Surge Protection Unit QSP431



The Vaisala Surge Protection Unit QSP431 is a compact device which provides heavy-duty protection for serial interface sensors.

Surge Protector and Connector

QSP431 provides effective protection for all lines connected to a serial sensor: both operating and heating voltage supplies and either RS-485 or RS-232 serial interface line.

In addition to protective functionality, QSP431 acts also as a connector unit between the weather station and the sensor cabling, eliminating no need for separate screw terminals.

All this comes in a 14-mm (0.55-in) wide package equipped with industry standard EN 60715 rail mount: 35-mm (1.38-in) DIN rail.

Suitable for Maritime Use

QSP431 is suitable to be used in maritime applications with requirements for 500 V chassis isolation [1]. Isolation is user-selectable by removing a single chassis connection screw.

Features

- All in one: protection for serial line and power lines in one unit
- Heavy-duty protection for serial interface sensors
- Industry standard EN 60715 rail mount

1) *In compliance with Lloyd's Register (LR) Type Approval System, Test Specification Number 1; 2002, Performance and Environmental Test Specification for the Environmentally Tested Products used in Marine and Offshore Applications, and Det Norske Veritas Standard for Certification No. 2.4; Environmental Test Specification for instrumentation and Automation Equipment, April 2006*

Technical Data

Operating Environment

Operating temperature	−40 ... +60 °C (−40 ... +140 °F)
Storage temperature	−60 ... +70 °C (−76 ... +158 °F)
Operating humidity	0 ... 100 %RH

Inputs and Outputs

Signal Line	2 lines (with common ground pin)
Maximum data rate	57 600 bps
Maximum voltage	±12 VDC
Maximum current	750 mA
Signal line series resistance	15 Ω
Power Line	2 lines (with common ground pin)
Maximum voltage	±32 VDC
Maximum current	3 A
Maximum surge current (IEC 61000-4-5 8/20 µs pulse), common and differential modes	3 kA

Mechanical Specifications

Dimensions (H × W × L)	74 × 14 × 62 mm (2.91 × 0.55 × 2.44 in)
Screw terminal connectors	6 pins with detachable plugs (2 pcs), pitch 3.81 mm (0.15 in)
Conductor Cross-sections	
Plain wire	0.14 ... 1.5 mm^2 (26 ... 16 AWG)
Wire with plastic collar, with ferrules	0.25 ... 0.5 mm^2 (24 ... 21 AWG)
Wire without collar, with ferrules	0.25 ... 1.5 mm^2 (24 ... 16 AWG)

Frame Isolation (Applicable Only When Chassis Screw Is Removed)

Nominal isolation voltage	500 V
Insulation resistance	> 10 MΩ
Protection breakdown voltage	700 V

Compliance

RoHS	2011/65/EU
WEEE	2012/19/EU
CE	CE compliant

CE

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