DeviceNet Communication Converter

COM-JH [For FB100/FB400/FB900] Communication Data List

IMR01Y19-E4

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

- COM-JH [For FB100/FB400/FB900] Installation Manual (IMR01Y04-E□): Enclosed with COM-JH
- COM-JH [For FB100/FB400/FB900] Quick Instruction Manual (IMR01Y14-E□): Enclosed with COM-JH
- COM-JH [For FB100/FB400/FB900] Instruction Manual (IMR01Y09-E□): Separate (Download free or purchase hard copy)

These manuals can be downloaded from our website:
URL: http://www.rkcinst.com/english/manual_load.htm

1. USAGE OF COMMUNICATION DATA ITEMS

"Communication items," the "Number of communication controllers" and the "Number of communication words" necessary for Polling I/O communication are set via Explicit message communication or using the configuration tool.

For Explicit message communication and the configuration tool, refer to **COM-JH [For FB100/FB400/FB900] Instruction Manual (IMR01Y09-E□)**.

● Communication items

The measured data item (IN) and setting data item (OUT) communicating via Polling I/O communication set the attribute ID, Controller object (0x64: 64Hex) to object instance 1 corresponding to the device profile, Controller communication item setting object (0xC7: C7Hex).

For Controller communication item setting object (0xC7: C7Hex) and Controller object (0x64: 64Hex), refer to **3. DEVICE PROFILES** and the **COM-JH [For FB100/FB400/FB900] Instruction Manual (IMR01Y09-E□)**.

● Number of communication controllers

The Number of communication controllers means the number of controllers connected to the COM-JH.
The Number of communication controllers is set to attribute ID: 236 of the device profile, Controller object (0x64: 64Hex).

The Number of communication controllers can be set even by the Communication environment setting made by the COM-JH rotary switch.

- For Controller object (0x64: 64Hex), refer to **3. DEVICE PROFILES** and the **COM-JH [For FB100/FB400/FB900] Instruction Manual (IMR01Y09-E□)**.
- For communication environment setting made by the rotary switch, refer to **COM-JH [For FB100/FB400/FB900] Quick Instruction Manual (IMR01Y14-E□)**.

● Number of communication words

The Number of communication words means the number of words corresponding to the measured data item (IN) and setting data item (OUT) communicating via Polling I/O communication.
The Number of communication words is set by the attribute IDs, 240 [measured data item (IN)] and 241 [setting data item (OUT)] in device profile Controller object (0x64: 64Hex).

The Number of communication words can be calculated from the following equation.

Number of communication words
= Number of communication items × Number of communication controllers
+ Fixed communication date items: 5 words *

* Measured data items (IN)
Receive counter: 1 word, Alarm state: 2 words, RUN/STOP state: 2 words
Setting data items (OUT)
Setting state selection: 3 words, RUN/STOP transfer: 2 words

The Number of communication words can be set even by the Communication environment setting made by the COM-JH rotary switch.

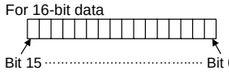
- For Controller object (0x64: 64Hex), refer to **3. DEVICE PROFILES** and the **COM-JH [For FB100/FB400/FB900] Instruction Manual (IMR01Y09-E□)**.
- For communication environment setting made by the rotary switch and fixed communication data items, refer to **COM-JH [For FB100/FB400/FB900] Quick Instruction Manual (IMR01Y14-E□)**.

2. CONTROLLER OBJECT DATA ITEMS

The contents of the object instance in Controller object (0x64) are shown in the following according to attribute ID.

- ID
  Attribute ID
- Number of data items
  1: Only object instance 1 is valid
  2: Only object instance 1 and 2 are valid
  31: Valid for object instance 1 to 31
- Attribute
  RO: Only reading data is possible (Get: Yes, Set: No)
  R/W: Reading and writing data is possible (Get: Yes, Set: Yes)
- Data range

For 16-bit data



- For Controller object (0x64: 64Hex), refer to **3. DEVICE PROFILE** and the **COM-JH [For FB100/FB400/FB900] Instruction Manual (IMR01Y09-E□)**.
- For details of data item, refer to **COM-JH [For FB100/FB400/FB900] Instruction Manual (IMR01Y09-E□)**.

ID	Name	Number of data items	Attribute	Data range	Factory set value
1	Measured value (PV)	31	RO	Input scale low to Input scale high	—
2	Current transformer 1 (CT1) input value monitor	31	RO	CTL-6-P-N: 0.0 to 30.0A CTL-12-S56-10L-N: 0.0 to 100.0 A	—
3	Current transformer 2 (CT2) input value monitor	31	RO		—
4	Set value (SV) monitor	31	RO	Setting limiter low to Setting limiter high	—
5	Remote setting (RS) input value monitor	31	RO	Setting limiter low to Setting limiter high	—
6	Burnout state monitor	31	RO	0: OFF 1: ON	—
7	Burnout state monitor of feedback resistance input	31	RO	0: OFF 1: ON	—
8	Event 1 state monitor	31	RO	0: OFF 1: ON	—
9	Event 2 state monitor	31	RO		—
10	Event 3 state monitor	31	RO		—
11	Event 4 state monitor	31	RO		—
12	Heater break alarm 1 (HBA1) state monitor	31	RO	0: OFF 1: ON	—
13	Heater break alarm 2 (HBA2) state monitor	31	RO		—
14	Manipulated output value (MV1) monitor [heat-side]	31	RO	PID control or Heat/Cool PID control: −5.0 to +105.0 % Position proportioning control with feedback resistance (FBR) input: 0.0 to 100.0 %	—
15	Manipulated output value (MV2) monitor [cool-side]	31	RO	−5.0 to +105.0 %	—
16	Error code	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]	—
17	Digital input (DI) state monitor	31	RO	Bit data Bit 0: DI1 Bit 4: DI5 Bit 1: DI2 Bit 5: DI6 [1] Bit 2: DI3 Bit 6: DI7 [1] Bit 3: DI4 Bit 7 to Bit 15: Unused Data 0: Contact open 1: Contact closed [Decimal number: 0 to 127]	—
18	Output state monitor	31	RO	Bit data Bit 0: OUT1 Bit 4: DO3 [1] Bit 1: OUT2 Bit 5: DO4 [1] Bit 2: DO1 Bit 6 to Bit 15: Unused Bit 3: DO2 Data 0: OFF 1: ON [Decimal number: 0 to 63]	—
19	Operation mode state monitor	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 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 15]	—
20	Memory area soak time monitor	31	RO	0 to 11999 seconds or 0 to 5999 minutes Data range of Area soak time can be selected on the Soak time unit.	—
21	Integrated operating time monitor	31	RO	0 to 19999 hours	—
22	Holding peak value ambient temperature monitor	31	RO	−10.0 to +100.0 °C	—
23	Power feed forward input value monitor [1]	31	RO	0.0 to 160.0 % Display in the percentage of the load voltage (rated value).	—
24	Backup memory state monitor	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	—
25 ⋮ 32	Unused	—	—	—	—
33	PID/AT transfer [1]	31	R/W	0: PID control 1: Autotuning (AT) * * Automatically reverts to 0 after autotuning ends.	0
34	Auto/Manual transfer	31	R/W	0: Auto mode 1: Manual mode	0
35	Remote/Local transfer	31	R/W	0: Local mode 1: Remote mode	0
36	RUN/STOP transfer	31	R/W	0: RUN (control start) 1: STOP (control stop)	0
37	Memory area transfer	31	R/W	1 to 8	1
38	Interlock release	31	R/W	0: Interlock release (Execution/State) 1: Interlock "1" is for monitoring the interlocked state. Under this condition, do not write "1."	0
39	Event 1 set value ★	31	R/W	Deviation: −Input span to +Input span Process and set value: Input scale low to Input scale high Manipulated output value (MV1 or MV2): −5.0 to +105.0 %	50
40	Event 2 set value ★	31	R/W		50
41	Event 3 set value ★	31	R/W		50
42	Event 4 set value ★	31	R/W		50
43	Control loop break alarm (LBA) time ★	31	R/W	0 to 7200 seconds (0: Unused)	480
44	LBA deadband ★	31	R/W	0 to Input span	0
45	Set value (SV) ★	31	R/W	Setting limiter low to Setting limiter high	TC/RTD inputs: 0 V/I inputs: 0.0
46	Proportional band [heat-side] ★	31	R/W	TC/RTD inputs: 0 (0.0, 0.00) to Input span (Unit: °C [°F]) [2] 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
47	Integral time [heat-side] ★	31	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 control: 1 to 3600 seconds or 0.1 to 1999.9 seconds [3]	240
48	Derivative time [heat-side] ★	31	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [3] (0, 0.0: PI action)	60
49	Control response parameter ★	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 control: 0 Heat/Cool PID control: 2
50	Proportional band [cool-side] ★	31	R/W	TC/RTD inputs: 1 (0.1, 0.01) to Input span (Unit: °C [°F]) [2] Voltage (V)/Current (I) inputs: 0.1 to 1000.0 % of Input span	TC/RTD inputs: 30 V/I inputs: 30.0
51	Integral time [cool-side] ★	31	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [3] (0, 0.0: PD action) [4]	240
52	Derivative time [cool-side] ★	31	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [3] (0, 0.0: PI action)	60
53	Overlap/Deadband ★	31	R/W	TC/RTD inputs: −Input span to +Input span (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
54	Manual reset ★	31	R/W	−100.0 to +100.0 %	0.0
55	Setting change rate limiter (up) ★	31	R/W	0 to Input span/unit time * (0: Unused)	0
56	Setting change rate limiter (down) ★	31	R/W	* Unit time: 60 seconds (factory set value)	0
57	Area soak time ★	31	R/W	0 to 11999 seconds or 0 to 5999 minutes Data range of Area soak time can be selected on the Soak time unit.	0
58	Link area number ★	31	R/W	0 to 8 (0: No link)	0
59	Heater break alarm 1 (HBA1) set value	31	R/W	CTL-6-P-N: 0.0 to 30.0 A (0.0: Not used) CTL-12-S56-10L-N: 0.0 to 100.0 A (0.0: Not used)	0.0
60	Heater break determination point 1	31	R/W	0.0 to 100.0 % of HBA1 set value (0.0: Heater break determination is invalid)	30.0
61	Heater melting determination point 1	31	R/W	0.0 to 100.0 % of HBA1 set value (0.0: Heater melting determination is invalid)	30.0
62	Heater break alarm 2 (HBA2) set value	31	R/W	CTL-6-P-N: 0.0 to 30.0 A (0.0: Not used) CTL-12-S56-10L-N: 0.0 to 100.0 A (0.0: Not used)	0.0
63	Heater break determination point 2	31	R/W	0.0 to 100.0 % of HBA2 set value (0.0: Heater break determination is invalid)	30.0
64	Heater melting determination point 2	31	R/W	0.0 to 100.0 % of HBA2 set value (0.0: Heater melting determination is invalid)	30.0
65	PV bias	31	R/W	−Input span to + Input span	0
66	PV digital filter	31	R/W	0.0 to 100.0 seconds (0.0: Unused)	0.0
67	PV ratio	31	R/W	0.500 to 1.500	1.000
68	PV low input cut-off	31	R/W	0.00 to 25.00 % of input span	0.00
69	RS bias	31	R/W	−Input span to + Input span	0
70	RS digital filter	31	R/W	0.0 to 100.0 seconds (0.0: Unused)	0.0
71	RS ratio	31	R/W	0.001 to 9.999	1.000
72	Proportional cycle time [heat-side]	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
73	Proportional cycle time [cool-side]	31	R/W		
74	Manual manipulated output value	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 control with feedback resistance (FBR) input: Output limiter low [MV1] to Output limiter high [MV1]	0.0
75	Set lock level	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
76 ⋮ 203	Engineering mode For the data, refer to **COM-JH [For FB100/FB400/FB900] Instruction Manual (IMR01Y09-E□)**.				
204	Startup tuning (ST)	31	R/W	0: Startup tuning (ST) unused 1: Execute once * 2: Execute always * Automatically reverts to 0 after Startup tuning (ST) ends.	0
205 ⋮ 209	Engineering mode For the data, refer to **COM-JH [For FB100/FB400/FB900] Instruction Manual (IMR01Y09-E□)**.				
210	Automatic temperature rise learning	31	R/W	0: Unused 1: Learning * * Automatically reverts to 0 after automatic temperature rise learning ends.	1
211 ⋮ 224	Engineering mode For the data, refer to **COM-JH [For FB100/FB400/FB900] Instruction Manual (IMR01Y09-E□)**.				
225	Controller state 1	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]	—
226	Controller state 2	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]	—
227	Controller state 3	31	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 14: Unused Bit 15: Autotuning (AT) Data 0: OFF 1: ON [Decimal number: 0 to 32783]	—
228 ⋮ 230	Unused	—	—	—	—

★: Data related to Multi-memory area function
It is possible to change only the data of the control area which is selected by the memory area transfer (ID: 37).

[1] Unused on the FB100.

[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."

[1] When using PID/AT transfer by Polling I/O communication, it is necessary to set Action mode selection to "PID/AT transfer by Polling I/O communication is valid."

[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] 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."

ID	Name	Number of data items	Attribute	Data range	Factory set value
231	Comprehensive alarm state [1]	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 (ID: 225) in all controller	—
232	Controller alarm state [1]	2	RO	Bit data Object instance 1: Bit 0 to Bit 15: Controller 1 to 16 Object instance 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 (ID: 225)	—
233	Error state [1]	2	RO	Bit data Object instance 1: Bit 0 to Bit 15: Controller 1 to 16 Object instance 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 (ID: 226)	—
234	RUN/STOP [1]	2	R/W	Bit data Object instance 1: Bit 0 to Bit 15: Controller 1 to 16 Object instance 2: Bit 0 to Bit 14: Controller 17 to 31 Data RUN/STOP state is depending on the value of RUN/STOP logic selection (ID: 242) • ID: 242 = 0 0: RUN (control start) 1: STOP (control stop) • ID: 242 = 1 0: STOP (control stop) 1: RUN (control start) [Decimal number: 0 to 65535] Link RUN/STOP transfer (ID: 36)	0
235	Setting update flag [1]	1	RO	0: Setting update is completed 1: During setting update	—
236	Number of Polling I/O communication controllers [1]	1	R/W	1 to 31	10
237	Unused	—	—	—	—
238	COM-JH error code [1]	1	RO	Bit data Bit 0: Back-up error Bit 1: Controller communication error Bit 2 to Bit 15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 3]	—
239	Number of connected controller in controller communication [1]	1	RO	0 to 31	—
240	Number of communication measured data items (IN) when conducting Polling I/O communication [1, 2]	1	R/W	0: Depends on the DIP switch setting 1 to 5: 5 words 6 to 200: 6 to 200 words	0
241	Number of communication setting data items (OUT) when conducting Polling I/O communication [1, 2]	1	R/W	0: Depends on the DIP switch setting 1 to 5: 5 words 6 to 200: 6 to 200 words	0
242	RUN/STOP logic selection [1, 2]	1	R/W	0: RUN = 0, STOP = 1 1: RUN = 1, STOP = 0 Valid to RUN/STOP (ID: 234) and the 4th word and the 5th word in the Polling I/O communication setting item (OUT). However, invalid to the RUN/STOP transfer (ID: 36).	0
243	Setting validity selection [1]	1	R/W	0: The setting is validated when the power is turned off once after the setting is changed and it is turned on again. 1: The setting is validated just after the setting is changed. Object data • The data of "Controller communication item setting object (0xC7)" • The data of "Number of Polling I/O communication controllers (ID: 236)"	0
244	Unused	—	—	—	—
245	Controller address setting [1, 2]	1	R/W	0 to 99 (0: No communication)	1 to 31
246	Action mode selection [1, 2] ♦	1	R/W	Bit data Bit 0: Address setting method transfer 0: Continuous setting 1: Free setting Bit 1: PID/AT transfer by Polling I/O communication 0: Disabled 1: Enabled Bit 2 to Bit 15: Unused [Decimal number: 0 to 3]	0
247	Automatic acquisition of controller address [1, 2]	1	R/W	0: Do not execute the automatic acquisition 1: Execute the automatic acquisition	0
248 ⋮ 255	Unused	—	—	—	—

: It is possible to set in the communication environment setting by the rotary switch of COM-JH or configuration tool.

♦: Communication environment setting by rotary switch of COM-JH is possible.

[1] Valid only when Explicit message communication is used.

[2] The setting is validated when the power is turned off once after the setting is changed and it is turned on again.

For communication environment setting by the rotary switch, refer to the **COM-JH [For FB100/ FB400/FB900] Quick Instruction Manual (IMR01Y14-E□).**

3. DEVICE PROFILES

A device profile is the specification that defined each necessary parameter with DeviceNet. Use it after understanding contents of a device profile of COM-JH fully when connected to a master.

3.1 Basic Data

■ General device data

Conforms to DeviceNet specification	Volume I -Release 2.0 Volume II -Release 2.0
Vender name	RKC INSTRUMENT INC. (Vender ID = 394)
Device profile name	Generic Device
Product catalog number	Instruction manual number: Japanese: IMR01Y04-J□, IMR01Y14-J□, IMR01Y19-J□, IMR01Y09-J□ English: IMR01Y04-E□, IMR01Y14-E□, IMR01Y19-E□, IMR01Y09-E□
Product revision	2.1

■ Physical conformance data

Network power consumption	2 mA @ 11 V DC 4 mA @ 24 V DC
Connector type	Open-style connector or Micro-style connector
Insulated physical layer	Provided
LEDs supported	Module, Network
MAC ID setting	Rotary switch (Node address setting)
Default MAC ID	63
Communication speed setting	Rotary switch (DeviceNet communication speed setting)
Communication speed supported	125 kbps, 250 kbps, 500 kbps

■ Communication data

Predefined master/ slave connection set	Group 2 Only server
Dynamic connection supported (UCMM)	Not supported
Fragmented Explicit Messaging	None

3.2 Object Mounting

■ Identity Object (0x01: 01Hex)

● Object class

Attributes	Not supported
Services	Not supported

● Object instance 1

	ID	Description	Get	Set	Type	Value
Attributes	1	Vender	Yes	No	UINT	394
	2	Product type	Yes	No	UINT	0
	3	Product code	Yes	No	UINT	5
	4	Revision	Yes	No		
		Major revision			UINT	2
		Minor revision			UINT	1
	5	Status (bits supported)	Yes	No	WORD	Note
	6	Serial number	Yes	No	UDINT	
	7	Product name	Yes	No		
		Length			UINT	5
		Name			STRING	COM01

	DeviceNet service		Parameter option
Services	0x05	Reset	0
	0x0E	Get_Attribute_Single	None

Note A bit layout of "Status"
Bit 0: Owned
Bit 7: Set to 1 when a self-diagnostic error occurs.
Self-diagnostic error: When attribute ID: 238 (COM-JH error code) of the Controller object (0x64) is set to 1, a self-diagnostic error occurs.
Bit 1 to 6 and Bit 8 to 15: Unused

■ Message Router Object (0x02: 02Hex)

● Object class

Attributes	Not supported
Services	Not supported

● Object instance

Attributes	Not supported
Services	Not supported

■ DeviceNet Object (0x03: 03Hex)

● Object class

	ID	Description	Get	Set	Type	Value
Attributes	1	Revision	Yes	No	UINT	2

	DeviceNet service		Parameter option
Services	0x0E	Get_Attribute_Single	None

● Object instance 1

	ID	Description	Get	Set	Type	Value
Attributes	1	MAC ID	Yes	No	UINT	0 to 63
	2	Baud rate	Yes	No	UINT	0 to 2
	3	BOI	Yes	No	BOOL	0
	4	Bus-off counter	Yes	Yes	USINT	
	5	Allocation information	Yes	No		
		Allocation choice byte			BYTE	
		Master's MAC ID			USINT	
	6	MAC ID switch changed	Yes	No	BOOL	0, 1
	7	Baud rate switch changed	Yes	No	BOOL	0, 1
	8	MAC ID switch value	Yes	No	USINT	0 to 63
	9	Baud rate switch value	Yes	No	USINT	0 to 2

	DeviceNet service		Parameter option
Services	0x0E	Get_Attribute_Single	None
	0x10	Set_Attribute_Single	None
	0x4B	Allocate_Master/Slave_ Connection_Set	None
	0x4C	Release_Group_2_Identifire_Set	None

■ Assembly Object (0x04: 04Hex)

● Object class

	ID	Description	Get	Set	Type	Value
Attributes	1	Revision	Yes	No	UINT	2

	DeviceNet service		Parameter option
Services	0x0E	Get_Attribute_Single	None

● Object instance 100

	ID	Description	Get	Set	Type	Value
Attributes	3	Data	Yes	No	INT	Controller1: Measured value (PV)

	DeviceNet service		Parameter option
Services	0x0E	Get_Attribute_Single	None

● Object instance 101

	ID	Description	Get	Set	Type	Value
Attributes	3	Data	Yes	Yes	INT	Controller 1: Set value (SV)

	DeviceNet service		Parameter option
Services	0x0E	Get_Attribute_Single	None
	0x10	Set_Attribute_Single	None

■ Connection Object (0x05: 05Hex)

● Object class

Attributes	Not supported
Services	Not supported
Number of maximum possible active connection	1

● Object instance 1

	Section	Information	Number of maximum instance
	Instance type	Explicit Message	1
	Production trigger	Cyclic	
	Transport type	Server	
	Transport class	3	

	ID	Description	Get	Set	Type	Value
Attributes	1	State	Yes	No	USINT	
	2	Instance type	Yes	No	USINT	0x00
	3	Transport class trigger	Yes	No	BYTE	0x83
	4	Produced connection ID	Yes	No	UINT	
	5	Consumed connection ID	Yes	No	UINT	
	6	Initial comm. Characteristics	Yes	No	BYTE	0x21
	7	Produced connection size	Yes	No	UINT	7
	8	Consumed connection size	Yes	No	UINT	7
	9	Expected packet rate	Yes	Yes	UINT	Default: 2500
	12	Watchdog time-out action	Yes	Yes	USINT	1, 3
	13	Produced connection path length	Yes	No	UINT	0
	14	Produced connection path	Yes	No	(null)	
	15	Consumed connection path length	Yes	No	UINT	0
	16	Consumed connection path	Yes	No	(null)	

	DeviceNet service		Parameter option
Services	0x05	Reset	None
	0x0E	Get_Attribute_Single	None
	0x10	Set_Attribute_Single	None

● Object instance 2

	Section	Information	Number of maximum instance
	Instance type	Polled I/O	1
	Production trigger	Cyclic	
	Transport type	Server	
	Transport class	3	

	ID	Description	Get	Set	Type	Value
Attributes	1	State	Yes	No	USINT	
	2	Instance type	Yes	No	USINT	0x01
	3	Transport class trigger	Yes	No	BYTE	0x82
	4	Produced connection ID	Yes	No	UINT	
	5	Consumed connection ID	Yes	No	UINT	
	6	Initial comm. Characteristics	Yes	No	BYTE	0x01
	7	Produced connection size	Yes	No	UINT	Note
	8	Consumed connection size	Yes	No	UINT	Note
	9	Expected packet rate	Yes	Yes	UINT	Default: 0
	12	Watchdog time-out action	Yes	No	USINT	0
	13	Produced connection path length	Yes	No	UINT	6
	14	Produced connection path	Yes	No		
		Logic Segment, Class			USINT	0x20
		Class Number			USINT	0x04
		Logic Segment, Instance			USINT	0x24
		Instance Number			USINT	0x64
		Logic Segment, Attributes			USINT	0x30
		Attributes Number			USINT	0x03
	15	Consumed connection path length	Yes	No	UINT	6
	16	Consumed connection path	Yes	No		
		Logic Segment, Class			USINT	0x20
		Class Number			USINT	0x04
		Logic Segment, Instance			USINT	0x24
		Instance Number			USINT	0x65
		Logic Segment, Attributes			USINT	0x30
		Attributes Number			USINT	0x03

	DeviceNet service		Parameter option
Services	0x05	Reset	None
	0x0E	Get_Attribute_Single	None
	0x10	Set_Attribute_Single	None

Note: Make the setting by any of the following methods. (The value is validated with the power turned on)
- Select with the DIP switch [14 (7 words), 50 (25 words), 90 (45 words), 200 (100 words)]
- Set with number setting (attribute ID: 240 and 241) of communication data of Controller object (0x64).

■ Controller Object (0x64: 64Hex)

● Object class

Attributes	Not supported
Services	Not supported

● Object instance □ (□: 1 to 31)

Any object instance from 1to 31 corresponds to any device address from 1 to 31 of controller.

For details of object instance, refer to **2. CONTROLLER OBJECT DATA ITEMS**.

■ Controller Communication Item Setting Object (0xC7: C7Hex)

Measured data item (IN) and setting data item (OUT) communicating via Polling I/O communication are set by the attribute ID in Controller object (0x64: 64Hex).

● Object class

Attributes	Not supported
Services	Not supported

● Object instance 1

	ID	Description	Get	Set	Type	Value *
Attributes	1	Measured data item (IN) 1	Yes	Yes	UINT	1: Measured value (PV)
	2	Measured data item (IN) 2	Yes	Yes	UINT	0
	⋮	⋮	⋮	⋮	⋮	⋮
	32	Measured data item (IN) 32	Yes	Yes	UINT	0
	33	Setting data item (OUT) 1	Yes	Yes	UINT	45: Set value (SV)
	34	Setting data item (OUT) 2	Yes	Yes	UINT	0
	⋮	⋮	⋮	⋮	⋮	⋮
	64	Setting data item (OUT) 32	Yes	Yes	UINT	0

	DeviceNet service		Parameter option
Services	0x0E	Get_Attribute_Single	None
	0x10	Set_Attribute_Single	None

* Attribute ID 2 to 32 and Attribute ID 34 to 64: 0 (factory set value)

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