2. HANDLING PROCEDURES

A handling procedure is shown in the following when the COM-JH is connected to a PLC as a master.

3.2 DeviceNet Communication Speed Setting

Set a communication speed for the DeviceNet using a small blade switcher.

4. COMMUNICATION ENVIRONMENT SETTING

Set communication environment of polling I/O communication of DeviceNet by using the "Node address setting switch" and the "DeviceNet communication speed setting switch" which are the rotary switch of the COM-JH switch.

■ Setting procedure
1. Turn off the power supply.
2. Before communication environment, record the switch position of node address setting switch and DeviceNet communication speed setting switch. (When this module is used for the first time, no recording is required.)
3. Set all the values of a node address setting switch and a DeviceNet communication speed setting switch to "0".
4. Turning on the power sets the module to the communication environment setting mode. If set to the communication environment setting mode, the FAIL lamp goes off and the FAIL (red) lamp flashes.

5. Select a setting item number with MS of the node address setting switch, and set the communication speed setting switch in the order of "0", "1", and "2" from the second setting.
6. Set the DeviceNet communication speed setting switch in the order of "0", "1", and "2".
7. The FAIL lamp turns off, and then turn off the power.
8. Return the switch positions of node address setting switch and DeviceNet communication speed setting switch to the previous recorded position.
9. Turn on the power again. The set power is turned on again.

List of communication environment setting items

Node address setting switch setting

<table>
<thead>
<tr>
<th>No.</th>
<th>Data setting</th>
<th>Function setting</th>
<th>Factory setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Address setting method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Number of polling I/O communication controllers</td>
<td>1 controller</td>
<td>31 controllers</td>
</tr>
<tr>
<td>2</td>
<td>Number of communication measured data items (N)</td>
<td>200 words</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Controller communication transmission wait time</td>
<td>100 ms</td>
<td></td>
</tr>
</tbody>
</table>

Setting method:
1. Select the setting number with the node address setting switch, and set the setting switch on the DeviceNet communication speed setting switch to the position already recorded.
2. Check that the FAIL lamp turns off, and then turn off the power.
3. Turn on the power again. The set power is turned on again.

Other settings:
1. The setting other than "Controller communication transmission wait time" is set by the rotary switch of DeviceNet communication speed setting switch.
2. For the number of communication measured data items when conducting polling I/O communication can also be set via Explicit message communication, or by the configuration tool or rotary switch. However, when the number of communication data items is set via Explicit message communication, or by the configuration tool or rotary switch, the value set by the DIP switch may be ignored.
3. When panel mounted, two mounting brackets are required (There is the termination resistor setting switch in the inside of mainframe).
5. POLLING I/O COMMUNICATION

COM-JH has supported "Polling I/O communication" and "Explicit message communication" as a communication method of DeviceNet. Details of polling I/O communication are shown below.

**Communication outline**
Polling I/O communication is the communication that master and slave always exchange transmission and reception of data. Set the following items before communication starts.
- Communication settings
- Communication data
- Number of communication controllers
- Number of communication data items

Polling made once enables the following data items to be read or written via polling I/O communication.

**Request: setting data items (OUT)**
A master transmits data of the following for slave (COM-JH).
- Communication data (setting data items) contents

**Response: measured data items (IN)**
A master transmits data of the following for slave (COM-JH).
- Communication data (measured data items) contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Data range</th>
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<tbody>
<tr>
<td>1</td>
<td>RUN/STOP state (Controller 1 to 16)</td>
<td>0: RUN 1: STOP</td>
</tr>
<tr>
<td>2</td>
<td>Alarm state (Controller 1 to 16)</td>
<td>0: Alarm OFF 1: Alarm ON</td>
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<tr>
<td>3</td>
<td>Alarm state (Controller 17 to 31)</td>
<td>0: Alarm OFF 1: Alarm ON</td>
</tr>
</tbody>
</table>

**Setup of the PLC, COM-JH and controller is shown in the following**

### 6. APPLICATION EXAMPLE

An example of using DeviceNet communication is explained when the COM-JH-2n is connected to PLC as a master.

#### 6.1 System Configuration

This application example is described according to the following system configuration.

**Controller (SRZ Z-TIO-A module) setting**
- Protocol: 
- Module address: 1 (Address setting switch: 0)
- Communication speed: 19200 bps (factory set value)
- Data format (bit): Data 8-bit, with parity, stop 1-bit

**Setting of polling I/O communication**
As there is one controller, only bit 0 (controller 1) can be used.

#### 6.3.1 Details of Communication

This shows the details of communication when conducting communication via polling I/O communication.

- Communications I/O communication is called "Remote I/O communication" in OMRON PLC-related instruction manuals.

**Contents of communication parameter setting**
- **Controller (SRZ Z-TIO-A module) setting**
- **Module address**: 1 (Address setting switch: 0)
- **Communication speed**: 19200 bps (factory set value)
- **Data format (bit)**: Data 8-bit, with parity, stop 1-bit
- **Number of communication data items**: 9 words

- It is possible to set the above communication parameter with Explicit message communication or the configuration tool. For setting procedure, see COM-JH (For SRZ) Instruction Manual (IMR01Y36-E).

**Memory allocation**
Allocate the memory by using the configuration tool.

- **Allocation method**: Manual allocation
- **Data area**: Measured data item (IN) area: D00000 to D00008 (9 words)
- **Setting data item (OUT) area**: D10000 to D10008 (9 words)

**Sample program (ladder)**
- **Measured data items (IN)**
  - Data corresponding to the measured data item (IN) can be checked by only reading the data storage register assigned by the configuration tool.

**Setting data items (OUT)**
- **Communication data**: Required for setting data to the controller.
  1. Sets 100 to CH2 "Set value (SV): D10006" of Controller 1.
  2. Sets 200 to CH3 "Set value (SV): D10007" of Controller 1.

- **Alarm state (Controller 17 to 31)**
  1. Sets 0 (reset) to D10006 when relay 1.00 is turned ON.
  2. Sets 0001H (bit 0: 1) to D10001 when relay 1.01 is turned ON.

**6.2 Setting of Use Instruments**

- **Controller (SRZ Z-TIO-A module) setting**
- **Module address**: 1 (Address setting switch: 0)
- **Communication speed**: 19200 bps (factory set value)
- **Data format (bit)**: Data 8-bit, with parity, stop 1-bit

**Communication outline**
Polling I/O communication is the command that master and slave always exchange transmission and reception of data. Set the following items before communication starts.
- Communication settings
- Communication data
- Number of communication controllers
- Number of communication data items

Polling made once enables the following data items to be read or written via polling I/O communication.

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A master transmits data of the following for slave (COM-JH).
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**Response: measured data items (IN)**
A master transmits data of the following for slave (COM-JH).
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**Setup of the PLC, COM-JH and controller is shown in the following**

**PLC setting**
Use the communication parameter setting of the PLC.
- Node address: 0
- DeviceNet communication speed: 125 kbps
- Unique number:
- Communication cycle time: 0.5 [ms] or more

**4 RUN/STOP transfer**
As there is one controller, only bit 0 (controller 1) can be used. (Decimal number: 0 to 1)

**5 RUN/STOP state**
When setting data to the controller, it is necessary to set the communication parameter setting of the PLC to the PLC.
- Node address: 0
- DeviceNet communication speed: 125 kbps
- Unique number:
- Communication cycle time: 0.5 [ms] or more

**5 RUN/STOP state**
When setting data to the controller, it is necessary to set the communication parameter setting of the PLC to the PLC.
- Node address: 0
- DeviceNet communication speed: 125 kbps
- Unique number:
- Communication cycle time: 0.5 [ms] or more

**COM-JH setting**
Set the communication parameter setting of the COM-JH.
- Node address: 0
- DeviceNet communication speed: 125 kbps
- Unique number:

**Set the communication parameter setting of the COM-JH.**
- Node address: 0
- DeviceNet communication speed: 125 kbps
- Unique number:
- Communication cycle time: 0.5 [ms] or more

**Response: measured data items (IN)**
A master transmits data of the following for slave (COM-JH).
- Communication data (measured data items) contents

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