



Features

- 4-Port DS18B20 Sensor Input Module
- 2/3-wire DS18B20 Wire Connection
- Max 20 Sensors per Port
- MMax. Distance of 100 m per Port when using Daisy-Chain Wiring
- Measures Temperatures from -55 to +125°C
- ±0.5°C Accuracy from -10 to +85°C
- 4 kV ESD Protection
- 3000 VDC Intra-module Isolation, Field to Logic
- RoHS Compliant
- Wide Operating Temperature Range: -25 to +75°C



Introduction

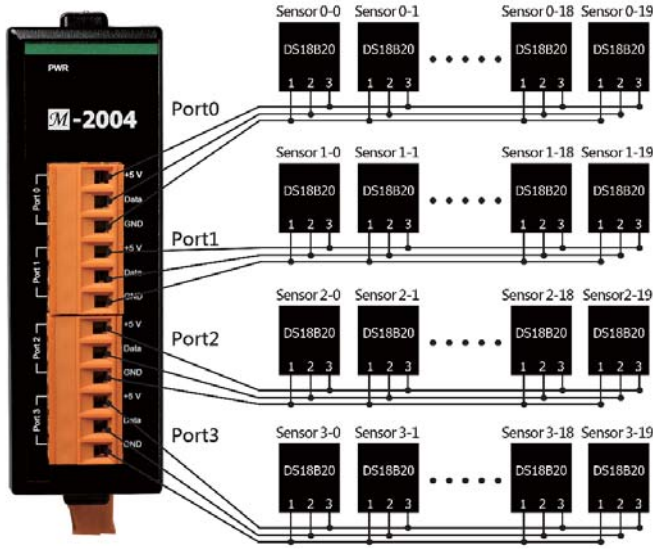
The M-2004 is a digital temperature sensor module that provides four ports for 2- or 3 wire DS8B20 digital temperature sensor input. The DS18B20 temperature sensor has a high accuracy of ±0.5°C when measuring temperatures between -10 and + 85°C, with a total measurement range of between -55 and +125°C. Up to 20 DS18B20 sensors can be connected to each port on the M-2004 module in a daisy-chain arrangement with a maximum wiring distance of 100 meters. The M-2004 module is fully RoHS compliant, and features 4 kV ESD protection as well as 3000 VDC intra-module isolation.

System Specifications

Communication Interface	
Interface	RS-485
Bias Resistor	Yes, 1k Ω bias resistor by switch selectable
Format	N81, N82, E81, O81
Baud Rate	1200 to 115200 bps
Protocol	Modbus RTU, DCON
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)
LED Indicators/Display	
System LED Indicator	Yes, 1 as Power/Communication Indicator
I/O LED Indicators	-
Isolation	
Intra-module Isolated, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal ±8 kV Air for Random Point
EFT (IEC 61000-4-4)	±4 kV for Power
Surge (IEC 61000-4-5)	±2 kV for power liner
Power	
Reverse Polarity Protection	Yes
Input Voltage Range	+10 ~ +48 VDC
Power Consumption	0.5 W
Mechanical	
Dimensions (L x W x H)	110 x 33 x 96 mm
Installation	DIN-Rail
Environment	
Operating Temperature	-25°C to +75°C
Storage Temperature	-30°C to +80°C
Relative Humidity	10 ~ 95% RH, Non-condensing

Applications

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

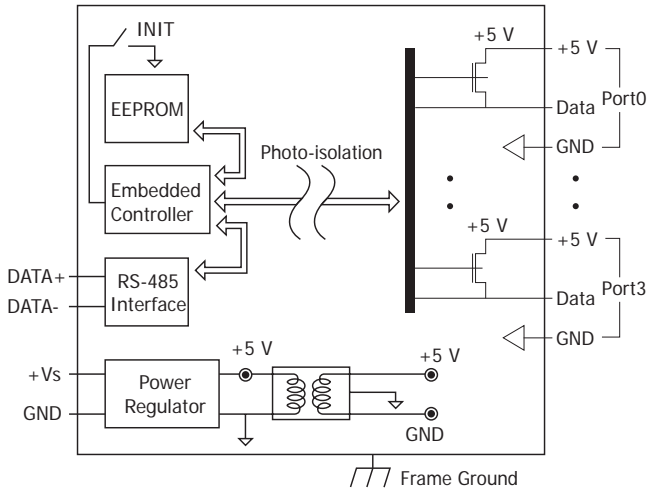


I/O Specifications

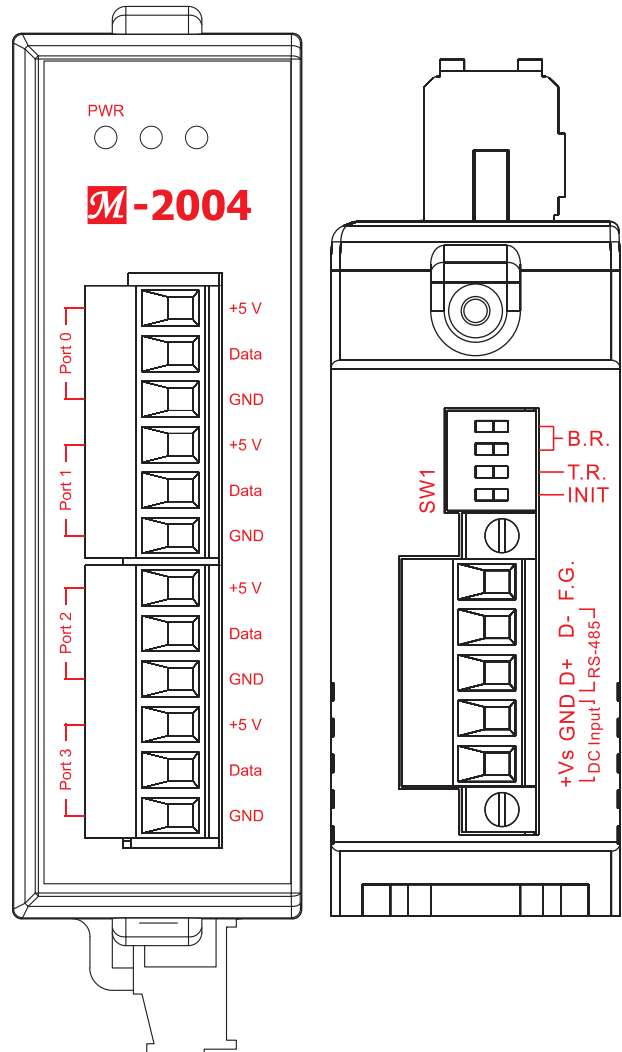
Analog Input	
Port	4
Wiring	2-wire or 3-wire
Sensor Type	DS18B20
Temperature Measurement Range	-55°C to +125°C
Resolution	12-bit
Accuracy	±0.5°C (See Note 1)
Sampling Rate	1 Hz
Number of Sensors per Port	20
Sensor Wiring Length	Max. 100 m per Port

Note :1 ±0.5°C Accuracy from -10°C to +85°C

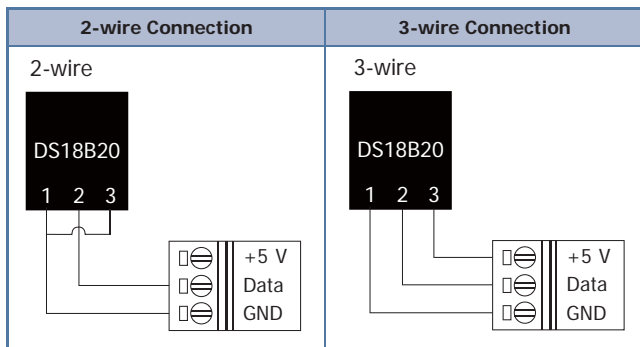
Internal I/O Structure



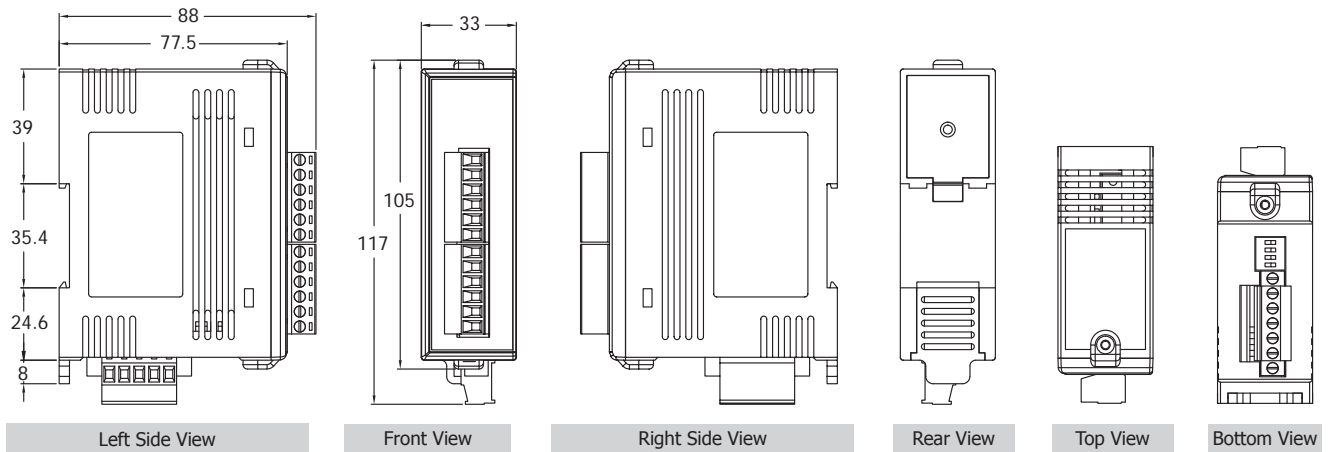
Pin & Terminal Assignments



Wire Connections



Dimensions (Units: mm)



Ordering Information

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

	tM-7520U CR	RS-232 to RS-485 Converter (RoHS)
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