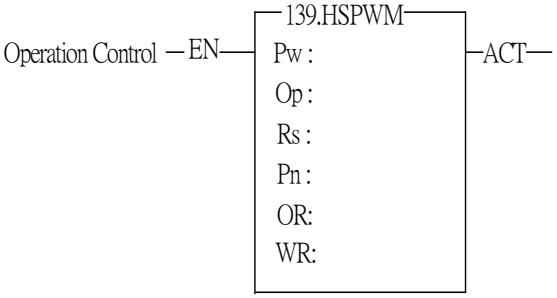
FUN139 HSPWM	High Speed Pulse Width Modulation Output	FUN139 HSPWM



Pw: PWM output
(0=Y0，1=Y2，2=Y4，3=Y6)
Op:Output polarity; 0=Normal
1=Inverse of output
Rs :Resolution; 0=1/100 (1%)
1=1/1000 (0.1%)
Pn :Setting of output frequency(0~255)
OR: Setting register of output pulse width (0~100 or 0~1000)
WR:Working register

Operand \ Range	Y	WX	WY	WM	WS	TMR	CTR	HR	IR	OR	SR	ROR	DR	K
	Yn of main unit	WX0 | WX240	WY0 | WY240	WM0 | WM1896	WS0 | WS984	T0 | T255	C0 | C255	R0 | R3839	R3840 | R3903	R3904 | R3967	R3968 | R4167	R5000 | R8071	D0 | D4095	
Pw	○													0～3
Op														0～1
Rs														0～1
Pn		○	○	○	○	○	○	○	○	○	○	○	○	0～255
OR								○				○	○	0～1000
WR			○	○	○	○	○	○		○	○	○	○	

- PWM output frequency is 72Hz~18.432KHz while resolution is 1/1000.
- PWM output frequency is 720Hz~184.32KHz while resolution is 1/100.
- When operation control "EN"=1, the specified digital output will perform the PWM output, the expression for output frequency as shown bellow:

1. $f_{pwm} = \frac{184320}{(P_n + 1)}$ while Rs(Resolution)=1/100

2. $f_{pwm} = \frac{18432}{(P_n + 1)}$ while Rs(Resolution)=1/1000

Example 1: If Pn(Setting of output frequency)=50, Rs=0 (1/100), then

$$f_{pwm} = \frac{184320}{(50 + 1)} = 3614.117..... \fallingdotseq 3.6KHz$$

$$T(Period) = \frac{1}{f_{pwm}} \fallingdotseq 277uS$$

For Rs=1/100，if OR(Setting of output pulse width)=1, then
To≒2.7uS; if OR(Setting of output pulse width)=50, thenTo≒140uS.

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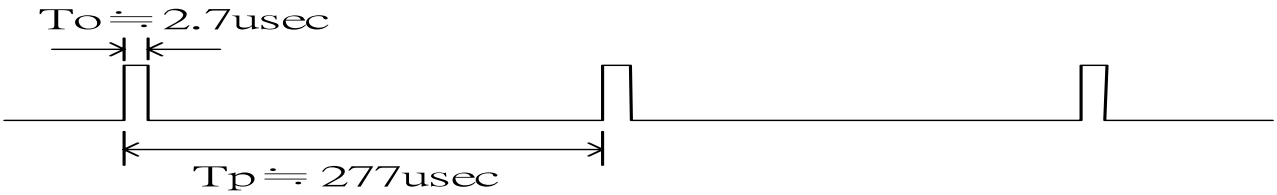
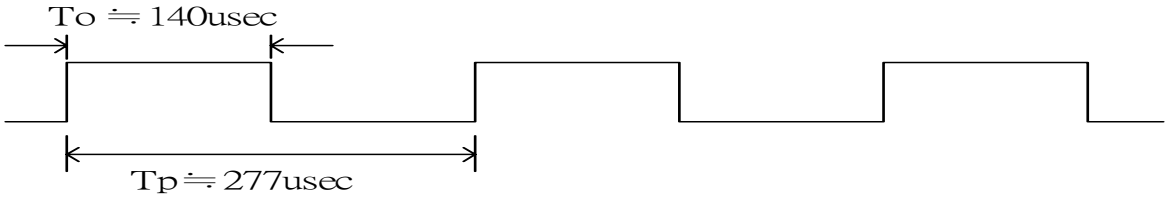
.Output wavefrom

(1).Pn (Output frequency)=50, Rs=0 (1/100), OR (Output pulse width)=1 :



(2). Pn (Output frequency)=50, Rs=0 (1/100), OR(Output pulse width)=50 :



Example 2: If Pn(Setting of output frequency)=200,Rs=1(1/1000), then

$$f_{pwm} = \frac{18432}{(200+1)} \fallingdotseq 91.7\text{Hz}$$

$$\text{T(Period)} = \frac{1}{f_{pwm}} \fallingdotseq 10.9\text{mS}$$

For Rs=1/1000, if OR (Setting of output pulse width)=10, then

To≒109uS，if OR (Setting of output pulse width)=800, then To≒8.72mS.

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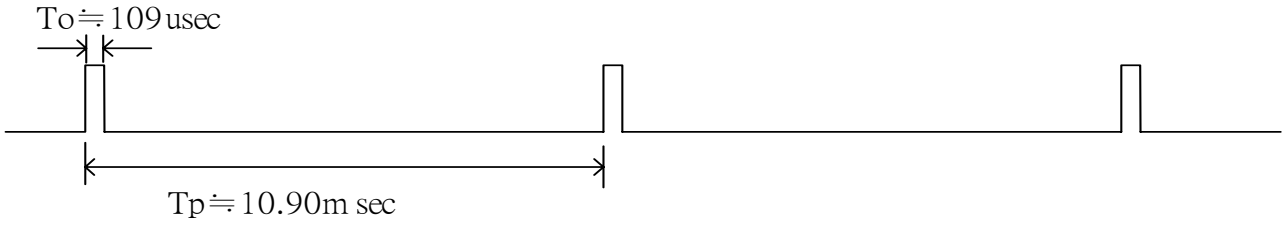
.Output wavefrom

(1).Pn (Output frequency)=200, Rs=1(1/1000), OR (Output pulse width)=10 :



(2).Pn (Output frequency)=200, Rs=1(1/1000), OR(Output pulse width)=800 :