

Triconex 3008N

Enhanced Main Processor Module

Manufacturer	Triconex
Model / order number	3008N
Product identification	Enhanced Main Processor Module
System / family context	Tricon Nuclear Equipment

Verified scope

The manufacturer maps nuclear model 3008N to standard 3008 and applies the corresponding technical specifications. The processor is MPC860, 50 MHz, with 16 MB DRAM.

Engineering checks before replacement

- Retain the exact 3008N identity and qualification traceability.
- Record system release, hardware revision and application backup.
- Distinguish unbacked DRAM from battery-backed SRAM.
- Verify the approved processor population and diagnostic connection.

Original manufacturer source reference

Planning and Installation Guide for Tricon v9-v11 Systems, 9700077-019, June 2014. Original PDF pages 50, 77, 82.

Open manufacturer document (hosted copy)

This cover is an independent Sales PLC reference, not a manufacturer-issued datasheet. The following manufacturer pages retain their original text, layout and page numbering.

Request model verification or a quotation

info@amikon.cn | +86 18020776786

www.salesplcauto.com

Tricon v10.x Equipment Certified for Use in Nuclear 1E Applications

Invensys has qualified specific Tricon version 10 products for use in 1E (safety-related) applications in accordance with EPRI Report TR-107330, "Generic Requirements Specification for Qualifying Commercially Available PLC for Safety-Related Applications in Nuclear Power Plants." EMC testing was performed in accordance with US Nuclear Regulatory Commission (NRC) Regulatory Guide 1.180, Revision 1, "Guidelines for Evaluating Electromagnetic and Radio-Frequency Interference in Safety-Related Instrumentation and Control Systems." The NRC issued a Safety Evaluation Report (ADAMS Accession Number ML120900890) for Triconex Topical Report 7286-545-1-A, Revision 4.

All of the information (specifications, simplified schematics, installation guidelines, and so on) for standard equipment also applies to nuclear equipment. The following table lists the model numbers of Tricon 10.x equipment certified for use in Nuclear 1E applications and identifies the standard model to see for information about the equipment.

Table 6 Tricon v10.x Equipment Certified for Use in Nuclear 1E Applications

Model Number	Description	See this Standard Model
Modules and Chassis		
8110N2	Main Chassis	8110
8111N	Expansion Chassis	8111
8112N	Remote Expansion Chassis	8112
8310N2	High-Density Power Module, 120 V	8310
8311N2	High-Density Power Module, 24 VDC	8311
8312N2	High-Density Power Module, 230 VAC	8312
3008N	Enhanced Main Processor III, 16 Mb	3008
4200N	Remote Extender Module	4200
4200-3N	Remote Extender Module (Set)	4200-3
4201N	Remote Extender Module	4201
4201-3N	Remote Extender Module (Set)	4201-3
4352AN	Tricon Communication Module (TCM)	4352A
4352BN	Tricon Communication Module (TCM)	4352B
3701N2	0-10 VDC, Differential DC Coupled, TMR	3701
3703EN	0-5 VDC or 0-10 VDC, Differential, Isolated, TMR	3703E
3721N	0-5 VDC or -5 to +5 VDC, Differential, DC Coupled, TMR	3721
3805HN	4-20 mA, Current Loop, DC Coupled, TMR	3805H
3501TN2	115 VAC, Opto-isolated, Non-commoned, TMR	3501T
3502EN2	48 VAC/VDC, Commoned in Groups of 8, Self-Test, TMR	3502E
3503EN2	24 VAC/VDC, Commoned in Groups of 8, Self-Test, TMR	3503E

3008 Main Processor Architecture

This figure depicts the architecture of the Model 3008 Main Processor, which can be used with Tricon v9.6 – v10.x systems.

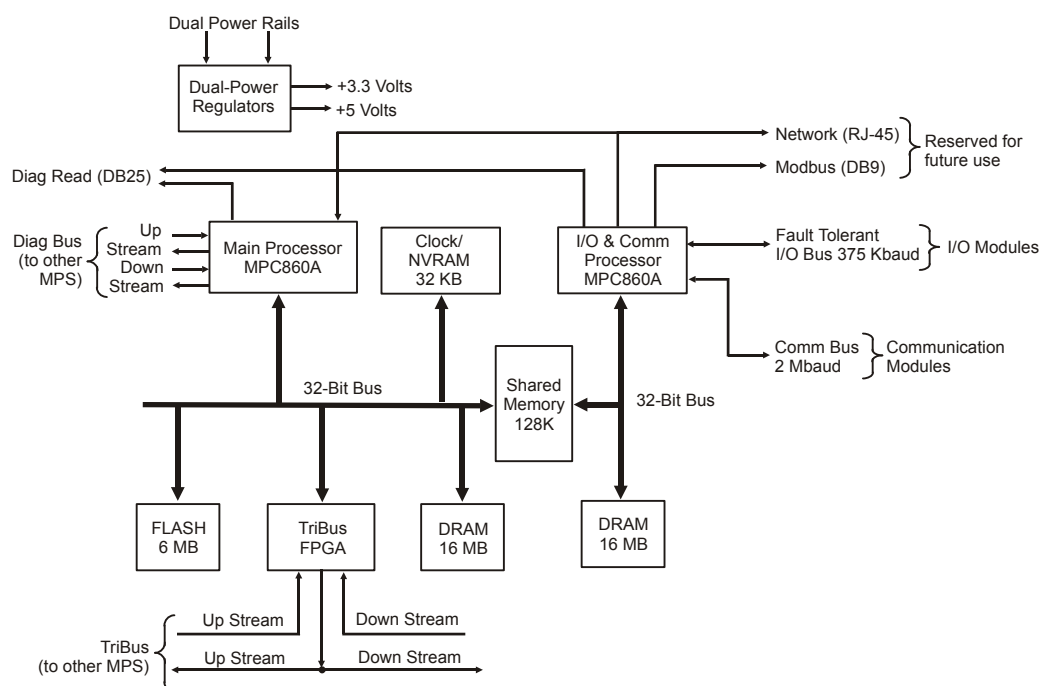


Figure 20 3008 Architecture

3008 Specifications

This table lists the specifications for the Model 3008 Main Processor, which can be used with Tricon v9.6 – v10.x systems.

Table 14 3008 Main Processor Specifications

Feature	Description
Main processor	Motorola® MPC860, 32-bit, 50 MHz
Memory	16 MB DRAM (without battery backup) 32 KB SRAM (with battery backup) 6 MB Flash PROM
TriClock	Time and date Battery backup Typical drift: ± 2 seconds/day Maximum drift: ± 2.16 seconds/day
TriBus	25 Mbps 32-bit CRC-protected 32-bit DMA, fully isolated
Serial port	For diagread diagnostic analysis Optically isolated RS-232 interface on one 25-pin connector 500 VDC isolation

On Model 3006, 3007, and 3008 MPs, the port has a 25-pin DB-25 socket that operates at 9600 bits per second. On Model 3009 MPs, the port has a 9-pin DB-09 socket that operates at 115200 bits per second.

RXM and SRXM Modules

This section describes RXM and SRXM Modules, which are used in RXM Chassis to extend the I/O communication from the Main Chassis. Multi-mode cable is used for locations as far as 1.2 miles (2 kilometers) from the Main Chassis; single-mode cable is used for locations as far as 7.5 miles (12 kilometers). RXM and SRXM Modules communicate at 375 kilobits per second. The modules provide exceptional immunity against electro-static and electro-magnetic interference and use optical modems and fiber-optic point-to-point cabling.

For installation information, see *RXM Chassis Installation* on page 259.

Table 16 RXM and SRXM Module Sets

Model	Description
4200-3	Primary RXM Module Set uses multi-mode fiber optic cable. Supports three remote RXM Chassis or Expansion Chassis.
4201-3	Remote RXM Module Set uses multi-mode fiber optic cable.
4210-3	Primary SRXM Module Set uses single-mode fiber optic cable. Supports three remote RXM Chassis or Expansion Chassis.
4211-3	Remote SRXM Module Set uses single-mode fiber optic cable.

RXM Modules

RXM Modules (Model 4200-3 and 4201-3) are optimized for use with 62.5/125 micrometer multi-mode fiber. The cable should be specified for operation at a wave length of 850 nanometers (nm), with a worst-case optical attenuation of 4 decibels per kilometer. The RXM optical transmitter/receiver pair has a total optical power budget of 15 decibels, typical (8 decibels, worst case), which allows a maximum cable length of 1.2 miles (2 kilometers).

RXM Modules are compatible with industry-standard ST fiber-optic connectors. The specified worst-case optical power budget of 8 decibels includes losses due to the fiber-optic connectors at the RXM transmitter and receiver. Additional losses incurred by fiber-optic cable splices or junction-box couplings should be considered when calculating the maximum installed cable length.

SRXM Modules

SRXM Modules (Model 4210-3 and 4211-3) are optimized for use with 9/125 micrometer single-mode fiber. The cable should be specified for operation at a wave length of 1300 nanometers (nm), with a worst-case optical attenuation of 0.5 decibels per kilometer. The RXM optical transmitter/receiver pair has a total optical power budget of 10 decibels, typical (7 decibels, worst case), which allows a maximum cable length of 7.5 miles (12 kilometers).