

■ FS323

1 channel – SIL3 repeater power supply for 2, 3 or 4-wire transmitter

Description:

The module FS323 is a safety analog 4-20mA input module according to IEC 61508 which can be used in safety circuitry requiring SIL3 level. It provides a DC floating power supply for 2, 3 wire transmitters or accepts the transmitters with their own power supply, and repeats with accuracy after isolation the mA input signal.

The input / output mA conversion is monitored. In case of deviation upper than 5%, the FS323 module opens the output loop.

The Hart bi-directional communication pass through the module, from the input loop to the output loop.

To achieve the SIL3 level according to IEC 61508, a periodic test must be performed within an interval of one year.

Product options:

Option **ST**:FS323-**ST**: signal connected using Screw Terminals

Option **CCT**:FS323-**CCT**: signal connected using Cage Clamp or spring Terminals

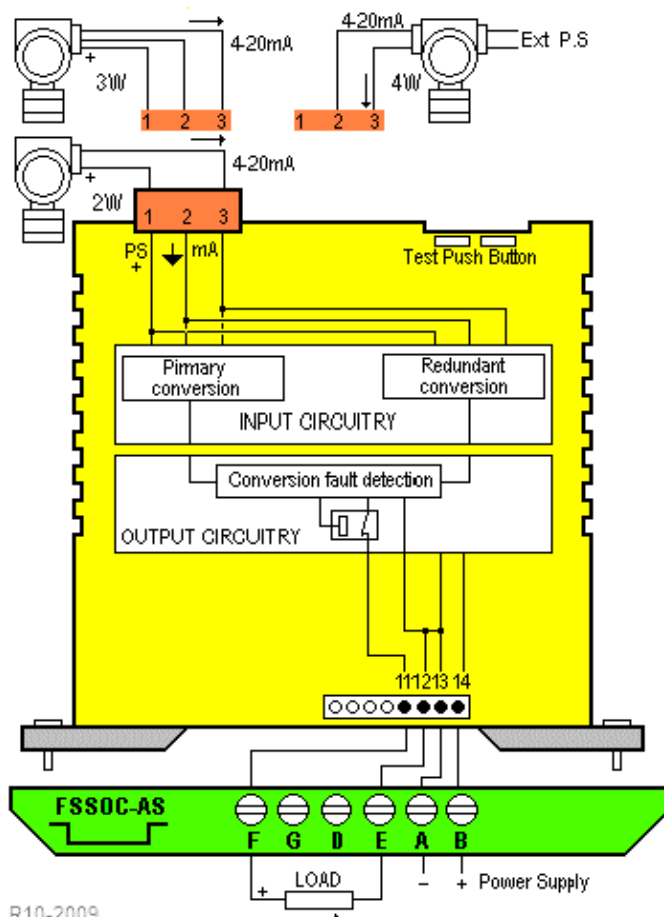
Main characteristics:

SIL3 Safety Relay according to IEC 61508.

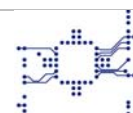
Safety mA loop application, where galvanic isolation is required.

DIN rail mounting, on individual socket or on termination panel modulo 16.

Slim version allowing high-density mounting and cabinet optimisation.



R10-2009



Technical specifications

Input characteristics:

Input mA range:	0 to 30mA
Input impedance for DC signal:	140 Ohms
Input impedance for Hart signal:	>250 ohms
Transmitter Power Supply at 20mA:	16V min with 24Vdc power supply module
Current limitation:	24.5mA +/-0.5mA

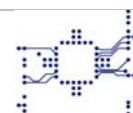
Output characteristics:

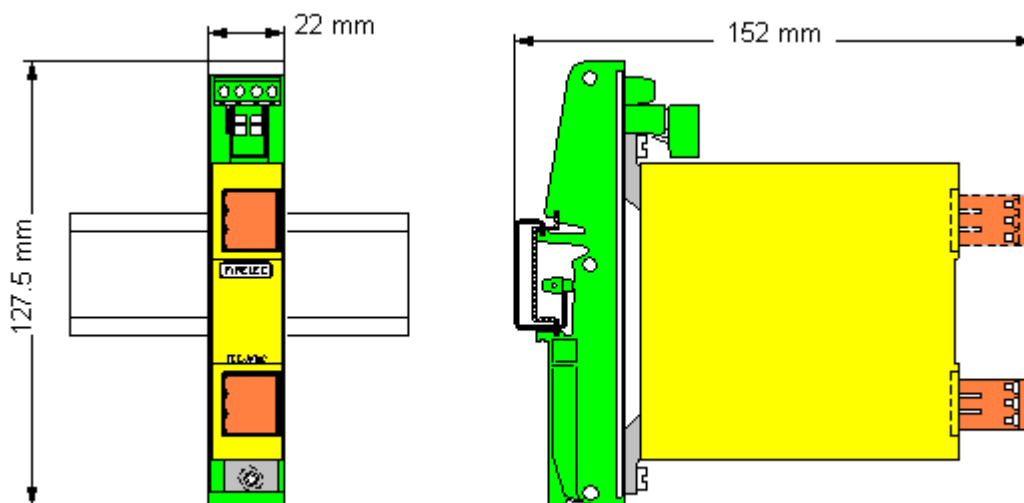
Current:	4-20mA
Low limit:	0.1mA (open input loop)
Max load at 24Vdc power supply:	450 ohms with 20mA output current
Accuracy at 20°C:	Better than 0.15%
Response time Input / Output:	90% of the value of input signal within 120ms
Deviation input loop / output loop:	If >5%, the output loop is open. Indicated by red led.

General characteristics:

Module Voltage range:	21Vdc à 28Vdc
Power ON indication:	By green Led on front plate
Consumption at 24Vdc:	120 mA at 20mA output
Replaceable fuse:	160mA
Operating temperature:	-10°C to +60°C
Storage temperature:	-20°C to +60°C
Drift:	0.01%/°C
Relative humidity:	10 to 90% (non condensed)
Protection:	IP20
Isolation voltage Input / Output	1500Vdc
Dimensions (W x H x D):	16mm x 85mm x 95 mm without front connector 16mm x 85mm x 120 mm with front connector
Weight:	100g
Transmitter connection:	1 et 3 for 2-wire transmitter 1, 2 et 3 for 3-wire transmitter 2 et 3 for 4-wire transmitter
Wiring conductor section:	Option ST: 24 to 12 AWG (0.2 to 2.5 mm ²) Option CCT: 24 to 12 AWG (0.2 to 2.5 mm ²)
Mounting:	<u>DIN rail</u> : panel modulo 16 type FS-61508-16 or type FS-61508-Mxx (see panel documentation) or individual socket type FSSOC-AS.

Bureau Veritas approved.



Socket for individual mounting on DIN rail

FS323 installed on FSSOC-AS socket
Individual socket characteristics

Reference of individual socket:	FSSOC-AS
Power Supply connection:	Screw Terminal B (+) and A (-) AWG 14 to 26 or 0.14 to 1.5mm ²
Fuse protection on power supply:	1A
Protection:	Against over voltage and reverse polarity
Output connection:	Screw terminals F (+) and E (-) AWG 14 to 26 or 0.14 to 1.5mm ²

Periodic test:

To achieve the SIL3 level according to IEC61508, a periodic test must be performed within an interval of one year.

To perform the test, proceed as follow:

Remove the female transmitter connector. The output mA must go downscale at 0mA and check that it is well indicated to the safety system.

Short-circuit the pin 1 and 3 of the male transmitter connector. The output mA must go upscale at 25mA and check that it is well indicated to the safety system.

Plug the female transmitter connector in place.

Press the pushbutton BP1 in front place, and check that the Red led DC1 goes ON. The mA output loop opens. Check that it is well indicated to the safety system.

Push the pushbutton BP2 in front place, and check that the Red led DC2 goes ON. The mA output loop opens. Check that it is well indicated to the safety system.

If the FS323 module does not pass the periodic test, return the faulty module to FIRELEC for general FS series product management.

