# Operation

The three MPs communicate with each other using an inter-processor bus called TriBus. TriBus is a high-speed, fault-tolerant communication path between the MPs that is used primarily for voting and diagnostics. The three MPs communicate with I/O modules over a TMR HDLC I/O bus that operates at 2 megabits per second.

Each MP contains one TriStation 10BaseT Ethernet port and one Modbus RS-232/485 serial port.
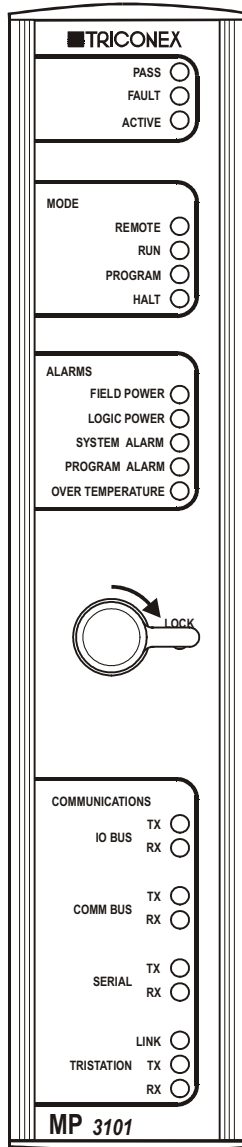
Each MP also contains redundant system alarm contacts. Connectors for the Ethernet ports, Modbus ports, and alarm contacts are located on the MP Baseplate. The MP Baseplate provides redundant, fused logic power connectors for the MP and I/O modules, which are directly connected to the I/O column.

MP Operation
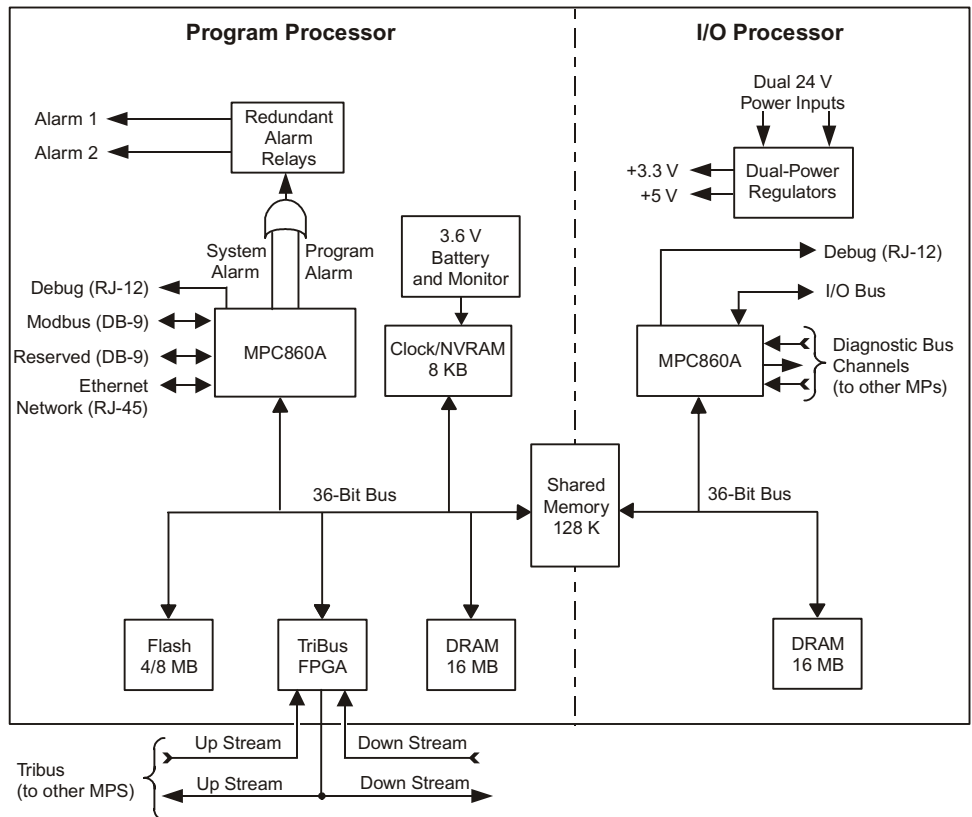
Models 3101 Main Processor Module

**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