



## 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 Vrms 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.

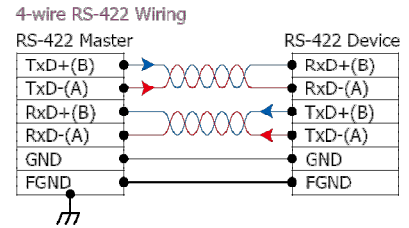
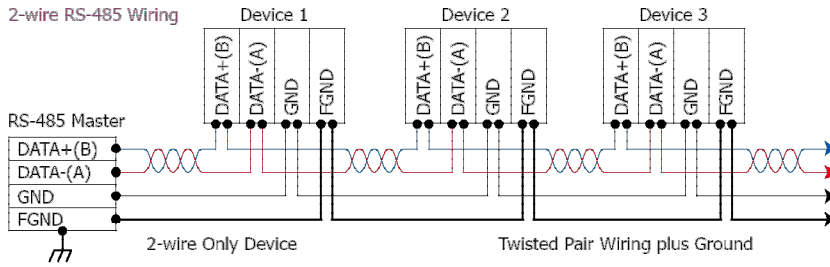
### System Specifications

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

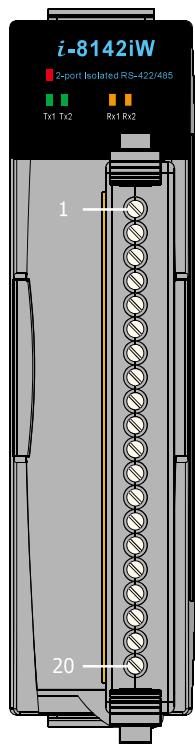
### I/O Specifications

Models	I-8142iW	I-8144iW
<b>RS-422/485 Interface</b>		
Number of Ports	2	4
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	
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	
Transfer Distance	Max. of 1,200 m at 9.6 kbps; Max. of 400 m at 115.2 kbps	
4-wire Cabling	Max. of 256 devices. in a single RS-485 network without using a repeater	
Controller	16C950 Compatible	
	Speed: 115200 bps max.	
	Data Bit: 5, 6, 7, 8	
	Stop Bit: 1, 1.5, 2	
Self-Tuner Asic inside	Parity: None, Even, Odd, Mark, Space	
	FIFO: Internal 128 bytes for each port	
	Yes	
Interrupt	Shared Interrupt	
Bus	Parallel I/O Module	
Connector	Removable 20-Pin Terminal Block	

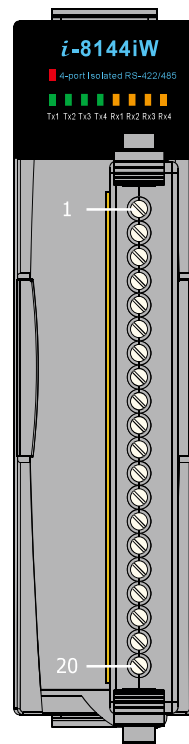
## Wire Connections



## Pin Assignments

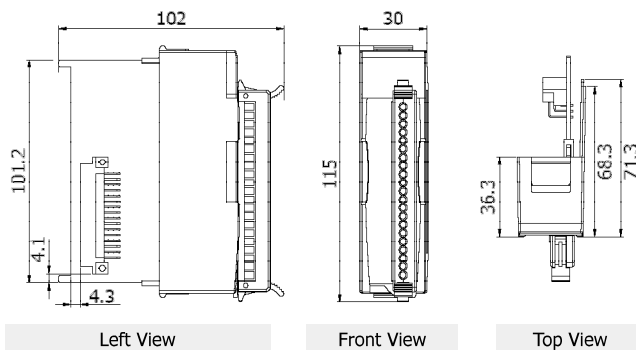


Terminal No.	Pin Assignment
01	D1+/TxD1+
02	D1-/TxD1-
03	RxD1+
04	RxD1-
05	GND1
06	D2+/TxD2+
07	D2-/TxD2-
08	RxD2+
09	RxD2-
10	GND2
11	N.C.
12	N.C.
13	N.C.
14	N.C.
15	N.C.
16	N.C.
17	N.C.
18	N.C.
19	N.C.
20	N.C.



Terminal No.	Pin Assignment
01	D1+/TxD1+
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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

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