



M-7004-G

4-port DS18B20 Digital Temperature Sensor Module with Daisy-Chain Wiring

Features

- 4-Port DS18B20 Sensor Input Module
- 2/3-wire DS18B20 Wire Connection
- Up to 20 Sensors per Port
- Up to 100 Meters per Port when Using Daisy-Chain Wiring



Introduction

M-7004 is a digital temperature sensor module that provides four ports for 2- or 3-wire DS18B20 digital temperature sensor input. The DS18B20 temperature sensor has a high accuracy of $\pm 0.5^{\circ}\text{C}$ when measuring temperatures between -10 and $+85^{\circ}\text{C}$, with a total measurement range of between -55 and $+125^{\circ}\text{C}$. Up to 20 DS18B20 sensors can be connected to each port on the M-7004 module in a daisy-chain arrangement with a maximum wiring distance of 100 meters. M-7004 is fully RoHS compliant and features 4 kV ESD protection as well as 3000 VDC intra-module isolation.

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
Temperature Measurement	
Range	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
Analog Input	
Channels	4
Sensor Type	DS18B20
Sensors per Ports	20
Sensor Wiring Cables Length	Max. 100 m per Port
Resolution	12-bit
Accuracy	$\pm 0.5^{\circ}\text{C}$ (See Note 1)
Sampling Rate	1 Hz
COM Ports	
Ports	1 x RS-485
Baud Rate	1200 \sim 115200 bps
Data Format	(N, 8, 1), (N, 8, 2), (E, 8, 1), or (O, 8, 1)
Protocol	Modbus RTU, DCON
Power	
Reverse Polarity Protection	Yes
Input Range	$+10 \sim +48$ VDC
Consumption	0.5 W
Mechanical	
Dimensions (mm)	72 x 123 x 35 (W x L x H)
Installation	DIN-Rail Mounting

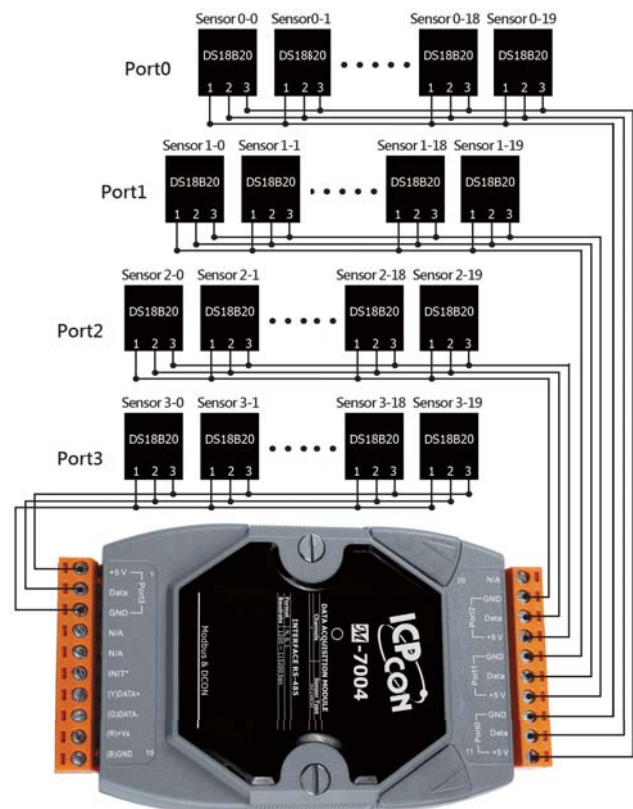
Note 1: $\pm 0.5^{\circ}\text{C}$ Accuracy from -10°C to $+85^{\circ}\text{C}$

Environment

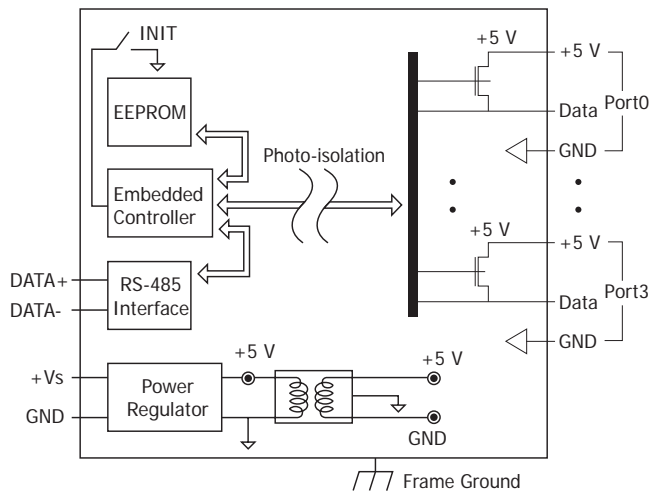
Operating Temperature	$-25 \sim +75^{\circ}\text{C}$
Storage Temperature	$-30 \sim +80^{\circ}\text{C}$
Humidity	10 \sim 90% RH, Non-condensing

Applications

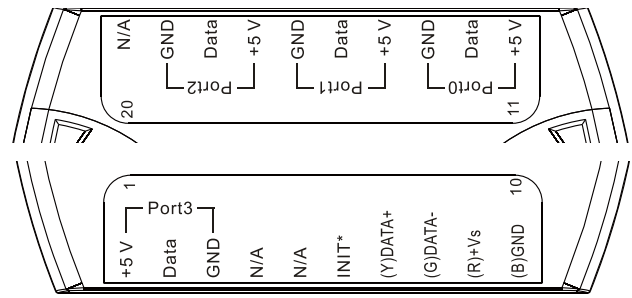
- Temperature Measurement
- Environment Monitoring
- Tunnel Monitoring
- Building Monitoring



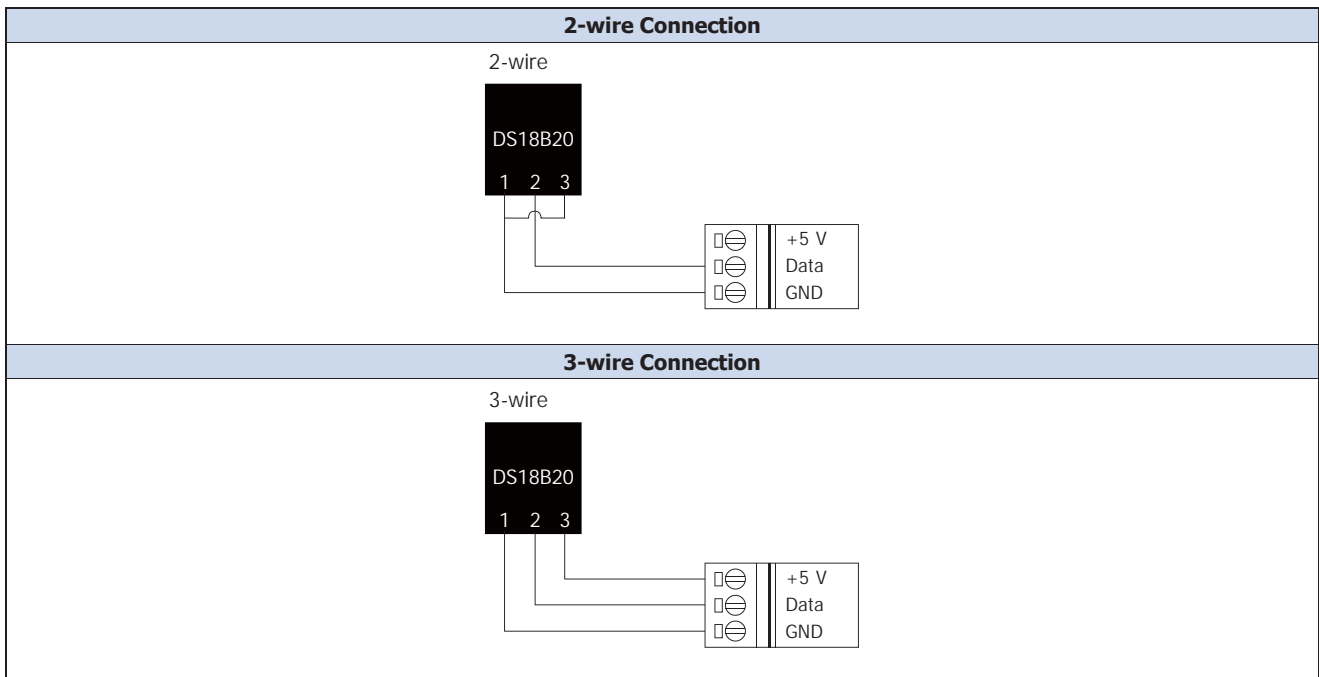
Internal I/O Structure



Pin Assignments



Wire Connections



Ordering Information

M-7004-G CR	4-Port DS18B20 Digital Temperature Sensor Module with Daisy-Chain Wiring using DCON and Modbus Protocols (Gray Cover) (RoHS)
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Accessories

CA-TP1-M100-L020 CR	3-wire DS18B20, Stainless steel, 2M (-30°C ~ 125°C) (RoHS)
CA-TP1-M200-L020 CR	3-wire DS18B20, copper nickel plated, 2M (-30°C ~ 125°C) (RoHS)
tM-7520U CR	Tiny Isolated RS-232 to RS-485 Converter (RoHS)