



SmartRail

RTD Input Module (Pt-100)

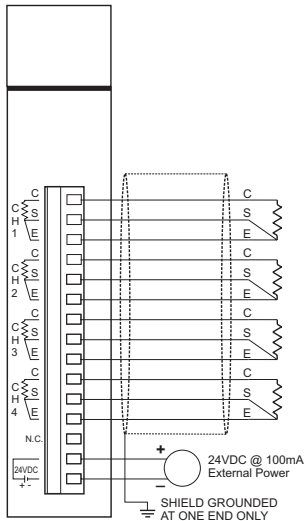
HE599RTD100

0.1°C Resolution, typical

1 Specifications

Specifications		
RTD100		
Number of Channels	4	
Types Supported	American ($\alpha=0.00392$)	
	Japanese Std ($\alpha=0.003916$)	
	DIN Std ($\alpha=0.00385$)*	
Temperature Range	-200 to +600 °C	
Resolution	0.1°C	
Accuracy	@ 25°C	±0.3% full scale
	0-55°C	±0.5% full scale
Isolation	500V (backplane)	
Conversion Time	40ms/ch	
Backplane Power Consumed	100mA @ 5V	
External Power Required	100mA @ 24V (+/-10%) CLASS 2 POWER SUPPLY ONLY	
Terminal Type	M2 Screw Type, Removable 15-posn	
Optional Spring-Clamp Terminal Strip	HE599TRM015 , 15posn	
Terminal Torque Rating	0.22 to 0.25 N-m 1.95 to 2.21 in-lb	
Accepted Wire Size	16-28AWG (use copper)	
Wire Stripping Length	7mm	
Storage Temp.	-25° to 70° Celsius	
Operating Temp.	-0° to 55° Celsius	
Relative Humidity	5 to 95% Non-condensing	
Dimensions WxHxD	20mm x 90mm x 60mm 0.79" x 3.54" x 2.36"	
Weight	63g (2.2 oz.)	
CE & UL Compliance	CE, UL & C-UL Class I, Div 2 Groups A, B, C & D	
*requires a user defined function block for Cscope (available for free download)		

2 Wiring – I/O



RTD100 LED Status Indication	
LED	Meaning
RUN	ON = Normal Operation
	FLASH = I/O Error
	OFF = No Power or I/O Error
OK	ON = Normal Operation
	FLASH = Open Circuit Detected
	OFF = No Readings

3 Reported Data & Configuration Data

Data is reported to the OCS in signed integer format, with a single implied decimal place. For a temperature of +457.4°C, with a data range configured for °C, the reported data value is 4574 decimal. For a temperature of -12.1°F, with a data range configured for °F, the reported data value is -121 decimal.

The SmartRail RTD100 is configured using Cscope (9.1 or later). The following parameters are configurable for the RTD100:

Cscope Configuration Data – Selectable per channel	
Parameter	Selections
Channel Enable	Enable
	Disable
Thermocouple Type	American Std ($\alpha=0.00392$)
	Japanese Std ($\alpha=0.003916$)
Data Range	°C
	°F

If you are using the common European (DIN) standard RTDs, configure the module for the American Standard type. An extra calculation is then required in logic to convert the value reported by the RTD100 into an accurate value. This calculation may be performed using a user defined function block inserted into the Cscope logic program. This function block (DIN_RTD_FUN) is available for download from the Horner APG web site.

4 Installation / safety

This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or Non-hazardous locations only

WARNING - EXPLOSION HAZARD -

Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous

WARNING - EXPLOSION HAZARD -

Substitution of any component may impair suitability for Class I, Division 2

WARNING – POSSIBLE EQUIPMENT DAMAGE

Remove power from the I/O Base and any peripheral equipment connected to this local system before adding or replacing this or any module.

- a. All applicable codes and standards should be followed in the installation of this product.
- b. Shielded, twisted pair wiring of the proper type should be used for best performance. Maximum lead-wire resistance should be less than 10Ω.
- c. Shields should be terminated at one end only, at the end providing the best noise shunting.

For detailed installation and a handy checklist that covers panel box layout requirements and minimum clearances, refer to the hardware manual of the controller you are using.

When found on the product, the following symbols specify:



5 Technical Support

Technical Support at the following locations:

North America:	Europe:
Tel: 317 916-4274	Tel: +353-21-4321266
Fax: 317 639-4279	Fax: +353-21-4321826
Web: http://www.heapg.com	Web: http://www.horner-apg.com
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