Honeywell

Safety Manager
Hardware Reference

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TSGAS-1624

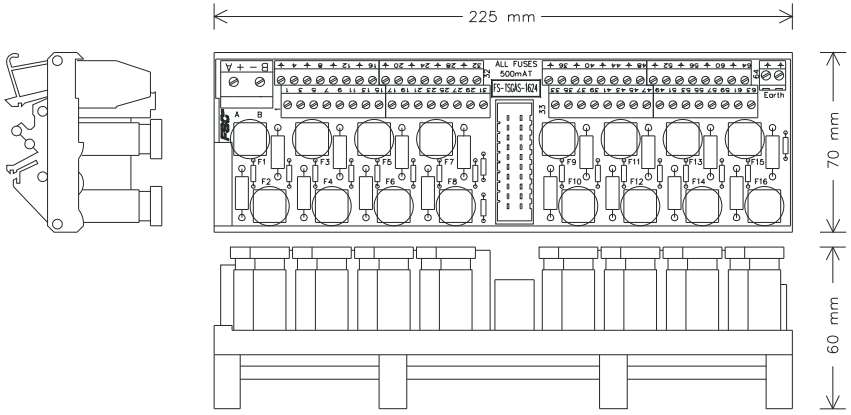
Safe gas / flame detector input FTA (0-20 mA, 16 channels)

Description

The field termination assembly module TSGAS-1624 is the interface between gas/flame detectors in the field and the safe high-density analog input module SAI-1620m in Safety Manager. The TSGAS-1624 module has sixteen analog input channels which may be used for both safety-related and non-safety-related applications. The TSGAS-1624 module uses a SICC-0001/Lx system interconnection cable to transfer the 16 input signals to a (redundant pair of) SAI-1620m module(s).

The FTA module has a universal snap-in provision for standard DIN EN rails, and screw terminals for connection of power supply, ground and field wiring.

Figure 331 Mechanical layout



Main functions

The TSGAS-1624 module has three main functions:

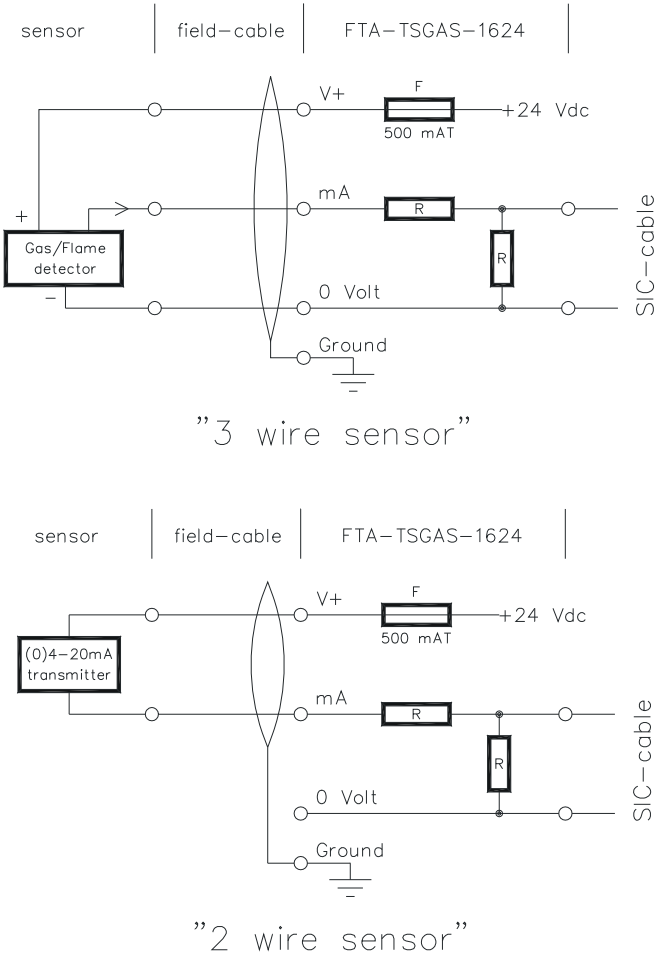
- Linear direct conversion of 0(4)—20 mA DC field signals to the signal levels of the safe high-density analog input module SAI-1620m
- Power supply distribution to each transmitter (500 mAT fused)
- Enable monitoring of the external power connected to the TSGAS-1624 module

Linear direct conversion

The input circuit of each channel consists of a high-precision resistor which converts the input current (0—20 mA) to the input voltage for the high-density analog input module SAI-1620m. The power to the analog transmitter is fused (500 mAT) per channel. Each analog input has its own terminal for the field cable shield.

Figure 332 on page 553 shows the schematic diagram for connecting a transmitter (active and passive).

Figure 332 Schematic diagram for connecting a transmitter



External power

External power can be connected to the TSGAS-1624 module via the power screw terminal pair marked ‘A’ and ‘B’.

Note

The 0 V connection of the external power is directly connected to the common 0 V of all sixteen analog inputs.

The Safety Manager software can monitor the external power voltage via the safe high-density analog input module SAI-1620m.

Applications

For details on applications and connection options for the TSGAS-1624 module, see section “SICC-0001/Lx” on page 715.

Connections

External power and ground

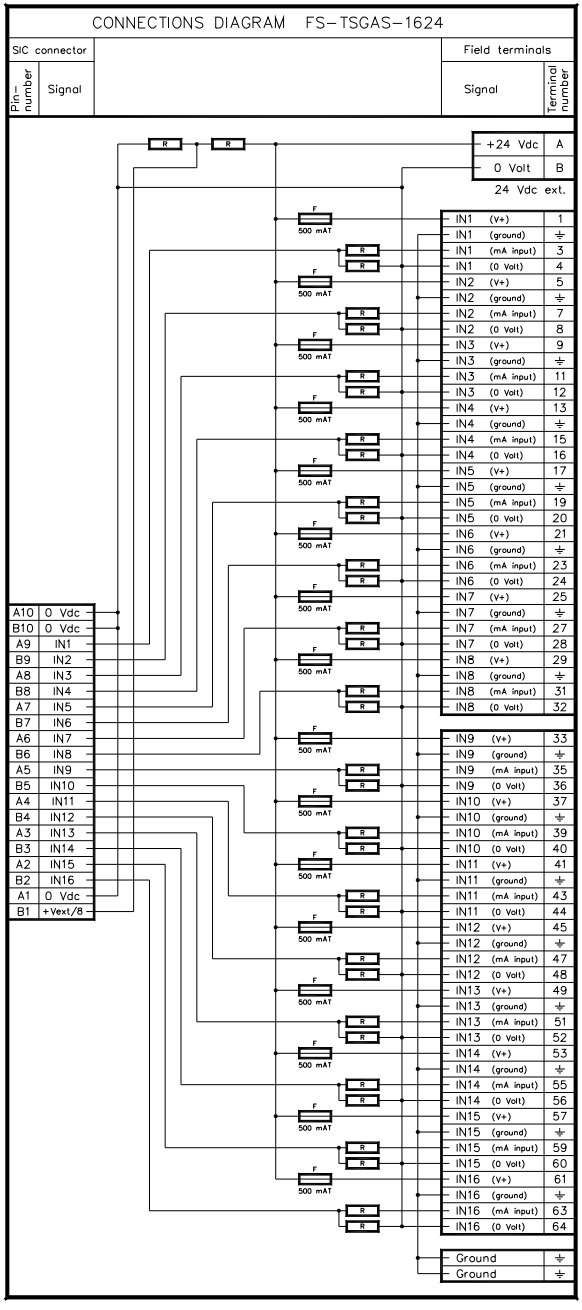
The external supply voltage (Vext) and ground are connected to the following screw terminals (marked ‘A’ and ‘B’ and ‘⏚’ on the FTA):

Screw terminal	Function
A	24 Vdc Vext
B	0 Vdc Vext
⏚	Ground connection
⏚	Ground connection (1 ground wire is enough)

Connections diagram

The TSGAS-1624 module has sixteen groups (= sixteen channels) of four screw terminals to provide optimum connection of field wiring, with a ground terminal per channel for screening of analog input cables. The screw terminals are numbered 1 to 64. The connections diagram of the TSGAS-1624 module is as follows:

Figure 333 Connections diagram



Technical data

The TSGAS-1624 module has the following specifications:

General	Type numbers[1] :	FS-TSGAS-1624
		FC-TSGAS-1624
	Approvals:	CE, TUV, UL, CSA, FM
Input	Number of input channels:	16 (with common 0 V)
	Power requirements:	24 Vdc external, 3 mA (without field loads)
	Input current:	0—25 mA
	Input resistance:	500 Ω (± 5%)
Output	To SAI-1620m module:	
	• Output voltage	0—4 Vdc
	• Accuracy	0.1%
Fuses	Rating:	500 mAT (slow-acting)
	Dimensions:	5 × 20 mm (0.20 × 0.79 in)
Physical	Module dimensions:	225 × 70 × 60 mm (L × W × H) 8.86 × 2.76 × 2.36 in (L × W × H)
	DIN EN rails:	TS32 / TS35 × 7.5
	Used rail length:	226 mm (8.90 in)
Termination	Screw terminals:	
	• Max. wire diameter	2.5 mm² (AWG 14)
	• Strip length	7 mm (0.28 in)
	• Tightening torque	0.5 Nm (0.37 ft-lb)
	Power screw terminals (A, B):	
	• Max. wire diameter	16 mm² (AWG 8)
	• Strip length	7 mm (0.28 in)
	• Tightening torque	1.2 Nm (0.88 ft-lb)

1 FS-type modules are non conformal coated modules.
FC-type modules are conformal coated modules. Conformal coated modules have the letters "CC" preceding the version number.