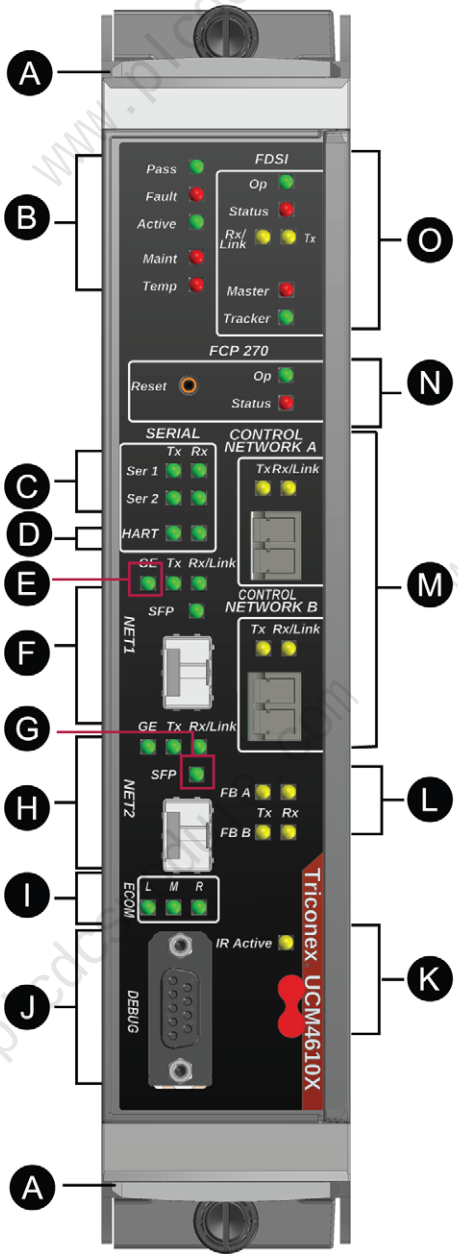
4610X Unified Communication Module (UCM)

The Model 4610X Unified Communication Module can be used in Model 8120X Main Chassis.

Figure 8 - Model 4610X UCM Front Panel



A	Module Ejectors	I	Enhanced Communication Bus Status
B	Module Status	J	Debug port for Schneider Electric use
C	Serial Ports Status	K	Infrared (IR) Link (for Control Processor configuration)
D	HART LEDs	L	Fieldbus (FB) Status
E	Gigabit Ethernet Link	M	Control Network (Fiber Optic Ethernet)
F	NET 1 Status and SFP Port	N	Field Control Processor (CP) Operational Status and Reset button
G	Small Form Factor Pluggable (SFP) is installed	O	Field Device Systems Integrator (FDSI) Status
H	NET 2 Status and SFP Port		

4610X UCM Architecture

Figure 9 - 4610X Architecture

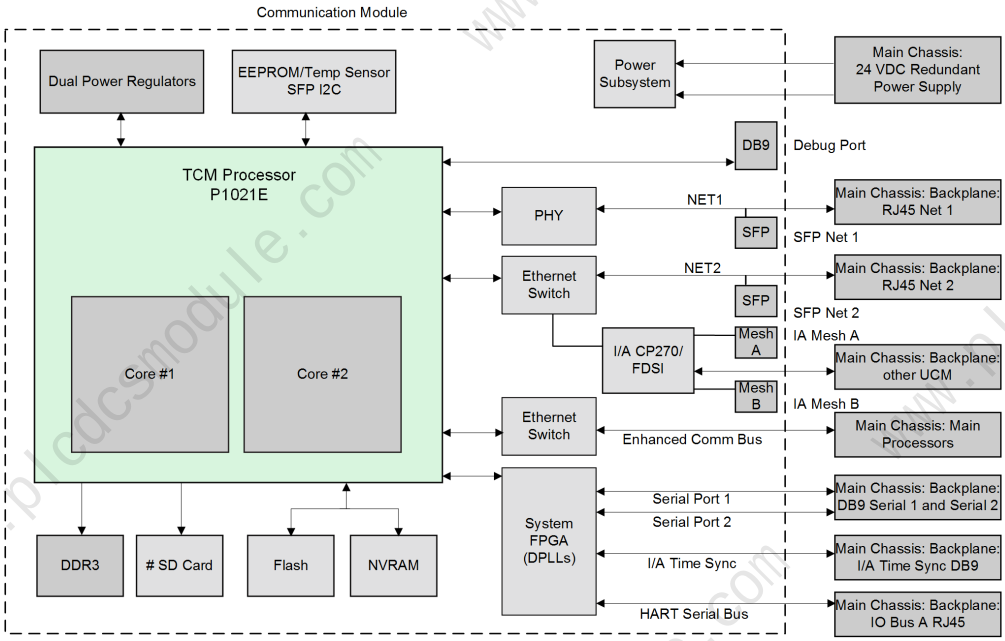
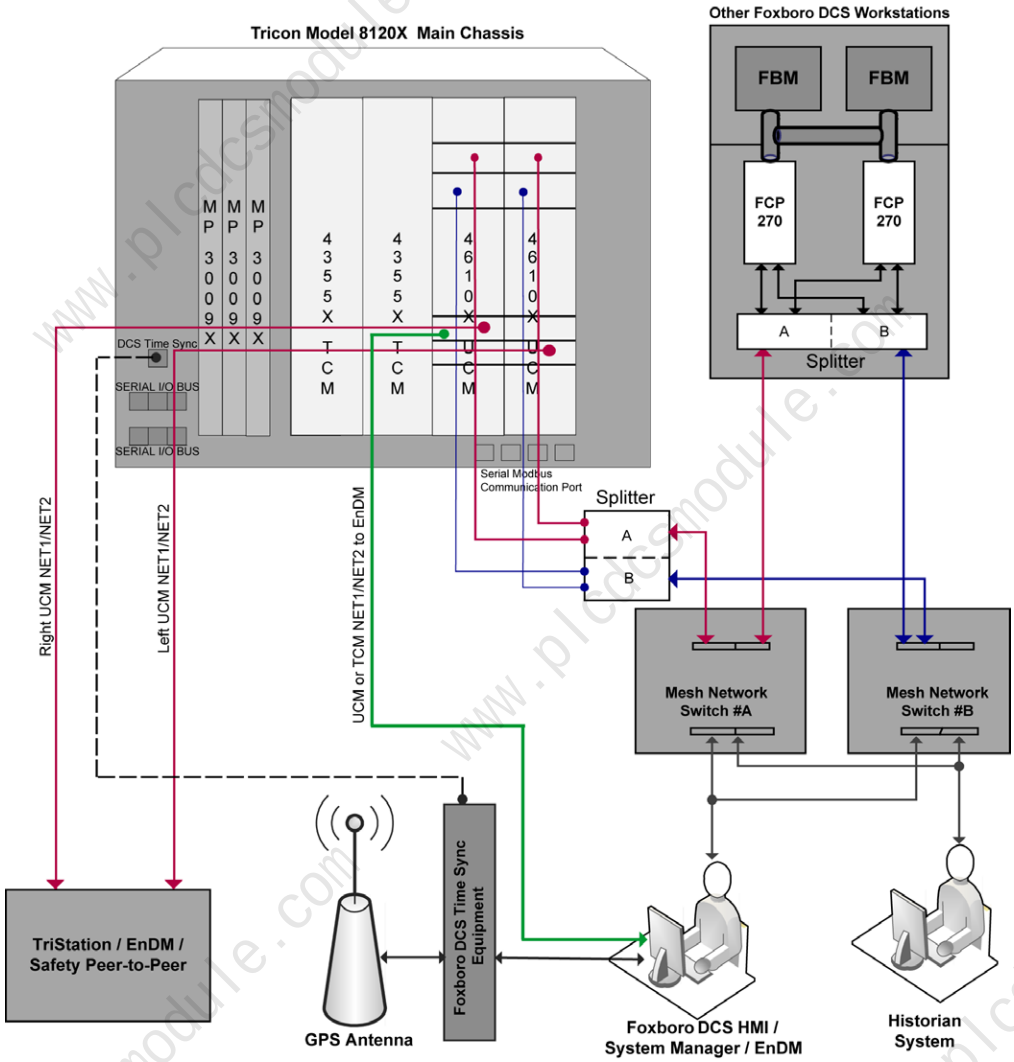


Figure 10 - Tricon CX UCM and Foxboro DCS Control System Interface



4610X UCM Specifications

Table 20 - UCM 4610X Specifications

Feature	Specification	
Serial ports	2, galvanically isolated RS-232/RS-485 interfaces, DB-9 connectors	
For diagread diagnostic analysis	1, galvanically isolated RS-232 interface, 9-pin connector	
Speed	Up to 115.2 Kbps per port, aggregate data rate of 230.4 Kbps	
Port isolation	500 VDC	
Modbus functions supported	01—Read Coil Status	06—Modify Register Content
	02—Read Input Status	07—Read Exception Status
	03—Read Holding Registers	08—Loopback Diagnostic Test
	04—Read Input Registers	15—Force Multiple Coils
	05—Modify Coil Status	16—Preset Multiple Registers
Communication module network interfaces:[a]		
Protocol	2,100Base-TX/1000Base-T Ethernet (Safety Copper Networks) 2,1000Base-X/100Base-FX (Safety SFP interface) 2,100Base-FX (Control Network)	
Status indicators:		
Module status	Pass, Fault, Active, Maint, Temp	
Field Device Systems Integrator (FDSI) status	Operational Status, Link/Act, Master, Tracker	
Field Control Processor (CP) status	Operational Status	
Serial port activity	Tx (Transmit)—1 per port Rx (Receive)—1 per port	
Network port activity	GE (Gigabit Ethernet)—1 per network port SFP—1 per network port Tx (Transmit)—1 per network port Rx\Link—1 per network port	
Control network port activity	Tx (Transmit)—1 per network port Rx\Link—1 per network port	
ECOM bus activity	L, M, R	

Table 20 - UCM 4610X Specifications (Continued)

Feature	Specification
HART	HART v7 compatible HART pass through: Name string “Triconex TCM 4355X”, device type code 0x1416
Logic power	<30 watts

(a) Copper and fiber communication ports cannot be used at the same time.

Protocols and Standards Supported on the 4610X UCM

Table 21 - UCM Protocols/Standards on Safety Network Ports

Protocol or Standard	Network Ports	Serial Ports
TriStation	NET 1, NET 2	Port 2
TriStation via Secure Sockets Layer (SSL)(a)	NET 1, NET 2	Port 2
TSAA (UDP/IP)	NET 1, NET 2	—(b)
TSAA with IP Multicast (UDP/IP)	NET 1, NET 2	—
Peer-to-Peer (UDP/IP)	NET 1, NET 2	—
Modbus Server (ASCII or RTU)	—	Any port
Modbus Client (RTU)	—	Any port
Modbus Client or Server (TCP)	NET 1, NET 2	—
Triconex Time Synchronization via UDP/IP	NET 1, NET 2	—
SNTP Triconex Time Synchronization	NET 1, NET 2	—
Network Printing using Jet Direct	NET 1, NET 2	—
External HART DTM	NET 1, NET 2	—

(a) See the *TriStation 1131 Developer’s Guide* for detailed guidelines on secure communication.

(b) — means the protocol or standard is not supported on these ports.

HART protocols can be enabled only for a UCM installed in the Left COM1 slot (COM1–L).

A UCM with HART enabled supports a maximum of two HART-IP client connections and one device type manager (DTM) connection.

When developing a TSAA program, limit the length of frames to 1996 bytes. If the amount of data in a single message is more than 1996 bytes but less than 2000 bytes, a response code 8, “Message was too big,” is returned. If the amount of data in a single message exceeds 2000 bytes, the message is dropped silently—no response code is sent.

Network Interface Media with the 4610X UCM

Control Network ports on the Model 4610X UCM use fiber optic cables to connect to the Foxboro mesh network. For information about fiber-optic cables for the control network ports, see the *Field Control Processor 270 (FCP270) User's Guide (B0700AR)*.

Safety network ports (NET 1 and NET 2) on the Model 4610X UCM are 100BASE-TX and 1000BASE-T (copper) or 100BASE-FX and 1000BASE-X (fiber) connectors. However, the ports support fiber optic media by use of small form factor pluggables (SFPs). For information about configuring UCM network ports, see the *TriStation 1131 Developer's Guide*

Note that you must separately purchase SFPs. For more information about SFP requirements, see Small Form-Factor Pluggable (SFP) Requirements, page 19. For a list of tested and validated SFPs, see Application Note 48, *Triconex Safety System Boundary*, which is available on the Global Customer Support (GCS) center website at https://pasupport.schneider-electric.com (registration required).