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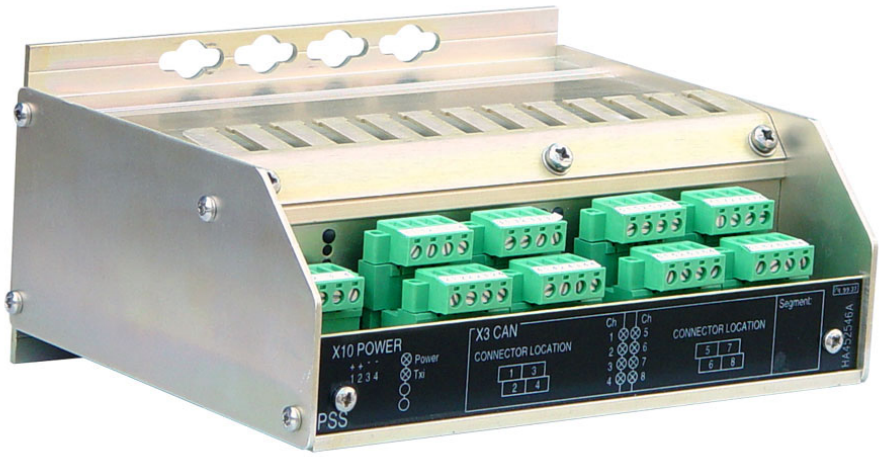
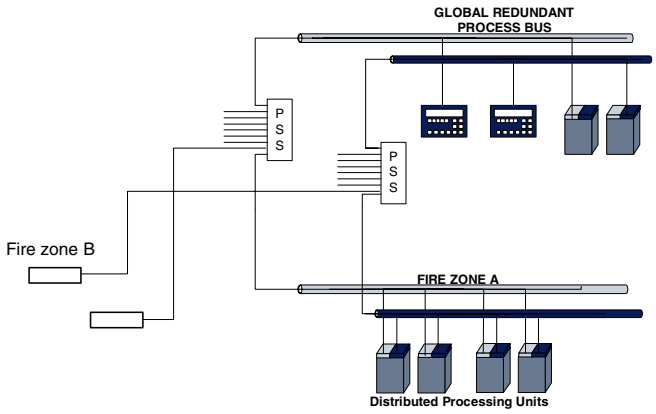
PSS
Process Segment Starcoupler



General description

CAN lines are vulnerable against short circuit and unterminated lines. A short-circuit or a broken line will disable the entire CAN segment. The PSS will protect two sections of a CAN segment from each other. A typical application is to protect CAN segments running across fire- or flod-zones.

Each terminal on the PSS is based on the ISO 11898 standard, with optical isolation. The PSS module also protects the terminals against dominant bits that are not part of a CAN message. Thus short-circuit or malfunction on one CAN terminal does not affect the other CAN terminals.



Principle for fire zone protection.

The maximum length of one CAN segment is 530m when the communication is running at 125kBaud. A segment going through a Process Star Coupler is limited to 515m. This length is the maximum line length between any two units in the CAN segment. The application in Fig. 2 is a typical application where the total line length of the CAN segment is more than 530m, but the length from the PSS to each dual Process Segment Controller (dPSC) is less than 250m. For this reason it is advised to use the PSS to split two sections of a process segment, where the segment is running through rough environment.

Each section of the CAN segment is terminated with a 120 ohm resistor. The PSS is not seen by the alarm system or any other software.

Functions

- Protection of sections in a single CAN segment
- Extension of bus topology

Features

- No configuration
- No serviceable parts
- All connections plugable
-

Specifications

Supply voltage:
18-32 VDC

Power Consumption:
Nominal 4 W Maximum 5 W

Ambient operational temperature:
Max. temp. range: –15°C to +70 °C
Max. rel. Humidity: 96% non-condensing

Mechanical environment:
Dnv class B
IACS E10 (allows direct mounting on engines, compressors, etc.)

EMC properties:
According IACS E10 EN60945

Ambient storage temperature:
-25°C to +70°C

Weight of module:
1 kg

Mounting:
Screws, 4 pcs M5

Connections, plugable screw terminals:
Power 1 terminal 2.5 mm^2
CAN bus A 8 terminals 2.5 mm^2

Specification:
Isolation power port:
50 VDC continuos 50 VAC 1 minute.

Isolation:
Power: Complete isolated (DC/DC converter)
CAN: Complete isolated (opto coupler)

CAN Compatible:
8 CAN interface channels. Using CAN controllers ISO/DIS 11898 high speed physical interface with optical isolation.

Type Approval:
DNV, LRS, BV, GL, RINA, NK, ABS, KR, PRS, MRS (Russia), CCS (China)

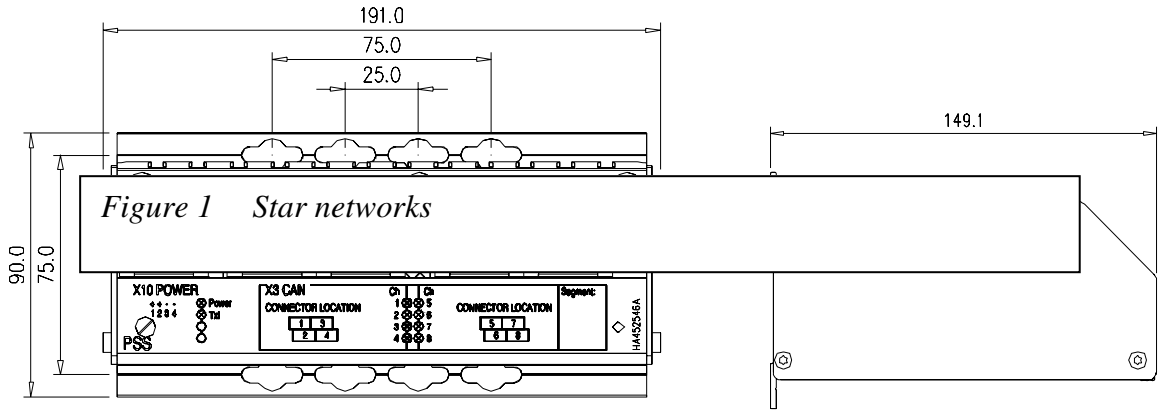


Figure 1 Star networks

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