SmartRail I/O - HE599ETX250 - Ethernet Base

Quick Reference Guide

Overview

SmartRail I/O is a real-time, modular I/O system – expanding the application of the OCS family of all-in-one controllers. The SmartRail I/O Ethernet Base (ETX250) utilizes Ethernet communications for the I/O connection with the OCS. The high-bandwidth, high-speed nature of Ethernet allows a significant amount of I/O to be added while maintaining fast I/O updates.

Any OCS Controller with a built-in 10/100 Ethernet port can utilize ETX250 Base units. Each Base can support up to 8 SmartRail I/O modules – addressed with up to 256 digital I/O and 32 analog I/O per base. The total number of bases and I/O modules is limited only by the Register/Variable space available within the OCS being used.

The ETX250 features a built-in unmanaged Ethernet switch for convenience of wiring and system expansion. SmartRail I/O is not complex to configure – it utilizes Cscape (9.1 or later) in an easy, straight forward process.

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General Specifications

Required Power (Steady State)	550mA @ 24 VDC CLASS 2 POWER SUPPLY ONLY
Primary Power Range	19.2 – 28.8VDC
Output Power	1500mA @ 5 VDC
Terminal Type	Spring-Clamp
Terminal Torque Rating	0.6 N-m (5.2 in-lbs)
Recommended Wire Size	18-22AWG (copper)
Wiring Stripping Length	7mm
Relative Humidity	5 to 95%, Non-Condensing
Operating Temperature	0°C to +55°C
Storage Temperature	-25°C to +70°C
Dimensions (H x W x D)	90 x 43.5 x 72.8mm [3.54 x 1.71 x 2.87 in]
Weight	4oz. (114g)
Noise Immunity	Per IEC1131-2, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4
Certifications (UL/CE)	North America or Europe

Communications Specifications

Data Transmission	10/100/1000 Mbps
Flow Control	Full / Half-Duplex
Connectors	RJ-45 (8P8C), 2 ports (AutoMDIX)
Built-In Switch	Unmanaged Type
Protocols	Ethernet/IP
Inactivity Timeout	10 seconds
IP Configuration	From Cscape, using Boot/p
Cscape Version	Cscape 9,1 or later
Firmware Version	12.70 or later

SAFETY& WARNINGS

This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or Non-hazardous locations only.

WARNING - EXPLOSION HAZARD - Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous
WARNING - EXPLOSION HAZARD - Substitution of any component may impair suitability for Class I, Division 2
WARNING – POSSIBLE EQUIPMENT DAMAGE - Remove power from the I/O Base and any peripheral equipment connected to this local system before adding or replacing this or any module.

When found on the product, the following symbols specify:

Warning: Consult user documentation.   **Warning:** Electrical Shock Hazard.

WARNING: To avoid the risk of electric shock or burns, always connect the safety (or earth) ground before making any other connections.
WARNING: To reduce the risk of fire, electrical shock, or physical injury it is strongly recommended to fuse the voltage measurement inputs. Be sure to locate fuses as close to the source as possible.
WARNING: Replace fuse with the same type and rating to provide protection against risk of fire and shock hazards.
WARNING: In the event of repeated failure, do not replace the fuse again as a repeated failure indicates a defective condition that will not clear by replacing the fuse.
WARNING: Only qualified electrical personnel familiar with the construction and operation of this equipment and the hazards involved should install, adjust, operate, or service this equipment. Read and understand this manual and other applicable manuals in their entirety before proceeding. Failure to observe this precaution could result in severe bodily injury or loss of life.

- All applicable codes and standards need to be followed in the installation of this product.
- For I/O wiring (discrete), use the following wire type or equivalent: Belden 9918, 18 AWG or larger.

Adhere to the following safety precautions whenever any type of connection is made to the module.
- Connect the green safety (earth) ground first before making any other connections.
- When connecting to electric circuits or pulse-initiating equipment, open their related breakers. Do not make connections to live power lines.
- Make connections to the module first; then connect to the circuit to be monitored.
- Route power wires in a safe manner in accordance with good practice and local codes.
- Wear proper personal protective equipment including safety glasses and insulated gloves when making connections to power circuits.
- Ensure hands, shoes, and floor are dry before making any connection to a power line.
- Make sure the unit is turned OFF before making connection to terminals. Make sure all circuits are de-energized before making connections.
- Before each use, inspect all cables for breaks or cracks in the insulation. Replace immediately if defective.
- I/O signal or communication line should be wired at least 100mm away from a high-voltage cable or power line.

Technical Support

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