RSTi EP I/O

High Density
High Performance I/O

Smarter Architecture

Today's connected machines require innovative, high-performance control systems that minimize unplanned downtime and increase productivity and efficiency. RSTi EP combines powerful technology and a modular, compact form factor to deliver higher performance and maximized productivity in today's connected automation systems.

The RSTi-EP remote I/O system is well suited for Industrial Internet enabled applications. It features an extended operating temperature range, enhanced diagnostics, plug-and-play connectivity and high channel density– all designed to simplify machine design and maintenance.

Advanced diagnostics make RSTi-EP ideal for remote applications, especially those where I/O can be difficult to reach. And RSTi-EP I/O is easily expandable, making it easy to adapt and extend coverage as your system evolves.

Higher Performance in Half the Space

The innovative RSTi-EP I/O is a powerful combination of clean layout, high density, and small footprint. It can accommodate up to 64 modules and 1024 I/O points per drop. Yet its 11.5 mm I/O slices are smallest in the industry, helping to maximize limited cabinet space. By adopting the most compact I/O system on the market, it's possible to incorporate smaller cabinet sizes into user-friendly system designs. The high- performance 4A system bus power supply makes it possible to power 64 I/O modules directly from the network adapter, saving on power- feed modules, and simplifying planning and execution.

Intuitive Integration

The RSTI-EP features outstanding performance and response time, with the high-speed system bus reading up to 256 DI/DOs in 20 microseconds. It offers intuitive I/O mapping for quick and easy integration into your control application, as well as maximum power reserves for future applications. RSTi EP features faster backplane speeds than the original RSTi I/O and perfectly responds to growing complexity in machine and factory automation thanks to powerful flexibility and a consistent user interface.

Remote, Real-time Diagnostics

With the RSTi-EP's integrated web server and advanced diagnostics, failures in the system can be identified remotely, eliminating the need to travel to the machine, saving both time and money. The web server lets the operator view diagnostic faults and upgrade firmware over the web– simplifying start up, increasing availability and productivity without the need for additional tools or software. It is simple to prioritize service trips as critical or routine maintenance without stepping out of the control room.

FEATURE	BENEFIT
Wide Range of Communication Options	• Network adapter support for PROFINET RT, PROFIBUS, Modbus TCP and EtherCAT
Small Footprint	• Industry-best I/O density that's still easy to use • Maximize or reduce cabinet space • Place I/O closer to sensors for reduced wiring costs
Improved System Availability	• Designed with hot-swap IO and inputs and outputs that can be switched off independently. These features enable service activities to be performed while the sensor system is active.
Easier Maintenance & Troubleshooting	• Further shorten production downtimes with unique plain text diagnostics via the integrated web server. In case of an emergency stop it is simpler to identify and prioritize errors faster.
Module and Channel Level LEDs	• Easy error diagnosis: Localize errors instantly with an LED directly on the channel and status indicators on every module. An indispensable benefit for secure commissioning and rapid system maintenance
Higher Performance	• High speed system bus communicates up to 256 discrete inputs or discrete outputs in 20 microseconds • 100 MBps Etherent on Ethernet enabled network adapters • Move more data with precision and confidence for improved application performance and productivity

Simple Maintenance

RSTi EP lays a strong foundation for installation, machine commissioning and service applications with robust and easy-to-use signal connection components LEDs on the module and each channel help operators to quickly and easily determine I/O health and quickly diagnose any system failures.

Plug and Play Installation

Consistent I/O cabling interfaces make installation faster and more reliable. Color-keyed connectors allow for fewer cabling errors and noticeably shorter installation times. Better still, no tools are required for installation or removal of I/O wiring connectors, saving time and effort. Entire machine modules can be cabled faster and transferred into production through a streamlined commissioning process.

A single row connection level facilitates wiring, installation, and service. Separate power supplies for inputs and outputs reduce the number of power feed modules needed and save space; additionally, specific sections can be activated or deactivated without affecting production thanks to the independence of the input and output power busses.

Specifications

Communications
• PROFINET RT, PROFIBUS, Modbus TCP and EtherCAT

Interface
• Copper RJ-45 for Ethernet models and DB-9 for serial network adapters

Expansion
• Up to 64 active I/O modules per network adapter Power Supply 20.4V – 28.8V DC

Environmental

Operating temperature	-20°C to +60°C (-4°F to +140°F)
Storage temperature	-40°C to +85°C (-40°F to +185°F)
Air humidity (operation/transport)	5% to 95%, noncondensing as per DIN EN 61131-2

Dimensions

	Network Adapters	I/O Modules
Width	52 mm (2.05 in)	11.5 mm (0.45 in)
Depth	76 mm (2.99 in)	76 mm (2.99 in)
Height	120 mm (4.72 in)	120 mm (4.72 in)

Safety
• SIL 3 compliant (IEC 62061 and EN ISO 13849-1, category 4, PLe)

11.5 mm

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Ordering Information

Part No.	Module Description
Network Adapters	
EPXETC001	Ethercat Network Adapter, 2 Cu RJ45 Ports, 1024 bytes (Input + Output)
EPXMBE001	Modbus TCP Network Adapter, 2 Cu RJ45 Ports, 2048 bytes (Input + Output)
EPXPBS001	PROFIBUS DP-V1 Network Adapter
EPXPNS001	PROFINET IRT Network Adapter, 2 Cu RJ45 Ports, 1024 bytes (Input + Output)
Digital Inputs	
EP-1214	4 Points, Positive Logic 24VDC, 2,3, or 4 Wire
EP-1218	8 Points, Positive Logic, 24VDC 2 Wire
EP-125F	16 Points, Positive Logic, 24VDC, 1 Wire
EP-12F4	4 Points, Positive Logic 24VDC, 2,3, or 4 Wire, Time stamp
EP-1318	8 Points, Positive Logic, 24VDC 3 Wire
EP-1804	4 Points 110/230 VAC (65 – 277 VAC), 2 Wire,
EP-1901	1 Safe Feed-Input, 24 VDC
EP-1902	2 Safe Feed-Inputs, 24 VDC
EP-1922	2 Safe Feed-Inputs, 24 VDC, Programmable Delay
Digital Outputs	
EP-2214	4 Points, Positive Logic 24VDC, 0.5A, 2,3, or 4 Wire
EP-2218	8 Points, Positive Logic, 24VDC, 0.5A, 2 Wire
EP-225F	16 Points, Positive Logic, 24VDC, 0.5A, 1 Wire
EP-2614	4 Points, Positive Logic 24VDC, 2.0A, 2,3, or 4 Wire
EP-2634	4 Points, Positive/Negative Logic 24VDC, 2.0A, 2,3, or 4 Wire
EP-2714	4 Points, Positive Logic, 24 - 220 VDC/VAC, 6A, 2 Wire
EP-2814	4 Points, Positive Logic, 230 VAC, 1A
Analog Inputs	
EP-3124	4 Channels Voltage/Current 12 Bits 2, 3, or 4 Wire
EP-3164	4 Channels Voltage/Current 16 Bits 2, 3, or 4 Wire
EP-3264	4 Channels Voltage/Current 16 Bits with Diagnostics 2, 3, or 4 Wire
EP-3368	8 Channels Current 16 Bits 2, 3, or 4 Wire– HD Connectors
EP-3468	8 Channels Current 16 Bits 2, 3, or 4 Wire, Channel Diagnostic– HD Connectors

Part No.	Module Description
EP-3704	4 Channels RTD 16 Bits with Diagnostics 2, 3, or 4 Wire
EP-3804	4 Channels TC 16 Bits with Diagnostics 2, 3, or 4 Wire
Analog Outputs	
EP-4164	4 Channels Voltage/Current 16 Bits 2, 3, or 4 Wire
EP-4264	4 Channels Voltage/Current 16 Bits with Diagnostics 2, 3, or 4 Wire
Special Function Modules	
EP-5111	1 Channel High Speed Counter, AB 100 kHz 1 DO 24VDC, 0.5A
EP-5112	2 Channel High Speed Counter, AB 100 kHz
EP-5212	2 Channel Frequency Measurement, 100 kHz
EP-5261	1 Channel Serial Communications, 232, 422, 485
EP-5311	SSI Encoder, BCD or Gray-Code Format, 5/24 VDC
EP-5422	2 Channels PWM Output, Positive Logic, 24VDC, 2.0 A
EP-5442	2 Channels PWM Output, Positive Logic, 24VDC, 0.5 A
Power Modules	
EP-700F	16 Channels 24VDC Potential Distribution Functional Earth
EP-710F	16 Channels 24VDC Potential Distribution +0VDC from Input Current Path
EP-711F	16 Channels 24VDC Potential Distribution +24 VDC from Input Current Path
EP-750F	16 Channels 24VDC Potential Distribution +0VDC from Output Current Path
EP-751F	16 Channels 24VDC Potential Distribution +24 VDC from Output Current Path
EP-7631	1 Channel 24VDC Output Flow 10A
EP-7641	1 Channel 24VDC Input Flow 10A
Accessories	
EP-8100	Label Marker, I/O Connections
EP-8300	Base connector, I/O Mocule
EP-8301	DIN Rail Termination Kit, Replacement
EP-8360	High-Density IO Connector Pack (8 x 4-Signal Connectors)
EP-8310	Empty Slot Filler Module
EP-8631	Base Connector, Power Feed, Input Current path
EP-8641	Base Connector, Power Feed, Output Current path