RSTI-EP Slice I/O

PROFINET® Scanner EPXPNS101

The EPXPNS101 PROFINET Scanner is a PROFINET I/O device supporting S-1 PROFINET Simplex and S-2 PROFINET System redundancy. The network adapter is the head module for the RSTi-EP system bus, to which up to 64 active RSTi-EP modules can be connected. The PROFINET network adapter has two Ethernet ports, and an integrated switch.

The PROFINET Scanner can be accessed with a system-independent web server application via the USB service interface or the Ethernet. Thus, all information, such as diagnostics, status values and parameters, can be read and all connected modules can be simulated or forced.

The station's main power supply is integrated in the PROFINET Scanner. Power is supplied via two 4-pole connectors, separated into the input and output current paths.

Caution, the RSTi-EP station is usually installed on a horizontally positioned DIN rail. Installation on vertically positioned DIN rails is also possible. However, the heat dissipation is reduced such that the derating values change (refer to the section, *Thermal Derating*.

Modules should to be allowed to de-energize for a minimum 10 seconds after power down, prior to starting any maintenance activity. The PROFINET Scanner cannot be hot-swapped.

Refer to the *RSTi-EP Slice I/O User Manual* (GFK-2958) for additional information.

Refer to the *RSTi-EP Power Supply Reference Guide*, a software utility available on PME V9.00, for detailed power-feed requirements.

Module Features

- Supports up to 64 active RSTi-EP modules
- Supports PROFINET RT (only) for Redundancy and Non Redundancy mode
- *Spring-style* technology for ease of wiring
- DIN rail mounted
- Double-click installation for positive indication of correct installation
- Built-in Web Server (HTTP & HTTPS) for diagnostic information and firmware update through Ethernet and micro USB port
- Supports Type S2 System Redundancy operation
- Supports Media Redundancy Protocol (MRP) Client mode operation
- Support for daisy-chain/line, star, or ring (MRP) technologies
- Two switched Ethernet ports; 8-conductor RJ-45 shielded twisted pair 10/100 Mbps copper interfaces
- Fast start-up < 500 ms with a maximum of 10 modules

PWR, SF, BF, MT, LINK 1, ACT 1, LINK 2, and ACT 2 LEDs

Ethernet Ports

Power Supply LED

Door for Micro USB Port

PROFINET Scanner

Ordering Information

Module	Description
EPXPNS101	RSTi-EP Slice I/O PROFINET Network Adapter 2CU RJ45 PORTS

Specifications

	EPXPNS101	
System data		
Connection	2 x RJ-45	
Fieldbus protocol	PROFINET Version 2.3 Class C I/O Device (**RT Only**)	
PROFINET System Redundancy Support	Redundantly controlled operation conforms to PROFINET V2.3 Type S-2 System Redundancy	
Application Relations Supported	1 Simplex AR or 1 SR-AR set made of 2 SR-ARs	
Number of Application Relations Supported	1 Simplex AR or 1 SR-AR set made of 2 SR-ARs	
Process image	Input data width	max. 512 bytes
	Output data width	max. 512 bytes
	Parameter data	max. 4362 bytes
	Diagnostic data	max. 1408 bytes
Number of modules	max. 64 active	
Configuration interface	Micro USB 2.0	
Transfer rate	Fieldbus	Max. 100 Mbps
	RTSi-EP system bus	Max. 48 Mbps
Data format	Default: Motorola	Configurable: Intel
Status Bits	16 Input Status Bits	
PROFINET I/O Update Rate	Configurable selections: 1ms, 2ms, 4ms, 8ms, 16ms, 32ms, 64ms, 128ms, 256ms and 512ms	
Supports MRP	Yes * [Min I/O Update Rate for bumpless operation in an MRP ring topology 128ms for Profinet System Redundancy configuration. For simplex system Min IO update rate for MRP bumpless operation is 8ms]	
Supply		
Supply voltage for system and inputs	20.4V – 28.8V	
Supply voltage for outputs	20.4V – 28.8V	
Max. feed-in current for input modules	10 A	
Max. feed-in current for output modules	10 A	
Current consumption from system current path I$_{SYS}$	116 mA	
Connection data		
Type of connection	*Spring style*	
Conductor cross-section	Single-wired, fine-wired	0.14 – 1.5 mm^2 (AWG 26 – 16)
General data		
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	
Width	52 mm (2.05 in)	
Depth	76 mm (2.99 in)	
Height	120 mm (4.72 in)	
Weight	220 g (7.76 oz)	
Configuration	V2.3 GSDML file is available on the Support website *http://support.ge-ip.com* for download and import into Proficy Machine Edition. The GSDML supporting a firmware release is part of the firmware upgrade kit available on the Support website.	

LEDs

LED Status Indicators

LED	Indication	LED State/Description
PWR	Power LED	**Green:** Supply voltage connected
SF	System fault	**Red:** Configuration error, or error in the PROFINET Scanner, or error in a module, or there is a new diagnostic report **Red flashing:** Station in Force mode
BF	Bus fault	**Red:** No connection to the fieldbus **Red flashing:** Configuration error, no connection to the control unit, or error in the parameter set
MT	Maintenance Required	**Yellow:** Error on the system bus or fieldbus
LINK 1	Connection	**Green:** Connection established between port 1 of the PROFINET Scanner and another field device
ACT 1	Active	**Yellow flashing:** Data being exchanged on port 1
LINK 2	Connection	**Green:** Connection established between port 2 of the PROFINET Scanner and another field device
ACT 2	Active	**Yellow flashing:** Data being exchanged on port 2

LED Indicators

LED	EPXPNS101
Power Supply	**Green:** Supply voltage > 18 V DC **Red:** At least one current path < 18 V
3.1	**Green:** Input current path supply voltage > 18 V DC
3.2	**Red:** Input current path supply voltage < 18 V DC
3.3	
3.4	**Red:** Internal fuse defective
4.1	**Green:** Output current path supply voltage > 18 V DC
4.2	**Red:** Output current path supply voltage < 18 V DC
4.3	
4.4	**Red:** Internal fuse defective