



## I-87088W | I-87088W/S

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 +5 to +50 V for the 8-channels PWM (Pulse Width Modulation) output and the 8-channels high-speed counter.



**I-87088W/S**

I-87088W with DN-8P8C/S External Board

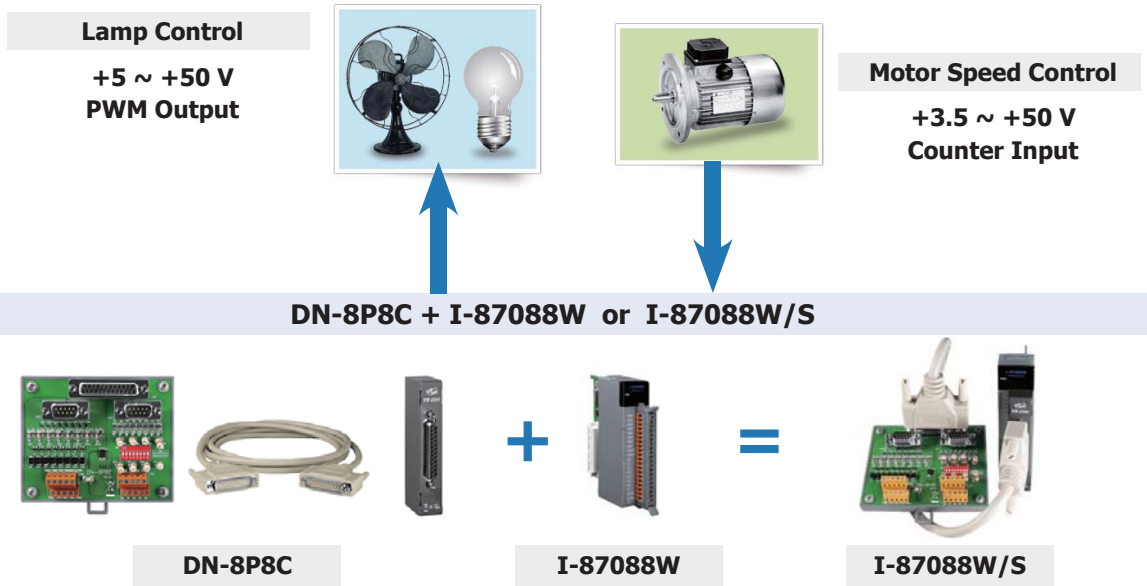
### System Specifications

Model	I-87088W	I-87088W/S
<b>Communication</b>		
Interface	RS-485	
Format	N, 8, 1	
Baud Rate	1200 ~ 115200 bps	
Protocol	DCON	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)	
<b>LED Indicators</b>		
System LED Indicator	1 LED as Power Indicator	
<b>Isolation</b>		
Intra-module Isolation, Field-to-Logic	3750 VDC	
<b>EMS Protection</b>		
ESD (IEC 61000-4-2)	±4 kV Contact for Each port	
<b>Power</b>		
Power Consumption	1.7 W Max.	
<b>Mechanical</b>		
I/O Connector	DB-37 (Female)	
Dimensions (W x L x H)	30 mm x 115 mm x 102 mm	
<b>Environment</b>		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-30 ~ +80 °C	
Humidity	10 ~ 90% RH, Non-condensing	

### I/O Specifications

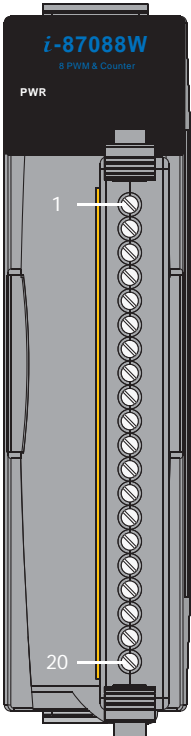
Model	I-87088W	I-87088W/S
<b>Digital Input</b>		
Channels	8	
Contact	Wet	
Sink/Source (NPN/PNP)	Sink	
ON Voltage Level	+3.5 ~+5 VDC	+3.5 ~+50 VDC
OFF Voltage Level	+1 VDC Max.	+4 VDC Max.
Programmable Filter	-	
Counter Bits	32-bit	
Counter Mode	Up	
Virtual Battery Backup	Yes	
Max. Speed	1 MHz	
<b>PWM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

## Applications

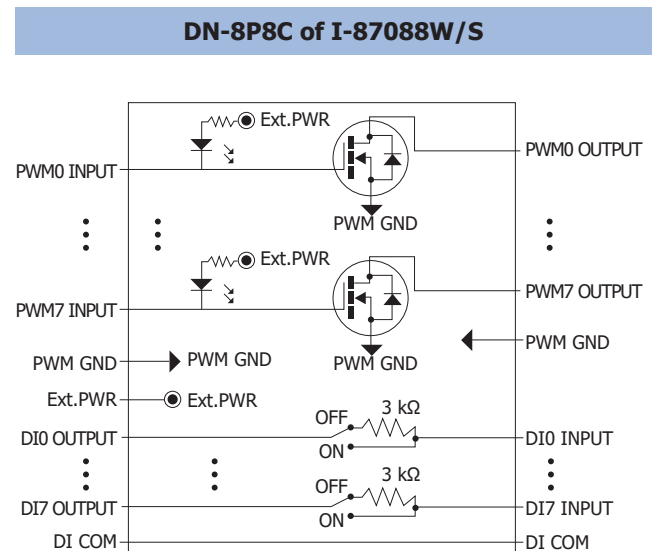
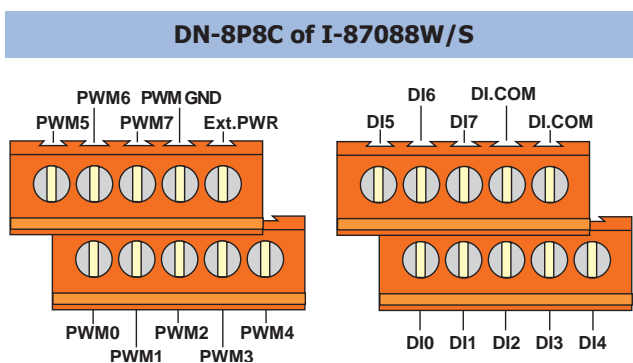
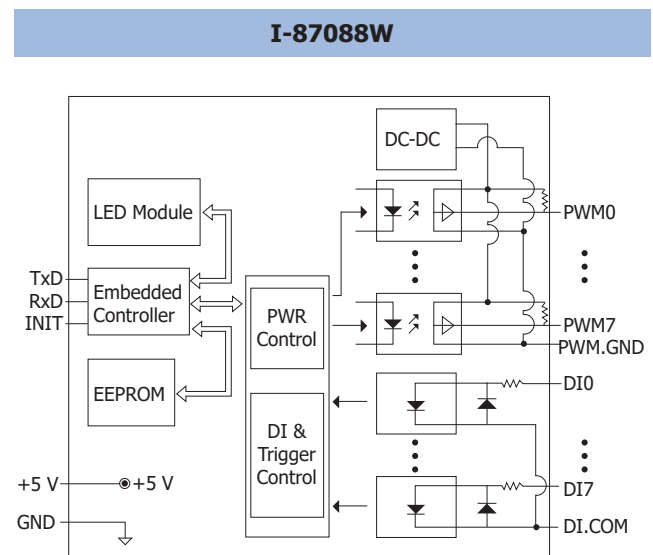


## Pin Assignments

I-87088W		
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	

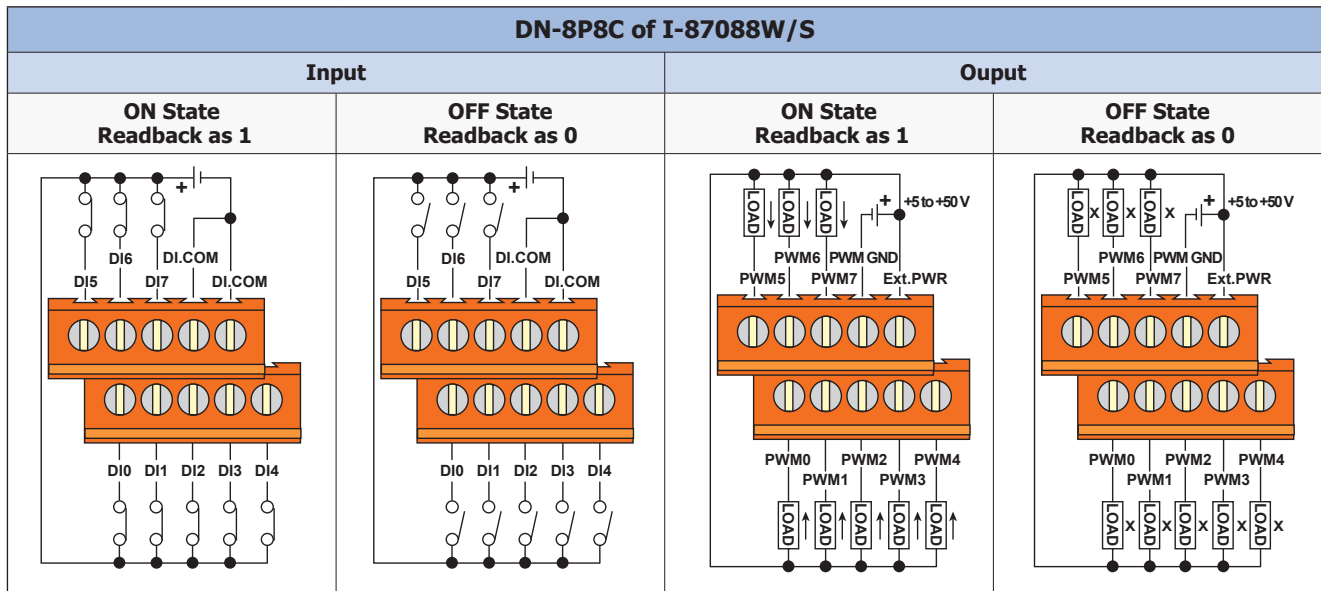


## Internal I/O Structure

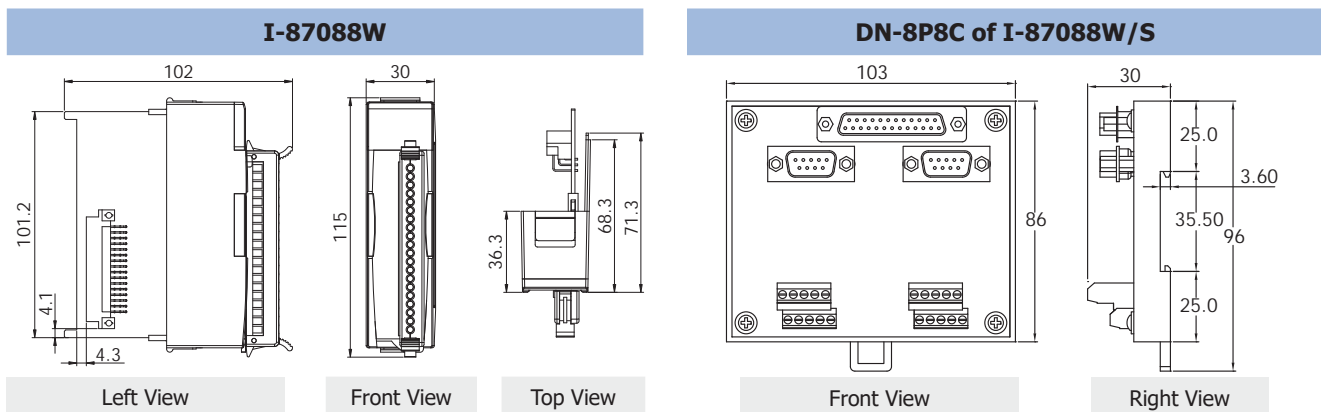


## Wire Connections

I-87088W		
Input Type	ON State Readback as 1	OFF State Readback as 0
Relay Contact		
Output Type	ON State Readback as 1	OFF State Readback as 0
Sink		
Source		



## Dimensions



## Ordering Information

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