

产品规格书

Product Datasheet

F5-MA0404A

F5-MA0402A



主要信息 Main

产品系列 Range Of Product	FC5
产品类型 Product Or Component Type	模拟量混合模块 Analog Mix module
模拟量输入通道 Analog Input Channels	4
模拟量输入类型 Analog Input Type	Voltage/Current
模拟量输出通道 Analog output Channels	4/2
模拟量输出类型 Analog output Type	Voltage/Current
分辨率 Resolution	16 Bits

补充信息 Complementary

模拟量输入特性

输入特性 Input characteristics	参数 Parameter
输入范围 Input range	<ul style="list-style-type: none"> ◆ 电压 Voltage input: -10 ~10 V DC or 0~10 V DC ◆ 电流 Current input: 0~20mA or 4~20mA
输入阻抗 Input impedance	<ul style="list-style-type: none"> ◆ 电压 Voltage input:>200kΩ ◆ 电流 Current input:237.5~262.5Ω
端子 I/O terminal	可拆卸端子台 Removable terminal block
采样时间 Sampling time	1 ms / channel + 1 scan cycle
总输入系统传递时间 Total input system transfer time	4 ms+1 scan cycle
输入偏差 Input deviation	最大±0.2%*满量程范围 Maximum ±0.2 % of full scale range
分辨率 Resolution	16 位带符号 16-bit Signed
温漂 Temperature drift	±0.06%*满量程范围, 单位为°C ± 0.06% of full scale range /°C
共模抑制 Common-mode rejection	40 dB, DC to 60 Hz
噪声抑制 Noise suppression	400, 60, 50 or 10 Hz
非线性 Non-linear	±0.4 %*满量程 ±0.4 % of full scale range
最高运行输入 Maximum operating input (no damage)	<ul style="list-style-type: none"> ◆ 电压 Voltage input: DC ±30 V ◆ 电流 Current input: DC ±30mA
保护类型 Type of protection	<ul style="list-style-type: none"> ◆ 输入与内部电源隔离 Input isolated from internal power supply
错误配置 Misconfiguration (voltage -> current)	<ul style="list-style-type: none"> ◆ 当输入介于±30V (DC), 不能造成损坏 When the input is between ±30 V DC, no damage can be caused ◆ 当输入超出±30V (DC), 造成永久损坏 When the input exceeds ± 30 V DC, permanent damage is caused
错误配置 Misconfiguration (current -> voltage)	<ul style="list-style-type: none"> ◆ 当输入介于±30mA, 不能造成损坏 When the input is between ±30 mA, no damage can be caused ◆ 当输入超出±30mA, 造成永久损坏 When the input exceeds ±30 mA, permanent damage is caused
电缆类型 Cable type	屏蔽电缆 Shielded cable
电缆长度 Cable length	3~30m

模拟量输出特性

输出特性 Output characteristics	参数 Parameter
输出范围 Output range	<ul style="list-style-type: none"> ◆ 电压 Voltage output: 0~10V DC ◆ 电流 Current output: 0~20mA DC or 4~20mA DC
端子 I/O terminal	可拆卸端子台 Removable terminal block
负载阻抗 Load impedance	<ul style="list-style-type: none"> ◆ 电压 Voltage output: >2kΩ ◆ 电流 Current output: <500Ω
负载类型 Load type	阻性负载 Resistive load
稳定时间 Stabilization time	750 μs
总输出系统传递时间 Total output system transfer time	3 ms + 1 scan cycle
输出误差 (总误差) Output error - total error	满量程的±0.5 % ±0.5 % of full scale range
分辨率 Resolution	16 位带符号 16-bit Signed
温漂 Temperature drift	±0.06%*满量程, 单位为°C ±0.06% of full scale range/°C
非线性 Non-linear	±0.5 %*满量程 ±0.5 % of full scale range
保护类型 Protection type	输入与内部电源隔离 Input isolated from internal power supply
输出保护 Output protection	<ul style="list-style-type: none"> ◆ 短路不损坏 (电压输出) Short circuit without damage (voltage output) ◆ 开路保护 (电流输出) Open circuit protection (current output)
电缆类型 Cable type	屏蔽电缆 Shielded cable(meets electromagnetic immunity requirements)
电缆长度 Cable length	3~30m

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 $\geq 20\mu\text{m}$; 加强版干膜厚度 $\geq 40\mu\text{m}$ Coated protection, dry film thickness $\geq 20\mu\text{m}$; reinforced dry film thickness $\geq 40\mu\text{m}$
海拔高度 Altitude	运行: 0m~3,000m Operation: 0m~3,000m 运输: $\leq 6,000\text{m}$ Transportation: $\leq 6,000\text{m}$
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

Standard	Method	Item
	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-MA0404A	上 侧 Upper side	VI0	C0	AI0	VI1	C1	AI1	VI2	C2	AI2	VI3	C3	AI3
	下 侧 Lower side	VQ0	C4	AQ0	VQ1	C5	AQ1	VQ2	C6	AQ2	VQ3	C7	AQ3

F5-MA0402A	上 侧 Upper side	VI0	C0	AI0	VI1	C1	AI1	VI2	C2	AI2	VI3	C3	AI3
	下 侧 Lower side	VQ0	C4	AQ0	VQ1	C5	AQ1	●	●	●	●	●	●

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

Mark	Meaning
VI*、AI*	模拟量输入正极 Analog input positive terminal
VQ*、AQ*	模拟量输出正极 Analog output positive terminal
C*	模拟量输入/输出公共端 Analog input output common terminal

外形尺寸 Dimension:

66*94*83 (W*H*D)

单位 Unit: mm

