

Description

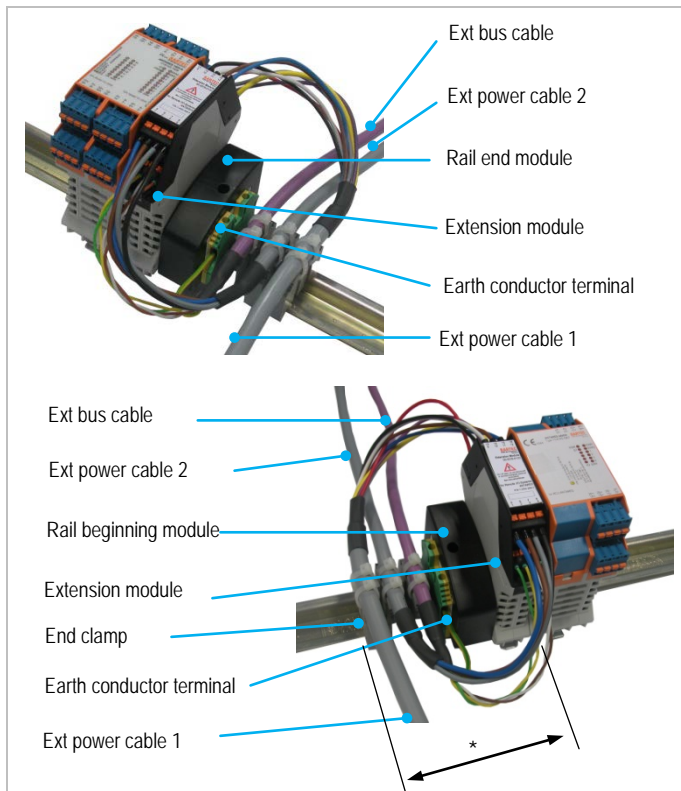
The **ANTARES ExtSet** makes it possible to distribute the Remote I/O ANTARES modules of an explosion-protected Remote I/O system ANTARES among a maximum of 4 metal mounting rails. For this purpose, a **2 m / 10 m / 20 m ANTARES ExtSet** is used for each mounting rail transition whereby each ExtSet consists of:

- two extension modules
- one rail end module and one rail beginning module for each
- two separately certified rail-mounted earth conductor terminals
- an Ext power cable 1, Ext power cable 2 and Ext bus cable for each (2 m / 10 m / 20 m in each case), incl. shortening set for adaptation to the requirement
- a strain-relief set (6 end clamps, 12 cable ties)

These modules and conductors and their associated components must be installed between the last Remote I/O module ANTARES of one mounting rail and the first Remote I/O module ANTARES of the other.

The following are positioned and connected together in a fixed installation on the mounting rails:

- Remote I/O Module ANTARES, extension module and rail end module (on one mounting rail) and
- rail beginning module, extension module and Remote I/O Module ANTARES (on the other mounting rail),
- to form an enclosure unit conforming to protection class IP30.



Figures 1 and 2: Components in an ANTARES ExtSet

* approximately 100 mm (total width of 3 x end clamps, 1 x earthing terminal, 1 x rail beginning module and 1 x extension module)



The 2 m / 10 m / 20 m ANTARES ExtSet can be used only in conjunction with the Remote I/O systems ANTARES.

Maximum quantity of mounting rail transitions and maximum length of the Ext bus cable and the Ext power cables.



The total length of the Ext. bus cable and of the Ext. power cables must not exceed a maximum of 20 m! Do not use more than 3 mounting rail transitions! When using more than one mounting rail transition, add the individual lead lengths together.

Marking

Danger, warning and note symbols



Danger!

Non-observance leads to death or serious physical injury. The necessary safety precautions must be taken.



Caution!

Warning of damage to property and financial and penal disadvantages (e.g. loss of guarantee rights, liability claims etc.).



Attention!

Important instructions and information on preventing disadvantageous behaviour.



Note

Important instructions and information on effective, economic and environmentally compatible handling.

Technical data



Note

More approvals and data are available at www.bartec-group.com

ANTARES ExtSet

Storage and transport temperature -25 °C to +70 °C

Extension module

Protection class (EN 60529, IEC 60529) IP30 (plug connector IP20)

Fastening Metal TH35-15 mounting rail, DIN EN 60715

Operating position Base latch below (see figure 7)

Dimensions (W x H x D) 22.5 x 110 x 114.5 mm

Electrical connection

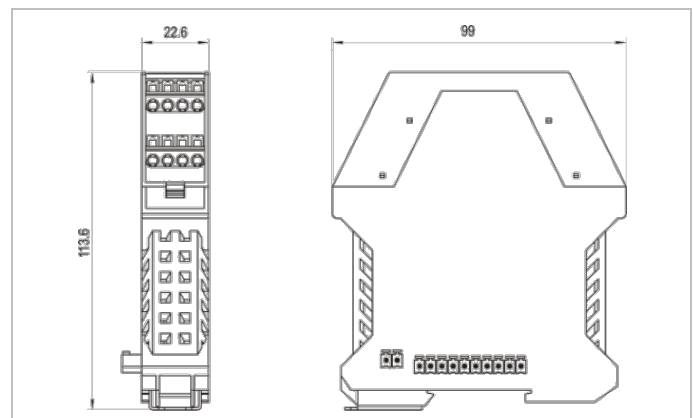
Enclosure bottom section 10+2-pole connectors

Enclosure top section Spring clamp

Degree of contamination 2

Ambient temperature range -20 °C to +60 °C

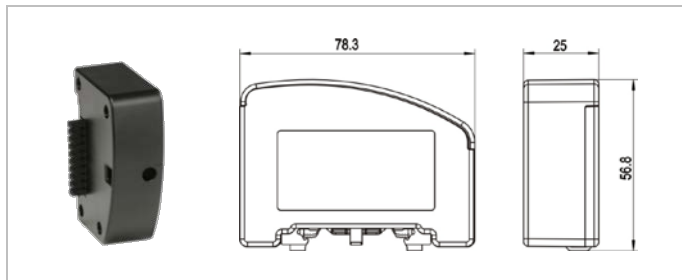
Relative air humidity 5 to 95 % non-condensing



Figures 3: Dimensions Extension module

Rail beginning module / Rail end module

Protection class (EN 60529, IEC 60529)	IP30 (plug connector IP20)
Fastening	Metal TH35-15 mounting rail, DIN EN 60715
Operating position	
Rail beginning module	Connector – on the right
Rail end module	Connector – on the left
Dimensions (W x H x D)	25 x 79 x 57 mm
Electrical connection	10-pole connector
Ambient temperature range	-20 °C to +60 °C
Relative air humidity	5 to 95 % non-condensing



Figures 4: Dimensions Rail beginning module and rail end module

Earthing terminal with separate certification

Rated connection capacity	4 mm ²
Fastening	Metal TH35-15 mounting rail, DIN EN 60715

Ext power cable 1

Cable type	ÖLFLEX® Classic 100 8 x 1.5 mm ² ; pre-assembled
Length	2 m / 10 m / 20 m
Minimum bending radius	68 mm
Operating temperature range	- 30°C to +80 °C (fixed installation)

Ext power cable 2

Cable type	ÖLFLEX® Classic 100 4 x 1.5 mm ² ; pre-assembled
Length	2 m / 10 m / 20 m
Minimum bending radius	68 mm
Operating temperature range	- 30°C to +80 °C (fixed installation)

Ext bus cable

Cable type	UNITRONIC® BUS CAN 2 x 2 x 0.34 mm ² ; pre-assembled
Length	2 m / 10 m / 20 m
Minimum bending radius	68 mm
Operating temperature range	- 30°C to +80 °C (fixed installation)

Product labelling

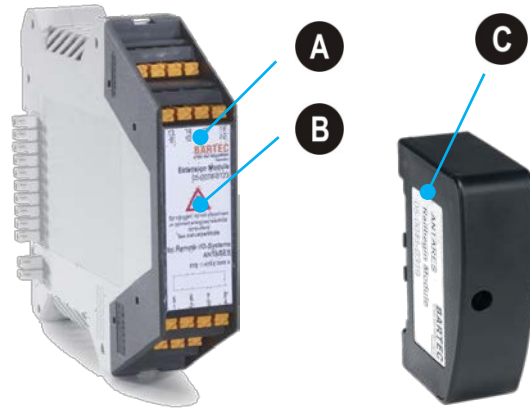


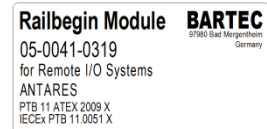
Figure 5: Extension module

Figure 6: Rail... module

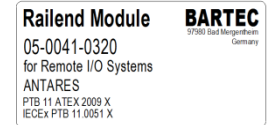
A Labelling Extension module



C Labelling Rail beginning module



Labelling Rail end module



B Warnings Extension module



Danger!

Do not open the extension module!
Do not connect or disconnect any live conductors in a potentially explosive atmosphere!

Installation



Note

When working on electrical systems, the relevant installation and operating regulations must be complied with, such as e.g. Directive 1999/92/EC, Directive 94/9/EC, German Industrial Health and Safety Ordinance (BetrSichV), EN 60079-14, the DIN VDE 0100 series or other applicable national standards and ordinances. The operator of an electrical system in a hazardous environment must keep the system in good condition, operate and monitor it properly and do maintenance and repairs.



Danger!

- It must be ensured that the IP30 protection class is satisfied by the enclosure unit for the Remote I/O Module ANTARES, extension module and rail end module or rail beginning module!
- Modules and conductors in the ANTARES ExtSet must not be integrated into a Remote I/O System ANTARES or removed from it if it is connected to voltage and if the atmosphere could be explosive!
- The Ext power cables and the Ext bus cable must be laid as fixed wiring, protected against light and installed together in a bundle!

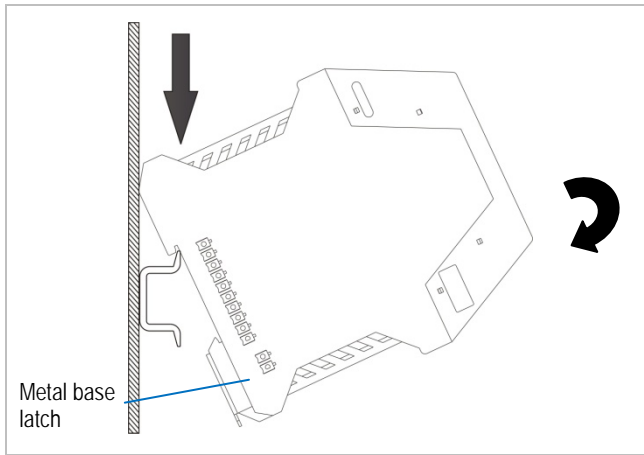


Figure 7: Latching the extension module onto a mounting rail

- Place the extension module on the mounting rail with a side spacing of approximately 10 mm from the neighbouring module as shown in Fig. 7 (position the top retaining groove and latch onto the mounting rail with the aid of the metal base latch). Then align side-by-side and almost seamlessly in a row with the neighbouring Remote I/O module(s).
- Check that it is positioned securely on the mounting rail.
- Put on the rail end module, align in a row and fasten by tightening the screw.
- Set up the earth conductor terminal on the mounting rail after the rail end module (to support the Ext. bus cable shielding).
- After the earth conductor terminal put 3 end clamps from the strain-relief sets, each at a spacing of at least 5 mm, onto the mounting rail and screw in place securely. Run a cable tie for each through the two boreholes on the end clamps (6 cable ties in total), see figure 1 and 2.
- On the second mounting rail begin with the three remaining end clamps and 6 other cable ties in the strain-relief sets.
- Mount the earth conductor terminal at a spacing of at least 5 mm from the end clamps and screw tightly.
- Position the rail beginning module flush with the earth conductor terminal.
- Clip the extension module on, align in a row at the rail beginning module and screw the rail beginning module securely in place.
- Fasten the Ext. power cable 1, Ext. power cable 2 and Ext. bus cable to the end clamps with the aid of the cable ties. In doing so, pay attention to the correct order of the cables (see figures 1 and 2)! Tighten the cable ties with Weidmüller pliers "RT 1" in catch position "2" or with a comparable pliers tool and setting.

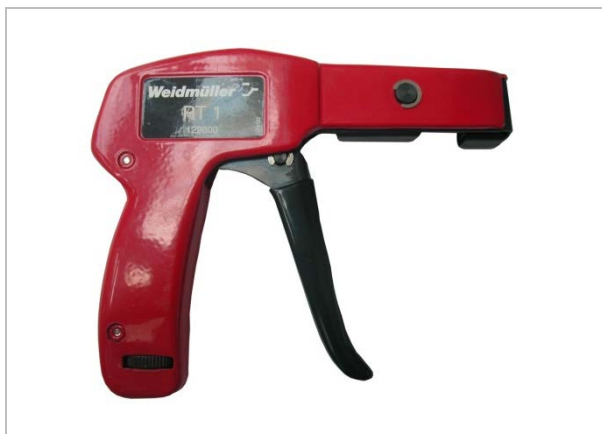


Figure 8: Weidmüller RT 1 pliers

- Connect the cables in conformance to the terminal assignment (figure 9).
- Connect both ends of the shielding on the Ext. bus cable (single wire GNYE) to the earth conductor terminal.
- Connect the equipotential bonding conductor to the additional mounting rail. The second connection on the earth conductor terminal can be used for that purpose.



Caution!

An equipotential bonding conductor must be connected to each mounting rail!

Follow steps 1-13 for each further mounting rail transition.

Shortening the cables

It is possible to shorten the cables to the required length with the aid of the shortening set (art. no. 05-0091-0164). The following components are contained in the shortening set:

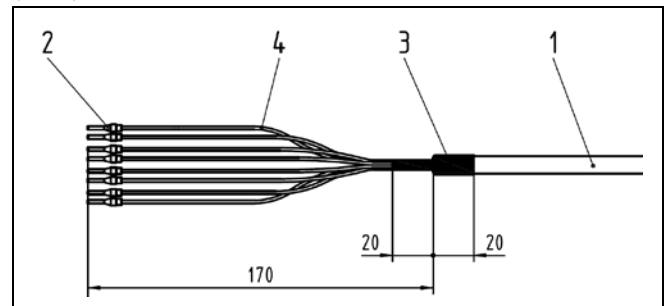
Part designation	Pieces
Wire-end ferrule DIN 46228 E0.34-8	6
Wire-end ferrule DIN 46228 E1.5-8	15
Heat shrinkable tubing 12/4, 40 mm, black, internally adhesive, shrinking temperature 110°C	5
Shrinkable tubing 3.2/1.6; 160 mm, yellow, shrinking temperature. 90°C	2
Single wire 1.5 mm ² ; GNYE; 100 mm	1

The cable has a banderole (cable marking) at one end. It is important that only the side without banding may be shortened.

The following steps must be followed:

Ext power cable 1

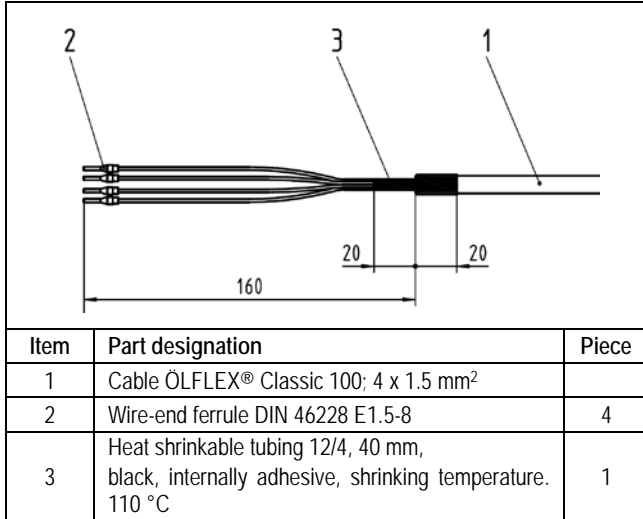
- Shorten the cable (item 1) on the side without banderole to the required length.
- Strip 170 mm of cable sheath off the shortened end, cut off the core fillers.
- Push the heat shrinkable tubing (item 4) over the green-yellow (GNYE) wire as far as it will go (end of cable sheath) and shrink. The shrinking temperature for the shrink-fit hose (item 4) is 90 °C. Do not overheat the cable! To prevent overheating, proceed as follows:
 - Heat gun type Bosch GHG 660 LCD
 - Set to 250 °C
 - A distance of at least 2-5 cm must be maintained between the heat gun and the component!
 - Blow hot air onto the heat shrinkable tubing all around until it has shrunk completely with the cable.
 - End the shrinking process. Do not blow any more hot air onto the cable!
- Position the heat shrinkable tubing (item 3) as illustrated and shrink. The shrinking temperature for the heat-shrinkable sleeve (item 3) is 110 °C. Do not overheat the cable (see 3.)!
- Strip 10-mm insulation off the wires 8x, crimp the wire-end sleeves (item 2) 8x.



Item	Part designation	Piece
1	ÖLFLEX® Classic 100 conductor; 8 x 1.5 mm ²	
2	Wire-end ferrule DIN 46228 E1.5-8	8
3	Heat shrinkable tubing 12/4, 40 mm, black, internally adhesive, shrinking temperature. 110 °C	1
4	Heat shrinkable tubing 3.2/1.6; 160 mm, yellow, shrinking temperature. 90 °C	1

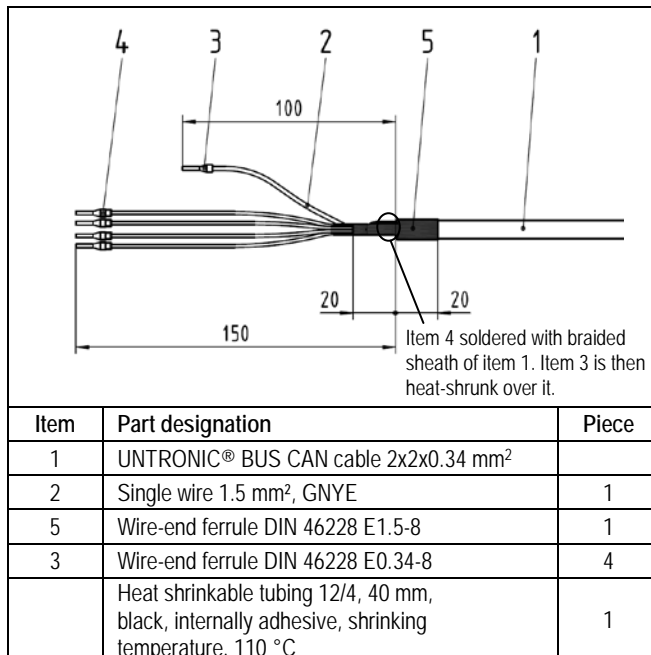
Ext Power cable 2

1. Shorten the cable (item 1) on the side without banderole to the required length
2. Strip 160 mm of sheath off the shortened end.
3. Position the heat shrinkable tubing (item 3) as illustrated and shrink. The shrinking temperature for the heat-shrinkable sleeve (item 3) is 110 °C. Do not overheat the cable (see Ext. power cable 1, 3.)!
4. Strip 10 mm of insulation off the cores 4x, crimp wire-end ferrules (item 2) 4x.



Ext Bus cable

1. Shorten cable (item 1) on the side without banderole to the required length.
2. Strip 150 mm of sheath off the shortened end, cut off the foil and filler.
3. Bundle the braided sheaths and shorten to 10 mm (from the sheath end). Strip 10 mm of insulation off both ends of the GNYE single wire (item 4). Crimp one end of wire-end ferrule (item 5). Solder the other end with a braided shield bundle. Care must be taken to prevent any soldering tin getting into the lead => risk of an open circuit!
4. Position the heat shrinkable tubing (item 3) as illustrated and shrink. The shrinking temperature for the heat-shrinkable sleeve (item 3) amounts to 110 °C. The cable must not be overheated (see Ext power cable 1, 3.)!
5. Strip wires (4x) 10 mm, crimp wire-end ferrules (item 2) 4x.



Wiring



Only the Ext power cable 1, the Ext power cable 2 and the Ext bus cable may be used to connect the extension modules!

The cores in the Ext bus cable and the Ext power cables must be connected to the terminal points in the two extension modules in accordance with the terminal assignment (see figure 9).



Before commissioning, check that the terminal points are secure and that the wiring is correct.

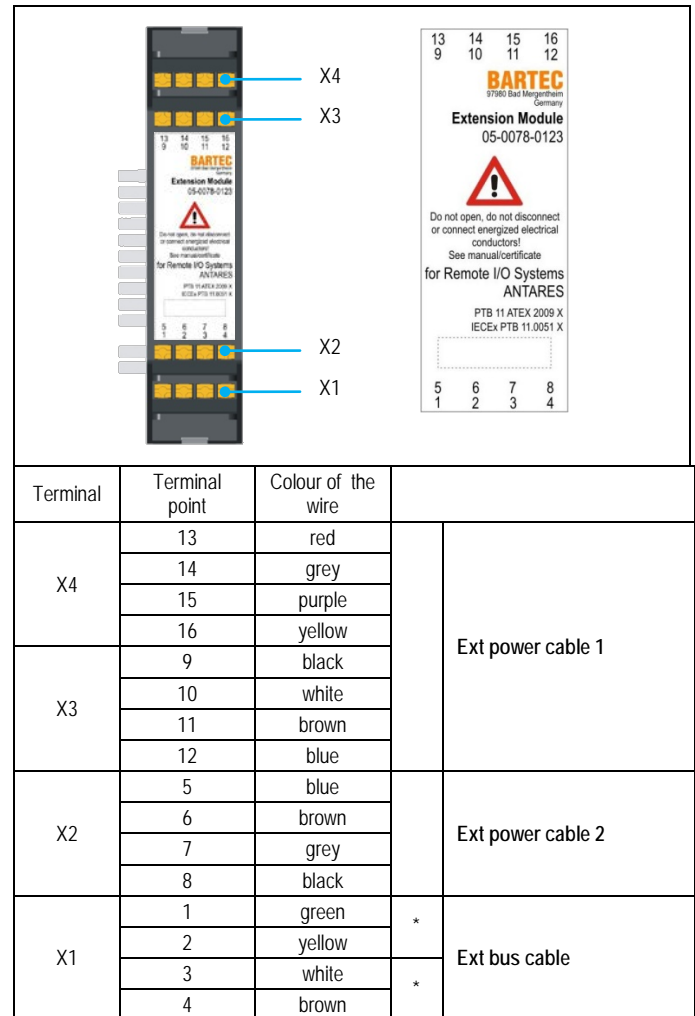


Figure 9: Terminal assignment

* Leave the twisted pairs of cores in the bus cable twisted up to just before the terminal.

Maintenance

If operated correctly in accordance with the installation instructions and environmental conditions, there is no need for regular servicing.

Repairs

Pursuant to EN 60079-17 only personnel with the relevant qualifications and extensive knowledge in handling explosion-protected equipment may do any of the installation, commissioning, maintenance, repair and conversion work. Only original spare parts may be used. Please consult BARTEC GmbH if you have any questions.

Waste Disposal

The device contains metal, plastic parts and electronic components.



Note

The statutory requirements for the disposal of electronic scrap (e.g. disposal by an approved disposal company) must be observed.

Order No.

ANTARES ExtSet 2 m (with 2 m cable)

➔ Art. no. 05-0090-0015

ANTARES ExtSet 10 m (with 10 m cable)

➔ Art. no. 05-0090-0014

ANTARES ExtSet 20 m (with 20 m cable)

➔ Art. no. 05-0090-0016

Spare parts: Extension module

➔ Art. no. 05-0078-0123

Ext power cable 1

➔ 2 m Art. no. 05-0061-0460

➔ 10 m Art. no. 05-0061-0461

➔ 20 m Art. no. 05-0061-0462

Ext power cable 2

➔ 2 m Art. no. 05-0061-0463

➔ 10 m Art. no. 05-0061-0464

➔ 20 m Art. no. 05-0061-0465

Ext bus cable

➔ 2 m Art. no. 05-0061-0466

➔ 10 m Art. no. 05-0061-0467

➔ 20 m Art. no. 05-0061-0468

Rail beginning module

➔ Art. no. 05-0041-0319

Rail end module

➔ Art. no. 05-0041-0320

Shortening set

➔ Art. no. 05-0091-0164

Strain relief set

➔ Art. no. 05-0005-0067

Earth conductor terminal

➔ Art. no. 03-7112-0017

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