DL05/06 I/O Option Modules

F0-04THM <--->

4-channel thermocouple input module

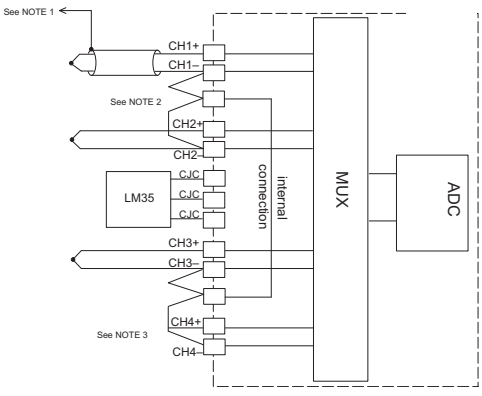
F0-04THM 4-Channel Thermocouple Input	
General Specifications	
Number of Channels	4, differential
Common Mode Range	-1.3VDC to +3.8VDC
Common Mode Rejection	100dB min. @ VDC 50/60Hz.
Input Impedance	5MΩ
Absolute Maximum Ratings	Fault-protected inputs to ±50 VDC
Accuracy vs. Temperature (Max. Full Scale Error)	±15ppm/°C maximum 0 - 1.25V ±35ppm/°C maximum (including maximum offset change)
PLC Update Rate	4 channels per scan
Digital Inputs	None; uses special V-memory location based on slot
Base Power Required	30mA @ 5VDC supplied by base
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
Terminal Block Replacement	F0-IOCON-THM (comes with CJC)

CPU	Firmware Required	DirectSOFT Required
DL05	Version 4.60 or later	DirectSOFT32 Version 3.0c or later
DL06	Version 1.40 or later	DirectSOFT32 Version 4.0, Build 16 or

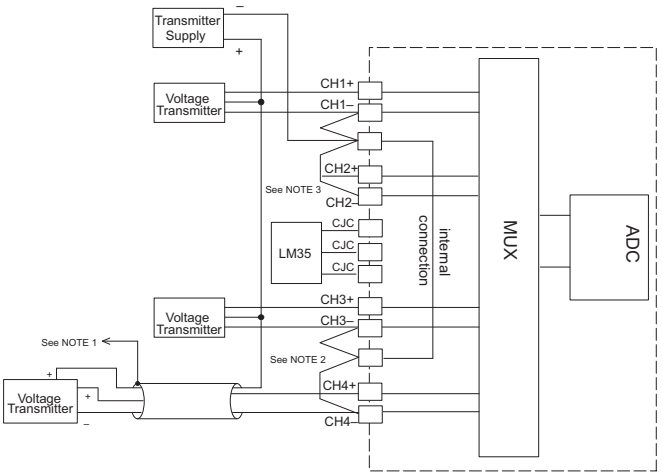
Thermocouple Specifications		
Input Ranges	Type J -190 to 760°C Type E -210 to 1000°C Type K -150 to 1372°C Type R 65 to 1768°C Type S 65 to 1768°C Type T -230 to 400°C Type B 529 to 1820°C Type N -70 to 1300°C Type C 65 to 2320°C	-310 to 1400°F -346 to 1832°F -238 to 2502°F 149 to 3214°F 149 to 3214°F -382 to 752°F 984 to 3308°F -94 to 2372°F 149 to 4208°F
Display Resolution	±0.1°C or ±0.1°F	
Cold Junction Compensation	Automatic	
Conversion Time	270ms per channel	
Warm-Up Time	30 minutes typically ± 1°C repeatability	
Linearity Error (End to End)	±1°C maximum, ±0.5°C typical	
Maximum Inaccuracy	±3°C (excluding thermocouple error)	

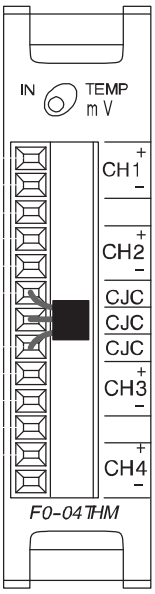
Voltage Input Specifications	
Voltage Ranges	0-39.0625mV, ±39.0625mV, ±78.125mV, 0-156.25mV, ±156.25mVDC, 0-1.25V
Resolution	16 bit (1 in 65535)
Max. Offset Error (All Input Ranges)	0.05% @ 0-60°C; Typical: 0.04% @ 25°C
Linearity Error (All Input Ranges)	0.05% @ 0-60°C; Typical: 0.03% @ 25°C
Maximum Inaccuracy	0-39.0625mV, ±39.0625mV, ±78.125mV ranges: 0.1% @ 0-60°C; Typical: 0.04% @ 25°C 0-156.25mV, ±156.25mVDC, 0-1.25V ranges: 0.05% @ 0-60°C; Typical: 0.04% @ 25°C

Thermocouple Input wiring diagram



Voltage Input wiring diagram





Notes:

1. Shields should be grounded at the PLC power source only.

2. All CH- terminals must be connected together.

3. Unused channels should have a shorting wire (jumper) installed from CH+ to CH-.