

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

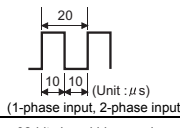
2. Packing list

Check that the following items are included in the package.

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

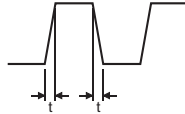
3. Performance Specifications

(1) QD62-H01

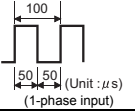
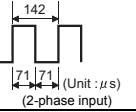
Item	Specifications
I/O occupied points	16 points (I/O assignment: Intelligent 16 points)
Number of channels	2 channels
Count input signal	Phase 1-phase input (1 multiple/2 multiples), 2-phase input (1 multiple/2 multiples/4 multiples), CW/CCW input
	Signal level (φA, φB) 5/12/24 V DC 2 to 5 mA
Counting 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
Counter	Minimum count pulse width (Duty ratio 50 %)  (1-phase input, 2-phase input)
	Comparison range 32-bit signed binary values
Coincidence output	Comparison result Set value < Count value Set value = Count value Set value > Count value
	Preset 5/12/24 V DC 2 to 5 mA
External input	Function start Transistor (sinking type) output: 2 points/channel 12/24 V DC 0.5 A/point 2 A/common
	Coincidence output 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	-	-

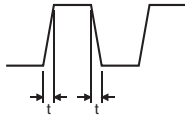


(2) QD62-H02

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
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
Counter	Minimum count pulse width (Duty ratio 50 %)  (1-phase input)  (2-phase input)
	Comparison range 32-bit signed binary values
Coincidence output	Comparison result Set value < Count value Set value = Count value Set value > Count value
	Preset 5/12/24 V DC 2 to 5 mA
External input	Function start Transistor (sinking type) output: 2 points/channel 12/24 V DC 0.5 A/point 2 A/common
	Coincidence output 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

	I/O classification	Pin No. ¹		Signal name
		CH1	CH2	
B20	Input	A20	A13	Phase A pulse input 24 V
B19	Input	A19	B13	Phase A pulse input 12 V
B18	Input	A18	A12	Phase A pulse input 5 V
B17	Input	A17	B12	ABCOM
B16	Input	A16	A11	Phase B pulse input 24 V
B15	Input	A15	B11	Phase B pulse input 12 V
B14	Input	A14	A10	Phase B pulse input 5 V
B13	Input	A13	B10	Preset input 24 V
B12	Input	A12	A09	Preset input 12 V
B11	Input	A11	B09	Preset input 5 V
B10	Input	A10	A08	CTRLCOM
B09	Input	A09	B08	Function start input 24 V
B08	Input	A08	A07	Function start input 12 V
B07	Input	A07	B07	Function start input 5 V
B06	Input	A06	A05	Output
B05	Input	A05	B05	Output
B04	Input	A04	A04	Output
B03	Input	A03	A03	Output
B02	Input	A02	A02	Output
B01	Input	A01	A01	Output

Viewed from the front of the module

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. *	Coincidence avec sortie point n° *
I/O classification	Classification entrée/sortie	Input	Entrée
Phase * pulse input ¹	Entrée impulsions phase *	Output	Sortie

- ¹ Terminal numbers A03, A04, B03 and B04 are not used.
² These terminals are common to channels.
³ Les bornes numéros A03, A04, B03 et B04 restent inutilisées.
⁴ 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	Solid		
		30AWG			
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	Monobrn		
		30AWG			
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

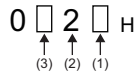
Prendre en considération la commodité d'exploitation et de maintenance, ainsi que la bonne résistance aux facteurs environnementaux adverses lors de l'installation en tableau de commande, etc.

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

Pour le détail de l'installation, voir aussi le "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)	 <p>(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: 200KPPS¹ (3) Counter format 0: Linear counter 1: Ring counter</p>
Switch 2 (for channel 2)	Same data item as the switch 1 (for CH1).
Switch 3	No settings (blank)
Switch 4	When any item is set, delete the settings and leave the field blank.
Switch 5	blank.

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/H02, 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.