

# SOLAR GUARDIAN

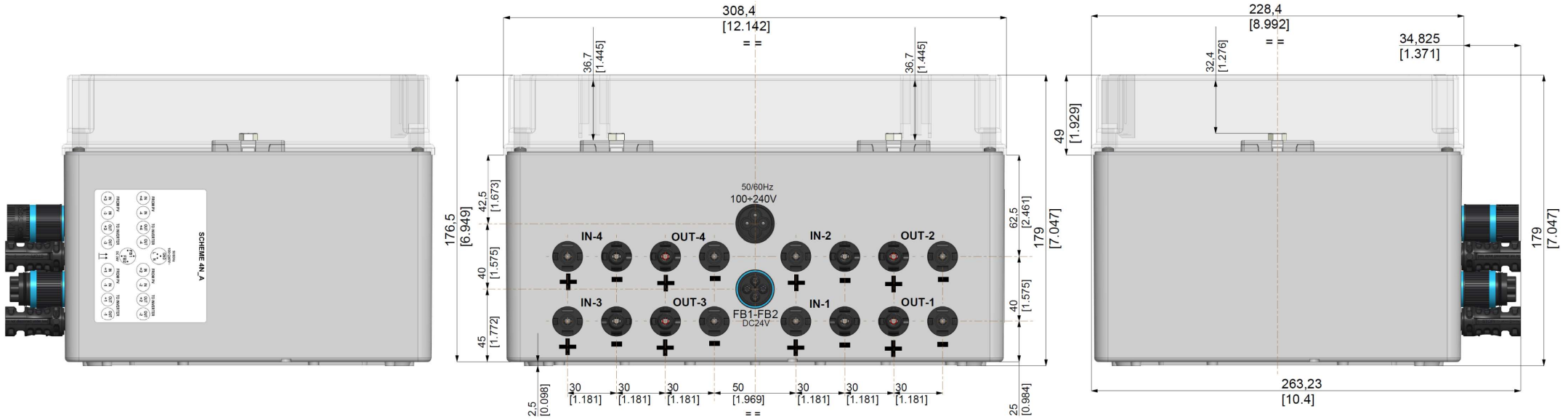
Enclosed solution – Plug and play

edition 04 : data 22/01/2025

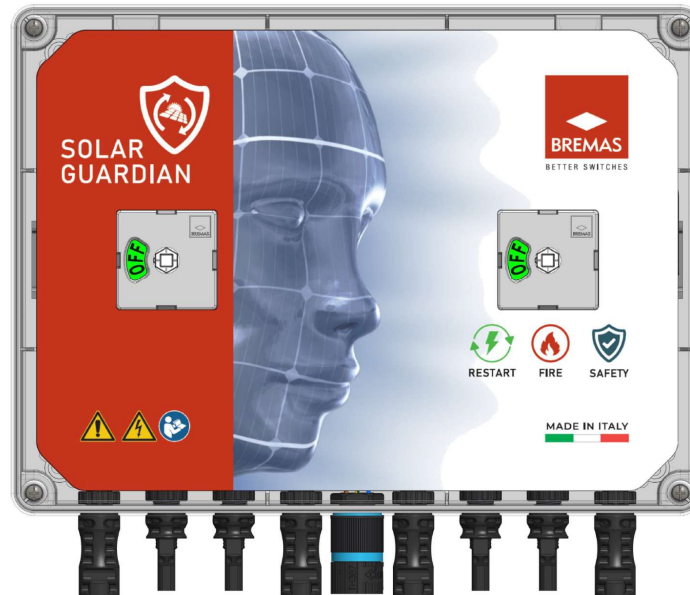
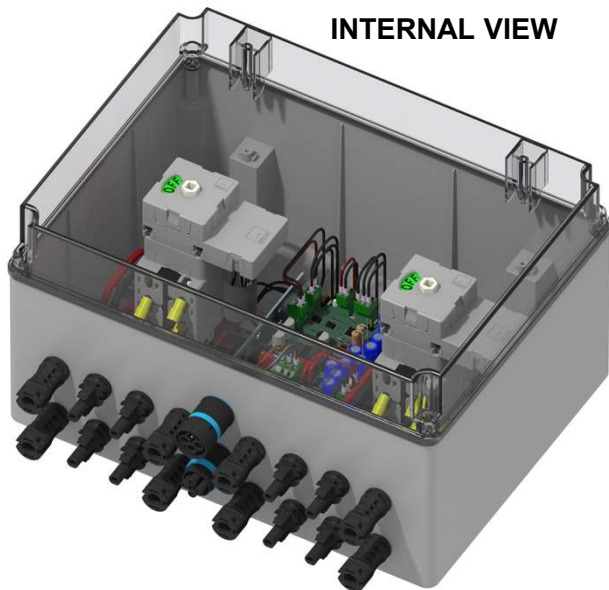


**Bremas Ersce S.p.A.**  
 Via Castellazzo 9 – 20040 Cambiago (MI)  
 Tel +39 02 95651611 Fax +39 02 95651639  
 www.bremas.it info@bremas.it  
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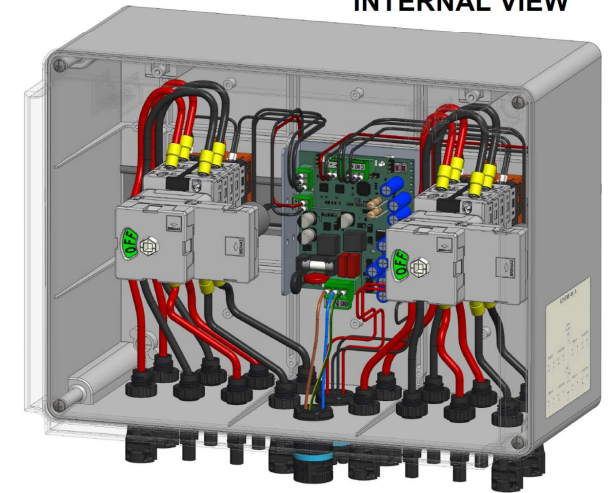
**FB100204N0A2MC**



**INTERNAL VIEW**



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Dimension in mm  
in [inch]

Dimensioni in mm  
in [pollici]

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Enclosed solution – Plug and play

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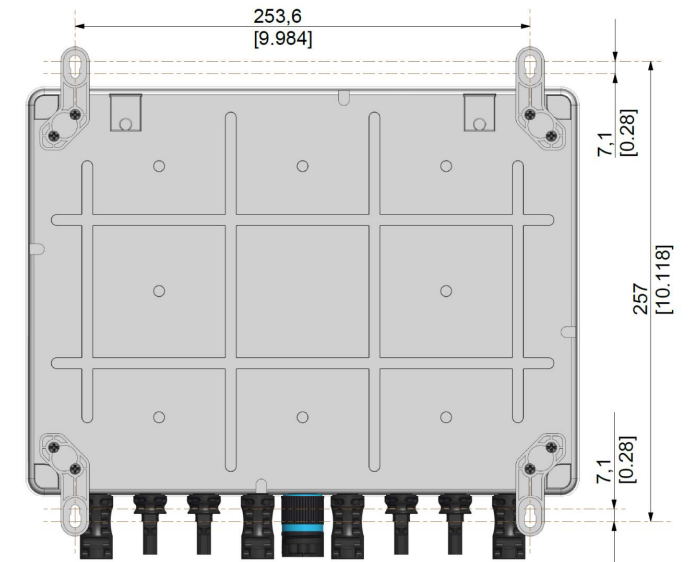
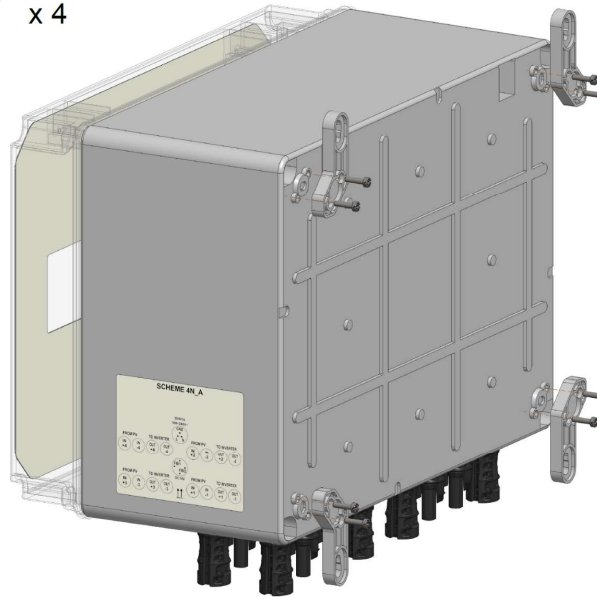
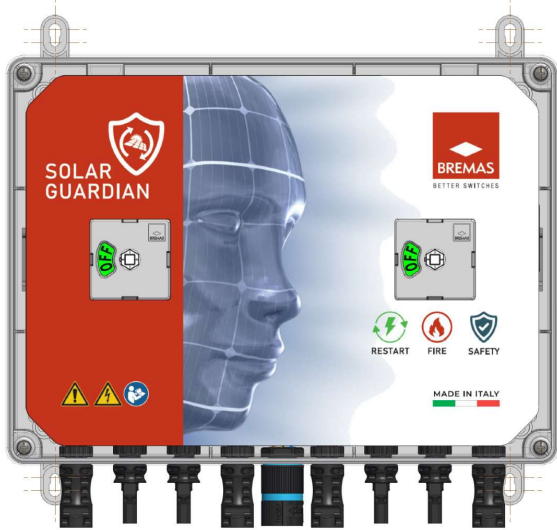
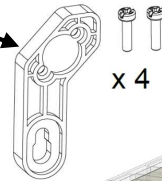


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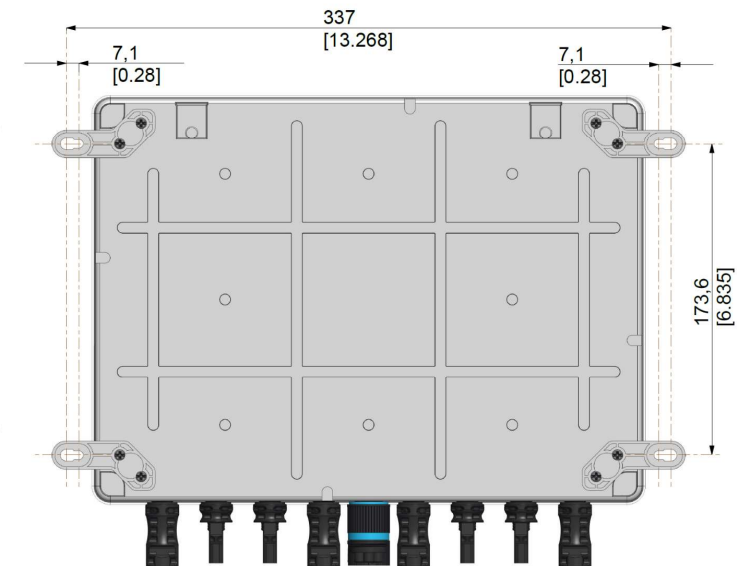
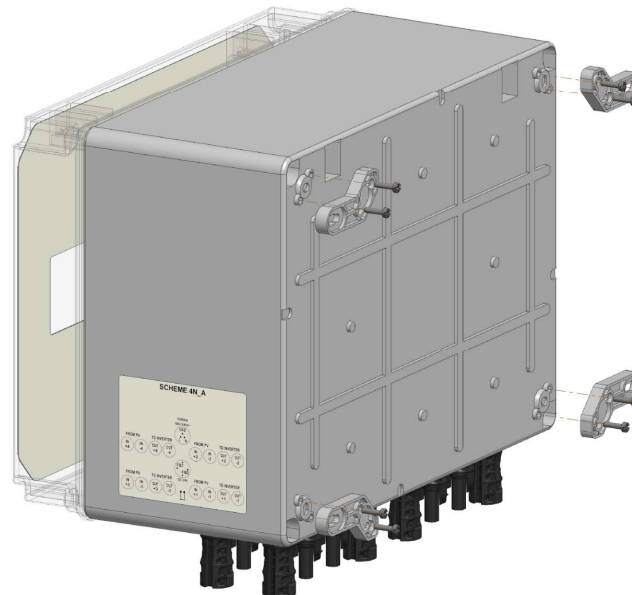
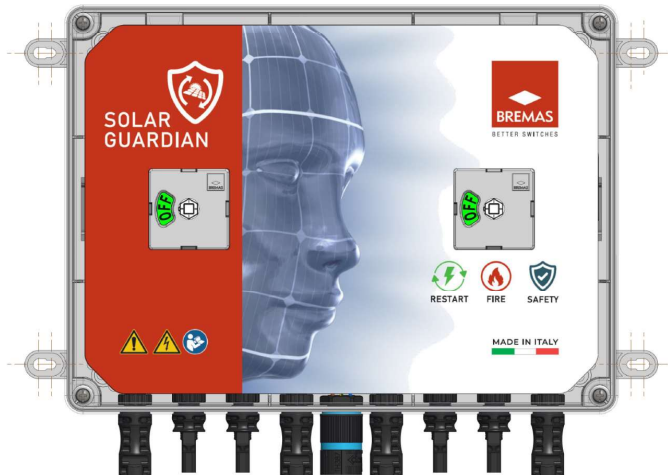
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## WALL MOUNTING BRACKETS



## WALL FIXING HOLES FOR VERTICAL BRACKETS



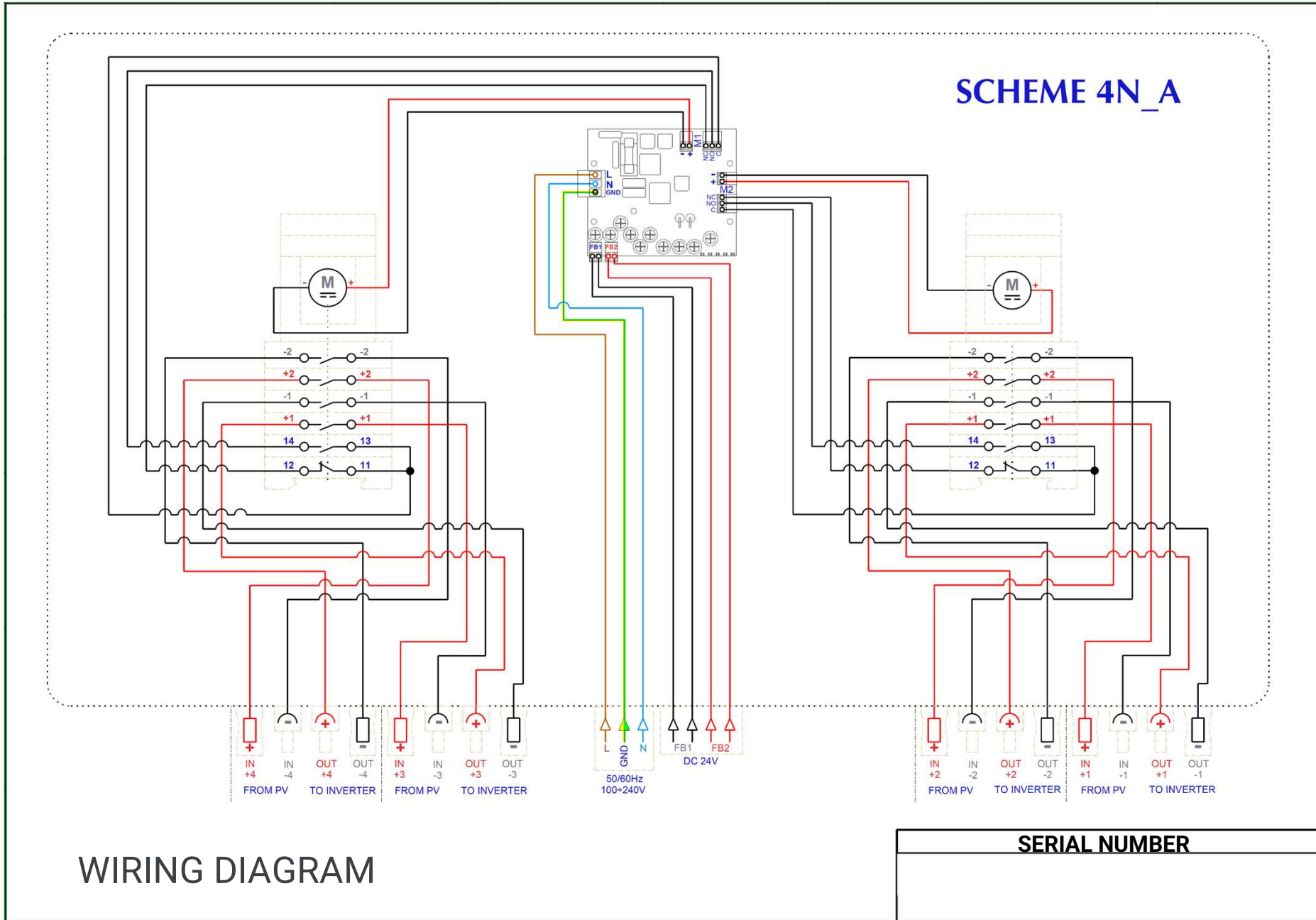
## WALL FIXING HOLES FOR HORIZONTAL BRACKETS

Dimension in mm      Dimensioni in mm  
 in [inch]                      in [pollici]

## FB100204N0A2MC



Technical data according to IEC 60947-3			
Rated insulation voltage	Ui	V	1500
Rated impulse withstand voltage	Uimp	kV	8
Rated thermal current	Ith	A	50
Power loss per layer at 20 A / 50 A		W	0,2 / 1,25
<b>DC inputs</b>			
Number of inputs			4
Utilization category			PV1 PV2
Rated operational current at 1100 V	Ie	A	12 5
Rated operational current at 1000 V	Ie	A	20 10
Rated operational current at 750 V	Ie	A	32 18
Rated operational current at 700 V	Ie	A	40 20
Rated operational current at 500 V	Ie	A	50 -
<b>Short circuit protection</b>			
Rated conditional short-circuit current		kA	5
Max fuse size for short circuit protection	gPV	A	50
Rated short-time withstand current (1 s)	Icw	A	780
Rated short-circuit making capacity	Icm	kA	1,4
<b>Terminals</b>			
Connection type			MC4 plug-in connector
<b>Protection degree IEC EN 61439-2</b>			
Solution in box			IP56
<b>Ambient conditions</b>			
Pollution degree			2
Operational ambient temperature		°C	-30 ÷ +85
Storage ambient temperature		°C	-30 ÷ +85
Damp heat test IEC 60068-2-30			90-100% RH at +55 °C



## MINI-PLUG-SOCKET CONNECTOR IP66/IP68



### ASSEMBLY ILLUSTRATIONS

<b>Cable</b>	Ø 7.0 – 12.0 mm
<b>Insulator removal (X)</b>	20 mm
<b>Peeling of the conductor (Y)</b>	6 mm

**FIG. 1**

- Remove the insulation from the cable and conductors according to the specifications indicated.
- Insert the cable through the nut, the grommet and the body of the cable gland.
- Check the correct use of the grommet with respect to the cable to be installed in the connector as indicated in Fig. 1b.

Grommet / Adapter	Cable Ø min. - max.	
	◆	★
	2 - 3 - 4 - 5 poles	2 - 3 - 4 - 5 poles (L)
	9.0 mm – 12.0 mm	9.0 mm – 13.5 mm
	7.0 mm – 9.0 mm	7.0 mm – 9.0 mm
	5.0 mm – 7.0 mm	6.0 mm – 7.0 mm

*For cables with a smaller diameter, use the appropriate accessories*

**FIG. 1b**

0.8 Nm (2 - 3 - 4p Screw)  
 0.2 Nm (5p Screw)  
 0.1 Nm (2 - 3 - 4p Piercing)

**FIG. 2** **Fig. 2a**

- Insert the individual conductors into the connector terminals, making sure they are correctly positioned (Fig. 2a – example of incorrect installation).
- Turn the cable tightening screws clockwise (max. 0.2 Nm) for the 5 poles, (max. 0.8 Nm) for the 2 - 3 - 4 poles Screw and (max. 0.1 Nm) for Piercing versions.

max. 2.0 Nm

24 mm

max. 2.5 Nm

**FIG. 3** **Fig. 3a**

- Join the strain relief to the connector, then turn it clockwise (max. 2.0 Nm).
- Then, insert the grommet into the cable gland (Fig. 3a – in case of a double grommet, make sure to insert the grommet into the cable gland according to the correct orientation: the indicated ring must be visible).
- Make sure the cable gland is installed and screwed correctly onto the connector (Fig. 3b).

24 mm

max. 2.5 Nm

**FIG. 4**

- Then, join the nut and rotate it clockwise using the quick tightening wrench max. 2.5 Nm. The key will slip when you have reached the optimum torque.
- It is possible to fix the nut also by using common use tools (24 mm – max. 2.5 Nm).

**FIG. 5** **Fig. 5a**

- Make sure the correct orientation of the plug and socket connectors as indicated by the arrow (Fig. 5a).
- Join the pre-wired connectors together, until reaching the limit switch ensuring correct coupling.

max. 1.0 Nm

**FIG. 6** **Fig. 6a**

- Manually clockwise rotate the fixing ring of the plug connector until a firm resistance to rotation is reached.
- Alternatively, rotate the ring clockwise with the use of a tool until the torque is reached (max. 1.0 Nm).
- The socket and plug connector is correctly joined and the IP66/IP68 seal is guaranteed even if you notice a slight slot in correspondence with the fixing ring (Fig. 6a).

**FIG. 7**

- It is recommended to use adapters for single conductors or for cables with a smaller diameter than what indicated in the TECHNICAL DATA table.
- TPE and Silicone rubber pads available

Number of poles	2 - 3 - 4 poles
Type of contact	Screw / Piercing
Rated current	17.5A AC (IEC) 15A AC (UL / CSA)
Nominal Tension	500V AC 250V AC (use class II) 600V AC / DC (UL / CSA)
Impulse withstand voltage	4kV
Degree of protection (IP6x)	IP66 / IP68 (30m / 3h)
Conductor section rigid / flexible min. – max.	0.5 mm <sup>2</sup> – 4.0 mm <sup>2</sup> (Screw) 0.5 mm <sup>2</sup> – 1.5 mm <sup>2</sup> (Piercing)
Cable diameter min. – max. (2)	7.0 mm – 12.0 mm
Connector / gasket materials	PA66 GF UL94 VO / V2 TPE Halogen Free / Silicone Free
Ambient Temperature min. – max.	-40°C / +125°C
Norm	EN61984 UL2238 C22.2 No 182.3