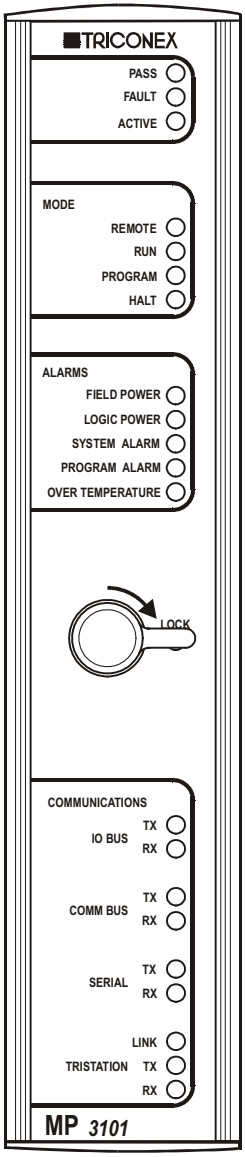
Trident
Version 1.2

Planning and Installation Guide

Triconex
An Invensys Company

Models 3101 Main Processor Module

MP Module Front Panel



Main Processor Module Specifications

Application Processor

Feature	Specification
SX Processor	Motorola MPC860, 32-bit, 50 MHz
Flash PROM	6 MB used for SX, IOX, and control application storage CRC-protected
DRAM	16 MB used for SX control application execution and program and SOE data Byte parity
NVRAM	8 KB, used for retentive variables CRC-protected
Clock calendar	
Accuracy during power on	1 sec/day typical 2.2 sec/day maximum
Accuracy during power off, with battery backed up	2.2 sec/day typical 9.2 sec/day maximum
Battery	½ AA lithium, 15-year predicted life
TriBus	25 Mbps CRC-protected 32-bit + parity DMA
TriStation port	1 10BaseT Ethernet connector RJ-45 shielded connector on baseplate
Modbus port	1 RS-232/485 DTE DB-9-pin shielded connector on baseplate
Debug port	Used to access diagnostic information RJ-12 connector located on baseplate, shared with IOX debug port
Communication bus	RS-485 2 Mbps HDLC
Alarm contacts	Redundant, normally closed

Input/Output Processor

Feature	Specification
IOX Processor	Motorola MPC860, 32-bit, 50 MHz
DRAM	16 MB, used for IOX execution Byte parity
Shared memory	128 KB, used to communicate with SX Byte parity
Diagnostic bus	2 Mbps HDLC, used to communicate I/O module diagnostic information between MP channels
Debug port	Used to access diagnostic information RJ-12 connector located on baseplate, shared with SX debug port
I/O bus	RS-485 2 Mbps HDLC

Logic Power

Feature	Specification
Nominal input voltage	24 V DC
Operational voltage range	24 V DC –15%/+20% + 5% AC ripple (+19.2 / +30 V DC)
Logic power	8 W maximum
Absolute maximum input voltage	33 V DC
Absolute maximum reverse input voltage	–0.6 V DC
Input power interruption time from nominal	1 ms minimum
Repetition rate	1 sec maximum
Reverse current isolation input to input	500 µA maximum
In-rush current per input	2.4 A maximum 1.2 A for 50 ms, typical
Short circuit current limit per input	2.4 A maximum
Functional-earth-to-logic-ground isolation	0 V, no isolation
Protective-to-functional-earth isolation	500 V DC

Communication Ports

Modbus Port

Feature	Specification
Connector	DB-9-pin DTE standard, shielded, located on baseplate
RS-232 maximum cable length	15 m (50 ft)
RS-485 maximum cable length	1.2 km (4,000 ft)
Supported transmission rates (bps)	1200, 2400, 4800, 9600, 19.2 K, 38.4 K, 57.6 K, 115.2 K
Protocols	Slave, RTU mode, optional parity, 1 stop bit
Galvanic isolation	500 V DC

Network Port

Feature	Specification
10BaseT connector	RJ-45 standard, shielded, located on baseplate
10BaseT maximum cable length	100 m (330 ft) using category 5 twisted-pair cable
Protocol	TriStation, TSAA, Triconex Peer-to-Peer
Network address	Derived from baseplate address plug
Galvanic isolation	500 V DC

System and IO Executive Debug Ports

Feature	Specification
Connector	RJ-12, Triconex proprietary pin-out
Maximum cable length	8 m (25 ft)
Protocol	RS-232, 9600 bps, ASCII, asynchronous
Galvanic isolation	500 V DC