ICP DAS

Features

- 4-Port DS18B20 Sensor Input Module
- 2- or 3-wire DS18B20 Wire Connection
- Max 20 Ssensors per Port
- Max. 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

M-7004

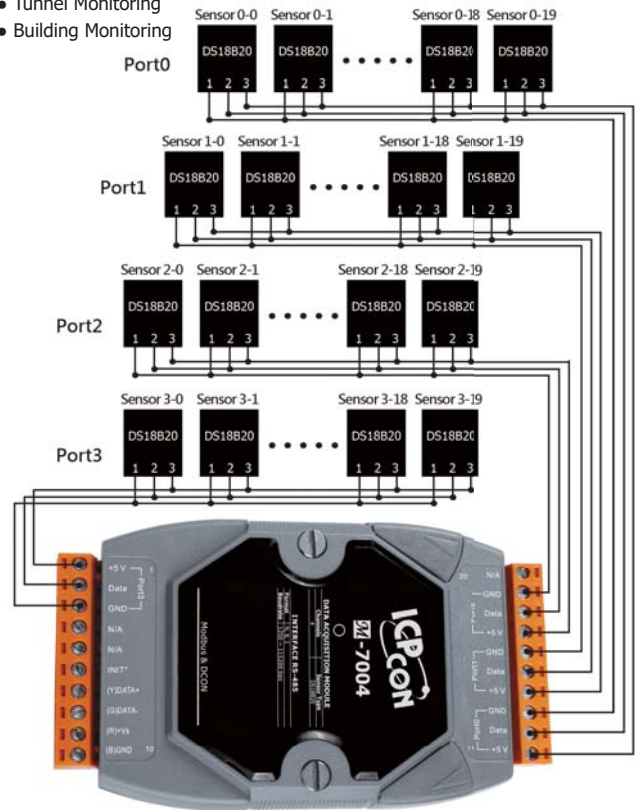4-port Digital Temperature Sensor Module with Daisy-Chain Wiring

Introduction

The 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. The M-7004 module is fully RoHS compliant, and features 4 kV ESD protection as well as 3000 VDC intra-module isolation.

Applications

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

System Specifications

| Model	M-7004
Communication	
Interface	RS-485
Bias Resistor	Yes, 1k Ω bias resistor by Jumper selectable
Format	N81, N82, E81, O81
Baud Rate	1200 to 115200 bps
Protocol	DCON Modbus/RTU
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 Isolation, Field-to-Logic	3000 V$_{DC}$
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 Range	+10 ~ +48 V$_{DC}$
Consumption	0.5 W
Mechanical	
Dimensions (L x W x H)	123 mm x 72 mm x 35 mm
Installation	DIN-Rail
Environment	
Operating Temperature	-25 to +75°C
Storage Temperature	-30 to +80°C
Humidity	10 to 90% RH, Non-condensing

I/O Specifications

| Model	M-7004
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
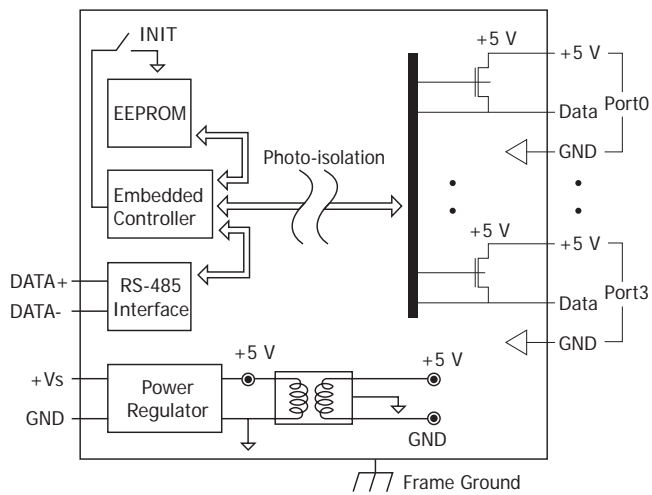
■ Pin Assignments

■ Wire Connections
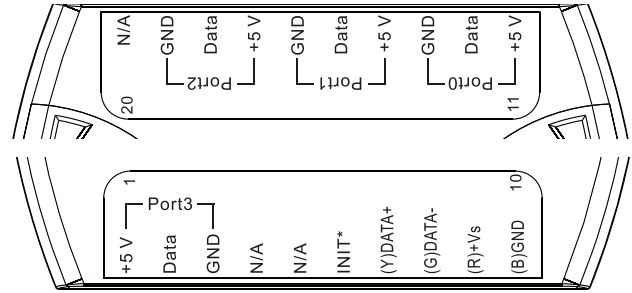
2-wire Connection

3-wire Connection
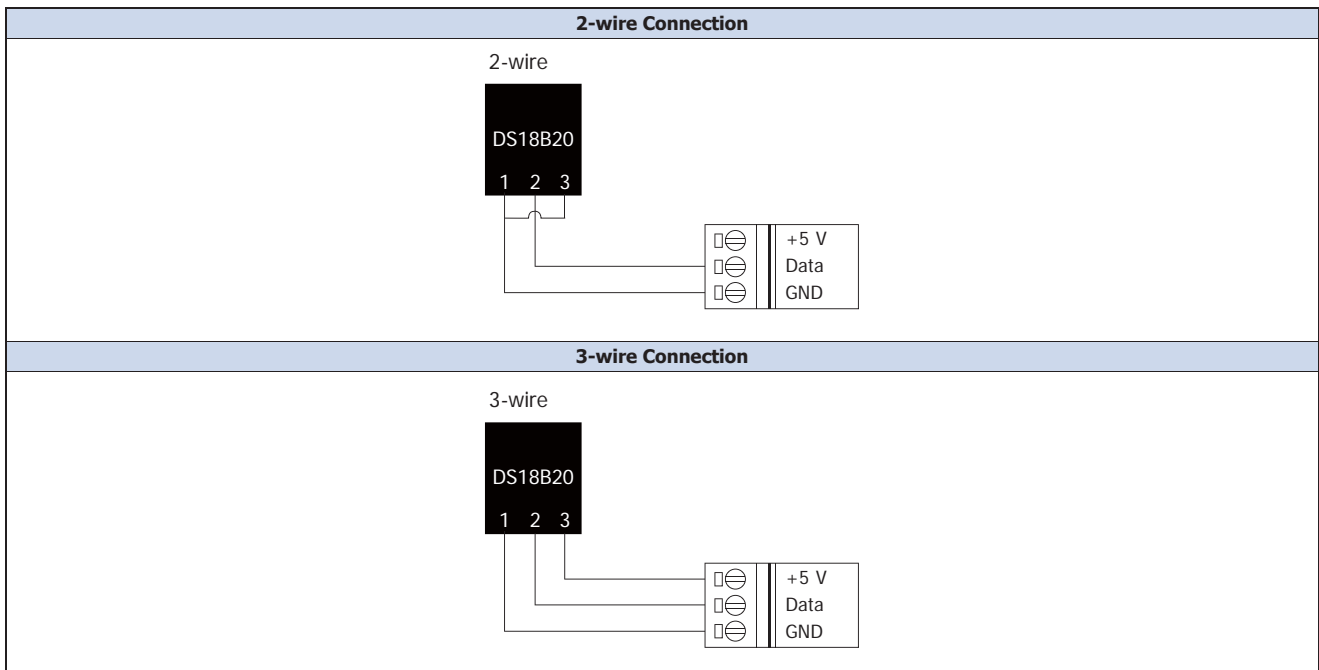
■ Ordering Information

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

■ Accessories

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