Honeywell

Fail Safe Control
Hardware Manual

Revision 07

FS02-500

01/2003

Table 4 Obsolete cables (continued)

Obsolete Module		Replaced by Module (pin-compatible)		Alternative Module (same functionality)	
Model ID	Description	Model+Suffix	Part No.	Type	Part No.
SIC-P-04	System interconnection cable terminating on crimp pins	SIC-P-12	–	–	–
SIC-P-05	System interconnection cable terminating on crimp pins	SIC-P-12	–	–	–
SIC-P-07	System interconnection cable terminating on crimp pins	SIC-P-12	–	–	–
SIC-P-08	System interconnection cable terminating on crimp pins	SIC-P-12	–	–	–
SIC-P-09	System interconnection cable terminating on crimp pins	SIC-P-12	–	–	–
SIC-P-11	System interconnection cable terminating on crimp pins	SIC-P-12	–	–	–

FTAs

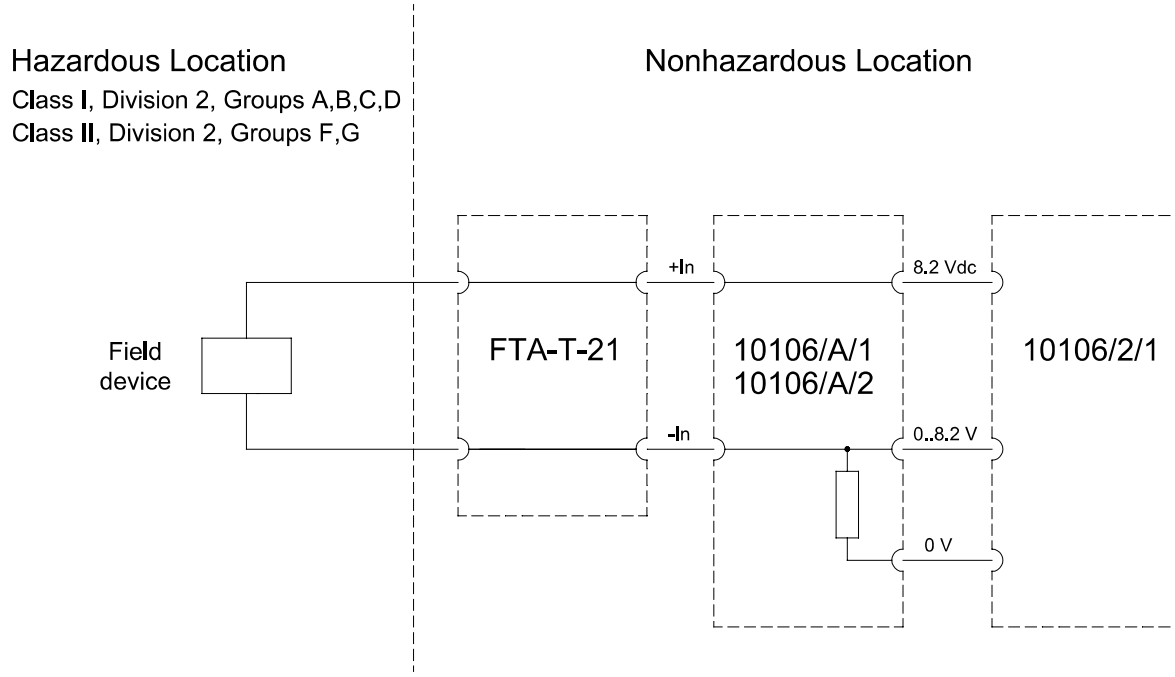
Table 5 below lists the FTAs that were withdrawn in June 1999.

Table 5 Obsolete FTAs

Obsolete Module		Replaced by Module		Alternative Module	
Model ID	Description	Model+Suffix	Part No.	Type	Part No.
FTA-T-01	Fail-safe digital input FTA (24/48/60 Vdc, 24 channels)	none	–	FTA-T-21	3410724
FTA-T-06	Fail-safe active digital input FTA (115 Vac, 8 channels)	none	–	FTA-T-29	3410726
FTA-T-07	Fail-safe passive digital input FTA (115 Vac, 8 channels)	FTA-T-29	3410726	–	–
FTA-T-10	Digital output (relay contact) FTA (8 channels)	none	–	FTA-T-20	3410723
FTA-T-13	Current-limited digital input FTA (24 Vdc, 16 channels)	none	–	FTA-T-23	3410725

Hazardous locations (FM 3611)

To use the 10106/2/1 digital input module in non-hazardous areas for non-incendive field circuits Division 2 locations in compliance with FM 3611 (Class I, Division 2, Groups ABCD; Class II, Division 2, Groups FG), the module must be connected to the passive field device via an FTA-T-21 and a 10106/A/1 or 10106/A/2 signal converter as indicated in Figure 4. The field devices, including field wiring, must adhere to the capacitance and inductance levels as given in Figure 4.



Non-Incendive Field Wiring Parameters:

Voc (V)	ISC (mA)	Gas Groups	Ca (µF)	La (mH)
8.66	230	A and B	11.00	0.66
		C	60.70	6.87
		D, F and G	181.86	13.04

Figure 4 Connection of input in hazardous locations

Considerations for FM approval

Please note the following constraints that are required for FM approval:

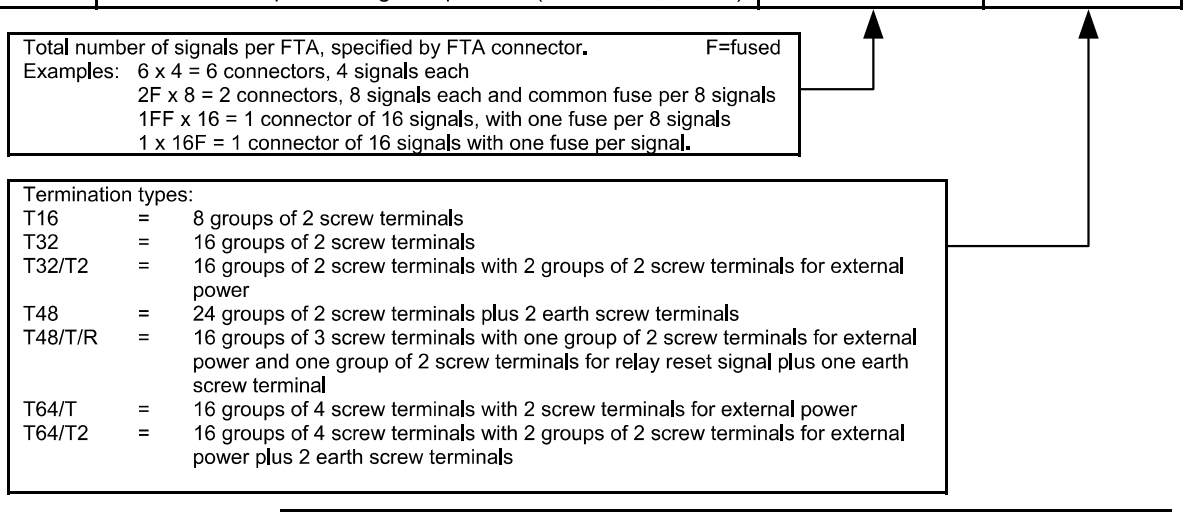
1. No revisions to drawings may be carried out without prior FMRC approval.
2. The Non-Incendive Field Wiring Parameter Concept allows interconnection of Non-Incendive Apparatus with Associated Non-Incendive Apparatus not specifically examined in

FTA-T characteristics for field inputs

FTA-T modules are field termination assemblies (FTAs) fitted with screw terminals to connect field wires directly. They are the interface between system interconnection cables (SICs) and the external field wiring. Table 3 below lists the available FTA-T modules for field inputs with their main characteristics:

Table 3 Available FTA-T modules for field inputs

FTA type	Description	FTA connector x channels	Termination type
FTA-T-02	FTA with screw terminals (24 channels)	6 x 4	T48
FTA-T-12	Passive isolated digital input FTA (8 channels)	1 x 8	T16
FTA-T-14	Fail-safe 0(4)-20 mA analog input FTA (16 channels)	1FF x 16	T64/T2
FTA-T-15	24 Vdc to 30 Vdc/1 A converter	–	–
FTA-T-16	Fail-safe active digital input FTA with line-monitoring (16 channels)	1 x 16	T32/T2
FTA-T-18	Fail-safe Gas-Flame detector input FTA (0-20 mA, 16 ch.)	1 x 16F	T64/T
FTA-T-19	Fail-safe fire detector input FTA with line monitoring (24 Vdc, 16 channels)	1 x 16	T48/T/R
FTA-T-21	Fail-safe digital input FTA (24/48/60 Vdc, NAMUR, 16 ch.)	1FF x 16	T32
FTA-T-23	Current-limited digital input FTA (24 Vdc, 16 channels)	1FF x 16	T32
FTA-T-29	Fail-safe active/passive digital input FTA (115 Vac/dc, 16 ch.)	1 x 16	T64/T

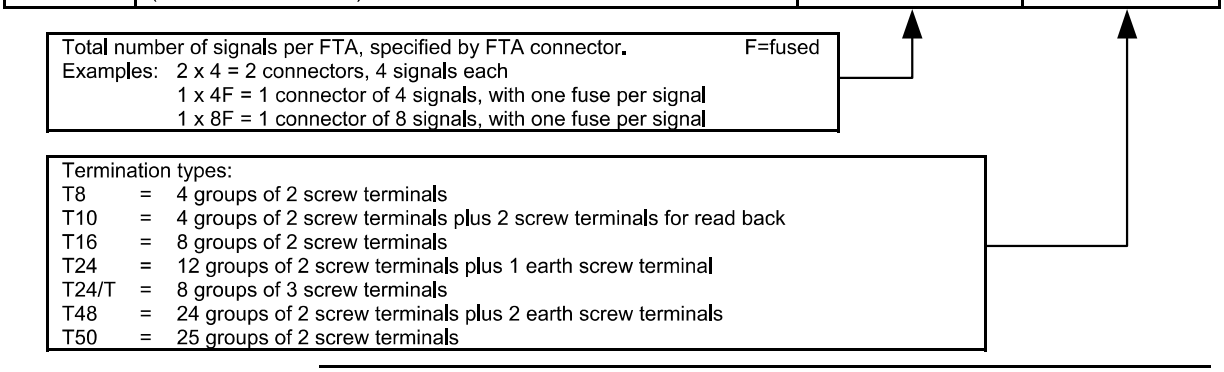


FTA-T characteristics for field outputs

FTA-T modules are field termination assemblies (FTAs) fitted with screw terminals to connect field wires directly. They are the interface between system interconnection cables (SICs) and the external field wiring. Table 4 below lists the available FTA-T modules for field outputs with their main characteristics:

Table 4 Available FTA-T modules for field outputs

FTA type	Description	FTA connector x channels	Termination type
FTA-T-02	FTA with screw terminals (24 channels)	6 x 4	T48
FTA-T-03	FTA with screw terminals (24 channels)	3 x 8	T48
FTA-T-04	FTA with screw terminals (25 channels)	5 x 5	T50
FTA-T-05	FTA with screw terminals (12 channels)	6 x 2	T24
FTA-T-08	Fail-safe digital output (relay) FTA (4 channels)	1 x 4F	T10
FTA-T-11	FTA with screw terminals (8 channels)	2 x 4	T16
FTA-T-17	Digital output (relay) FTA for AK 5/6 applications (4 channels)	1 x 4F	T8
FTA-T-20	Digital output (relay contact) FTA (8 channels, NO/NC)	1 x 8F	T24/T
FTA-T-35	Fail-safe digital output FTA, current limited (24 Vdc, 8 channels)	1 x 8	T16
FTA-T-36	Fail-safe digital output FTA, current limited (24 Vdc, 4 channels)	1 x 4	T8

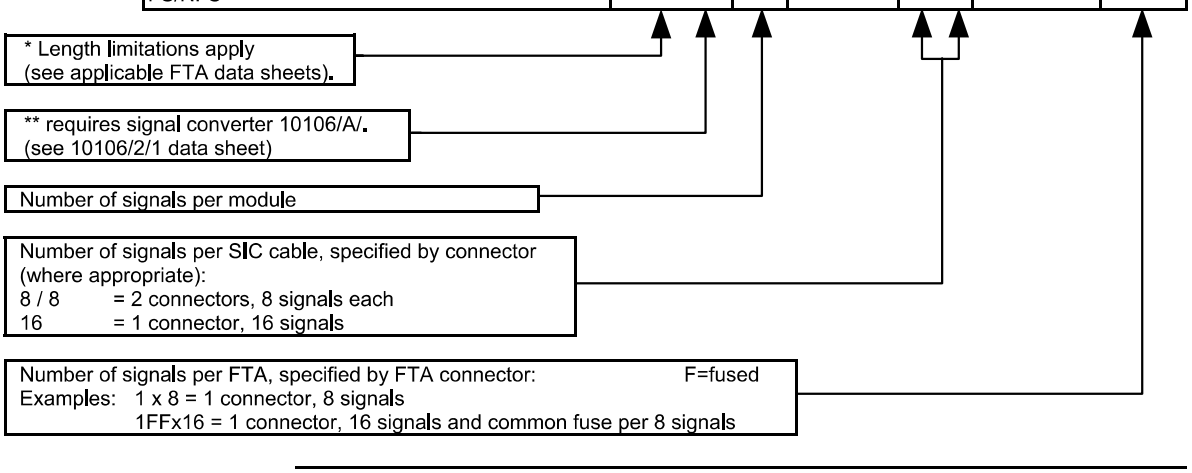


Selection table for digital field inputs

Table 5 is an aid in determining which combinations of FSC input modules, FTAs and SIC cables can be used depending on the characteristics of the digital field input signal. Modules, SIC cables and FTAs support different numbers of channels, depending on the field signal characteristics.

Table 5 Selection table for digital field inputs

Digital input signal characteristic	Module		SIC cable	A	B	Terminal FTA (FTA-T)	
Digital Input, 24 Vdc, int. power, FS/NFS	10101/2/1	16	SIC-C-12	16		FTA-T-21	1FFx16
Digital Input, 24 Vdc, ext. power, NFS	10101/2/1	16	SIC-C-07	8	8	FTA-T-12	1x8
Digital Input, 24 Vdc, int. power, FS/NFS, current-limited	10101/2/1	16	SIC-C-12	16		FTA-T-23	1FFx16
Digital Input with LM, int. power, FS/NFS	10106/2/1**	16	SIC-C-12	16		FTA-T-21	1FFx16
NAMUR Digital Input with LM, 24 Vdc, int. power, FS/NFS	10106/2/1**	16	SIC-C-12	16		FTA-T-21	1FFx16
Digital Input, 48 Vdc, int. power, FS/NFS	10101/2/3	16	SIC-C-12	16		FTA-T-21	1FFx16
Digital Input, 60 Vdc, int. power, FS/NFS	10101/2/2	16	SIC-C-12	16		FTA-T-21	1FFx16
Digital Input, 115 Vac/dc, int./ext. power, FS/NFS*	10101/2/1	16	SIC-C-12	16		FTA-T-29	1x16



FTA-T-21 Fail-safe digital input FTA (24/48/60 Vdc, NAMUR, 16 channels)

Description

The field termination assembly module FTA-T-21 is the interface between a system interconnection cable (SIC) and the external field wiring (screw terminals).

Sixteen channels (separated into two groups of eight channels with a 250 mA fuse in the common +) can be connected to the FTA-T-21 module via a system interconnection cable (SIC). This cable is plugged into the SIC connector on the FTA module.

The FTA module has a universal snap-in facility for standard DIN EN rails, and screw terminals for connecting field wiring.

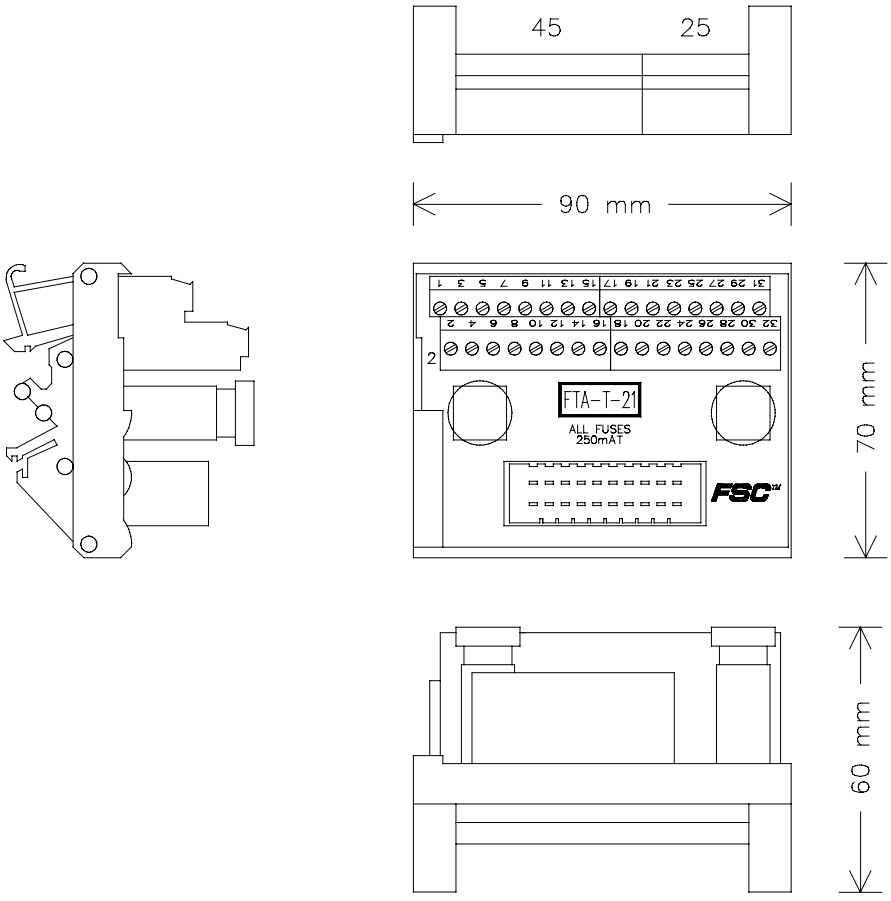


Figure 1 Mechanical layout

Applications

For details on applications and connection options for the FTA-T-21 module refer to the 'SIC to FTA applications' data sheet.

Connections

The connections diagram of the FTA-T-21 module is as follows:

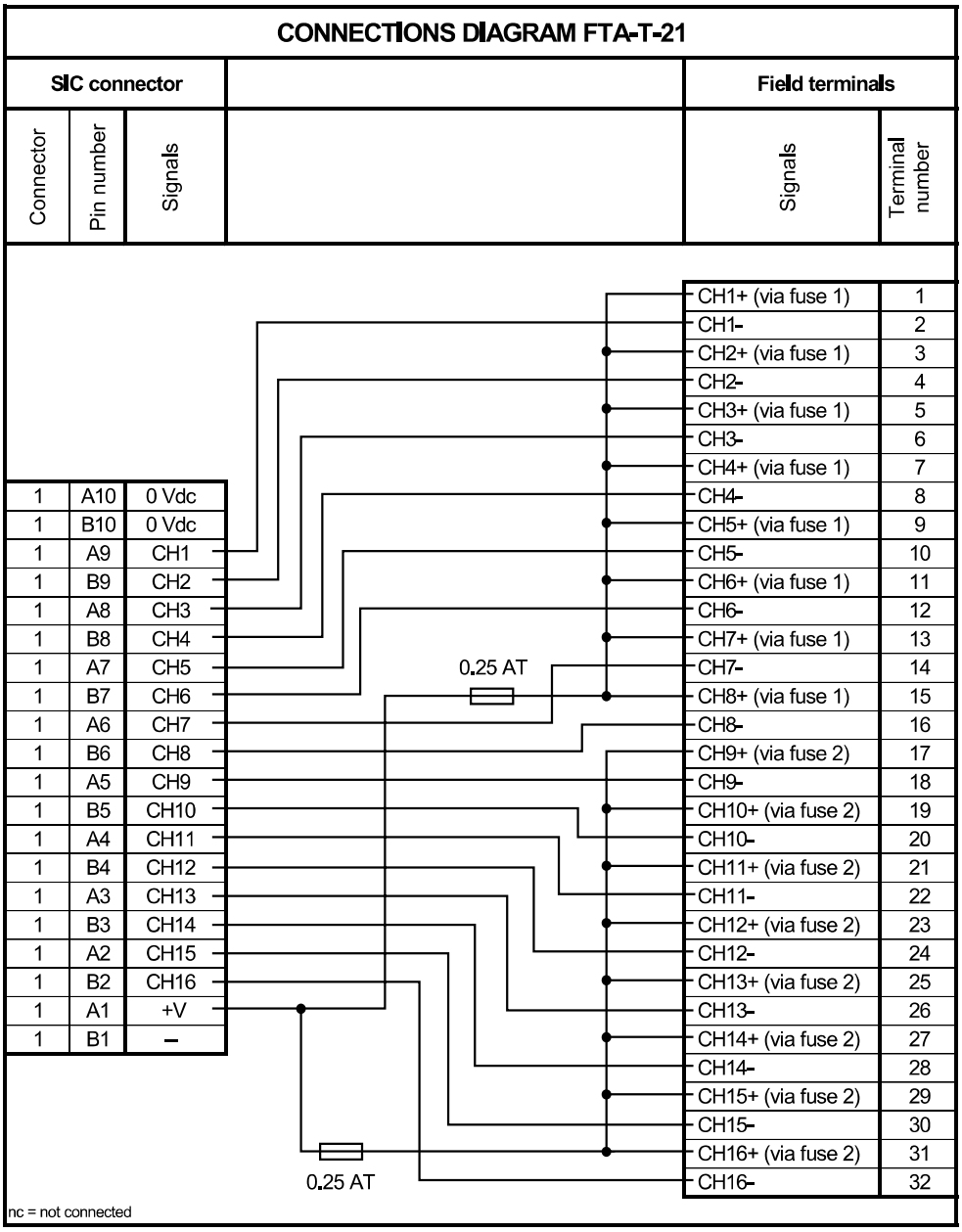


Figure 2 Connections diagram

Technical data

The FTA-T-21 module has the following specifications:

General	Type number:	FTA-T-21
	Approvals:	CE, UL, TÜV
Power	Number of channels:	16 (2 groups of 8)
	Maximum voltage:	36 Vac / 50 Vdc – IEC 61010-1 (1990), over voltage category 3 (Table D.12) 125 Vac / 150 Vdc – IEC 61010-1 (1990), over voltage category 2 (Table D.10)
Physical	Module dimensions:	90 x 70 x 60 mm (L x W x H) 3.54 x 2.76 x 2.36 in (L x W x H)
	DIN EN rails:	TS32 / TS35 x 7.5
	Used rail length:	91 mm (3.58 in)
Fuse	Rating:	250 mAT (slow-acting)
	Dimensions:	5 x 20 mm (0.2 x 0.79 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)

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