I-87088W

8-channel PWM Output and
8-channel High-speed Counter Module

Features

- 8-channel PWM Output and 8-channel Counter Input
- Burst Mode and Continuous Mode for PWM Output
- Software and Hardware Trigger Mode for PWM Output
- Individual and Synchronous PWM Output
- High-speed Counters
- 4 kV ESD and EFT Protection
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C

Introduction

The I-87088W provides 8-channel PWM (Pulse Width Modulation) Output and 8-channel Counter Input, and can be used to develop powerful and cost-effective analog control systems. PWM is a powerful technique for controlling analog circuits that uses the Digital Output to generate a waveform with a variable duty cycle and frequency which can then be used to control an analog circuit in applications such as controlling the position or speed of motors, the brightness of lamps, or the speed of fans, etc. Either burst mode or continuous mode can be used for the PWM output depending on the application. In addition, all Digital Input channels can be used as high-speed counters with a speed of up to 1 MHz. The I-87088W/S allows the load voltage to be increased from +3.5 to +50 V for the 8-channels PWM (Pulse Width Modulation) output and the 8-channels high-speed counter.

Applications

- Controlling Motor Position/Speed
- Dimming Lamp Brightness
- Controlling Fan Speed

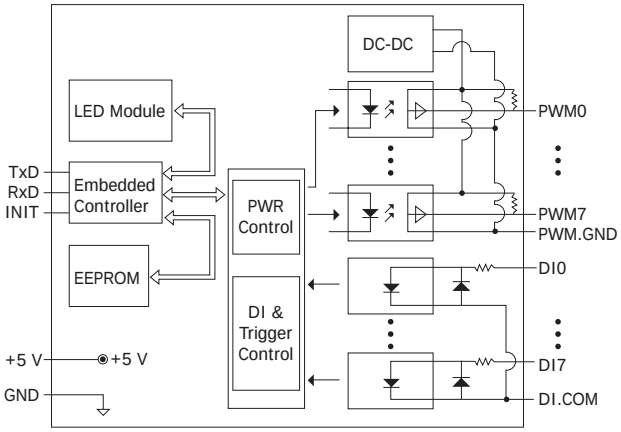
System Specifications

Model	I-87088W	I-87088W/S
Communication		
Interface	RS-485	
Format	N, 8, 1	
Baud Rate	1200 to 115200 bps	
Protocol	DCON	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)	
LED Indicators/Display		
Power	1 LED, Red	
Isolation		
Intra-module Isolation, Field-to-Logic	3750 VDC	
EMS Protection		
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal	
Power		
Power Consumption	1.7 W Max.	
Mechanical		
Dimensions (L × W × H)	115 mm × 30 mm × 102 mm	
Environment		
Operating Temperature	-25 to +75°C	
Storage Temperature	-30 to +80°C	
Humidity	10 to 95% RH, Non-condensing	

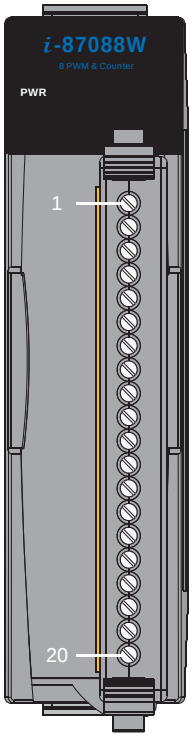
I/O Specifications

Model		I-87088W	I-87088W/S
Digital Input			
Channels		8	
Contact		Wet	
Sink/Source (NPN/PNP)		Sink	
ON Voltage Level		+3.5 ~ +5 VDC	+3.5 ~ +50 VDC
OFF Voltage Level		+1 VDC Max.	+4 VDC Max.
Programmable Filter		-	
Programmable Threshold Voltage		-	
Counter Bits		32-bit	
Counter Mode		Up	
Encoder Mode		-	
Frequency Mode		-	
Virtual Battery Backup		Yes	
Max. Speed		1 MHz	
Digital Output			
Channels		8	
Type		PWM, TTL	
Sink/Source (NPN/PNP)		Sink	
Load Voltage		+3.5 ~ +5 VDC	+3.5 ~ +50 VDC
Max. Load Current	Sink	+5 VDC @ 10 mA/ Channel	+50 VDC @ 200 mA/Channel
	Source	+5 VDC @ 1 mA/ Channel	-
PWM	Frequency	1 Hz ~ 500 KHz	
	Duty Cycle	0.1 to 99.9%	
	Mode	Burst, Continuous	
	Burst Count	1 to 65535	
	Trigger Start	Hardware or Software	
Power-on Value		-	
Safe Value		-	

Internal I/O Structure

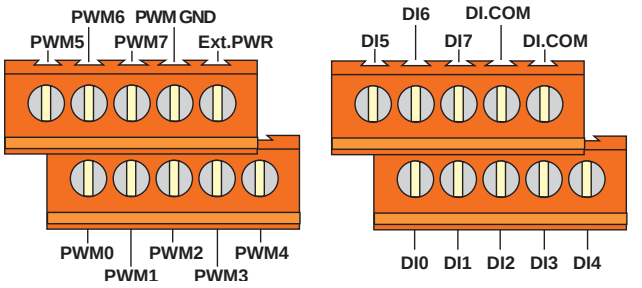


Pin Assignments

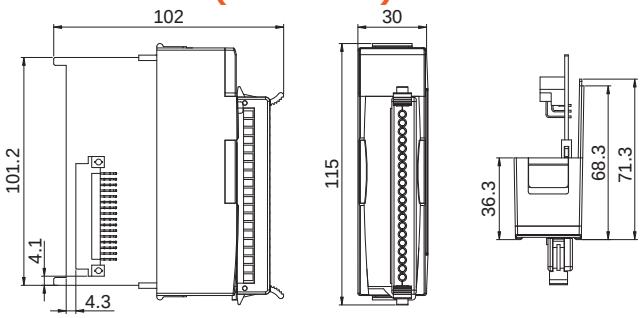


Terminal No.	Pin Assignment
01	PWM0
02	PWM1
03	PWM2
04	PWM3
05	PWM4
06	PWM5
07	PWM6
08	PWM7
09	PWM.GND
10	PWM.GND
11	DI0
12	DI1
13	DI2
14	DI3
15	DI4
16	DI5
17	DI6
18	DI7
19	DI.COM
20	DI.COM

DN-8P8C of I-87088W/S



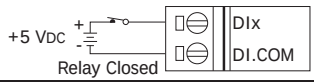
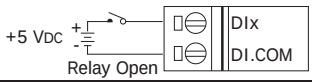
Dimensions (Units: mm)

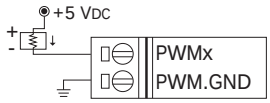
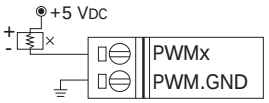


Left View | Front View | Top View

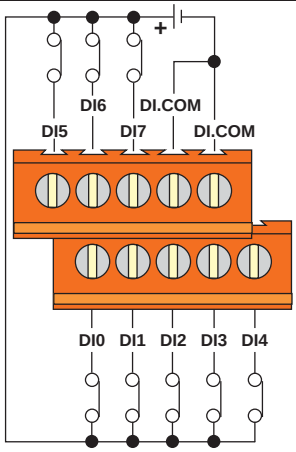
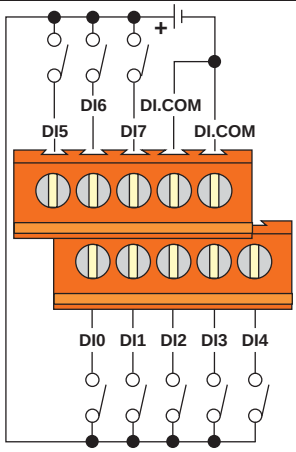
Wire Connections

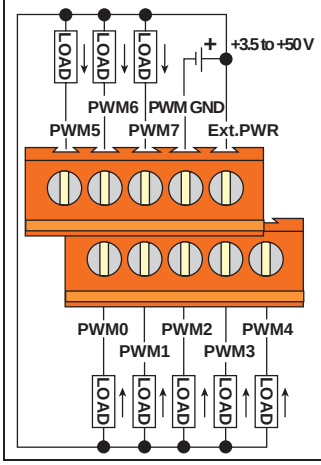
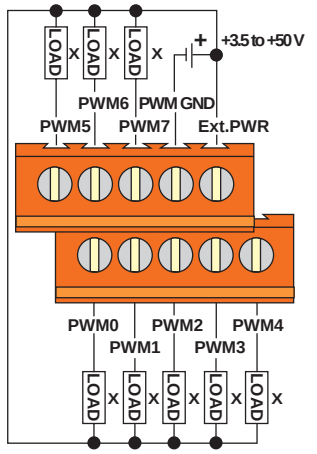
I-87088W

Input Type	ON State Readback as 1	OFF State Readback as 0
Relay Contact	Relay ON	Relay OFF
		

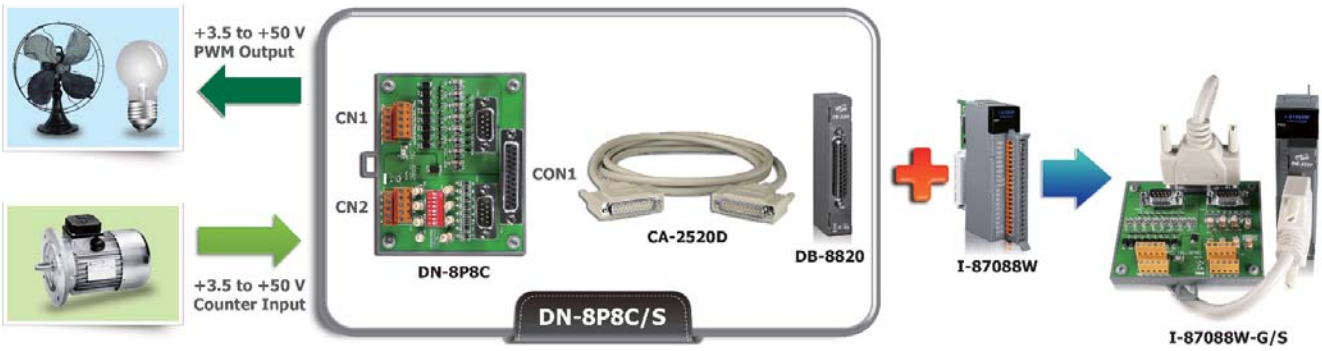
Output Type	ON State Readback as 1	OFF State Readback as 0
Sink		
Source		

DN-8P8C of I-87088W/S

Input Type	
ON State Readback as 1	OFF State Readback as 0
	

Output Type	
ON State Readback as 1	OFF State Readback as 0
	

Applications



Ordering Information

I-87088W-G CR	8-channel PWM Output and 8-channel High-speed Counter Module (Gray Cover) (RoHS)
I-87088W-G/S CR	8-channel PWM Output and 8-channel High-speed Counter Module with DN-8P8C/S External Board (Gray Cover) (RoHS)

I-87088W-G/S = DN-8P8C/S Connects to the I-87088W Directly

Accessories

 SG-770 CR	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)
 DN-8P8C/S CR	8-channel Digital Output and 8-channel Counter Input Board, including a DB-8820 Daughterboard and a CA-2520D Cable.