

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

TRUSTED TMR PROCESSOR SYSTEM

T8310

TMR EXPANDER PROCESSOR MODULE

Used with the applicable Trusted expander chassis systems configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: ICS Triplex official manufacturer documentation

2. Installation

**CAUTION:**

The Expander Processor Module always resides in one of the two Processor (left most - PL1 and PL2) slots within the Expander Chassis. The Expander Processor must NOT be installed in any other module locations, as this may cause damage to the Module.

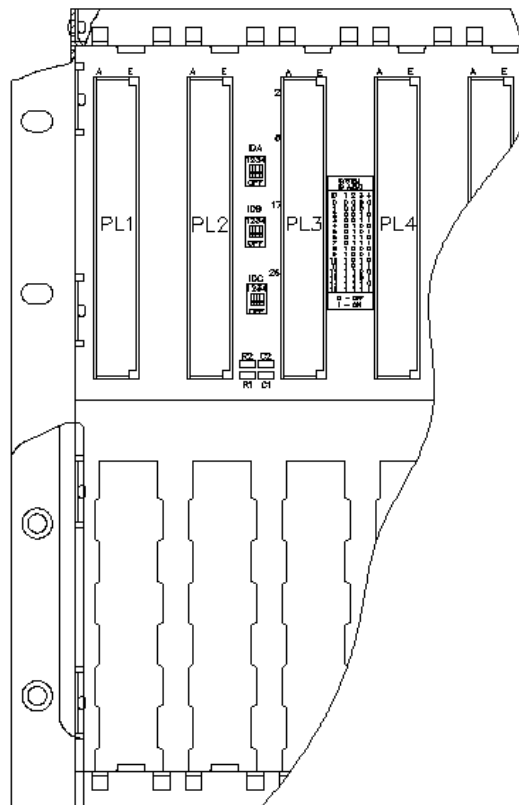


Figure 2 Expander Processor Slots

The two Processor slots must be interconnected using the Cable Hood Assembly shown below.

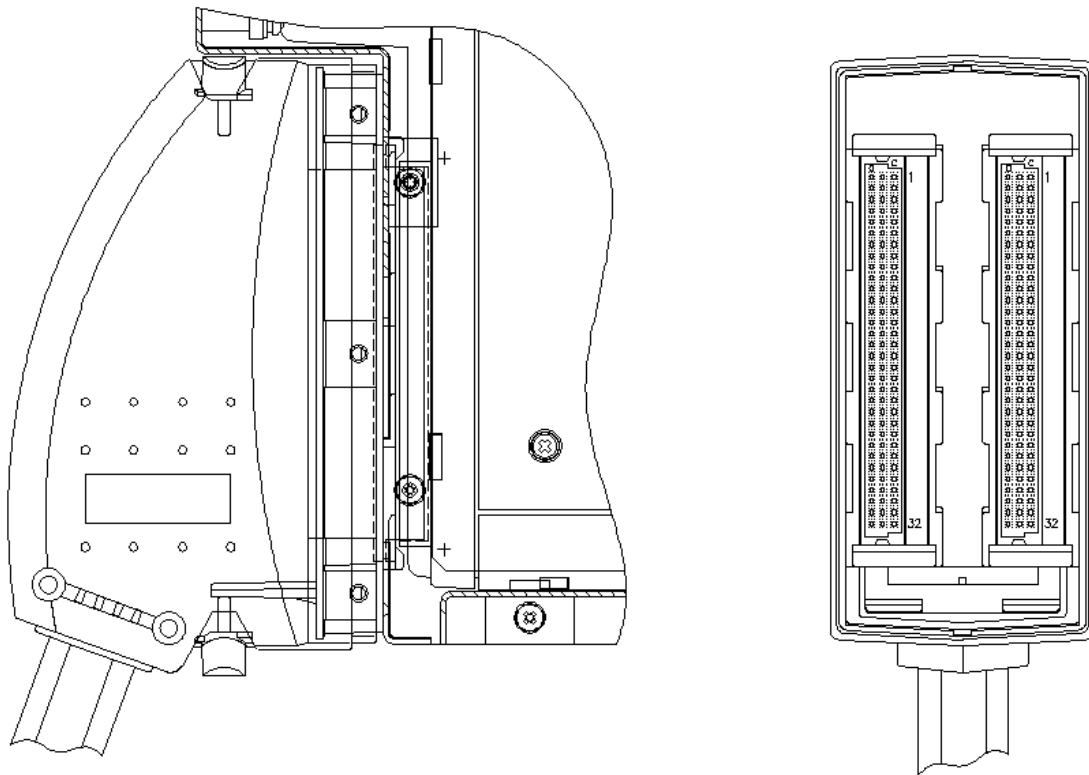


Figure 3 Expander Processor Cable

The Expander Processor Modules are connected to the Expander Interface Modules by the Expander Interface Hot Link Cable TC-301 via the Trusted Expander Interface Adapter Unit T8312.

Remote Expander Processor Modules are connected to the Trusted Fibre Optic Tx/Rx Unit T8314 by the Fibre Tx/Rx Unit to Expander Processor (Remote Expanders) Cable TC-303.

The connection to the Trusted Fibre Optic Tx/Rx Unit from the Expander Interface Modules is via the Trusted Expander Interface Adapter Unit using the Expander Interface Adapter to Fibre Tx/Rx Unit (Remote Expanders) Cable TC-302.

2.1. Module Insertion/Removal



CAUTION:

The module contains static sensitive parts. Static handling precautions must be observed. Specifically ensure that exposed connector pins are not touched. Under no circumstances should the module housing be removed.

Before installation, visually inspect the module for damage. Ensure that the module housing appears undamaged and inspect the I/O connector at the back of the module for bent pins. If the module appears damaged or any pins are bent, do not install the module. Do not try to straighten bent pins. Return the module for replacement.

Ensure that the module is of the correct type.

Record the module type, revision and serial number of the module before installation.

If the module is to reside in a new chassis, or the system is being configured for the first time, ensure that the chassis address has been set correctly before installing the modules. See Expander Chassis Product Description (PD-T8300) for further details.

To install the module:

1. Ensure that the cable assembly is correctly located.
2. Release the ejector tabs on the module using the release key. Ensure that the ejector tabs are fully open.
3. Holding the ejectors, carefully insert the module into the intended slot.
4. Push the module fully home by pressing on the top and bottom of the module fascia.
5. Close the module ejectors, ensuring that they click into their locked position.

2.2. Module Replacement

The replacement module must be inserted in the vacant Processor slot, ensuring that the module is correctly located and the ejector tabs are closed (see Module Insertion and Removal). The newly installed module will perform its power-up sequence.

Ensure that the Light Emitting Diode (LED) indicators on the newly installed module are as follows:

LED 1	Healthy A	Steady Green
LED 2	Healthy B	Steady Green
LED 3	Healthy C	Steady Green

If the original module has reported faults, the TMR Processor may automatically initiate the changeover to the newly installed module. Manual changeover may be initiated either using the ejector tabs on the original module or using commands via the diagnostic interface. To initiate the changeover using the ejector tabs use the following sequence:

1. Release both the top and bottom ejector tabs on the original module using the ejector release tool. DO NOT remove the module.

2. Wait until the original module indicates that it is in the Standby Mode of operation and the newly installed module is in the Active Mode.
3. Remove the original module.

Note: Under no circumstances remove a module that is indicating ACTIVE mode. Removal of an active module may result in modules within the chassis adopting their default (shutdown) state, and initiate shutdown states via the application program.

In Hot-standby configurations, with both Expander Processor Modules installed, the faulted module may be either the active or the standby module. In most cases the system will automatically switch to the healthiest module, therefore only the standby module will require replacement. To replace the active module follow the steps described above. To replace the standby module:

1. Release both the top and bottom ejectors tabs on the standby module using the ejector release tool.
2. Ensure that the other module is indicating the Active Mode of operation.
3. Remove the standby module.

In Hot-standby configurations, the replacement module should then be installed in the position where the previous module was removed. This module will become the standby module.

2.3. Expander Bus Connection

Further details of the Expander Bus cable assembly are provided in the associated Product Description PD-TC300.

2.3.1. Cable Assembly Replacement

It is not intended that the cable should need replacement, however this may be achieved by replacement of the complete cable assembly and requires that the system be shutdown. To remove a cable:

1. Ensure that the correct chassis and slot positions are selected.
2. Ensure the associated chassis slots are not occupied by modules.
3. Press in the hood release button and slide the hood downwards.
4. Remove the hood from the chassis slot by sliding down and rearward.

To insert a new or replacement cable:

1. Ensure that the correct chassis and slot positions are selected.
2. Ensure that the associated chassis slots are not occupied by modules.

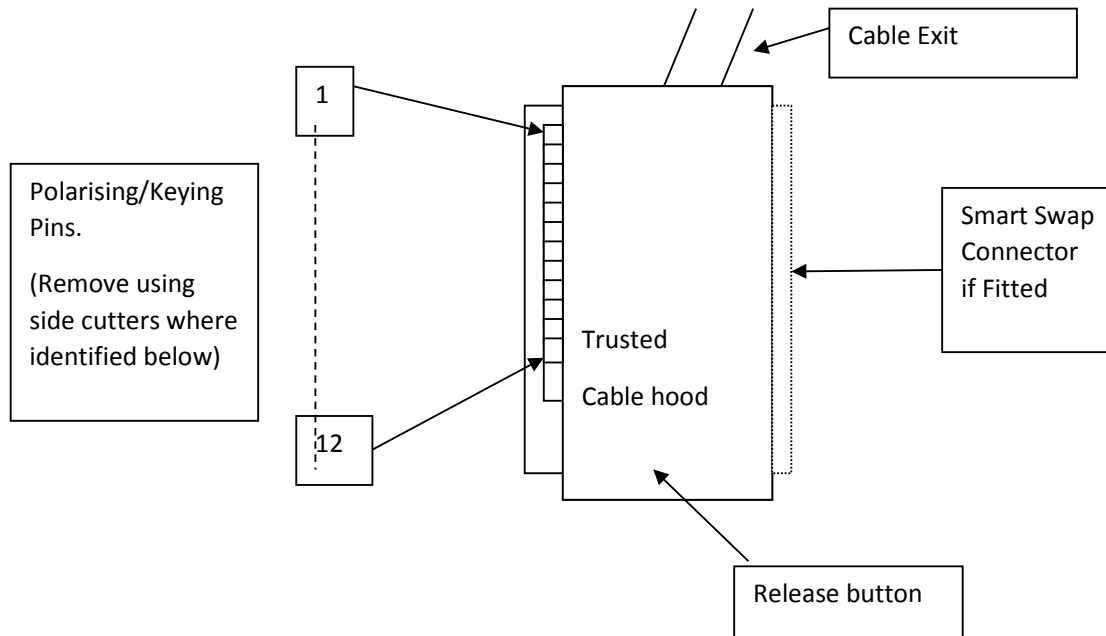


Figure 4 Module Polarisation

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

For this Module (T8310) remove keying pins 1, 2 and 5.

6. Specifications

Backplane (IMB) Supply	20 Vdc to 32 Vdc
Field Supply	N/A
Power Dissipation	45 W Backplane Supply
Module Location	T8300 Expander Processor Slot
Isolation	50 V Basic Insulation, Module to Backplane Supply
Fusing	Not User Serviceable
Expander Comms Max Distance	
Using TC-301 copper cable	30 m
Using T8314 Fibre TX/RX Units	10 km
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 document 552517
Dimensions	
Height	266 mm (10.5 in)
Width	31 mm (1.2 in)
Depth	303 mm (12.0 in)
Weight	1.33 kg (2.9 lb)