



HUBER+SUHNER SolarBox RH3

Junction box for photovoltaic modules

General information

HUBER+SUHNER is offering complete connectivity solutions for photovoltaic installations. With the new SolarBox RH3 the proven RADOX® quality is extended to the complete interconnection between the modules and the inverters. This ensures that the efficiency of the module can be fully utilised during the entire life cycle of the installation.

To ensure high efficiency of the complete system we use components with low electrical resistance to minimise power losses. All materials are environment friendly and comply with the RoHS regulation.

The HUBER+SUHNER RADOX® solar cables, connectors and solar boxes are specially designed and optimised to withstand the harsh environment and to maintain the high performance during the complete life time of the PV installation.

Photovoltaic junction box SolarBox RH3

The SolarBox RH3 is designed for high performance modules. Thanks to the unique design the module is protected from the occurring temperature increase in reverse mode. The thermal separation between the junction box and the module ensures high performance over the whole lifetime of the system (patent pending).

For easy handling the junction box is delivered as complete set according to the defined requirements. The SolarBox RH3 can easily be connected to the back of the module either manually or in a fully automated process. The ribbons are soldered to the contacts and afterwards sealed.



System features

- easy handling/quick assembly, safe glueing
- reliable, flat design with sealed housing
- snap on lid for duct with injection opening for potting
- small potting volume
- thermal separation between box and module (patent pending)
- lead free, RoHS conform
- excellent heat dissipation (away from the module)
- designed according to the new IEC 61215 and 61730 requirements
- Schottky diodes with low leakage current $\ll 100 \mu\text{A}$ (25 °C)

System benefit

- **low voltage drop through**
 - large conductor cross section
 - good contacting (welding) of wires
 - connectors with lamella spring contact
- typically 0.5 % more power output than other junction boxes
- defined glueing/sealing area for mounting on panel – distance pins and glue groove for controlled application and defined sealing gap
- quick, clean potting by direct injection; suited for automation
- reduction of handling and assembly time
- maintenance free during the complete life cycle
- recognised brand name for high quality

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Technical data

Electrical specifications	
Voltage rating	1000V DC
Voltage per string/diode	max. 35 V (other voltages on request)
Rated current	10.0 A
Test current	12.5 A according to IEC61215

Mechanical specifications	
Overall dimensions	129 x 94 x 16 mm (length x width x height)
Material of the box	PPE/PS flame-retardant V-0/5V
Number of terminals for ribbons	4
Size of copper ribbons	up to 6 mm (± 1 mm)
Distance axis / ribbons	12 mm
Contact carrier	0.4 mm CuSn 0.15; tin-plated 5 - 8 μ m
Contact principle for copper ribbons	soldering or resistant welding
Cable	2 x RADOX [®] SOLAR cable 4 mm ² , 1000 mm length (option solar cable RADOX [®] SolarLink and solar cable RADOX [®] SolarSMART)
Connectors	RADOX [®] SOLAR connectors 4mm ² with integrated twist locking
Strain relief cable	> 150 N

Environmental specifications	
Temperature range	-40 °C to +110 °C
Chemical resistance	UV and ozone resistant
Protective insulation	protection type II
Protection mode	IP 67
Comply with	DIN V VDE V 0126-5 (IEC 61730, IEC 61215, depending on PV-module, TÜV 2PFG 1162 07.2007)

HUBER+SUHNER is certified according to ISO 9001 and ISO 14001.

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It is exclusively in written agreements that we provide our customers with warrants and representations as to the technical specifications and/or the fitness for any particular purpose. The facts and figures contained herein are carefully compiled to the best of our knowledge, but they are intended for general informational purposes only.



HUBER+SUHNER AG
 Business Unit Wire+Cable
 CH-8330 Pfäffikon ZH
 Tel. +41 (44) 952 22 11
 Fax +41 (44) 952 26 70
 www.hubersuhner.com

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