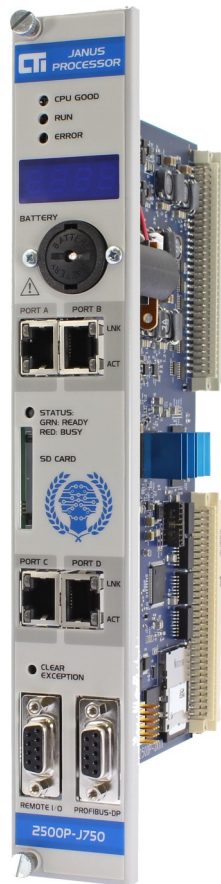


# CTI 2500 Series<sup>®</sup> 2500P-J750 “JANUS” Programmable Automation Controller

Classic



## DESCRIPTION

The new “JANUS” Processor brings completely new capabilities to the CTI 2500 Series<sup>®</sup> System. Designed to work seamlessly with existing 2500 Series<sup>®</sup> and Simatic<sup>®</sup>/TI 505 Systems as well as to look to the future with state-of-the-art programming, protocols and capabilities, including direct access to the Industrial Internet of Things (IIoT) using MQTT.

This Programmable Automation Controller (PAC) is fast, agile and optimized for quick, easy, and cost-effective communications. It features integrated drivers to an industry-leading number of protocols, allowing communications with best-in-class I/O devices, drives, and HMI/SCADA no matter the manufacturer. Programmed with CTI’s user-friendly and budget-friendly new JANUS Workbench Software, which supports all IEC-61131-3 programming languages. Initially available in our Classic size, a fully-featured Compact version will be available soon.

## KEY FEATURES

- Programmed using Janus Workbench Software (JSoft), which allows use of all IEC-61131-3 languages: LD (RLL), FBD, ST, SFC and IL
- Up to 10x execution speed compared to current 2500 Series<sup>®</sup> CPUs
- Built-in Remote I/O and Profibus interfaces with support for all existing 2500 Series<sup>®</sup> discrete and analog modules, Classic and Compact
- Built-in web server for diagnostics and statistics simplifies troubleshooting and support
- Built-in web-based visualization of graphics pages designed in Janus Workbench
- Entire operating system, firmware, and user program is contained on a standard SD card, which makes replacement of the PLC easy, should you ever have a failure
- Four Ethernet ports with internal switch that supports simultaneous connection to 4 different Ethernet networks
- Support of multiple communication protocols for connecting to major HMI and SCADA systems
- Extensive built-in communications capabilities:
  - ✓ Optimized peer-to-peer communications with other JANUS Series PACs and 2500P-ACP1 / 2500P-ECC1 coprocessors
  - ✓ CAMP Client for communicating with all CTI Ethernet products (2572, 505-CP2572, 2572-A, 2572-B, 2500P-ECC1, 2500 Series<sup>®</sup> CPUs)
  - ✓ CAMP Server for HMI/SCADA access
  - ✓ Open Modbus Client and Server
  - ✓ Ethernet/IP Scanner
  - ✓ Ethernet/IP Adapter
  - ✓ Ethernet/IP Tag Client
  - ✓ Ethernet/IP Tag Server
  - ✓ MQTT client for direct access to the IIoT
  - ✓ OPC-UA server (future)
  - ✓ Profinet controller and device (future)

2500 Series<sup>®</sup> PAC System  
Product Bulletin



**Control Technology Inc.**

5734 Middlebrook Pike, Knoxville, TN 37921-5962  
Phone: +1.865.584.0440 Fax: +1.865.584.5720  
www.controltechnology.com

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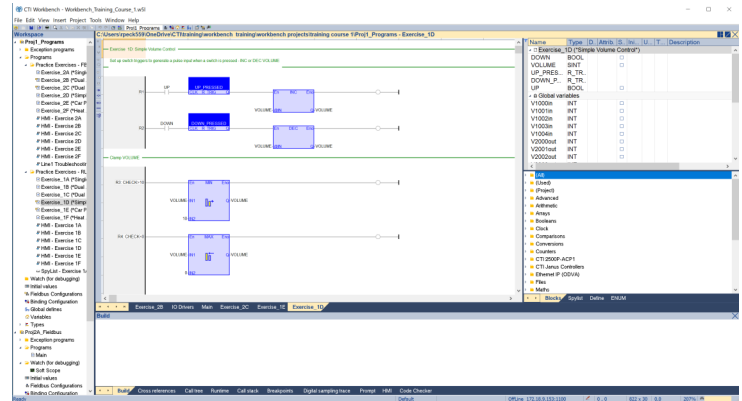
ROCK SOLID PERFORMANCE. TIMELESS COMPATIBILITY.

## HARDWARE FEATURES

- Front display for IP address and error messages
- Four Ethernet ports can be configured with up to four unique network addresses
- Internal SD card contains entire operating system, firmware, user program, configuration, user data (NOTE: This allows rapid replacement of a failed CPU simply by transferring the old SD card into the replacement unit)
- External SD card for file exchange, firmware update, initial IP address assignment
- Front-accessible battery

## PROGRAMMING WITH JANUS WORKBENCH

- Programmed with Janus Workbench, a tag-based integrated development environment which allows use of SFC, FBD, RLL, ST, IL programs and allows configuration of all communications within the same software - simplifies engineering by configuring all PLC logic and communications in a single application
- Complete backup of all program source files to the PLC whenever a change is made - allows recovery of the complete application if source files are lost from the development PC
- Support for complex data structures
- Built-in simulator
- Built-in trending and charting
- Extensive import/export features allow use of Excel for managing variable library
- Ability to interface with version control software
- Enhanced on-line change features allow extensive editing without stopping the PLC
- Free video-based training on YouTube



## HMI / SCADA CONNECTIVITY FEATURES

- CAMP Server - allows seamless migration of existing 2500 Series<sup>®</sup> PLC installations with no need to reconfigure HMI & SCADA devices
- Modbus-TCP Server, Ethernet/IP Tag Server - allows connection to most major HMI and SCADA systems
- OPC-UA connectivity coming soon
- Support for multiple networks allows SCADA traffic to be separated from other PLC and device communications
- Special variable binding protocol for use with COPA-DATA zenon SCADA software

## SECURITY FEATURES

- “Secure Boot” process uses encryption keys to verify that the PLC is booting from the trusted CTI executable firmware
- Password protection for
  - ✓ connecting to the PLC with Workbench
  - ✓ view / edit of individual programs
  - ✓ modifying PLC settings via web server
  - ✓ file management and firmware update functions
  - ✓ access to web visualization
- Future security enhancements for encryption of communications

## COMPATIBILITY FEATURES

- Support for local I/O, remote I/O and Profibus with configuration done in Workbench – allows Janus to operate in all 2500 Series<sup>®</sup> and Simatic/TI 505 applications
- Support of extensive communications capability on the Controller means that SF modules do not need to be supported
- Support of special CTI “DataCache” protocol allows direct communication with existing CTI 2500 Series<sup>®</sup> Processors with updates guaranteed every scan
- Existing HMI/SCADA devices can communicate with the PLC using CAMP. Variables can be named with valid “505” memory references or tagged with a 505 “pseudonym” like V100. When the HMI polls for V100, the CPU will return the value of the tag.
- Library of “505 style” function blocks like Drums – allows users proficient with 505 Workshop to use these same features in Workbench
- Conversion assistance for migrating Workshop, TISoft, and APT™ Programs to Workbench

## 2500P-J750 "Janus" Controller Specifications

<b>Built-in display for IP address and errors</b>	yes
<b>Ethernet</b>	
<i>Number of IP/Subnet Configurations</i>	4
<i>Number of connections</i>	64
<b>I/O</b>	
<i>Local / Remote I/O</i>	yes / yes
<i>Max I/O Points (Digital / Analog)</i>	16K / 16K
<i>Profibus</i>	yes
<i>Max I/O Data Bytes (64 Slaves)</i>	32K
<i>Ethernet I/O</i>	future
<b>User Memory</b>	
<i>Project Memory (Programs + Fieldbus)</i>	3MB
<i>Program Data</i>	15MB
<b>Web Server</b>	yes
<b>Web Visualization (variables)<sup>1</sup></b>	256
<b>Enhanced On-line change</b>	yes
<b>Communication Protocols</b>	
<i>Binding (peer-peer)</i>	yes
<i>CAMP Server</i>	yes
<i>Camp Client</i>	yes
<i>Modbus UDP/TCP Client</i>	choose 1*
<i>Modbus UDP/TCP Server</i>	yes
<i>CTI Data Cache Client (connections)</i>	1
<i>Ethernet/IP Scanner</i>	choose 1*
<i>Ethernet/IP Adapter</i>	yes
<i>Ethernet/IP Tag Server</i>	yes
<i>Ethernet/IP Tag Client</i>	choose 1*
<i>MQTT Client (communicates with broker)</i>	choose 1*
<i>OPC-UA Server</i>	future
<i>Profinet Controller</i>	future
<i>Profinet Device</i>	future

<sup>1</sup> Each project variable with 'Embed Symbol' box checked is counted as a 'Web Visualization' variable whether or not it is actually used in a web page. Variables of type Structures, Function Blocks, and UDFBs are not permitted. Arrays of basic data types are allowed, but each array element counts as one variable.

\* Project may include one of these protocols