6.6. Counter/Frequency/PWM Modules
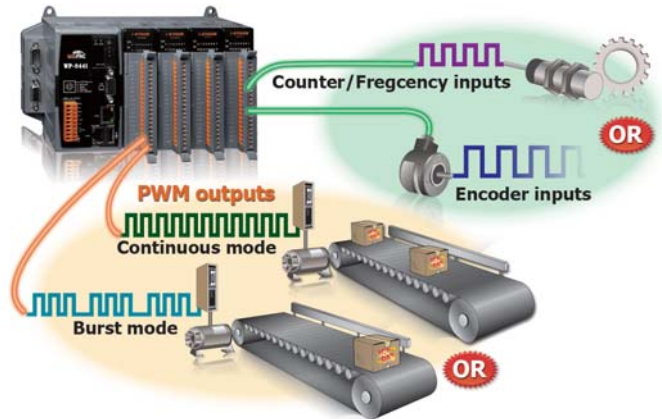
● Selection Guide

☑ PWM Introduction

PWM (Pulse width modulation) is a powerful technique for controlling analog circuits. It uses digital outputs to generate a waveform with variant duty cycle and frequency to control analog circuits. I-8088W and I-87088W have 8 PWM output channels and 8 digital inputs. It can be used to develop powerful and cost effective analog control system.

☑ PWM Features

- Automatic generation of PWM outputs by hardware, without software intervention.
- Software and hardware trigger mode for PWM output
- Individual and synchronous PWM output
- Burst mode PWM operation for standby
- DI channel can be configured as simple digital input channel or hardware trigger source of the PWM output.

☑ Applications

Counter/Frequency/PWM Module (Parallel/Serial Bus)

Models	I-87082W	I-8084W	I-87084W	I-8088W	I-87088W
Pictures			NEW	NEW	Available soon
Digital Input					
Channels	2	8		8	8
Type	Isolated or Non-isolated	Isolated or Non-isolated (Jumper Selectable)		Isolated	Isolated
on Voltage Level	3.5 ~ 30 V_{DC} (isolated) 2.4 ~ 5 V_{DC} (Non-isolated)	4.5 ~ 30 V_{DC} (isolated) 2 ~ 5 V_{DC} (Non-isolated)		5 ~ 30 V_{DC}	2.4 ~ 5 V_{DC}
off Voltage Level	1 V_{DC} max. (isolated) 0~ 0.8 V_{DC} (Non-isolated)	1 V_{DC} max. (isolated) 0 ~ 0.8 V_{DC} (Non-isolated)		0.8 V_{DC} max.	0.8 V_{DC} max.
Threshold Voltage	Programmable	Fixed		Fixed	Fixed
Counter	Up	Up/Down		-	Up
Max.Counts	32-bits (4,294,967,295)	32-bits (4,294,967,295)		-	32-bits (4,294,967,295)
Max. Counter Speed	100 kHz	250 kHz (isolated) 1 MHz (Non-isolated)		-	1 MHz
Digital Filter	2 ~ 65000 μs	1 ~ 32767 μs		-	-
Virtual Battery Backup for Counter Value	-	-	Yes	-	Yes
Max. Frequency	100 kHz	250 kHz		-	-
Frequency Accuracy	1Hz or 10Hz	±0.4% of Input Frequency		-	
Encoder	-	CW/CCW, Dir/Pulse, AB Phase		-	-
Digital Output					
Channels	2	-		8	
Type	Sink, Open Collector	-		Source, PWM	
Output Voltage	5 ~ 30 V_{DC}	-		5 V_{DC}	
Output Current	30 mA	-		1 mA	
Alarm Output	Yes	-		-	
PWM Frequency	-	-		1 ~ 500 kHz	
PWM Duty Cycle	-	-		0.1 ~ 99.9%	
PWM Mode	-	-		Burst, Continuous	
Burst Count	-	-		1 ~ 65535	
Trigger Start	-	-		Hardware, Software	
System					
Dual Watchdog	Yes	-	Yes	-	Yes
Data Bus	Seriial	Parallel	Seriial	Parallel	Seriial
Isolation	3750 Vrms	1000 Vrms	2000 V_{DC}	3000 V_{DC}	2500 Vrms
Power Consumption	0.5 W	0.6 W	0.6 W	1.8 W	1.8 W
Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Optional Accessories	-	-	-	-	-