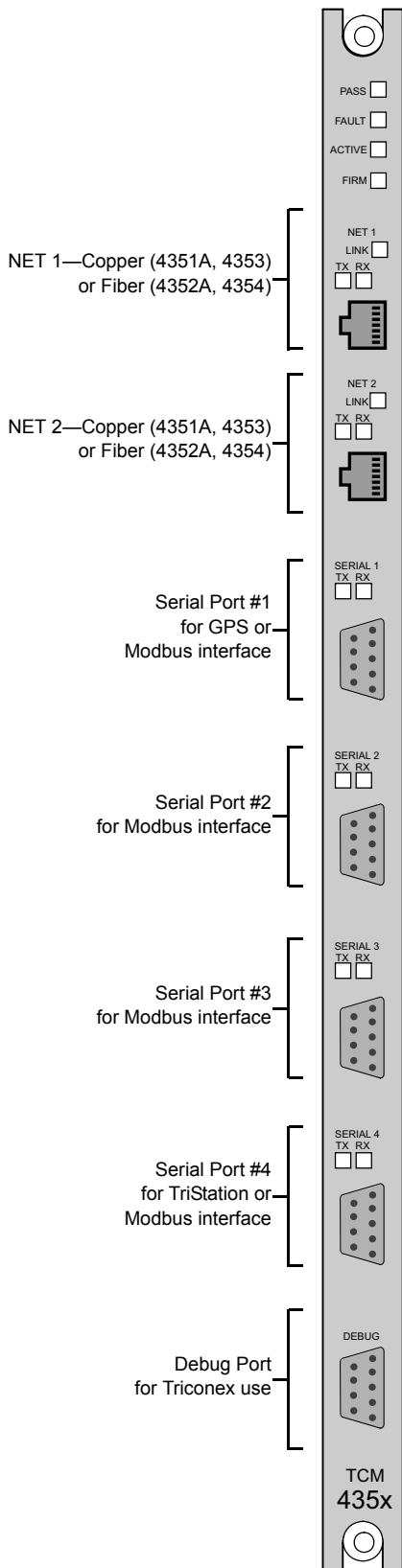


# Product Specifications



## Tricon Communication Module

The Tricon Communication Module (TCM), which is compatible with only Tricon v10.0 and later systems, allows the Tricon to communicate with TriStation, other Tricon or Trident controllers, Modbus master and slave devices, and external hosts over Ethernet networks.

Each TCM contains four serial ports, two network ports, and one debug port (for Triconex use).

Each serial port is uniquely addressed and can be configured as a Modbus master or slave. Serial port #1 supports either the Modbus or the Trimble GPS interface. Serial port #4 supports either the Modbus or the TriStation interface. Each TCM supports an aggregate data rate of 460.8 kilobits per second, for all four serial ports.

Programs for the Tricon 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. An alias number is assigned in TriStation.

Any standard Modbus device can communicate with the Tricon through the TCM, provided that aliases are assigned to the Tricon variables. Alias numbers must also be used when host computers access the Tricon through other communication modules. See “Communication Capabilities” on page 59 for more information.

Each TCM contains two network ports—NET 1 and NET 2. Models 4351A and 4353 have two copper Ethernet (802.3) ports and Models 4352A and 4354 have two fiber-optic Ethernet ports. NET 1 and NET 2 support the TCP/IP, Modbus TCP/IP Slave/Master, TSAA, TriStation, SNTP, and Jet Direct (for network printing) protocols. NET 1 also supports the Peer-to-Peer and Peer-to-Peer Time Synchronization protocols.

A single Tricon system supports a maximum of four TCMs, which must reside in two logical slots. Different TCM models cannot be mixed in one logical slot. Each Tricon system supports a total of 32 Modbus masters or slaves—this total includes network and serial ports. The hot-spare feature is not available for the TCM, though you *can* replace a faulty TCM while the controller is online.

## TCM Specifications

| Model Number               | 4351A, 4352A, 4353, 4354   |  |
|----------------------------|--|--|
| Serial ports               | 4, RS-232/RS-485 ports, DB-9 connectors  |  |
| Network ports              | 2, 10/100BaseT Ethernet ports, RJ-45 connectors (model 4351A and 4353)<br>2, fiber-optic mode Ethernet ports, MTRJ connectors with 62.5/125 um fiber cables (model 4352A and 4354) |  |
| Port isolation             | 500 VDC  |  |
| Protocols                  | TriStation, Modbus, TCP/IP, ICMP, SNTP, TSAA, Trimble GPS, Peer-to-Peer, Peer-to-Peer Time Synchronization, Jet Direct (network printing)  |  |
| Modbus functions supported | 01 — Read Coil Status<br>02 — Read Input Status<br>03 — Read Holding Registers<br>04 — Read Input Registers<br>05 — Modify Coil Status   | 06 — Modify Register Content<br>07 — Read Exception Status<br>08 — Loopback Diagnostic Test<br>15 — Force Multiple Coils<br>16 — Preset Multiple Registers |
| Communication speed        | Copper Ethernet ports: 10/100 Mbps<br>Fiber Ethernet ports: 100 Mbps<br>Serial ports: up to 115.2 Kbps per port  |  |
| Status Indicators          | PASS, FAULT, ACTIVE, FIRM<br>LINK— 1 per network port, TX (Transmit) — 1 per port,<br>RX (Receive) — 1 per port  |  |