Thank you for purchasing the Fuji module type temperature controller. Once you have confirmed that this is the product you ordered, please use it in accordance with the following instructions. For detailed information on operating this equipment, please refer to the separate user’s manual. Please keep this Instruction Manual within easy reach of persons using this equipment.

Safety warnings are categorized as "Warning", "Caution" or "Risk of Electrical Shock".

2  Caution

2-1 Maintenance
- When installing or removing the equipment, turn the power OFF. Otherwise, shock, operational errors or failures may be caused.
- Periodic maintenance is recommended for continuous and safe use of this equipment.
- Some parts installed on this equipment have a limited life and may deteriorate with age.
- The warranty period for this unit (including accessories) is one year, if the product is used properly.

2  Caution

2-1 Cautions when Installing

For use in CC-Link type terminals please avoid installing in the following locations.
- Locations where the ambient temperature falls outside the range of 0 to 50 degree C when equipment is in use.
- Locations where the ambient humidity falls outside the range of 40 to 90% RH when equipment is in use.
- Locations with rapid temperature changes, leading to dew condensation.
- Locations with corrosive gases (especially sulphur dioxide, ammonia, etc.) or flammable gases.
- Locations with vibration or shock directly.
- Locations in contact with water, oil, chemicals, steam or hot water. (If the equipment gets wet, there is a risk of electric shock or fire, so have it inspected by Fuji distributor.
- Locations with large inductive interference, resulting in static electricity, magnetic fields or noise.
- Locations in direct sunlight.
- Locations that build up heat from radiant heat sources, etc.
- A switch or circuit Breaker shall be included in the building installation.
- Please be in close proximity to the equipment and within easy reach of the operator, and mark it as the disconnecting device for the equipment.

2-2 Cautions when Attaching to DIN rails
- In cases of mounting the temperature controllers to DIN rails, remember to push up the locking tabs to fasten the controllers onto DIN rail.
- To connect controllers, first release all locking tabs. Then, connect controllers and push all locking tabs. Make sure the locking tabs are fastened.
- Never fail to turn the power OFF before detaching the terminal block or removing the equipment from the base part.
- In order to avoid heat dissipation, do not block the top and the bottom of the equipment. When mounting dismounting controllers to/from DIN rails, 30mm of clearance above and under the controllers should be provided.
- Do not use the test leads other than those supplied with this product.

2-3 Cautions for Wiring

- For setting to terminal blocks, apply crimp terminals for M3 screw. Screw size: M2.5 x 7 (with square washer).
- Screw tightening torque: 0.78 N•m (8 kgf•cm)

- In cases where damage or problems with this equipment may lead to serious accidents, install appropriate external protective circuits.
- To prevent damage and failure of the equipment, provide the rated power voltage.
- To prevent electric shock and equipment failure, do not turn the power ON until wiring is complete.
- Before turning the power ON, confirm that clearance space has been secured to prevent shock or fire.
- Do not touch the terminal while the machine is ON. Doing so risks shock or equipment errors.
- Never disassemble, convert, modify or repair this equipment. Doing so may cause abnormal operation, shock or fire.
- All of the wiring should be class 1 type wiring. If low voltage wires are routed separately from the hazardous voltage wires to ensure separation of circuits.
- When using a AWG-16 cable, you should use the crimp terminal that material thickness is 0.9mm or less.

Part names and Functions

LED indicator

Three color LED lamps indicate the following operational conditions.

<table>
<thead>
<tr>
<th>Color</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Operational error (communication speed setting error)</td>
</tr>
<tr>
<td>Red</td>
<td>Communication error (error status)</td>
</tr>
<tr>
<td>Orange</td>
<td>Communication error (output device failure)</td>
</tr>
</tbody>
</table>

- When 5 to 9 are selected, a communication speed selection error will occur and [L.ERR] LED will be ON.

Setting

Setting CC-Link Communication

- Setting CC-Link Communication Speed

Communication speed of CC-Link can be set using the station number configuration switch on the back of the controller. Apply a fine tip flat-head screwdriver to turn the Station No. configuration switch.

- Setting No. of stations occupied / Extended cyclic

No of stations occupied/extended cyclic can be set using the dip switch (SW1 to SW4) on the back of the controller.

<table>
<thead>
<tr>
<th>SW1</th>
<th>SW2</th>
<th>SW3</th>
<th>SW4</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>ONLINE</td>
<td>OFF</td>
</tr>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>ONLINE</td>
</tr>
</tbody>
</table>

- Setting No of stations occupied / Extended cyclic setting

When 5 to 9 are selected, a communication speed selection error will occur and [L.ERR] LED will be ON.

- If the setting of the dip switch is other than those above, the actual setting will be 4 stations occupied x 1 (8Ch)
1-1 Installation and Wiring

This equipment is intended to be used under the following conditions.

- Ambient temperature: 10 to 50°C
- Humidity: 90% RH or below (with no condensation)
- Vibration: 10 to 70Hz less than 9.8m/s² (1G)
- Power terminal block: Power SLD/FG terminal (CC-Link connecting terminal)
- Detailed information

1-2 Maintenance

- When installing or removing the equipment, turn the power OFF. Otherwise, shock, operational errors or failures may be caused.
- Periodic maintenance is recommended for continuous and safe use of this equipment.
- Some parts installed on this equipment have a limited life and/or may deteriorate with time. The warranty period for this unit (including accessories) is one year, if the product is used properly.

1-3 Caution when Installing

For installation in CC-link, please refer to the following instructions. Please read this section thoroughly before using, and observe the mentioned safety warnings fully.

1-4 Cautions when Attaching to DIN rails

In case of mounting the temperature controller to DIN rails, remember to push up the locking tabs to fasten the controllers onto DIN rail.

- To connect controllers, first release all locking tabs. Then, connect controllers and press all locking tabs. Make sure the locking tabs are fastened.
- Never fail to turn the power OFF before detaching the terminal block or removing the mounting screw from the base part.
- In order to avoid heat dissipation, do not block the top and the bottom of the equipment.
- When mounting or dismounting controllers to/from DIN rails, 30mm of clearance above and under the controllers should be provided.
- Do not use the test screws other than those supplied with this product.

1-5 Others

- Do not store the equipment with organic solvents such as alcohol or benzene, etc. If wipping is necessary, use a neutral cleaning agent.
- Do not use mobile phones near this equipment (within 50cm). Otherwise a malfunction may result.
- Malfunctions may occur if the equipment is used near a radio, TV, or wireless device.
- To comply with CE marking (EMC), we recommend to attach ferrite core to communication cable and power cable.

1-6 Safety Warnings

- Improper use of the equipment may result in death or serious injury.

1-7 Error Operation

- The alarm function does not work properly when an error occurs unless the settings are made correctly. Always verify its setting before operation.

2 Setting of CC-Link Station No.

Station No. of CC-Link can be set using the Station No. configuration switch. For setting CC-Link communication speed and maximum transmission distance (when using Ver.1.10 compliant CC-Link special cable)

- Setting CC-Link Communication speed

Communication speed can be set using the station number configuration switch on the back of the controller.

- Setting No. of stations occupied / Extended cyclic

No. of stations occupied/Extended cyclic can be set using the dip switch (SW1 to SW4) on the back of the controller.

Part names and Functions

Enhanced communication module controller

LED indicator

Three color LED lamp indicates the following operational conditions.

- Setting CC-Link Communication speed

Communication speed of CC-Link can be set using the station number configuration switch on the back of the controller.

- Setting No. of stations occupied / Extended cyclic

No. of stations occupied/Extended cyclic can be set using the dip switch (SW1 to SW4) on the back of the controller.

- Setting CC-Link Station No.

Station No. of CC-Link can be set using the Station No. configuration switch. Setting range: 0 to 64 (factory-set value = 0)

- Connecting controllers to CC-Link 8 stations maximum x 1 (8Ch)

- Connecting controllers to CC-Link 4 stations maximum x 1 (8Ch)

- Connecting controllers to CC-Link 2 stations maximum x 1 (8Ch)

- Connecting controllers to CC-Link 1 stations maximum x 1 (8Ch)

- Connecting controllers to CC-Link 1 stations maximum x 4 (32Ch)

- Connecting controllers to CC-Link 1 stations maximum x 2 (16Ch)

- Connecting controllers to CC-Link 1 stations maximum x 1 (8Ch)

- Connecting controllers to CC-Link 4 stations maximum x 4 (32Ch)

- Connecting controllers to CC-Link 4 stations maximum x 2 (16Ch)

- Connecting controllers to CC-Link 4 stations maximum x 1 (8Ch)
Mounting
- Dimensions

- Fixing with screws
When mounting controllers inside a cabinet with screws, connect the base parts of controllers first.
- Fixing screws are not included. Please prepare screws as required.
1. Check that locking tabs are pulled down (released). Controllers are fastened to DIN rail and to each other.
2. After mounting connected controllers onto DIN rail, make sure to push up all locking tabs. Controllers are connected to power supply via side connectors if one of the controllers is directly connected to them.
3. After mounting connected controllers onto DIN rail, make sure to push up all locking tabs. Controllers are connected to the main units.
4. All connected controllers are connected to power supply via side connectors if one of the controllers is directly connected to them.
5. Mounting to DIN rails
1. Pull down the locking tab of the base part. Hook the back of the controller to the DIN rail of the upper part of the DIN rail.
2. Push the controller in the direction of arrow 2.
3. Push up the locking tab to fasten the controller to DIN rail.
- Connecting controllers
1. Check that locking tabs are pulled down (released).
2. Connect controllers with each other using side connectors.
3. Connect controllers with each other using side connectors if one of the controllers is directly connected to them.
4. After connecting controllers, connect base parts. Push up to fasten all the locking tabs.
5. Connect the base parts onto the mounting position inside the cabinet with screws.
- Attaching end plates
When attaching controllers to DIN rails, we recommend to attach side connecting terminal covers (right and left). Then, end plates (option) to the ends of the right and left most controllers.

Wiring
- Front terminal block

- Base (power terminal)

Note: The power cables shown in the chart must not be connected.

Specification
General Specification
- Power Supply: DC24V/10%
- Power Consumption: Maximum 3.2W (135mA) when DC24V is applied
- Dimensions: 30 (H) x 100 (W) x 85 (D) (mm) including the terminal cover and a projection
- Weight: Approx. 230 g
- Installation method: Mounting on the wall, or in the cabinet with the DIN rail with M3 screws
- Ambient temperature*: -50 to 50 degrees C
- Ambient humidity: 90% RH or less (non condensing)
- Power Consumption: Maximum 3.2W (135mA) when DC24V is applied
- System maximum module: Up to max. 16 modules of Molex PL-4M

Communication function
- Compliant version: CC-Link ver 2.00 / 1.10
- Station type: Remote device station
- Communication speed and distance

<table>
<thead>
<tr>
<th>Communication speed</th>
<th>Mbit/s</th>
<th>10BaseT/TX</th>
<th>100BaseTX</th>
<th>1000BaseTX</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2Mbps</td>
<td>45Base</td>
<td>37.5Base</td>
<td>30Base</td>
<td></td>
</tr>
<tr>
<td>10Mbps</td>
<td>20Base</td>
<td>12.5Base</td>
<td>10Base</td>
<td></td>
</tr>
<tr>
<td>100Mbps</td>
<td>2Base</td>
<td>1.5Base</td>
<td>1Base</td>
<td></td>
</tr>
</tbody>
</table>

* For more details, refer to “CC-Link Cable Wiring Manual” issued by CC-Link Partner Association.

- Model code
Enhanced communication module (CC-Link)

- Accessories (Optional)

- Crimp terminal size

Crimp terminal size

Table

<table>
<thead>
<tr>
<th>Crimp terminal size</th>
<th>Size</th>
</tr>
</thead>
</table>
| 30 to 1.25mm²     | 0.25-
| 2.5 to 6.0mm²     | 0.25-

Crimp terminal size

Phone: 81-3-5435-7280, 7281 Fax: 81-3-5435-7425
Shinagawa-ku, Tokyo 141-0032, Japan
http://www.fujielectric.com

Fujielectric Co., Ltd.
International Sales Div
Sales Group
Gate City Ohsaki, East Tower, 11-2, Ohsaki 1-chome, Shinagawa-ku, Tokyo 141-0032, Japan
Phone: 81-3-5435-7280, 7281 Fax: 81-3-5435-7425
http://www.fujielectric.com/products/instruments/
Mounting

- Dimensions

Mounting to DIN rails

1. Pull down the locking tab of the base part. Hook the back of the controller onto the upper part of DIN rail.
2. Pull down the upper part of main unit.
3. Detach the cutout on the lower end of back of the main unit from the projection on the base part.
4. When attaching the main unit to the base part, take the reverse procedure to removing the main unit from the base part.
5. After mounting connected controllers onto DIN rail, make sure to push up all locking tabs. Controllers are fastened to DIN rail and to each other.
6. All connected controllers are connected to power supply via side connectors if one of controllers is directly connected to them.

- Fixing with screws

When mounting controllers inside a cabinet with screws, connect the base parts of controllers first.
- Fixing screws are not included. Please prepare screws as required.
1. Refer to the figure below for the mounting screw hole size to decide the mounting position.
2. Pull down the locking tab of the controller onto the upper part of DIN rail.
3. Push up the locking tab to fasten the controller to DIN rail.
4. Finite the base parts onto the mounting position inside the cabinet with screws.
5. Attach the main units to the base parts.

- Connecting controllers

1. Connect controllers with each other using side connectors.
2. Check that locking tabs are pulled down (released).

- Attaching end plates

When attaching controllers to DIN rails, we recommend to attach side connecting terminal covers (right and left), then end plates (option) to the ends of the right most and leftmost controllers.

- Cautions when mounting

In order to aid heat dissipation, 30mm of clearance (50mm recommended) above and under the controllers should be provided.

Wiring

- Front terminal block

Connecting method: M3 screw terminal block

- Base (power terminal)

Power Supply: DC24V±10%
Power Consumption: Maximum 3.2W (135mA) [when DC24V is applied]
Dimensions: 30 (H) x 100 (W) x 85 (D) mm (excluding the terminal cover and a projection)
Weight: Approx. 250 g
Installation method: Mounting on the wall or, install in the cabinet with the DIN rail with MD screws
Ambient temperature*1: +0 to +50 degrees C
Ambient humidity*2: 95% RH or less (non condensing)
System maximum modules: Up to max. 16 modules of Model PUME
System power: 24V dc, 160mA maximum, Class 2
Power Consumption: Maximum 3.2W (135mA) [when DC24V is applied]

Crimping terminal size

Please prepare cables and crimp terminals of the size indicated below.

- Model code

Enhanced communication module (CC-Link)

- Accessories (Optional)

http://www.fujielectric.com
Shinagawa-ku, Tokyo 141-0032, Japan
Gate City Ohsaki, East Tower, 11-2, Osaki 1-chome,