1. MOUNTING

To prevent electric shock or instrument failure, always turn off the power before mounting or removing the instrument.

Mounting Cautions
(1) Mounting height must be designed under the following environmental conditions. (IEC 61010-1)
- Altitude: 10,000 ft (3,048 m) or less
- Ambient temperature: -40°C to +70°C
- Relative humidity: 5% to 95% RH (non-condensing)
- Operating orientation: Vertical (when tilted ≤15°)

(2) Care should be taken in selecting the mounting location:
- Excessive induction noise, static electricity, short circuit, electromagnetic interference, and other interference
- Defensive interference
- Explosive gases

(3) Avoid the following conditions when selecting the mounting location:
- In locations that generate large amount of heat, near equipment that generates large amount of heat, or near rotating machinery

Dimensions
HA400/HA900 (Unit: mm)
<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>HA400/HA900</td>
<td>46 x 92 x 92</td>
</tr>
</tbody>
</table>

(4) Do not mount this instrument directly above the equipment that generates large amount of heat. Use a heat shield to reduce the ambient temperature of the instrument.

(5) In case this instrument is connected to a supply by means of a permanent connection, a switch or circuit breaker must be installed at the connection point. All wiring must be completed before power is turned on to prevent electric shock or instrument failure.

(6) This instrument is designed for installation in an enclosed instrumentation panel. All high-voltage connections such as power supply terminals must be enclosed in the instrumentation panel to avoid electric shock to operating personnel.

2. WIRING

To prevent electric shock or instrument failure, do not turn on the power until all wiring is completed. Make sure that the wiring is correct before applying power to the instrument.

Wiring Cautions
- Do not mount this instrument directly above the equipment that generates large amount of heat. Use a heat shield to reduce the ambient temperature of the instrument.

Specifications
- Power supply voltage: 90 to 264 V AC (including power supply voltage variation) [Rating 100 to 240 V AC, 50/60 Hz]
- Input: 21.6 to 28.4 V AC (including power supply voltage variation) [Rating 230 V AC, 50/60 Hz]
- Power consumption: HA400/HA900: 15.0 V A max. (at 100 V AC), 15.0 V A max. (at 240 V AC) HA901: 16.5 V A max. (at 100 V AC), 43.0 V A max. (at 240 V AC) HA902: 24.0 V A max. (at 100 V AC), 47.0 V A max. (at 240 V AC)
- Measured input: 10.0 V A max. (at 100 V AC), 40.0 V A max. (at 240 V AC)
- Measured output: 0.0 V A to 0.240 V A
- Measured output: 0.0 V A to 0.100 V A
- Measured output: 0.0 V A to 0.240 V A
- Measured output: 0.0 V A to 0.100 V A

Outputs
(1) Output 1
- Relay contacts: 100 V AC, 1 A (Resistive load)
- Voltage output: 0 to 24 V (200 Ohm)

(2) Output 2
- Relay contacts: 100 V AC, 1 A (Resistive load)
- Voltage output: 0 to 24 V (200 Ohm)

(3) Output 3
- Current output: 4 to 20 mA (transistor output), 0 to 0.5 V (relay output)

(4) Output 4
- Current output: 4 to 20 mA (transistor output), 0 to 0.5 V (relay output)

(5) Output 5
- Current output: 4 to 20 mA (transistor output), 0 to 0.5 V (relay output)

(6) Output 6
- Current output: 4 to 20 mA (transistor output), 0 to 0.5 V (relay output)

(7) Output 7
- Current output: 4 to 20 mA (transistor output), 0 to 0.5 V (relay output)

(8) Output 8
- Current output: 4 to 20 mA (transistor output), 0 to 0.5 V (relay output)

Terminal Configuration
(1) Power supply input
(2) Power supply output
(3) Remote input
(4) CT input
(5) Feedback resistance input
(6) Relay contact input
(7) Triac output
(8) Relay contact output
(9) Triac input
(10) Triac output
(11) Input #
(12) Input #
(13) Input #
(14) Input #

HA400/HA900 Instruction Manual
Standard Type
HA400/HA900
HA401/HA901
AI-114-ED
Thank you for purchasing this RKC product. In order to achieve maximum performance and ensure proper operation of the instrument, please read these instructions in this manual. Please place the manual in a convenient location for easy reference.

For detailed handling procedures and key operations, refer to separate HA400/HA900 Instruction Manual (AI-114-02-E2). The manual can be downloaded from the following RKC website:

This product is intended for use with industrial machines, test and measuring equipment. (It is not designed for use with medical equipment or nuclear power plant.)

WARNING
- To prevent injury to persons using the instrument and the equipment, a suitable external protection device shall be required.

To all wiring must be completed before power is turned on to prevent electric shock, fire, or damage to the instrument and the equipment.

This instrument is not intended for use in locations subject to flammable or explosive gases.

Do not touch high-voltage connections such as power supply terminals, etc. to avoid electric shock.

RKC is not responsible if this instrument is repaired or modified by anyone other than the authorized personnel. Malfunction may occur and warranty will be void under these conditions.

This instrument is designed for installation in an enclosed instrumentation panel. All high-voltage connections such as power supply terminals must be enclosed in the instrumentation panel to avoid electric shock to operating personnel.

All wiring must be completed before power is turned on to prevent electric shock, instrument failure, or equipment damage. The power input/output terminal must be installed separately for input/output and output functions. Use a shielded cable with a twisted pair shield. Where electromagnetic interference is a problem, use a shielded cable with a twisted pair shield. This should be in close proximity to the equipment and within easy reach of the operator. It shall be treated as the disconnecting device for the instrument.

No software is needed for this instrument. The product is designed for use with industrial machines, test and measuring equipment. (It is not designed for use with medical equipment or nuclear power plant.)

This instrument is designed for installation in an enclosed instrumentation panel. All high-voltage connections such as power supply terminals must be enclosed in the instrumentation panel to avoid electric shock to operating personnel.

RKC reserves the right to change the design or specifications of this instrument without prior notice.

Periodic maintenance is required for safe and proper operation of this instrument. Some maintenance is necessary to ensure the instrument will function properly. The maintenance schedule is described in the maintenance manual. Please check the manual for a full list of maintenance procedures.

This manual assumes that the reader is familiar with the fundamentals of the principles of electricity, process control, computer technology and communications.

The specifications are subject to change without prior notice for explanation purpose.

RKC is not responsible for any damage or injury that is caused as a result of using the instrument, and is therefore, the user must take all necessary precautions.

This instrument is designed for installation in an enclosed instrumentation panel. All high-voltage connections such as power supply terminals must be enclosed in the instrumentation panel to avoid electric shock to operating personnel.

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Product Code
Mounting brackets: 2 (W/Bracket#2P) Type: 4
Instruction Manual: 1 (M103114-01-E2)

HA400/HA900
High temperature range, 4-wire, 10 point input, 2 point output
HA401/HA901
Standard Type
HA400/HA900
HA401/HA901
In order to make this instrument operable after being mounted on equipment and then wired, it needs to be set with the set value (SV), input/output function, control function, etc. specific to each customer. In addition, the following parameters related to Multi-memory area function are displayed.

- **Event monitor display**
  - One of the displays shown in the table below can be selected for the bar-graph.
  - Manifold input value (MIN)
  - Displayed value when setting is made in the bar-graph.
  - When selecting the Event monitor display, the type of event which can be checked is the event monitor display.

- **Feedback resistance input value (POS)**
  - Displays the resistance input value (POS).
  - Damping value is available within the value range.

- **Set value display**
  - Displays the set value (SV) of the selected display mode.

- **Set lock level**
  - Switching operation between Set and Lock.

- **Auto/manual transfer key**
  - Switching the Auto/Manual control mode between Auto and Manual.

- **Remote/local transfer key**
  - Switching the Remote/local control mode between Remote and Local.

- **RUN/STOP transfer key**
  - Switching the RUN/STOP mode between RUN and STOP.

- **Operation mode**
  - Set (SET) key
  - Used for setting operation.

- **Down key**
  - Increases numerals.

- **Infrared port**
  - Used for sending and receiving data between this controller and the PDA installed with the RKC software.

To avoid damage to the instrument, never use a sharp object to press keys.