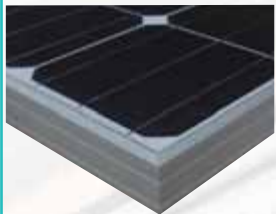


Pictograms of the table heads

	With door coupling		Basis type		With enclosure IP65		Short-circuit current
	Rated voltage		Rated current		Efficiency		Rated power
	Power tolerance		Thermal coefficient		Thermal coefficient		Thermal coefficient
	Voltage protection level		Rated operating voltage		Continuous operation voltage limit		Rated short circuit making capacity limit
	Surface pressure, back (wind)		Surface pressure, front (snow, wind)		Rated operating short circuit breaking capacity limit of MCB		Total discharge current
	Momentary limit current		Short-circuit withstand		Rated operating current		Lightning impulse current
	Power loss (W)		Rated insulation voltage		Tighten torque		Crimping range
	Rated current (A)		Weight		Modules		Colour
	Full door		Transparent window				

Pictograms of the technical data

	Open circuit voltage		Number of cells		System voltage		Impact resistance
	Rated voltage		Application category		Changeable insert		Rated impulse withstand voltage
	Can be install on mounting rail		Rated insulation voltage		Varistor		Thermal fuse
	Flammability according to UL94		Type of release: Thermo magnetic		Tripping characteristic		Polarity independence
	Optical signal		Built-in cable		Terminal capacity		Auxiliary contacts
	Mechanical life		Electrical life		Lamp bodies to be installed on side walls		Rated momentary current limit
	Protection degree		Protection class: II.		Operation temperature		Ambient temperature
	Door opening angle:		Resistance		UV-proof		Suggested backup fuse
	Distance between open contacts						



Monocrystalline solar panel 2



Polycrystalline solar panel 3



Molded circuit breaker for direct current networks 4



Cam switches for DC installations 5



Type 2 surge arresters for DC (PV) networks 6



Type 1+2 combined lightning and surge arresters for DC 6



DC type MCB for direct current electric networks 7



Plastic distribution boxes 8



Plastic distribution boxes with mask frame 8



Terminal for solar panels 9



Crimping tool for solar panel terminals 9



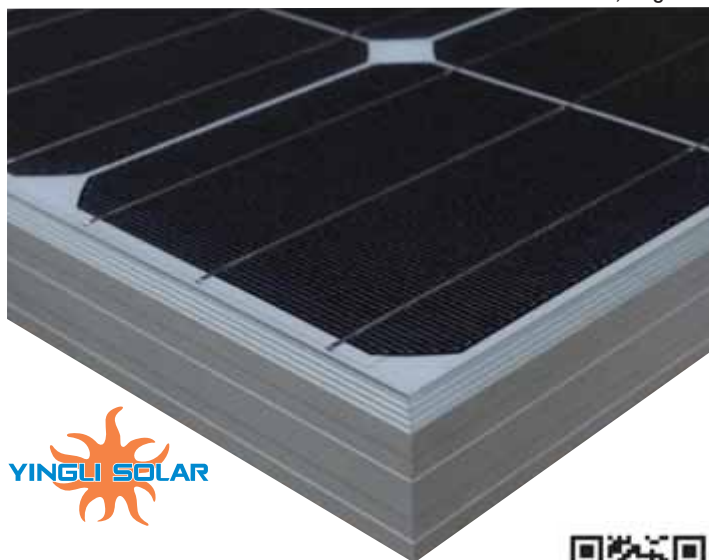
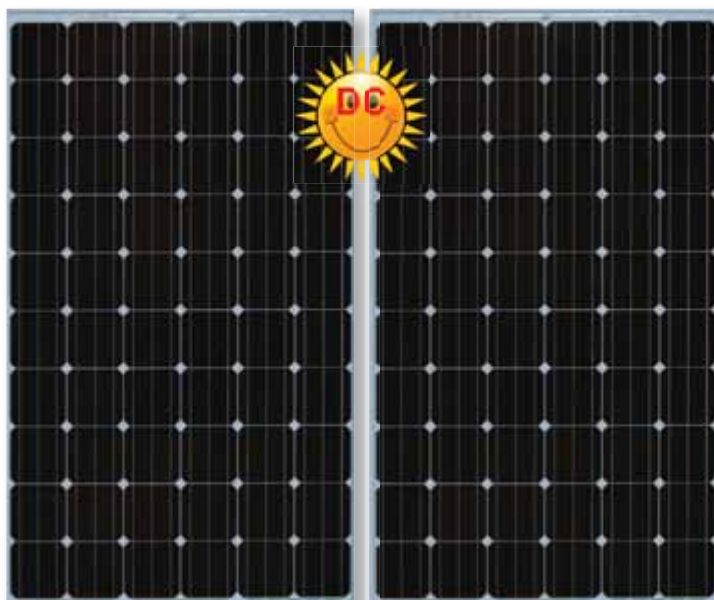
Monocrystalline solar panel



Quality and reliability

The production line having 9001:2008, ISO 14001:2004, BS OSHAS 18001:2007, SA 8000 certificates is surveyed by TÜV Rheinland.

TRACON	P_{max}	I_{mpp}	U_{mpp}	I_{sc}	U_{oc}	$\eta\%$	m
SPM-265	265 W	8.55 A	31.0 V	8.93 A	39.0 V	16.2 %	19,1 kg

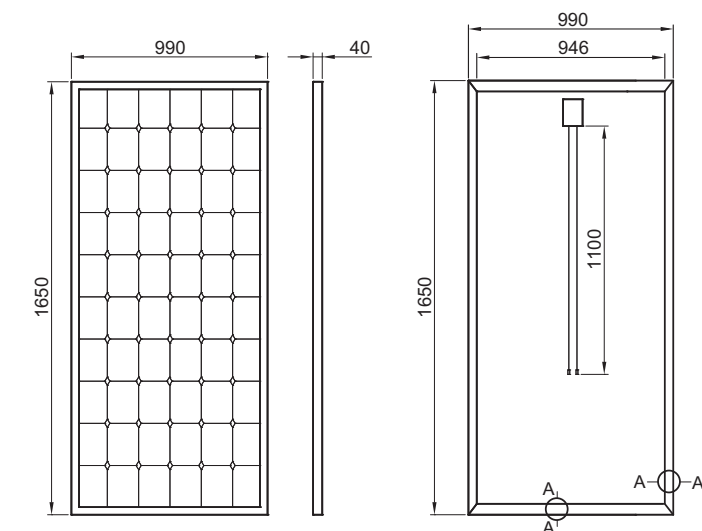


Glass surface (material/thickness): Tempered glass / 3.2 mm
Frame: aluminum



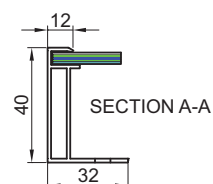
Other specifications

TRACON	P_{max}	I_{sc}	U_{oc}	ΔP_{max}	H	N/m^2	N/m^2
SPM-265	-0.42 %	+0.04 %	-0.31 %	-0 / +5 W	156×156 mm	max. 5400	max. 2400



Warranty for modules

- 25 years guarantee on power loss up to 18 %
- 10 years guarantee on power loss up to 8 %
- 10 years product warranty



RELEVANT STANDARD
EN 50461

RELEVANT STANDARD
EN 50513



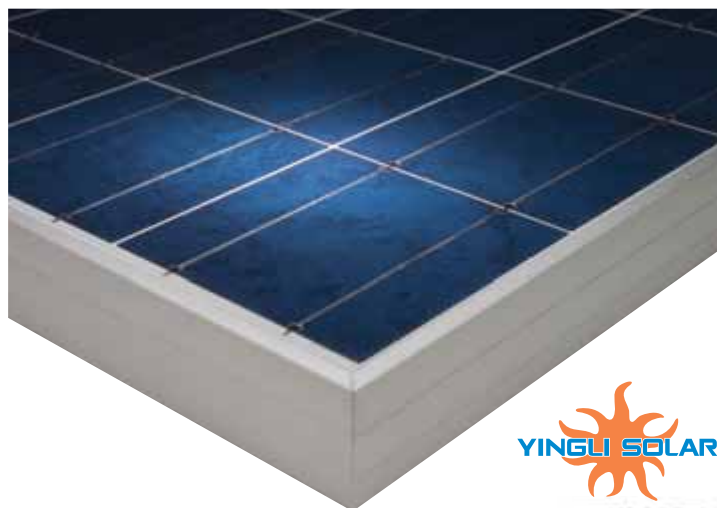
Monocrystalline solar panel



Quality and reliability

The production line having 9001:2008, ISO 14001:2004, BS OSHAS 18001:2007, SA 8000 certificates is surveyed by TÜV Rheinland.

TRACON	P_{max}	I_{mpp}	U_{mpp}	I_{sc}	U_{oc}	$\eta\%$	m
SPP-245	245 W	8.11 A	30.2 V	8.63 A	37.8 V	15.0 %	19,1 kg

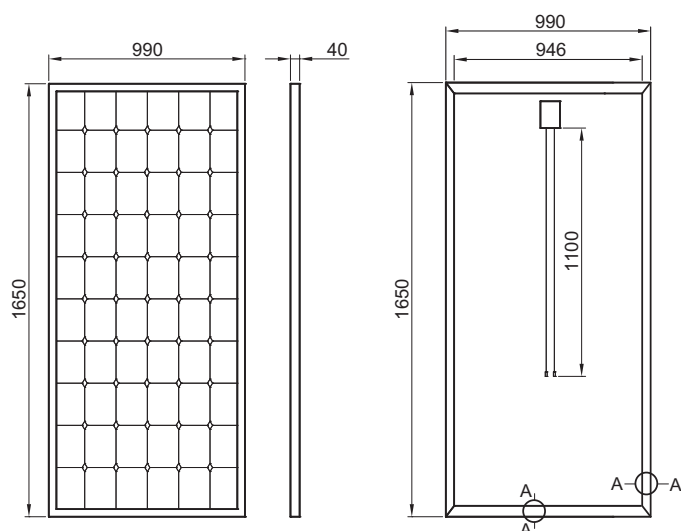


Glass surface (material/thickness): Tempered glass / 3.2 mm
Frame: aluminum



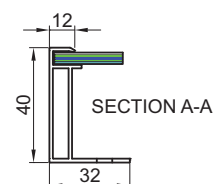
Other specifications

TRACON	$^{\circ}\text{C}$ P_{max}	$^{\circ}\text{C}$ I_{sc}	$^{\circ}\text{C}$ U_{oc}	ΔP_{max}	H	N/m^2	N/m^2
SPP-245	-0.45 %	+0.06 %	-0.33 %	-0 / +5 W	156×156 mm	max. 5400	max. 2400



Warranty for modules

- 25 years guarantee on power loss up to 19,3 %
- 10 years guarantee on power loss up to 8,8 %
- 10 years product warranty



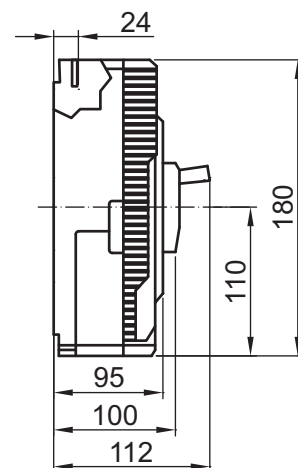
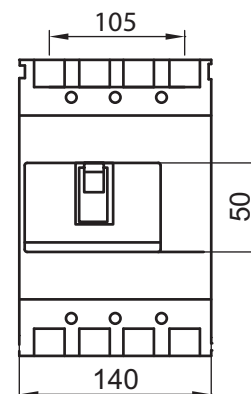
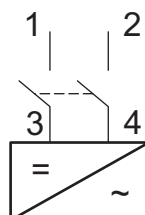
RELEVANT STANDARD
EN 50461

RELEVANT STANDARD
EN 50513

Molded circuit breaker for direct current networks (PV networks)



TRACON	I_n 1200 V DC	I_n 1500 V DC	Nm	P_m	I_z
MSDC-250	250 A	200 A	4.0-6.0	45 W	10 kA



RELEVANT STANDARD
EN 60947-3

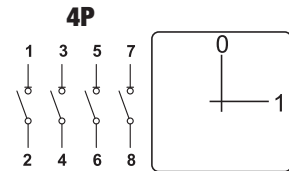


Cam switches for DC installations

DC
21B
 U_i
1 kV

 U_{imp}
8 kV

 $[mm^2]$
4-10

 T_o
-40...+45°C


TRACON


 I_n
1000 V DC

 P_m

 I_{cw}
IEC 60947-3


KSDC-32

KSDC-32T

KSDC-32K

KSDC-32M

32 A

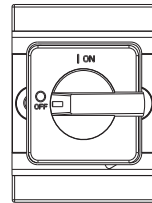
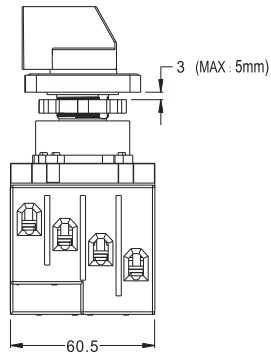
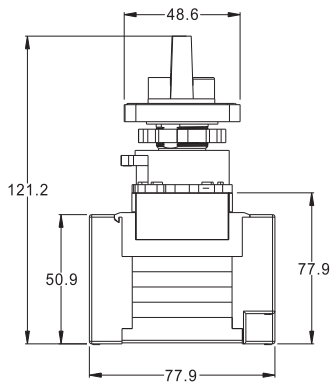
1.2-1.8

16 W

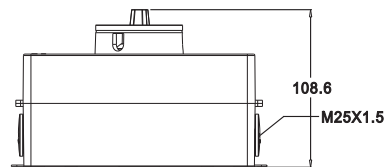
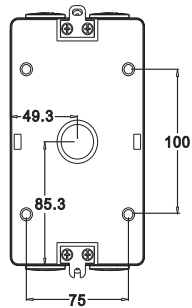
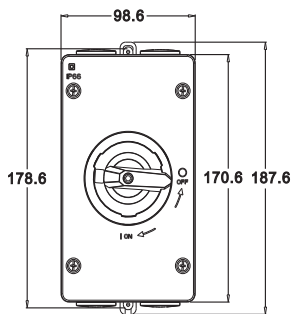
5 kA

1000 A

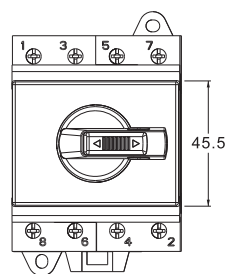
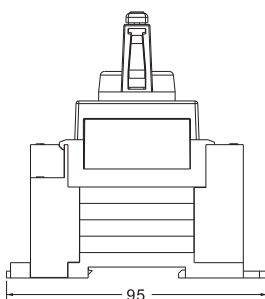
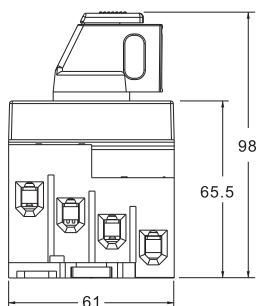
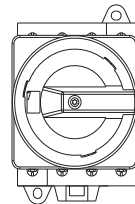
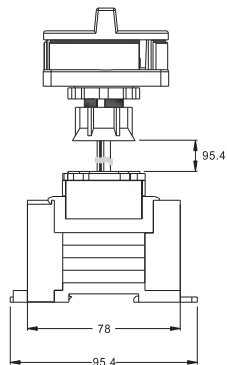
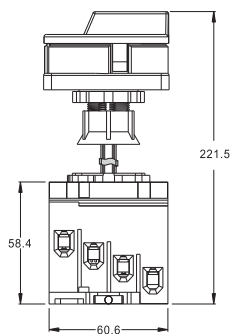
80 A



KSDC-..



KSDC-..T

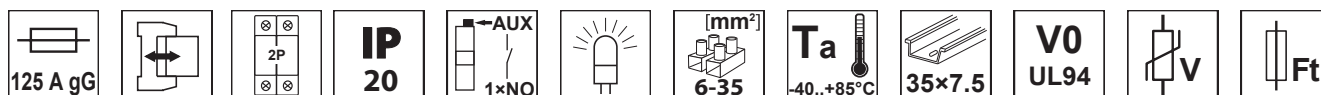


KSDC-..M



KSDC-..K

Type 2 surge arresters for DC (PV) networks



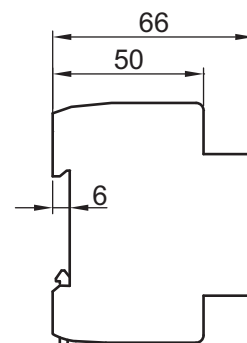
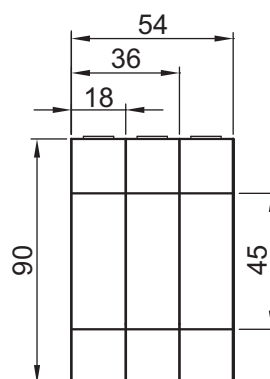
TRACON	xP	U _n	U _p	U _c	I _n L-N 8/20μs	I _{max} 8/20μs
TTV2-40-DC-600	2 P	600 V DC	3 kV	800 V DC	20 kA	40 kA
TTV2-40-DC-1000	2 P	1000 V DC	4 kV	1000 V DC	20 kA	40 kA

* codes of changeable inserts: **TTV2-40-DC-600-M** and **TTV2-40-DC-1000-M**



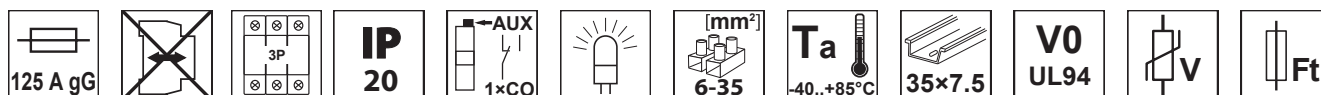
RELEVANT STANDARD
IEC 61643-1

RELEVANT STANDARD
EN 61643-11



The type 2 surge arresters are applicable to discharge overvoltage occurred by switch-type (8/20 μs wave-form) over-currents. The DC arresters were developed especially for direct current networks of photovoltaic (PV) systems. These protectors are modular types with changeable insert; the auxiliary contact is mounted to the base of device.

Type 1+2 combined lightning and surge arresters for DC (PV) networks

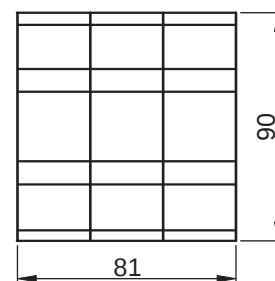
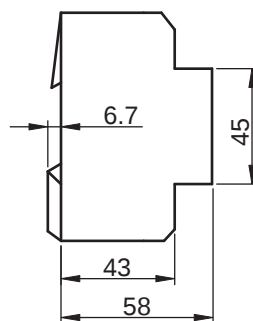


TRACON	xP	U _c	U _p	I _{imp} 1P 10/350μs	I _{max} 8/20μs
TTV1+2-100-3P	3 P	500 V DC	2.2 kV	8 kA	100 kA
TTV1+2-80-3P	3 P	500 V DC	2.2 kV	8 kA	80 kA



RELEVANT STANDARD
IEC 61643-1

RELEVANT STANDARD
EN 61643-11



If the rated voltage of the solar panel system is not over **500 V DC** or **420 V DC** level, the 1+2 arrester can equally be used for protection in DC networks (see page F/4).

The combined devices are applicable to arrest high energy current impulses (10/350 μs waveform) which can appear in one- or three-phase overhead lines by lightning and/or by discharge as well as overvoltage occurred by switch-type (8/20 μs wave-form) over-currents. These arresters have compact (block type) mounting form.

DC type MCB for direct current electric networks



U_{imp}
4 kV

10.000

2.500

IP
20

T_a
-20...+75 °C

[mm²]
6-35

35×7.5

V0
UL94



TRACON

U_e

I_{cm}
EN 60898-2

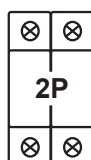
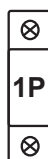
I_{cm}
EN 60947-2

DC-1C-..	500 V DC	110 V, 125 V, 220 V, 250 V	6 kA	10 kA
DC-2C-..	500 V DC	220 V, 250 V, 440 V, 500 V	6 kA	10 kA
DC-3C-..	1000 V DC	750 V	6 kA	10 kA
DC-4C-..	1000 V DC	1000 V	6 kA	10 kA

TRACON

I_n (A)

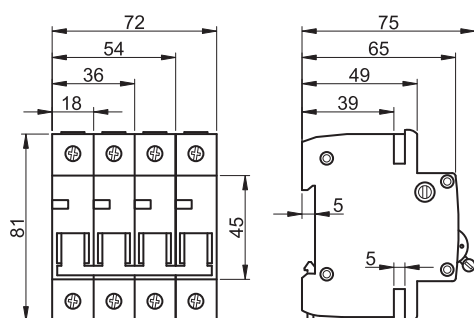
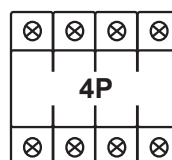
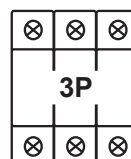
DC-1C-6	6
DC-1C-10	10
DC-1C-13	13
DC-1C-16	16
DC-1C-20	20
DC-1C-25	25
DC-1C-32	32
DC-1C-40	40
DC-1C-50	50
DC-1C-63	63
DC-2C-6	6
DC-2C-10	10
DC-2C-13	13
DC-2C-16	16
DC-2C-20	20
DC-2C-25	25
DC-2C-32	32
DC-2C-40	40
DC-2C-50	50
DC-2C-63	63



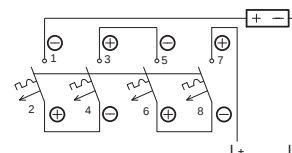
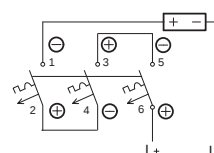
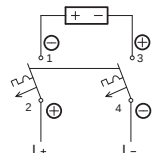
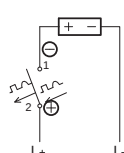
TRACON

I_n (A)

DC-3C-6	6
DC-3C-10	10
DC-3C-13	13
DC-3C-16	16
DC-3C-20	20
DC-3C-25	25
DC-3C-32	32
DC-3C-40	40
DC-3C-50	50
DC-3C-63	63
DC-4C-6	6
DC-4C-10	10
DC-4C-13	13
DC-4C-16	16
DC-4C-20	20
DC-4C-25	25
DC-4C-32	32
DC-4C-40	40
DC-4C-50	50
DC-4C-63	63



TÜV MEEI TEST DOCUMENTATION
28216230 001



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- Be updated

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Be up to date by our web page!

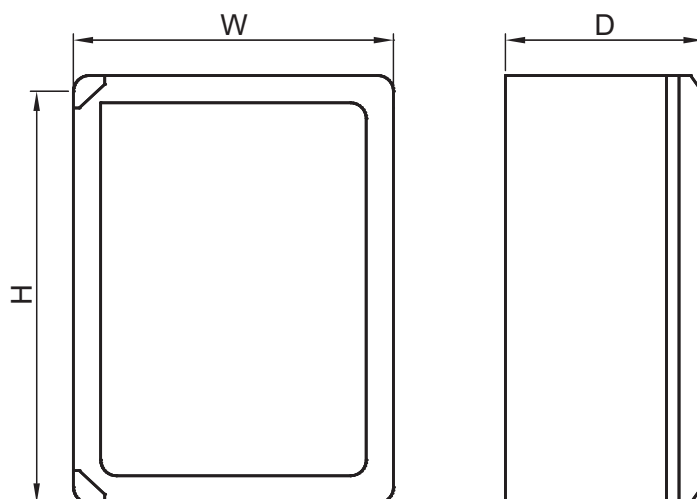
Plastic distribution boxes



TRACON				H (mm)	W (mm)	D (mm)	×17,5mm Σs	×17.5	N/PE
TME282113	TME282113T	TME282113M	TME282113MT	280	210	130	1 × 8	8	—
TME332513	TME332513T	TME332513M	TME332513MT	330	250	130	2 × 9	18	—
TME403017	TME403017T	TME403017M	TME403017MT	400	300	165	2 × 12	24	—
TME403020	TME403020T	—	—	400	300	195	—	—	—
TME504018	TME504018T	TME504018M	TME504018MT	500	400	175	3 × 17	51	—
TME604020	TME604020T	TME604020M	TME604020MT	600	400	200	4 × 17	68	—
TME705025	TME705025T	TME705025M	TME705025MT	700	500	245	4 × 22	88	—



TME-ZM



TRACON

TFE-ZM

- Lock with plastic body and metal lunge, to be rotated at 180°; The box's IP 65 degree of protection is maintained .
- Key: standard version

RELEVANT STANDARD
EN 62208

RELEVANT STANDARD
EN 60439-1



TME...
TME...M



TME...T



TME...MT

Terminal for solar panels



600/1000
V AC/DC

U_i
1 kV

I_n
max.
20 A

R
 $\geq 0.5 m\Omega$

V5/V0
UL94

$PC/PA6.6$

T_a
-40...+85°C

$[mm^2]$
1x4

UV

MC4

TRACON	L x Ø mm (+A)	L x Ø mm (-B)	IP..
SOLAR11-4AB	47.9 x 18.8	49.6 x 18.8	IP 68
SOLAR11-4N	60 x 18.8	60 x 18.8	IP 67

SOLAR11-4AB

RELEVANT STANDARD
EN 50521

SOLAR11-4N

RELEVANT STANDARD
IEC 61646

The solar panels can generally be connected to each other with their prepared and uniformed cable ends. The solar modules coupled this way have to be provided with DC wiring up to the inverter or up to the distribution board placed before the inverter. The terminal is equipped with cable gland (IP68 protection with full sealing) and with locknut. The terminal can be crimped with suitable tool and are available only in pairs.

As for the suitable crimping tool for the terminals: SOLAR11-PT. see on bottom of the page!

Crimping tool for solar panel terminals

TRACON	mm^2		m
SOLAR11-PT	2.5-6	270 mm	725 g / 1710 g



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- Check our new products
- Be updated

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Our catalogue shows the assortment of March 2016.
Be up to date by our web page!



TRACON APPLICATION



