Product Details and Certifications

Cross Reference RA Part Number: 1734-IR2 C

Product: 1734-IR2

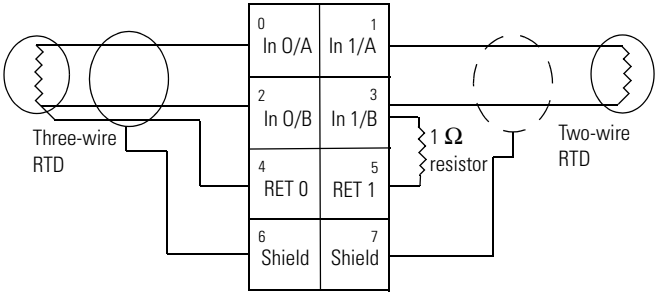
Description: 1734 Point I/O, 24V DC 2 Channel RTD Input Module

Representative Photo Only (actual product may vary based on configuration selections)

I/O MODULE DATA

Module Type	Bulletin 1734-I Point I/O RTD Input Module
Number of Inputs	2 Single-Ended, Non-Isolated
Resolution	16 bits - 9.5 Ω/cnt 0.03 ºC/cnt (Pt385 @ 25 ºC - [0.05 ºF/cnt (Pt385@ 77 ºF)]
Input Range	0...600 Ω
Absolute Accuracy	0.1% Full Scale @ 25 ºC (77 ºF)
Accuracy Drift with Temp	30 ppm/ºC
Conversion Type	Delta Sigma

POINT I/O RTD Input Module Wiring – 1734-IR2, 1734-IR2E



In = Input channel,
RET = Sensor return,
Shield = Sensor cable shield.

When using two-wire RTDs, 1 Ω resistor In/B to RET.

POINT I/O RTD Input Module – 1734-IR2, 1734-IR2E

Channel	High Signal (+)	Low Signal (-)	Return	Shield
In 0/A	0		4	6
In 0/B		2		
In 1/A	1		5	7
In 1/B		3		

TIP For improved 1734-RTB calibration wiring diagrams, refer to the POINT I/O RTD and Isolated Thermocouple Input Modules Release Notes, publication, 1734-RN005.

Communicate with the Module

POINT I/O modules send (produce) and receive (consume) I/O data (messages). You map this data into the processor's memory.

The 1734-IR2 and 1734-IR2E modules produce 6 bytes of input data (scanner Rx) and fault status data. The 1734-IT2I module produces 8 bytes of input data (scanner Rx) and fault status data. The modules do not consume I/O data (scanner Tx).

Default Data Map for RTD Input Module – 1734-IR2, 1734-IR2E

Message size: 6 Bytes

Produces (scanner Rx)	Input channel 0 – high byte								Input channel 0 – low byte							
	Input channel 1 – high byte								Input channel 1 – low byte							
	Status byte for channel 1								Status byte for channel 0							
	OR	UR	HHA	LLA	HA	LA	CM	CF	OR	UR	HHA	LLA	HA	LA	CM	CF
Consumes (scanner Tx)	No consumed data															
Where:	OR = Overrange; 0 = No error, 1 = Fault UR = Underrange; 0 = No error, 1 = Fault HHA = High/High Alarm; 0 = No error, 1 = Fault LLA = Low/Low Alarm; 0 = No error, 1 = Fault HA = High Alarm; 0 = No error, 1 = Fault LA = Low Alarm; 0 = No error, 1 = Fault CM = Calibration Mode; 0 = Normal, 1 = Calibration mode CF = Channel Fault Status; 0 = No error, 1 = Fault															

Default Data Map for Isolated Thermocouple Input Module – 1734-IT2I

Message size: 8 Bytes

Produces (scanner Rx)	Input channel 0 – high byte								Input channel 0 – low byte							
	Input channel 1 – high byte								Input channel 1 – low byte							
	Status byte for channel 1								Status byte for channel 0							
	OR	UR	HHA	LLA	HA	LA	CM	CF	OR	UR	HHA	LLA	HA	LA	CM	
	OR	UR	Cold Junction Temperature (Selectable: channel 0, channel 1, or average of both channels 0 and 1)													
Consumes (scanner Tx)	No consumed data															
Where:	OR = Overrange; 0 = No error, 1 = Fault UR = Underrange; 0 = No error, 1 = Fault HHA = High/High Alarm; 0 = No error, 1 = Fault LLA = Low/Low Alarm; 0 = No error, 1 = Fault HA = High Alarm; 0 = No error, 1 = Fault LA = Low Alarm; 0 = No error, 1 = Fault CM = Calibration Mode; 0 = Normal, 1 = Calibration mode CF = Channel Fault Status; 0 = No error, 1 = Fault															

Specifications

POINT I/O RTD Input Modules – 1734-IR2, 1734-IR2E

Attribute	1734-IR2	1734-IR2E
Number of inputs	2 single-ended, non-isolated	
Resolution	16 bits 9.5 mΩ/cnt 0.03 °C/cnt (Pt385 @ 25 °C) [0.05 °F/cnt (Pt385 @ 77 °F)]	16 bits 2.4 mΩ/cnt 0.006 °C/cnt (Pt385 @ 25 °C) [0.0114 °F/cnt (Pt385 @ 77 °F)]
Input range	0…600 Ω	0…220 Ω
Sensors supported	100 Ω Pt, α = 0.00385 Euro -200…870 °C (-328…1598 °F) 200 Ω Pt, α = 0.00385 Euro -200…630 °C (-328…1166 ° F) 100 Ω Pt, α = 0.003916 U.S. -200…630 °C (-328…1166 °F) 200 Ω Pt, α = 0.003916 U.S. -200…630 °C (-328…1166 °F) 10 Ω Cu, α = 0.00427 -200…260 °C (-328…500 °F) 100 Ω Ni, α = 0.00618 -60…250 °C (-76…482 °F) 120 Ω Ni, α = 0.00672 -60…250 °C (-76…482 °F) 120 Ω Ni, α = 0.00618 -60…250 °C (-76…482 °F)	100 Ω Pt, α = 0.00385 Euro -50…320 °C (-58…608 °F)
Absolute accuracy[1][2]	0.1% Full Scale @ 25 °C (77 °F)	
Accuracy drift with temp(2).	30 ppm/°C	
Input update rate (per module)	40 ms @ Notch = 50 Hz 33 ms @ Notch = 60 Hz (default) 20 ms @ Notch = 100 Hz 17 ms @ Notch = 120 Hz 10 ms @ Notch = 200 Hz 8 ms @ Notch = 240 Hz 7 ms @ Notch = 300 Hz 5 ms @ Notch = 400 Hz 4 ms @ Notch = 480 Hz	
Step response (per channel)	60 ms @ Notch = 50 Hz 50 ms @ Notch = 60 Hz 30 ms @ Notch = 100 Hz 25 ms @ Notch = 120 Hz 15 ms @ Notch = 200 Hz 13 ms @ Notch = 240 Hz 10 ms @ Notch = 300 Hz 8 ms @ Notch = 400 Hz 6 ms @ Notch = 480 Hz	
Conversion type	Delta Sigma	