PLC Communication Converter

COM-JE [For RB Series] Communication Data List

IMR01Y40-E2

This manual describes the communication data of the COM-JE. For the installation, the detail handling procedures and various function settings, please refer to the following separate manuals.

- COM-JE [For RB Series] Installation Manual (IMR01Y38-E□): Enclosed with COM-JE
- COM-JE [For RB Series] Quick Instruction Manual (IMR01Y39-E□): Enclosed with COM-JE
- COM-JE [For RB Series] Instruction Manual (IMR01Y41-E□): Separate manual *

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These manuals can be downloaded from the official RKC website:
http://www.rkcinst.com/english/manual_load.htm.

1. PLC COMMUNICATION DATA MAP

The PLC communication data map shows data which can be used for communication between the PLC and controller (RB100/400/500/700/900).

1.1 Reference to Data Map

(1) (2) (3) (4) (5) (6) (7)

Name	Register address	Setting item	Structure	Attribute	Data range	Factory set value
Request command	D01000	—	U	R/W	0 to 242 └ Command selection └ Command applicable items • Command selection (The first digit) 0: Monitor (PLC ← Controller) 1: Setting (PLC → Controller) 2: Set value monitor (PLC ← Controller)	0

(1) Name: Name of communication data

(2) Register address: A register address of communication data in PLC communication
Register addresses in this manual apply under the following conditions:
- PLC:
  MITSUBISHI MELSEC series A-compatible 1C frame (format 4)
  ACPU common command (WR/WW)
  (Also for the OMRON PLC, the content of data remains unchanged.)
- Communication environment setting:
  Maximum number of controllers in PLC communication: 10
  Register start number: 1000
  Register type: 0 (D register)
  Monitor item selection: 4079 (all items)

Setting of Maximum number of controllers in PLC communication and Register start number changes an assignment of a register address.

Name	Register address	
Request command	D01000	← Register start number
COM-JE communication state	D01001	
⋮	⋮	
Measured value (PV) monitor	D01030 to D01039	← Measured value (PV) Controller 1 to 10
Current transformer 1 (CT1) input value monitor	D01040 to D01049	← CT1 monitor Controller 1 to 10
Current transformer 2 (CT2) input value monitor	D01050 to D01059	← CT2 monitor Controller 1 to 10

For the PLC communication environment setting, refer to the **COM-JE [For RB Series] Quick Instruction Manual (IMR01Y39-E□)**.

(3) Setting item: This is the number set when a special setting item is read or written by the request command. (No. 13 and 14: Unused)

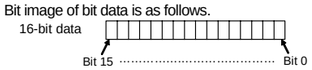
(4) Structure: U: Data for each controller communication unit *
C: Data for each controller

* A controller communication unit denotes a case where one COM-JE is connected to several controllers via controller communication (RS-485, Modbus).

(5) Attribute: RO: Read only data (PLC ← Controller)
R/W: Read and Write data (PLC ↔ Controller)

(6) Data range: Read or write range of communication data

Bit image of bit data is as follows.



(7) Factory set value: Factory set value of communication data

1.2 Data Map List

Name	Register address	Setting item	Structure	Attribute	Data range	Factory set value
Request command	D01000	—	U	R/W	0 to 242 └ Command selection └ Command applicable items • Command selection (The first digit) 0: Monitor (PLC ← Controller) 1: Setting (PLC → Controller) 2: Set value monitor (PLC ← Controller) • Command applicable items (The tenth and hundreds digit) 0: All items 1 to 24: Setting item number	0
COM-JE communication state	D01001	—	U	RO	0: Unused 1: Data write into monitor During monitor data of attribute RO is written to PLC 2: Set data read During setting data of attribute R/W is read from PLC 3: Set data write During setting data of attribute R/W is written to PLC	—
COM-JE normal communication flag	D01002	—	U	RO	0/1 transfer (For communication checking) "0" and "1" are repeated for each communication period.	—
—	D01003	—	—	—	Do not use this register address as it is used for the internal processing	—
—	D01004	—	—	—		—
PLC communication error code	D01005	—	U	RO	Bit data Bit 0: PLC register read/write error Bit 1: Slave communication timeout Data 0: OFF 1: ON [Decimal number: 0 to 3]	—
Unit recognition flag	D01006	—	U	RO	Bit data Bit 0: Controller communication unit 1 Bit 1: Controller communication unit 2 Bit 2: Controller communication unit 3 Bit 3: Controller communication unit 4 Data 0: No unit exists 1: Unit exists [Decimal number: 0 to 15]	—
Maximum number of controllers in PLC communication	D01007	—	U	RO	1 to 31	—
Number of connection controller in controller communication	D01008	—	U	RO	1 to 31	—
Setting change flag	D01009	—	U	RO	0: Controller setting not changed 1: Controller setting changed Set to "0" when data is written to the PLC by request command 2. In addition, set to "1" when there is a change in the value written to the PLC by the controller.	—
Start address [a]	D01010	—	U	R/W	Register address range of host communication (Modbus)	0
Number of transfer words [a]	D01011	—	U	R/W	1 to 16 words (0: No transfer operation)	0
Control word 1 [a] (request command)	D01012	—	U	R/W	0: No transfer operation 1: Setting (PLC → Controller) 2: Monitor (PLC ← Controller)	0
Control word 2 [a] (communication state)	D01013	—	U	RO	0: Unused 1: No transfer operation 2: Reading out setting data During data is read from PLC 3: Writing on setting data During data is written to PLC	—
Transfer data [a]	D01014 to D01029	—	U	R/W	Data range specified by Start address	0
Measured value (PV) monitor	D01030 to D01039	—	C	RO	Input scale low to Input scale high [b]	—
Current transformer 1 (CT1) input value monitor	D01040 to D01049	—	C	RO	CTL-6-P-N: 0.0 to 30.0 A CTL-12-S56-10L-N: 0.0 to 100.0 A	—
Current transformer 2 (CT2) input value monitor	D01050 to D01059	—	C	RO		—
Set value (SV) display while the setting change rate limiter is working	D01060 to D01069	—	C	RO	Setting limiter low to Setting limiter high [b]	—
Manipulated output value (MV1) monitor [heat-side]	D01070 to D01079	—	C	RO	Within output limiter range	—
Manipulated output value (MV2) monitor [cool-side]	D01080 to D01089	—	C	RO		—
Digital input (DI) state monitor	D01090 to D01099	—	C	RO	Bit data Bit 0: DI1 Bit 1: DI2 Bit 2 to Bit 15: Unused Data 0: Open 1: Closed [Decimal number: 0 to 3]	—
Output state monitor	D01100 to D01109	—	C	RO	Bit data Bit 0: Output 1 (OUT1) Bit 1: Output 2 (OUT2) Bit 2: Digital output 1 (DO1) Bit 3: Digital output 2 (DO2) Bit 4: Digital output 3 (DO3) [c] Bit 5: Digital output 4 (DO4) [c] Bit 6 to Bit15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 63]	—
Controller state 1 (comprehensive alarm state)	D01110 to D01119	—	C	RO	Bit data Bit 0: Burnout state Bit 1: Unused Bit 2: Event 1 state Bit 3: Event 2 state Bit 4: Event 3 state Bit 5: Event 4 state Bit 6 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 61]	—
Controller state 2 (error code)	D01120 to D01129	—	C	RO	Bit data Bit 0: Adjustment data error Bit 1: Data back-up error Bit 2: A/D conversion error Bit 3 to Bit 14: Unused Bit 15: Controller communication error Data 0: OFF 1: ON [Decimal number: 0 to 32775]	—
Controller state 3 (Operation mode state)	D01130 to D01139	—	C	RO	Bit data Bit 0: STOP Bit 1: RUN Bit 2: Manual mode (During RUN) Bit 3 to Bit 13: Unused Bit 14: EEPROM status Bit 15: Autotuning (AT) Data 0: OFF 1: ON [Decimal number: 0 to 49159]	—
Autotuning (AT)	D01140 to D01149	1	C	R/W	0: PID control 1: Autotunig (AT) start	0
Auto/Manual transfer	D01150 to D01159	2	C	R/W	0: Auto (AUTO) mode 1: Manual (MAN) mode	0
RUN/STOP transfer	D01160 to D01169	3	C	R/W	0: RUN 1: STOP	0
Event 1 set value [1]	D01170 to D01179	4	C	R/W	Deviation action: −Input span to +Input span [2] Input value and set value action: Same as Input range [2]	TC/RTD inputs: 50 (50.0) V/I inputs: 5.0
Event 2 set value [1]	D01180 to D01189	5	C	R/W		
Event 3 set value [1]	D01190 to D01199	6	C	R/W		
Event 4 set value [1]	D01200 to D01209	7	C	R/W		
Set value 1 (SV1)	D01210 to D01219	8	C	R/W	Setting limiter low to Setting limiter high [2]	0 (0.0)
Proportional band [heat-side]	D01220 to D01229	9	C	R/W	TC/RTD inputs: 1 (0.1) to Input span [2] (Unit: °C [°F]) Voltage (V)/Current (I) inputs: 0.1 to 100.0 % of Input span 0 (0.0): ON/OFF action	TC/RTD inputs: 30 (30.0) V/I inputs: 3.0
Integral time	D01230 to D01239	10	C	R/W	1 to 3600 seconds (0: PD action)	240
Derivative time	D01240 to D01249	11	C	R/W	1 to 3600 seconds (0: PI action)	60
Proportional band [cool-side]	D01250 to D01259	12	C	R/W	1 to 1000 % of proportional band [heat-side] (ON/OFF control of cool-side only is not possible)	100
Overlap/Deadband	D01260 to D01269	15	C	R/W	TC/RTD inputs: −10 (−10.0) to +10 (+10.0) [2] (Unit:°C [°F]) Voltage (V)/Current (I) inputs: −10.0 to +10.0 % of Input span Minus (−) setting results in Overlap. However, the overlapping range is within the proportional range.	0 (0.0)
Setting change rate limiter (up)	D01270 to D01279	16	C	R/W	0 to Input span [2] (Unit:°C [°F]/unit time) 0 (0.0): Unused	0 (0.0)
Setting change rate limiter (down)	D01280 to D01289	17	C	R/W	[Factory set value of unit time: 0 (minute)]	0 (0.0)
Heater break alarm 1 (HBA1) set value	D01290 to D01299	18	C	R/W	CTL-6-P-N: 0.0 to 30.0 A	0.0
Heater break alarm 2 (HBA2) set value	D01300 to D01309	19	C	R/W	CTL-12-S56-10L-N: 0.0 to 100.0 A	0.0
PV bias	D01310 to D01319	20	C	R/W	TC/RTD inputs: −1999 (−199.9) to +9999 (+999.9) [2] (Unit: °C [°F]) Voltage (V)/Current (I) inputs: −Input span to +Input span [2]	0 (0.0)
Manual manipulated output value (MV)	D01320 to D01329	21	C	R/W	PID control: Output limiter low to Output limiter high Heat/Cool PID control: −Cool-side output limiter (high) to +Heat-side output limiter (high)	0.0
EEPROM mode	D01330 to D01339	22	C	R/W	0: Backup mode Set values stored to the EEPROM when set values are changed. 1: Buffer mode No set values stored to the EEPROM when set values are changed.	0
Anti-reset windup (ARW)	D01340 to D01349	23	C	R/W	1 to 100 % of proportional band [heat-side] (0: Integral action is always OFF)	100
Fine tuning setting	D01350 to D01359	24	C	R/W	−3 to +3 (0: Unused)	0

[a] These data items are used for the Specified data transfer type. For the Specified data transfer type, refer to the **COM-JE [For RB Series] Instruction Manual (IMR01Y41-E□)**.
[b] Varies with the setting of the Decimal point position selection.
[c] Unused on the RB100.

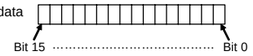
[1] When event type is High/Low individual setting, factory set value is Event set value [high].
[2] Varies with the setting of the Decimal point position selection.

2. HOST COMMUNICATION DATA MAP

The Host communication data map shows data which can be used for communication between the host computer and controller (RB100/400/500/700/900). The Modbus register address is also used for the Specified data transfer type of PLC communication.

The following items in direct Host communication between RB series and the Host computer are different when using indirect Host communication via COM-JE.
- **Order of communication data range**
- **Modbus register address**
- **Some RKC communication identifier**

- Modbus register address
  HEX: Hexadecimal DEC: Decimal
  The head address of each item. (Vacant numbers become unused.)
- Attribute
  RO: Only reading of data is possible (Host computer ← Controller)
  R/W: Reading and writing data is possible (Host computer ↔ Controller)
- Data



All the data in the RKC communication is 7 digits.

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 data will be rejected.

For the Specified data transfer type, refer to the **COM-JE [For RB Series] Instruction Manual (IMR01Y41-E□)**.

Name	RKC Identifier	Modbus register address HEX	Modbus register address DEC	Number of data	Attribute	Data range	Factory set value
Measured value (PV) monitor	M1	0000	0	31	RO	Input scale low to Input scale high [a]	—
Current transformer 1 (CT1) input value monitor	M3 [b]	0020	32	31	RO	CTL-6-P-N: 0.0 to 30.0 A	—
Current transformer 2 (CT2) input value monitor	M4 [b]	0040	64	31	RO	CTL-12-S56-10L-N: 0.0 to 100.0 A	—
Set value (SV) display while the setting change rate limiter is working	MS	0060	96	31	RO	Setting limiter low to Setting limiter high [a]	—
Burnout state monitor	B1	00A0	160	31	RO	0: OFF 1: ON	—
Event 1 state monitor	AA	00E0	224	31	RO	0: OFF 1: ON	—
Event 2 state monitor	AB	0100	256	31	RO		—
Event 3 state monitor	AC	0120	288	31	RO		—
Event 4 state monitor	AD	0140	320	31	RO		—
Manipulated output value (MV1) monitor [heat-side]	O1	01A0	416	31	RO	Within output limiter range	—
Manipulated output value (MV2) monitor [cool-side]	O2	01C0	448	31	RO		—
Error code	ER	01E0	480	31	RO	Bit data Bit 0: Adjustment data error Bit 1: Data back-up error Bit 2: A/D conversion error (Including temperature compensation error) Bit 3 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 7]	—
Digital input (DI) state monitor	L1	0200	512	31	RO	Bit data Bit 0: DI1 Bit 1: DI2 Bit 2 to Bit 15: Unused Data 0: Open 1: Closed [Decimal number: 0 to 3]	—
Output state monitor	Q1 [b]	0220	544	31	RO	Bit data Bit 0: Output 1 (OUT1) Bit 1: Output 2 (OUT2) Bit 2: Digital output 1 (DO1) Bit 3: Digital output 2 (DO2) Bit 4: Digital output 3 (DO3) [c] Bit 5: Digital output 4 (DO4) [c] Bit 6 to Bit15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 63]	—
Operation mode state monitor	L0	0240	576	31	RO	Bit data Bit 0: STOP Bit 1: RUN Bit 2: Manual mode (During RUN) Bit 3 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 7]	—
EEPROM state	EM	02E0	736	31	RO	0: The content of the EEPROM does not coincide with that of the RAM. 1: The content of the EEPROM coincides with that of the RAM	—
Autotuning (AT)	G1	0400	1024	31	R/W	0: PID control 1: Autotuning (AT) start	0
Auto/Manual transfer	J1	0420	1056	31	R/W	0: Auto (AUTO) mode 1: Manual (MAN) mode	0
RUN/STOP transfer	SR	0460	1120	31	R/W	0: RUN 1: STOP	0
Interlock release	IL [b]	04A0	1184	31	R/W	0: Interlock release 1: Interlock state (Only monitor)	0
Event 1 set value [d]	A1	04C0	1216	31	R/W	Deviation action: −Input span to +Input span [a] Input value and set value action: Same as Input range [a]	TC/RTD inputs: 50 (50.0) V/I inputs: 5.0
Event 2 set value [d]	A2	04E0	1248	31	R/W		
Event 3 set value [d]	A3 [b]	0500	1280	31	R/W		
Event 4 set value [d]	A4 [b]	0520	1312	31	R/W		

[a] Varies with the setting of the Decimal point position selection.
[b] Communication identifier is different from RB Series.
[c] Unused on the RB100.
[d] When event type is High/Low individual setting, factory set value is Event set value [high].

Name	RKC Iden-tifier	Modbus register address HEX	Modbus register address DEC	Number of data	Attri-bute	Data range	Factory set value
Control loop break alarm (LBA) time	A5	0540	1344	31	R/W	0 to 7200 seconds (0: Unused)	480
LBA deadband (LBD)	N1 [a]	0560	1376	31	R/W	0 to Input span	0
Set value 1 (SV1)	S1	0580	1408	31	R/W	Setting limiter low to Setting limiter high [b]	0 (0.0)
Proportional band [heat-side]	P1	05A0	1440	31	R/W	TC/RTD inputs: 1 (0.1) to Input span [b] (Unit: °C [°F]) Voltage (V)/Current (I) inputs: 0.1 to 100.0 % of Input span 0 (0.0): ON/OFF action	TC/RTD inputs: 30 (30.0) V/I inputs: 3.0
Integral time	I1	05C0	1472	31	R/W	1 to 3600 seconds (0: PD action)	240
Derivative time	D1	05E0	1504	31	R/W	1 to 3600 seconds (0: PI action)	60
Proportional band [cool-side]	P2	0620	1568	31	R/W	1 to 1000 % of proportional band [heat-side] (ON/OFF control of cool-side only is not possible)	100
Overlap/Deadband	V1	0680	1664	31	R/W	TC/RTD inputs: −10 (−10.0) to +10 (+10.0) [b] (Unit:°C [°F]) Voltage (V)/Current (I) inputs: −10.0 to +10.0 % of Input span Minus (−) setting results in Overlap. However, the overlapping range is within the proportional range.	0 (0.0)
Setting change rate limiter (up)	HH	06C0	1728	31	R/W	0 to Input span [b] (Unit:°C [°F]/unit time) 0 (0.0): Unused [Factory set value of unit time: 0 (minute)]	0 (0.0)
Setting change rate limiter (down)	HL	06E0	1760	31	R/W		0 (0.0)
Heater break alarm 1 (HBA1) set value	A7 [a]	0740	1856	31	R/W	CTL-6-P-N: 0.0 to 30.0 A	0.0
Heater break alarm 2 (HBA2) set value	A8 [a]	07A0	1952	31	R/W	CTL-12-S56-10L-N: 0.0 to 100.0 A	0.0
PV bias	PB	0800	2048	31	R/W	TC/RTD inputs: 1999 (−199.9) to +9999 (+999.9) [b] (Unit: °C [°F]) Voltage (V)/Current (I) inputs: −Input span to +Input span [b]	0 (0.0)
PV digital filter	F1	0820	2080	31	R/W	0 to 100 seconds (0: Unused)	1
Proportional cycle time [heat-side]	T0	08E0	2272	31	R/W	0 to 100 seconds 0: Setting below 1 second is possible for Time setting of proportional cycle time [heat-side] (Identifier: TV, Modbus register address: 46C0H)	Relay contact output: 20 Voltage pulse output, triac output, open collector output: 2
Proportional cycle time [cool-side]	T1	0900	2304	31	R/W	0 to 100 seconds 0: Setting below 1 second is possible for Time setting of proportional cycle time [cool-side] (Identifier: TW, Modbus register address: 46E0H)	
Manual manipulated output value (MV)	ON	0920	2336	31	R/W	PID control: Output limiter low to Output limiter high Heat/Cool PID control: −Cool-side output limiter (high) to +Heat-side output limiter (high)	0.0
Set lock level	LK	0940	2368	31	R/W	0: All parameters can be changed 1: Lock Parameter Group F01 through F10 2: Lock Parameter Group F02 through F10 3: Lock Parameter Group F03 through F10 4: Lock Parameter Group F04 through F10 5: Lock Parameter Group F05 through F10 6: Lock Parameter Group F06 through F10 7: Lock Parameter Group F07 through F10 8: Lock Parameter Group F08 through F10 9: Lock Parameter Group F09 and F10 10: Lock Parameter Group F10	0
For communication data (Engineering mode F21 to F91), refer to the **COM-JE [For RB Series] Instruction Manual (IMR01Y41-E□)**.							
Timer 1	TH	0C00	3072	31	R/W	1 to 5999 (seconds or minutes)	1
Timer 2	TI	0C20	3104	31	R/W		1
Timer 3	TJ	0C40	3136	31	R/W		1
Timer 4	TK	0C60	3168	31	R/W		1
For communication data (Engineering mode F21 to F91), refer to the **COM-JE [For RB Series] Instruction Manual (IMR01Y41-E□)**.							
Output limiter high [Heat-side output limiter (high)]	OH	14A0	5280	31	R/W	PID control: Output limiter low to 105.0 % Heat/Cool PID control: 0.0 to 105.0 %	105.0
Output limiter low [Cool-side output limiter (high)]	OL	14C0	5312	31	R/W	PID control: −5.0 % to Output limiter high [Output limiter high > Output limiter low] Heat/Cool PID control: 0.0 to 105.0 %	PID control: −5.0 Heat/Cool PID control: 105.0
For communication data (Engineering mode F21 to F91), refer to the **COM-JE [For RB Series] Instruction Manual (IMR01Y41-E□)**.							
Startup tuning (ST)	ST	1960	6496	31	R/W	0: ST unused 1: Execute once * 2: Execute always * When Startup tuning is finished, the setting will automatically return to "0: ST unused."	0
For communication data (Engineering mode F21 to F91), refer to the **COM-JE [For RB Series] Instruction Manual (IMR01Y41-E□)**.							

[a] Communication identifier is different from RB series.
[b] Varies with the setting of the Decimal point position selection.

Name	RKC Iden-tifier	Modbus register address HEX	Modbus register address DEC	Number of data	Attri-bute	Data range	Factory set value
Comprehensive alarm state	AM	3800	14336	1	RO	Bit data Bit 0: Burnout state Bit 1: Unused Bit 2: Event 1 state Bit 3: Event 2 state Bit 4: Event 3 state Bit 5: Event 4 state Bit 6to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 61] *OR* of Controller state 1 (Identifier: AK, Modbus register address: 3820H) in all controller	—
Controller alarm state [a]	AN	3801	14337	2	RO	Bit data Group 1: Bit 0 to Bit 15: Controller 1 to 16 Group 2: Bit 0 to Bit 14: Controller 17 to 31 Data 0: OFF 1: ON [Decimal number: 0 to 65535] *OR* of Controller state 1 (Identifier: AK, Modbus register address: 3820H)	—
Error state [a]	EZ	3803	14339	2	RO	Bit data Group 1: Bit 0 to Bit 15: Controller 1 to 16 Group 2: Bit 0 to Bit 14: Controller 17 to 31 Data 0: OFF 1: ON [Decimal number: 0 to 65535] *OR* of Controller state 2 (Identifier: AQ, Modbus register address: 3840H)	—
RUN/STOP [a]	SW	3805	14341	2	R/W	Bit data Group 1: Bit 0 to Bit 15: Controller 1 to 16 Group 2: Bit 0 to Bit 14: Controller 17 to 31 Data 0: RUN 1: STOP [Decimal number: 0 to 65535] Link RUN/STOP transfer (Identifier: SR, Modbus register address: 0460H)	0
Data updating flag	CZ	3807	14343	1	RO	0: Data not updated 1: Data being updated	—
Controller state 1	AK	3820	14368	31	RO	Bit data Bit 0: Burnout state Bit 1: Unused Bit 2: Event 1 state Bit 3: Event 2 state Bit 4: Event 3 state Bit 5: Event 4 state Bit 6 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 61]	—
Controller state 2	AQ	3840	14400	31	RO	Bit data Bit 0: Adjustment data error Bit 1: Data back-up error Bit 2: A/D conversion error Bit 3 to Bit 14: Unused Bit 15: Controller communication error Data 0: OFF 1: ON [Decimal number: 0 to 32775]	—
Controller state 3	AS	3860	14432	31	RO	Bit data Bit 0: STOP Bit 1: RUN Bit 2: Manual mode (During RUN) Bit 3 to Bit 13: Unused Bit 14: EEPROM status Bit 15: Autotuning (AT) Data 0: OFF 1: ON [Decimal number: 0 to 49159]	—
Anti-reset windup (ARW)	W2 [b]	4020	16416	31	R/W	1 to 100 % of proportional band [heat-side] (0: Integral action is always OFF)	100
EEPROM mode	EB	4040	16448	31	R/W	0: Backup mode Set values stored to the EEPROM when set values are changed. 1: Buffer mode No set values stored to the EEPROM when set values are changed.	0
Manipulated output ON/OFF state monitor [heat-side]	Q3 [b]	4200	16896	31	RO	0: Output OFF 1: Output ON	—
Manipulated output ON/OFF state monitor [cool-side]	Q4 [b]	4220	16928	31	RO		—
Comprehensive event state	AJ	4240	16960	31	RO	Bit data Bit 0: Event 1 (EV1) Bit 1: Event 2 (EV2) Bit 2: Event 3 (EV3) Bit 3: Event 4 (EV4) Bit 4: Burnout Bit 5 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 31]	—
Remaining time monitor	TT [b]	4260	16992	31	RO	0 to 5999 (second or minute)	—
Actual SV selection number	LX [b]	4280	17024	31	RO	1 to 4 SV number in Timer 3 and Timer 4 functions.	—

[a] Group 1 and Group 2 are specified for the RKC communication.
For Modbus, the smaller Modbus register address is for data corresponding to Group 1, while the larger Modbus register address is for data corresponding to Group 2.
[b] Communication identifier is different from RB series.

Name	RKC Iden-tifier	Modbus register address HEX	Modbus register address DEC	Number of data	Attri-bute	Data range	Factory set value
Monitor selection (no display)	MP [a]	42A0	17056	31	R/W	Bit data Bit 0: Current transformer1 (CT1) input value monitor Bit 1: Current transformer2 (CT2) input value monitor Bit 2: Manipulated output value (MV) monitor * Bit 3: Remaining time monitor Bit 4 to Bit 15: Unused Data 0: Display 1: No display [Decimal number: 0 to 15] * Heat/Cool PID control: The manipulated output value (MV1) monitor [heat-side] and the manipulated output value (MV2) monitor [cool-side] are both "No display."	0
Mode selection (no display)	MO [a]	42C0	17088	31	R/W	Bit data Bit 0: Auto (AUTO)/Manual (MAN) transfer [1] Bit 1: Set data unlock/lock transfer [1] Bit 2: Interlock release [1] Bit 3: Disable <R/S key operation [2] Bit 4 to Bit 6: Unused Bit 7: Displays F21 and after [3] Bit 8 to Bit 15: Unused [Decimal number: 0 to 143] [1] Data 0: Display 1: No display [2] Data 0: Enable <R/S key operation 1: Disable <R/S key [3] Data 0: Engineering mode F21 to F91 are not displayed. 1: Display F21 to F91 Engineering mode.	0
Set value 2 (SV2)	S5 [a]	42E0	17120	31	R/W	Setting limiter low to Setting limiter high [b]	0 (0.0)
Set value 3 (SV3)	S6 [a]	4300	17152	31	R/W		0 (0.0)
Set value 4 (SV4)	S7 [a]	4320	17184	31	R/W		0 (0.0)
SV selection	ZB	4340	17216	31	R/W	1 to 4	1
F01 block selection (no display)	FE [a]	4360	17248	31	R/W	0: Display 1: No display	1
Timer function	ZC	4380	17280	31	R/W	0: Unused 1: Timer function 1 2: Timer function 2 3: Timer function 3 4: Timer function 4	0
Repeat execution times	RC [a]	43A0	17312	31	R/W	0 to 9999 (9999: Infinite times)	0
F02 block selection (no display)	FK [a]	43C0	17344	31	R/W	0: Display 1: No display	1
F02 block selection (no display)	FL [a]	43E0	17376	31	R/W	0: Display 1: No display	1
Event 1 set value (EV1') [low]	BT	4400	17408	31	R/W	−Input span to +Input span [b]	TC/RTD inputs: −50 (−50.0) V/I inputs: −5.0
Event 2 set value (EV2') [low]	BU	4420	17440	31	R/W		
Event 3 set value (EV3') [low]	BV	4440	17472	31	R/W		
Event 4 set value (EV4') [low]	BW	4460	17504	31	R/W		
F04 block selection (no display)	FM [a]	4480	17536	31	R/W	0: Display 1: No display	0
F05 block selection (no display)	FN [a]	44A0	17568	31	R/W	0: Display 1: No display	0
Fine tuning setting	CB	44C0	17600	31	R/W	−3 to +3 (0: Unused)	0
F06 block selection (no display)	DO	44E0	17632	31	R/W	0: Display 1: No display	0
F07 block selection (no display)	FQ [a]	4500	17664	31	R/W	0: Display 1: No display	0
Minimum ON/OFF time of proportioning cycle [heat-side]	VI	4520	17696	31	R/W	0 to 1000 ms	0
Minimum ON/OFF time of proportioning cycle [cool-side]	VJ	4540	17728	31	R/W		0
F08 block selection (no display)	FR [a]	4560	17760	31	R/W	0: Display 1: No display	0
F09 block selection (no display)	FS [a]	4580	17792	31	R/W	0: Display 1: No display	0
F10 block selection (no display)	DT	45A0	17824	31	R/W	0: Display 1: No display	0
For communication data (Engineering mode F21 to F91), refer to the **COM-JE [For RB Series] Instruction Manual (IMR01Y41-E□)**.							
Station number	QV	8000	32768	1	R/W	0 to 31	0
PC number [c]	QW	8001	32769	1	R/W	0 to 255	255
Register start number [d]	QX	8002	32770	1	R/W	0 to 65535	1000
Maximum controller number of PLC communication	QY	8003	32771	1	R/W	1 to 31	10
Register type	QZ	8004	32772	1	R/W	●MITSUBISHI PLC 0: D register [1] 4: D register [2] 1: R register [1] 5: R register [2] 2: W register [1] 6: W register [2] 3: ZR register [2] 7 to 29: Do not set this one (D: Data register, R: File register, W: Link register) [1] A-compatible 1C frame [2] QnA-compatible 3C frame	0

[a] Communication identifier is different from RB series.
[b] Varies with the setting of the Decimal point position selection.
[c] Do not set for the OMRON SYSMAC series.
[d] MITSUBISHI MELSEC series (A-compatible 1C frame) and OMRON SYSMAC series
Data range: 0 to 9937

Name	RKC Iden-tifier	Modbus register address HEX	Modbus register address DEC	Number of data	Attri-bute	Data range	Factory set value
Register type	QZ	8004	32772	1	R/W	●OMRON PLC 0: DM register (Data memory) 10 to 22: EM register (Extended data memory) [Specify the bank No.] Set the bank No.+10. 29: EM register (Extended data memory) [Specify the current bank] 1 to 9, 23 to 28: Don't set this one	0
Monitor item selection	QS	8006	32774	1	R/W	Bit data Bit 0: Measured value (PV) monitor Bit 1: Current transformer 1 (CT1) input value monitor Bit 2: Current transformer 2 (CT2) input value monitor Bit 3: Set value (SV) display while the setting change rate limiter is working Bit 4: Reserve (This item is fixed at 0) Bit 5: Manipulated output value (MV1) monitor [heat-side] Bit 6: Manipulated output value (MV2) monitor [cool-side] Bit 7: Digital input (DI) state monitor Bit 8: Output state monitor Bit 9: Controller state 1 Bit 10: Controller state 2 Bit 11: Controller state 3 Bit 12: Reserve (This item is fixed at 0) Bit 13: Remaining time monitor Bit 14: Actual SV selection number Bit 15: Reserve (This item is fixed at 0) Do not set 1 for Reserve Data 0: OFF 1: ON [Decimal number: 0 to 28655]	4079
COM-JE link recognition time [1]	QT	8007	32775	1	R/W	0 to 255 seconds	10
COM-JE error code	ES	8008	32776	1	RO	Bit data Bit 0: Back-up error Bit 1: Unused Bit 2: Controller communication error Bit 3 to Bit 6: Unused Bit 7: PLC communication error Bit 8 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 133]	—
PLC scanning time	VT	8009	32777	1	R/W	0 to 3000 ms	255
Number of connected controller in controller communication	QP	800B	32779	1	RO	0 to 31	—
Action mode selection	RZ	800C	32780	1	R/W	Bit data Bit 0: Address setting 0: Continuous setting 1: Free setting Bit 1: PLC register read/write error elimination 0: Manual elimination 1: Automatic elimination Bit 2 to Bit 7: Reserve (This item is fixed at 0) Do not set 1 for Reserve [Decimal number: 0 to 3]	0
Selecting the controller communication block [2]	R4	800D	32781	1	R/W	Bit data Bit 0: Controller communication block 0: Modbus register addresses are 0000H to 0060H for RB series 1: Entire communication data for RB series Bit 1 to Bit 15: Unused [Decimal number: 0 to 1]	0
PLC communication start time	R5	800F	32783	1	R/W	1 to 255 seconds	5
Register start number high-order 4 bits [3]	VX	8012	32786	1	R/W	0 to 15	0
Transmmision wait time of controller communication	ZZ	8018	32792	1	R/W	0 to 100 ms	0
Initial setting mode [4]	IN	8020	32800	1	R/W	0: Normal setting mode 1: Initial setting mode	0

[1] It is necessary to make the setting only to the master (COM-JE address: 0, 4, 8 or C) in the controller communication unit.
[2] It is possible to communicate only the items specified by Selecting the controller communication block. In addition, it is possible to communicate only the items specified here by the Specified data transfer type.
For the data, refer to the **RB100/RB400/RB500/RB700/RB900 Communication Instruction Manual (IMR02C16-E□)**.
[3] Valid only when QnA-compatible 3C frame (excluding the R register) of the MITSUBISHI PLC is selected.
[4] For the Initial setting mode, refer to the **COM-JE [For RB Series] Instruction Manual (IMR01Y41-E□)**.

: PLC communication environment setting items
These items become valid by turning off the power once, and then turning on again after the settings are changed.
It is possible to set the PLC communication environment by the COM-JE switch in addition to the setting via Host communication. For PLC communication environment setting by the switch, refer to the **COM-JE [For RB Series] Quick Instruction Manual (IMR01Y39-E□)**.

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