

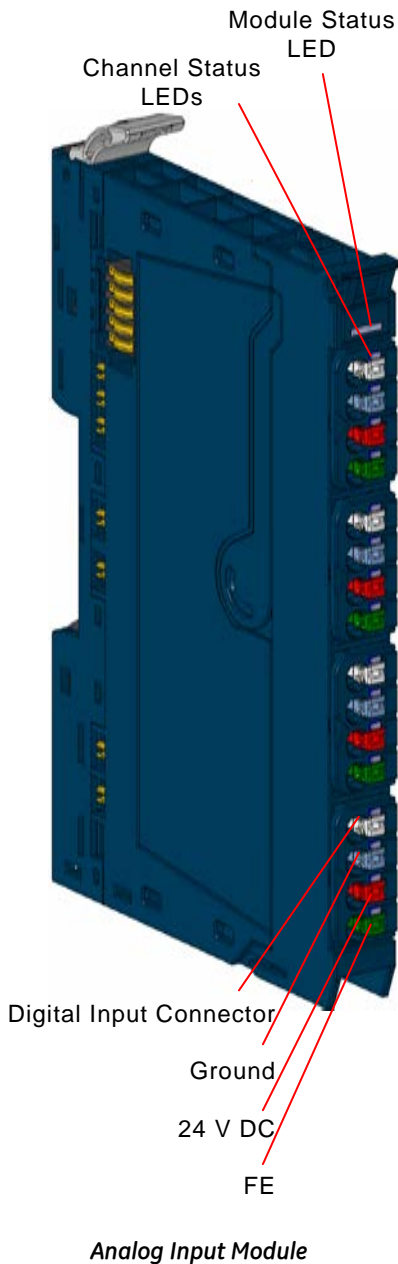
RSTi-EP Slice I/O

Analog Input Modules

**EP-3164, EP-3264, EP-3124, EP-3368, EP-3468
EP-3704, EP-3804**

GFK-2960A

December 2015



GE provides a range of RSTi-EP analog input modules with 4 or 8 inputs and up to 16-bit resolution. The measurement range is defined by parameterization with an accuracy of 0.1% FSR with the exception of EP3124, which 0.25% FSR. The parameters for the measurement range can be individually set for each channel.

The EP-3704 module can detect up to 4 analog resistance temperature detectors. The resolution is 16 bit per channel.

The EP-3804 module can detect up to 4 analog thermocouple sensors or voltages between ± 15 mV and ± 2 V.

The wiring connectors on each module are color coded for ease of wiring. Refer to the section, [Field Wiring](#) for additional information.

Each module features a type plate, which includes identification information, the key technical specifications, and a block diagram. In addition, a QR code allows for direct online access to the associated documentation. The software for reading the QR code must support inverted QR codes.

Markers are available as accessories for labelling equipment. Each I/O module can be labelled using the markers to ensure clear identification when replacing individual modules or electronic units.

A green *Module Status* LED indicates there is communication on the system bus. In addition, each channel has its own status LED.

The RSTi-EP station is usually installed on a horizontally positioned DIN rail. Installation on vertically positioned DIN rails is also possible.

Modules should be allowed to de-energize for a minimum 10 seconds after power down, prior to starting any maintenance activity.

Refer to the *RSTi-EP Slice I/O Module 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

- Spring style technology for ease of wiring
- DIN rail mounted
- Double-click installation for positive indication of correct installation
- Up to 8 analog inputs
- Supports indirect firmware update through network adapter using Web server
- Supports hot insertion and extraction

GFK-2960A

Ordering Information

Module	Description
EP-3124	Analog Input, 4 Channels Voltage/Current 12 Bits 2, 3, or 4 Wire
EP-3164	Analog Input, 4 Channels Voltage/Current 16 Bits 2, 3, or 4 Wire
EP-3264	Analog Input, 4 Channels Voltage/Current 16 Bits with Diagnostics 2, 3, or 4 Wire
EP-3368	Analog Input, 8 Channels Current 16 Bits 2, 3, or 4 Wire
EP-3468	Analog Input, 8 Channels Current 16 Bits 2, 3, or 4 Wire, Channel Diagnostic
EP-3704	Analog Input, 4 Channels RTD 16 Bits with Diagnostics 2, 3, or 4 Wire
EP-3804	Analog Input, 4 Channels TC 16 Bits with Diagnostics 2, 3, or 4 Wire

Specifications

	EP-3124	EP-3164	EP-3264	EP-3368	EP-3468
System Data					
Data	Process, parameter and diagnostic data depend on the network adapter used.				
Interface	RSTi-EP system bus				
System bus transfer rate	48 Mbps				
Potential isolation	Test voltage: max. 28.8 V within one channel, 500 V DC field/system Pollution severity level: 2 Overvoltage category: II				
Common mode voltage	Against: 0V - $\pm 50V$ Channel-Channel: $\pm 3V$				
Inputs					
Number	4	4	4	8	8
Input values	1. Voltage (0 to 5 V, $\pm 5 V$, 0 to 10 V, $\pm 10 V$, 1 to 5 V, 2 to 10 V) 2. Current (0 to 20 mA, 4 to 20 mA)			Current input (0 to 20 mA, 4 to 20 mA)	
Resolution	12 bits	16 bits			
Frequency suppression	Options: disabled (0) / 50 Hz (1) / 60 Hz (2) / Average over 16 values (3) Default: disabled				
Accuracy	0.25 % max. at 25 °C (77 °F) 50 ppm/K max. Temperature coefficient max. -10 mV/A additional inaccuracy in the voltage mode due to sensor power supply current	0.1 % max. at 25 °C (77 °F) 50 ppm/K max. Temperature coefficient max. -10 mV/A additional inaccuracy in the voltage mode due to sensor power supply current	0.1 % max. at 25 °C (77 °F) 50 ppm/K max. Temperature coefficient		
Sensor supply	max. 2 A per plug, total max. 8 A	max. 2 A per plug, total max. 8 A	max. 0,5 A per plug	max. 125 mA per channel; channel 0 to 3 and 4 to 7 respectively are fused in combination	
Sensor connection	2-wire, 3-wire, 3-wire + FE				
Conversion time	1 ms				
Internal resistance	Voltage mode: 100 k Ω ; Current mode: 41.2 Ω			approx. 45 Ω	

For public disclosure

	EP-3124	EP-3164	EP-3264	EP-3368	EP-3468
Inputs continued					
Reverse polarity protection	Yes				
Short-circuit-proof	Yes				
Response time of the protective circuit	< 0.1 s with short-circuit to +24 V	< 50 ms	< 50 ms	< 0.1 s with short-circuit to +24 V	
Reset time	--	--	--	Temperature-dependent (< 30 s at 20°C)	
Module diagnostics	Yes				
Individual channel diagnostics	No	No	Yes	No	Yes
Supply					
Supply voltage	20.4V – 28.8V via system bus				
Current consumption from system current path I _{sys}	8 mA				
Current consumption from input current path I _{in}	25 mA + sensor supply current			20 mA + load	
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 IEC 61131-2				
Width	11.5 mm (0.45 in)				
Depth	76 mm (2.99 in)				
Height	120 mm (4.72 in)				
Weight	87 g (3.07 oz)	89 g (3.14 oz)	89 g (3.14 oz)	90 g (3.17 oz)	90 g (3.17 oz)

	EP-3704	EP-3804†
System Data		
Data	Process, parameter and diagnostic data depend on the network adapter used.	
Interface	RSTi-EP system bus	
System bus transfer rate	48 Mbps	
Potential isolation	Test voltage: max. 28.8 V within one channel, 500 V DC field/system Pollution severity level: 2 Overvoltage category: II	
Inputs		
Number	4	
Sensor types	Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni 200, Ni500, Ni1000, Cu10, and resistors with 40 Ω, 80 Ω, 150 Ω, 300 Ω, 500 Ω, 1 kΩ, 2 kΩ, 4 kΩ	J, K, T, B, N, E, R, S, L, U, C, mV
Resolution	16 bits	
Accuracy	max. 0.2 % FSR / 0.3 % FSR for Ni sensors / 0.6 % FSR for Cu10	Conversion time ≥ 80 ms: 10 μV + 0.1 % of voltage measurement range (without cold-junction measurement error)
Temperature coefficient	±50 ppm/K max.	50 ppm
Sensor connection	2-wire, 3-wire, 4-wire	2-wire