BCN-P5832-G(1806)MEE

QD62-H01 QD62-H02

Before Using the Product

Please read this document before use. Keep the document in a safe place for future reference. Make sure that the end users read the document.

1. Relevant manuals

Before using the product, please read the Safety Guidelines included with the base unit used,especially the following sections.

- SAFETY PRECAUTIONS
- CONDITIONS OF USE FOR THE PRODUCT
- EMC AND LOW VOLTAGE DIRECTIVES
- WARRANTY

Details of the product are also described in the manual shown below (sold separately).

Please read the manual and understand the functions and performance of the product to use it correctly.

- High-Speed Counter Module User's Manual SH-080036 (13JL95)

This manual describes only specifications of the QD62-H01/H02 that differ from the specifications of the QD62.

The manual mentioned above covers the usage of the QD62-H01/H02. When referring, replace the model name "QD62" with "QD62-H01/H02". For the details of differences between the QD62-H01/H02 and QD62, refer to Chapter 7.

1. Manuels correspondants

Avant d'utiliser ce produit, prière de lire les "Safety Guidelines" (directive de sécurité) fournies avec l'unité de base, en particulier dans les sections suivantes.

- *PRÉCAUTIONS DE SÉCURITÉ*
- *CONDITIONS D'UTILISATION DE PRODUIT*
- *DIRECTIVES CEM ET BASSE TENSION*
- *GARANTIE*

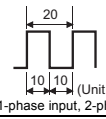
2. Packing list

Check that the following items are included in the package.

Item	Quantity
Module	1
"Before Using the Product" (this document)	1

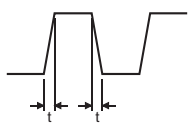
3. Performance Specifications

(1) QD62-H01

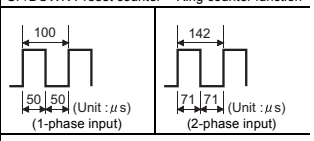
Item		Specifications
I/O occupied points		16 points (I/O assignment: Intelligent 16 points)
Number of channels		2 channels
Count input signal	Phase	1-phase input (1 multiple/2 multiples), 2-phase input (1 multiple/2 multiples/4 multiples), CW/CCW input
	Signal level (ϕA, ϕB)	5/12/24 V DC 2 to 5 mA
Counter	Counting speed (max)*1	1-phase input 50kPPS 2-phase input 50kPPS
	Counting range	32-bit signed binary values (-2147483648 to 2147483647)
	Model	UP/DOWN Preset counter + Ring counter function
	Minimum count pulse width (Duty ratio 50 %)	 (1-phase input, 2-phase input)
Coincidence output	Comparison range	32-bit signed binary values
	Comparison result	Set value < Count value Set value = Count value Set value > Count value
External input	Preset	5/12/24 V DC 2 to 5 mA
	Function start	
External output	Coincidence output	Transistor (sinking type) output: 2 points/channel 12/24 V DC 0.5 A/point 2 A/common
5 V DC internal current consumption		0.30 A
Weight		0.11 kg

*1 Counting speed is affected by pulse rise and fall time. Possible counting speeds are shown in the following table.
Note that a miscount may occur if the QD62-H01 counts pulses larger than t=50μs. In that case, use the QD62-H02.

Rise/Fall time	Counting speed	
	1-phase input	2-phase input
t = 5μs or less	50kPPS	
t = 50μs	5kPPS	
t = 500μs	-	

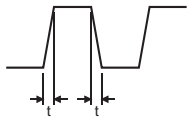


(2) QD62-H02

Item		Specifications
I/O occupied points		16 points (I/O assignment: Intelligent 16 points)
Number of channels		2 channels
Count input signal	Phase	1-phase input (1 multiple/2 multiples), 2-phase input (1 multiple/2 multiples/4 multiples), CW/CCW input
	Signal level (ϕA, ϕB)	5/12/24 V DC 2 to 5 mA
Counter	Counting speed (max)*1	1-phase input 10kPPS 2-phase input 7kPPS
	Counting range	32-bit signed binary values (-2147483648 to 2147483647)
	Model	UP/DOWN Preset counter + Ring counter function
	Minimum count pulse width (Duty ratio 50 %)	 (1-phase input) (2-phase input)
Coincidence output	Comparison range	32-bit signed binary values
	Comparison result	Set value < Count value Set value = Count value Set value > Count value
External input	Preset	5/12/24 V DC 2 to 5 mA
	Function start	
External output	Coincidence output	Transistor (sinking type) output: 2 points/channel 12/24 V DC 0.5 A/point 2 A/common
5 V DC internal current consumption		0.30 A
Weight		0.11 kg

*1 Counting speed is affected by pulse rise and fall time. Possible counting speeds are shown in the following table.

Rise/Fall time	Counting speed	
	1-phase input	2-phase input
t = 5μs or less	10kPPS	7kPPS
t = 50μs	-	
t = 500μs	500PPS	250PPS



(3) Operating ambient temperature
Use the QD62-H01/H02 within the range from 0°C to 55°C.

(3) Température ambiante de fonctionnement
Ce produit doit être utilisé entre 0 et 55°C.

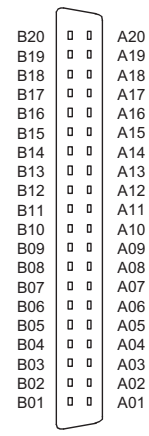
For the general specifications of the QD62-H01/H02, see the User's Manual for the CPU module used.

4. Wiring

Câblage

(1) Terminal layout

(1) Attribution des bornes



Viewed from the front of the module

I/O classification	Pin No.*1 CH1	Pin No.*1 CH2	Signal name
Input	A20	A13	Phase A pulse input 24 V
	B20	B13	Phase A pulse input 12 V
	A19	A12	Phase A pulse input 5 V
	B19	B12	ABCOM
	A18	A11	Phase B pulse input 24 V
	B18	B11	Phase B pulse input 12 V
	A17	A10	Phase B pulse input 5 V
	B17	B10	Preset input 24 V
	A16	A09	Preset input 12 V
	B16	B09	Preset input 5 V
	A15	A08	CTRLCOM
	B15	B08	Function start input 24 V
	A14	A07	Function start input 12 V
	B14	B07	Function start input 5 V
Output	A06	A05	EQU1 (Coincidence output point No. 1)
	B06	B05	EQU2 (Coincidence output point No. 2)
	B02, B01		12/24 V*2
	A02, A01		0 V*2

English	*French*	English	*French*
Signal name	*Nom de signal*	Preset input	*Entrée prédéterminée*
Pin No.	*Broche N°*	Function start input	*Entrée départ fonction*
Viewed from the front of the module	*Vue de l'avant du module*	Coincidence output point No. *	*Coïncide avec sortie point n° *
I/O classification	*Classification entrée/sortie*	Input	*Entrée*
Phase * pulse input?	*Entrée impusions phase **	Output	*Sortie*

*1 Terminal numbers A03, A04, B03 and B04 are not used.
*2 These terminals are common to channels.
**1 Les bornes numéros A03, A04, B03 et B04 restent inutilisées.*
**2 Ces bornes sont communes aux canaux.*

(2) Wiring products
The table below shows applicable 40-pin connectors. When wiring, use applicable wires and an appropriate tightening torque.

Mitsubishi 40-pin connector		Wire			
Model	Tightening torque	Diameter	Type	Material	Temperature rating
A6CON1	0.20 to 0.29N•m	22AWG	Stranded	Copper	75°C or more
A6CON2		28 to 24AWG			
A6CON3		28AWG			
		30AWG	Solid		
A6CON4		22AWG	Stranded		

(2) Produits pour câblage
Le tableau ci-dessous indique quels connecteurs 40 broches sont à utiliser. Pour le câblage, utiliser les fils et couples de serrage prescrits.

Connecteur 40-broches Mitsubishi		*Fil*			
Modèle	*Couple de serrage*	*Diamètre*	*Type*	*Matériau*	*Gamme de température*
A6CON1	*0,20 à 0,29N•m*	*22AWG*	*Torsadé*	*Cuivre*	*75°C ou plus*
A6CON2		*28 à 24AWG*			
A6CON3		*28AWG*			
		30AWG	*Monobrin*		
A6CON4		*22AWG*	*Torsadé*		

5. Installation of the unit

Consider ease of operation, maintainability, and resistance to adverse environmental conditions when installing the product in a control panel, etc.

Securely install all units in the MELSEC-Q series on the base unit.

Also refer to the QCPU User's Manual (Hardware Design, Maintenance and Inspection) for details of installation.

5. Installation de l'unité

Prendre en considération la commodité d'exploitation et de maintenance, ainsi que la bonne résistance aux facteurs environnementaux adverses lors de l'installation en tableau de commande, etc.

Installer fermement toutes les unités de la série MELSEC-Q sur l'unité de base.

Pour le détail de l'installation, voir aussi the "QCPU User's Manual (Hardware Design, Maintenance and Inspection)" (le Manuel de l'utilisateur QCPU (conception du matériel, maintenance et inspection)).

6. Intelligent Function Module Switch Settings

The intelligent function module switch settings are performed using the I/O assignment settings of the GX Developer.

Item	Data item	
Switch 1 (for channel 1)	0 □ 2 □ H (3) (2) (1)	(1) Pulse input mode 0: 1-phase multiple of 1 1: 1-phase multiple of 2 2: CW/CCW 3: 2-phase multiple of 1 4: 2-phase multiple of 2 5: 2-phase multiple of 4 (2) Counting speed setting 2: 200kPPS*1 (3) Counter format 0: Linear counter 1: Ring counter
Switch 2 (for channel 2)	Same data item as the switch 1 (for CH1).	
Switch 3	No settings (blank) When any item is set, delete the settings and leave the field blank.	
Switch 4		
Switch 5		

*1 Make sure to set "Counting speed setting" to "2 (counting speed: 200kPPS)". This setting enables the counting at the counting speed described in the chapter 3.

7. Comparison between QD62-H01/H02 and QD62

This section describes the differences between the QD62-H01/H02 and QD62.

(1) Specifications comparison
- Maximum counting speed (Refer to Chapter 3.)
- Minimum count pulse width (Refer to Chapter 3.)
- Pulse rise time and fall time (Refer to Chapter 3.)
- Counting speed setting in the intelligent function module switch settings (Refer to Chapter 6.)

The same specifications apply for the QD62-H01/H02 and QD62, excluding those described above.

When the manual for the QD62 is referred for the QD62-H01/02, use the specifications in this manual as for the items described above.

(2) GX Configurator-CT
In GX Configurator-CT, the "QD62-H01" and "QD62-H02" are not displayed in the Module model name field.
Select the "QD62" for a model name.

(3) GX Developer
GX Developer does not support the display of the model names for the QD62-H01/H02.
GX Developer displays the "QD62" as the model name for the QD62-H01/H02.

8. Information and services

For further information and services, please consult your local Mitsubishi representative.