



I-8142iW-G

2-port Isolated
RS-422/485 Module

I-8144iW-G

4-port Isolated
RS-422/485 Module

Features

- Serial Port with +/- 4 kV ESD Protection
- Baud Rate of up to 115200 bps
- Built-in Self-Tuner or Auto-Direction Control
- 2500 Vdc Isolation
- Internal 128-byte Hardware FIFO for each Port
- LED Indicators for TxD, RxD and Power Status



Introduction

The I-8142iW-G provides 2 isolated RS-422/485 serial ports, while the I-8144iW-G provides 4 isolated RS-422/485 serial ports. It is equipped with a 128-byte hardware FIFO for each port and offers speeds up to 115.2 kbps with support for RS-422 full-duplex communication.

In the harsh industrial environment, the onboard ESD protection devices can divert this potentially damaging charge away from sensitive circuitry and protect the I-8142iW/I-8144iW from permanent damage.

The serial communication modules are designed for use with intelligent devices like bar code readers, serial printers, intelligent sensors, instrumentation equipment, computers, and almost any device with an RS-422/485 port.

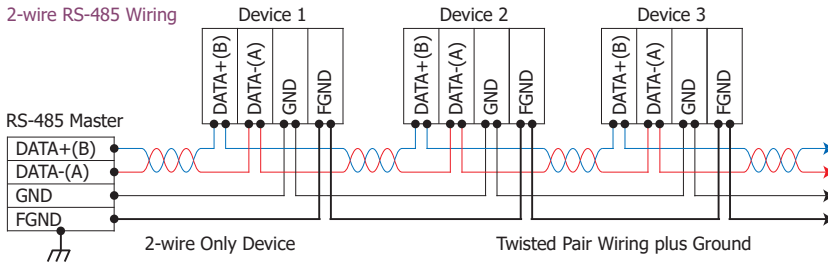
Specifications

| Models | I-8142iW | I-8144iW |
|--|---|---|
| LED Indicators/Display | | |
| Power | 1 LED | |
| TxD | 2 LEDs | 4 LEDs |
| RxD | 2 LEDs | 4 LEDs |
| Isolation | | |
| Intra-module Isolation, Field-to-Logic | 2500 VDC | |
| EMS Protection | | |
| ESD (IEC 61000-4-2) | ±4 kV Contact for each Terminal | |
| Power | | |
| Power Consumption | 1.5 W (Without Resistor) | 1.75 W (Without Resistor) |
| | 2 W (With 2 Resistors, 1/4 Watt, 120 Ω 5%) | 3 W (With 4 Resistors, 1/4 Watt, 120 Ω 5%) |
| Mechanical | | |
| Dimensions (W × L × H) | 30 mm × 115 mm × 102 mm | |
| Environment | | |
| Operating Temperature | -25 ~ +75 °C | |
| Storage Temperature | -40 ~ +85 °C | |
| Humidity | 10 ~ 90% RH, Non-condensing | |

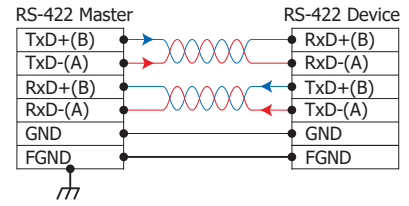
| Models | I-8142iW | I-8144iW |
|-----------------------------------|--|----------------|
| COM Ports | | |
| Ports | 2 × RS-422/485 | 4 × RS-422/485 |
| Interface | Isolated RS-422/485 (The RS-422 and RS-485 can not be used simultaneously) RS-422: TxD+, TxD-, RxD+, RxD-, GND RS-485: D+, D-, GND | |
| Baud Rate | 115200 bps Max. | |
| Parity | None, Even, Odd, Mark, Space | |
| Data Bit | 5, 6, 7, 8 | |
| Stop Bit | 1, 1.5, 2 | |
| FIFO Size | Internal 128 bytes for each port | |
| 2-wire Cabling/ 4-wire Cabling | Belden 9841 (2P twisted-pair cable)/ Belden 9842 (4P twisted-pair cable), If different cables are used, the transmission distance may change | |
| 4-wire Cabling | Max. of 256 devices. in a single RS-485 network without using a repeater | |
| Transfer Distance | Max. of 1,200 m at 9.6 kbps; Max. of 400 m at 115.2 kbps | |
| Self-Tuner Asic inside | Yes | |

Wire Connections

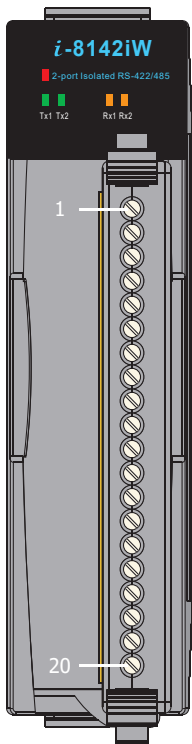
2-wire RS-485 Wiring



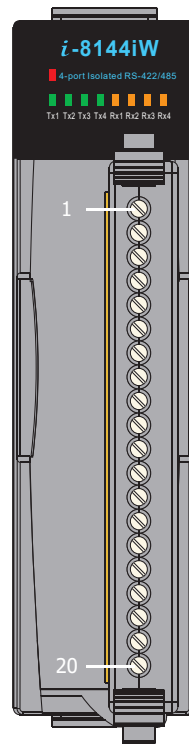
4-wire RS-422 Wiring



Pin Assignments

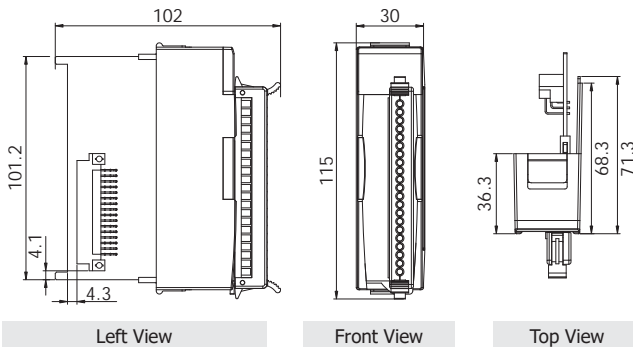


| Terminal No. | Pin Assignment |
|--------------|----------------|
| 01 | D1+/TxD1+ |
| 02 | D1-/TxD1- |
| 03 | RxD1+ |
| 04 | RxD1- |
| 05 | GND1 |
| 06 | D2+/TxD2+ |
| 07 | D2-/TxD2- |
| 08 | RxD2+ |
| 09 | RxD2- |
| 10 | GND2 |
| 11 | N.C. |
| 12 | N.C. |
| 13 | N.C. |
| 14 | N.C. |
| 15 | N.C. |
| 16 | N.C. |
| 17 | N.C. |
| 18 | N.C. |
| 19 | N.C. |
| 20 | N.C. |



| Terminal No. | Pin Assignment |
|--------------|----------------|
| 01 | D1+/TxD1+ |
| 02 | D1-/TxD1- |
| 03 | RxD1+ |
| 04 | RxD1- |
| 05 | GND1 |
| 06 | D2+/TxD2+ |
| 07 | D2-/TxD2- |
| 08 | RxD2+ |
| 09 | RxD2- |
| 10 | GND2 |
| 11 | D3+/TxD3+ |
| 12 | D3-/TxD3- |
| 13 | RxD3+ |
| 14 | RxD3- |
| 15 | GND3 |
| 16 | D4+/TxD4+ |
| 17 | D4-/TxD4- |
| 18 | RxD4+ |
| 19 | RxD4- |
| 20 | GND4 |

Dimensions (Units: mm)



Ordering Information

| | |
|----------------------|---|
| I-8142iW-G CR | 2-port Isolated RS-422/485 Module (Gray Cover) (RoHS) |
| I-8144iW-G CR | 4-port Isolated RS-422/485 Module (Gray Cover) (RoHS) |