



F-8019

8-ch Isolated Thermocouple Input Redundant Module

Introduction

F-8019 is a 16-bit 8-channel thermocouple input module. The communication channels can all program their own input ranges and can measure millivolt input (Millivolt input. $\pm 15\text{mV}$, $\pm 50\text{mV}$, $\pm 100\text{mV}$, $\pm 150\text{mV}$, $\pm 500\text{mV}$), voltage inputs ($\pm 1\text{V}$, $\pm 2.5\text{V}$, $\pm 5\text{V}$, $\pm 10\text{V}$), and thermocouple inputs (J, K, T, E, R, S, B, N, C). The F-8019 supports the use of an external CJC to accurately measure temperature, with an accuracy of $\pm 0.05\%$, enabling high-accuracy applications. It also provides 3000 V_{DC} isolation between the power supply and the backplane bus, making it better able to prevent noise interference in industrial environments without affecting the iDCS-8000 system.

Specifications

Feature		
Redundant	Yes (Switching time < 100us)	
Termination board break off detection	Yes	
Over-Current Protection	Yes	
LED indicator	1 RUN, 1 ACT, 1 DUX	
Analog Input		
Number of channels	8	
Type	$\pm 15\text{mV}$, $\pm 50\text{mV}$, $\pm 100\text{mV}$, $\pm 150\text{mV}$, $\pm 500\text{mV}$, $\pm 1\text{V}$, $\pm 2.5\text{V}$, $\pm 5\text{V}$, $\pm 10\text{V}$, Type J, K, T, E, R, S, B, N, C	
Range	J	$-210 \sim +1200 \text{ }^\circ\text{C}$
	K	$-270 \sim +1372 \text{ }^\circ\text{C}$
	T	$-270 \sim +400 \text{ }^\circ\text{C}$
	E	$-270 \sim +1000 \text{ }^\circ\text{C}$
	R	$-50 \sim +1765 \text{ }^\circ\text{C}$
	S	$-50 \sim +1765 \text{ }^\circ\text{C}$
	B	$0 \sim +1820 \text{ }^\circ\text{C}$
	N	$-270 \sim +1300 \text{ }^\circ\text{C}$
C	$0 \sim +2320 \text{ }^\circ\text{C}$	
Resolution	16 bit	
Sampling Rate	8 Samples/Sec.	
Accuracy	$\pm 0.05\%$ FSR	
Zero Drift	$\pm 0.5 \text{ } \mu\text{V}/^\circ\text{C}$	
Span Drift	$\pm 20 \text{ ppm}/^\circ\text{C}$	

Features

- 8 thermocouple input channels
- User defined up/down scale
- 16 bit A/D Converter
- Termination board break off detection
- Redundant switching time (<100 us)



Analog Input	
Common Mode Rejection	106 dB
Normal Mode Rejection	90 dB
Input Impedance	10M Ω
Date Range	-2500~12500
Isolation	3000 V_{DC}
Certification	
Emission	IEC 61000-6-4
Immunity	IEC 61000-6-2
	IEC 61000-4-3
	IEC 61000-4-4
	IEC 61000-4-6
	IEC 61000-4-9
	IEC 61000-4-10
	IEC 61000-4-12
General	
Termination Board	DN-TC-M
Max. Power Consumption	1.3 W
Operating Temp.	$-25 \sim 75 \text{ }^\circ\text{C}$
Storage Temp.	$-30 \sim 80 \text{ }^\circ\text{C}$
Humidity	5 ~ 95 % RH, Non-condensing
Weight	300g
Dimensions (WxLxH)	30mm x 85mm x 115mm

