CC-Link Communication Converter
COM-JC [For FB100/FB400/FB900] Communication Data List

IMR01Y16-E7

In order to achieve maximum performance and ensure proper operation of your new instrument, carefully read all the instructions in the manual. Please place this manual in a convenient location for easy reference.
This manual describes the communication data only.

> For detailed handling procedures and functions, refer to separate **COM-JC [For FB100/FB400/FB900] Instruction Manual (IMR01Y06-E□).**
> The manual can be downloaded from the official RKC website:
> http://www.rkcinst.com/english/manual_load.htm.

1. REMOTE INPUT/OUTPUT

Remote input (RX) and Remote output (RY) is ON/OFF data.

> "n" in the table is the address assigned to the master station by the station number setting. It can be calculated by the following equation. However, the computing equation is when a network is configured only by using our COM-JCs and the number of all exclusive stations/extended cyclic are at the same setting.

Number of Occupied stations/Extended cyclic setting	Equation
1 station occupied 1 time	$n = (\text{Station number}^* - 1) \times 2$
4 stations occupied 1 time	$n = (\text{Station number}^* - 1) \times 2$
4 stations occupied 2 times	$n = (\text{Station number}^* - 1) \times 3.5$

* Station number when there is one occupied station: 1 to 64 (each number can be set)
  Station number when there are four occupied stations: 1 to 61
       (Four stations are occupied for each station number, and thus only numbers that are increments of four can be set: 1, 5, 9···61)
As the calculation result is expressed in decimal number it is converted to hexadecimal number before substituted for "n" in the table.
Example: When the COM-JC is set to 4 stations occupied 1 time and its station number is "5."
       $n = (5 - 1) \times 2 = 8$ (Decimal number) → 8 (Hexadecimal number)
For station number 5: Remote inputs RXn0 to RX (n+7) F → RX80 to RXFF
            Remote outputs RYn0 to RY (n+7) F → RY80 to RYFF

> Assignment of controllers (FB100/400/900) to "Device address (1st to 16th controller)" in the list can be done at "Extension No. 503 Address setting of connected controller." In case controllers are used with the factory set values, controllers 1 to 16 (Device address 1 to 16) are assigned to "Device address (1st to 16th controller)" in the list.

1.1 1 Station Occupied 1 Time

■ **Remote input list**
Data direction: COM-JC (Remote device station) → Master station (PLC)
Data capacity: 32-bit

Address	Communication item		Data range	Factory set value
RXn0	Device address (1st controller)	Event 1 state	0: OFF 1: ON	—
RXn1		Event 2 state		—
RXn2		Burnout state		—
RXn3		Heater break alarm (HBA) state	0: OFF 1: ON	—
RXn4		PID/AT transfer	0: PID control 1: Autotuning (AT)	—
RXn5	Device address (2nd controller)	Event 1 state	Same as device address (1st controller)	—
RXn6		Event 2 state		—
RXn7		Burnout state		—
RXn8		Heater break alarm (HBA) state		—
RXn9		PID/AT transfer		—
RXnA	Unused		—	—
RXnB				
RXnC	Extended display completion		0: OFF 1: ON	—
RXnD	Extended setting completion			—
RXnE	Unused		—	—
RXnF	Hardware error flag		0: OFF 1: ON When COM-JC self-diagnostic error occurred except for communication error, turned ON.	—
RX(n+1)0 : RX(n+1)7	Reserved		—	—
RX(n+1)8	Initialize data processing request flag		0: OFF 1: ON	—
RX(n+1)9	Initialize data setting completion flag		0: OFF 1: ON	—
RX(n+1)A	Error status flag		0: OFF 1: ON When communication error occurred, turned ON.	—
RX(n+1)B	Remote ready		0: Not ready state 1: Ready state	—
RX(n+1)C : RX(n+1)F	Reserved		—	—

■ **Remote output list**
Data direction: Master station (PLC) → COM-JC (Remote device station)
Data capacity: 32-bit

Address		Communication item	Data range	Factory set value
RYn0	Bit 0	Extension number for display	Display extension number are specified by the ON/OFF states of RYn0 to RYn5. Data 0: OFF 1: ON [Decimal number: 0 to 63]	0
RYn1	Bit 1			
RYn2	Bit 2			
RYn3	Bit 3			
RYn4	Bit 4			
RYn5	Bit 5			
RYn6	Bit 0	Extension number for setting	Setting extension number are specified by the ON/OFF states of RYn6 to RYnB. Data 0: OFF 1: ON [Decimal number: 0 to 63]	0
RYn7	Bit 1			
RYn8	Bit 2			
RYn9	Bit 3			
RYnA	Bit 4			
RYnB	Bit 5			
RYnC	Extended display flag		0: OFF 1: ON	0
RYnD	Extended setting flag (Setting update flag)		0: OFF 1: ON	0
RYnE	Unused		—	—
RYnF	RUN/STOP transfer		COM-JC÷01-1 0: RUN 1: STOP COM-JC÷01-2 0: STOP 1: RUN	0
RY(n+1)0 : RY(n+1)7	Reserved		—	—
RY(n+1)8	Initialize data processing completion flag		0: OFF 1: ON	0
RY(n+1)9	Initialize data setting request flag		0: OFF 1: ON	0
RY(n+1)A	Error reset request flag		0: OFF 1: ON	0
RY(n+1)B : RY(n+1)F	Reserved		—	—

1.2 4 Station Occupied 1 Time

■ **Remote input list**
Data direction: COM-JC (Remote device station) → Master station (PLC)
Data capacity: 128-bit

Address		Communication item	Data range	Factory set value
RXn0	Device address (1st controller)	Event 1 state	0: OFF 1: ON	—
RXn1		Event 2 state		—
RXn2		Burnout state		—
RXn3		Heater break alarm (HBA) state	0: OFF 1: ON	—
RXn4		PID/AT transfer	0: PID control 1: Autotuning (AT)	—
RXn5	Device address (2nd controller)	Event 1 state	Same as device address (1st controller)	—
RXn6		Event 2 state		—
RXn7		Burnout state		—
RXn8		Heater break alarm (HBA) state		—
RXn9		PID/AT transfer		—
RXnA	Unused		—	—
RXnB				
RXnC	Extended display completion		0: OFF 1: ON	—
RXnD	Extended setting completion			—
RXnE	Unused		—	—
RXnF	Hardware error flag		0: OFF 1: ON When COM-JC self-diagnostic error occurred except for communication error, turned ON.	—
RX(n+1)0 : RX(n+1)F	Unused		—	—
RX(n+2)0	Device address (3rd controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+2)1		Event 2 state		—
RX(n+2)2		Burnout state		—
RX(n+2)3		Heater break alarm (HBA) state		—
RX(n+2)4		PID/AT transfer		—
RX(n+2)5	Device address (4th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+2)6		Event 2 state		—
RX(n+2)7		Burnout state		—
RX(n+2)8		Heater break alarm (HBA) state		—
RX(n+2)9		PID/AT transfer		—
RX(n+2)A	Device address (5th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+2)B		Event 2 state		—
RX(n+2)C		Burnout state		—
RX(n+2)D		Heater break alarm (HBA) state		—
RX(n+2)E		PID/AT transfer		—
RX(n+2)F	Device address (6th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+3)0		Event 2 state		—
RX(n+3)1		Burnout state		—
RX(n+3)2		Heater break alarm (HBA) state		—
RX(n+3)3		PID/AT transfer		—
RX(n+3)4	Device address (7th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+3)5		Event 2 state		—
RX(n+3)6		Burnout state		—
RX(n+3)7		Heater break alarm (HBA) state		—
RX(n+3)8		PID/AT transfer		—
RX(n+3)9	Device address (8th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+3)A		Event 2 state		—
RX(n+3)B		Burnout state		—
RX(n+3)C		Heater break alarm (HBA) state		—
RX(n+3)D		PID/AT transfer		—
RX(n+3)E	Unused		—	—
RX(n+3)F	Unused		—	—
RX(n+4)0	Device address (9th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+4)1		Event 2 state		—
RX(n+4)2		Burnout state		—
RX(n+4)3		Heater break alarm (HBA) state		—
RX(n+4)4		PID/AT transfer		—
RX(n+4)5	Device address (10th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+4)6		Event 2 state		—
RX(n+4)7		Burnout state		—
RX(n+4)8		Heater break alarm (HBA) state		—
RX(n+4)9		PID/AT transfer		—
RX(n+4)A	Device address (11th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+4)B		Event 2 state		—
RX(n+4)C		Burnout state		—
RX(n+4)D		Heater break alarm (HBA) state		—
RX(n+4)E		PID/AT transfer		—
RX(n+4)F	Device address (12th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+5)0		Event 2 state		—
RX(n+5)1		Burnout state		—
RX(n+5)2		Heater break alarm (HBA) state		—
RX(n+5)3		PID/AT transfer		—
RX(n+5)4	Device address (13th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+5)5		Event 2 state		—
RX(n+5)6		Burnout state		—
RX(n+5)7		Heater break alarm (HBA) state		—
RX(n+5)8		PID/AT transfer		—
RX(n+5)9	Device address (14th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+5)A		Event 2 state		—
RX(n+5)B		Burnout state		—
RX(n+5)C		Heater break alarm (HBA) state		—
RX(n+5)D		PID/AT transfer		—
RX(n+5)E	Unused		—	—
RX(n+5)F	Unused		—	—
RX(n+6)0	Device address (15th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+6)1		Event 2 state		—
RX(n+6)2		Burnout state		—
RX(n+6)3		Heater break alarm (HBA) state		—
RX(n+6)4		PID/AT transfer		—
RX(n+6)5	Device address (16th controller)	Event 1 state	Same as device address (1st controller)	—
RX(n+6)6		Event 2 state		—
RX(n+6)7		Burnout state		—
RX(n+6)8		Heater break alarm (HBA) state		—
RX(n+6)9		PID/AT transfer		—
RX(n+6)A : RX(n+6)F	Unused		—	—
RX(n+7)0 : RX(n+7)7	Reserved		—	—
RX(n+7)8	Initialize data processing request flag		0: OFF 1: ON	—
RX(n+7)9	Initialize data setting completion flag		0: OFF 1: ON	—
RX(n+7)A	Error status flag		0: OFF 1: ON When communication error occurred, turned ON.	—
RX(n+7)B	Remote ready		0: Not ready state 1: Ready state	—
RX(n+7)C : RX(n+7)F	Reserved		—	—

■ **Remote output list**
Data direction: Master station (PLC) → COM-JC (Remote device station)
Data capacity: 128-bit

Address		Communication item	Data range	Factory set value
RYn0	Bit 0	Extension number for display	Display extension number are specified by the ON/OFF states of RYn0 to RYn5 and RY(n+1)0 to RY(n+1)2. Data 0: OFF 1: ON [Decimal number: 0 to 511]	0
RYn1	Bit 1			
RYn2	Bit 2			
RYn3	Bit 3			
RYn4	Bit 4			
RYn5	Bit 5			
RYn6	Bit 0	Extension number for setting	Setting extension number are specified by the ON/OFF states of RYn6 to RYnB and RY(n+1)8 to RY(n+1)A. Data 0: OFF 1: ON [Decimal number: 0 to 511]	0
RYn7	Bit 1			
RYn8	Bit 2			
RYn9	Bit 3			
RYnA	Bit 4			
RYnB	Bit 5			
RYnC	Extended display flag		0: OFF 1: ON	0
RYnD	Extended setting flag (Setting update flag)		0: OFF 1: ON	0
RYnE	Unused		—	—
RYnF	RUN/STOP transfer		COM-JC÷01-1 0: RUN 1: STOP COM-JC÷01-2 0: STOP 1: RUN	0
RY(n+1)0	Bit 6	Extension number for display Bit 9 to Bit 13: Unused	Display extension number are specified by the ON/OFF states of RYn0 to RYn5 and RY(n+1)0 to RY(n+1)2. Data 0: OFF 1: ON [Decimal number: 0 to 511]	0
RY(n+1)1	Bit 7			
RY(n+1)2	Bit 8			
RY(n+1)3	Bit 9			
RY(n+1)4	Bit 10			
RY(n+1)5	Bit 11			
RY(n+1)6	Bit 12			
RY(n+1)7	Bit 13			
RY(n+1)8	Bit 6	Extension number for setting Bit 9 to Bit 13: Unused	Setting extension number are specified by the ON/OFF states of RYn6 to RYnB and RY(n+1)8 to RY(n+1)A. Data 0: OFF 1: ON [Decimal number: 0 to 511]	0
RY(n+1)9	Bit 7			
RY(n+1)A	Bit 8			
RY(n+1)B	Bit 9			
RY(n+1)C	Bit 10			
RY(n+1)D	Bit 11			
RY(n+1)E	Bit 12			
RY(n+1)F	Bit 13			
RY(n+2)0	Bit 0	Area number for display Bit 4 to Bit 7: Unused	Display area number are specified by the ON/OFF states of RY(n+2)0 to RY(n+2)3. Data 0: OFF 1: ON [Decimal number: 0 to 16] (0, 9 to 16: Control area)	0
RY(n+2)1	Bit 1			
RY(n+2)2	Bit 2			
RY(n+2)3	Bit 3			
RY(n+2)4	Bit 4			
RY(n+2)5	Bit 5			
RY(n+2)6	Bit 6			
RY(n+2)7	Bit 7			
RY(n+2)8	Bit 0	Area number for setting Bit 4 to Bit 7: Unused	Setting area number are specified by the ON/OFF states of RY(n+2)8 to RY(n+2)B. Data 0: OFF 1: ON [Decimal number: 0 to 16] (0, 9 to 16: Control area)	0
RY(n+2)9	Bit 1			
RY(n+2)A	Bit 2			
RY(n+2)B	Bit 3			
RY(n+2)C	Bit 4			
RY(n+2)D	Bit 5			
RY(n+2)E	Bit 6			
RY(n+2)F	Bit 7			
RY(n+3)0 : RY(n+6)F	Unused		—	—
RY(n+7)0 : RY(n+7)7	Reserved		—	—

> For Remote input/output address of 4 stations occupied 2 times, refer to **COM-JC [For FB100/FB400/FB900] Instruction Manual (IMR01Y06-E□).**

2. REMOTE REGISTER

Remote registers (RWr, RWw) is numeric data.

> "n" in the table is the address assigned to the master station by the station number setting. It can be calculated by the following equation. However, the computing equation is when a network is configured only by using our COM-JCs and the number of all Occupied stations/Extended cyclic are at the same setting.

Number of Occupied stations/Extended cyclic setting	Equation
1 station occupied 1 time	$n = (\text{Station number}^* - 1) \times 4$
4 stations occupied 1 time	$n = (\text{Station number}^* - 1) \times 4$
4 stations occupied 2 times	$n = (\text{Station number}^* - 1) \times 8$

* Station number when there is one occupied station: 1 to 64 (each number can be set)
  Station number when there are four occupied stations: 1 to 61
       (four stations are occupied for each station number, and thus only numbers that are increments of four can be set: 1, 5, 9···61)
As the calculation result is expressed in decimal number it is converted to hexadecimal number before substituted for "n" in the table.
Example: When the COM-JC is set to 4 stations occupied 1 time and its station number is "5."
       $n = (5 - 1) \times 4 = 16$ (Decimal) → 10 (Hexadecimal)
       For station number 5:
       Remote registers RWrn to RWrn+F → RWr10 to RWr1F
                 RWwn to RWwn+F → RWw10 to RWw1F

> Assignment of controllers (FB100/400/900) to "Device address (1st to 16th controller)" in the list can be done at "Extension No. 503 Address setting of connected controller." In case controllers are used with the factory set values, controllers 1 to 16 (Device address 1 to 16) are assigned to "Device address (1st to 16th controller)" in the list.

> Data direction of Remote registers (RWr, RWw)
> RWr: COM-JC (Remote device station) → Master station (PLC)
> RWw: Master station (PLC) → COM-JC (Remote device station)

> When the Set value (SV) assigned to the Remote register (RWw) as a fixed value is changed, operation of the extension setting flag (setting update flag) is also necessary. For details, refer to **COM-JC [For FB100/FB400/FB900] Quick Instruction Manual (IMR01Y11-E□).**

2.1 1 Station Occupied 1 Time (1 Controller Assignment)

■ **Remote register (RWr) list**
Data capacity: 4 words

Address	Communication item		Data range	Factory set value
RWrn	Device address (1st controller)	Measured value (PV)	Input scale low to Input scale high	—
RWrn+1		Manipulated output value (MV1)	−5.0 to +105.0 %	—
RWrn+2		Unused	—	—
RWrn+3		For extended area display	Data corresponding to the extension number specified by setting the display extension number from RYn0 to RYn5.	—

■ **Remote register (RWw) list**
Data capacity: 4 words

Address	Communication item		Data range	Factory set value
RWwn	Device address (1st controller)	Set value (SV)	Setting limiter low to Setting limiter high	0
RWwn+1		Event 1 set value	Deviation: −Input span to +Input span Process and set value: Input scale low to Input scale high	50
RWwn+2		Event 2 set value	Manipulated output value (MV1/MV2): −5.0 to +105.0 %	50
RWwn+3		For extended area setting	Data corresponding to the extension number specified by setting the setting extension number from RYn6 to RYnB.	—

2.2 1 Station Occupied 1 Time (2 Controllers Assignment)

■ **Remote register (RWr) list**
Data capacity: 4 words

Address	Communication items	Data range		Factory set value
RWrn	Device address (1st controller)	Measured value (PV)	Input scale low to Input scale high	—
RWrn+1	Device address (2nd controller)			—
RWrn+2	Device address (1st controller)	For extended area display	Note 1	—
RWrn+3	Device address (2nd controller)			—

Note 1 Data corresponding to the extension number specified by setting the display extension number from RYn0 to RYn5.

■ **Remote register (RWw) list**
Data capacity: 4 words

Address	Communication items	Data range		Factory set value
RWwn	Device address (1st controller)	Set value (SV)	Setting limiter low to Setting limiter high	0
RWwn+1	Device address (2nd controller)			0
RWwn+2	Device address (1st controller)	For extended area setting	Note 2	—
RWwn+3	Device address (2nd controller)			—

Note 2 Data corresponding to the extension number specified by setting the setting extension number from RYn6 to RYnB.

2.3 4 Stations Occupied 1 Time (8 Controller Assignment)

■ Remote register (RWr) list

Data capacity: 16 words

Address	Communication items		Data range	Factory set value
RWrn	Device address (1st controller)	Measured value (PV)	Input scale low to Input scale high	—
RWrn+1	Device address (2nd controller)			—
RWrn+2	Device address (3rd controller)			—
RWrn+3	Device address (4th controller)			—
RWrn+4	Device address (5th controller)			—
RWrn+5	Device address (6th controller)			—
RWrn+6	Device address (7th controller)			—
RWrn+7	Device address (8th controller)			—
RWrn+8	Device address (1st controller)	For extended area display	Data corresponding to the extension number specified by setting the display extension number from RYn0 to RYn5 and from RY(n+1)0 to RY(n+1)2.	—
RWrn+9	Device address (2nd controller)			—
RWrn+A	Device address (3rd controller)			—
RWrn+B	Device address (4th controller)			—
RWrn+C	Device address (5th controller)			—
RWrn+D	Device address (6th controller)			—
RWrn+E	Device address (7th controller)			—
RWrn+F	Device address (8th controller)			—

■ Remote register (RWw) list

Data capacity: 16 words

Address	Communication items		Data range	Factory set value
RWwn	Device address (1st controller)	Set value (SV)	Setting limiter low to Setting limiter high	0
RWwn+1	Device address (2nd controller)			0
RWwn+2	Device address (3rd controller)			0
RWwn+3	Device address (4th controller)			0
RWwn+4	Device address (5th controller)			0
RWwn+5	Device address (6th controller)			0
RWwn+6	Device address (7th controller)			0
RWwn+7	Device address (8th controller)			0
RWwn+8	Device address (1st controller)	For extended area setting	Data corresponding to the extension number specified by setting the setting extension number from RYn6 to RYnB and from RY(n+1)8 to RY(n+1)A.	—
RWwn+9	Device address (2nd controller)			—
RWwn+A	Device address (3rd controller)			—
RWwn+B	Device address (4th controller)			—
RWwn+C	Device address (5th controller)			—
RWwn+D	Device address (6th controller)			—
RWwn+E	Device address (7th controller)			—
RWwn+F	Device address (8th controller)			—

2.4 4 Stations Occupied 1 Time (16 Controllers Assignment)

■ Remote register (RWr) list

Data capacity: 16 words

Address	Communication items		Data range	Factory set value
RWrn	Device address (1st controller)	For extended area display	Data corresponding to the extension number specified by setting the display extension number from RYn0 to RYn5 and from RY(n+1)0 to RY(n+1)2.	—
RWrn+1	Device address (2nd controller)			—
RWrn+2	Device address (3rd controller)			—
RWrn+3	Device address (4th controller)			—
RWrn+4	Device address (5th controller)			—
RWrn+5	Device address (6th controller)			—
RWrn+6	Device address (7th controller)			—
RWrn+7	Device address (8th controller)			—
RWrn+8	Device address (9th controller)			—
RWrn+9	Device address (10th controller)			—
RWrn+A	Device address (11th controller)			—
RWrn+B	Device address (12th controller)			—
RWrn+C	Device address (13th controller)			—
RWrn+D	Device address (14th controller)			—
RWrn+E	Device address (15th controller)			—
RWrn+F	Device address (16th controller)			—

■ Remote register (RWw) list

Data capacity: 16 words

Address	Communication items		Data range	Factory set value
RWwn	Device address (1st controller)	For extended area setting	Data corresponding to the extension number specified by setting the setting extension number from RYn6 to RYnB and from RY(n+1)8 to RY(n+1)A.	—
RWwn+1	Device address (2nd controller)			—
RWwn+2	Device address (3rd controller)			—
RWwn+3	Device address (4th controller)			—
RWwn+4	Device address (5th controller)			—
RWwn+5	Device address (6th controller)			—
RWwn+6	Device address (7th controller)			—
RWwn+7	Device address (8th controller)			—
RWwn+8	Device address (9th controller)			—
RWwn+9	Device address (10th controller)			—
RWwn+A	Device address (11th controller)			—
RWwn+B	Device address (12th controller)			—
RWwn+C	Device address (13th controller)			—
RWwn+D	Device address (14th controller)			—
RWwn+E	Device address (15th controller)			—
RWwn+F	Device address (16th controller)			—

☞ For Remote register address of 4 stations occupied 2 times, refer to **COM-JC [For FB100/FB400/FB900] Instruction Manual (IMR01Y06-E□).**

3. SETTING OF EXTENSION NUMBER

Communication items which are handled in the extension areas of the Remote registers (RWr and RWw) are specified by the extension number, If the necessary data is selected from a list of extension numbers and that extension number is set by remote output, the data can be handled in the Remote registers (RWr and RWw).

■ When read data

● Setting of extension number for display

Extension number for display sets it with Remote output RYn0 to RYn5, RY(n+1)0 to RY(n+1)2.

Bit image

RY(n+1)2	RY(n+1)1	RY(n+1)0	RYn5	RYn4	RYn3	RYn2	RYn1	RYn0
Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0

Bit data: 0: OFF   1: ON   [Decimal number: 0 to 511]

■ When write data

● Setting of extension number for setting

Extension number for setting sets it with Remote output RYn6 to RynB, RY(n+1)8 to RY(n+1)A.

Bit image

RY(n+1)A	RY(n+1)9	RY(n+1)8	RYnB	RYnA	RYn9	RYn8	RYn7	RYn6
Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0

Bit data: 0: OFF   1: ON   [Decimal number: 0 to 511]

Example: When setting the setting extension number to the Set value (SV), "3."
Number of Occupied stations/Extended cyclic setting: 4 stations occupied 1 time

Extension number 3:   Bit 8 Bit 7 Bit 6 Bit 5 Bit 4 Bit 3 Bit 2 Bit 1 Bit 0
Set value (SV) → 0 0 0 0 0 0 0 1 1

☞ For extension number of Memory area, refer to **COM-JC [For FB100/FB400/FB900] Instruction Manual (IMR01Y06-E□).**

4. EXTENSION NUMBER LIST

📖 **Attribute**
RO: Read only data   [COM-JC (Remote device station) → Master station (PLC)]
R/W: Read and Write data   [COM-JC (Remote device station) ↔ Master station (PLC)]

📖 Reading data of unused setting items are factory set values. Unused setting items may not be written. To do so will not cause an error however and data will be rejected.

★: Data related Multi-memory area function

Extension number	Communication items	Attribute	Data range	Factory set value
0	Measured value (PV)	RO	Input scale low to Input scale high	—
1	Manipulated output value (MV1) monitor [heat-side]	RO	PID control/Cool/Cool PID control: −5.0 to +105.0 % Position proportioning PID control with feedback resistance (FBR) input: 0.0 to 100.0 %	—
2	Current transformer 1 (CT1) input value monitor	RO	0.0 to 30.0 A (CTL-6-P-N) 0.0 to 100.0 A (CTL-12-S56-10L-N)	—
3	Set value (SV) ★	R/W	Setting limiter low to Setting limiter high	TC/RTD inputs: 0 V/I inputs: 0.0
4	PID/AT transfer [1]	R/W	0: PID control 1: Autotuning (AT)	0
5	Proportional band [heat-side] ★	R/W	TC/RTD inputs: 0 (0.0, 0.00) to Input span [2] (Unit: °C [°F]) Voltage (V)/Current (I) inputs: 0.0 to 1000.0 % of Input span (0.0, 0.0 or 0.00: ON/OFF action)	TC/RTD inputs: 30 V/I inputs: 30.0
6	Integral time [heat-side] ★	R/W	PID control or Heat/Cool PID control: 0 to 3600 seconds or 0.0 to 1999.9 seconds [3] (0, 0.0: PD action) [4] Position proportioning PID control: 1 to 3600 seconds or 0.1 to 1999.9 seconds [3]	240
7	Derivative time [heat-side] ★	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [3] (0, 0.0: PI action)	60
8	PV bias	R/W	−Input span to +Input span [2]	0
9	Event 1 set value ★	R/W	Deviation: −Input span to +Input span [2] Process and Set value: Input scale low to Input scale high [2] Manipulated output value (MV1 or MV2): −5.0 to +105 %	50
10	Event 2 set value ★	R/W		50
11 to 15	Reserved	—	—	—
16	Unused	—	—	—
17	RUN/STOP transfer	R/W	COM-JC=01-1 0: RUN 1: STOP COM-JC=01-2 0: STOP 1: RUN	0
18	Proportional cycle time [heat-side]	R/W	0.1 to 100.0 seconds M: Relay contact V: Voltage pulse T: Triac D: Open collector	M: 20.0 V, T, D: 2.0
19	Auto/Manual transfer	R/W	0: Auto mode 1: Manual mode	0
20	Manual manipulated output value	R/W	PID control: Output limiter low [MV1] to Output limiter high [MV1] Heat/Cool PID control: −Output limiter high [MV2] to + Output limiter high [MV1] (−105.0 to +105.0 %) Position proportioning PID control with feedback resistance (FBR) input: Output limiter low [MV1] to Output limiter high [MV1]	0.0

Extension number	Communication items	Attribute	Data range	Factory set value
21, 22	Data of Engineering mode [1]			
23	PV digital filter	R/W	0.0 to 100.0 seconds (0.0: Unused)	0
24	Heater break alarm 1 (HBA1) set value	R/W	0.0 to 30.0 A (CTL-6-P-N) 0.0 to 100.0 A (CTL-12-S56-10L-N) (0.0: Unused)	0.0
25	Data of Engineering mode [1]			
26	Manipulated output value (MV2) monitor [cool-side]	RO	−5.0 to +105.0 %	—
27	Proportional band [cool-side] ★	R/W	TC/RTD inputs: 1 (0.1, 0.01) to Input span [2] (Unit: °C [°F]) Voltage (V)/Current (I) inputs: 0.1 to 1000.0 % of Input span	TC/RTD inputs: 30 V/I inputs: 30.0
28	Proportional cycle time [cool-side]	R/W	Same as Proportional cycle time [heat-side]	
29	Overlap/Deadband ★	R/W	TC/RTD inputs: −Input span to +Input span [2] (Unit: °C [°F]) Voltage (V)/Current (I) inputs: −100.0 to +100.0 % of Input span Minus (−) setting results in Overlap. However, the overlapping range is within the proportional range.	0
30	Unused	—	—	—
31	Set value monitor	RO	Setting limiter low to Setting limiter high	—
32	Error code	RO	Bit data Bit 0: Adjustment data error Bit 1: Backup error Bit 2: A/D conversion error Bit 3 and Bit 4: Unused Bit 5: Custom data error Bit 6: Unused Bit 7: Watchdog timer error Bit 8: Stack overflow Bit 9 and Bit 10: Unused Bit 11: Program error (busy) Bit 12 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 2471]	—
33	Memory area transfer	R/W	1 to 8	1
34	Control response parameter ★	R/W	0: Slow 1: Medium 2: Fast [When the P or PD action is selected, this setting becomes invalid.]	PID control, Position proportioning PID control: 0 Heat/Cool PID control: 2
35	Unused	—	—	—
36	Data of Engineering mode [1]			
37	Setting change rate limiter (up) ★	R/W	0 to Input span [2]/unit time (0: Unused) [Unit time: 60 seconds (Factory set value)]	0
38 to 44	Data of Engineering mode [1]			
45	Unused	—	—	—
46, 47	Data of Engineering mode [1]			
48, 49	Unused	—	—	—
50	Control loop break alarm (LBA) time ★	R/W	0 to 7200 seconds (0: Unused)	480
51	LBA deadband ★	R/W	0 to Input span [2]	0
52, 53	Unused	—	—	—
54	Event 3 set value ★	R/W	Same as Event 1 set value	50
55	Event 4 set value ★	R/W		50
56 to 61	Data of Engineering mode [1]			
62	Setting change rate limiter (down) ★	R/W	0 to Input span [2]/unit time * (0: Unused) * Unit time: 60 seconds (Factory set value)	0
63	Comprehensive event state	RO	Bit data Bit 0: Burnout Bit 5: Event 3 Bit 1: Event 1 Bit 6: Event 4 Bit 2: Event 2 Bit 7: HBA2 Bit 3: HBA 1 Bit 8: FBR burnout Bit 4: LBA Bit 9 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 511]	—
64	Remote setting (RS) input value monitor	RO	Setting limiter low to Setting limiter high	—
65, 66	Unused	—	—	—
67	Burnout state monitor of feedback resistance input	RO	0: OFF 1: ON	—
68	Memory area soak time monitor	RO	0 to 11999 seconds or 0 to 5999 minutes Data range is different by soak time unit.	—
69	Digital input (DI) state monitor	RO	Bit data Bit 0: DI 1 Bit 4: DI 5 Bit 1: DI 2 Bit 5: DI 6 [3] Bit 2: DI 3 Bit 6: DI 7 [3] Bit 3: DI 4 Bit 7 to Bit 15: Unused Data 0: Open 1: Closed [Decimal number: 0 to 127]	—
70	Operation mode state monitor	RO	Bit data Bit 0: Control STOP Bit 1: Control RUN Bit 2: Manual mode [4] Bit 3: Remote mode [4] Bit 4 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 15]	—
71 to 73	Unused	—	—	—
74	Output state monitor	RO	Bit data Bit 0: OUT1 Bit 4: DO3 [3] Bit 1: OUT2 Bit 5: DO4 [3] Bit 2: DO1 Bit 6 to Bit 15: Unused Bit 3: DO2 Data 0: OFF 1: ON [Decimal number: 0 to 63]	—
75	Current transformer 2 (CT2) input value monitor	RO	Same as Current transformer 1 (CT1) input value monitor.	—
76 to 89	Unused	—	—	—

Extension number	Communication items	Attribute	Data range	Factory set value
90	Remote/Local transfer	R/W	0: Local mode 1: Remote mode	0
91 to 109	Unused	—	—	—
110	Link area number ★	R/W	0 to 8: (0: No link)	0
111	Area soak time ★	R/W	0 to 11999 seconds or 0 to 5999 minutes Data range is different by soak time unit.	0:00
112	Integral time [cool-side] ★	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [3] (0, 0.0: PD action)	240
113	Derivative time [cool-side] ★	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [3] (0, 0.0: PI action)	60
114 to 127	Unused	—	—	—
128	Manual reset ★	R/W	−100.0 to +100.0 %	0.0
129 to 139	Unused	—	—	—
140	Heater break determination point 1	R/W	0.0 to 100.0 % of HBA1 set value (0.0: Heater break determination is invalid)	30.0
141	Heater melting determination point 1	R/W	0.0 to 100.0 % of HBA1 set value (0.0: Heater melting determination is invalid)	30.0
142	PV ratio	R/W	0.500 to 1.500	1.000
143	PV low input cut-off	R/W	0.00 to 25.00 % of Input span	0.00
144	Set lock level	R/W	Bit data Bit 0: Lock only setting items other than SV and Event set value (EV1 to EV4) Bit 1: Lock only Event set value (EV1 to EV4) Bit 2: Lock only Set value (SV) Bit 3 to Bit 15: Unused Data 0: Unlock 1: Lock [Decimal number: 0 to 7]	0
145	Unused	—	—	—
146	Backup memory state monitor	RO	0: The content of the backup memory does not coincide with that of the RAM. 1: The content of the backup memory coincides with that of the RAM.	—
147	Unused	—	—	—
148	RS bias	R/W	−Input span to +Input span [3]	0
149	RS digital filter	R/W	0.0 to 100.0 seconds (0.0: Unused)	0.0
150	RS ratio	R/W	0.001 to 9.999	1.000
151	Heater break alarm 2 (HBA2) set value	R/W	Same as Heater break alarm 1 (HBA1) set value	—
152	Heater break determination point 2	R/W	Same as Heater break determination point 1	30.0
153	Heater melting determination point 2	R/W	Same as Heater melting determination point 1	30.0
154 to 340	Data of Engineering mode and Unused [4]			
341	Integrated operating time monitor	RO	0 to 19999 hours	—
342	Holding peak value ambient temperature monitor	RO	−10.0 to +100.0 °C	—
343	Power feed forward input value monitor [5]	RO	0.0 to 160.0 % Display in the percentage of the load voltage.	—
344 to 349	Unused	—	—	—
350	Startup tuning (ST)	R/W	0: ST unused 1: Execute once * 2: Execute always * When the Startup tuning is finished, the setting will automatically returns to "0: ST unused."	0
351 to 355	Data of Engineering mode [4]			
356	Automatic temperature rise learning	R/W	0: Unused 1: Learning * * When the Automatic temperature rise learning is finished, the setting will automatically returns to "0: Unused."	1
357 to 359	Data of Engineering mode [4]			
360 to 499	Unused	—	—	—
500	Action mode selection	R/W	Bit data Bit 0: Address setting Data 0: Continuous setting 1: Free setting Bit 1 to Bit 15: Unused [Decimal number: 0 to 1]	0
501	Transmission wait time of controller communication	R/W	0 to 100 ms	0
502	Type of connected controller	R/W	0: FB100/400/900 Used with no changes to the factory set values.	0
503	Address setting of connected controller	R/W	0 to 99 0: No connected controller	1 to 31
504	State of connected controller	RO	Bit data Bit 0: Presence or absence of controller Bit 1: Presence or absence of abnormal response Bit 2 to Bit 15: Unused Data 0: Absence 1: Presence [Decimal number: 0 to 3]	—
505	Automatic acquisition of controller address	R/W	0: Do not execute the automatic acquisition 1: Execute the automatic acquisition * * Automatically reverts to 0 after automatic acquisition ends.	0
506 to 511	Unused			

[1] For the operation, refer to the "3. CC-Link FLAG OPERATION" of the **COM-JC [For FB100/FB400/FB900] Quick Instruction Manual (IMR01Y11-E□).**
[2] Varies with the setting of the Decimal point position selection.
[3] Varies with the setting of the Integral/Derivative time decimal point position selection.
[4] When the heat-side or cool-side integral time is set to zero for Heat/Cool PID control, PD action will take place for both heat-side and cool-side.

[1] For the data, refer to the **COM-JC [For FB100/FB400/FB900] Instruction Manual (IMR01Y06-E□).**
[2] Varies with the setting of the Decimal point position selection.
[3] Unused on the FB100.
[4] During operation in Manual mode, the Manual mode of the Operation mode state monitor is set to the "1: ON" state and the Remote mode of the same monitor is set to the "0: OFF" state even if the parameter, Remote/Local transfer is set to "1: Remote mode."

[1] Varies with the setting of the Integral/Derivative time decimal point position selection.
[2] When the heat-side or cool-side integral time is set to zero for Heat/Cool PID control, PD action will take place for both heat-side and cool-side.
[3] Varies with the setting of the Decimal point position selection.
[4] For detail of data, refer to **COM-JC [For FB100/FB400/FB900] Instruction Manual (IMR01Y06-E□).**
[5] Unused on the FB100.

▨ : COM-JC data. For detail of data, refer to **COM-JC [For FB100/FB400/FB900] Instruction Manual (IMR01Y06-E□).**