



ROCK SOLID PERFORMANCE. TIMELESS COMPATIBILITY.



# 2500 Series® Slice Ethernet Remote I/O System



## OVERVIEW

The 2500 Series® Slice I/O System is designed for use in a broad range of applications. It is compatible with the 2500 Series® Programmable Automation Control System and offers users the ability to place I/O points in multiple remote locations without the need for I/O bases and RBCs.

Slice I/O modules communicate to 2500 Series® Processors using CAMP protocol and read/write directly to the PLC memory or I/O image table. This allows transparent integration into the 2500 Series® system without the requirement for any complicated configuration step. Ethernet connection to the CPU can be accomplished using the on-board port on 2500-Cxxx Processors, using a 2572 / 2572-A/B Ethernet module, or using the 2500P-ECC1 Ethernet Communications Coprocessor. Note that when using 2572 or 2572-A/B modules, Slice I/O can be connected even to legacy Siemens® and Texas Instruments PLCs.

Several models of Slice I/O are available with different mixes of I/O and with additional communications options including RS232/485 and 900MHz radio. Slice I/O modules feature Universal Analog Inputs which allow connection of 0-5V, 0-20mA, thermocouple, and RTD sensors.

All Slice I/O modules can also be configured to

## Powerful & Cost-Effective Ethernet I/O

The 2500S family of Slice I/O modules expands the capability of 2500 Series® Systems to include small modules of I/O connected over Ethernet. It offers modularity down to a few I/O points without the need for an I/O base and RBC.

The CTI 2500 Series® Slice Ethernet I/O System offers:

- **Connection to CTI and legacy Siemens®/TI CPUs over Ethernet using CAMP**
- **Connection to DCS or other automation controllers using Modbus-TCP**
- **Several models with differing I/O capabilities to customize the solution to your needs**
- **Serial RS232/485 and 900MHz radio options for additional communications flexibility (900MHz wireless subject to import limitation, depending on country)**
- **Extensive intelligent features for processing attached I/O signals:**
  - **Totalization, filtering, forcing, inversion, runtime, and counting on digital inputs**
  - **Frequency out (with PWM) and synchronization on digital outputs**
  - **Filtering, averaging, scaling and totalization on analog inputs**
  - **Data logging and trending**
- **All module configuration done using a simple web browser interface**
- **Wide -40°C to +70°C operating temperature range**

communicate over Ethernet using Modbus-TCP to allow connection to DCS and other automation controllers.

## Hardware Specifications

### Ethernet Ports:

**Number of Ports:** 1  
**Connectors:** RJ-45 (Auto-MDIX)  
**Speed:** 10Mb or 100Mb (auto-negotiated)  
**Duplex:** Half or Full (auto-negotiated)

### Status LEDs:

**Ethernet communications activity**  
**I/O channel status**

### Serial Port: (on some models)

**Connector:** RJ45  
**Electrical Interface:** RS-232, RS-485  
**Baud Rates:** 1200b -115Kb

### I/O Specifications:

**Digital Inputs (DI):**  
Input type: low voltage DC or contact closure  
Input Voltage: 0 to 30 VDC  
Maximum rate on counting: 10KHz

### Digital Outputs (DO):

Output type: relay contact  
Output voltage: 0 to 30 VDC, 0-120 VAC  
Output current: 3A maximum

### Digital Combo (DIO):

Input type: low voltage DC or contact closure  
Input Voltage: 0—30 VDC  
Output type: FET output  
Output voltage: 0 to 30 VDC  
Output current: 1A maximum  
Output protection: 1A thermal circuit breaker

### Universal Analog Inputs (UAI):

**Signal range:**  
0-20mA, 4-20mA  
0-5V, 0-100mV, 0-250mV  
J,K,T,E,R,S,B,N thermocouple  
10Ω, 100Ω, 1KΩ RTD (2-wire and 3-wire)  
10K Type II and Type III thermistor  
Note: 3-wire RTD requires 2 inputs  
**Resolution:** 16-bits  
**Accuracy:**  
Voltage: 0.1% of full scale from -40°C to 70°C  
Current: 0.1% of full scale from -40°C to 70°C  
RTD: 0.1% of full scale from -40°C to 70°C  
Thermocouple: 0.1% of full scale  $\pm$  3°C from -40°C to 70°C

### Analog Inputs (AI):

**Signal range:**  
0-20mA, 4-20mA, 0-5V, 0-100mV, 0-250mV  
**Resolution:** 12-bits  
**Accuracy:**  
Voltage: 0.1% of full scale from -40°C to 70°C  
Current: 0.1% of full scale from -40°C to 70°C

### Analog Outputs (AO):

**Signal range:** 0-20mA, 4-20mA  
**Resolution:** 12-bits  
**Accuracy:**  
0.1% of full scale from -40°C to 70°C  
**Connector Wire Gauge:** 12-22 AWG

### Power:

**23-xxxx:** externally supplied 10-28VDC, 5 watts  
**27-xxxx:** externally supplied 12VDC, 3 watts; (also 24VDC power for charging battery, if used).

### Operating Temperature

-40 to +70°C (-40°F to +158°F)

### Storage Temperature

-40 to 85°C (-40 to 185° F)

### Relative Humidity

5% to 95% non-condensing

### Agency Approvals (pending)

UL, UL-C, CE  
Class 1 Div 2

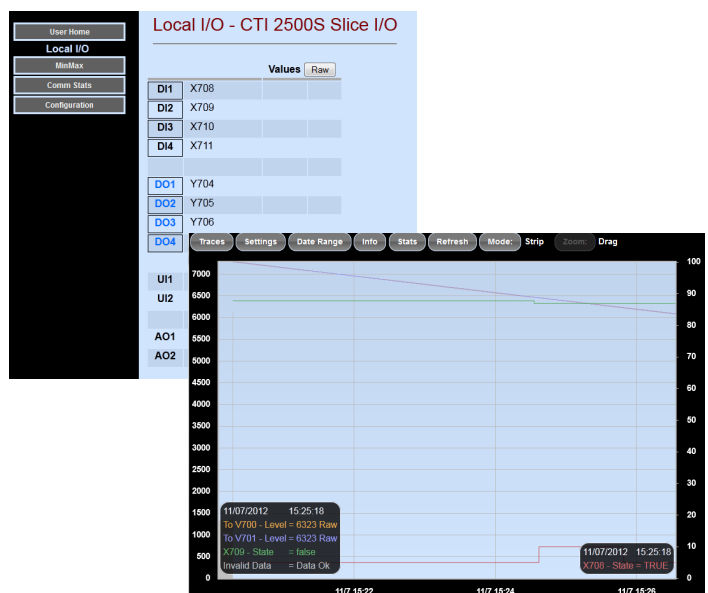
### Shipping Weight

0.5 lb. (225g)

## Configuration

All 2500S Slice I/O modules include a web server, allowing parameters for communications, signal ranges, intelligent features, and data logging/trending to be set using a simple web browser interface. The browser interface is used for configuring all module functions, including:

- Ethernet communications parameters
- Intelligent I/O functions
- Alarms
- Trending
- Maintenance
- PLC mapping of I/O information



## Ordering information

### Slice I/O with Ethernet

2500S-23-1050                      Slice I/O, Ethernet, 4DI / 4DO / 2UAI / 2AO

2500S-27-1050                      Slice I/O, Ethernet, 2DIO / 4UAI / 2AI

### Slice I/O with Ethernet and RS232/485

2500S-23-1550                      Slice I/O, RS232/485, 4DI / 4DO / 2UAI / 2AO

2500S-27-1550                      Slice I/O, RS232/485, 2DIO / 4UAI / 2AI

### Slice I/O with Ethernet, RS232/485 and 900Mhz Radio (subject to import limitation, depending on country)

2500S-23-1750                      Slice I/O, RS232/485, 900MHz, 4DI / 4DO / 2UAI / 2AO (Digi Extend with RPSMA)

2500S-27-1750                      Slice I/O, RS232/485, 900MHz, 2DIO / 4UAI / 2AI (Digi Extend with RPSMA)





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## SIMPLY SEAMLESS™

The CTI 2500 Series® Automation System

The 2500 Series® has a proud legacy as one of the world's premier process control platforms and is known for its capability, simplicity and reliability. CTI has modernized this legendary product line with smart enhancements and rich features to create a complete automation solution that helps our customers run their plants as safely, efficiently and seamlessly as possible.

### The BLUE Platform

CTI 2500 Series® products are built on the BLUE platform — CTI's seamless systems architecture. Products built on the BLUE platform are engineered with a consistent design philosophy, a common operating system and common communications protocols and interfaces. This approach ensures interoperability between various components of the system as well as between various product generations to deliver seamless operational communications and control and maximum efficiency with minimum process downtime and greatly reduced engineering development time.

Whether you choose Classic, Compact or Slice, the BLUE platform's seamless systems architecture will ensure seamless integration and powerful process control. Please contact us to learn more.

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