


44428235	Assembly instruction	
Valid from 08.12.2022	EPIC® SOLAR 4PLUS	

EPIC® SOLAR 4PLUS ASSEMBLY INSTRUCTION

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Trademark on the Product: **EPIC®**

Scope of delivery

The Connector EPIC® SOLAR 4PLUS is delivered pre-assembled, the necessary contacts are included separately.

EPIC SOLAR 4Plus X Y

Item number	Designation
44428233	EPIC SOLAR 4PLUS M 2,5 mm ²
44428234	EPIC SOLAR 4PLUS F 2,5 mm ²
44428235	EPIC SOLAR 4PLUS M 4,0 mm ² or 6,0 mm ²
44428236	EPIC SOLAR 4PLUS F 4,0 mm ² or 6,0 mm ²
44428237	EPIC SOLAR 4PLUS M 10,0 mm ²
44428238	EPIC SOLAR 4PLUS F 10,0 mm ²
Symbol	Signification

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X:	M (male) or F (female)
Y:	Cross sections 2,5 mm ² or 4,0 mm ² ; 6,0 mm ² or 10,0 mm ²

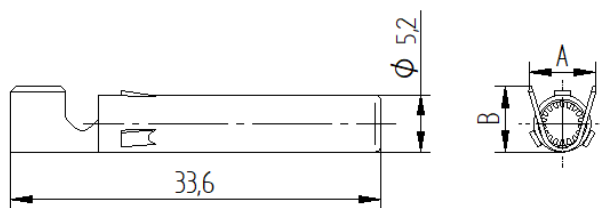


EPIC® SOLAR 4PLUS F
female

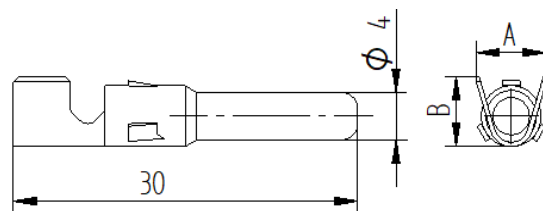


EPIC® SOLAR 4PLUS M
male

Contacts



44428240	Female Contact 10 mm ²	5,6	7,9
44428220	Female Contact, 4-6 mm ²	4,8	5,9
44428218	Female Contact, 2,5 mm ²	3,2	4,3
Mat. No.	Designation	A	B



44428239	Male Contact 10 mm ²	5,6	7,9
44428219	Male Contact, 4-6 mm ²	4,8	5,9
44428217	Male Contact, 2,5 mm ²	3,2	4,3
Mat. No.	Designation	A	B

Technical Specifications

According to IEC 62582 : 2014+A1:2020

Rated Voltage:

Rated Current:

1.500V DC

22 A (2,5 mm²)

30A (4.0 mm²)

30A (6.0 mm²)

30 A (10 mm²)

Rated impulse withstand voltage:

Rated temperature:

Upper limit of Temperature:

Protection degree:

Connecting Type:

Contact resistance:

16 kV


-40°C ... +85°C

105°C

IP68, 10 h/1 m; IP 65

Crimp

<5 mΩ

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Protection Class:	II
Material of the Insulating Body:	Polyamide
Material of the Nut:	Polyamide
Contact Surface:	Tin plated
Pollution Degree	3 (in the Interior: 2)

Safety Instructions

The EPIC® SOLAR 4PLUS connector is not suitable for mating and unmating under load. De-energize the circuit by appropriate measures, e.g. at the inverter. Disconnecting and also plugging in is possible without load, while voltage is present. EPIC® SOLAR 4PLUS connectors are intended for connecting stationary photovoltaic systems. They are suitable for fixed installation in dry and damp rooms, as well as outdoors. EPIC® SOLAR products are not suitable for underground installation. EPIC SOLAR 4 Plus is only suitable for the following PV-Cable:

Type of conductor::ÖLFLEX Cable
SOLAR XLWP, According TÜV
Certificate R 50462071 :

1023629	ÖLFLEX SOLAR XLWP I+E 1X2,5 WH/BK
1023630	ÖLFLEX SOLAR XLWP I+E 1X4 WH/BK
1023631	ÖLFLEX SOLAR XLWP I+E 1X6 WH/BK
1023632	ÖLFLEX SOLAR XLWP I+E 1X10 WH/BK

(Identically with TÜV Certificate R 50462071, according with the SAP designation of Lapp-Group, "I+E" means: "I" : IEC and "E" : Europe)


Mated connectors are IP68 protected (1m/10h). Continuous operation under water, e.g. water on the roof skin of a flat roof is not possible.

EPIC® SOLAR connectors may only be assembled using tools and aids specified by Lapp. The cable may only be connected to the connector by trained electricians. To protect the installer from the danger of the electric current, the connector must be made floating on all sides during installation.

Unplugged connectors must to be protected against ingress of dirt and moisture. Before plugging together, make sure that the mating area is free of any dirt.

Note :The PV Connectors EPIC SOLAR 4 Plus are not rewirable.

Defective connectors can be replaced by new connectors of the same type and connection cross-section, complying with all requirements of this installation instruction and having ensured that the cable is without voltage and not under load.

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Necessary Tools

Cable shears for cutting the PV-cables:



LAPP Cable shear KS20, Item number 62120523

Stripping Tool to strip the PV-Cable



LAPP Universal Strip Solar, Item number 21920120

EPIC® SOLAR Mounting Tool is not necessary:

Two 19 mm open-end wrenches are also working.

Crimping Tool

Note:

To comply the tested quality, it`s necessary to use only the indicated tools.



Crimptool CSC Parts




Crimptool CSC mounted

Crimptool (11147000) with crimp inserts (e.g. 44428266) and locator (44428244) to crimp the EPIC® SOLAR contacts: 4; 6 and 10 mm²

Crimptool 11147000 with crimp insert 44428995 and locator 44428996 to crimp the EPIC® SOLAR contacts 2,5 mm²

Alternating the CSC insert can be used with the Crimping Tool. This insert has the function **cut**, **stripping** and **crimping**.

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Mounting of EPIC® SOLAR 4PLUS

Analysing the cable

Determining the conductor cross section

Determining the outer diameter



Article Number	Designation	Cross section in [mm ²]	Cable clamping range d in [mm]	Stripping Length L [mm]	Rated Current [A]
EPIC® SOLAR 4PLUS Female Connector, field mountable, including Contacts					
44428234	EPIC® SOLAR 4PLUS F 2,5 mm ²	2,5	4,8...5,8	7	22
44428236	EPIC® SOLAR 4PLUS F 4 mm ² - 6 mm ²	4 - 6	5,2 - 7,1	8	30
44428238	EPIC® SOLAR 4PLUS F 10 mm ²	10	5,2 - 7,1	12	30
EPIC® SOLAR 4PLUS Male Connector, field mountable, including Contacts					
44428233	EPIC® SOLAR 4PLUS M 2,5 mm ²	2,5	4,8...5,8	7	22
44428235	EPIC® SOLAR 4PLUS M 4 mm ² - 6mm ²	4 - 6	5,2 - 7,1	8	30
44428237	EPIC® SOLAR 4PLUS M 10 mm ²	10	5,2 - 7,1	12	30

Preparing the cable


Cut the cable cleanly - the strands must not have any oxidation or contamination.

Stripping the cable

Stripping length: depending on the table (see table above!).

The insulation must be removed clean and competed. No stranded wires may be cut off



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Crimping the contacts

Check that contact and cross-section match.

Insert the contact with the opening facing upwards into the EPIC® SOLAR Crimping tool.

Insert the wire completely into the crimp area of the contact.

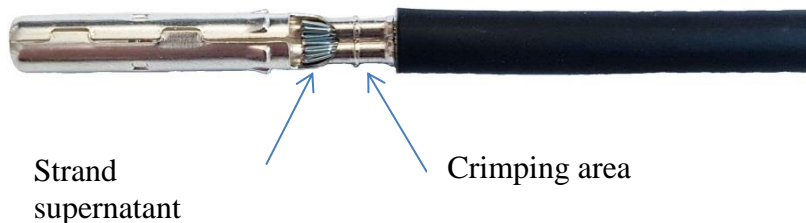


The cable is pushed forward until the insulation strikes the crimp receptacle of the contact. In this way a supernatant of at least 2 mm is ensured.

Completely squeeze the tool until the trigger lock releases the tool again.

Remove the crimp and visually check that all strands are completely enclosed.

The strand supernatant after crimping is at least 2 mm.




Explanation of the crimping process



Contact in the crimp insert

Contact in the crimp insert with cable

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Mounting

Insert the crimped contact into the opened cable gland until the contact clicks into place. Lightly pull the cable to make sure that the contact is properly engaged. Turn cap nut “hand-tight” (4,5 Nm) – finished. Spanner size 19.



(EPIC® SOLAR 4PLUS F)


Connecting and Disconnecting

Before plugging in, check the plugging area for possible soiling and clean it if necessary. Especially the O-ring on the female connector must be absolutely clean. Trapped moisture must be removed. Plug EPIC® SOLAR 4PLUS, male and female together until the snap-in hooks are fully engaged on both sides.



To disconnect, press the latching hooks on both sides with the standard pliers (article 3115160) and pull them apart carefully but firmly.



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Laying the cable

The cables must be firmly laid in the photovoltaic system, securely fastened and the minimum bending radius must not be undercut. The cable must be led straight out of the connector at least $L=50\text{ mm}$. The bending radius R_{\min} must be at least $10 \times$ cable diameter.



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