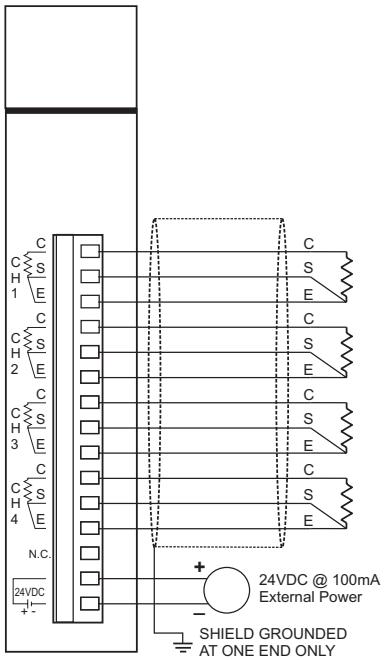
SmartRail
RTD Input Module (Pt-100)
HE599RTD100
0.1°C Resolution, typical

1 Specifications

Specifications		
		RTD100
Number of Channels		4
Types Supported		American (α=0.00392)
		Japanese Std (α=0.003916)
		DIN Std (α=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%)
Terminal Type		Screw Type, Removable 15-posn
Optional Spring-clamp Plug		**HE599TRM015**
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
*requires a user defined function block for Cscape (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 Cscape (9.1 or later). The following parameters are configurable for the RTD100:

Cscape Configuration Data – Selectable per channel	
Parameter	**Selections**
Channel Enable	Enable
	Disable
Thermocouple Type	American Std (α=0.00392)
	Japanese Std (α=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 Cscape logic program. This function block (DIN_RTD_FUN) is available for download from the Horner APG web site. This function block performs the following calculation.

$Y = 4.70573965141697e\text{-}06(x^2) + 1.01922059169856e+00(x) + 1.28999644570005e\text{-}02$

where ***Y*** *= DIN temperature value* and
x *= American Standard temperature value*

4 Installation / safety

Warning: Remove power from the OCS controller 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:

Warning: Electrical Shock Hazard.

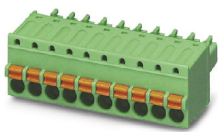
Warning: Consult user documentation.

5 Technical Support

Technical Support at the following locations:

North America:
Tel: 317 916-4274
Fax: 317 639-4279
Web: http://www.heapg.com
Email: techsppt@heapg.com

Europe:
Tel: +353-21-4321266
Fax: +353-21-4321826
Web: http://www.horner-apg.com
Email: tech.support@horner-apg.com



Prefer Spring-clamps?
Optional Spring-clamp style plugs are available as economical wiring accessories. See specification table for part number(s). Representative 10-position plug shown.