PLC Communication Converter

COM-JE

Communication Data List

IMR01Y17-E5

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 Installation Manual (IMR01Y02-E□): Enclosed with COM-JE
- COM-JE Quick Instruction Manual (IMR01Y12-E□): Enclosed with COM-JE
- COM-JE Instruction Manual (IMR01Y07-E□): Separate manual *

* Download free or purchase hard copy

The above 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 (FB100/400/900).

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 212 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: 4095 (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)	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 Quick Instruction Manual (IMR01Y12-E□)**.

(3) Setting item: This is the number set when a special setting item is read or written by the request command.

(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 are 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.

16-bit data

Bit 15 ····· Bit 0

(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 212 The first digit 0: Monitor (PLC ← Controller) 1: Setting (PLC → Controller) 2: Set value monitor (PLC ← Controller) The tenth and hundreds digit 0: All items 1 to 21: 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 monitoring 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)	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) monitor	D01060 to D01069	—	C	RO	Setting limiter low to Setting limiter high [b]	—
Remote setting (RS) input value monitor	D01070 to D01079	—	C	RO	Setting limiter low to Setting limiter high [b]	—
Manipulated output value (MV1) monitor [heat-side]	D01080 to D01089	—	C	RO	PID control or Heat/Cool PID control: −5.0 to +105.0 % Position proportioning PID control with feedback resistance (FBR) input: 0.0 to 100.0 %	—
Manipulated output value (MV2) monitor [cool-side]	D01090 to D01099	—	C	RO	−5.0 to +105.0 %	—
Digital input (DI) state monitor	D01100 to D01109	—	C	RO	Bit data Bit 0: DI1 Bit 5: DI6 [c] Bit 1: DI2 Bit 6: DI7 [c] Bit 2: DI3 Bit 7 to Bit 15: Bit 3: DI4 Unused Bit 4: DI5 Data 0: Open 1: Closed [Decimal number: 0 to 127]	—
Output state monitor	D01110 to D01119	—	C	RO	Bit data Bit 0: OUT1 Bit 4: DO3 [c] Bit 1: OUT2 Bit 5: DO4 [c] Bit 2: DO1 Bit 6 to Bit15: Bit 3: DO2 Unused Data 0: OFF 1: ON [Decimal number: 0 to 63]	—
Controller state 1 (comprehensive alarm state)	D01120 to D01129	—	C	RO	Bit data Bit 0: Burnout state Bit 1: Burnout state of feedback resistance (FBR) input Bit 2: Event 1 state Bit 3: Event 2 state Bit 4: Event 3 state Bit 5: Event 4 state Bit 6: Heater break alarm 1 (HBA1) state Bit 7: Heater break alarm 2 (HBA2) state Bit 8 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 255]	—
Controller state 2 (error code)	D01130 to D01139	—	C	RO	Bit data Bit 0: Adjustment data error Bit 1: Back-up error Bit 2: A/D conversion error Bit 3 to Bit 4: Unused Bit 5: Custom data error Bit 6: Unused Bit 7: Watchdog timer error Bit 8: Stack overflow Bit 9 to Bit 10: Unused Bit 11: Program error (busy) Bit 12 to Bit 14: Unused Bit 15: Controller communication error Data 0: OFF 1: ON [Decimal number: 0 to 35239]	—
Controller state 3 (Operation mode state)	D01140 to D01149	—	C	RO	Bit data Bit 0: Control STOP Bit 1: Control RUN Bit 2: Manual mode [1] Bit 3: Remote mode [1] Bit 4 to Bit 13: Unused Bit 14: Backup memory state monitor Bit 15: Autotuning (AT) Data 0: OFF 1: ON [Decimal number: 0 to 49167]	—
PID/AT transfer	D01150 to D01159	1	C	R/W	0: PID control 1: Autotunig (AT)	0
Auto/Manual transfer	D01060 to D01069	2	C	R/W	0: Auto mode 1: Manual mode	0
RUN/STOP transfer	D01070 to D01079	3	C	R/W	0: RUN (control start) 1: STOP (control stop)	0
Event 1 set value	D01180 to D01189	4	C	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 +105.0 %	50
Event 2 set value	D01190 to D01199	5	C	R/W		50
Event 3 set value	D01200 to D01209	6	C	R/W		50
Event 4 set value	D01210 to D01219	7	C	R/W		50
Set value (SV)	D01220 to D01229	8	C	R/W	Setting limiter low to Setting limiter high [2]	TC/RTD inputs: 0 V/I inputs: 0.0
Proportional band [heat-side]	D01230 to D01239	9	C	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, 0.00: ON/OFF action)	TC/RTD inputs: 30 V/I inputs: 30.0
Integral time [heat-side]	D01240 to D01249	10	C	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
Derivative time [heat-side]	D01250 to D01259	11	C	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [3] (0, 0.0: PI action)	60
Proportional band [cool-side]	D01260 to D01269	12	C	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
Integral time [cool-side]	D01270 to D01279	13	C	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [3] (0, 0.0: PD action) [4]	240
Derivative time [cool-side]	D01280 to D01289	14	C	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [3] (0, 0.0: PI action)	60
Overlap/Deadband	D01290 to D01299	15	C	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
Setting change rate limiter (up)	D01300 to D01309	16	C	R/W	0 to Input span/unit time * [2] (0: Unused)	0
Setting change rate limiter (down)	D01310 to D01319	17	C	R/W	* Unit time: 60 seconds (factory set value)	0
Heater break alarm 1 (HBA1) set value	D01320 to D01329	18	C	R/W	CTL-6-P-N: 0.0 to 30.0 A (0.0: Unused)	0.0
Heater break alarm 2 (HBA2) set value	D01330 to D01339	19	C	R/W	CTL-12-S56-10L-N: 0.0 to 100.0 A (0.0: Unused)	0.0
PV bias	D01340 to D01349	20	C	R/W	−Input span to +Input span [2]	0
Manual manipulated output value	D01350 to D01359	21	C	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

[a] These data items are used for the Specified data transfer type. For the Specified data transfer type, refer to the **COM-JE Instruction Manual (IMR01Y07-E□)**.
[b] Varies with the setting of the Decimal point position selection.
[c] Unused on the FB100.

[1] 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."
[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.

2. HOST COMMUNICATION DATA MAP

The Host communication data map shows data which can be used for communication between the host computer and controller (FB100/400/900). The Modbus register address is also used for the Specified data transfer type of PLC communication.

- 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
  16-bit data

Bit 15 ····· Bit 0

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 Instruction Manual (IMR01Y07-E□)**.

Name	RKC Identifier	Modbus register address HEX	Modbus register address DEC	Number of data	Attribute	Data range	Factory set value
Measured value (PV)	M1	0000	0	31	RO	Input scale low to Input scale high [1]	—
Current transformer 1 (CT1) input value monitor	M3	0020	32	31	RO	CTL-6-P-N: 0.0 to 30.0 A	—
Current transformer 2 (CT2) input value monitor	M4	0040	64	31	RO	CTL-12-S56-10L-N: 0.0 to 100.0 A	—
Set value (SV) monitor	MS	0060	96	31	RO	Setting limiter low to Setting limiter high [1]	—
Remote setting (RS) input value monitor	S2	0080	128	31	RO	Setting limiter low to Setting limiter high [1]	—
Burnout state monitor	B1	00A0	160	31	RO	0: OFF 1: ON	—
Burnout state monitor of feedback resistance input	B2	00C0	192	31	RO	0: OFF 1: ON	—
Event 1 state monitor	AA	00E0	224	31	RO	0: OFF	—
Event 2 state monitor	AB	0100	256	31	RO	1: ON	—
Event 3 state monitor	AC	0120	288	31	RO		—
Event 4 state monitor	AD	0140	320	31	RO		—
Heater break alarm 1 (HBA1) state monitor	AE	0160	352	31	RO	0: OFF 1: ON	—
Heater break alarm 2 (HBA2) state monitor	AF	0180	384	31	RO		—
Manipulated output value (MV1) monitor [heat-side]	O1	01A0	416	31	RO	PID control or Heat/Cool PID control: −5.0 to +105.0 % Position proportioning PID control with feedback resistance (FBR) input: 0.0 to 100.0 %	—
Manipulated output value (MV2) monitor [cool-side]	O2	01C0	448	31	RO	−5.0 to +105.0 %	—
Error code	ER	01E0	480	31	RO	Bit data Bit 0: Adjustment data error Bit 1: Back-up error Bit 2: A/D conversion error Bit 3 to Bit 4: Unused Bit 5: Custom data error Bit 6: Unused Bit 7: Watchdog timer error Bit 8: Stack overflow Bit 9 to Bit 10: Unused Bit 11: Program error (busy) Bit 12 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 4095]	—
Digital input (DI) state monitor	L1	0200	512	31	RO	Bit data Bit 0: DI1 Bit 5: DI6 [2] Bit 1: DI2 Bit 6: DI7 [2] Bit 2: DI3 Bit 7 to Bit 15: Bit 3: DI4 Unused Bit 4: DI5 Data 0: Open 1: Closed [Decimal number: 0 to 127]	—
Output state monitor	Q1	0220	544	31	RO	Bit data Bit 0: OUT1 Bit 4: DO3 [2] Bit 1: OUT2 Bit 5: DO4 [2] Bit 2: DO1 Bit 6 to Bit 15: Bit 3: DO2 Unused Data 0: OFF 1: ON [Decimal number: 0 to 63]	—
Operation mode state monitor	L0	0240	576	31	RO	Bit data Bit 0: Control STOP Bit 1: Control RUN Bit 2: Manual mode [3] Bit 3: Remote mode [3] Bit 4 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 15]	—
Memory area soak time monitor	TR	0260	608	31	RO	0 to 11999 seconds or 0 to 5999 minutes	—
Integrated operating time monitor	UT	0280	640	31	RO	0 to 19999 hours	—
Holding peak value ambient temperature monitor	Hp	02A0	672	31	RO	−10.0 to +100.0 °C	—
Power feed forward input value monitor [2]	HM	02C0	704	31	RO	0.0 to 160.0 % Display in the percentage of the load voltage (rated value).	—

[1] Varies with the setting of the Decimal point position selection.
[2] Unused on the FB100.
[3] 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."

Name	RKC Identifier	Modbus register address HEX	Modbus register address DEC	Number of data	Attribute	Data range	Factory set value
Backup memory state monitor	EM	02E0	736	31	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	—
PID/AT transfer	G1	0400	1024	31	R/W	0: PID control 1: Autotuning (AT)	0
Auto/Manual transfer	J1	0420	1056	31	R/W	0: Auto mode 1: Manual mode	0
Remote/Local transfer	C1	0440	1088	31	R/W	0: Local mode 1: Remote mode	0
RUN/STOP transfer	SR	0460	1120	31	R/W	0: RUN (control start) 1: STOP (control stop)	0
Memory area transfer	ZA	0480	1152	31	R/W	1 to 8	1
Interlock release	IL	04A0	1184	31	R/W	0: Interlock release (execution/state) 1: Interlock state "1" is for monitoring the interlocked state. Under this condition, do not write "1."	0
Event 1 set value	A1	04C0	1216	31	R/W	Deviation: −Input span to +Input span [1] Process and set value: Input scale low to Input scale high [1] Manipulated output value (MV1 or MV2): −5.0 to +105.0 %	50
Event 2 set value	A2	04E0	1248	31	R/W		50
Event 3 set value	A3	0500	1280	31	R/W		50
Event 4 set value	A4	0520	1312	31	R/W		50
Control loop break alarm (LBA) time	A5	0540	1344	31	R/W	0 to 7200 seconds (0: Unused)	480
LBA deadband	N1	0560	1376	31	R/W	0 to Input span [1]	0
Set value (SV)	S1	0580	1408	31	R/W	Setting limiter low to Setting limiter high [1]	TC/RTD inputs: 0 V/I inputs: 0.0
Proportional band [heat-side]	P1	05A0	1440	31	R/W	TC/RTD inputs: 0 (0.0, 0.00) to Input span [1] (Unit: °C [°F]) Voltage (V)/Current (I) inputs: 0.0 to 1000.0 % of input span (0, 0.0, 0.00: ON/OFF action)	TC/RTD inputs: 30 V/I inputs: 30.0
Integral time [heat-side]	I1	05C0	1472	31	R/W	PID control or Heat/Cool PID control: 0 to 3600 seconds or 0.0 to 1999.9 seconds [2] (0, 0.0: PD action) [3] Position proportioning PID control: 1 to 3600 seconds or 0.1 to 1999.9 seconds [2]	240
Derivative time [heat-side]	D1	05E0	1504	31	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [2] (0, 0.0: PI action)	60
Control response parameter	CA	0600	1536	31	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
Proportional band [cool-side]	P2	0620	1568	31	R/W	TC/RTD inputs: 1 (0.1, 0.01) to Input span [1] (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
Integral time [cool-side]	I2	0640	1600	31	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [2] (0, 0.0: PD action) [3]	240
Derivative time [cool-side]	D2	0660	1632	31	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [2] (0, 0.0: PI action)	60
Overlap/Deadband	V1	0680	1664	31	R/W	TC/RTD inputs: −Input span to +Input span [1] (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
Manual reset	MR	06A0	1696	31	R/W	−100.0 to +100.0 %	0.0
Setting change rate limiter (up)	HH	06C0	1728	31	R/W	0 to Input span/unit time * [1] (0: Unused)	0
Setting change rate limiter (down)	HL	06E0	1760	31	R/W	* Unit time: 60 seconds (factory set value)	0
Area soak time	TM	0700	1792	31	R/W	0 to 11999 seconds or 0 to 5999 minutes	0:00
Link area number	LP	0720	1824	31	R/W	0 to 8 (0: No link)	0
Heater break alarm 1 (HBA1) set value	A7	0740	1856	31	R/W	CTL-6-P-N: 0.0 to 30.0 A (0.0: Unused) CTL-12-S56-10L-N: 0.0 to 100.0 A (0.0: Unused)	0.0
Heater break determination point 1	NE	0760	1888	31	R/W	0.0 to 100.0 % of HBA1 set value (0.0: Heater break determination is invalid)	30.0
Heater melting determination point 1	NF	0780	1920	31	R/W	0.0 to 100.0 % of HBA1 set value (0.0: Heater melting determination is invalid)	30.0
Heater break alarm 2 (HBA2) set value	A8	07A0	1952	31	R/W	CTL-6-P-N: 0.0 to 30.0 A (0.0: Unused) CTL-12-S56-10L-N: 0.0 to 100.0 A (0.0: Unused)	0.0
Heater break determination point 2	NH	07C0	1984	31	R/W	0.0 to 100.0 % of HBA2 set value (0.0: Heater break determination is invalid)	30.0
Heater melting determination point 2	NI	07E0	2016	31	R/W	0.0 to 100.0 % of HBA2 set value (0.0: Heater melting determination is invalid)	30.0
PV bias	PB	0800	2048	31	R/W	−Input span to + Input span [1]	0
PV digital filter	F1	0820	2080	31	R/W	0.0 to 100.0 seconds (0.0: Unused)	0.0

[1] Varies with the setting of the Decimal point position selection.
[2] Varies with the setting of the Integral/Derivative time decimal point position selection.
[3] 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.

Name	RKC Identifier	Modbus register address HEX	Modbus register address DEC	Number of data	Attribute	Data range	Factory set value
PV ratio	PR	0840	2112	31	R/W	0.500 to 1.500	1.000
PV low input cut-off	DP	0860	2144	31	R/W	0.00 to 25.00 % of input span	0.00
RS bias	RB	0880	2176	31	R/W	−Input span to + Input span [a]	0
RS digital filter	F2	08A0	2208	31	R/W	0.0 to 100.0 seconds (0.0: Unused)	0.0
RS ratio	RR	08C0	2240	31	R/W	0.001 to 9.999	1.000
Proportional cycle time [heat-side]	T0	08E0	2272	31	R/W	0.1 to 100.0 seconds M: Relay contact output V: Voltage pulse output T: Triac output D: Open collector output	M output: 20.0 V, T, D output: 2.0
Proportional cycle time [cool-side]	T1	0900	2304	31	R/W		
Manual manipulated output value	ON	0920	2336	31	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
Set lock level	LK	0940	2368	31	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
STOP display [b]	DX	0960	2400	31	R/W	0: SToP is displayed on the PV display 1: SToP is displayed on the SV display	1
Bar graph display [b]	DA	0980	2432	31	R/W	0: No display 4: Deviation value 1: MV 5: CT1 input value 2: PV 6: CT2 input value 3: SV monitor	1
Bar graph display resolution [b]	DE	09A0	2464	31	R/W	1 to 100 digit/dot The resolution can be changed when the bar graph display was set to deviation value or CT input value.	100
Direct key 1 [b] [FB100] Direct key selection	DK	09C0	2496	31	R/W	[FB100] 0: Unused 1: Used [FB400/900] 0: Unused 1: A/M transfer key (Type 1, Type 2)	1
Direct key 2 [b, c]	DL	09E0	2528	31	R/W	0: Unused 1: MONI key (For type 1) or R/L transfer key (For type 2)	1
Direct key 3 [b, c]	DM	0A00	2560	31	R/W	0: Unused 1: AREA key (For type 1) or RUN/STOP transfer key (For type 2)	1
Direct key type [b]	DN	0A20	2592	31	R/W	[FB100] 1: Auto/Manual transfer 2: Monitor 3: Memory area transfer 4: Remote/Local transfer 5: RUN/STOP transfer [FB400/900] 1: Type 1 2: Type 2	1
Engineering mode For the data, refer to the **COM-JE Instruction Manual (IMR01Y07-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
Engineering mode For the data, refer to the **COM-JE Instruction Manual (IMR01Y07-E□)**.							
Automatic temperature rise learning	Y8	1A20	6688	31	R/W	0: Unused 1: Learning * * When the Automatic temperature rise learning is finished, the setting will automatically returns to "0: Unused."	1
Engineering mode data, Memory area data and Modbus data mapping address data For each data, refer to the **COM-JE Instruction Manual (IMR01Y07-E□)**.							
Comprehensive alarm state	AM	3800	14336	1	RO	Bit data Bit 0: Burnout state Bit 1: Burnout state of feedback resistance (FBR) input Bit 2: Event 1 state Bit 3: Event 2 state Bit 4: Event 3 state Bit 5: Event 4 state Bit 6: Heater break alarm 1 (HBA1) state Bit 7: Heater break alarm 2 (HBA2) state Bit 8 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 255] *OR* of Controller state 1 (Identifier: AK, Register address: 3820H) in all controller	—

[a] Varies with the setting of the Decimal point position selection.
[b] The attribute becomes RO (Read only data) during RUN (control).
[c] Unused on the FB100.

Name	RKC Identifier	Modbus register address HEX	Modbus register address DEC	Number of data	Attribute	Data range	Factory set value
Controller alarm state [1]	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, Register address: 3820H)	—
Error state [1]	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, Register address: 3840H)	—
RUN/STOP [1]	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, 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: Burnout state of feedback resistance (FBR) input Bit 2: Event 1 state Bit 3: Event 2 state Bit 4: Event 3 state Bit 5: Event 4 state Bit 6: Heater break alarm 1 (HBA1) state Bit 7: Heater break alarm 2 (HBA2) state Bit 8 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 255]	—
Controller state 2	AQ	3840	14400	31	RO	Bit data Bit 0: Adjustment data error Bit 1: Back-up error Bit 2: A/D conversion error Bit 3 to Bit 4: Unused Bit 5: Custom data error Bit 6: Unused Bit 7: Watchdog timer error Bit 8: Stack overflow Bit 9 to Bit 10: Unused Bit 11: Program error (busy) Bit 12 to Bit 14: Unused Bit 15: Controller communication error Data 0: OFF 1: ON [Decimal number: 0 to 35239]	—
Controller state 3	AS	3860	14432	31	RO	Bit data Bit 0: Control STOP Bit 1: Control RUN Bit 2: Manual mode [2] Bit 3: Remote mode [2] Bit 4 to Bit 13: Unused Bit 14: Backup memory state monitor Bit 15: Autotuning (AT) Data 0: OFF 1: ON [Decimal number: 0 to 49167]	—
Station number	QV	8000	32768	1	R/W	0 to 31	0
PC number [3]	QW	8001	32769	1	R/W	0 to 255	255
Register start number [4]	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 [a] 4: D register [b] 1: R register [a] 5: R register [b] 2: W register [a] 6: W register [b] 3: ZR register [b] 7 to 29: Do not set this one (D: Data register, R: File register, W: Link register) [a] A-compatible 1C frame [b] QnA-compatible 3C frame ●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: Do not set this one	0

[1] 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.
[2] 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."
[3] Do not set for the OMRON SYSMAC series.
[4] MITSUBISHI MELSEC series (A-compatible 1C frame) and OMRON SYSMAC series
Data range: 0 to 9937

Name	RKC Identifier	Modbus register address HEX	Modbus register address DEC	Number of data	Attribute	Data range	Factory set value
Monitor item selection	QS	8006	32774	1	R/W	Bit data Bit 0: Measured value (PV) Bit 1: Current transformer 1 (CT1) input value monitor Bit 2: Current transformer 2 (CT2) input value monitor Bit 3: Set value (SV) monitor Bit 4: Remote setting (RS) input value monitor 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 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 4095]	4095
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: On and after No. 83 of FB100/400/900 communication data items Bit 1: Memory area data items Bit 2: Data mapping address items Bit 3 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 7] FB100/400/900 communication data No. 1 to 82 and COM-JE communication data become valid unconditionally regardless of the setting.	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 **COM-JE Instruction Manual (IMR01Y07-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 Instruction Manual (IMR01Y07-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 Quick Instruction Manual (IMR01Y12-E□)**.

RKC INSTRUMENT INC. The first edition: JAN. 2005 [IMQ00]
The fifth edition: FEB. 2013 [IMQ00]
HEADQUARTERS: 16-6, KUGAHARA 5-CHOME, OHTA-KU TOKYO 146-8515 JAPAN
PHONE: 03-3751-9799 (+81 3 3751 9799) E-mail: info@rkcinst.co.jp
FAX: 03-3751-8585 (+81 3 3751 8585) Website: http://www.rkcinst.com
FEB. 2013