

5.6. Counter/Frequency/PWM Modules

• Selection Guide

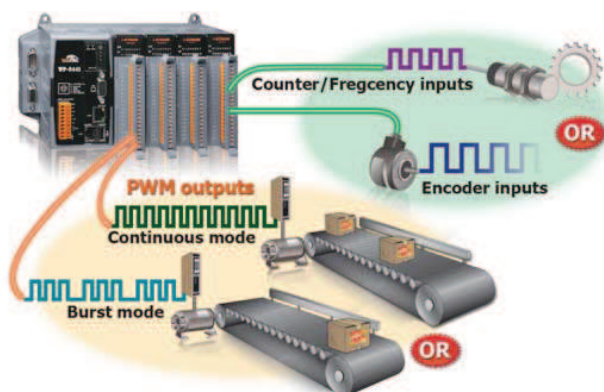
■ PWM Introduction

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					
Digital Input					
Channels	2	8	8	8	8
Type	Isolated or Non-isolated	Isolated or Non-isolated (Jumper Selectable)	Isolated	Isolated	Isolated
on	Voltage Level	3.5 ~ 30 V _{DC} (Isolated) 2.4 ~ 5 V _{DC} (Non-isolated)	3.5 ~ 30 V _{DC} (Isolated) 2.4 ~ 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	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	Serial	Parallel	Serial	Parallel	Serial
Isolation	3750 V _{rms}	1000 V _{rms}	2000 V _{DC}	3000 V _{DC}	2500 V _{rms}
Power Consumption	0.5 W	0.6 W	0.6 W	1.8 W	1.8 W
Connector	Terminal Block			Terminal Block	
Optional Accessories	-			-	