

I-87004W

4-Port DS18B20 Temperature Sensor Input Module

Features

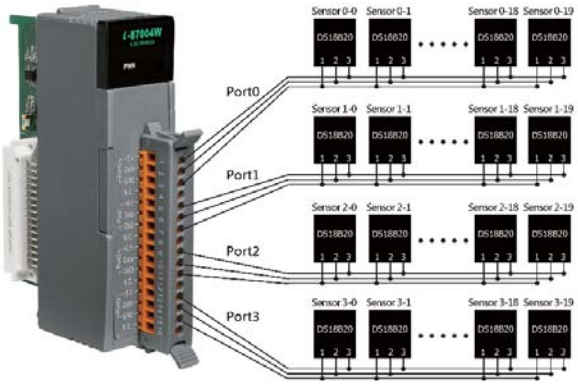
- 4-Port DS18B20 Sensor Input Module
- 2/3-wire DS18B20 Wire Connection
- Max. 20 Ssensors per Port
- Max. Distance of 100 m per Port when using Daisy-Chain Wiring
- Measures Temperatures from -55 to +125°C
- ±0.5°C Accuracy from -10 to +85°C
- 4 kV ESD Protection

Introduction

The I-87004W 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 I-87004W module in a daisy-chain arrangement with a maximum wiring distance of 100 meters. The I-87004W 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

CPU Module	
Watchdog Timer	Module (1.6 Seconds), Communication (Programmable)
LED Indicators	
System LED Indicator	1
Isolation	
Intra-module Isolation, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	± 4 kV Contact for Each Terminal ±8 kV Air for Random Point
Power	
Consumption	0.5 W Max.
Mechanical	
Dimensions (W x L x H)	30 mm × 115 mm × 102 mm
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +80 °C
Humidity	10 ~ 90 % RH, Non-condensing

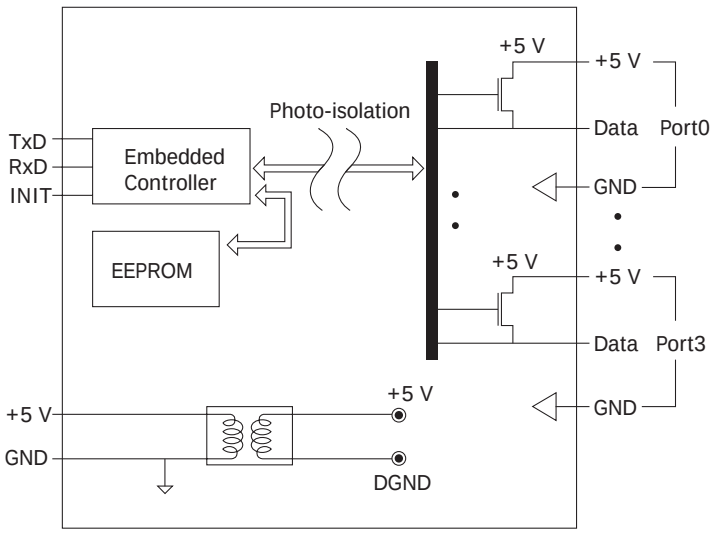
I/O Specifications

COM Ports	
Ports	1 x RS-485
Baud Rate	1200 ~ 115200 bps
Data Format	N81, N82, E81, O81
Protocol	DCON
Temperature Measurement	
Range	-55 ~ +125 °C
Analog Input	
Ports	4
Sensor Type	DS18B20
Sensors per Ports	20
Sensor Wiring Cables Length	Max. 100 m per Port
Resolution	12-bit
Accuracy	±0.5 °C (Note)
Sampling Rate	1 Hz

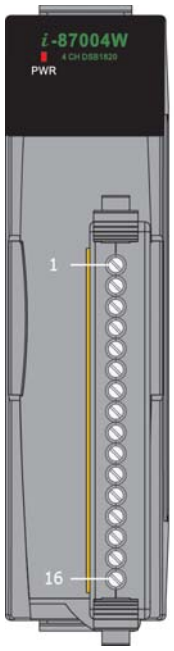
Note: ±0.5 °C accuracy only applies for measurements between -10 ~ +85°C

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Internal I/O Structure

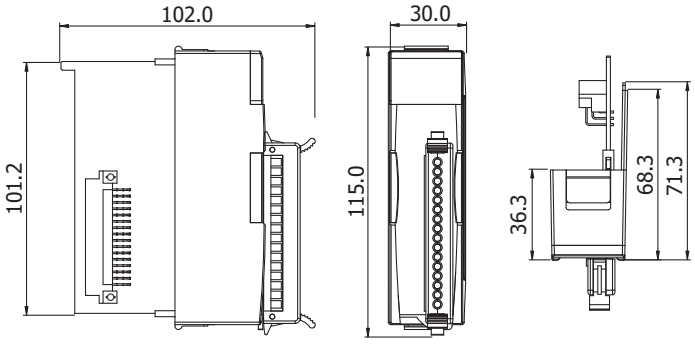


Pin Assignments



Terminal No.		Pin Assignment
01	Port0	+5 V
02		Data
03		GND
04		N.C.
05	Port1	+5 V
06		Data
07		GND
08		N.C.
09	Port2	+5 V
10		Data
11		GND
12		N.C.
13	Port3	+5 V
14		Data
15		GND
16		N.C.

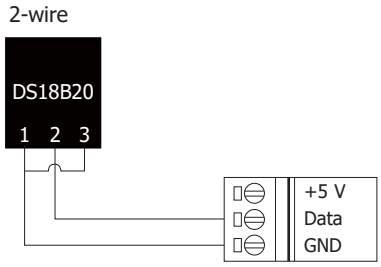
Dimensions (Unit: mm)



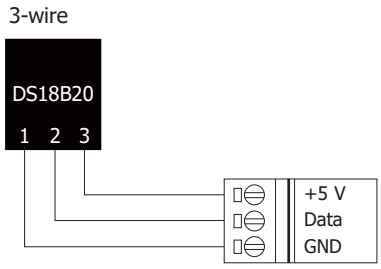
Left View | Front View | Top View

Wire Connections

2-Wire Connection



3-Wire Connection



Accessories

CA-TP1-M100-L020 CR



3-wire DS18B20, Stainless steel (-30°C ~ 125°C)

CA-TP1-M200-L020



3-wire DS18B20, copper nickel plated (-30°C ~ 125°C)

Ordering Information

I-87004W-G CR

4-Port DS18B20 Temperature Sensor Input Module with Daisy-Chain Wiring (RoHS)

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000