Trusted TMR Processor Interface Adapter
(T8120, T8121, T8122, T8123)

Product Overview

This document provides general information for the Trusted® Processor Interface Adapter T812X. The Adapter provides easy access to the communications ports of the Trusted Triple Modular Redundant (TMR) Processor (T8110B & T8111) in the Controller Chassis for the Distributed Control System (DCS) and other links. The unit is also used to enable a number of extended facilities available on the Trusted TMR Processor including facilities for the reception of IRIG-B time synchronisation signals, enabling the use of Dual ('enhanced') Peer to Peer and enabling the Trusted System to become MODBUS Master.

Features:

- Allows easy access for external systems to communicate with a Trusted TMR Processor.

- Easy installation (connects directly to the rear of the Controller Chassis).

- Two RS422/485 configurable 2 or 4 wire connections.

- One RS422/485 2 wire connection.

- Fault/fail connections for Active and Standby Processors.

- Processor diagnostics connection.

- PSU shutdown monitor connections.

- Option for connecting IRIG-B122 and IRIG-B002 time synchronisation signals.

- Option to enable MODBUS Master on the Trusted Communications Interface.

4. Available Operations

The following table lists the variants of the Trusted Processor Adapter Unit and the Trusted TMR Processor options that can be made available by using them. All the variants below will enable the use of Dual ('enhanced') Peer to Peer with other Trusted Systems, using the dxpnc40 I/O definition and its associated data transfer I/O definitions.

Variant	Options Enabled
T8120	None. Basic module with terminations for serial ports and ancillary connections.
T8121	IRIG-B. Enables decode of IRIG-B002 or IRIG-B122 time synchronisation signals by the Trusted TMR Processor.
T8122	MODBUS Master. Enables the Trusted System to operate as MODBUS Master. See Note.
T8123	IRIG-B and MODBUS Master. Enables IRIG-B time signal decode and MODBUS Master operation.

Table 10 Available Options

Note: The Trusted Communications Interface (T815X) is also required for MODBUS Master operation. The serial ports on the Trusted TMR Processor can only be used for MODBUS Slave operation.

5. Specifications

Power Supply Power Dissipation	Powered from Trusted TMR Processor 0.1 W
Isolation Between; Rear Serial Ports, IRIG Ports, Relay Ports and Chassis	 50 V Reinforced (continuous) [1] 250 V Basic (fault) [2] [Type tested at 2436 Vdc for 60 s]
Fusing	None
Ports Port 1 Ports 2 and 3 IRIG B	 RS422/485 RS422/485 IRIG-B122 and IRIG-B002 on a single connector
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 %, non-condensing
Environmental Specifications	Refer to Trusted 8000 - Series B: International Safety & Environmental Approvals, publication ICSTT-TD003
Dimensions Height: Width: Depth:	 138 mm (5.43 in) 120 mm (4.72 in) 108 mm (4.25 in)
Weight	877 g (1.93 lb)

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