

Surge Protection Unit QSP431



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

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.

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.

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

