DeviceNet Communication Converter

COM-JH [For SRZ] Communication Data List

IMR01Y32-E1

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 SRZ] Installation Manual (IMR01Y24-E□): Enclosed with COM-JH
- COM-JH [For SRZ] Quick Instruction Manual (IMR01Y28-E□): Enclosed with COM-JH
- COM-JH [For SRZ] Instruction Manual (IMR01Y36-E□): Separate (Download or sold separately)

The above 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, see **COM-JH [For SRZ] Instruction Manual (IMR01Y36-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, 0x65: 65Hex, 0x66: 66Hex)" 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, 0x65: 65Hex, 0x66: 66Hex)," see **3. DEVICE PROFILES** and the **COM-JH [For SRZ] Instruction Manual (IMR01Y36-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 Z-TIO module 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 details of the number of communication controllers, see **COM-JH [For SRZ] Instruction Manual (IMR01Y36-E□)**.
- For communication environment setting made by the rotary switch, see **COM-JH [For SRZ] Quick Instruction Manual (IMR01Y28-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 to attribute ID: 240 [Measured data item (IN)] and 241 [Setting data item (OUT)] of the Z-TIO module object (0x64: 64Hex)

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

Number of communication words
= (Number of words of first communication item for one module
+ Number of words of next communication item for one module •••
+ Number of words of last communication item for one module)
× 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.

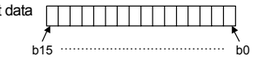
- For details of the number of communication words, see **COM-JH [For SRZ] Instruction Manual (IMR01Y36-E□)**.
- For communication environment setting made by the rotary switch and fixed communication data items, see **COM-JH [For SRZ] Quick Instruction Manual (IMR01Y28-E□)**.

2. CONTROLLER OBJECT DATA ITEMS

The controller objects consist of the three types below. The content of each object is indicated by the order of the attribute IDs.

- Z-TIO module object (0x64: 64Hex)
- Z-TIO module extended object (0x65: 65Hex)
- Z-DIO module object (0x66: 66Hex)

- ID: Attribute ID
- Number of data items: 1: Only object instance 1 is valid
  2: Only object instance 1 and 2 are valid
  16: Valid for object instance 1 to 16
  31: Valid for object instance 1 to 31
  64: Valid for object instance 1 to 64
  128: Valid for object instance 1 to 128
- 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 details of data item, see **COM-JH [For SRZ] Instruction Manual (IMR01Y36-E□)**.

■ Z-TIO Module Object (0x64: 64Hex)

ID	Name	Number of data items	Attribute	Data range	Factory set value
1	Measured value (PV)	64	RO	Input scale low to Input scale high	—
2	Current transformer (CT) input value monitor	64	RO	CTL-6-P-N: 0.0 to 30.0A CTL-12-S56-10L-N: 0.0 to 100.0 A	—
3	Unused	—	—	—	—
4	Set value (SV) monitor	64	RO	Setting limiter (low) to Setting limiter (high)	—
5	Remote setting (RS) input value monitor	64	RO	Setting limiter (low) to Setting limiter (high)	—
6	Burnout state monitor	64	RO	0: OFF 1: ON	—
7	Unused	—	—	—	—
8	Event 1 state monitor	64	RO	0: OFF 1: ON	—
9	Event 2 state monitor	64	RO		—
10	Event 3 state monitor [1]	64	RO		—
11	Event 4 state monitor	64	RO		—
12	Heater break alarm (HBA) state monitor	64	RO	0: OFF 1: ON	—
13	Unused	—	—	—	—
14	Manipulated output value (MV) monitor [heat-side]	64	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 (MV) monitor [cool-side]	64	RO	−5.0 to +105.0 %	—
16	Error code	16	RO	Bit data b0: Adjustment data error b1: Data back-up error b2: A/D conversion error b3, b4: Unused b5: Logic output data error b6 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 39]	—
17	Unused	—	—	—	—
18	Output state monitor	16	RO	Bit data b0: OUT1 state b2: OUT3 state b1: OUT2 state b3: OUT4 state b4 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 15]	—
19	Operation mode state monitor	64	RO	Bit data b0: Control STOP b1: Control RUN b2: Manual mode b3: Remote mode b4 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 15]	—
20	Memory area soak time monitor	64	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	16	RO	0 to 19999 hours	—
22	Holding peak value ambient temperature monitor	64	RO	−10.0 to +100.0 °C or 14 to 212 °F	—
23	Unused	—	—	—	—
24	Backup memory state monitor	16	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 [2]	64	R/W	0: PID control 1: Autotuning (AT) * * Automatically reverts to 0 after autotuning ends.	0
34	Auto/Manual transfer	64	R/W	0: Auto mode 1: Manual mode	0
35	Remote/Local transfer	64	R/W	0: Local mode 1: Remote mode	0
36	RUN/STOP transfer	16	R/W	0: STOP (control stop) 1: RUN (control start)	0
37	Memory area transfer	64	R/W	1 to 8	1
38	Interlock release	64	R/W	0: Normal state 1: Interlock release execution	0
39	Event 1 set value ★	64	R/W	Deviation action, Deviation action between channels, Temperature rise completion range *: −Input span to +Input span Process action, SV action: Input scale low to Input scale high Manipulated output value (MV): −5.0 to +105.0 % * When temperature rise completion is selected at Event 3 action type.	50
40	Event 2 set value ★	64	R/W		50
41	Event 3 set value ★	64	R/W		50
42	Event 4 set value ★	64	R/W		50
43	Control loop break alarm (LBA) time ★	64	R/W	0 to 7200 seconds (0: Unused)	480
44	LBA deadband ★	64	R/W	0 (0.0) to Input span	0 (0.0)
45	Set value (SV) ★	64	R/W	Setting limiter (low) to Setting limiter (high)	TC/RTD inputs: 0 °C V/I inputs: 0.0 %
46	Proportional band [heat-side] ★	64	R/W	TC/RTD inputs: 0 (0.0) to Input span (Unit: °C [°F]) Voltage (V)/current (I) inputs: 0.0 to 1000.0 % of Input span (0, 0.0: ON/OFF action)	TC/RTD inputs: 30 V/I inputs: 30.0
47	Integral time [heat-side] ★	64	R/W	PID control or heat/cool PID control: 0 to 3600 seconds or 0.0 to 1999.9 seconds [1] (0, 0.0: PD action) Position proportioning control: 1 to 3600 seconds or 0.1 to 1999.9 seconds [1]	240
48	Derivative time [heat-side] ★	64	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [1] (0, 0.0: PI action)	60
49	Control response parameter ★	64	R/W	0: Slow 1: Medium 2: Fast [P or PD action: 2 (Fast) fixed]	PID control, Position proportioning control: 0 Heat/cool PID control: 2
50	Proportional band [cool-side] ★	64	R/W	TC/RTD inputs: 1 (0.1) to Input span (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
51	Integral time [cool-side] ★	64	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds [1] (0, 0.0: PD action)	240
52	Derivative time [cool-side] ★	64	R/W	00 to 3600 seconds or 0.0 to 1999.9 seconds [1] (0, 0.0: PI action)	60
53	Overlap/Deadband ★	64	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.	0
54	Manual reset ★	64	R/W	−100.0 to +100.0 %	0.0
55	Setting change rate limiter (up) ★	64	R/W	0 (0.0) to Input span/unit time * 0 (0.0): Unused	0 (0.0)
56	Setting change rate limiter (down) ★	64	R/W	* Unit time: 60 seconds (factory set value)	0 (0.0)
57	Area soak time ★	64	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 ★	64	R/W	0 to 8 (0: No link)	0
59	Heater break alarm (HBA) set value	64	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
60	Heater break determination point	64	R/W	0.0 to 100.0 % of HBA set value (0.0: Heater break determination is invalid)	30.0
61	Heater melting determination point	64	R/W	0.0 to 100.0 % of HBA set value (0.0: Heater melting determination is invalid)	30.0
62	Unused	—	—	—	—
63	Unused	—	—	—	—
64	Unused	—	—	—	—
65	PV bias	64	R/W	−Input span to + Input span	0
66	PV digital filter	64	R/W	0.0 to 100.0 seconds (0.0: Unused)	0.0
67	PV ratio	64	R/W	0.500 to 1.500	1.000
68	PV low input cut-off	64	R/W	0.00 to 25.00 % of input span	0.00
69	RS bias [2]	64	R/W	−Input span to + Input span	0
70	RS digital filter [2]	64	R/W	0.0 to 100.0 seconds (0.0: Unused)	0.0
71	RS ratio [2]	64	R/W	0.001 to 9.999	1.000
72	Proportional cycle time	64	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	Unused	—	—	—	—
74	Manual manipulated output value	64	R/W	PID control: Output limiter (low) to Output limiter (high) Heat/cool PID control: −Output limiter (high) to +Output limiter (high) Position proportioning control with feedback resistance (FBR) input: Output limiter (low) to Output limiter (high) Position proportioning control (without FBR input): 0: Close-side output OFF, Open-side output OFF 1: Close-side output ON, Open-side output OFF 2: Close-side output OFF, Open-side output ON	0.0
75 ⋮ 82	Unused	—	—	—	—
83 ⋮ 203	Engineering setting data For the data, see **COM-JH [For SRZ] Instruction Manual (IMR01Y36-E□)**.				
204	Startup tuning (ST)	64	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 setting data For the data, see **COM-JH [For SRZ] Instruction Manual (IMR01Y36-E□)**.				
210	Automatic temperature rise learning	64	R/W	0: Unused 1: Learning * * Automatically reverts to 0 after automatic temperature rise learning ends.	0
211 ⋮ 224	Engineering setting data For the data, see **COM-JH [For SRZ] Instruction Manual (IMR01Y36-E□)**.				
225	Controller state 1	31	RO	Bit data Z-TIO module: b0: Burnout state b1: Unused b2: Event 1 state b3: Event 2 state b4: Event 3 state b5: Event 4 state b6: Heater break alarm (HBA) state b7 to b15: Unused *OR* data for each Z-TIO module. Z-DIO module: b0 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 125]	—
226	Controller state 2	31	RO	Bit data Z-TIO module: b0: Adjustment data error b1: Data back-up error b2: A/D conversion error b3: Unused b4: Unused b5: Logic output data error b6 to b14: Unused b15: Controller communication error Z-DIO module: b0: Unused b1: Data back-up error b2 to b14: Unused b15: Controller communication error Data 0: OFF 1: ON [Decimal number: 0 to 32807]	—
227 ⋮ 230	Unused	—	—	—	—
231	Comprehensive alarm state [1]	1	RO	Bit data b0: Burnout state b1: Unused b2: Event 1 state b3: Event 2 state b4: Event 3 state b5: Event 4 state b6: Heater break alarm (HBA) state b7 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 125]	—
232	Controller alarm state [1]	2	RO	Bit data Object instance 1: b0 to b15: Controller 1 to 16 Object instance 2: b0 to b14: 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: b0 to b15: Controller 1 to 16 Object instance 2: b0 to b14: 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: b0 to b15: Controller 1 to 16 Object instance 2: b0 to b14: 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)	1

[1] If the Event 3 type is temperature rise completion, check the temperature rise completion state in the comprehensive event state [Z-TIO module extended object (0x65: 65Hex) ID: 1]. (The Event 3 state monitor does not turn ON.)
[2] 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."

★: 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] Varies with the setting of the integral/derivative time decimal point position selection.
[2] The RS bias, RS ratio, and RS digital filter are data for cascade control and proportion setting control.

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

(Continued on the next page ➔)

ID	Name	Number of data items	Attribute	Data range	Factory set value
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 b0: Back-up error b1: Controller communication error b2 to b15: 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).	1
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 32 (0: No communication)	1 to 31
246	Action mode selection [1, 2] ♦	1	R/W	Bit data b0: Address setting method transfer 0: Continuous setting 1: Free setting b1: PID/AT transfer by polling I/O communication 0: Invalid 1: Valid b2 to b15: Unused [Decimal number: 0 to 3]	1
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, see **COM-JH [For SRZ] Quick Instruction Manual (IMR01Y28-E□).**

■ Z-TIO Module Extended Object (0x65: 65Hex)

ID	Name	Number of data items	Attribute	Data range	Factory set value
1	Comprehensive event state	64	RO	Bit data b0 to b3: Event 1 state to Event 4 state b4: Heater break alarm state b5: Temperature rise completion b6: Burnout b7 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 127]	—
2	Logic output monitor	16	RO	Bit data b0 to b7: Logic output 1 to 8 b8 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 255]	—
3	Output distribution selection	64	R/W	0: Control output 1: Distribution output	0
4	Output distribution bias	64	R/W	−100.0 to +100.0 %	0.0
5	Output distribution ratio	64	R/W	−9.999 to +9.999	1.000
6	Minimum ON/OFF time of proportioning cycle	64	R/W	0 to 1000 ms	0
7	Area soak time stop function	64	R/W	0: No function 3: Event 3 1: Event 1 4: Event 4 2: Event 2	0
8	EDS mode (for disturbance 1)	64	R/W	0: No function 1: EDS function mode 2: Learning mode 3: Tuning mode EDS function: External disturbance suppression function	0
9	EDS mode (for disturbance 2)	64	R/W		0
10	EDS value 1 (for disturbance 1)	64	R/W	−100.0 to +100.0 %	0.0
11	EDS value 1 (for disturbance 2)	64	R/W		0.0
12	EDS value 2 (for disturbance 1)	64	R/W		0.0
13	EDS value 2 (for disturbance 2)	64	R/W		0.0
14	EDS transfer time (for disturbance 1)	64	R/W	0 to 3600 seconds or 0.0 to 1999.9 seconds	0
15	EDS transfer time (for disturbance 2)	64	R/W		0
16	EDS action time (for disturbance 1)	64	R/W	1 to 3600 seconds	600
17	EDS action time (for disturbance 2)	64	R/W		600
18	EDS action wait time (for disturbance 1)	64	R/W	0.0 to 600.0 seconds	0.0
19	EDS action wait time (for disturbance 2)	64	R/W		0.0
20	EDS value learning times	64	R/W	0 to 10 times (0: No learning mode)	1
21	EDS start signal	64	R/W	0: EDS start signal OFF 1: EDS start signal ON (for disturbance 1) 2: EDS start signal ON (for disturbance 2)	0
22	Operation mode	64	R/W	0: Unused 1: Monitor 2: Monitor + Event function 3: Control	3
23	Communication switch for logic	16	R/W	Bit data b0 to b3: Communication switch 1 to 4 b4 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 15]	0
24 ⋮ 42	Engineering setting data For the data, see **COM-JH [For SRZ] Instruction Manual (IMR01Y36-E□)**.				
43 ⋮ 255	Unused	—	—	—	—

■ Z-DIO Module Object (0x66: 66Hex)

ID	Name	Number of data items	Attribute	Data range	Factory set value
1	Digital input (DI) state	16	RO	Bit data b0 to b7: DI1 to DI8 b8 to b15: Unused Data 0: Contact open 1: Contact closed [Decimal number: 0 to 255]	—
2	Digital output (DO) state	16	RO	Bit data b0 to b7: DO1 to DO8 b8 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 255]	—
3	Error code	16	RO	2: Data back-up error	—
4	Integrated operating time monitor	16	RO	0 to 19999 hours	—
5	Backup memory state monitor	16	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.	—
6	RUN/STOP transfer	16	R/W	0: STOP (Control stop) 1: RUN (Control start)	0
7	DO manual output	16	R/W	Bit data b0 to b7: DO1 manual output to DO8 manual output b8 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 255]	0
8	DO output distribution selection	128	R/W	0: DO output 1: Distribution output	0
9	DO output distribution bias	128	R/W	−100.0 to +100.0 %	0.0
10	DO output distribution ratio	128	R/W	−9.999 to +9.999	1.000
11	DO proportional cycle time	128	R/W	0.1 to 100.0 seconds	Depends on specifications
12	DO minimum ON/OFF time of proportional cycle	128	R/W	0 to 1000 ms	0
13 ⋮ 26	Engineering setting data For the data, see **COM-JH [For SRZ] Instruction Manual (IMR01Y36-E□)**.				
27 ⋮ 255	Unused	—	—	—	—

3. DEVICE PROFILES

A device profile is the specification that defined each necessary parameter with DeviceNet.

3.1 Basic Data

■ General Device Data

Conforms to DeviceNet specification	Volume I - Release 2.0, Volume II - Release 2.0
Vendor name	RKC INSTRUMENT INC. (Vendor ID = 394)
Device profile name	Generic Device
Product catalog number	Instruction manual number: Japanese: IMR01Y24-J□, IMR01Y28-J□, IMR01Y32-J□, IMR01Y36-J□ English: IMR01Y24-E□, IMR01Y28-E□, IMR01Y32-E□, IMR01Y36-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	Vendor	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 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	CH1: 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	CH1: 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, 0x65: 65Hex, 0x66: 66Hex)

● **Object class**

Attributes	Not supported
Services	Not supported

- **Object instance □ (□: 1 to 64): Z-TIO module object**
- **Object instance □ (□: 1 to 64): Z-TIO module extended object**
- **Object instance □ (□: 1 to 128): Z-DIO module object**

For details of object instance, see **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 to 0x66)."

0x64: 64Hex: Attributes ID
0x65: 65Hex: Attributes ID + 1000
0x66: 66Hex: Attributes ID + 2000

} When setting the communication items of a object (0x65) or (0x66), set the attribute ID number with the appropriate offset value (1000 or 2000) added.

● **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)

This product has been self-tested by RKC at DeviceNet Protocol Conformance Test Software Version A-17.

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