

# 产品规格书

## Product Datasheet

### F5-MS0400K

#### 主要信息 Main



产品系列 Range Of Product	FC5
产品类型 Product Or Component Type	热电偶传感器模块 Thermal couple sensor module
传感器采集通道 Analog output Channels	4
传感器类型 Analog output Type	K, J, R, S, B, E, T, N, C type Thermal Couple; NTC
分辨率 Resolution	0.1°C

## 补充信息 Complementary

### 模块特性

特性 Characteristics	MS0400K
描述 Description	热电偶温度传感器输入模块 Thermal couple sensor module
输入通道数 Input channels	4
额定功耗 Rated power consumption	≤40mA (Full load)
传感器类型 Sensor type	K, J, R, S, B, E, T, N, C type Thermal Couple; NTC
分辨率 Resolution	温度 Temperature: 0.1°C NTC: 15bits+sign
测量偏差 Max accuracy at ambient 25 °C	<ul style="list-style-type: none"> <li>◆ 热电偶: 显示值的±0.3%或± 1 °C, 取较大值 Thermocouple: ± 0.3% or ± 1 °C of the displayed value, use the bigger</li> <li>◆ NTC: 显示值的±0.1%或± 1 °C, 取较大值 NTC: ± 0.1% or ± 1 °C of the displayed value, use the bigger</li> </ul>
测量温度的影响 The influence of measuring temperature (Temperature range: -20 °C to 60 °C)	<ul style="list-style-type: none"> <li>◆ 热电偶输入 (R、S、B、C): PV 的±1%或±2.5°C, 取较大值 Thermocouple inputs (R, S, B, C): (± 1% of PV or ± 2.5 °C, use the bigger)</li> <li>◆ 其它热电偶输入: PV 的±1%或±1°C, 取较大值 Other thermocouple inputs: (± 1% of PV or ± 1 °C, use the bigger)</li> </ul>
连接器类型 Connector type	螺钉端子 Screw terminal
信号类型 Signal type	电气隔离 Electric isolation
输入阻抗 Input resistance	≥1 MΩ
采样周期 Sample period	≤100ms/Channel
最小输入值 Minimum Input	0.1°C
超范围检测 Out of range detection	是 Available
断线检测 Wire broken warning	是 Available
输入滤波 Input filter	0~10s (unit: 0.01s)
测量范围 Input range	<ul style="list-style-type: none"> <li>◆ K: -200~1300°C</li> <li>◆ J: -200~1000 °C</li> <li>◆ R: 0~1760°C</li> <li>◆ S: 0~1760°C</li> <li>◆ B: 0~1820 °C</li> <li>◆ E: 200~800°C</li> <li>◆ T: -200~400°C</li> <li>◆ N: -200~1300°C</li> </ul>

特性 Characteristics	MS0400K
	<p>◆ C: 0~2315°C</p> <p>NTC:</p> <p>测量电阻值范围 Measuring resistance range: 100 Ω~200 kΩ</p> <p>计算温度范围 Calculate temperature range: -90~150 °C</p>

## 环境特性 Environmental Characteristics

类别 Category	特性 Characteristic
运行环境温度 Operating ambient temperature	-10°C~60°C
存储温度 Storage temperature	-20°C~70°C
相对湿度 Relative humidity	55%~95%, 无凝露 without condensation
污染等级 Class of pollution	2 (IEC60664)
防护等级 Class of protection	IP20
涂层 Coating	涂层防护, 干膜厚度≥20μm; 加强版干膜厚度≥40μm Coated protection, dry film thickness ≥ 20μm; reinforced dry film thickness ≥ 40μm
海拔高度 Altitude	运行: 0m~3,000m Operation: 0m~3,000m 运输: ≤6,000m Transportation: ≤6,000m
抗震性能 Seismic performance	5Hz~13.2Hz, 振幅 7mm; 13Hz~100Hz, 加速度 2G, X、Y、Z 三轴方向各 20 次 5~13.2Hz Amplitude 7mm, 13Hz~100Hz Acceleration 2G, 20 times each in X, Y and Z axes
抗冲击性能 Impact performance	半正弦波, 加速度 15G, 持续 11ms, X、Y、Z 三轴方向各 6 次 Semi-positive sine wave, acceleration 15G, duration 11ms, 6 times in each of the X, Y and Z directions

## 电磁敏感性 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 Port150kHz-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

F5 系列交流电源型 PLC 系统符合下述的安全标准:

The F5 Series AC power supply type PLCs system meets the following safety standards:

- IEC 61010-1:2010 + A1:2019
- AMD1: 2016

### 端子定义 Definition of Terminals

F5-MS0400K	上侧 Upper side	I0+	I0-	FG	I1+	I1-	FG
	下侧 Lower side	I2+	I2-	FG	I3+	I3-	FG

标识的含义请参见下表 For the meaning of marks , please refer to the table below.

Marks	Meaning

I*+, I*-	Thermocouple input terminals
FG	Shielding layer wiring terminals

**外形尺寸 Dimension:**

40\*94\*83 (W\*H\*D)

单位 Unit: mm

