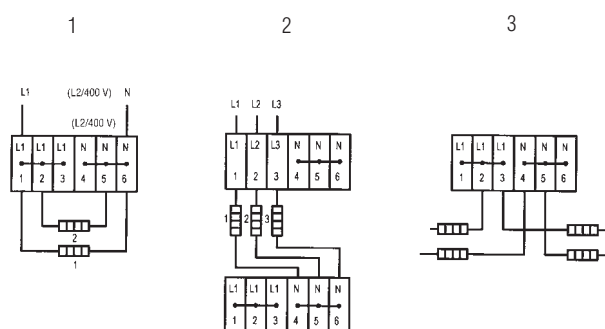
Connection diagram for junction box Ex 300



Junction box/terminal box Ex 400 S

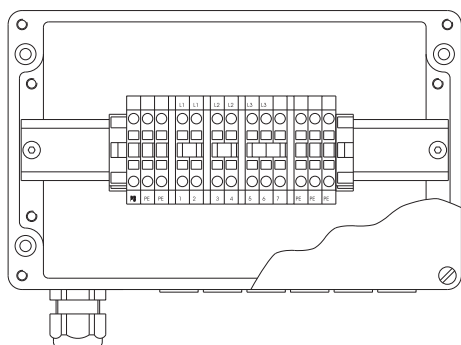


Connection diagram for junction box Ex 400 S

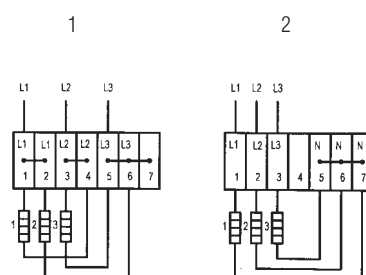


- 1 Double junction box
- 2 Star connection
- 3 Intermediate junction box

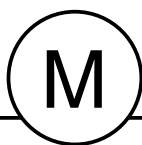
Junction box Ex 400 D



Connection diagram for junction box Ex 400 D



- 1 Delta connection
- 2 Star connection



Single-core mineral-insulated heating circuit EMK, laser welded

1. Resistive heating element

2. Magnesium oxide insulation (MgO)

3. Outer jacket

Features

- High constant power output per meter
- Extremely high mechanical strength
- Temperature-resistant up to +1000 °C
- Highly resistant to chemicals
- Supply voltage up to 750 V

Description

The BARTEC EMK heating circuits have the main characteristics that they are extremely robust and mechanical loadable. Additional advantages of the laser welded heating circuits are the suitability for highest operating temperatures and the good chemical resistance.

Typical applications are frost protection, maintaining temperature and heat-up for example in pipes, tanks, pumps, valves and vessels.

Function

The application of a supply voltage to the resistance cable generates heat. The quantity of heat is dependent on the resistance value of the heating cable and the supply voltage.

Explosion protection

Ex protection type

- Ex II 2G Ex e IIC Gb
- Ex II 2D Ex tb IIC Db

Certification

BVS 13 ATEX E 034 U
IECEx BVS 13.0042U

Technical data

Structure

Heating element	Copper (Cu) Copper nickel (CuNi) Nickel chromium (NiCr)
Insulation	Magnesium oxide (MgO)
Outer jacket	SS 1.4541 or SS 2.4816 (Inconel)*

Nominal voltage

500 V/750 V

Ambient temperature

-55 °C to +70 °C

Max. operating temperature

Version Ex	
Type 27-3641-4...	-70 °C to +600 °C
Type 27-3641-3...	-70 °C to +650 °C
Type 27-3641-7...*	
Version M	
Type 27-3643-1...	-70 °C to +500 °C
Type 27-3643-2...	
Type 27-3643-4...	-70 °C to +600 °C
Type 27-3643-3...	-70 °C to +800 °C
Type 27-3643-7...*	-70 °C to +1000 °C

Min. installation temperature

-20 °C

Max. Power output

150 W/m	27-364.-1...; 27-364.-2...; 27-364.-4...
250 W/m	27-364.-3...; 27-364.-7...*

Bending radius

16 up to 33 mm (depending on version)

Cross section cold lead

SS 2.5 mm² (SS 6.0 mm²*)

Length cold lead

1 m (2 m*)

Material cable gland

M20 brass (stainless steel*)
M25 brass* (stainless steel*)

* on request



EMK Standard connection kit

Features

- All necessary connection components in one kit
- Easy assembly of the necessary components
- Wide variety to choose from
- Ready assembled, quick to install
- High quality factory terminated assemblies

Description

These connection kits have been specifically designed for EMK heating cables and their particular fields of application.

There are two versions of the EMK connection kit available:

- **Standard version**
- **Ex version**
for use in Ex areas



EMK Ex connection kit

The EMK connection kits consist of:

- **Cold leads**
in the required quantity
- **Hot to cold joints**
in the required quantity
- **Pre-cut and factory terminated assembly**
of the cold leads and hot to cold joints with EMK heating cable (heating cables must be ordered separately. See ordering information).



Description

The "Standard" connection kits for EMK heating cables are available in 3 versions:

■ EMK Standard 300

■ EMK Standard 400 S

■ EMK Standard 400 D

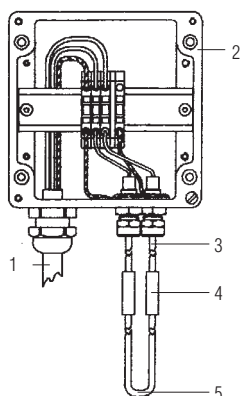
The necessary junction box must be ordered for each pre-assembled EMK heating circuit depending on the required mains voltage (up to 240 V or up to 415 V) and the type of wiring (single-phase, two-phase, star connection, delta connection).

EMK junction box "Standard"	Cold leads	Hot to cold connection sleeve
➤ Technical data Material Polyester, glass-fibre reinforced Colour grey, similar to RAL 7001 Surface resistance $> 10^{12} \Omega$ Protection class IP 65 Cable gland IP 54 up to IP 65 Cover screws stainless steel	➤ Technical data Standard length 1.2 m Rated resistance 7 Ω/km Outer diameter 5.3 mm Cross section 2.5 mm ² Conductor material copper Outer jacket material CuNi, SS 1.4541 Bend radius 3 x outer diameter Gland, terminal connection M20	➤ Technical data Material SS 1.4401 Protection class IP 68 Dimensions L = 35 mm Ø = 10 mm

Selection chart EMK heating circuits "Standard" - Junction box

Heating circuit version	Supply voltage AC	Qty/ enclosure size	Qty/ Terminal size mm ²	Terminal identification	Qty/earth terminals mm ²	Qty/cold leads dry connections	Glands per enclosure	Terminal range	
300 CuNi 300 SS	up to 415 V	1 unit 160 x 160 x 90	2 with 6 mm ²	L N (L1; L2)	2 with 6 mm ²	2	1 x M25 2 x threaded M20	Ø 7 up to 17 mm	
400 S CuNi 400 S SS	up to 415 V	2 unit 160 x 160 x 90	each 6 with 6 mm ²	3 x L1; 3 x N; 1 - 6 (L2; L3)	4 with 6 mm ²	6	1 x M25 4 x threaded M20	Ø 7 up to 17 mm	
400 D CuNi 400 D SS	up to 415 V	1 unit 260 x 160 x 90	each 6 with 6 mm ²	2 x L1; 2 x L2; 2 x L3; 1 - 7	6 with 6 mm ²	6	1 x M25 3 x threaded M20	Ø 7 up to 17 mm	

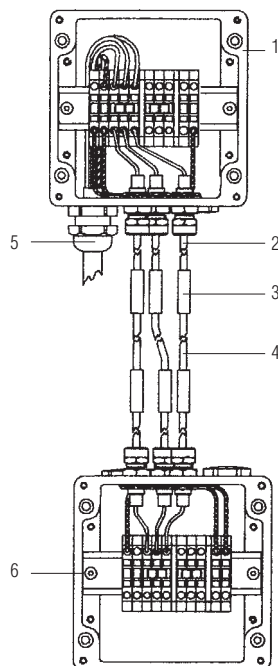
Standard 300



- 1 Mains supply
- 2 Heating circuit junction box
- 3 Cold lead
- 4 Hot to cold connection sleeve
- 5 Heating cable

Standard 400 S

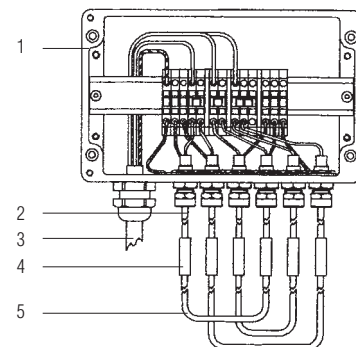
Typical star connection diagram



- 1 Heating circuit junction box
- 2 Cold lead
- 3 Hot to cold connection sleeve
- 4 Heating cable
- 5 Mains supply
- 6 EMK "Standard" star connection enclosure

Standard 400 D

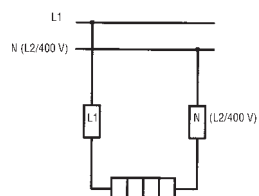
Typical delta connection diagram



- 1 Heating circuit junction box
- 2 Cold lead
- 3 Mains supply
- 4 Hot to cold connection sleeve
- 5 Heating cable

Connection diagram

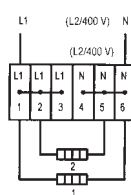
Standard 300



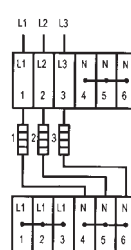
Connection diagram

Standard 400 S

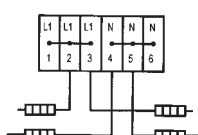
Double junction box



Star connection



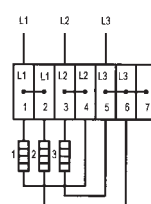
Intermediate junction box



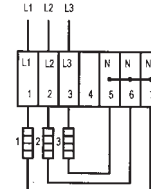
Connection diagram

Standard 400 D

Delta connection



Star connection





Description



The "Ex" connection kits for EMK heating cables are available in 3 versions:

■ EMK Ex 300

■ EMK Ex 400 S

■ EMK Ex 400 D

The necessary junction box must be ordered for each pre-assembled EMK heating circuit depending on the required mains voltage (up to 240 V or up to 415 V) and the type of wiring (single-phase, two-phase, star connection, delta connection).

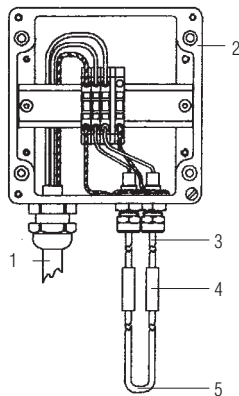
EMK "Ex" junction box	Cold leads	Hot to cold connection sleeve
<p>➤ Explosion protection</p> <p>Ex protection type  II 2GD Ex e II T6</p> <p>Certification PTB 08 ATEX 1064</p> <p>➤ Technical data</p> <p>Material Polyester, glass-fibre reinforced</p> <p>Colour black</p> <p>Surface resistance $\leq 10^9 \Omega$</p> <p>Protection class IP 65</p> <p>Cable gland IP 65</p> <p>Cover screws stainless steel</p>	<p>➤ Technical data</p> <p>Standard length 1.2 m</p> <p>Rated resistance 7 Ω/km</p> <p>Outer diameter 5.3 mm</p> <p>Cross section 2.5 mm²</p> <p>Conductor material copper</p> <p>Outer jacket material CuNi, SS 1.4541</p> <p>Bend radius 3 x external diameter</p> <p>Gland, terminal connection M20</p>	<p>➤ Explosion protection</p> <p>Ex protection type  II 2G EEx e II</p> <p>Certification PTB 99 ATEX 1080 U SIRA 05 ATEX 3008</p> <p>➤ Technical data</p> <p>Material SS 1.4401</p> <p>Protection class IP 68</p> <p>Dimensions L = 35 mm Ø = 10 mm</p>

Selection chart EMK "Ex" heating circuits- Junction box

Heating circuit version	Supply voltage AC	Qty/ enclosure size	Qty/ terminal size mm ²	Terminal identification	Qty/earth terminals mm ²	Qty/cold leads dry connectors	Glands per enclosure	Terminal range	
Ex 300 CuNi Ex 300 SS	up to 415 V	1 unit 160 x 160 x 90	each 2 with 6 mm ²	L N (L1; L2)	each 2 with 6 mm ²	2	1 x M25 2 x threaded M20	Ø 7 up to 17 mm	
Ex 400 S CuNi Ex 400 S SS	up to 415 V	2 unit 160 x 160 x 90	each 6 with 6 mm ²	3 x L1; 3 x N; 1 - 6 (L2; L3)	each 4 with 6 mm ²	6	1 x M25 4 x threaded M20	Ø 7 up to 17 mm	
Ex 400 D CuNi Ex 400 D SS	up to 415 V	1 unit 260 x 160 x 90	each 6 with 6 mm ²	2 x L1; 2 x L2; 2 x L3; 1 - 7	each 6 with 4 mm ²	6	1 x M25 6 x threaded M20	Ø 7 up to 17 mm	



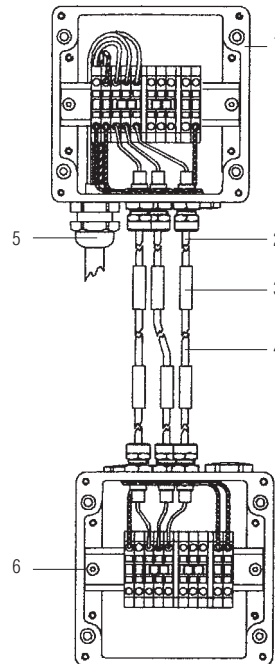
Standard 300



- 1 Mains supply
- 2 Heating circuit junction box
- 3 Cold lead
- 4 Hot to cold connection sleeve
- 5 Heating cable

Standard 400 S

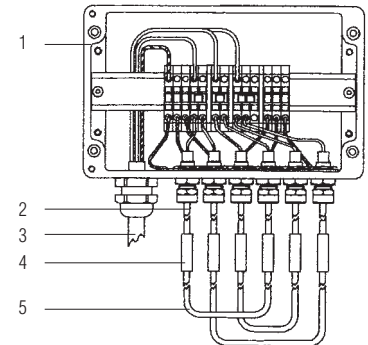
Typical star connection diagram



- 1 Heating circuit junction box
- 2 Cold lead
- 3 Hot to cold connection sleeve
- 4 Heating cable
- 5 Mains supply
- 6 EMK Standard star connection enclosure

Standard 400 D

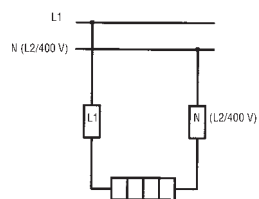
Typical delta connection diagram



- 1 Heating circuit junction box
- 2 Cold lead
- 3 Mains supply
- 4 Hot to cold connection sleeve
- 5 Heating cable

Connection diagram

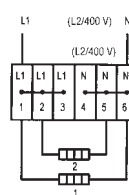
Standard 300



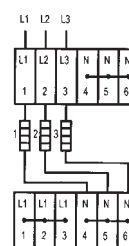
Connection diagram

Standard 400 S

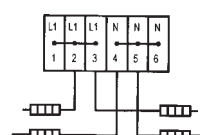
Double junction box



Star connection



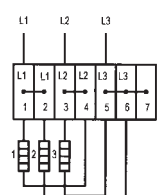
Intermediate junction box



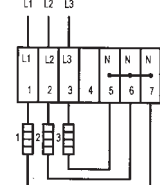
Connection diagram

Standard 400 D

Delta connection



Star connection



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