

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

TRICONEX

7400145-200

EICM COMMUNICATION ASSEMBLY

Used with the applicable Triconex safety system configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Tricon Technical Product Guide

Enhanced Intelligent Communication Module

The Model 4119A Enhanced Intelligent Communication Module (EICM) allows the Tricon controller to communicate with Modbus masters and slaves, the TriStation 1131 software, and printers.

For Modbus connections, the EICM user can select the RS-232 point-to-point interface for one master and one slave, or the RS-485 interface for one master and up to 32 slaves. The RS-485 network trunk can be one or two twisted-pair wires up to a maximum of 4,000 feet (1,200 meters).

Each EICM contains four serial ports and one parallel port which can operate concurrently. Each serial port can be configured as a Modbus master with up to seven Modbus masters per Tricon chassis. A single Tricon system supports a maximum of two EICMs, which must reside in one logical slot. (The hot-spare feature is not available for the EICM, though you can replace a faulty EICM while the controller is online.) Each serial port is uniquely addressed and supports either the

Modbus or TriStation interface. Modbus communication can be performed in either RTU or ASCII mode. The parallel port provides a Centronics interface to a printer.

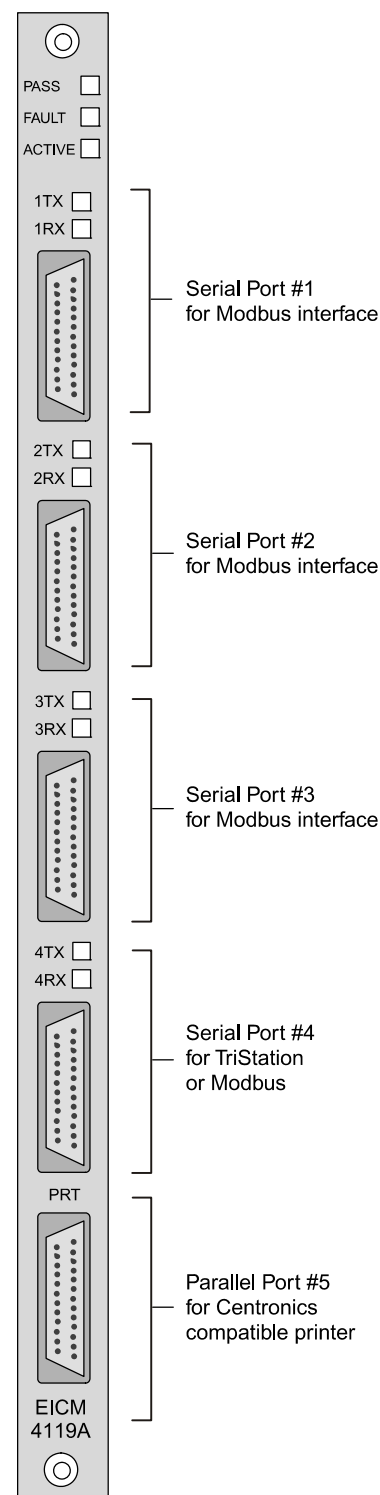
Each EICM supports an aggregate data rate of 57.6 kilobits per second (for all four serial ports).

Programs for the Tricon controller use variable names as identifiers but Modbus devices use numeric addresses called *aliases*. Therefore an alias must be assigned to each Tricon variable name that will be read by or written to a Modbus device. An alias is a five-digit number which represents the Modbus message type and the address of the variable in the Tricon controller. An alias number is assigned in the TriStation 1131 software.

Any standard Modbus device can communicate with the Tricon controller through the EICM, provided that aliases are assigned to the Tricon variables. Alias numbers must also be used when host computers access the Tricon controller through other communication modules, such as the NCM. See “Communication Capabilities” on page 67 for more information.

EICM Specifications

Model Number	4119A, Isolated
Serial ports	4 ports RS-232, RS-422 or RS-485
Parallel ports	1, Centronics, isolated
Port isolation	500 VDC
Protocol	TriStation, Modbus
Modbus functions supported	01 — Read Coil Status 02 — Read Input Status 03 — Read Holding Registers 04 — Read Input Registers 05 — Modify Coil Status 06 — Modify Register Content 07 — Read Exception Status 08 — Loopback Diagnostic Test 15 — Force Multiple Coils 16 — Preset Multiple Registers
Communication speed	1200, 2400, 9600, or 19,200 Baud
Dagnostic Indicators	Pass, FaULT, Active
	TX (Transmit) — 1 per port
	RX (Receive) — 1 per port



dule number in the first column with termination options on the right. An I/O module can be wired to a maximum of two termination be of two different types—for example, commoned and non-commoned.

scription	Commoned Term Panels	Non-Common. Term Panels	Basic Term Panels	Nonincendive Term Panels	RG 1.180 Term Panels	Fanned-out Cables	Bypass Panels	ERT Loop-Back Cables/Panels
/VDC, 32 pts.	9561-810F	9561-110F	9551-110F	n/a	n/a	9101-010F	n/a	9141-010F
VDC, 32 pts.	9562-810F	n/a	9552-610F	n/a	n/a	9101-010F	n/a	9142-010F
VDC, 32 pts.	9563-810F	n/a	9553-610F	9572-610F	n/a	9101-010F	BP9228-010F	9143-010F
XC, 64 pts.	9566-810F, 24V	n/a	9750-310F, 24V	9570-610F, 24V	n/a	n/a	BP9229-010F	n/a
low threshold,	9565-810F, 48V	n/a	9750-410F, 48V	n/a	n/a	n/a	n/a	n/a
	9563-810F	n/a	9553-610F	9572-610F	n/a	9101-010F	BP9228-010F	9143-010F
	9563-910F							
Hz, 8 pts.	n/a	n/a	9753-110F	n/a	n/a	n/a	n/a	n/a
Hz, 8 pts.	n/a	n/a	9753-110F	9793-110F	9794-110F	n/a	n/a	n/a
Hz, 24 VDC,	n/a	n/a	9753-110F	9572-610F	n/a	n/a	n/a	n/a
single, 64 pts.	9566-710F	n/a	9553-610F	9571-610F	n/a	9101-010F	n/a	n/a
16 pts.	9661-610F	9661-110F	9651-110F	n/a	n/a	9101-010F	n/a	9670-110F
	9663-610F	9664-110F						9670-610F
16 pts.	9663-610F	9664-110F	n/a	n/a	n/a	n/a	n/a	n/a
C, 16 pts.	n/a	9251-210	n/a	n/a	n/a	n/a	n/a	n/a
C, 16 pts.	9661-910F ^a	n/a	9651-110F	n/a	n/a	9101-010F	n/a	9673-810F ^a
	9664-810F ^a							
C, 16 pts.	9664-810F ^a	n/a	n/a	n/a	n/a	n/a	n/a	9673-810F ^a
16 pts.	9662-810F	9662-110F	9653-610F	9671-610F	n/a	9101-010F	n/a	9671-810F
16 pts.	9667-810F	9667-110F	9652-610F	n/a	n/a	9101-010F	n/a	9672-810F
8 pts.	9661-510F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
C, 8 pts.	9661-810F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
8 pts.	9662-810F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
low power,	9662-710F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
8 pts.	9667-910F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
C, 16 pts.	9661-910F	n/a	9651-110F	n/a	n/a	9101-010F	n/a	n/a
C, 16 pts.	9664-810F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
self-protected,	9662-610F	n/a	9653-610F	9671-610F	n/a	9101-010F	n/a	n/a
self-protected,	9662-610F	n/a	9653-610F	9671-610F	n/a	9101-010F	n/a	9671-810F ^b
ed), 32 pts.	n/a	9668-110F	9651-110F	n/a	n/a	9101-010F	n/a	n/a
VDC, self-protected,	9662-610F	n/a	9653-610F	9671-610F	n/a	9101-010F	n/a	9671-810F ^b

Part Number Cross-Reference

The table below identifies the external termination assembly (ETA) part number and the cable part number for each termination panel model number.

There are four cable types included in this table:

- **FT4:** Ninety-degree cables that meet FT4 flame test ratings. Add “F” at the end of the base model number to obtain the complete model number. For example, 9551-110F.
- **Z:** Zero-degree cables, designed to be used with G-Series Enclosures for Tricon systems that have front access. Add “F-Z” at the end of the base model number to obtain the complete model number. For example, 9551-110F-Z.
- **LSZH:** Low Smoke Zero Halogen ninety-degree cables. Add “J” at the end of the base model number to obtain the complete model number. For example, 9551-110J.
- **FT1:** Ninety-degree cables that were shipped with pre-FT4 ETP models. These models did not include a letter at the end of the base model number.

Part Number Cross-Reference—ETPs

Base Model #	ETA	FT4 Cable	Z Cable	LSZH Cable	FT1 Cable (Old)
9551-110	3000400-160	4000187-110	4000192-110	4000140-110	4000093-110
9552-610	3000400-260	4000187-210	4000192-210	4000140-210	4000093-210
9553-610	3000400-360	4000187-310	4000192-310	4000140-310	4000093-310
9561-110	3000560-110	4000187-110	4000192-110	4000140-110	4000093-110
9561-810	3000510-180	4000187-110	4000192-110	4000140-110	4000093-110
9562-810	3000510-280	4000187-210	4000192-210	4000140-210	4000093-210
9563-810	3000510-380	4000187-310	4000192-310	4000140-310	4000093-310
9563-910	3000510-390	4000187-310	4000192-310	4000140-310	4000093-310
9565-810	3000540-280	4000187-210	4000192-210	4000140-210	4000093-210
9566-710	3000530-380	4000187-310	4000192-310	4000140-310	4000093-310
9566-810	3000540-380	4000187-310	4000192-310	4000140-310	4000093-310
9570-610	3000768-370	4000195-310	4000199-310	n/a	4000165-310
9571-610	3000768-390	4000195-310	4000199-310	n/a	4000165-310
9572-610	3000771-380	4000195-310	4000199-310	n/a	4000165-310
9651-110	3000410-160	4000188-110	4000193-110	4000141-110	4000094-110
9652-610	3000410-260	4000188-210	4000193-210	4000141-210	4000094-210
9653-610	3000410-360	4000188-310	4000193-310	4000141-310	4000094-310
9661-110	3000570-110	4000188-110	4000193-110	4000141-110	4000094-110
9661-510	3000550-160	4000188-110	4000193-110	4000141-110	4000094-110