

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 ±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-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

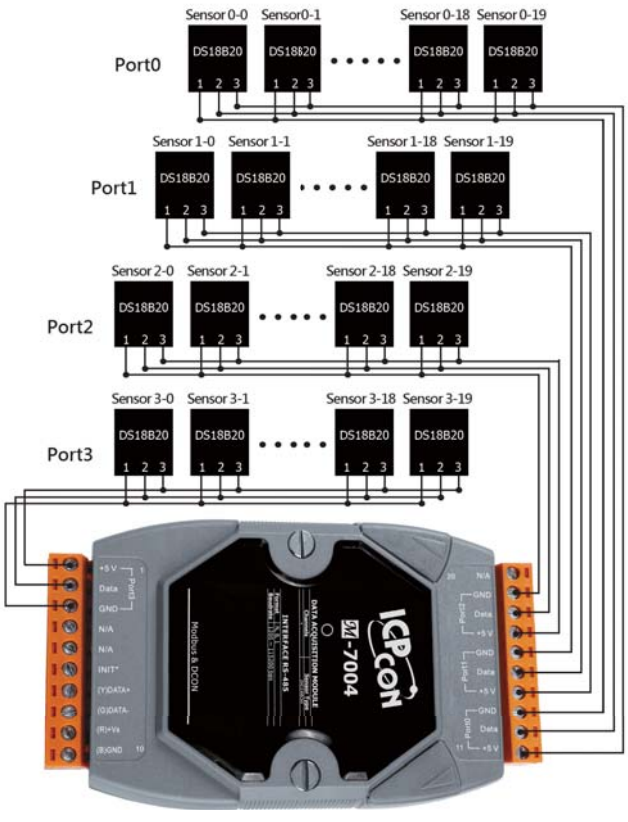
CPU Module	
Watchdog Timer	Module, Communication (Programmable)
Isolation	
Intra-module Isolation	3000 VDC
EMS Protection	
EFT (IEC 61000-4-4)	±4 kV for Power Line
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point
Surge (IEC 61000-4-5)	±2 kV for Power Line
LED Indicators	
Status	1 x Power and Communication
Temperature Measurement	
Range	-55 °C ~ +125 °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	±0.5 °C (See Note 1)
Sampling Rate	1 Hz
COM Ports	
Ports	1 x RS-485
Baud Rate	1200 ~ 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 ~ +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: ±0.5°C Accuracy from -10°C to +85°C

Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +80 °C
Humidity	10 ~ 90% RH, Non-condensing

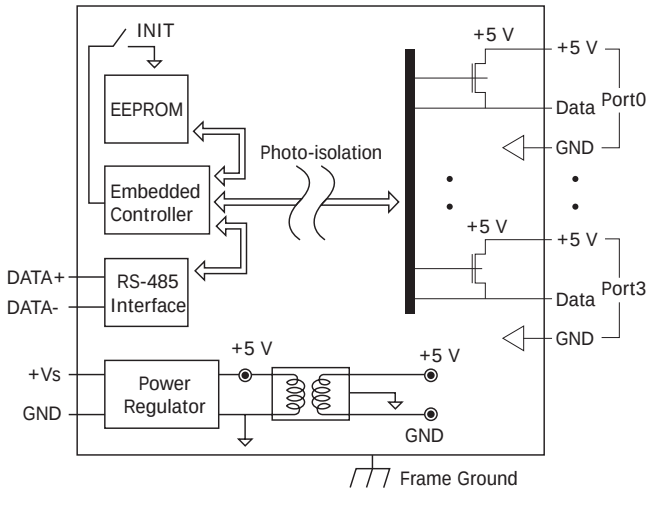
Applications

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

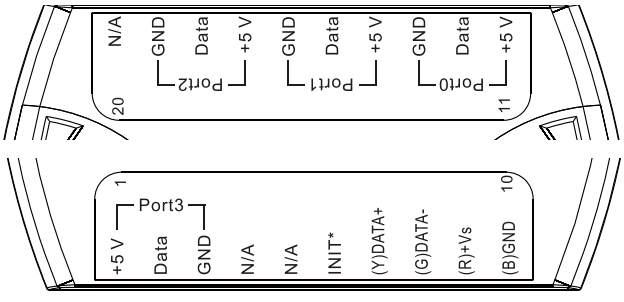


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Internal I/O Structure

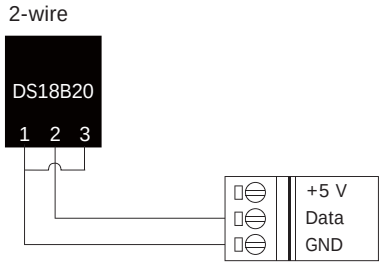


Pin Assignments

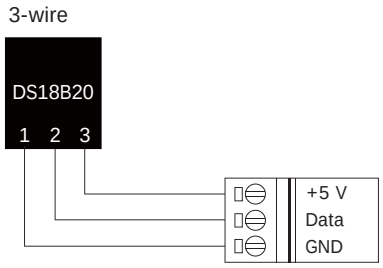


Wire Connections

2-wire Connection



3-wire Connection



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)

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)

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