

ConneXium WiFi

Over Voltage Protector - LAN/PoE - TCSWABP68 Mounting Instructions

■ Safety instructions



DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

Remove the Ethernet cable that provides PoE to disconnect power before installing or removing any hardware and cables.

Always use a properly rated voltage sensing device to confirm that power is off.

Failure to follow these instructions will result in death, serious injury, or equipment damage.



WARNING

ELECTRIC SHOCK OR FALLING

Avoid mounting the antenna near power lines.

When installing an antenna from a ladder or elevating equipment, take precautions to avoid falling and ensure the equipment is securely positioned on solid ground.

Failure to follow these instructions can result in death, serious injury, or equipment damage.



CAUTION

EQUIPMENT DAMAGE

In a PoE installation, use only devices that adhere to the 802.3af standard.

Failure to follow these instructions can result in injury or equipment damage.

- ☐ Only qualified personnel are permitted to install the TCSWABP68 in accordance with the relevant national installation and safety rules. Its usage is only permitted under the conditions stated and shown in this instruction.
- ☐ The data line protector and the equipment connected to it can be destroyed by EM surges exceeding the given specification, e.g. due to a direct lightning strike.
- ☐ The operational voltage of the system/equipment to be protected must not exceed the maximum permissible operating voltage (rated voltage) of the data line protector.
- ☐ Disconnect or switch off inline equipment when installing or removing the protector.
- ☐ Do not open the protector. Opening the data line protector will void the warranty and may result in the accidental destruction of electronic components.

■ General instructions

If exposed to extreme environmental conditions, especially icy conditions or a polluted atmosphere, the connectors should be covered with a self-vulcanizing tape or a cold shrink tube.

■ Disclaimer

All pertinent country, state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components. This equipment must only be installed and serviced by qualified personnel.

■ Measuring units

The dimensions are in mm.

The tightening torques are in lb in and Nm.

■ Device description

The TCSWABP68 helps to protect sensitive system components against damaging transients caused by natural events such as lightning or over voltage surges.

This data line protector provides high speed data transmission, with a bandwidth up to Class D according to ISO/IEC 11801:2002.

The protector supports Power over Ethernet (PoE according to IEEE 802.3af)

Interconnection is via the industrial standard RJ45 connector.

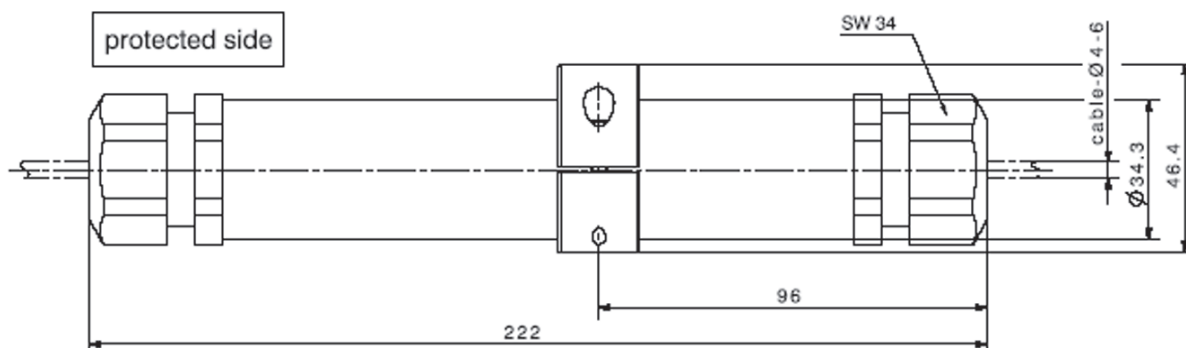
The protector is suitable for screened (STP) or unscreened (UTP) twisted-pair cables.

The protector's IP 68 rating and robust construction makes it suited for use within outdoor applications or other harsh environments.

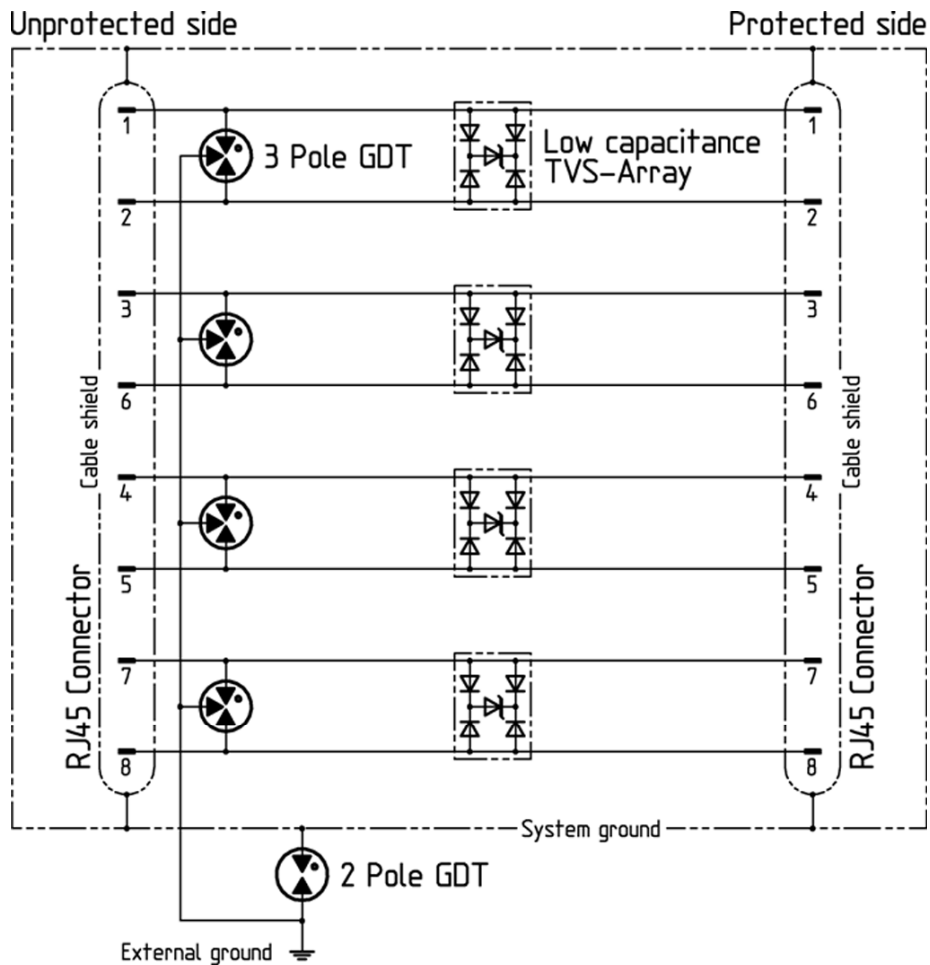
■ Technical data

Main path connectors	RJ45 jack (female) – RJ45 jack (unprotected side – protected side)	
Mounting	via mounting bracket	
Grounding	via mounting bracket or grounding M6 screw (ring of cable shoe > 6.5 mm, 0.26 in)	
Data transmission rate	1000 Mbit/s	
Frequency range	DC to 100 MHz	
Impedance	100 Ω	
Voltage rating	line – line (pair)	± 6 V
	line – ground	± 60 V
Current rating	per line	1.5 A
Response Time	2 ns	
Surge current handling capability acc. to IEC 61000-4-5 (test pulse 8/20 μs)	line – line (pair)	0.1 kA
	line – ground	2.5 kA
	shield – ground	6 kA
Cable category	according to ISO/IEC 11801:2002 class D specified (up to CAT-5e system)	
Operating temperature	–40 °C to +85 °C, –40 °F to +185 °F	
Protection class	IP68	
Weight	330 g, 0.73 lb	

■ Outline drawing



■ Circuit diagram



■ Bill of material and recommended installation tools

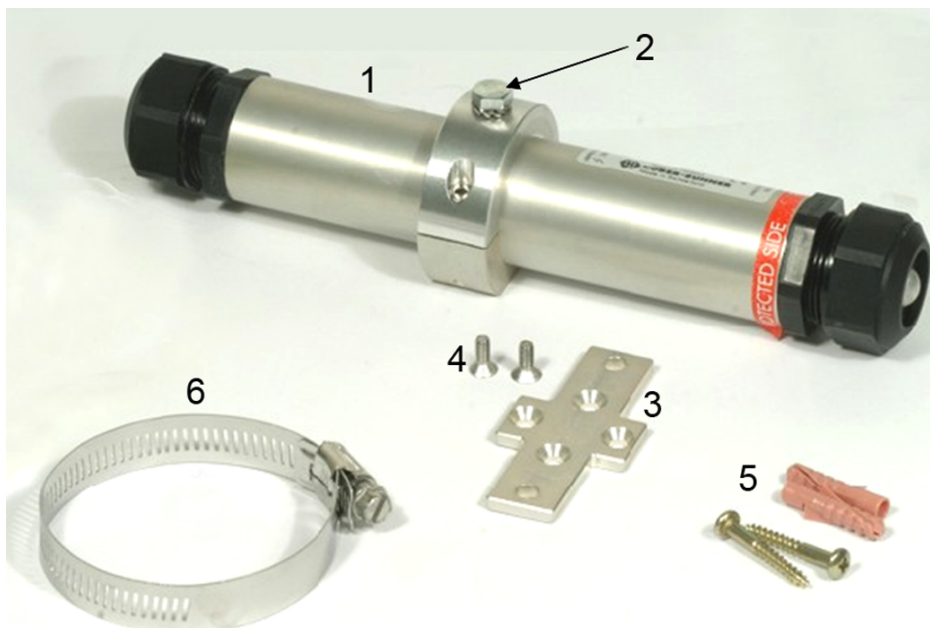


Figure 1: Contents

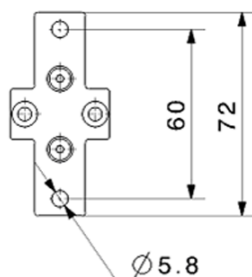


Figure 2: Mounting bracket (item 3)

Item	Number	Description
1	1	Data line protector
2	1	Grounding M6 screw
3	1	Mounting bracket (see fig. 2)
4	2	Screw for bracket mounting
5	2	Screw with anchor (diameter: 6 mm, length: 29 mm)
6	1	Worm gear clamp (diameter range: 29 mm to 72 mm)

Table 1: Contents

Tool	Size	To use with item	To use for
Allen key	2.5 mm	4	Bracket mounting
Screw driver, recessed	1	5	Flat surface mounting
Drill	6 mm	5	Anchor wall mounting
Screw driver	5 mm	6	Worm gear clamp tightening
Screw wrench	8 mm	6	Worm gear clamp tightening
Screw wrench	34 mm	1	Gland nut

Table 2: Tools

■ Mounting the protector

You can mount and ground the TCSWABP68 either on a flat surface or on a pole, as shown.

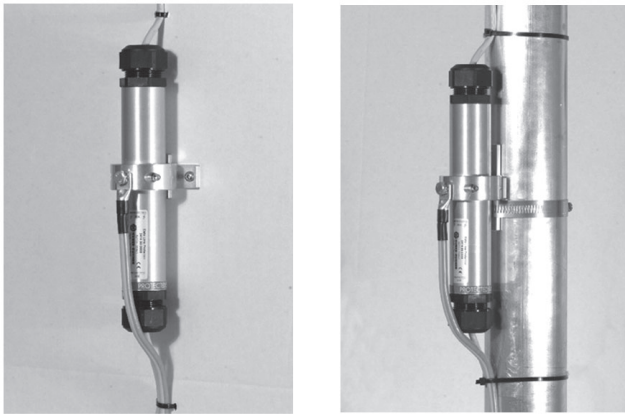


Figure 3: Mounting the protector on a flat surface and on a pole

- For flat surface mounting, mount the bracket (item 3) laterally on the TCSWABP68 (item 1) using screws (item 4), as shown.
For pole mounting, mount the bracket (item 3) longitudinally on the TCSWABP68 (item 1) using screws (item 4), as shown.



Figure 4: Mounting the bracket on the protector - lateral and longitudinal alignment

The protector is configured with a protected and an unprotected side.

Note: The protector is marked with a red adhesive manufacturers label saying PROTECTED SIDE.

- Align the protector to the correct orientation.
- For flat surface mounting, mount the protector using two screws (item 5) and plastic anchors.
For pole mounting, mount the protector with the worm gear clamp (item 6).

Note: The clamping diameter range is 29 mm to 72 mm (1.14 in to 2.83 in).

■ Grounding the protector

You can achieve the effective surge protection of a system by properly bonding all relevant elements and pass-through metal lines to the ground with active lines using surge arresters. Ground according to all national, regional and local codes.

- ☐ Connect a grounding cable from the grounding facility to the grounding M6 screw (item 2) of the protector using a ring cable shoe (ring diameter > 6.5 mm).
Alternatively, you can mount the bracket with a screw on a grounded metal plate.

Note: Use a sufficiently sized grounding cable (min. 16 mm² / AWG 6) as short a distance as possible (max. 0.5 m)

■ **Connecting the protector**

To connect the cables, open the protector as shown. Both cable entries are of a similar design.



Figure 5: Preparing the cable connection

- ☐ Obtain the data cables for the assembly.
- ☐ Twist off and remove the cable gland on both ends.
- ☐ Pull out the sealing gasket on both ends.

Note: The sealing gaskets are used to seal the unit prior to the connection of the cables. The sealing gaskets should not be removed until the cables are ready for connection.

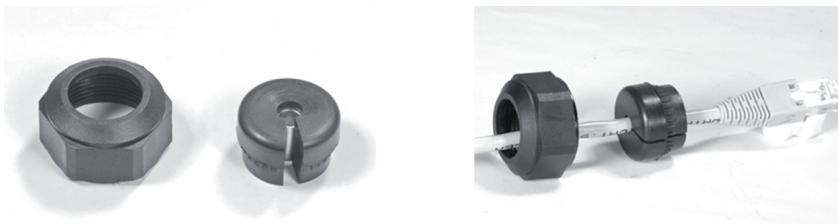


Figure 6: Connecting the cable

- ☐ Put the cable into the sealing gasket through its longitudinal cut.

Note: The cable diameter range is 4.0 mm to 6.0 mm (0.16 in to 0.24 in).

- ☐ Push the cable end through the cable gland.
- ☐ Connect the data cable with the protector.

Note: Ensure that the cable from the equipment to be protected is plugged into the port labeled as protected side (see fig. 4).

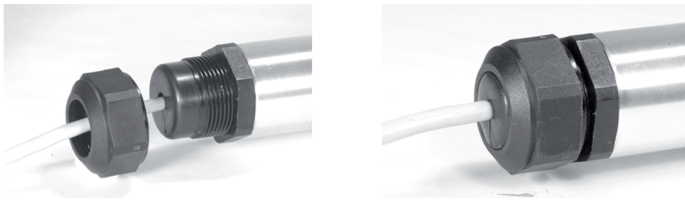


Figure 7: Assembling the protector

- ☐ Push the sealing gasket into the connector.
- ☐ Tighten the cable gland.
- ☐ Repeat the process for the other connection end.
- ☐ Insert both connectors as shown.
- ☐ Plug-in the data line connector and insert the sealing.
- ☐ Tighten the gland nut to the sealing insert, compressing the rubber between the nut and the cable.

Note: For a proper sealing it is essential that you tighten the nut correctly. The following includes examples of incorrect mounting: too loosely tightened and overtightened, as shown.

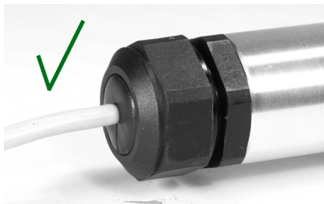


Figure 8: Proper sealing: slight compression of the rubber



Figure 9: Improper sealing: too loosely tightened, no compression of the rubber



Figure 10: Improper sealing: overtightened, too much compression of the rubber

