

To our customers,

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

M16C/62, M16C/62P, M16C/80 and M32C/83 Groups

Functional comparison of three-phase motor control timer

1.0 Abstract

This application note describes the differences in functions of three-phase motor control timer between M16C/62, M16C/62P, M16C/80 and M32C/83 groups.

2.0 Functional comparison of three-phase motor control timer

Table 1 lists the differences in functions of three-phase motor control timer between M16C/62, M16C/62P, M16C/80 and M32C/83 groups. For details of each function, refer to datasheets and application notes.

Table 1. Functional comparison of three-phase motor control timer between M16C/62, M16C/62P, M16C/80 and M32C/83 groups

Function	M16C/62	M16C/80	M16C/62P(Note 1)	M32C/83
Three-phase mode 1 TAi, TAI1 register set value reflect timing INV11=1	See Fig.1	See Fig.2	See Fig.2	See Fig.2
Dead time timer count source f1 INV12=1	None	Have	Have	Have
Carrier wave detect flag INV13	None	Have	Have	Have
Output polarity control bit INV14	None	Have	Have	Have
Dead time invalid bit INV15	None	None	Have	Have
Dead time timer trigger select bit INV16	None	None	Have	Have
Timer B2 reload timing switching bit PWCON	None	None	Have	Have
Three phase output port NMI control bit IVPCR1	None	None	Have	None
Function select register setting (Note 2)	Not needed	Needed	Not Needed	Needed
Protect write to register (Note 3) PRC1	None	None	Have	Have

Note 1: Three-phase motor control timer in M16C/26 (under development) and M16C/28 (under development) groups has the same functions as M16C/62P group.

Note 2: When using a program made for M16C/62 with M16C/80 or M32C/83, set the function select register for three-phase waveform output pin.

Note 3: When using a program made for M16C/62 with M16C/62P or M32C/83, release the protection before setting the INVC0, INVC1 and TB2SC registers.

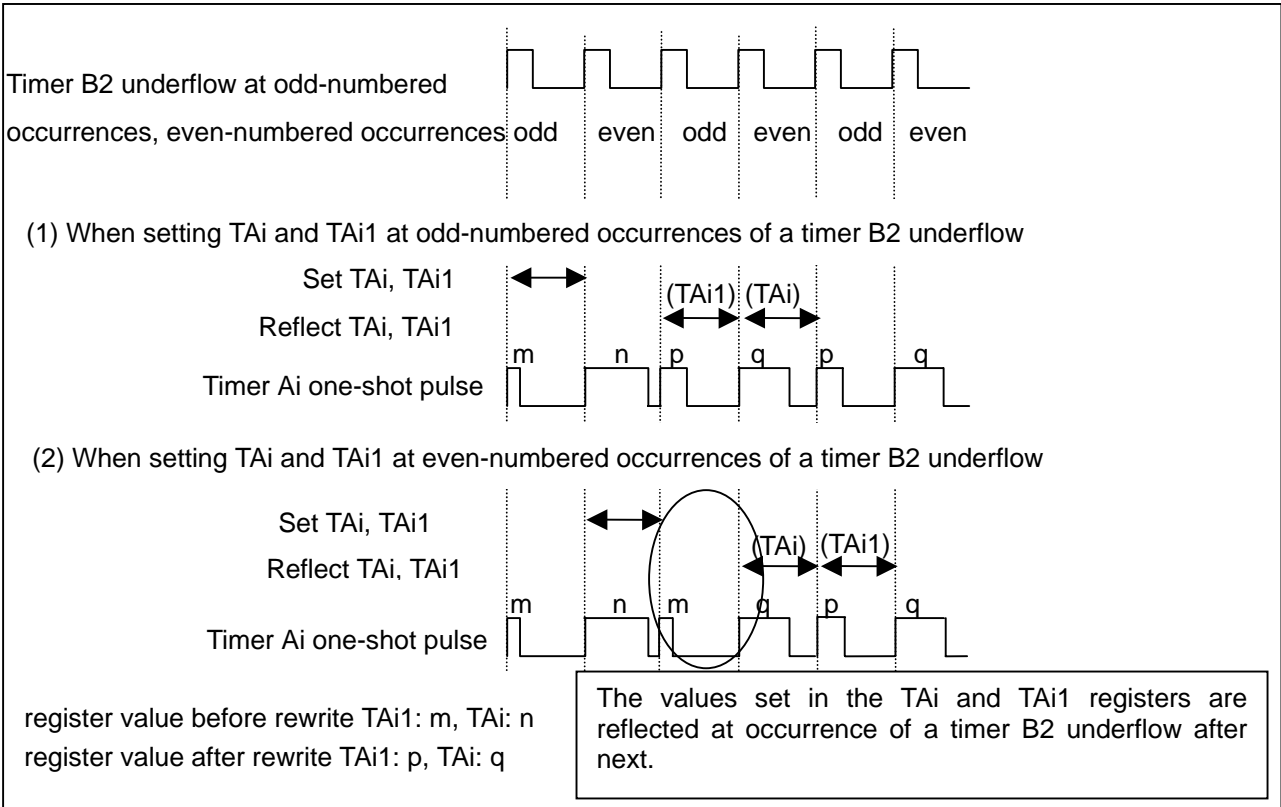


Figure 1. Three-phase mode 1 in M16C/62 group

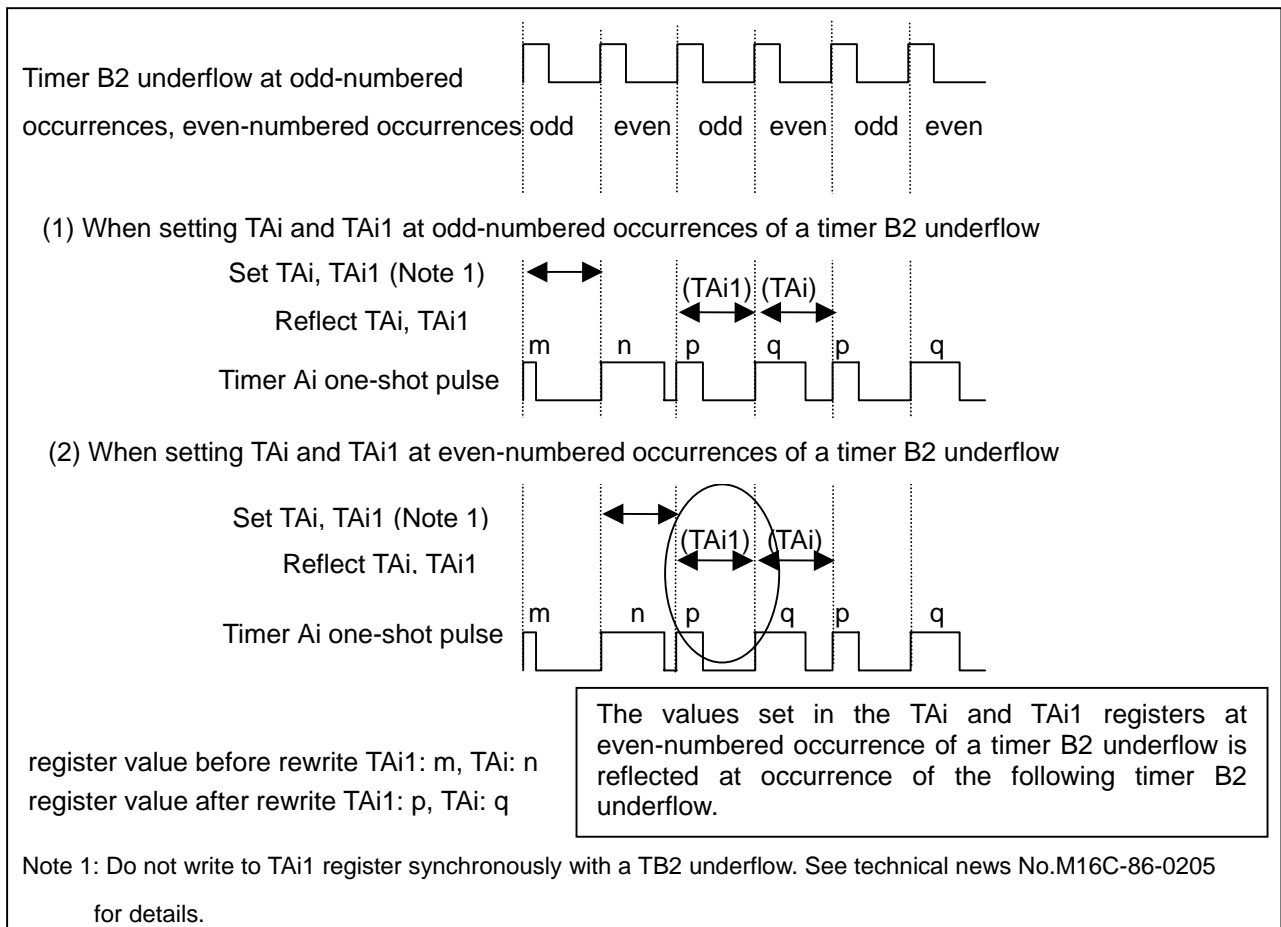


Figure 2. Three-phase mode 1 in M16C/62P, M16C/80 and M32C/83 group

3.0 Documents

Data sheet

M16C/62 group data sheet

M16C/62P group data sheet

M16C/80 group data sheet

M32C/83 group data sheet

(Use the latest version on the Homepage: <http://www.infocom.maec.co.jp/indexe.htm>)

User's manual

M16C/62 group user's manual

M16C/80 group user's manual

(Use the latest version on the Homepage: <http://www.infocom.maec.co.jp/indexe.htm>)

Application note

M16C/62 group Application note Three-phase motor control timer

M32C/83 group Application note Three-phase motor control timer

(Use the latest version on the Homepage: <http://www.infocom.maec.co.jp/indexe.htm>)

4.0 Homepage and Support

MCU Technical Information Homepage

<http://www.infocom.maec.co.jp/indexe.htm>

(or <http://www.mdece.com/> , <http://www.mitsubishichips.com/products/mcu/index.html> or your local Web Site.)

M16C family Technical Support

E-mail: support@apl.maec.co.jp

(or your local support E-mail address. A private e-mail address should NOT be used.)

Mitsubishi Development Support Tool Homepage

<http://www.tool-spt.maec.co.jp/>

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