



# TECHNICAL HEATERS, INC.

## TH900 TEMPERATURE CONTROLLER INSTRUCTIONS

Thank you for purchasing the THI TH900 Temperature Controller. In order to achieve maximum performance and ensure proper operation of your new controller, carefully read all the instructions in this manual. Please place this manual in a convenient location for easy reference.



### WARNING

- An external protection device must be installed if failure of this instrument could result in damage to the instrument, equipment or injury to personnel.
- All wiring must be completed before power is turned on to prevent electric shock, fire or damage to instrument and equipment.
- This instrument must be used in accordance with the specifications to prevent fire or damage to instrument and 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.
- THI is not responsible if this instrument is repaired, modified or disassembled by other than factory-approved personnel. Malfunction can occur and warranty is void under these conditions.

### CAUTION

- This is a Class A instrument. In a domestic environment, this instrument may cause radio interference, in which case the user may be required to take adequate measures.
- This instrument is protected from electric shock by reinforced insulation. Provide reinforced insulation between the wire for the input signal and the wires for instrument power supply, source of power and loads.
- Be sure to provide an appropriate surge control circuit respectively for the following:
  - If input/output or signal lines within the building are longer than 30 meters.
  - If input/output or signal lines leave the building, regardless the length.
- 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 by operating personnel.
- All precautions described in this manual should be taken to avoid damage to the instrument or equipment.
- All wiring must be in accordance with local codes and regulations.
- All wiring must be completed before power is turned on to prevent electric shock, instrument failure, or incorrect action. The power must be turned off before repairing work for input break and output failure including replacement of sensor, contactor or SSR, and all wiring must be completed before power is turned on again.
- To prevent instrument damage of failure, protect the power line and the input/output lines from high currents with a protection device such as fuse, circuit breaker, etc.
- Prevent metal fragments or lead wire scraps from falling inside instrument case to avoid electric shock, fire or malfunction.
- Tighten each terminal screw to the specified torque found in the manual to avoid electric shock, fire or malfunction.
- For proper operation of this instrument, provide adequate ventilation for heat dispensation.
- Do not connect wires to unused terminals as this will interfere with proper operation of the instrument.
- Turn off the power supply before cleaning the instrument.
- Do not use a volatile solvent such as paint thinner to clean the instrument. Deformation or discoloration will occur. Use a soft, dry cloth to remove stains from the instrument.
- To avoid damage to instrument display, do not rub with an abrasive material or push front panel with a hard object.
- Do not connect modular connectors to telephone line.

### NOTICE

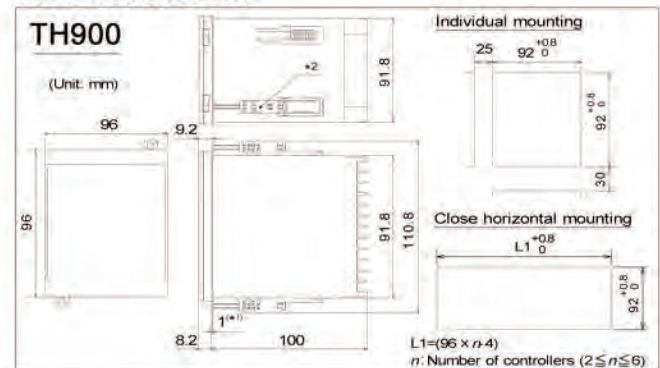
- This manual assumes that the reader has a fundamental knowledge of the principles of electricity, process control, computer technology and communications.
- The figures, diagrams and numeric values used in this manual are only for purpose of illustration.
- THI is not responsible for any damage or injury that is caused as a result of using this instrument, instrument failure or indirect damage.
- Periodic maintenance is required for safe and proper operation of this instrument. Some components have a limited service life, or characteristics that change over time.
- Every effort has been made to ensure accuracy of all information contained herein. THI makes no warranty expressed or implied, with respect to the accuracy of the information. The information in this manual is subject to change without prior notice.
- No portion of this document may be reprinted, modified, copied, transmitted, digitized, stored, processed or retrieved through any mechanical, electronic, optical or other means without prior written approval from THI.

## 1. MOUNTING

### 1.1 Mounting Cautions

- (1) This instrument is intended to be used under the following environmental conditions. (IEC61010-1)  
[OVERVOLTAGE CATEGORY II, POLLUTION DEGREE 2]
- (2) Use this instrument within the following ambient temperature and ambient humidity.
  - Allowable ambient temperature: 32 to 122° F (0 to 50° C)
  - Allowable ambient humidity: 5 to 95 % RH  
(Absolute humidity: MAX. W. C 29 g/m<sup>3</sup> dry air at 101.3 kPa)
- (3) Avoid the following when selecting the mounting location.
  - Rapid changes in ambient temperature which may cause condensation.
  - Corrosive or flammable gases.
  - Direct vibration or shock to the mainframe.
  - Water, oil, chemicals, vapor or steam splashes.
  - Excessive dust, salt or iron particles.
  - Excessive induction noise, static electricity, magnetic fields or noise.
  - Direct air flow from an air conditioner.
  - Exposure to direct sunlight.
  - Excessive heat accumulation.

### 1.2 Dimensions



\*1 Rubber (option)

\*2 Up to four mounting brackets can be used.

• For mounting of the instrument, panel thickness must be between 1 to 10 mm. (When mounting multiple instruments close together, the panel strength should be checked to ensure proper support.)

• Waterproof and dustproof are not effective when instruments are closely spaced.

### <Accessories>

- Mounting brackets
- Instruction manual