PWM: Can I generate D/O square pulse up to 1KHz with I-8417/8817/8437/8837 , 7188EG & 7188XG? How?

Click the link for more ISaGRAF FAQ.

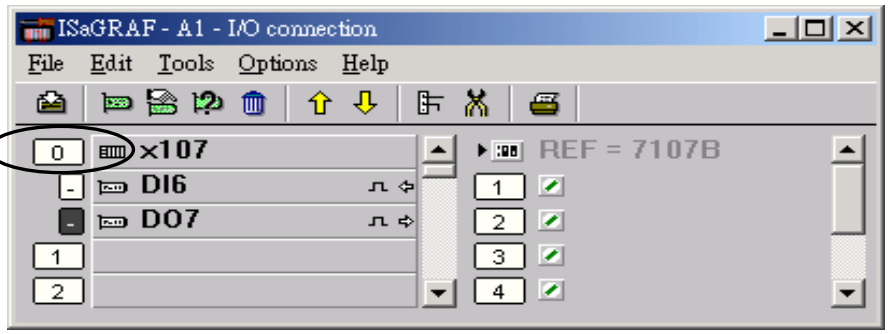
Ans: If you have the user's manual, please refer to section 3.7 – "PWM output".
ISaGRAF user's manual can be download at
http://www.icpdas.com/en/download/show.php?num=333&nation=US&kind1=&model=&kw=isagraf

I-8417/8817/8437/8837 support PWM output (Pulse Width Modulation) since its driver version of 2.29. Only parallel Output boards are supported, not for serial boards. The following output boards are available with the PWM function.

I-8037, 8041, 8042, 8054, 8055, 8056, 8057, 8060, 8063, 8064, 8065, 8066, 8068, 8069

I-7188EG supports PWM function since its driver version of 1.21 while I-7188XG since 1.19.
Only the X-board with digital output channels are available with PWM function.

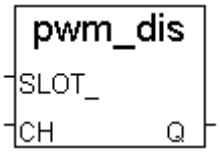
Note:
1. Max 8 digital outputs can call PWM_en, PWM_en2, pwm_ON & pwm_OFF at the same time.
2. I-7188EG/XG must connect the X-board at slot 0, or the PWM function will not work.



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The below functions are for PWM output.

PWM_dis Disable PWM output



Parameters:

SLOT_	integer	Which slot ? 0 ~ 7 for I-8xx7, only 0 for I-7188EG & I-7188XG.
CH_	integer	Which channel ? 1 ~ 32.

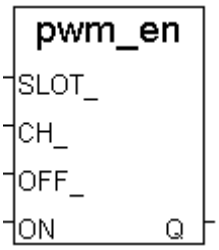
Return:

Q_	Boolean	TRUE: Ok. FALSE: wrong input parameters, too many PWM outputs been enable, or the associate output channel is not found.

Note:
1. After calling PWM_dis, the associate output will then be controlled by the ISaGRAF cycle engine.
2. Max 8 output channels can call PWM_en, PWM_en2, pwm_ON, pwm_OFF at one PAC.

Example: demo_50

PWM_en Enable PWM to output until PWM_dis is called



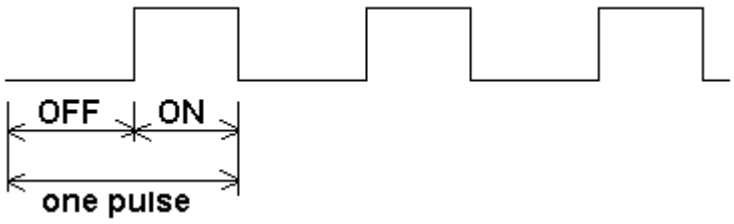
Parameters:

SLOT_	integer	Which slot ? 0 ~ 7 for I-8xx7, only 0 for I-7188EG/XG.
CH_	integer	Which channel ? 1 ~ 32.
OFF_	integer	Off time, 0 ~ 32,767, unit is ms. If set as 0, it means OFF_ time is 0.5 ms.
ON_	integer	On time, 0~32,767, unit is ms. If set as 0, it means ON_ time is 0.5 ms.

Return:

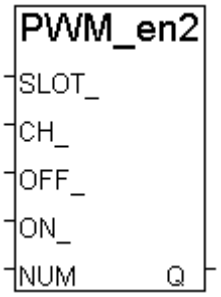
Q_	boolean	TRUE: Ok. FALSE: wrong input parameters, too many PWM outputs been enable, or the associate output channel is not found.

Example: demo_50



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PWM_en2 Enable PWM to output a given number of pulse



Parameters:

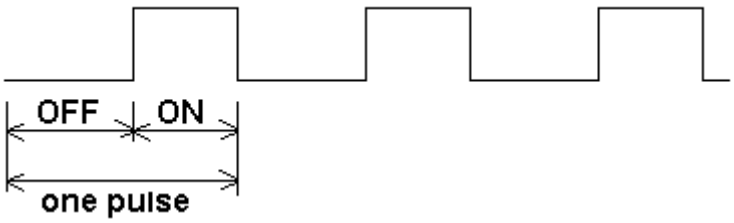
SLOT_	integer	Which slot ? 0 ~ 7 for I-8xx7, only 0 for 7188EG & 7188XG.
CH_	integer	Which channel ? 1 ~ 32.
OFF_	integer	Off time, 0 ~ 32,767, unit is ms. If set as 0, it means OFF_ time is 0.5 ms.
ON_	integer	On time, 0 ~ 32,767, unit is ms. If set as 0, it means ON_ time is 0.5 ms.
NUM_	integer	number of pulse to output, 1 - 2,147,483,647

Return:

Q_	boolean	TRUE: Ok . FALSE: wrong input parameters, too many PWM outputs been enable, or the associate output channel is not found.

Example: demo_55

PWM output curve:

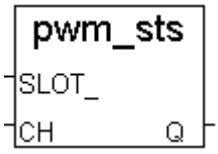


Note:

1. Every time the PWM_en or PWM_en2 is called, it will reset its internal tick to 0, and re-start ticking to OFF, ON, OFF, ON, ...
2. If the given number of pulse of pwm_en2 is reached, it will stop & disable PWM auomatically (Calling PWM_dis for pwm_en2 is not necessary).
3. PWM_sts can be used to test if pwm_en2 reaches its given number of pulse or not.
4. Max 8 output channels can call PWM_en, PWM_en2, pwm_ON, pwm_OFF at one PAC.
5. Do not enable the channel that is already enable. Please disable it first.

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PWM_sts Get PWM status



Parameters:

SLOT_	integer	Which slot ? 0 ~ 7 for I-8xx7, only 0 for 7188EG & 7188XG.
CH_	integer	Which channel ? 1 ~ 32.

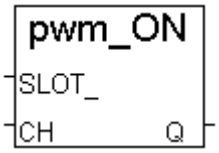
Return:

Q_	boolean	TRUE: this channel has been enable FALSE: disable (for pwm_en2 been called, it means the given pulse number is reached).

Note:
1. Max 8 output channels can call PWM_en, PWM_en2, pwm_ON, pwm_OFF at one PAC.
2. This function can be used to test if "PWM_en2" reaches its given pulse number or not.

Example: demo_55

pwm_ON Set parallel D/O to TRUE immediately



Parameters:

SLOT_	integer	Which slot ? 0 ~ 7 for I-8xx7, only 0 for 7188EG & 7188XG.
CH_	integer	Which channel ? 1 ~ 32.

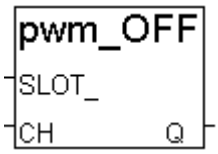
Return:

Q_	boolean	TRUE: Ok. FALSE: wrong input parameters, too many PWM outputs been enable, or the associate output channel is not found.

Example: demo_55

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pwm_OFF Set parallel D/O to FALSE immediately



Parameters:

SLOT_	integer	Which slot ? 0 ~ 7 for I-8xx7, only 0 for I-7188EG/XG.
CH_	integer	Which channel ? 1 ~ 32.

Return:

Q_	boolean	TRUE: Ok. FALSE: wrong input parameters, too many PWM outputs been enable, or the associate output channel is not found.

Example: demo_55

Note:

1. Max 8 output channels can call PWM_en, PWM_en2, pwm_ON, pwm_OFF at one PAC.
2. pwm_ON will set the associate parallel D/O to TRUE immediately.
3. pwm_OFF will set the associate parallel D/O to FALSE immediately.
4. If users wish to enable one D/O as PWM output by PWM_en or PWM_en2 after pwm_ON & pwm_OFF has been called, please disable it first by PWM_dis, then call PWM_en or PWM_en2.

Click the link for more ISaGRAF FAQ:
http://www.icpdas.com/en/faq/index.php?kind=280#751

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