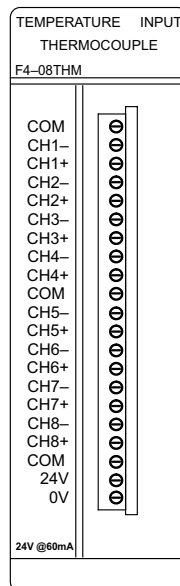
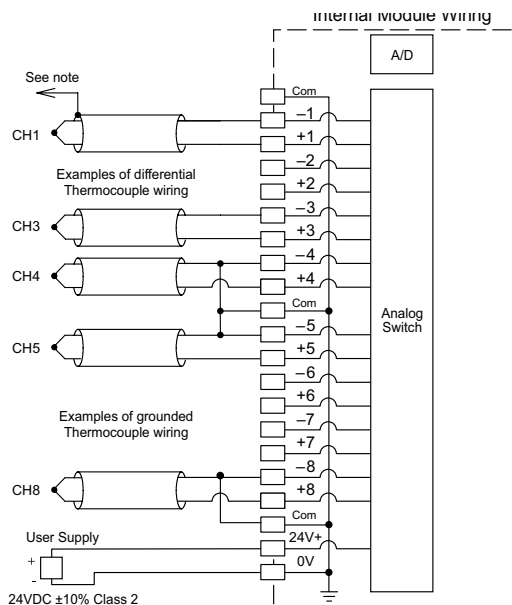


Temperature Input Modules

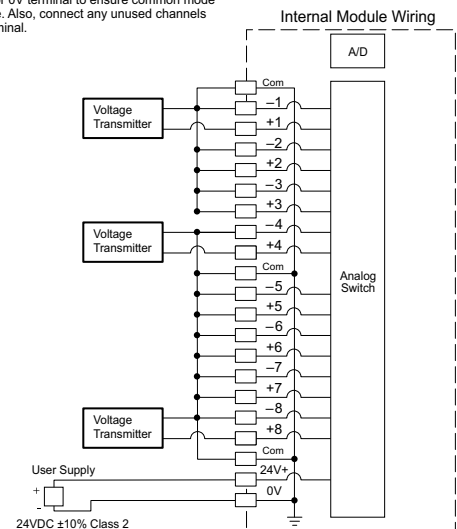
F4-08THM 8-Channel Thermocouple Input \$1,096.00			
General Specifications		Thermocouple Specifications	
Number of Channels	8, differential	Input Ranges*	Type J -190 to +760 °C -310 to +1400 °F
Common Mode Range	± 5 VDC		Type E -210 to +1000 °C -346 to +1832 °F
Common Mode Rejection	90 dB min. @ DC, 150 dB min. @ 50/60 Hz.		Type K -150 to +1372 °C -238 to +2502 °F
Input Impedance	1 MΩ		Type R 65 to 1768 °C 149 to 3214 °F
Absolute Maximum Ratings	Fault-protected inputs to ± 50 VDC	Display Resolution	± 0.1 °C or ± 0.1 °F
Accuracy vs. Temperature	± 5 ppm/°C maximum full scale calibration (including maximum offset change)	Cold Junction Compensation	Automatic
PLC Update Rate	8 channels per scan max	Conversion Time	100 ms per channel
Digital Inputs	16 binary data bits, 2 channel ID bits, 4 diagnostic bits	Warm-Up Time	30 minutes typically ± 1 °C repeatability
Input Points Required	32 points (X) input module	Linearity Error (End to End)	± .05 °C maximum, ± .01 °C typical
Terminal Type (included)	Removable		
External Power Supply	60 mA maximum, 18 to 26.4 VDC	Maximum Inaccuracy	± 3 °C (excluding thermocouple error)
Power Budget Requirements	110 mA max., 5 VDC (supplied to base)	Voltage Input Specifications	
Operating Temperature	0° to 60 °C (32 to 140 °F)	Voltage Ranges	0-5V, ± 5V, 0-156.25 mV, ± 156.25 mVDC
Storage Temperature	-20 to +70 °C (-4 to +158 °F)	Resolution	16 bit (1 in 65535)
Relative Humidity	5 to 95% (non-condensing)	Full Scale Calibration Error (Offset error Included)	± 13 counts typical, ± 33 maximum
Environmental Air	No corrosive gases permitted	Offset Calibration Error	± 1 count maximum, @ 0V input
Vibration	MIL STD 810C 514.2	Linearity Error (End to End)	± 1 count maximum
Shock	MIL STD 810C 516.2	Maximum Inaccuracy	± 0.2% @ 25 °C (77 °F)
Noise Immunity	NEMA ICS3-304	NOTE 1: Terminate shields at the respective signal source NOTE 2: Leave unused channels open (no connection) *Thermocouple type is selected by setting internal jumpers NOTE 3: This module is not compatible with the ZIPLink wiring system.	

Thermocouple Input Wiring Diagram



Voltage Input Wiring Diagram

Note 3: When using 0-156mV and 5V ranges, connect CH-terminal to Com or 0V terminal to ensure common mode range acceptance. Also, connect any unused channels to Com or 0V terminal.

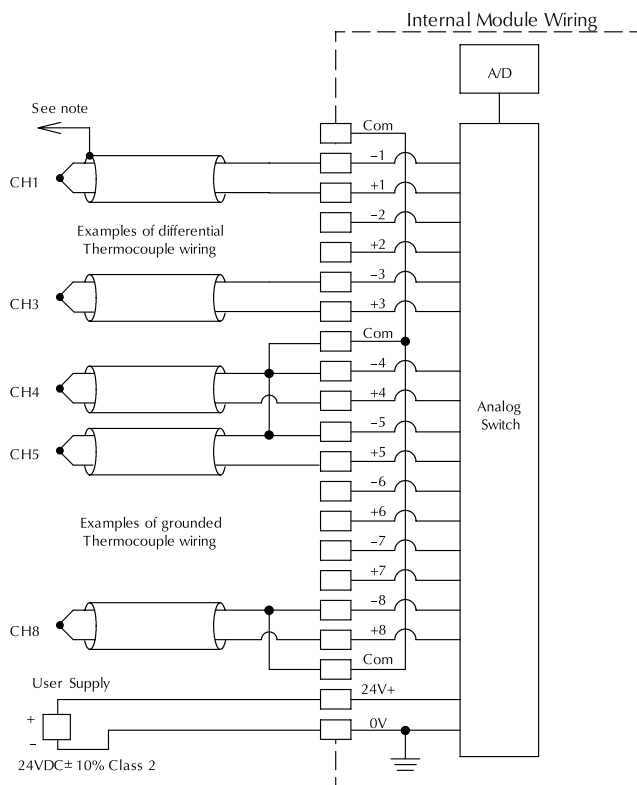


Temperature Input Modules

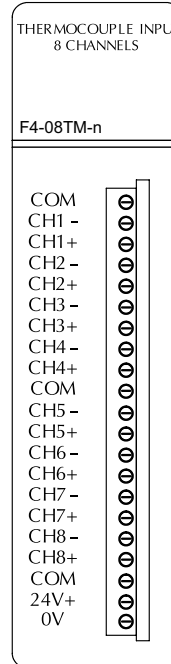
F4-08THM-J-n 8-Channel Thermocouple Input \$1,144.00	
When you order the module, replace the "n" with the type of Thermocouple needed. For example, to order a Type J thermocouple module, order part number F4-08THM-J.	
Number of channels	8, differential inputs
Input Ranges	Type J -210/+760 °C, -350/+1390 °F
Resolution	12 bit (1 in 4,096)
Input Impedance	27 kΩ
Absolute Maximum Ratings	Fault protected input, 130 Vrms or 100 VDC
Cold Junction Compensation	Automatic
Conversion Time	15 ms per channel, minimum 1 channel per CPU scan
Converter Type	Successive Approximation, 574

Linearity Error	± 1 count (0.03% of full scale) maximum
Full Scale Calibration Error	± 0.35% of full scale
Maximum Inaccuracy*	± 1 °C for type J
PLC Update Rate	1 ch. per scan min., 8 per scan max.
Digital Input Points Required	16 (X) input points (12 binary data bits, 3 channel ID bits, 1 sign bit)
Base Power Required 5V	120 mA
Terminal Type (included)	Non-removable
External Power Supply	24 VDC ±10%, 50 mA current
Operating Temperature	32 to 140°F (0 to 60 °C)
Storage Temperature	-4 to +158 °F (-20 to 70°C)
Accuracy vs Temperature*	57 ppm/°C maximum full scale
Relative Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	MIL STD 810C 514.2
Shock	MIL STD 810C 516.2
Noise Immunity	NEMA ICS3-304

Note 1: Terminate shields at the respective signal source
 Note 2: Leave unused channels open (no connection)
 Note 3: This module is not compatible with the ZIPLink wiring system.



***Max. Inaccuracy is not guaranteed for temperatures lower than: -200 °C for type J**



Temperature Input Modules

F4-08RTD 8-Channel RTD Input \$867.00	
Number of Channels	8
Input Ranges	Type Pt100: -200/+850 °C, -328/+1562 °F Type Pt1000: -200/+595 °C, -328/+1103 °F Type jPT100: -38/+450 °C, -36/+842 °F Type CU-10/+25W: -200/+260 °C, -328/+500 °F
Resolution	16 bit (1 in 65535)
Input Impedance	27 kΩ
Display Resolution	± 0.1°C, ±0.1 °F (±3276.7)
RTD Excitation Current	200 μA
Input Type	Differential
Notch Filter	>100db notches at 50/60 Hz -3 db=13.1 Hz
Maximum Settling Time	100 msec (full-scale step input)
Common Mode Range	0-5 VDC

Absolute Maximum Ratings	Fault protected inputs to ±50 VDC
Converter Type	Charge Balancing
Linearity Error	± 1 °C maximum, ±0.1 °C typical
Full Scale Calibration Error	± 1 °C
PLC Update Rate	1 ch. per scan min., 8 per scan max.
Digital Input Points Required	32 (X) input points (15 binary data bits, 3 channel ID bits, 1 sign bit, 8 fault bits)
Base Power Required 5V	80 mA @ 5 VDC
Terminal Type (included)	Removable
Operating Temperature	32 to 140 °F (0 to 60 °C)
Storage Temperature	-4 to +158 °F (-20 to +70 °C)
Relative Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	MIL STD 810C 514.2
Shock	MIL STD 810C 516.2
Noise Immunity	NEMA ICS3-304

Notes:

1. the three wires connecting the RTD to the module must be the same type and length. Do not use the shield or drain wire for the third connection.
2. If an RTD sensor has 4 wires, the plus sense wire should be left unconnected as shown.
3. This module is not compatible with the ZIPLink wiring system.

