



Trusted TMR 24 Vdc Digital Input Module 40 Channel

PD-T8403 Issue 19

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removing the keying pieces from the cable so that they correspond with the bungs fitted to the associated module before fitting.

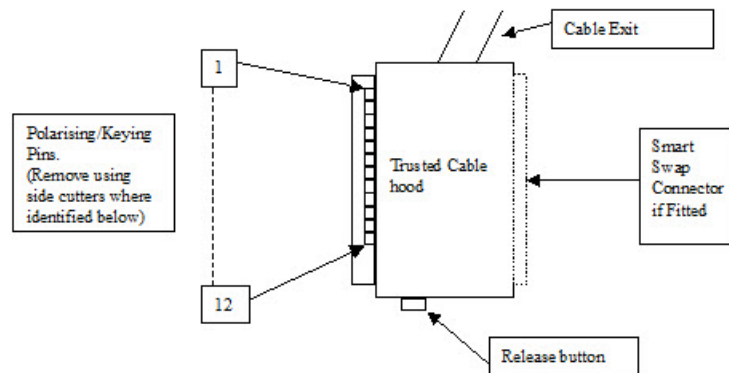


Figure 3: Module Polarization

For Cables with Companion Slot installations, both keying strips must be polarized.

For this module (T8403) remove keying pins 1, 3, and 5.

Application

Module configuration

There is no configuration required to the physical Input Module. All configurable characteristics of the Module are performed using tools on the Engineering Workstation (EWS) and become part of the application or System.INI file that is loaded into the TMR Processor. The TMR Processor automatically configures the Input Module after applications are downloaded and during Active/Standby changeover.

The IEC 61131 TOOLSET provides the main interface to configure the Input Module. Details of the configuration tools and configuration sequence are provided in Trusted Toolset Suite Product Description, publication [ICSTT-RM249](#) (PD-T8o82). There are three procedures necessary to configure the Input Module. These are:

1. Define the necessary I/O variables for the field input data and module status data using the Dictionary Editor of the IEC 61131 TOOLSET.
2. Create an I/O Module definition in the I/O Connection Editor for each I/O Module. The I/O Module definition defines physical information, e.g. Chassis and Slot location, and allows variables to be connected to the I/O channels of the Module.
3. Using the Trusted® System Configuration Manager, define custom LED indicator modes, per-channel threshold levels and noise filtering, and other Module settings.

T8403 Complex Equipment Definition

The T8403 I/O Complex Equipment Definition includes eight I/O boards, referenced numerically by Rack number:

Table 3 Complex Equipment Definition

Rack	I/O Board	Description	Data Type	Direction	No. of channels
1	DI	OEM Parameters	-	-	-
		Field Input Status	Boolean	In	40
2	STATE	Field Input State	Integer	In	40
3	AI	Input voltage	Integer	In	40
4	SPARE	Not used	Integer		16
5	LINE_FLT	Line Fault Status	Boolean	In	40
6	DISCREP	Channel Discrepancy	Integer	In	3
7	HKEEPING	Housekeeping Registers	Integer	In	51
8	INFO	I/O Module Information	Integer	In	11

There are two OEM parameters included in the first rack (DI Board). These OEM parameters define the primary module position; declaring the Module's chassis and slot location. There is no need to define the secondary module

System.INI file configuration

There are many operating characteristics of the Input Module that can be customized for a particular application. The System Configuration Manager is a tool that allows the user to configure the specific operating characteristics for each Module. Descriptions of the items that may be configured for the Trusted 24 Vdc Digital Input Module T8403 are contained in Trusted Toolset Suite Product Description, publication [ICSTT-RM249](#) (PD-T8082).

Certain characteristics apply to the entire Module and are considered Module Configurable Items. Other characteristics apply to individual input channels and are considered Channel Configurable Items. There are specific default settings for each of the configurable items. If the default settings are appropriate for a given application, customization of the module definition in the System Configuration Manager is not required.

Specifications

This table lists the module specifications:

Item	Description
Backplane (IMB) Supply	
Voltage	20 Vdc to 32 Vdc
Power	20 W
Field Supply	N/A
Maximum Power Dissipation	29 W
Module Location	T8100, T8300 I/O Module Slot
Isolation	
Field Common	50 V Reinforced (continuous) ¹ 250 V Basic (fault) ² [Type tested at 2436 Vdc for 60 s].
Channel to Channel	None
Fusing	None
Number of Inputs	40
Input	
Impedance	5 k Ω
Measurement Range	-6 to +36 Vdc
Thresholds	Configurable
Maximum Withstanding	± 50 Vdc
Safety Accuracy	0.5 Vdc
Intrinsic Safety	None - External barrier required
Sequence of Events	
Event Resolution (LSB)	1 ms
Time stamp Accuracy	± 10 ms
Operating Temperature	0 °C to +60 °C (+32 °F to +140 °F)
Storage Temperature	-25 °C to +70 °C (-13 °F to +158 °F)
Relative Humidity - Operating and Storage	10% - 95%, noncondensing
Environmental Specifications	Refer to Trusted 8000 Series International Safety and Environmental Approvals, publication ICSTT-ID003
Dimensions	
Height	266 mm (10.5 in)
Width	31 mm (1.2 in)
Depth	303 mm (12.0 in)
Weight	1.18 kg (2.6 lb)

¹ 50-Vrms Secondary circuit derived from Mains, OVC II up to 300V.

² 250-Vrms Mains circuit, OVC II up to 300V. Exposure to voltages at these levels shall be temporally constrained consistent with the system MTTR.