Input Modules

AC input

RX28
8 points
100 to 240 V AC (50/60 Hz)

RX10
16 points
100 to 120 V AC (50/60 Hz)

RX10-TS
16 points
100 to 120 V AC (50/60 Hz)
Spring-clamp type

DC input

RX40C7
16 points
24 V DC, 7.0 mA

RX40C7-TS
16 points
24 V DC, 7.0 mA
Spring-clamp type

DC input

RX41C4
32 points
24 V DC, 4.0 mA

RX41C4-TS
32 points
24 V DC, 4.0 mA
Spring-clamp type

RX42C4
64 points
24 V DC, 4.0 mA

RX70C4
16 points
5 V DC, 1.7 mA; 12 V DC, 4.8 mA

RX71C4
32 points
5 V DC, 1.7 mA; 12 V DC, 4.8 mA

RX72C4
64 points
5 V DC, 1.7 mA; 12 V DC, 4.8 mA

DC high-speed input

RX40PC6H
16 points 24 V DC, 6.0 mA
Positive common type

RX40NC6H
16 points 24 V DC, 6.0 mA
Negative common type

RX41C6HS
32 points 24 V DC, 6.0 mA
Positive/negative common shared

RX61C6HS
32 points 5 V DC, 6.0 mA
Positive/negative common shared

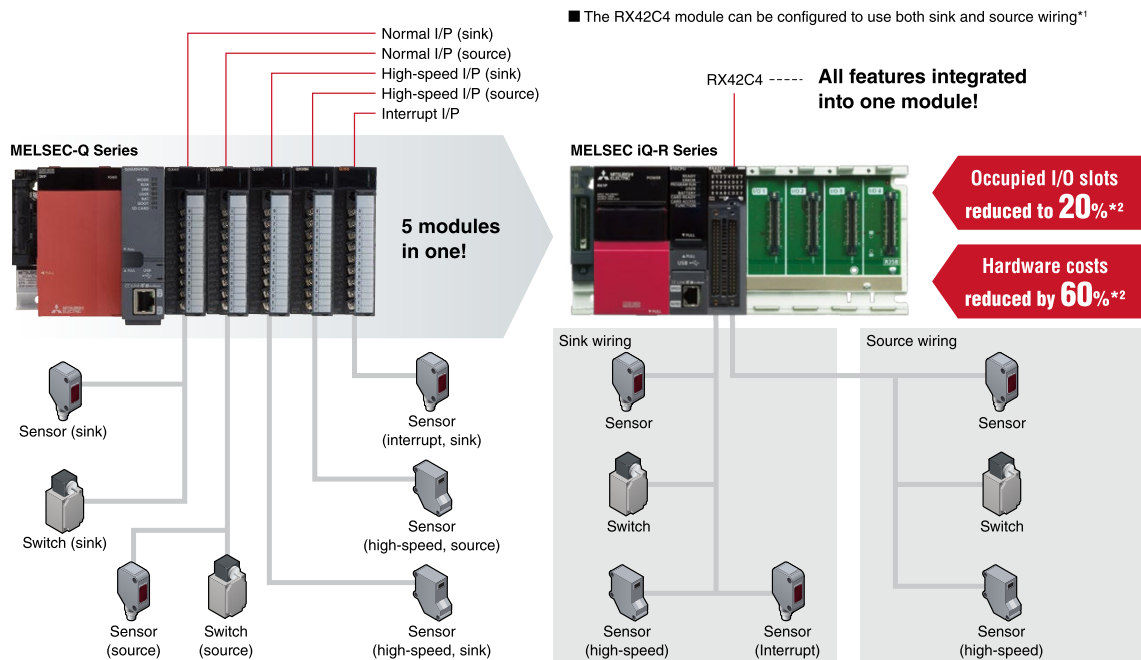## DC input
(with diagnostic functions)

RX40NC6B
16 points 24 V DC, 6.0 mA
Negative common type

System configuration

CPU

I/O

Analog

Motion, Positioning, High-speed Counter, Channel isolated pulse input

Network

Advanced information

Technology

Software

Digital input modules like the 24 V direct-current (DC) power supply are among the most used input signals in the control industry. The robust design of the various modules in this diversified lineup makes them ideal for industrial use.

Multiple features integrated

A single MELSEC iQ-R input module can handle input response devices as fast as 0.1 ms, interrupt input devices and can be wired using either positive or negative (sink or source) common terminals. Since multiple modules are no longer required, a substantial reduction in overall footprint of up to 20% and a reduction in total system costs of up to 60% can be realized.

■ The RX42C4 module can be configured to use both sink and source wiring[1]

Normal I/P (sink)
Normal I/P (source)
High-speed I/P (sink)
High-speed I/P (source)
Interrupt I/P

RX42C4 ----- **All features integrated into one module!**

MELSEC-Q Series

MELSEC iQ-R Series

5 modules in one!

Occupied I/O slots reduced to 20%[2]

Hardware costs reduced by 60%[2]

Sensor (sink)
Switch (sink)
Sensor (source)
Switch (source)
Sensor (interrupt, sink)
Sensor (high-speed, source)
Sensor (high-speed, sink)

Sink wiring
Sensor
Switch
Sensor (high-speed)
Sensor (Interrupt)

Source wiring
Sensor
Switch
Sensor (high-speed)

*1. The RX42C4 module can be configured to use both sink and source wiring (between the left and right sides of 32 point terminal).
*2. Based on a comparison with the MELSEC-Q Series

Reduce downtime with disconnection detection

Similar to analog modules, the MELSEC iQ-R Series input module (with diagnostic functions) includes input disconnection detection which enables detection of inputs directly on the I/O module. When an error occurs, the control system can quickly highlight the fault via a monitoring system or on GX Works3 programming software, reducing system downtime and loss of production.

Input module specifications

Item	AC input		
	RX28	RX10	RX10-TS
Number of input points	8	16	16
Rated input voltage, frequency	100…240 V AC, 50/60 Hz	100…120 V AC, 50/60 Hz	100…120 V AC, 50/60 Hz
Rated input current (mA)	16.4 (200 V AC, 60 Hz) 13.7 (200 V AC, 50 Hz) 8.2 (100 V AC, 60 Hz) 6.8 (100 V AC, 50 Hz)	8.2 (100 V AC, 60 Hz) 6.8 (100 V AC, 50 Hz)	8.2 (100 V AC, 60 Hz) 6.8 (100 V AC, 50 Hz)
Response time (ms)	≤ 20	≤ 20	≤ 20
Common terminal arrangement (points/common)	8	16	16
Interrupt function	●	●	●
External interface*1			
18-point screw terminal block	●	●	-
Spring-clamp terminal block	-	-	●

Item	DC input							
	RX40C7	RX40C7-TS	RX41C4	RX41C4-TS	RX42C4	RX70C4	RX71C4	RX72C4
Number of input points	16	16	32	32	64	16	32	64
Rated input voltage (V DC)	24	24	24	24	24	5/12	5/12	5/12
Rated input current (mA, TYP.)	7.0	7.0	4.0	4.0	4.0	1.7 (5 V DC) 4.8 (12 V DC)	1.7 (5 V DC) 4.8 (12 V DC)	1.7 (5 V DC) 4.8 (12 V DC)
Response time (ms)	0.1…70	0.1…70	0.1…70	0.1…70	0.1…70	0.1…70	0.1…70	0.1…70
Common terminal arrangement (points/common)	16	16	32	32	32	16	32	32
Interrupt function	●	●	●	●	●	●	●	●
External interface*1								
18-point screw terminal block	●	-	-	-	-	●	-	-
40-pin connector	-	-	●	-	● (2x)	-	●	● (2x)
Spring-clamp terminal block	-	●	-	●	-	-	-	-

Item	DC high-speed input				DC input (with diagnostic functions)
	RX40PC6H	RX40NC6H	RX41C6HS	RX61C6HS	RX40NC6B
Number of input points	16	16	32	32	16
Rated input voltage (V DC)	24	24	24	5	24
Rated input current (mA)	6.0	6.0	6.0	6.0	6.0
Response time	5 µs…70 ms	5 µs…70 ms	1 µs…70 ms	1 µs…70 ms	1 ms…70 ms
Common terminal arrangement (points/common)	8 (positive common)	8 (negative common)	32 (positive/negative common)	32 (positive/negative common)	16 (negative common)
Interrupt function	●	●	●	●	●
SIL 2-compliant	-	-	-	-	●*2
Diagnostic function*3					
Disconnection detection	-	-	-	-	●
External interface*1					
18-point screw terminal block	●	●	-	-	●
40-pin connector	-	-	●	●	-

*1. For more information about external interface (for applicable options, please refer to the relevant product manual), please refer to the options list on page 115.
*2. When used together with a SIL 2 redundant control system (SIL 2 is supported in the module firmware version of "02" or later).
*3. For more information about diagnostic functions, please refer to the relevant product manual.