EtherNet/IP™ with CIP™ Messaging

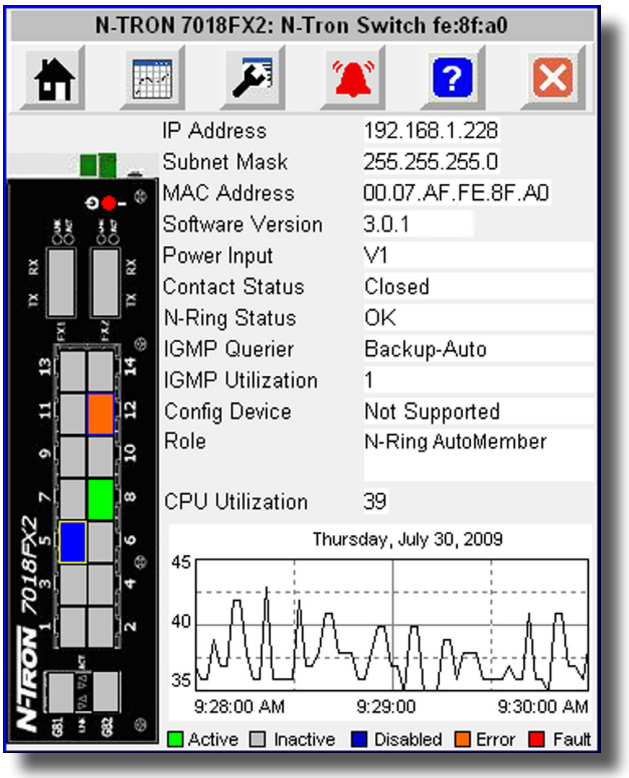
N-Tron Networking Series

▶▶▶ Common Industrial Protocol (CIP)

EtherNet/IP,™ better known as the Common Industrial Protocol (CIP), was designed for use in process control and industrial automation applications. CIP was designed to provide consistent device access to eliminate the need for vendor specific software for configuration and monitoring of individual devices. With embedded support for CIP, *N-Tron* switches deliver information and configuration access directly to Programmable Logic Controllers (PLC's) and HMI's (Human Machine Interface) through standard CIP messaging. Switch status, trending and configuration are easily viewed from a PanelView Plus with screen resolutions of 640 x 480 and higher. In addition to CIP, *N-Tron*'s robust fully managed feature set includes:

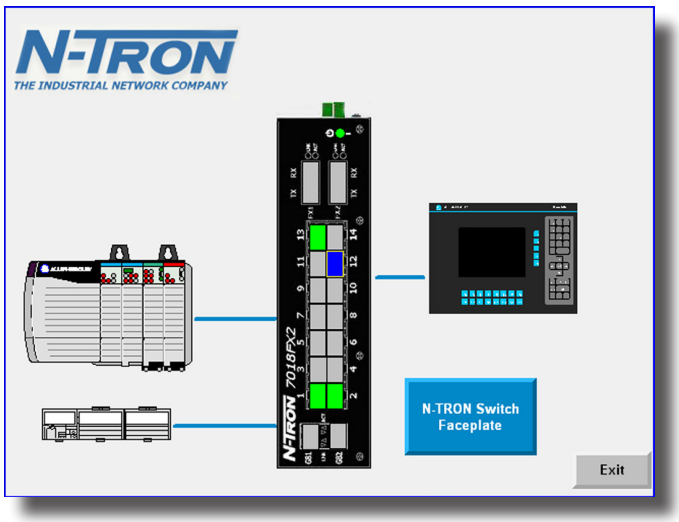
- IGMP Auto Configuration
- VLAN
- QoS
- Trunking
- Port Mirroring
- RSTP
- DHCP
- Web Browser Management
- SNMP v1, v2, v3
- N-View™ Monitoring Technology
- Extended Environmental specifications: up to -40ºC to 85ºC
- Configurable Alarm Contact and Bi-Color Fault LED
- N-Ring Technology
- N-Link Redundant N-Ring Coupling

EtherNet/IP with CIP Messaging is a standard feature on the N-Tron fully managed switch series. CIP tags, sample projects, and diagnostic faceplates for FactoryTalk® View ME/SE software are provided for quick setup and configuration in RSLogix 5000 environments (requires RSLogix 5000 version 17 and higher).



Quickly view switch status on the ***Home*** Display

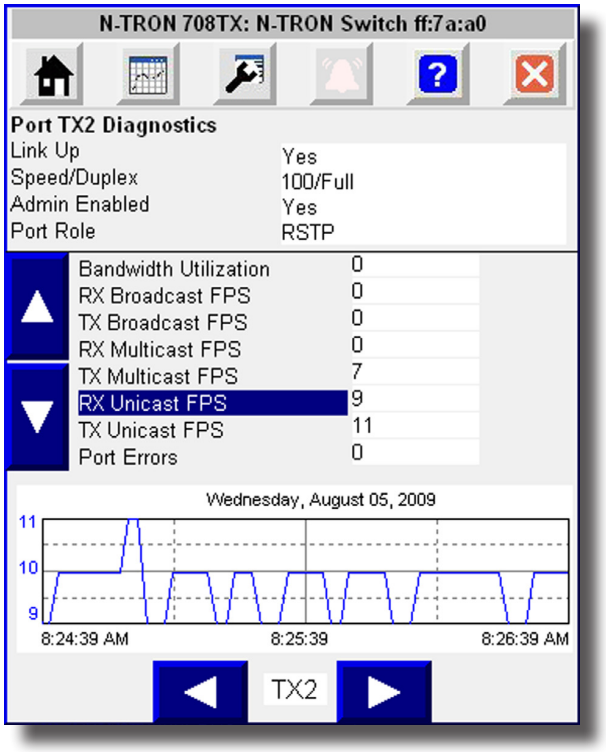
- IP Address
- Subnet mask
- MAC Address
- Software Version
- Power Input Status
- N-Ring Status
- IGMP Querier Status
- IGMP Utilization
- Device Role
- CPU Utilization

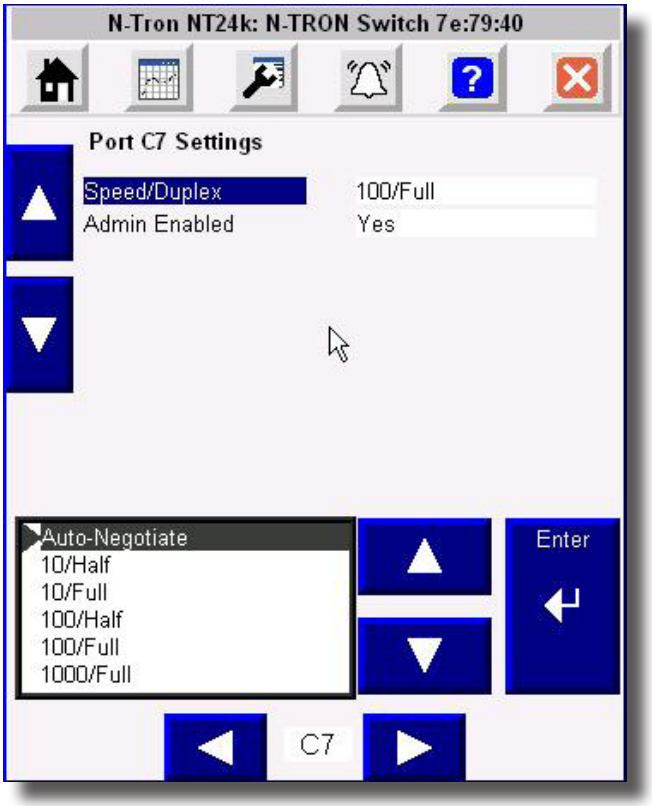


industrial networking

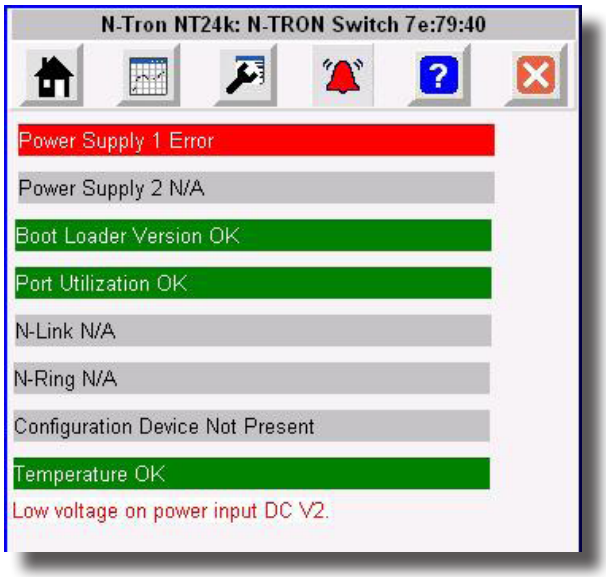
Port ***Diagnostics*** provides individual port status

- Link Status
- Speed and Duplex setting
- Admin Enabled
- Port Role
- Trend Analysis
  - > Bandwidth utilization
  - > Broadcast transmit and receive in frames per second
  - > Multicast transmit and receive in frames per second
  - > Unicast transmit and receive in frames per second
  - > Port Errors

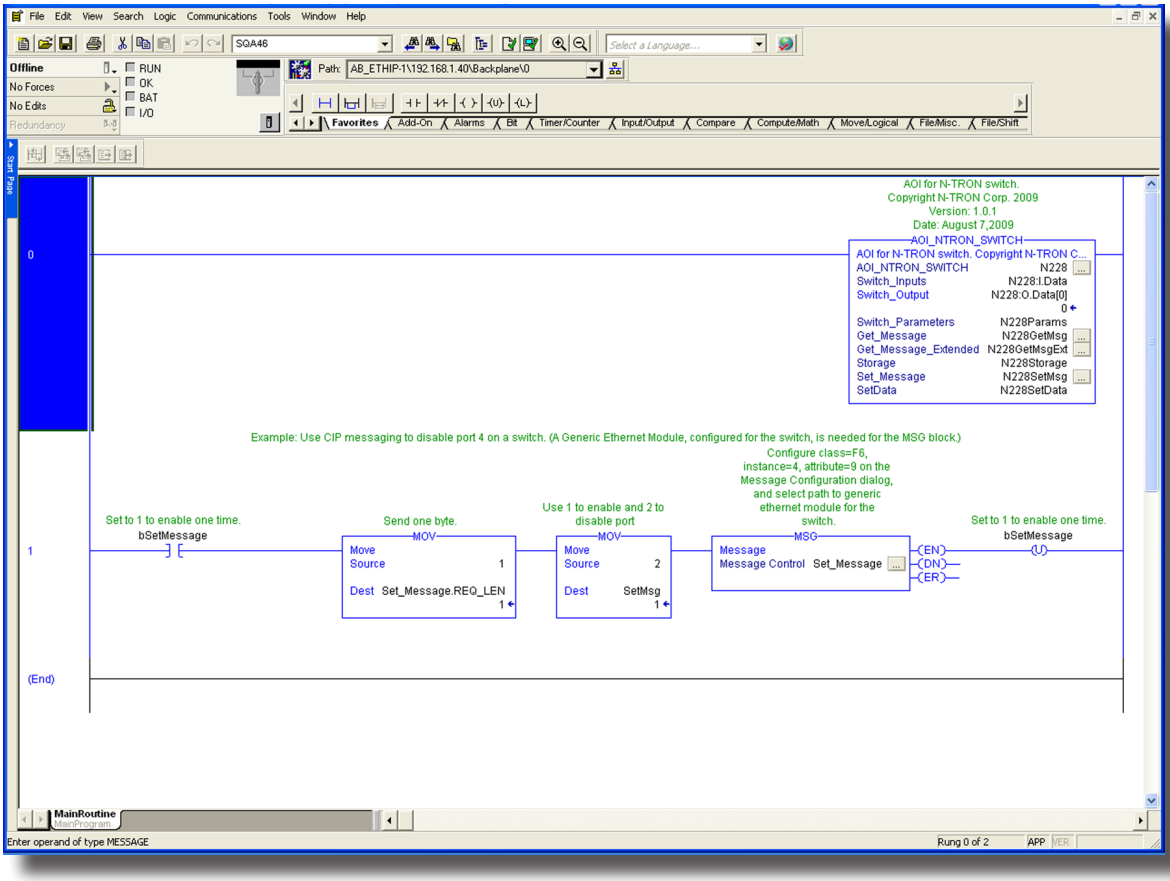




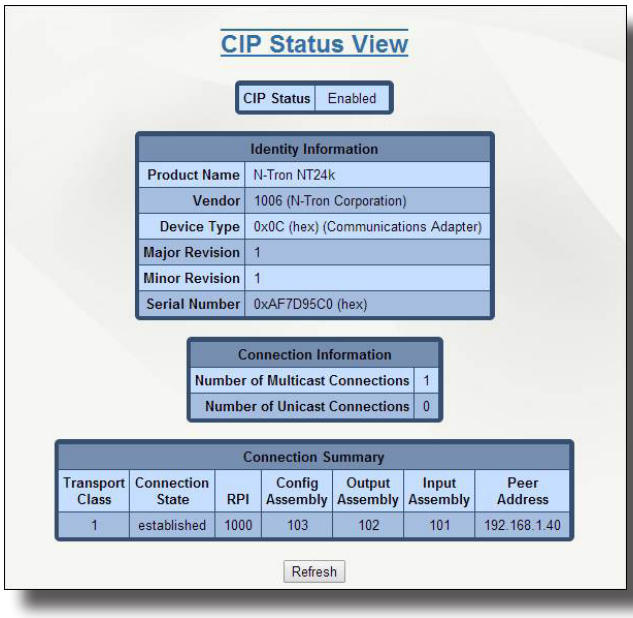
Easily Change Port ***Settings*** or View ***Alarm*** Status



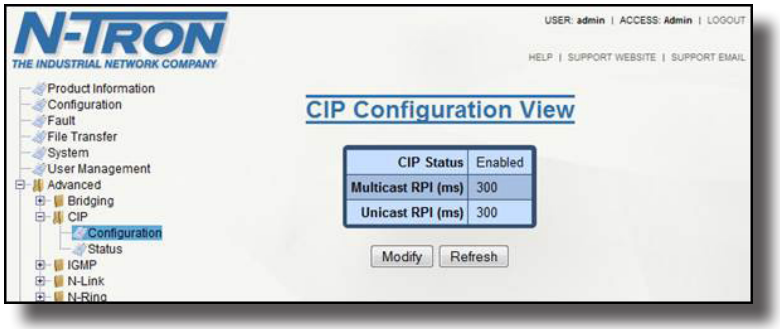
EtherNet/IP™ with CIP™ Messaging Specifications



Ladder logic samples are included.



CIP configuration and status are also available via a web browser.



CIP tags include:

Ethernet Link Tags

Interface_Speed
Interface_Flags
Physical_Address
InOctets
InUcastPackets
InNucastPacket
InDiscards
InErrors
InUnknownProtos
OutOctets
OutUcastPackets
OutNucastPacket
OutDiscards
OutErrors
Alignment_Errors
FCS_Errors
Single_Collisions
Multiple_Collisions
SQE_Test_Errors
Deferred_Transmissions
Late_Collisions
MAC_Transmit_Errors
Carrier_Sense_Errors
Frame_Too_Long
MAC_Receive_Errors
Control_Bits
Forced_Interface_Speed
Interface_Type
Interface_State
Admin_State
Interface_Label
Interface_Description
Interface_Utilization
Utilization_Alarm_Upper_Threshold
Utilization_Alarm_Lower_Threshold
Broadcast_Limit
TX_Unicast_Packet_Rate
RX_Unicast_Packet_Rate
TX_Multicast_Packet_Rate
RX_Multicast_Packet_Rate
TX_Broadcast_Packet_Rate
RX_Broadcast_Packet_Rate
TX_Multicast_Packets
RX_Multicast_Packets
TX_Broadcast Packets
RX_Broadcast Packets
Port_Role

Switch Tags

Device_Uptime
Port_Count
Valid_Ports
Global_Admin_Status
Global_Link_Status
System_Faults
IGMP_Querier_Status
IGMP_Version
IGMP_Resource_Usage
IGMP_Active_Querier
CPU_Usage
Class1_Connections
Class3_Connections
Temperature_Alarm_Upper_Threshold
Temperature_Alarm_Lower_Threshold
Contact_Status
Temperature_C
Temperature_F
Reset_MIB_Counts
Device_MAC_Address
Device_Role
Config_Device_Status
System_Configuration
System_Firmware_Version_String
System_Boot_Loader_Version_String
System_Fault_String

Faults Tags

Faults
Power_Supply_1
Power_Suppy_2
NRing_Full
NRing_Part_Low
NRing_Part_High
NRing_Part_Multiple_Managers
System
Config_Device
Nlink
Boot_Loader_Version
Port_Utilization
Temperature

TCP/IP Interface Tags

Status
Configuration_Capability
Configuration_Control
Path_Size
Object_Path_1
Object_Path_2
IP_Address
Network_Mask
Gateway_Address
Name_Server_1
Name_Server_2
Domain_Name
Host_Name

CIP Identity

Vendor_ID
Device_Type
Product_Code
Major_Revision
Minor_Revision
Status
Serial_Number
Product_Name
Assigned_Name
Geographic_Location

Generic Inputs

Admin_Status (1-64)
Link_Status (1-64)
Utilization_Alarm (1-64)
Class1_Connections
Class3_Connections
Temperature_C
Temperature_F
CPU_Utilization
Contact_Status
Utilization (1-64)
Update_Counter

red lion®

www.redlion.net

Connect. Monitor. Control.

Americas
sales@redlion.net

Asia-Pacific
asia@redlion.net

Europe
Middle East
Africa
europe@redlion.net

+1 (717) 767-6511

As the global experts in communication, monitoring and control for industrial automation and networking, Red Lion has been delivering innovative solutions for over forty years. Our award-winning technology enables companies worldwide to gain real-time data visibility that drives productivity. Product brands include Red Lion, N-Tron and Sixnet. With headquarters in York, Pennsylvania, the company has offices across the Americas, Asia-Pacific and Europe. For more information, please visit www.redlion.net. Red Lion is a Spectris company.