

Description

The E-T-A DC-Disconnect PVDIS-... is a 2-pole track mountable disconnecter that has especially been designed for photovoltaics, meeting the requirements of IEC/EN 60947-3 for DC 1000 V and 30 A.

Features

- Designed explicitly for the photovoltaics market and its requirements.
- Suitable for the entire voltage and current range through hybrid technology (electromechanics + electronics)
 - Reliable 2-pole disconnection up to operating voltages of max. DC 1000 V and operating currents of max. 30 A
 - One product version and a low variety of options allow minimal stock-keeping and ensure low logistic complexity
 - Low switching energy ensures long endurance and a low-wear contact system
- Compact dimensions to DIN 43880 (l x w x h): 99 x 90 x 92.5 mm
- Ease of installation and termination through direct rail mounting with 16 mm² screw terminals for PV+ and PV-
- Maintenance-free, reliable and rugged design
- Lockable in OFF condition
- Ambient temperature -30 °C...+60 °C (-22 °F to +140 °F)
- Integral Fail-Safe function

Typical applications

The DC disconnect requested by standards [DIN VDE 0100-712 (VDE 0100-712) Low-voltage electrical installations - Part 7-712: Requirements for special installations or locations - Photovoltaic (PV) power systems (IEC 64/1736/CD:2010)] was designed for rail mounting and can therefore e.g. be installed in distribution boxes.

Relevant standards

Standard	rated voltage	current rating range
IEC/EN 60947-3	DC 1000 V	up to 30 A

NEW



DC-Disconnect PVDIS-...

Technical data (T_U = 25 °C, U_e = DC 1000 V)

Rated operational voltage (U _e)	DC 1000 V
Rated current (I _e)	up to 30 A
Number of poles	2-pole
Internal resistance	< 10 mΩ
Ambient temperature	-30 °C to +60 °C (-22 °F to +140 °F)
Method of operation	S – type
Protection class	operational area IP 30 terminal area IP 20
Operation mode	permanent
Utilisation category	DC-21A
Rated insulation voltage (U _i)	DC 1500 V
Rated impulse withstand voltage (U _{imp})	8 kV
Pollution degree	2
Overvoltage category	III
Insulation resistance	> 100 MΩ (DC 500 V)
Rated short-time withstand current (I _{cw})	400 A
Rated short-circuit making capacity (I _{cm})	400 A
Typical life to IEC/EN 60947-3	
mechanical typical life	8500 operations
electrical typical life	1500 operations at 1 x I _N , inductive
General data	
Fail-Safe-element	integral
Screw terminal	
thread	M 4
tightening torque	1.2 Nm
Max. cable cross sections	
rigid (single or multi-wired)	0.5 – 16 mm ²
flexible with wire end ferrule or with plastic sleeve	0.5 – 10 mm ²
flexible with TWIN-wire end ferrule	0.5 – 6 mm ²
cable cross section AWG	20 – 6
multi-conductor cables excluded	
Lock-out feature	
bracket diameter	padlock 4...6 mm
ratch	1.5 mm x 7.5 mm
Design to DIN 43880 (l x w x h)	99 x 90 x 92.5 mm
Mounting method	rail mounting to EN 50022-35x7.5

Technical data ($T_U = 25\text{ °C}$, $U_e = \text{DC } 1000\text{ V}$)

Vibration resistance (sinusoidal)

test to IEC 60068-2-6,
test Fc, 10 frequency cycles/axis
 $\pm 0.23\text{ mm}$ (10 – 57 Hz) and 3 g (57 – 500 Hz)

Shock

test to IEC 60068-2-27, test Ea
10 g (11 ms)

Corrosion

test to IEC 60068-2-11, test Ka
96 hrs. in 5 % salt mist

Humidity test

test to IEC 60068-2-78, test cab
96 hrs. in 95 % RH, temperature 40 °C (104 °F)

Temperature range

operation -30 °C up to +60 °C (-22 °F up to +140 °F)
storage -40 °C up to +60 °C (-40 °F up to +140 °F)

Mass approx. 370 g IEC version (2-pole)

Ordering information

Type

PVDIS DC-Disconnect for photovoltaics

Mounting method

T1 track-mountable (black enclosure blue toggle)

Version

01 2-pole, screw terminals, lock-out feature, actuator toggle

Voltage rating

DC 1000 V

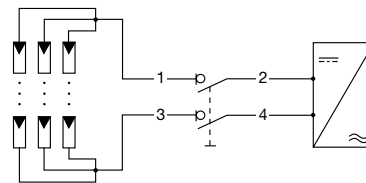
Current rating

30 A

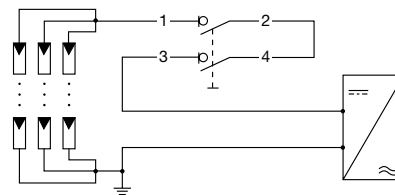
PVDIS - T1 01 - DC 1000 V - 30 A

Connection versions

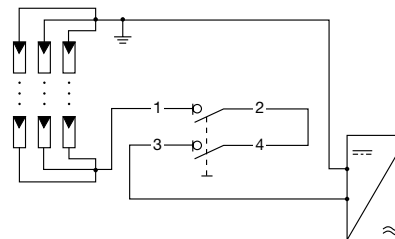
Ungrounded grid



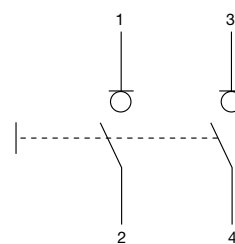
Grounded grid (minus grounded)



Grounded grid (plus grounded)

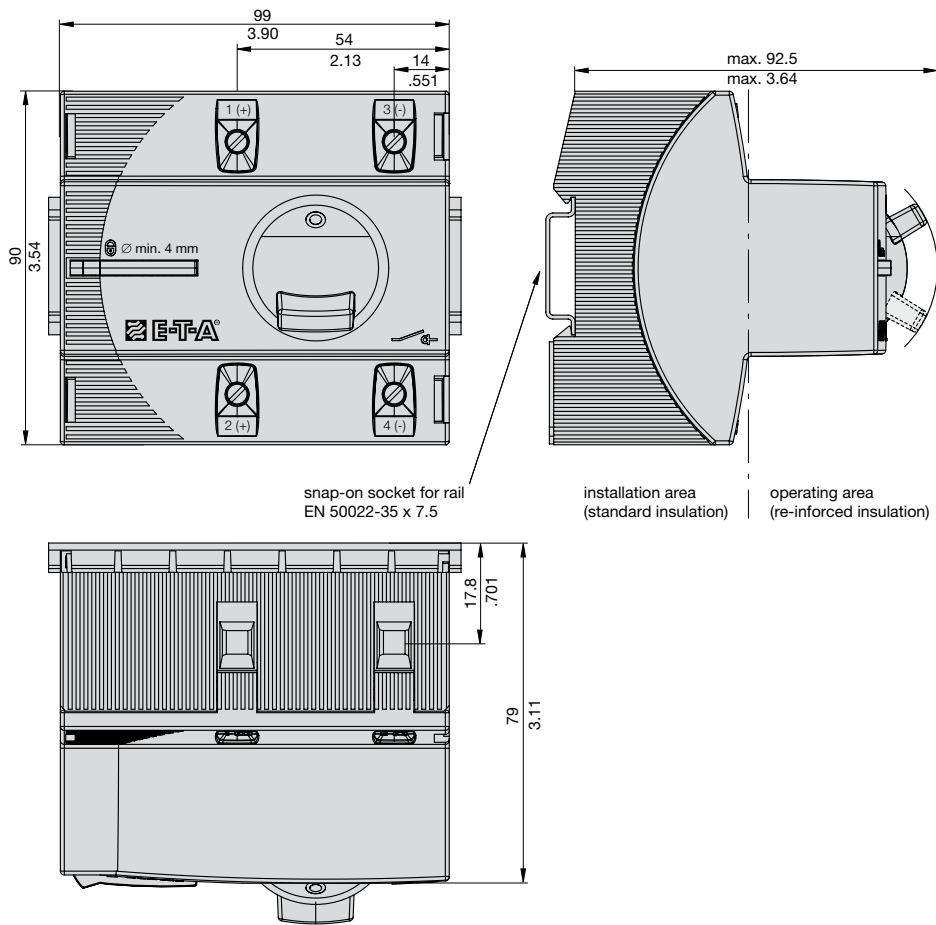


Schematic diagram



All dimensions without tolerances are for reference only. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.

Dimensions



Locking the toggle in OFF condition

