RTD Input Module

HE800RTD000 / HE800RTD100
HE820RTD000 / HE820RTD100*

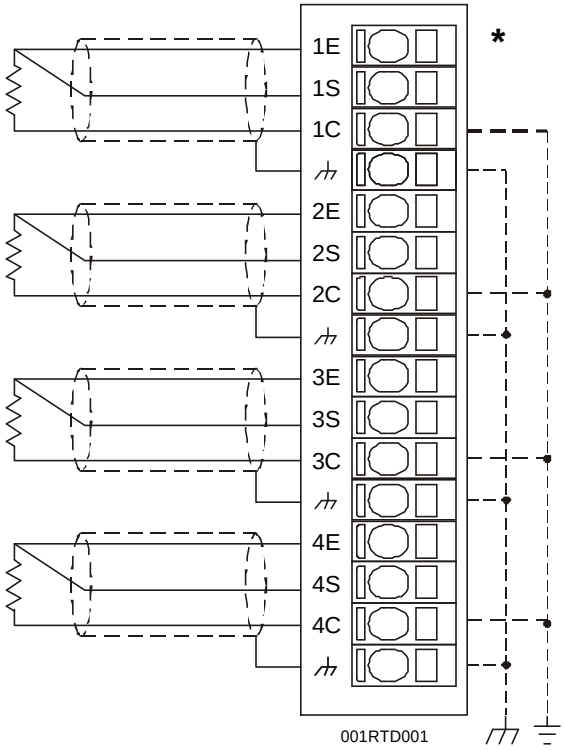
*** HE820 denotes plastic case.**

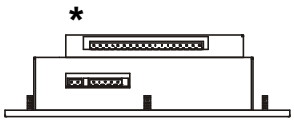
This datasheet also covers products starting with IC300 instead of HE800 or HE820.

1 SPECIFICATIONS

	RTD000	RTD100		RTD000	RTD100
Number of Channels	2	4	Required Power (Steady State)	0.10W (4.2mA @ 24VDC)	
RTD Types	100, 200, 500, 1000 Ohms at 0°C, Platinum, Alpha 0.00385, DIN43760		Required Power (Inrush)	Negligible	
			Average RTD Current	0.44mA (100 Ohm Range)	
Input Range	-200°C to +850°C		I/O Points Required	2	4
Input Impedance	>100Meg Ohm 0-4VDC Clamped @ 0 and 4VDC		Converter Type	Integrating	
RTD Excitation Current	2.2, 1.1, 0.44, 0.22mA, 25% duty cycle		Types Supported	DIN43760	
RTD Short	Indefinite		Accuracy	± 0.5°C	
			Resolution	0.05°C	
Channel-to-Channel Tracking	0.1°C		Operating Temperature Relative Humidity	0° to 60° Celsius 5 to 95% Non-condensing	
Update Time	16 channels/second				
Input Transient Protection	Zener/Capacitor		Terminal Type	Spring Clamp, Removable	
Notch Filter	50-60 Hz. Software Selectable		Weight	9.5 oz. (270 g)	
CE	See Compliance Table at http://www.heapg.com/Support/compliance.htm				
UL					

2 WIRING





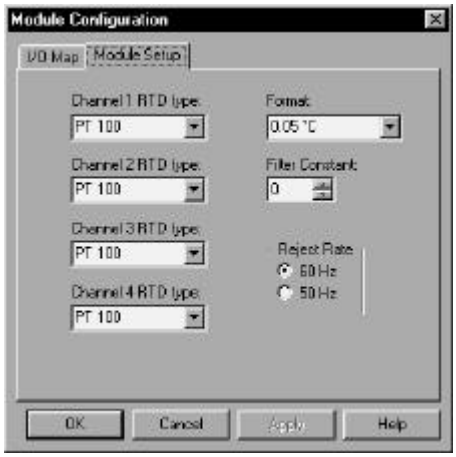
OCS Bottom View – Shows Corresponding I/O Pin

Pin	Signal	
	RTD100	**RTD000**
1E	RTD1 Excitation	RTD1 Excitation
1S	RTD1 Sense	RTD1 Sense
1C	RTD1 Common	RTD1 Common
⏚	Shield	Shield
2E	RTD2 Excitation	RTD2 Excitation
2S	RTD2 Sense	RTD2 Sense
2C	RTD2 Common	RTD2 Common
⏚	Shield	Shield
3E	RTD3 Excitation	
3S	RTD3 Sense	
3C	RTD3 Common	
⏚	Shield	
4E	RTD4 Excitation	
4S	RTD4 Sense	
4C	RTD4 Common	
⏚	Shield	

3 CONFIGURATION

Note: The status of the I/O can be monitored in Cscape Software.

Preliminary configuration procedures that apply to SmartStack™ Modules are contained in the hardware manual of the controller you are using. Refer to the **Additional References** section in this data sheet for a listing of hardware manuals.



Module Setup Tab

a. Sensor Type for each channel may be selected independently.

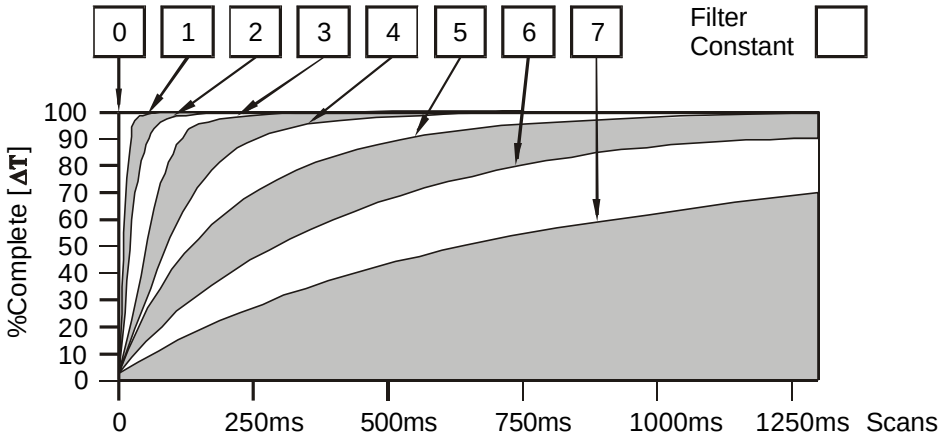
b. Temperature format may be set for various C° or F° ranges.

c. Filter Constant sets the level of digital filtering according to the chart below.

d. Reject Rates sets the frequency level for noise rejection at 50 or 60HZ.

I/O Map Tab

The I/O Map describes which I/O registers are assigned to a specific SmartStack™ Module and where the module is located in the point map. The I/O Map is determined by the model number and location within the SmartStack™. The I/O Map is not edited by the user.



Digital Filtering. The illustration above demonstrates the effect of digital filtering (set with Filter Constant) on module response to a temperature change.

4 TEMPERATURE CONVERSION

For a given module configuration, use the appropriate formula in the table to obtain the actual temperature (°C or °F) that is represented by the value in the %AI register.

Module Configuration	Temperature Conversion	
	Celsius	Fahrenheit
0.05°	°C = %AI / 20	°F = %AI / 20
0.1°	°C = %AI / 10	°F = %AI / 10
0.5°	°C = %AI / 2	°F = %AI / 2

5 INSTALLATION / SAFETY

Warning: Remove power from the OCS controller, CAN port, 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 wiring should be used for best performance such as Omega EXTT-3CU-26S or equivalent.
c. Shields may be terminated at the module terminal strip.
d. In severe applications, shields should be tied directly to the ground block within the panel.
e. Interposing electrical devices (such as relays) in the signal path can cause errors due to resistive imbalance.

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. (See the **Additional References** section in this document.)

When found on the product, the following symbols specify:

Warning: Consult user documentation.

Warning: Electrical Shock Hazard.

6 ADDITIONAL REFERENCES

For detailed installation, configuration and other information, refer to the hardware manual of the controller you are using. See the **Technical Support** section in this document for the web site address to download references and to obtain revised editions.

Additional References	
Controller	**Manual Number**
Operator Control Station Hardware (OCS, OCX) e.g., OCS1XX / 2XX; Graphic OCS250	MAN0227
Remote Control Station Hardware (RCS [except RCS116], RCX) e.g., RCS210, RCS250	
Color Touch OCS Hardware e.g., OCS300, OCS301,OCS350, OCS351 e.g., OCS451, OCS551, OCS651	MAN0465
OCS LX Series Hardware e.g., LX280 / LX300; RCS116	MAN0755
MiniOCS / MiniRCS / MiniOCX / MiniRCX Hardware e.g., HE500OCSxxx	MAN0305
Other Useful References	
Cscape Programming and Reference	MAN0313
DeviceNet™ Implementation	SUP0326
Wiring Accessories and Spare Parts Manual	MAN0347

7 TECHNICAL SUPPORT

For assistance and manual up-dates, contact Technical Support at the following locations:

North America:
(317) 916-4274
www.heapg.com

Europe:
(+) 353-21-4321-266
www.horner-apg.com