



FS-TSGAS-1624 Fail-safe Gas -Flame detector input FTA (0 - 20 mA, 16 channels) (FTA-T-18)

Description

The field termination assembly module FS-TSGAS-1624 is the interface between gas/ flame detectors in the field and the fail-safe high-density analog input module 10105/2/1 in the FSC system.

The FS-TSGAS-1624 module has sixteen analog input channels which may be used for both safety-related and non-safety-related applications. The FS-TSGAS-1624 module uses a SIC-C-12 system interconnection cable to transfer the 16 input signals to a (redundant pair of) 10105/2/1 module(s).

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

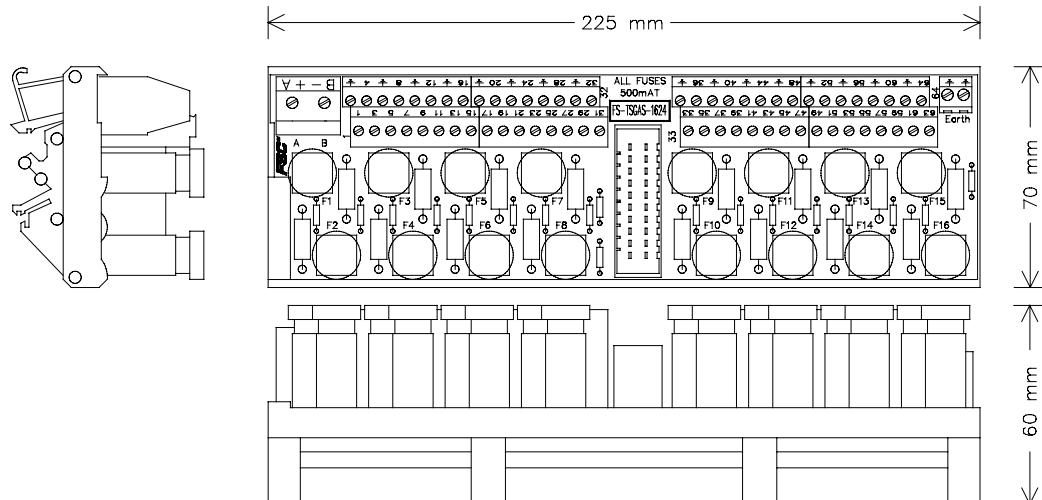


Figure 1 Mechanical layout

Main functions

The FS-TSGAS-1624 module has three main functions:

- linear direct conversion of 0(4)-20 mA DC field signals to the signal levels of the fail-safe high-density analog input module 10105/2/1,
- power supply distribution to each transmitter (500 mA fused),
- enable monitoring of the external power connected to the FS-TSGAS-1624 module.

Linear direct conversion

The input circuit of each channel consists of a high-precision resistor which converts the input current (0 to 20 mA) to the input voltage for the high-density analog input module 10105/2/1. The power to the analog transmitter is fused (500 mA) per channel. Each analog input has its own terminal for the field cable shield.

Figure 2 below shows the schematic diagram for connecting a transmitter (active and passive).

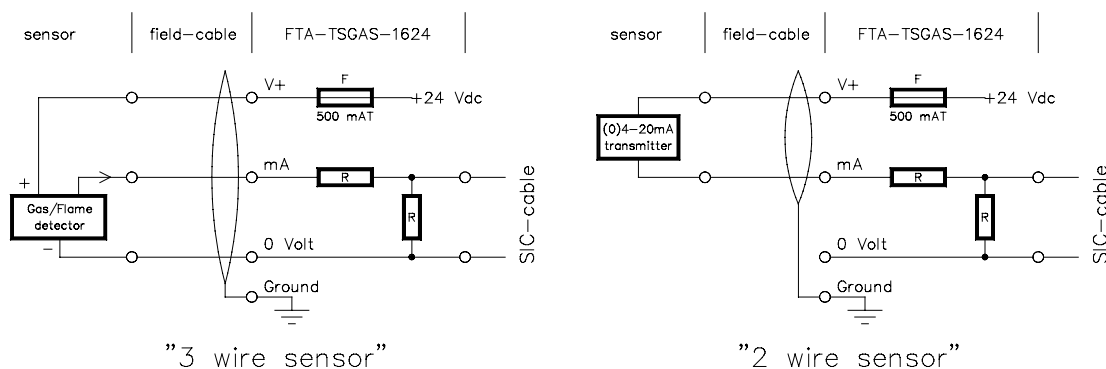


Figure 2 Schematic diagram for connecting a transmitter



External power

External power can be connected to the FS-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 FSC software can monitor the external power voltage via the fail-safe high-density analog input module 10105/2/1.

Applications

For details on applications and connection options for the FS-TSGAS-1624 module refer to the 'SIC to FTA applications' data sheet.

Connections

External power and ground

The external supply voltage (V_{ext}) and ground are connected to the following screw terminals (marked 'A' and 'B' and '/' on the FTA):

Screw terminal	Function
A	24 Vdc V_{ext}
B	0 Vdc V_{ext}
<u>/</u>	Ground connection
<u>/</u>	Ground connection (1 ground wire is enough)

Connections diagram

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



Connections diagram

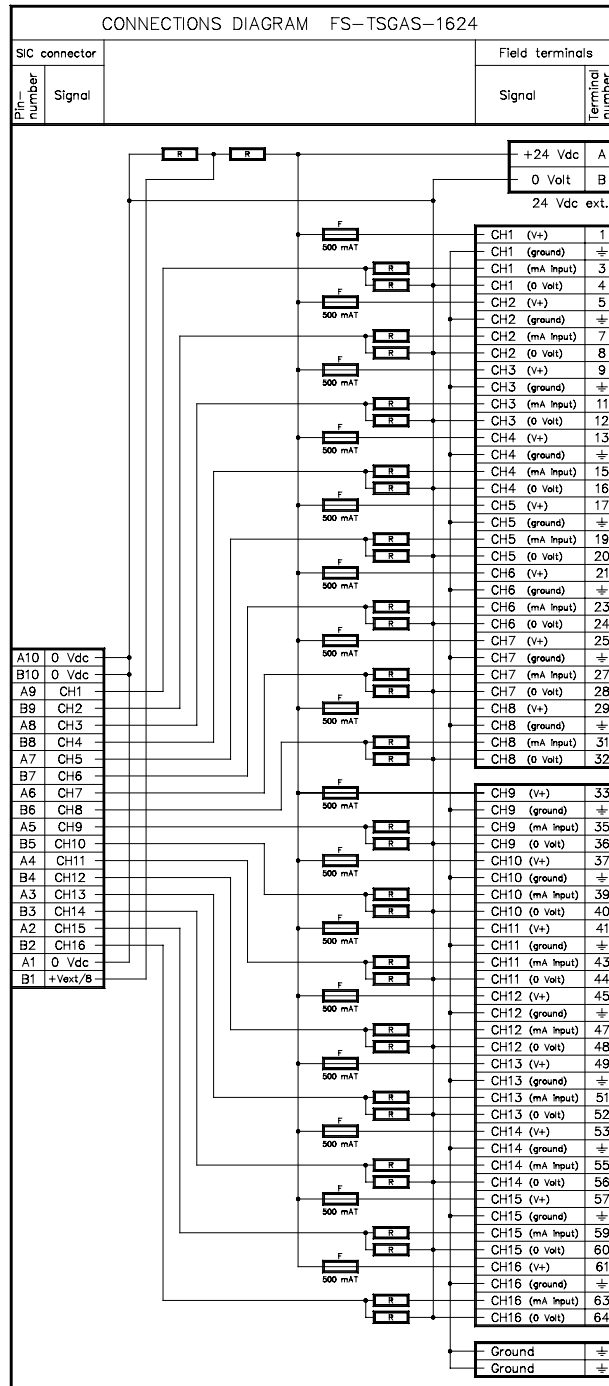


Figure 3 Connections diagram



Technical data

The FS-TSGAS-1624 module has the following specifications:

General	Type number:	FS-TSGAS-1624
	Approvals:	CE; TÜV, UL approvals pending
Input	Number of input channels:	16 (with common 0 V)
	Power requirements:	24 Vdc external 3 mA (without field loads)
	Input current:	0 to 25 mA
	Input resistance:	500 Ohm ($\pm 5\%$)
Output	To 10105/2/1 module:	
	– output voltage	0 to 4 Vdc
	– accuracy	0.1%
Fuses	Rating:	500 mAT (slow-acting)
	Dimensions:	5 x 20 mm (0.20 x 0.79 in)
Physical	Module dimensions:	225 x 70 x 60 mm (L x W x H) 8.86 x 2.76 x 2.36 in (L x W x H)
	DIN EN rails:	TS32 / TS35 x 7.5
	Used rail length:	226 mm (8.90 in)
Termination	Screw terminals:	
	– max. wire diameter	2.5 mm ² (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 mm ² (AWG 8)
– strip length	7 mm (0.28 in)	
	– tightening torque	1.2 Nm (0.88 ft-lb)