

MCR-TI04-K

Datasheet

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1 Product Overview

1.1 Product introduction

The MCR7 series expansion module is an IO module, integrating advanced industry technologies and components, suitable for MCR7 series PLCs.

1.2 Product Appearance



2 Main Information

Range of Product	MCR-TI04-K
Product Or Component Type	Thermocouple sensor input expansion module
Sensor Input Channels	4
Sensor Type	K, J, R, S, B, E, T, N, C type Thermocouple; NTC

3 Detail Specification

3.1 Module Specification - Temperature Input

Characteristics	Parameter
Description	Thermocouple sensor input module
Input channels	4
Rated power consumption	$\leq 40\text{mA}$ (Full load)
Sensor type	K, J, R, S, B, E, T, N, C type Thermocouple; NTC
Resolution	Temperature: 0.1°C NTC: 15bits+sign
Max accuracy at ambient 25°C	◆ Thermocouple: $\pm 0.3\%$ or $\pm 1^{\circ}\text{C}$ of the displayed value, use the bigger ◆ NTC: $\pm 0.1\%$ or $\pm 1^{\circ}\text{C}$ of the displayed value, use the bigger
The influence of measuring temperature (Temperature range: -20°C to 60°C)	◆ Thermocouple inputs (R, S, B, C): ($\pm 1\%$ of PV or $\pm 2.5^{\circ}\text{C}$, use the bigger) ◆ Other thermocouple inputs: ($\pm 1\%$ of PV or $\pm 1^{\circ}\text{C}$, use the bigger)
Connector type	Screw terminal
Signal type	Electric isolation
Input resistance	$\geq 1\text{M}\Omega$
Sample period	$\leq 100\text{ms/Channel}$
Minimum Input	0.1°C
Out of range detection	Available
Wire broken warning	Available
Input filter	0~10s (unit: 0.01s)
Input range	◆ K: $-200\sim 1300^{\circ}\text{C}$ ◆ J: $-200\sim 1000^{\circ}\text{C}$ ◆ R: $0\sim 1760^{\circ}\text{C}$ ◆ S: $0\sim 1760^{\circ}\text{C}$ ◆ B: $0\sim 1820^{\circ}\text{C}$ ◆ E: $200\sim 800^{\circ}\text{C}$ ◆ T: $-200\sim 400^{\circ}\text{C}$ ◆ N: $-200\sim 1300^{\circ}\text{C}$ ◆ C: $0\sim 2315^{\circ}\text{C}$ NTC: Measuring resistance range: $100\Omega\sim 200\text{k}\Omega$ Calculate temperature range: $-90\sim 150^{\circ}\text{C}$

3.2 Environmental Characteristics

Category	Characteristic
Operating ambient temperature	-10℃~60℃
Storage temperature	-20℃~70℃
Relative humidity	55%~95%, without condensation
Class of pollution	2 (IEC60664)
Class of protection	IP20
Coating	Coated protection, dry film thickness $\geq 20\mu\text{m}$; reinforced dry film thickness $\geq 40\mu\text{m}$
Altitude	Operation: 0m~3,000m Transportation: $\leq 6,000\text{m}$
Seismic performance	5~13.2Hz Amplitude 7mm, 13Hz~100Hz Acceleration 2G, 20 times each in X, Y and Z axes
Impact performance	Semi-positive sine wave, acceleration 15G, duration 11ms, 6 times in each of the X, Y and Z directions

3.3 Electromagnetic Susceptibility

Standard	Method	Item
EN IEC 61000-6-4:2019	CISPR 16-2-1	Conducted Emissions at AC Mains Power Port(150kHz-30MHz)
	CISPR 32	Conducted Emissions at Wired Network Port(150kHz-30MHz)
	CISPR 16-2-3	Radiated Emissions(30MHz-1GHz)
	CISPR 16-2-3	Radiated Emissions(Above 1GHz)
EN IEC 61000-6-2:2019	EN 61000-4-6:2014	Conducted Immunity at AC Mains Power Port(150kHz-80MHz)
	EN 61000-4-6:2014	Conducted Immunity at Signal Port(150kHz-80MHz)
	EN 61000-4-4:2012	Electrical Fast Transients Burst at AC Mains Power Port
	EN 61000-4-4:2012	Electrical Fast Transients Burst at Signal Port
	EN 61000-4-2:2009	Electro static Discharge
	EN 61000-4-8:2010	Power Frequency Magnetic Field
	EN IEC 61000-4-3:2020	Radiated Immunity(80MHz-6GHz)
	EN 61000-4-5:2014+A1:2017	Surge at AC Mains Power Port
	EN 61000-4-5:2014+A1:2017	Surge at Signal Port
	EN IEC 61000-4-11:2020	Voltage Dips and Interruptions

4 Dimension&Installation

4.1 Product Dimension

Definition of Terminals,from top to bottom

MCR-TI04-K	Upper terminal	I0+	I0-	FG	I1+	I1-	FG
	Lower terminal	I2+	I2-	FG	I3+	I3-	FG

For the meaning of marks , please refer to the table below.

Mark	Meaning
I*+、I*-	Sensor input terminal
FG*	Shielding layer wiring terminals

Dimension: 18*110*75

Unit: mm

