MITSUBISHI

Mitsubishi Programmable Controllers
MELSEC-Q Series [QnU]

T h e   n e x t   l e v e l   i n   Q   p e r f o r m a n c e

MELSEC **Q** series

QnU

Mitsubishi Electric Corporation Nagoya Works is a factory certified for ISO14001 (standards for environmental management systems) and ISO9001 (standards for quality assurance management systems)
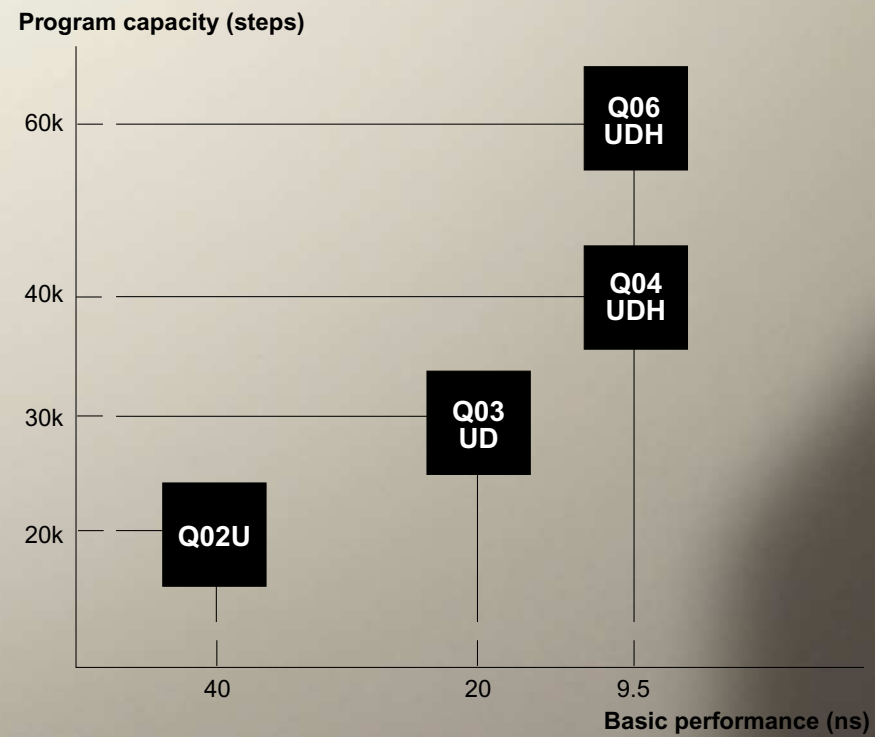
ISO 14001 JACO
UKAS ENVIRONMENTAL MANAGEMENT 051
EC97J1113

ISO 9001 BUREAU VERITAS Certification
BUREAU VERITAS 1828
UKAS QUALITY MANAGEMENT 008

MELFANS web
MITSUBISHI ELECTRIC
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MELSOFT

CC-Link

Unprecedented level of performance...

The next generation Q Series has arrived!

QnU model is the next generation MELSEC-Q Series. It is an ideal solution for users who want to increase productivity and processing speed of large-volume production information, which is critical for traceability. It is the fastest basic instruction processing on the market* and can greatly improve performance of systems.

Furthermore, the design concepts inherited from the Q Series make it more user-friendly and reliable.

This new generation programmable controller will bring your systems to the next level

*As of April 2007

Program capacity (steps)

- 60k — Q06 UDH
- 40k — Q04 UDH
- 30k — Q03 UD
- 20k — Q02U

40   20   9.5

Basic performance (ns)

New demands at production site gave birth to this next generation programmable controller

- Improved Productivity
- More User - Friendly
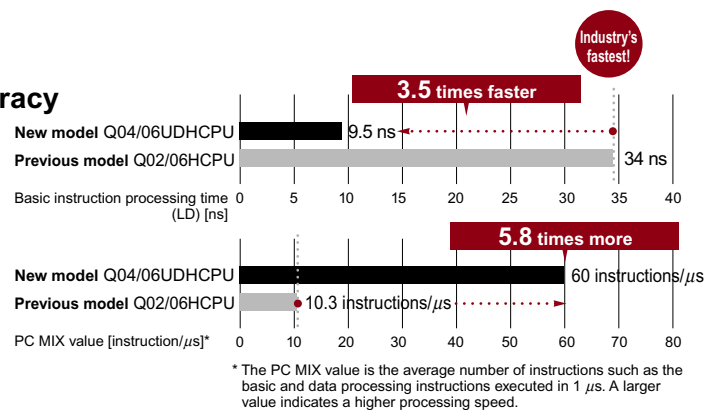- Easy Maintenance

MELSEC Q series
QnU

Improved Productivity
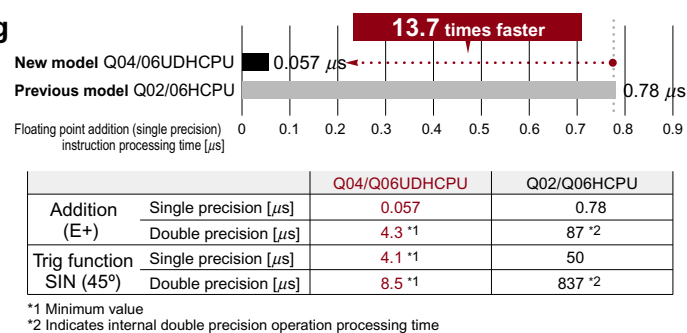
■Improved production time and processing accuracy

To correspond with increasing demands for shortening production time of large-scale, complex systems, the new model offers the fastest basic operation performance* on the market: basic instruction processing time (LD) of 9.5 ns. This means scan time is reduced, improving production time and processing accuracy.
In addition, the programmable controller can realize high-speed control which was previously supported by micro computer boards only.
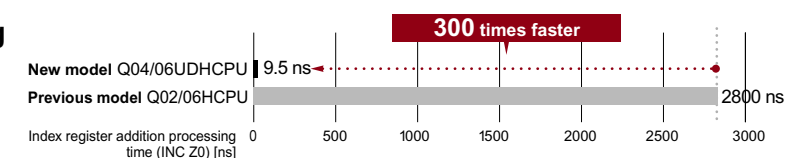
*As of April 2007

Industry's fastest!

3.5 times faster

New model Q04/06UDHCPU — 9.5 ns
Previous model Q02/06HCPU — 34 ns

Basic instruction processing time (LD) [ns] 0 5 10 15 20 25 30 35 40

5.8 times more

New model Q04/06UDHCPU — 60 instructions/μs
Previous model Q02/06HCPU — 10.3 instructions/μs

PC MIX value [instruction/μs]* 0 10 20 30 40 50 60 70 80

* The PC MIX value is the average number of instructions such as the basic and data processing instructions executed in 1 μs. A larger value indicates a higher processing speed.

■High-speed, high-precision real data processing

Floating point addition instruction processing speed is greatly increased to 0.057 μs to support high-speed, high-precision operation processing of various production data. Also, double precision operation is added to reduce calculation errors when implementing complex equations.

13.7 times faster

New model Q04/06UDHCPU — 0.057 μs
Previous model Q02/06HCPU — 0.78 μs

Floating point addition (single precision) instruction processing time [μs] 0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9

		Q04/Q06UDHCPU	Q02/Q06HCPU
Addition (E+)	Single precision [μs]	0.057	0.78
	Double precision [μs]	4.3 *1	87 *2
Trig function SIN (45º)	Single precision [μs]	4.1 *1	50
	Double precision [μs]	8.5 *1	837 *2

*1 Minimum value
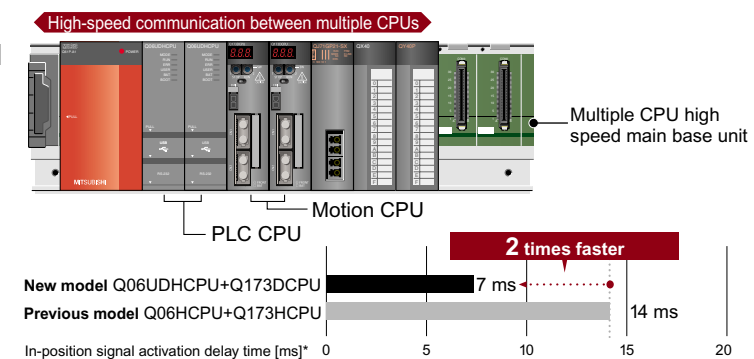*2 Indicates internal double precision operation processing time

■High-speed sequence data processing

Programming by index is necessary to perform operation of structured (sequence) data efficiently. Index register processing time is dramatically reduced, which can shorten scan time when indexing is heavily used for sequence programs such as FOR to NEXT instruction.

300 times faster

New model Q04/06UDHCPU — 9.5 ns
Previous model Q02/06HCPU — 2800 ns

Index register addition processing time (INC Z0) [ns] 0 500 1000 1500 2000 2500 3000

■High-speed, high-accuracy machine control

By synchronizing a sequence program and high-speed communication between multiple CPUs (operation cycle of 0.88 ms), faster machine control is realized. Performance of motion control is two times faster than the previous model.

High-speed communication between multiple CPUs

Multiple CPU high speed main base unit

Motion CPU

PLC CPU

2 times faster

New model Q06UDHCPU+Q173DCPU — 7 ms
Previous model Q06HCPU+Q173HCPU — 14 ms

In-position signal activation delay time [ms]* 0 5 10 15 20

* In-position signal activation delay time: time it takes the CPU to output speed instruction to the servo amplifier after the in-position signal of servo amplifier is ON. Observation results of executing the same program.
* Note Q02UCPU cannot be used with new model motion CPU.

More User - Friendly

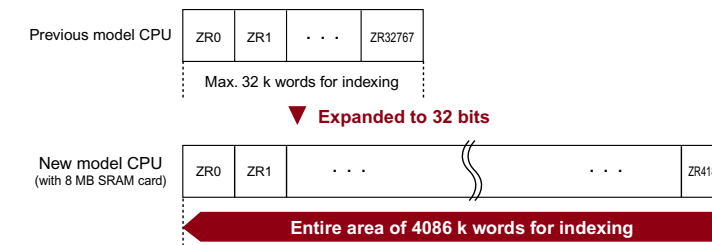## ■Programs structured into individual routines

The number of programs is increased to 124 (max.) to allow detailed program management by product, process, etc. This facilitates structuring programs into individual routines. Also, standard ROM capacity is expanded to 1 MB (max.), enabling storage of label information of function block (FB) and device comments of sequence programs in CPU.
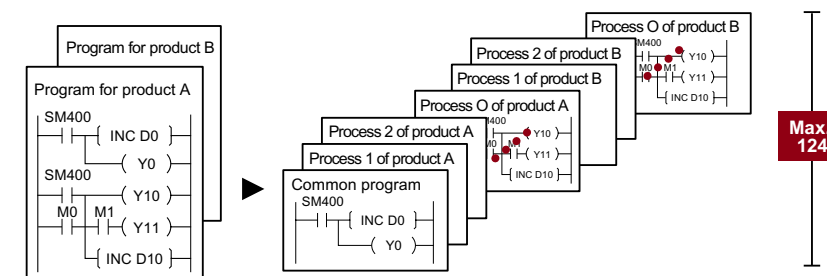
		Q02UCPU	Q03UDCPU	Q04UDHCPU	Q06UDHCPU
Program memory	Program capacity	20 k steps	30 k steps	40 k steps	60 k steps
	No. of programs	64	124		
Standard ROM capacity (Flash ROM)		512 KB	1 MB		

■Easy to handle large-volume data

The capacity of standard RAM and memory card, which can be used as file register, is increased to store larger amounts of production and quality data. With an 8 MB SRAM, a maximum of 4086 k words (about 4 times more than the previous model) can be used for file registers. Furthermore, because the index register is expanded to 32 bits, programming beyond 32 k words is possible, enabling use of the entire area of file register for indexing.
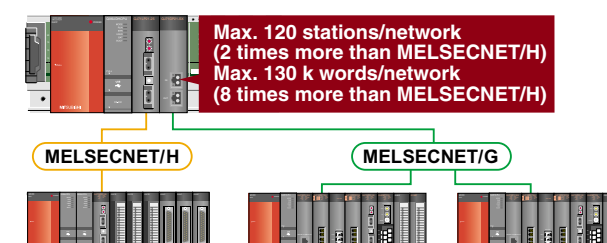
Previous model CPU: ZR0 ZR1 · · · ZR32767
Max. 32 k words for indexing

▼ **Expanded to 32 bits**

New model CPU (with 8 MB SRAM card): ZR0 ZR1 · · · · · · ZR4184063

Entire area of 4086 k words for indexing

◎Standard RAM capacity (file register capacity)

Q02UCPU	Q03UDCPU	Q04UDHCPU	Q06UDHCPU
128 KB (64 k words)	192 KB (96 k words)	256 KB (128 k words)	768 KB (384 k words)

◎Memory card (SRAM)

Model	Capacity	File register capacity*
Q2MEM-1MBS	1 MB	505 k words
Q2MEM-2MBS	2 MB	1017 k words
Q3MEM-4MBS NEW	4 MB	2039 k words
Q3MEM-8MBS NEW	8 MB	4086 k words

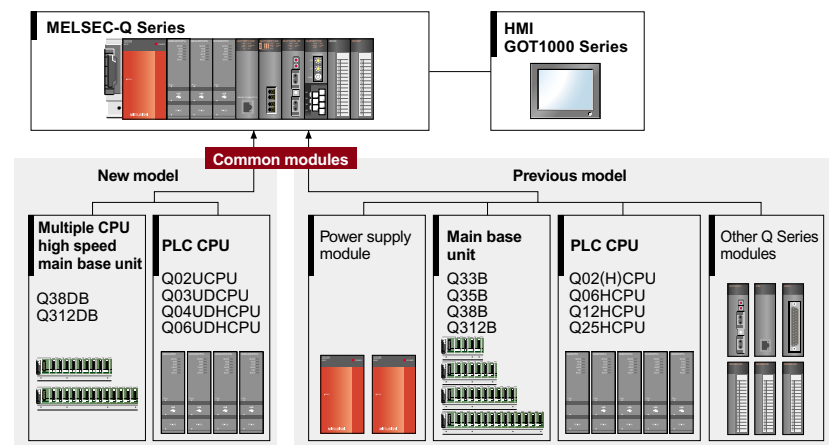* Maximum capacity when the memory card is used as file register

■Data exchange via high-speed, high-capacity network

The QnU model supports the latest high-speed, high-capacity network, MELSECNET/G, to allow for massive data exchange. It can also communicate with MELSECNET/H, Ethernet, and CC-Link seamlessly.

Max. 120 stations/network (2 times more than MELSECNET/H) Max. 130 k words/network (8 times more than MELSECNET/H)
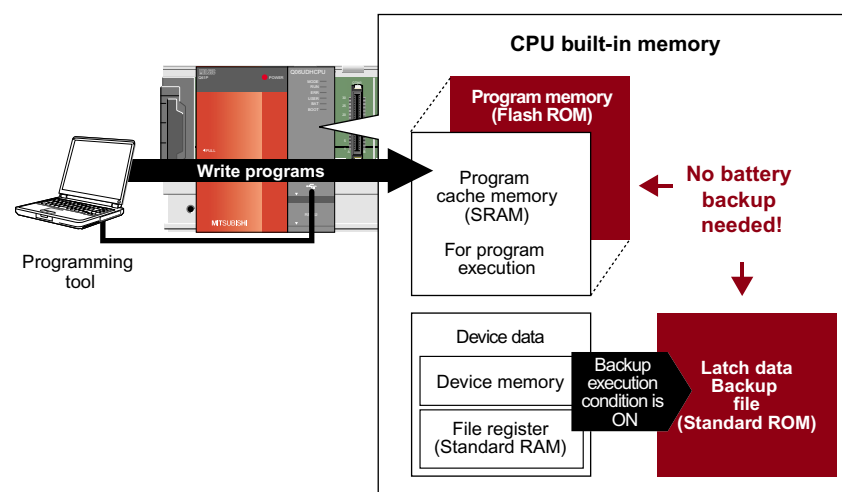
MELSECNET/H   MELSECNET/G

■Highly compatible with standard Q Series

The standard Q Series modules can be used without modification. Common modules can be used for the existing system and new system, lowering maintenance costs.
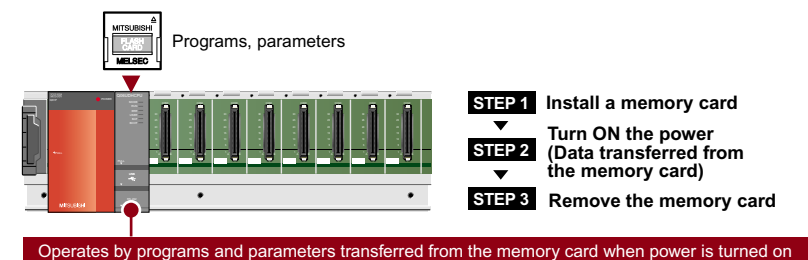
| MELSEC-Q Series | | HMI GOT1000 Series |

Common modules

New model			Previous model		
Multiple CPU high speed main base unit Q38DB Q312DB	**PLC CPU** Q02UCPU Q03UDCPU Q04UDHCPU Q06UDHCPU	Power supply module	**Main base unit** Q33B Q35B Q38B Q312B	**PLC CPU** Q02(H)CPU Q06HCPU Q12HCPU Q25HCPU	Other Q Series modules

■Secures data even after prolonged storage

Program and parameter files are automatically saved in the Flash ROM, which does not require battery backup. This prevents data loss due to dead battery. This function improves battery life. Important information such as device data are also protected in case of dead battery. The data will be backed up in standard ROM, and the backup data automatically returns when power is turned ON.

CPU built-in memory

Program memory (Flash ROM)

Write programs

Program cache memory (SRAM)

For program execution

No battery backup needed!

Device data

Device memory

File register (Standard RAM)

Backup execution condition is ON

Latch data Backup file (Standard ROM)
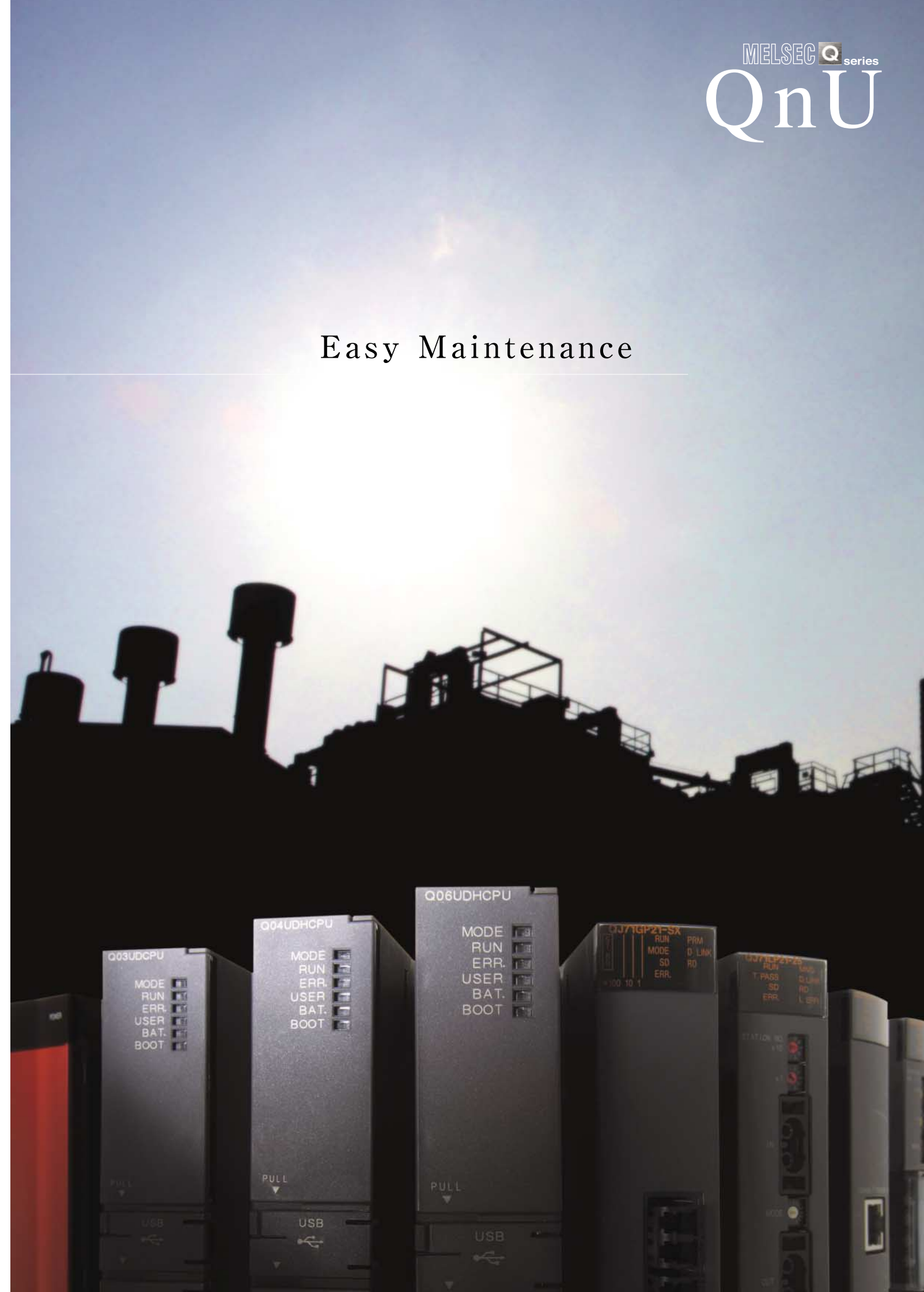
Programming tool

■Simplified program transfer using just a memory card

Program modification of devices at the remote locations is simplified. Just install a memory card with programs and parameters into the CPU to transfer data. No programming tool (PC) is required. Modification time is reduced drastically.

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Programs, parameters

STEP 1 Install a memory card

STEP 2 Turn ON the power (Data transferred from the memory card)

STEP 3 Remove the memory card

Operates by programs and parameters transferred from the memory card when power is turned on

Easy Maintenance

Q03UDCPU MODE RUN ERR. USER BAT. BOOT

Q04UDHCPU MODE RUN ERR. USER BAT. BOOT

Q06UDHCPU MODE RUN ERR. USER BAT. BOOT

CPU module performance specifications

Item		Q02UCPU	Q03UDCPU	Q04UDHCPU	Q06UDHCPU
Control method		Sequence program control method			
I/O control mode		Refresh			
Program language (sequence control language)		Relay symbol language (ladder), logic symbolic language (list), MELSAP3 (SFC), MELSAP-L, and structured text (ST)			
Processing speed (sequence instruction) (Note 1)	LD instruction	0.04 μs	0.02 μs	0.0095 μs	
	MOV instruction	0.08 μs	0.04 μs	0.019 μs	
	PC MIX value (instruction/μs) (Note 2)	14	28	60	
	Floating point addition	0.18 μs	0.12 μs	0.057 μs	
Total number of instructions (Note 3)		758	764		
Operation (floating point operation) instruction		Yes			
Character string processing instruction		Yes			
PID instruction		Yes			
Special function instruction (Trigonometric function, square root, exponential operation, etc.)		Yes			
Constant scan (Function for keeping regular scan time)		0.5 to 2000 ms (setting available in units of 0.5 ms)			
Program capacity		20 k steps	30 k steps	40 k steps	60 k steps
Number of I/O device points [X/Y]		8192 points			
Number of I/O points [X/Y]		2048 points		4096 points	
Internal relay [M]	(Note 4)	8192 points			
Latch relay [L]		8192 points			
Link relay [B]		8192 points			
Timer [T]		2048 points			
Retentive timer [ST]		0 points			
Counter [C]		1024 points			
Data register [D]		12288 points			
Link register [W]		8192 points			
Annunciator [F]		2048 points			
Edge relay [V]		2048 points			
Link special relay [SB]		2048 points			
Link special register [SW]		2048 points			
File register [R, ZR]		65536 points (Note 5)	98304 points (Note 5)	131072 points (Note 5)	393216 points (Note 5)
Step relay [S]		8192 points			
Index register/standard device register [Z]		20 points			
Index register [Z] (32-bit ZR indexing)		Max. 10 points (Z0 to Z18) (Index register [Z] is used in double words.)			
Pointer [P]		4096 points			
Interrupt pointer [I]		256 points			
Special relay [SM]		2048 points			
Special register [SD]		2048 points			
Function input [FX]		16 points			
Function output [FY]		16 points			
Function register [FD]		5 points			
Local device		Yes			
Device initial values		Yes			

Note 1) The processing speed is the same even when the device is indexed.
Note 2) The PC MIX value is the average number of instructions such as the basic and data processing instructions executed in 1 μs. A larger value indicates a higher processing speed.
Note 3) Intelligent function module dedicated instructions are not included.
Note 4) Indicates the number of points in the default state. This can be changed with the parameter.
Note 5) Indicates the number of points when using the built-in memory (standard RAM). This can be expanded with the SRAM card or Flash card. (Writing from the program is not possible with the Flash card.) Up to 4184064 points can be used with the SRAM card.

General specifications

General specifications indicate the environmental specifications in which this product can be installed and operated. Unless otherwise specified, the general specifications apply to all products of the Q Series. Install and operate the Q Series products in the environment indicated in the general specifications.

Item	Specifications				
Operating ambient temperature	0 to 55℃ (Note 1)				
Storage ambient temperature	-25 to 75℃ (Note 1)				
Operating ambient humidity	Conforms to IEC61131-2 Lebel RH-2 (5 to 95%RH, non-condensing)				
Storage ambient humidity	Conforms to IEC61131-2 Lebel RH-2 (5 to 95%RH, non-condensing)				
Vibration resistance	Conforms to IEC61131-2	Under intermittent vibration			Sweep count
		Frequency	Acceleration	Amplitude	10 times each in X, Y, Z directions (for 80 min.)
		10 to 57 Hz	-	0.075 mm	
		57 to 150 Hz	9.8 m/s^2	-	
		Under continuous vibration			
		Frequency	Acceleration	Amplitude	
		10 to 57 Hz	-	0.035 mm	
		57 to 150 Hz	4.9 m/s^2	-	
Shock resistance	Conforms to IEC61131-2 (147m/s^2, 3 times in each of 3 directions X, Y, Z)				
Operating atmosphere	No corrosive gases				
Operating altitude	Conforms to IEC61131-2 (2000 m [6562 ft.] or less) (Note 2)				
Installation location	Inside control panel				
Overvoltage category	Conforms to IEC61131-2 (II or less) (Note 3)				
Pollution degree	Conforms to IEC61131-2 (2 or less) (Note 4)				

Note 1) This operating/storage ambient temperature satisfies the requirements beyond the requirements in IEC61131-2.
Note 2) The programmable controller cannot be used under pressure higher than the atmospheric pressure of altitude 0 m. Doing so can cause a failure.
Note 3) This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within premises. Category II applies to equipment for which electrical power is supplied from fixed facilities. The surge voltage withstand level for up to the rated voltage of 300 V is 2500 V.
Note 4) This index indicates the degree to which conductive material is generated in the environment where the equipment is used. In pollution degree 2, only non-conductive pollution occurs. However, a temporary conductivity caused by condensation is to be expected.

Module combinations for multiple CPU system

◎ Possible
○ Possible (high-speed communication between multiple CPUs not available)
× Impossible

Multiple CPU high speed main base unit (Q3□DB)

CPU 1 \ CPU 2 to 4		Universal model QCPU		High performance model QCPU	Motion CPU		Process CPU	PC CPU (Note 1)
					New model	Previous model		
		Q02UCPU	Q03UDCPU Q04UDHCPU Q06UDHCPU	Q02(H)CPU Q06HCPU Q12HCPU Q25HCPU	Q172DCPU Q173DCPU	Q172HCPU(-T) Q173HCPU(-T) Q172CPUN(-T) Q173CPUN(-T)	Q12PHCPU Q25PHCPU	
Universal model QCPU	Q02UCPU (Note 1)	×	×	×	×	×	×	○ (Note 3)
	Q03UDCPU Q04UDHCPU Q06UDHCPU	×	◎	○	◎	×	○	○ (Note 3)
High performance model QCPU	Q02(H)CPU Q06HCPU Q12HCPU Q25HCPU	×	○	○	×	×	○	○ (Note 3)

Main base unit other than Q3□DB

CPU 1 \ CPU 2 to 4		Universal model QCPU		High performance model QCPU	Motion CPU		Process CPU	PC CPU (Note 1)
					New model	Previous model		
		Q02UCPU	Q03UDCPU Q04UDHCPU Q06UDHCPU	Q02(H)CPU Q06HCPU Q12HCPU Q25HCPU	Q172DCPU Q173DCPU	Q172HCPU(-T) Q173HCPU(-T) Q172CPUN(-T) Q173CPUN(-T)	Q12PHCPU Q25PHCPU	
Universal model QCPU	Q02UCPU (Note 2)	×	×	×	×	○(Note 4)	×	○ (Note 3)
	Q03UDCPU Q04UDHCPU Q06UDHCPU	×	○	○	×	×	○	○ (Note 3)
High performance model QCPU	Q02(H)CPU Q06HCPU Q12HCPU Q25HCPU	×	○	○	×	○(Note 5)	○	○ (Note 3)

Note 1) For usable model name, version, etc., please contact your local Mitsubishi sales office or representative.
Note 2) Q02UCPU does not support high-speed communication between multiple CPUs.
Note 3) Only one PC CPU can be used.
Note 4) Only one motion CPU can be used.
Note 5) Cannot be used together with Q03UD, Q04UDH, or Q06UDHCPU.

MELSEC **Q** series
QnU
Basic instruction (LD):9.5ns Floating point addition:57ns
PC MIX value:60 instructions/μs Program capacity:60k steps max.

A well-developed support system ensures smooth FA operations

Complying with international quality assurance standards.

All of Mitsubishi Electric's FA component products have acquired the international quality assurance "ISO9001" and environment management system standard "ISO14001" certification. Mitsubishi's products also comply with various safety standards, including UL Standards, and shipping standards.

| ISO 14001 JACO UKAS ENVIRONMENTAL MANAGEMENT 051 EC97J1113 | ISO 9001 BUREAU VERITAS Certification UKAS QUALITY MANAGEMENT 009 1828 |

Compatible Standards

⟨Shipping Standards⟩
LR ······ Lloyd's Register of Shipping approval
DNV ··· Norwegian Maritime approval
RINA ·· Italian Maritime approval
NK ······ ClassNK approval
ABS ··· American Bureau of Shipping approval
BV ······ Bureau Veritas approval
GL ······ Germanischer Lloyd approval

⟨Safety Standards⟩
CE ··· Council directive of the European Communities
UL ··· Underwriter Laboratory Listing

Details on each standard certification are disclosed on MELFANSweb.
(http://www.MitsubishiElectric.co.jp/melfansweb/english)

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500 Corporate Woods Parkway Vernon Hills, IL 60061, USA
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Gothaer Strasse 8 D-40880 Ratingen, Germany
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◎**UK FA CENTER**

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(Customer Technical Center) Travellers Lane. Hatfield,
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The target area: UK, Ireland

◎**Central and Eastern Europe FA Center**

MITSUBISHI ELECTRIC EUROPE B.V. CZECH BRANCH
Radlická 714/113a,15800 Praha 5, Czech Republic
Tel: 420-251-551-470 Fax: 420-251-551-471
The target area: Czech Republic,Poland,Hungary, and Slovakia.

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◎**BEIJING FA CENTER**

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◎**Guangzhou FA Center**

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◎**TAIWAN FA CENTER**

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◎**ASEAN FA CENTER**

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Building Singapore, 159943
Tel: 65-6470-2480 Fax: 65-6476-7439
The target area: Southeast Asia, India

◎**THAILAND FA CENTER**

MITSUBISHI ELECTRIC AUTOMATION THAILAND CO., LTD
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A. Kannayao, Bangkok 10230, Thailand
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Online information for reference and learning…The MELFANSweb offers speedy answers to questions about Mitsubishi FA devices.

MELFANSweb – your source for FA information

The "MELFANSweb" offers a wealth of information concerning Mitsubishi FA devices. Registering over 100,000 hits a day, the site is clearly popular with our customers. The MELFANSweb content includes information about products, an FA terminology glossary, and information about seminars and FA devices, and it represents a powerful resource for users of Mitsubishi FA

MELFANSweb web site URL:

http://www.MitsubishiElectric.co.jp/english/

MELSEC Q series
QnU
Basic instruction (LD):9.5ns Floating point addition:57ns
PC WIE value:60 instructions/µs Program capacity:60k steps max.

WARRANTY

Please confirm the following product warranty details before starting use.

Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the dealer or Mitsubishi Service Company.
Note that if repairs are required at a site overseas, on a detached island or remote place, expenses to dispatch an engineer shall be charged for. Mitsubishi shall not be held responsible for readjustment and trial operations at the site resulting from replacement of faulty modules.

■Gratis Warranty Term
The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place. Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

■Gratis Warranty Range
(1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.
(2) Even within the gratis warranty term, repairs shall be charged for in the following cases.
 1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
 2. Failure caused by unapproved modifications, etc., to the product by the user.
 3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
 4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
 5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
 6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
 7. Any other failure found not to be the responsibility of Mitsubishi or the user.

Onerous repair term after discontinuation of production

(1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued. Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
(2) Product supply (including repair parts) is not possible after production is discontinued.

Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

Exclusion of chance loss and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to damages caused by any cause found not to be the responsibility of Mitsubishi, chance losses, lost profits incurred to the user by Failures of Mitsubishi products, damages and secondary damages caused from special reasons regardless of Mitsubishi's expectations, compensation for accidents, and compensation for damages to products other than Mitsubishi products and other duties. In addition, Mitsubishi shall not be liable for compensation resulting from replacement work carried out by user, readjustment of machinery and facilities at site, trial operation at startup or any other duties.

Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

Product application

(1) In using the Mitsubishi MELSEC programmable controller, the usage conditions shall be that the application will not lead to a major accident even if any problem or fault should occur in the programmable controller device, and that backup and fail-safe functions are systematically provided outside of the device for any problem or fault.
(2) The Mitsubishi general-purpose programmable controller has been designed and manufactured for applications in general industries, etc. Thus, applications in which the public could be affected such as in nuclear power plants and other power plants operated by respective power companies, and applications in which a special quality assurance system is required, such as for Railway companies or National Defense purposes shall be excluded from the programmable controller applications. When considering use in aircraft, medical applications, railways, incineration and fuel devices, manned transport devices, equipment for recreation and amusement, and safety devices, in which human life or assets could be greatly affected and for which a particularly high reliability is required in terms of safety and control system, please consult with Mitsubishi and discuss the required specifications. Note that even with these applications, if the user pproves that the application is to be limited and a special quality is not required, application shall be possible upon due process of documents.

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*Always refer to user's manuals for information on usable modules, restrictions, etc. before using.
*Refer to MELFANSweb or contact your local Mitsubishi sales office or representative for the latest information on the MELSOFT versions and compatible OS.

CPU, base, power supply

Product		Model	Outline
CPU		Q02UCPU NEW	No. of I/O points: 2048 points, no. of I/O device points: 8192 points, program capacity: 20 k steps, basic instruction processing speed (LD instruction): 0.04 µs, program memory capacity: 80 KB
		Q03UDCPU NEW	No. of I/O points: 4096 points, no. of I/O device points: 8192 points, program capacity: 30 k steps, basic instruction processing speed (LD instruction): 0.02 µs, program memory capacity: 120 KB, high-speed communication between multiple CPUs
		Q04UDHCPU NEW	No. of I/O points: 4096 points, no. of I/O device points: 8192 points, program capacity: 40 k steps, basic instruction processing speed (LD instruction): 0.0095 µs, program memory capacity: 160 KB, high-speed communication between multiple CPUs
		Q06UDHCPU NEW	No. of I/O points: 4096 points, no. of I/O device points: 8192 points, program capacity: 60 k steps, basic instruction processing speed (LD instruction): 0.0095 µs, program memory capacity: 240 KB, high-speed communication between multiple CPUs
	Battery	Q6BAT	Replacement battery
		Q7BAT	Large-capacity battery
		Q7BAT-SET	Large-capacity battery with holder
		Q8BAT	Replacement large-capacity battery module without cable
		Q8BAT-SET	Large-capacity battery module with cable
	Memory card	Q2MEM-1MBS	SRAM memory card, capacity: 1 MB
		Q2MEM-2MBS	SRAM memory card, capacity: 2 MB
		Q3MEM-4MBS NEW	SRAM memory card, capacity: 4 MB
		Q3MEM-4MBS-SET NEW	SRAM memory card with cover, capacity: 4 MB
		Q3MEM-8MBS NEW	SRAM memory card, capacity: 8 MB
		Q3MEM-8MBS-SET NEW	SRAM memory card with cover, capacity: 8 MB
		Q2MEM-2MBF	Linear Flash memory card, capacity: 2 MB
		Q2MEM-4MBF	Linear Flash memory card, capacity: 4 MB
		Q2MEM-8MBA	ATA card, capacity: 8 MB
		Q2MEM-16MBA	ATA card, capacity: 16 MB
		Q2MEM-32MBA	ATA card, capacity: 32 MB
	Memory card adaptor	Q2MEM-ADP	Adaptor for Q2MEM memory card's standard PCMCIA slot
	SRAM card battery	Q2MEM-BAT	Replacement battery for Q2MEM-1MBS and Q2MEM-2MBS
		Q3MEM-BAT NEW	Replacement battery for Q3MEM-4MBS and Q3MEM-8MBS
	Connection cable	QC30R2	RS-232 cable for connecting personal computer and CPU, 3 m (between mini-DIN6P and Dsub9P)
	Cable disconnection prevention holder	Q6HLD-R2	Holder for preventing RS-232 cable disconnection
Base	Main base	Q33B	3 slots, power supply module mountable, for Q Series modules
		Q35B	5 slots, power supply module mountable, for Q Series modules
		Q38B	8 slots, power supply module mountable, for Q Series modules
		Q312B	12 slots, power supply module mountable, for Q Series modules
	Slim type main base	Q32SB	2 slots, slim type power supply module mountable, for Q Series modules
		Q33SB	3 slots, slim type power supply module mountable, for Q Series modules
		Q35SB	5 slots, slim type power supply module mountable, for Q Series modules
	Redundant power main base	Q38RB	8 slots, 2 redundant power supply modules mountable, for Q Series modules
	Multiple CPU high speed main base	Q38DB NEW	8 slots, power supply module mountable, for Q Series modules
		Q312DB NEW	12 slots, power supply module mountable, for Q Series modules
	Extension base	Q63B	3 slots, power supply module mountable, for Q Series modules
		Q65B	5 slots, power supply module mountable, for Q Series modules
		Q68B	8 slots, power supply module mountable, for Q Series modules
		Q612B	12 slots, power supply module mountable, for Q Series modules
		Q52B	2 slots, power supply module unmountable, for Q Series modules
		Q55B	5 slots, power supply module unmountable, for Q Series modules
	Redundant power extension base	Q68RB	8 slots, 2 redundant power supply modules mountable, for Q Series modules
	Extension cable	QC05B	0.45 m cable for Q52B, Q55B, Q63B, Q65B, Q68B, Q612B, Q38RB, and Q68RB
		QC06B	0.6 m cable for Q52B, Q55B, Q63B, Q65B, Q68B, Q612B, Q38RB, and Q68RB
		QC12B	1.2 m cable for Q52B, Q55B, Q63B, Q65B, Q68B, Q612B, Q38RB, and Q68RB
		QC30B	3 m cable for Q52B, Q55B, Q63B, Q65B, Q68B, Q612B, Q38RB, and Q68RB
		QC50B	5 m cable for Q52B, Q55B, Q63B, Q65B, Q68B, Q612B, Q38RB, and Q68RB
		QC100B	10 m cable for Q52B, Q55B, Q63B, Q65B, Q68B, Q612B, Q38RB, and Q68RB
	Adaptor	Q6DIN1	DIN rail mounting adaptor for Q38B, Q312B, Q68B, Q612B, Q38RB, Q68RB, Q65WRB, Q38DB, and Q312DB
		Q6DIN2	DIN rail mounting adaptor for Q35B, Q65B, and Q00JCPU
		Q6DIN3	DIN rail mounting adaptor for Q32SB, Q33SB, Q35SB, Q33B, Q52B, Q55B, and Q63B
	Blank cover	QG60	Blank cover for I/O slot

CPU, base, power supply

Product	Model	Outline
Power supply	Q61P (Note 6)	Input voltage range: 100 to 240 V AC, output voltage: 5 V DC, output current: 6 A
	Q61P-A1	Input voltage range: 100 to 120 V AC, output voltage: 5 V DC, output current: 6 A
	Q61P-A2	Input voltage range: 200 to 240 V AC, output voltage: 5 V DC, output current: 6 A
	Q62P	Input voltage range: 100 to 240 V AC, output voltage: 5/24 V DC, output current: 3/0.6 A
	Q63P	Input voltage range: 24 V DC, output voltage: 5 V DC, output current: 6 A
	Q64P	Input voltage range: 100 to 120/200 to 240 V AC, output voltage: 5 V DC, output current: 8.5 A
Slim type power supply	Q61SP	Input voltage range: 100 to 240 V AC, output voltage: 5 V DC, output current: 2 A, slim type power supply
Redundant power supply	Q63RP	Input voltage: 24 V DC, output voltage: 5 V DC, output current: 8.5 A
	Q64RP	Input voltage range: 100 to 120/200 to 240 V AC, output voltage: 5 V DC, output current: 8.5 A

I/O module

Input	AC	QX10	16 points, 100 to 120 V AC, 8 mA (100 V AC, 60 Hz)/7 mA (100 V AC, 50 Hz), response time: 20 ms, 16 points/common, 18-point terminal block
		QX28	8 points, 100 to 240 V AC, 17 mA (200 V AC, 60 Hz)/14 mA (200 V AC, 50 Hz)/8 mA (100 V AC, 60 Hz)/7 mA (100 V AC, 50 Hz), response time: 20 ms, 8 points/common, 18-point terminal block
	DC (Positive common) (Note 1)	QX40	16 points, 24 V DC, 4 mA, response time: 1/5/10/20/70 ms, 16 points/common, positive common, 18-point terminal block
		QX40-S1	16 points, 24 V DC, 6 mA, response time: 0.1/0.2/0.4/0.6/1 ms, 16 points/common, positive common, 18-point terminal block
		QX41 (Note 2)	32 points, 24 V DC, 4 mA, response time: 1/5/10/20/70 ms, 32 points/common, positive common, 40-pin connector
		QX41-S1 (Note 2)	32 points, 24 V DC, 4 mA, response time: 0.1/0.2/0.4/0.6/1 ms, 32 points/common, positive common, 40-pin connector
		QX42 (Note 2)	64 points, 24 V DC, 4 mA, response time: 1/5/10/20/70 ms, 32 points/common, positive common, 40-pin connector
		QX42-S1 (Note 2)	64 points, 24 V DC, 4 mA, response time: 0.1/0.2/0.4/0.6/1 ms, 32 points/common, positive common, 40-pin connector
	DC/AC (Note 1)	QX50	16 points, 48 V DC/AC, 4 mA, response time: 20 ms, 16 points/common, positive/negative common, 18-point terminal block
	DC sensor (Note 1)	QX70	16 points, 5/12 V DC, 1.2 mA (5 V DC)/3.3 mA (12 V DC), response time: 1/5/10/20/70 ms, 16 points/common, positive/negative common, 18-point terminal block
		QX71	32 points, 5/12 V DC, 1.2 mA (5 V DC)/3.3 mA (12 V DC), response time: 1/5/10/20/70 ms, 32 points/common, positive/negative common, 40-pin connector
		QX72	64 points, 5/12 V DC, 1.2 mA (5 V DC)/3.3 mA (12 V DC), response time: 1/5/10/20/70 ms, 32 points/common, positive/negative common, 40-pin connector
	DC (Negative common) (Note 1)	QX80	16 points, 24 V DC, 4 mA, response time: 1/5/10/20/70 ms, 16 points/common, negative common, 18-point terminal block
		QX81 (Note 3)	32 points, 24 V DC, 4 mA, response time: 1/5/10/20/70 ms, 32 points/common, negative common, 37-pin D-sub connector
		QX82 (Note 2)	64 points, 24 V DC, 4 mA, response time: 1/5/10/20/70 ms, 32 points/common, negative common, 40-pin connector
		QX82-S1 (Note 2)	64 points, 24 V DC, 4 mA, response time: 0.1/0.2/0.4/0.6/1 ms, 32 points/common, negative common, 40-pin connector
Output	Relay	QY10	16 points, 24 V DC/240 V AC, 2 A/point, 8 A/common, response time: 12 ms, 16 points/common, 18-point terminal block
		QY18A	8 points, 24 V DC/240 V AC, 2 A/point, response time: 12 ms, 18-point terminal block, all points independent
	Triac	QY22	16 points; 100 to 240 V AC, 0.6 A/point; 4.8 A/common; minimum load voltage/current: 24 V AC/100 mA, 100 to 240 V AC/25 mA; response time: 1 ms + 0.5 cycle, 16 points/common, 18-point terminal block, with surge suppressor
	Transistor (Sink)	QY40P	16 points, 12 to 24 V DC, 0.1 A/point, 1.6 A/common, response time: 1 ms, 16 points/common, sink type, 18-point terminal block, with thermal and short-circuit protection and surge suppressor
		QY41P (Note 2)	32 points, 12 to 24 V DC, 0.1 A/point, 2 A/common, response time: 1 ms, 32 points/common, sink type, 40-pin connector, with thermal and short-circuit protection and surge suppressor
		QY42P (Note 2)	64 points, 12 to 24 V DC, 0.1 A/point, 2 A/common, response time: 1 ms, 32 points/common, sink type, 40-pin connector, with thermal and short-circuit protection and surge suppressor
		QY50	16 points, 12 to 24 V DC, 0.5 A/point, 4 A/common, response time: 1 ms, 16 points/common, sink type, 18-point terminal block, with surge suppressor and fuse
	Transistor (Independent)	QY68A	8 points, 5 to 24 V DC, 2 A/point, 8 A/module, response time: 10 ms, sink/source type, 18-point terminal block, with surge suppressor, all points independent
	TTL CMOS	QY70	16 points, 5 to 12 V DC, 16 mA/point, 256 mA/common, response time: 0.5 ms, 16 points/common, sink type, 18-point terminal block, with fuse
		QY71 (Note 2)	32 points, 5 to 12 V DC, 16 mA/point, 512 mA/common, response time: 0.5 ms, 32 points/common, sink type, 40-pin connector, with fuse
	Transistor (Source)	QY80	16 points, 12 to 24 V DC, 0.5 A/point, 4 A/common, response time: 1 ms, 16 points/common, source type, 18-point terminal block, with surge suppressor and fuse
		QY81P (Note 3)	32 points, 12 to 24 V DC, 0.1 A/point, 2 A/common, response time: 1 ms, 32 points/common, source type, 32-pin D-sub connector, with thermal and short-circuit protection and surge suppressor
I/O	DC input/ transistor output	QH42P (Note 2)	Input: 32 points, 24 V DC, 4 mA, response time: 1/5/10/20/70 ms, 32 points/common, positive common; output: 32 points, 12 to 24 V DC, 0.1 A/point, 2 A/common, response time: 1 ms, 32 points/common, sink type; 40-pin connector, with thermal and short-circuit protection and surge suppressor
		QX48Y57	Input: 8 points, 24 V DC, 4 mA, response time: 1/5/10/20/70 ms, 32 points/common, positive common; output: 7 points, 12 to 24 V DC, 0.5 A/point, 2 A/common, response time: 1 ms, 7 points/common, sink type; 18 points terminal block, with surge suppressor and fuse
Interrupt module		QI60	16 points, 24 V DC, 4 mA, response time: 0.1/0.2/0.4/0.6/1 ms, 16 points/common, 18-point terminal block

I/O module

Product	Model	Outline
Connector	A6CON1	40-pin connector, soldering type
	A6CON2	40-pin connector, crimp-contact type
	A6CON3	40-pin connector, IDC for flat cables
	A6CON4	40-pin connector, soldering type (cable connectable in bidirection)
	A6CON1E	37-pin D-sub connector, soldering type
	A6CON2E	37-pin D-sub connector, crimp-contact type
	A6CON3E	37-pin D-sub connector, IDC for flat cables
Spring clamp terminal block	Q6TE-18S	For 16-point I/O modules, 0.3 to 1.5 mm² (22 to 16 AWG)
Terminal block adaptor	Q6TA32	For 32-point I/O modules, 0.5 mm² (20 AWG)
	Q6TA32-TOL	Q6TA32 dedicated tool
Connector/terminal block conversion module	A6TBXY36	For positive common input modules and sink output modules (standard type)
	A6TBXY54	For positive common input modules and sink output modules (2-wire type)
	A6TBX70	For positive common input modules (3-wire type)
	A6TBX36-E	For negative common input modules (standard type)
	A6TBX54-E	For negative common input modules (2-wire type)
	A6TBX70-E	For negative common input modules (3-wire type)
	A6TBX36-E	For source output modules (standard type)
	A6TBX54-E	For source output modules (2-wire type)
Cable	AC05TB	For A6TBXY36, A6TBXY54, and A6TBX70 (positive common/sink type); 0.5 m
	AC10TB	For A6TBXY36, A6TBXY54, and A6TBX70 (positive common/sink type); 1 m
	AC20TB	For A6TBXY36, A6TBXY54, and A6TBX70 (positive common/sink type); 2 m
	AC30TB	For A6TBXY36, A6TBXY54, and A6TBX70 (positive common/sink type); 3 m
	AC50TB	For A6TBXY36, A6TBXY54, and A6TBX70 (positive common/sink type); 5 m
	AC80TB	For A6TBXY36, A6TBXY54, and A6TBX70 (positive common/sink type); 8 m *Common power supply 0.5 A or lower
	AC100TB	For A6TBXY36, A6TBXY54, and A6TBX70 (positive common/sink type); 10 m *Common power supply 0.5 A or lower
	AC05TB-E	For A6TBX36-E, A6TBY36-E, A6TBX54-E, A6TBY54-E, and A6TBX70-E (negative common/source type); 0.5 m
	AC10TB-E	For A6TBX36-E, A6TBY36-E, A6TBX54-E, A6TBY54-E, and A6TBX70-E (negative common/source type); 1 m
	AC20TB-E	For A6TBX36-E, A6TBY36-E, A6TBX54-E, A6TBY54-E, and A6TBX70-E (negative common/source type); 2 m
	AC30TB-E	For A6TBX36-E, A6TBY36-E, A6TBX54-E, A6TBY54-E, and A6TBX70-E (negative common/source type); 3 m
	AC50TB-E	For A6TBX36-E, A6TBY36-E, A6TBX54-E, A6TBY54-E, and A6TBX70-E (negative common/source type); 5 m
Relay terminal module	A6TE2-16SRN	For 40-pin connector 24 V DC transistor output modules (sink type)
Cable	AC06TE	For A6TE2-16SRN, 0.6 m
	AC10TE	For A6TE2-16SRN, 1 m
	AC30TE	For A6TE2-16SRN, 3 m
	AC50TE	For A6TE2-16SRN, 5 m
	AC100TE	For A6TE2-16SRN, 10 m

MELSEC Q series

QnU

Basic instruction (LD): 9.5ns Floating point addition:57ns
PC WIE value:60 instructions/µs Program capacity:60k steps max.

Analog I/O module

Product		Model	Outline
Analog input	Voltage input	Q68ADV	8 channels; input: -10 to 10 V DC; output (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, 0 to 16000, -16000 to 16000; conversion speed: 80 µs/channel; 18-point terminal block
	Current input	Q62AD-DGH	2 channels; input: 4 to 20 mA DC; output (resolution): 0 to 32000, 0 to 64000; conversion speed: 10 ms/2 channels; 18-point terminal block; channel isolated; supplies power to 2-wire transmitter
		Q66AD-DG	6 channels; input: 4 to 20 mA DC (when 2-wire transmitter is connected), 0 to 20 mA DC; output (resolution): 0 to 4000, 0 to 12000; conversion speed: 10 ms/channel; 40-pin connector; channel isolated; supplies power to 2-wire transmitter
		Q68ADI	8 channels; input: 0 to 20 mA DC; output (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, 0 to 16000, -16000 to 16000; conversion speed: 80 µs/channel; 18-point terminal block
	Voltage/current input	Q64AD	4 channels; input: -10 to 10 V DC, 0 to 20 mA DC; output (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, 0 to 16000, -16000 to 16000; conversion speed: 80 µs/channel; 18-point terminal block
		Q64AD-GH	4 channels; input: -10 to 10 V DC, 0 to 20 mA DC; output (resolution): 0 to 32000, -32000 to 32000, 0 to 64000, -64000 to 64000; conversion speed: 10 ms/4 channels; 18-point terminal block, channel isolated
		Q68AD-G	8 channels; input: -10 to 10 V DC, 0 to 20 mA DC; output (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, 0 to 16000, -16000 to 16000; conversion speed: 10 ms/4 channels; 40-pin connector, channel isolated
Analog output	Voltage output	Q68DAVN	8 channels; input (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, -16000 to 16000; output: -10 to 10 V DC; conversion speed: 80 µs/channel; 18-point terminal block, transformer isolation between power supply and output
		Q68DAV	8 channels; input (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, -16000 to 16000; output: -10 to 10 V DC; conversion speed: 80 µs/channel; 18-point terminal block
	Current output	Q68DAIN	8 channels; input (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000; output: 0 to 20 mA DC; conversion speed: 80 µs/channel; 18-point terminal block, transformer isolation between power supply and output
		Q68DAI	8 channels; input (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000; output: 0 to 20 mA DC; conversion speed: 80 µs/channel; 18-point terminal block
	Voltage/current output	Q62DAN	2 channels; input (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, -16000 to 16000; output: -10 to 10 V DC, 0 to 20 mA DC; conversion speed: 80 µs/channel; 18-point terminal block, transformer isolation between power supply and output
		Q62DA	2 channels; input (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, -16000 to 16000; output: -10 to 10 V DC, 0 to 20 mA DC; conversion speed: 80 µs/channel; 18-point terminal block
		Q62DA-FG	2 channels; input (resolution): 0 to 12000, -12000 to 12000, -16000 to 16000; output: -12 to 12 V DC, 0 to 22 mA DC; conversion speed: 10 ms/2 channels; 18-point terminal block; channel isolated
		Q64DAN	4 channels; input (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, -16000 to 16000; output: -10 to 10 V DC, 0 to 20 mA DC; conversion speed: 80 µs/channel; 18-point terminal block; transformer isolation between power supply and output
		Q64DA	4 channels; input (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, -16000 to 16000; output: -10 to 10 V DC, 0 to 20 mA DC; conversion speed: 80 µs/channel; 18-point terminal block
		Q66DA-G	6 channels; input (resolution): 0 to 4000, -4000 to 4000, 0 to 12000, -12000 to 12000, -16000 to 16000; output: -12 to 12 V DC; conversion speed: 6 ms/channel; 40-pin connector; channel isolated
Temperature input	RTD	Q64RD	4 channels, platinum RTD (Pt100 [JIS C1604-1997, IEC 751 1983], JPt100 [JIS C1604-1981]), conversion speed: 40 ms/channel, 18-point terminal block
		Q64RD-G	4 channels, platinum RTD (Pt100 [JIS C1604-1997, IEC 751 1983], JPt100 [JIS C1604-1981], Ni100Ω [DIN43760 1987]), conversion speed: 40 ms/channel, 18-point terminal block, channel isolated
	Thermocouple	Q64TD	4 channels, thermocouple (JIS C1602-1995), conversion speed: 40 ms/channel, 18-point terminal block
		Q64TDV-GH	4 channels, thermocouple (JIS C1602-1995), micro voltage (-100 to 100 mV), conversion speed: sampling cycle x 3, sampling cycle: 20 ms/channel, 18-point terminal block
Temperature control	Platinum RTD	Q64TCRT	4 channels, platinum RTD (Pt100, JPt100), no heater disconnection detection, sampling cycle: 0.5 s/4 channels, 18-point terminal block
		Q64TCRTBW	4 channels, platinum RTD (Pt100, JPt100), with heater disconnection detection, sampling cycle: 0.5 s/4 channels, two 18-point terminal blocks
	Thermocouple	Q64TCTT	4 channels, thermocouple (K, J, T, B, S, E, R, N, U, L, PLII, W5Re/W26Re), no heater disconnection detection, sampling cycle: 0.5 s/4 channels, 18-point terminal block
		Q64TCTTBW	4 channels, thermocouple (K, J, T, B, S, E, R, N, U, L, PLII, W5Re/W26Re), with heater disconnection detection, sampling cycle: 0.5 s/4 channels, two 18-point terminal blocks
Loop control		Q62HLC	2 channels, input: thermocouple/micro voltage/voltage/current, conversion speed (input): 25 ms/2 channels, sampling cycle: 25 ms/2 channels; output: 4 to 20 mA DC, conversion speed (output): 25 ms/2 channels; 18-point terminal block with 5 PID control modes

Pulse I/O and positioning module

Product		Model	Outline
Channel isolated pulse input		QD60P8-G	8 channels, 30 kpps/10 kpps/1 kpps/ 100 pps/ 50 pps/ 10 pps/ 1 pps/0.1 pps, count input signal: 5/12 to 24 V DC
High-speed counter		QD62 (Note 2)	2 channels; 200/100/10 kpps; count input signal: 5/12/24 V DC; external input: 5/12/24 V DC; coincidence output: transistor (sink), 12/24 V DC, 0.5 A/point, 2 A/common; 40-pin connector
		QD62D (Note 2)	2 channels; 500/200/100/10 kpps; count input signal: EIA standards RS-422-A (differential line driver), external input: 5/12/24 V DC; coincidence output: transistor (sink), 12/24 V DC, 0.5 A/point, 2 A/common; 40-pin connector
		QD62E (Note 2)	2 channels; 200/100/10 kpps; count input signal: 5/12/24 V DC; external input: 5/12/24 V DC; coincidence output: transistor (source), 12/24 V DC, 0.1 A/point, 0.4 A/common; 40-pin connector
		QD63P6 (Note 4) NEW	6 channels, 200/100/10 kpps, count input signal: 5 V DC, 40-pin connector
Positioning	Open collector output (Note 4)	QD75P1	1 axis; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; max. output pulse: 200 kpps; 40-pin connector
		QD75P2	2 axes; 2-axis linear interpolation, 2-axis circular interpolation; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; max. output pulse: 200 kpps; 40-pin connector
		QD75P4	4 axes; 2-/3-/4-axis linear interpolation, 2-axis circular interpolation; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; max. output pulse: 200 kpps; 40-pin connector
		AD70P4	4 axes, control unit: pulse, no. of positioning data: 10/axis, max. output pulse: 200 kpps, 40-pin connector
		QD70P8	8 axes, control unit: pulse, no. of positioning data: 10/axis, max. output pulse: 200 kpps, 40-pin connector
	Differential output (Note 4)	QD75D1	1 axis; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; max. output pulse: 1 Mpps; 40-pin connector
		QD75D2	2 axes; 2-axis linear interpolation, 2-axis circular interpolation; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; max. output pulse: 1 Mpps; 40-pin connector
		QD75D4	4 axes; 2-/3-/4-axis linear interpolation, 2-axis circular interpolation; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; max. output pulse: 1 Mpps; 40-pin connector
		QD70D4	4 axes, control unit: pulse, no. of positioning data: 10/axis, max. output pulse: 4 Mpps, 40-pin connector
		QD70D8	8 axes, control unit: pulse, no. of positioning data: 10/axis, max. output pulse: 4 Mpps, 40-pin connector
	With SSCNET connectivity (Note 2)	QD75M1	1 axis; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; 40-pin connector
		QD75M2	2 axes; 2-axis linear interpolation, 2-axis circular interpolation; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; 40-pin connector
		QD75M4	4 axes; 2-/3-/4-axis linear interpolation, 2-axis circular interpolation; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; 40-pin connector
	With SSCNET III connectivity (Note 2)	QD75MH1	1 axis; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; 40-pin connector; with SSCNET III connectivity
		QD75MH2	2 axes; 2-axis linear interpolation, 2-axis circular interpolation; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; 40-pin connector; with SSCNET III connectivity
		QD75MH4	4 axes; 2-/3-/4-axis linear interpolation, 2-axis circular interpolation; control unit: mm, inch, degree, pulse; no. of positioning data: 600/axis; 40-pin connector; with SSCNET III connectivity
	Open collector output with built-in counter function (Note 4)	QD72P3C3 NEW	Positioning: 3 axes, control unit: pulse, no. of positioning data: 1/axis, max. output pulse: 100 kpps, counter: 3 channels, 100 kpps, count input signal: 5/24 V DC, 40-pin connector

Information module

Product		Model	Outline
MES interface		QJ71MES96	MES interface module *MX MESInterface and CompactFlash card are required.
	Option	GT05-MEM-128MC	128 MB CompactFlash card
		GT05-MEM-256MC	256 MB CompactFlash card
Web server		QJ71WS96	Web server module, 10BASE-T/100BASE-TX, 1 channel, RS-232: 1 channel
	Option	GT05-MEM-32MC	32 MB CompactFlash card
		GT05-MEM-64MC	64 MB CompactFlash card
		GT05-MEM-128MC	128 MB CompactFlash card
		GT05-MEM-256MC	256 MB CompactFlash card
Ethernet		QJ71E71-100	10BASE-T/100BASE-TX
		QJ71E71-B2	10BASE2
		QJ71E71-B5	10BASE5
Serial communication		QJ71C24N	RS-232: 1 channel, RS-422/485: 1 channel, total transmission speed of 2 channels: 230.4 kbps
		QJ71C24N-R2	RS-232: 2 channels, total transmission speed of 2 channels: 230.4 kbps
		QJ71C24N-R4	RS-422/485: 2 channels, total transmission speed of 2 channels: 230.4 kbps
Intelligent communication		QD51	BASIC program execution module, RS-232: 2 channels
		QD51-R24	BASIC program execution module, RS-232: 1 channel, RS-422/485: 1 channel
		SW□IVD-AD51HP (Note 5)	Software package for QD51, AD51H-S3, and A1SD51S

Control network module

Product			Model	Outline
MELSECNET/G			QJ71GP21-SX [NEW]	Multi-mode fiber optic cable, dual loop, controller network (control/normal station)
			QJ71GP21S-SX [NEW]	Multi-mode fiber optic cable, dual loop, controller network (control/normal station), with external power supply function
MELSECNET/H	SI/QSI fiber optic cable		QJ71LP21-25	SI/QSI/H-PCF/ broadband H-PCF fiber optic cable, dual loop, controller network (control/normal station) or remote I/O network (remote mater station)
			QJ71LP21S-25	SI/QSI/H-PCF/ broadband H-PCF fiber optic cable, dual loop, controller network (control/normal station) or remote I/O network (remote mater station), with external power supply function
			QJ71LP25-25	SI/QSI/H-PCF/ broadband H-PCF fiber optic cable, dual loop, remote I/O network (remote I/O station)
	GI-50/125 fiber optic cable		QJ71LP21G	GI-50/125 fiber optic cable, dual loop, controller network (control/normal station) or remote I/O network (remote master station)
			QJ71LP25G	GI-50/125 fiber optic cable, dual loop, remote I/O network (remote I/O station)
	GI-62.5/125 fiber optic cable		QJ71LP21GE	GI-62.5/125 fiber optic cable, dual loop, controller network (control/normal station) or remote I/O network (remote master station)
			QJ71LP25GE	GI-62.5/125 fiber optic cable, dual loop, remote I/O network (remote I/O station)
	Coaxial cable		QJ71BR11	3C-2V/5C-2V coaxial cable, single bus, controller network (control/normal station) or remote I/O network (remote master station)
			QJ72BR15	3C-2V/5C-2V coaxial cable, single bus, remote I/O network (remote I/O station)
CC-Link			QJ61BT11N	Master/local station for QCPU, CC-Link Ver. 2 compatible
CC-Link/LT			QJ61CL12	Master station
FL-net (OPCN-2)	Ver. 2		QJ71FL71-T-F01	10BASE-T
			QJ71FL71-B2-F01	10BASE-2
			QJ71FL71-B5-F01	10BASE-5
	Ver. 1		QJ71FL71-T	10BASE-T
			QJ71FL71-B2	10BASE-2
			QJ71FL71-B5	10BASE-5
AS-i			QJ71AS92	Master station

MELSOFT GX Series

Product	Model	Outline
GX Developer	SW□D5C-GPPW-E	MELSEC PLC programming software
	SW□D5C-GPPW-EV	MELSEC PLC programming software (upgrade)
GX Configurator-AD	SW□D5C-QADU-E	MELSEC-Q dedicated analog to digital conversion module setting/monitoring tool
GX Configurator-DA	SW□D5C-QDAU-E	MELSEC-Q dedicated digital to analog conversion module setting/monitoring tool
GX Configurator-SC	SW□D5C-QSCU-E	MELSEC-Q dedicated serial communication module setting/monitoring tool
GX Configurator-CT	SW□D5C-QCTU-E	MELSEC-Q dedicated high-speed counter module setting/monitoring tool
GX Configurator-TC	SW□D5C-QTCU-E	MELSEC-Q dedicated temperature control module setting/monitoring tool
GX Configurator-TI	SW□D5C-QTIU-E	MELSEC-Q dedicated temperature input module setting/monitoring tool
GX Configurator-FL	SW□D5C-QFLU-E	MELSEC-Q dedicated FL-net module setting/monitoring tool
GX Configurator-PT	SW□D5C-QPTU-E	MELSEC-Q dedicated positioning module QD70 setting/monitoring tool
GX Configurator-AS	SW□D5C-QASU-E	MELSEC-Q dedicated AS-i master module setting/monitoring tool
GX Configurator-QP	SW□D5C-QD75P-E	MELSEC-Q dedicated positioning module QD75P/D/M setting/monitoring tool

PC interface board

Product		Model	Outline
MELSECNET/G		Q80BD-J71GP21-SX [NEW]	PCI bus, Japanese/English OS compatible, multi-mode fiber optic cable, dual loop, controller network (control/normal station)
		Q80BD-J71GP21S-SX [NEW]	PCI bus, Japanese/English OS compatible, multi-mode fiber optic cable, dual loop, controller network (control/normal station), with external power supply function
MELSECNET/H (10)	SI/QSI fiber optic cable	Q80BD-J71LP21-25	PCI bus, Japanese/English OS compatible, SI/QSI/H-PCF/broadband H-PCF fiber optic cable, dual loop, controller network (control/normal station)
		Q80BD-J71LP21S-25	PCI bus, Japanese/English OS compatible, SI/QSI/H-PCF/broadband H-PCF fiber optic cable, dual loop, controller network (control/normal station), with external power supply function
	GI-50/125 fiber optic cable	Q80BD-J71LP21G	PCI bus, Japanese/English OS compatible, GI-50/125 fiber optic cable, dual loop, controller network (control/normal station)
	GI-62.5/125 fiber optic cable	Q80BD-J71LP21GE	PCI bus, Japanese/English OS compatible, GI-62.5/125 fiber optic cable, dual loop, controller network (control/normal station)
	Coaxial cable	Q80BD-J71BR11	PCI bus, Japanese/English OS compatible, 3C-2V/5C-2V coaxial cable, single bus, controller network (control/normal station)
CC-Link		Q80BD-J61BT11N	PCI bus, Japanese/English OS compatible, master/local interface board, CC-Link Ver. 2 compatible

Note 1) "Positive common" means using the module by connecting the common terminal to positive DC power; "negative common" means using the module by connecting the common terminal to negative DC power.
Note 2) The connector is not enclosed. Prepare A6CON1, A6CON2, A6CON3, or A6CON4 separately.
Note 3) The connector is not enclosed. Prepare A6CON1E, A6CON2E, or A6CON3E separately.
Note 4) The connector is not enclosed. Prepare A6CON1, A6CON2, or A6CON4 separately.
Note 5) Runs in Windows command prompt.
Note 6) If the vessel standards compliant module is required, purchase Q61P-A1/A2.

Mitsubishi Programmable Controllers

Precautions for Choosing the Products

This catalog explains the typical features and functions of the Q Series programmable controllers and does not provide restrictions and other information on usage and module combinations. When using the products, always read the user's manuals of the products.

Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; opportunity loss or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

⚠ For safe use

- To use the products given in this catalog properly, always read the "manuals" before starting to use them.
- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi.
- This product has been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

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