

M-2004

4-port Digital Temperature Sensor Module with Daisy-Chain Wiring

Features

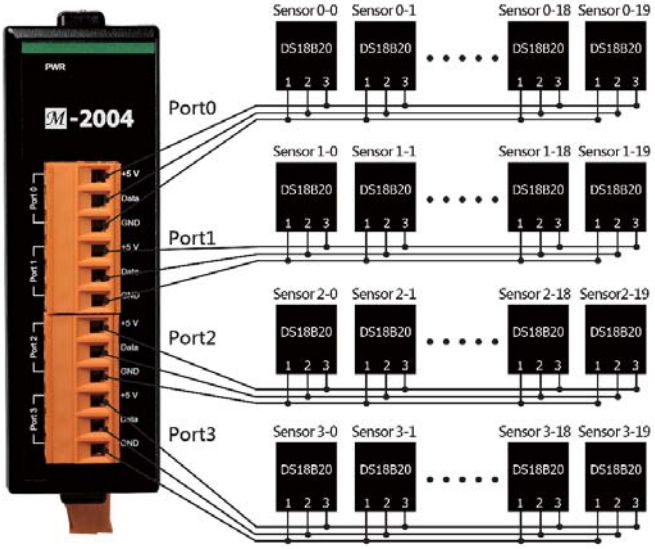
- 4-Port DS18B20 Sensor Input Module
- 2/3-wire DS18B20 Wire Connection
- Max. 20 Sensors per Port
- Up to 100 meters per port with Daisy-Chain Wiring
- Measures Temperatures from -55 ~ +125 °C
- ±0.5°C Accuracy from -10 ~ +85 °C

Introduction

The M-2004 is a 4-port digital temperature sensor module supporting 2-wire or 3-wire DS18B20 digital temperature sensors, with a measurement range of -55 to +125 °C. Within the -10 to +85 °C range, the DS18B20 sensor delivers high accuracy of ±0.5 °C. With Daisy-Chain wiring, each port supports cable runs of up to 100 meters and can connect up to 20 DS18B20 sensors. Fully RoHS compliant, the M-2004 also features EMS (EFT/ESD/Surge) protection and 3000 VDC I/O isolation, ensuring strong noise immunity and reliable operation in demanding industrial environments.

Applications

- Temperature Measurement
- Environment Monitoring
- Tunnel Monitoring
- Building Monitoring



System Specifications

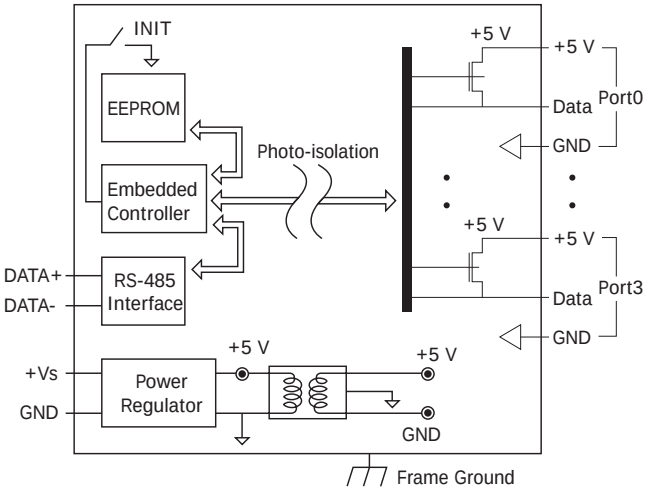
CPU Module	
Watchdog Timer	Module, Communication (Programmable)
Isolation	
Intra-module Isolation	3000 VDC
EMS Protection	
EFT (IEC 61000-4-4)	±4 kV for Power Line
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal ±8 kV Air for Random Point
Surge (IEC 61000-4-5)	±2 kV for Power Line
LED Indicators	
Status	1 x Power and Communication
COM Ports	
Ports	1 x RS-485
Baud Rate	1200 ~ 115200 bps
Data Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)
Protocol	Modbus RTU, DCON
Bias Resistor	1 kΩ (DIP switch selectable)
Power	
Reverse Polarity Protection	Yes
Input Range	+10 ~ +48 VDC
Consumption	0.5 W
Mechanical	
Dimensions (mm)	33 x 117 x 88 (W x L x H)
Installation	DIN-Rail Mounting
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +80 °C
Humidity	10 ~ 95% RH, Non-condensing

I/O Specifications

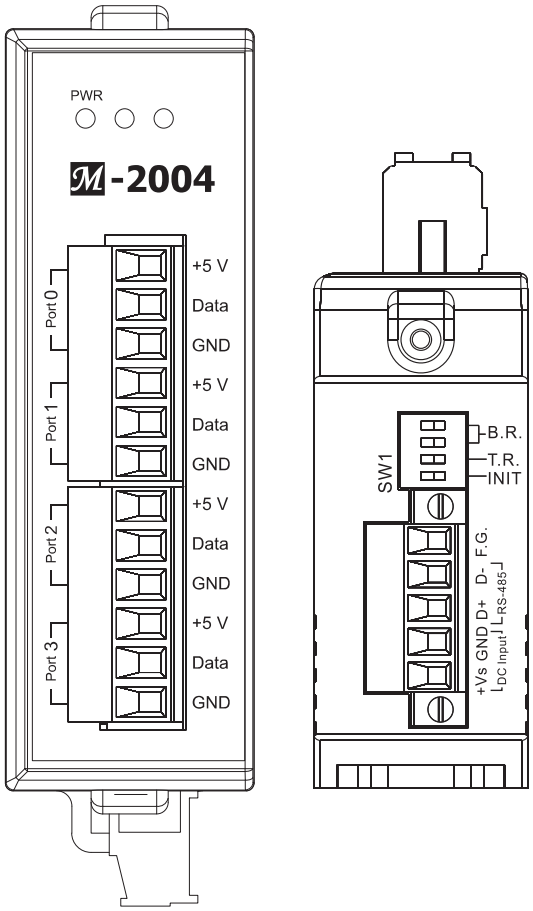
Temperature Measurement	
Range	-55 °C ~ +125 °C
Analog Input	
Ports	4
Sensor Type	DS18B20
Sensors per Ports	20
Sensor Wiring Length	Max. 100 m per Port
Resolution	12-bit
Accuracy	±0.5 °C (See Note 1)
Sampling Rate	1 Hz
Note 1: ±0.5 °C Accuracy from -10 °C ~ +85 °C	

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Internal I/O Structure



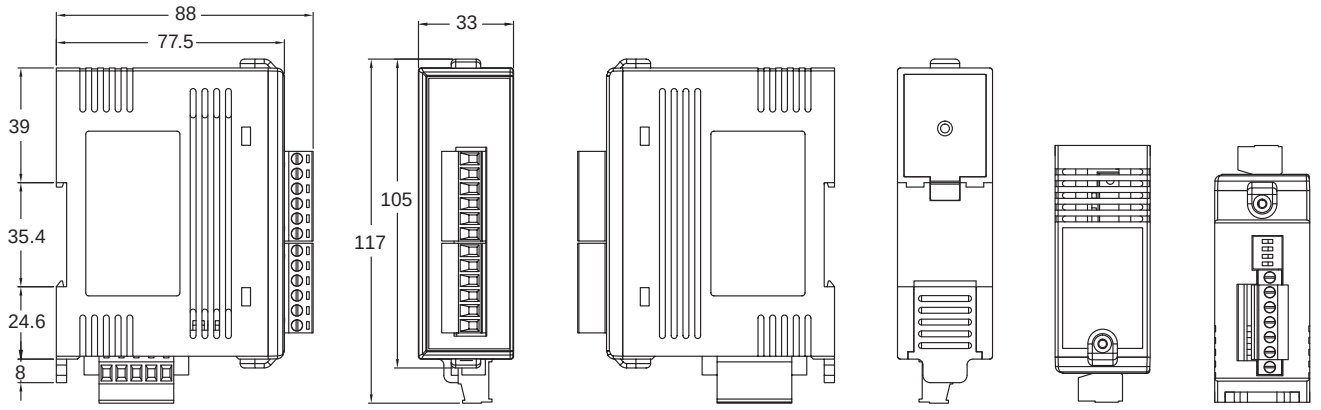
Pin & Terminal Assignments



Wire Connections

2-wire Connection	3-wire Connection
2-wire DS18B20 1 2 3 +5 V Data GND	3-wire DS18B20 1 2 3 +5 V Data GND

Dimensions (Units: mm)



Left Side View | Front View | Right Side View | Rear View | Top View | Bottom View

Ordering Information

M-2004 CR	4-Port Digital Temperature Sensor Module with Daisy-Chain Wiring (RoHS)

Accessories

CA-TP1-M100-L020 CR	3-wire DS18B20, Stainless steel, 2 M (-30 °C ~ 125 °C) (RoHS)
CA-TP1-M200-L020 CR	3-wire DS18B20, copper nickel plated, 2 M (-30 °C ~ 125 °C) (RoHS)

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