2. Wiring Cautions

- For thermocouple input, use the appropriate compensation wire.
- For RTD input, use low resistance load with no difference in resistance between the three lead wires.
- To avoid noise induction, keep input signal wire away from instrument power line. Load wires and power lines of other electric equipment.
- If there is electrical noise in the vicinity of the instrument that could affect operation, use a noise filter.
- Shorten the distance between the twisted power supply wire pair to reduce the noise induction.
- Always install the noise filter on a grounded panel. Minimize the wiring distance between the noise filter output and the instrument power supply terminals to achieve the maximum effective noise reduction.
- Do not connect devices such as photoelectric switches, proximity sensors, or signal generator output wiring as this will reduce the effectiveness of the noise filter.
- All power terminals are required as preparation time for contact output every time the instrument is turned on. Use a delay relay when the output line is used for an interlocking circuit.

Power supply wiring must be twisted and have a low voltage drop.

- For an instrument with 24 V power supply, supply power from a SELV circuit.
- For an instrument with 24 V power supply, supply power from a SELV circuit.

A suitable power supply is considered in wind-use equipment. The power supply must be in compliance with a limited-energy circuits (maximum available current: 8A).

This instrument is not furnished with a power supply switch or fuse. Therefore, if a fuse or power supply switch is required, install close to the instrument. Recommended fuse rating: Rated voltage 250 V. Rated current 1 A.

Fuse type: Time-lag fuse.

Use the solderless terminal appropriate to the screw size.

- Screw size: M3 (7 x 5.6 x 5.6 square washer)

Recommended tightening torque: 0.9-1.4 Nm (kgf-cm)

Applicable wire: Solid wire of 0.25 to 1.65 mm²

Specified dimension: Refer to Fig. 6. Specified dimension: Refer to Fig. 6. Specified dimension: Refer to Fig. 6. Specified dimension: Refer to Fig. 6. Specified dimension: Refer to Fig. 6. Specified dimension: Refer to Fig. 6.

- Make sure that the any wiring such as solderless terminal is not in contact with the adjacent terminal.
- Up to two solderless terminal can be connected to the terminal screw, then refer to Fig. 7.

In this case, reinforced insulation cannot be used.

When tightening a screw of the instrument, make sure to fit the screwdriver properly into the screw head. Mount without flat or slotted head as shown in the right figure. Tightening the screw with excessive torque may damage the screw thread.

If solderless terminal other than those in non-recommended dimensions are used, terminal screws may not be tightened. In such a case, bend each solderless terminal lugs in advance and then conduct wiring. If the terminal screw is forcibly tightened, it may be damaged.

When two solderless terminal lugs are connected to one terminal screw, remove it from the use.

For isolated device input/output blocks, refer to the following:

- Input: 0 VDC or 24 VDC
- Output: 0 VDC or 24 VDC
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- Output: 0 VDC or 24 VDC

- Input: 0 VDC or 24 VDC
- Output: 0 VDC or 24 VDC

1 Out is output from output 1 (OUT1) or output 2 (OUT2). Relay contact output (1) is output 1 (OUT1), and relay contact output (2) is output 2 (OUT2).

2 Digital outputs (relay contact output type only) are mutually isolated.

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2.2 Terminal Configuration

3. SPECIFICATIONS

3.1 Measured input

<table>
<thead>
<tr>
<th>Number of input</th>
<th>Input type</th>
<th>Measured range (Input type)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital input 1 (DI 1 to DI 3)</td>
<td>Voltage input (0 to 5 V DC)</td>
<td>0.0 to 5.0 V DC</td>
</tr>
<tr>
<td>Digital input 2 (DI 4 to DI 5)</td>
<td>Voltage input (0 to 10 mV DC)</td>
<td>0.0 to 10.0 mV DC</td>
</tr>
</tbody>
</table>

3.2 Current input

<table>
<thead>
<tr>
<th>Number of input</th>
<th>Input type</th>
<th>Measured range (Input type)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current input 1 (CT 1)</td>
<td>Voltage input (0 to 10 mV DC)</td>
<td>0.0 to 10.0 mV DC</td>
</tr>
<tr>
<td>Current input 2 (CT 2)</td>
<td>Voltage input (0 to 10 mV DC)</td>
<td>0.0 to 10.0 mV DC</td>
</tr>
</tbody>
</table>

3.3 Frequency input

<table>
<thead>
<tr>
<th>Number of input</th>
<th>Input type</th>
<th>Measured range (Input type)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency input (FR 1)</td>
<td>Frequency input</td>
<td>50 Hz to 60 Hz</td>
</tr>
</tbody>
</table>

3.4 Digital output

<table>
<thead>
<tr>
<th>Number of output</th>
<th>Output type</th>
<th>Measured range (Output type)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital output 1 (DO 1)</td>
<td>Analog output (0 to 20 mA DC)</td>
<td>0.0 to 20.0 mA DC</td>
</tr>
<tr>
<td>Digital output 2 (DO 2)</td>
<td>Analog output (0 to 20 mA DC)</td>
<td>0.0 to 20.0 mA DC</td>
</tr>
</tbody>
</table>

3.5 Relay output

<table>
<thead>
<tr>
<th>Number of output</th>
<th>Output type</th>
<th>Measured range (Output type)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relay output (O 1)</td>
<td>Analog output (0 to 20 mA DC)</td>
<td>0.0 to 20.0 mA DC</td>
</tr>
<tr>
<td>Relay output (O 2)</td>
<td>Analog output (0 to 20 mA DC)</td>
<td>0.0 to 20.0 mA DC</td>
</tr>
</tbody>
</table>

4. MODEL CODE

SUFFIX CODE

FB100

(1) Output assignments (OUT1, OUT2, DO1 and DO2)

1 to 15: Refer to Digital output terminals.

16: All outputs are OFF.

(2) Digital input assignment (DI 1 to DI 3)

1 to 36: Refer to Digital input terminals.

37: All inputs are OFF.

(3) Remotely setting input

N: Not remotely settable

E: Setting is remotely settable

(4) Event function 1 (EV1)

1: Monitoring temperature or voltage (1 to 5 V DC)

2: Monitoring temperature or voltage (1 to 5 V DC)

3: Monitoring temperature or voltage (1 to 5 V DC)

4: Monitoring temperature or voltage (1 to 5 V DC)

(5) Communication protocol

N: No communication protocol

QK: RS-485, 1-wire protocol

(6) Input type and measured range

<table>
<thead>
<tr>
<th>Input type</th>
<th>Measured range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital input</td>
<td>0 to 5 V DC</td>
</tr>
<tr>
<td>Digital output</td>
<td>0 to 20 mA DC</td>
</tr>
<tr>
<td>Relay output</td>
<td>0 to 20 mA DC</td>
</tr>
</tbody>
</table>

4.1 SPECIFICATIONS

- Power supply: 24 V AC (220 V AC), 24 V DC (24 V DC)
- Current consumption: 100 mA (24 V AC) or 100 mA (24 V DC)
- Operating temperature: -20°C to 50°C
- Storage temperature: -20°C to 70°C
- Humidity: 5% to 95% non-condensing
- Dimensions: 96 mm x 48 mm x 85 mm
- Weight: 0.1 kg

Digital input (DI 1 to DI 3) can be changed by the Digital input (DI) assignment. For details, refer to the table provided.

Digital output (DO 1 to DO 2) can be changed by the Digital output (DO) assignment. For details, refer to the table provided.

The table above shows the terminal numbers and the symbol code for each input and output. For details, refer to the table provided.