Thermon EXO TOUCH™

COMMERCIAL HEAT TRACE CONTROLLER

INSTALLATION GUIDE

EXO TOUCH™ INSTALLATION GUIDE

Version History

Version	Comments	Document Number
V1.0	Base version of the Genesis EXO Touch™ Installation Guide	CPD1092-0924

EXO TOUCH™ INSTALLATION GUIDE

I. Introduction

This manual provides a detailed step by step installation procedure for EXO Touch™. For translations other than English, please contact Thermon. The English language installation procedure shall govern.

II. Audience

The information in this manual is for engineers and technicians qualified for the installation and programming of heat trace controllers. You should have certified technician skills or have a background:

- To carry out electrical system installations.
- Have a basic understanding of electrical and electronic systems.
- Experience in installing Heat Trace Systems (preferable).
- Basic understanding of the working of heat trace controller and configuration settings.
- Experience using mechanical tools.

III. Installation Precautions

- To minimize the potential for arcing and fire caused by product damage or improper installation use ground-fault protection. The National Electrical Code (NEC) and Canadian Electrical Code (CEC) require ground-fault protection of equipment for each branch circuit supplying electric heat tracing.
- Installation must comply with Thermon requirements and be installed in accordance with the NEC, CEC, or any other applicable national and local codes.
- Component approvals and performance ratings are based on the use of Thermon specified parts only. User supplied power connection fittings must be listed or certified for intended use.
- De-energize all power sources before opening the enclosure.
- Keep ends of heating cable and kit components dry before and during installation.
- Individuals installing these products are responsible for complying with all applicable safety and health guidelines. Proper personal protective equipment, or PPE, should be utilized during installation. Contact Thermon if you have any additional questions.

IV. Product Description

The EXO series is Thermon's control and monitoring solution for a wide range of commercial electrical trace heating applications. Whether deployed for freeze protection, hot water temperature maintenance, grease waste flow maintenance, roof and gutter de-icing, or snow melt, the EXO series ensures easy and reliable thermal management.

The EXO TOUCH model features single-point heat trace control capability, an LCD touchscreen, two thermistor inputs, visual and audible alarms, and a variety of adjustable control settings.

EXO TOUCH is internationally certified for usage in Ordinary Locations. With an outdoor-rated enclosure, it offers exceptional performance and reliability, regardless of the weather.

V. Product Specifications

Control & Monitoring Capacity	1 heat trace circuit
Control Methods (Process & Ambient)	ON/OFF, ON/OFF Limiter, APCM, APCM Limiter
Rated Voltage (Supply & Load)	100-240 VAC, $\pm$ 10%, 50 Hz 110-277 VAC, + 10%, 60 Hz
Rated Current	250 mA
Input Protection	• Surge protection, MOVs, from both phases to ground as well as phase to phase • External breaker
Load Voltage	100-240 VAC, $\pm$ 10%, 50 Hz 110-277 VAC, + 10%, 60 Hz
Output Heater Current	30 A @ 25°C
Heater Current Measurement	up to 35 A max.
Ground Fault Measurement	0 mA to 200 mA
Control Band	Programmable in increments of 1 degree
Control Temperature Range	-40°C to 125°C; increments of 1 degree (40°F to 275°F)
Operating Temperature	-20°C to 45°C (-4°F to 113°F)
Relative Humidity	0-90%

VI. Product Models

Part #	Model Description
817010	EXO TOUCH Single Point Commercial Controller Kit

Certifications/Approvals

EN/IEC/UL/CSA 61010-1

WARNING - Disconnect all power sources before installation or servicing.
AVERTISSEMENT - Débranchez toutes les sources d'alimentation avant l'installation ou l'entretien.

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VII. Preparing the EXO for Installation

1. Arranging the Tool Kit

The following tools are required for the installation, assembly and mounting of the EXO TOUCH.

Required Tools
1. 7/64" Allen Key (included)
2. 2.5 mm Flathead screwdriver
3. Wire cutter/wire stripper
4. Phillips screwdriver
5. Torque meter

①		7/64" Allen Key
②		
③		Wire Cutter Wire Strippers
④		Phillips screwdriver (2.5 mm)
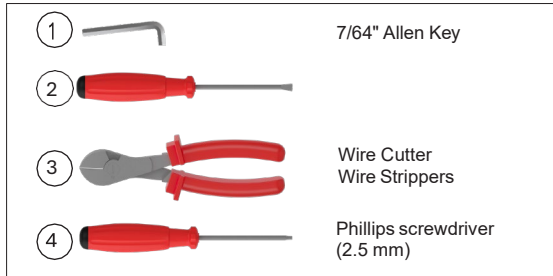
Note: You will need to purchase the Power and End Termination Kit (PETK) for heat trace. See PETK Kit | Thermon

Torque Specifications

	Part	Required (Nm)(ft-lb)
1	Enclosure Housing Screws (5)	9 in-lbs
2	Heyco M25 Large Cord Grips Lock nut	75-80 in-lbs/8.47-9.03 Nm
3	Heyco M25 Large Cord Grips Sealing nut	80-85 in-lbs/9.03-9.60 Nm
4	Heyco M20 Small Cord Grips Lock nut	40-45 in-lbs/4.51-5.08 Nm
5	Heyco M20 Small Cord Grips Sealing nut	50-55 in-lbs/5.64-6.21 Nm
6	USB plug	10 in-lbs/1.13 Nm

2. Receiving, Storing and Handling

a. Ensure that the EXO Touch package includes:
1. 7/64" Allen Key
2. EXO Touch Unit
3. DIN Rail (8 inch)
4. Cable Glands M25 (2); M20 (1)
5. Copper Grounding Bar
6. Two (2) Wire Thermistors - 10 ft length

Note: The power and alarm wiring not included.

b. If any of the package items are missing, please contact your local sales representative immediately for a replacement order.

Note: You will need to return the received package (AS-IS) for a replacement order.

3. Pre-installation Steps

a. Remove the components from the package.

Note: Refer CPD1098-EXO TOUCH System Wiring Diagram for wiring connections.

b. Remove the five hex screws from the cover using the Allen key in counterclockwise direction.

c. Remove the cover carefully. The board-to-board cable is connected by a zip tie at each end. Avoid straining the wire between the base and the cover.

Installing the Cable Glands

d. Place the copper grounding bar inside the unit and align it with the holes for cable glands.

e. Install the two M25 and one M20 cable glands using the torque specifications given in the previous section.

f. You can install the extra M20 cable gland(s) via the enclosure knockouts if planning to use the alarm and/or a second thermistor.

Note: Loosen or remove the cable gland caps to allow more area for wires to pass by turning them in the counterclockwise direction.

Prepare the Heat Trace Connections

g. Prepare your heat trace cable connections. Refer to the installation instructions **specific** to the type of heat trace used.

Note: Find selection of Thermon heat tracing cables at Electrical Heat Tracing Cables | Thermon

h. You can choose to wire the heat trace using any of the following options.

Flexible/harmonized power cable

Direct routing using power boot
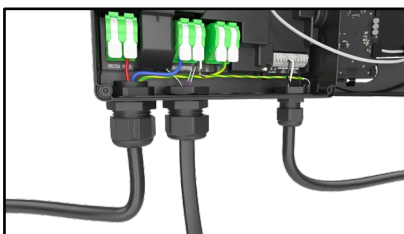
Liquid-Tight Flexible Metal Conduit
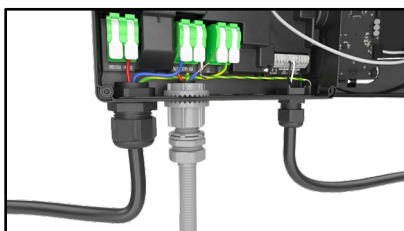
Note: If not routing the heat trace directly, use the cold leads connected to the heat trace from the junction box for the heater wiring to the unit.

Note: If using the direct routing option, please ensure that after putting in the power boot, you still have at least extra half inch extension on the wires. The total exposed length including through the power boot should be at least 5.5 inches.

Prepare the Power Wiring

i. Ensure the power wiring is within the specifications i.e., 16 AWG/1.29 mm (min.) to 6 AWG/4.11 mm (max.)

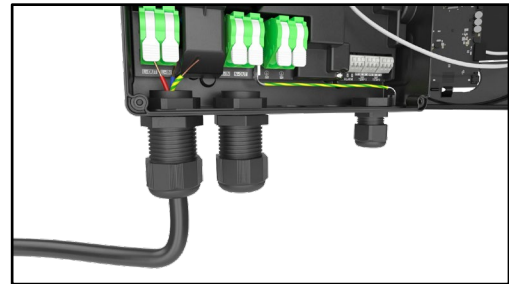j. Recommend five inches of wire length for routing inside the unit.

Prepare the Alarm Wiring (Optional)

k. Ensure the alarm wiring is within the specifications i.e., 24 AWG/0.51 mm (min.) to 16 AWG/1.29 mm (max.)

VIII. EXO TOUCH Installation

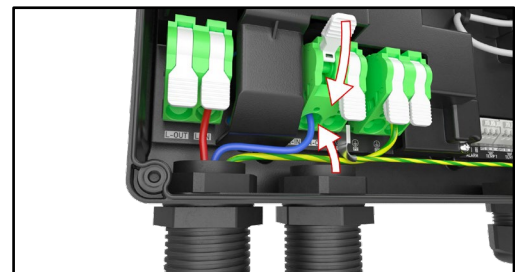### 1. Power Wiring

a. Using the left M25 cable gland, insert the three wires being used for power connections: Live (L-IN), Neutral (N-IN), Ground (PE).
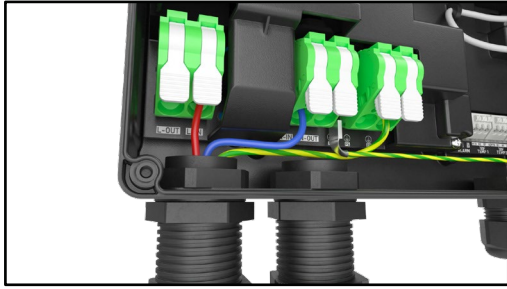

Note: L-IN(Red), N-IN(Blue), PE(Green/Yellow)

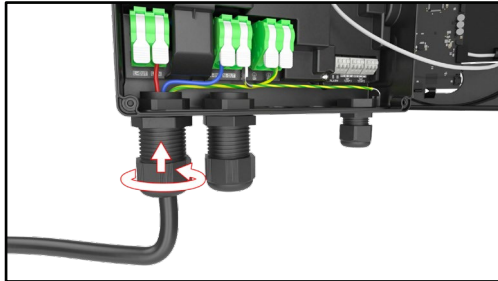b. Lift the white lever to its upright position, insert the wire and then press down to lock it.
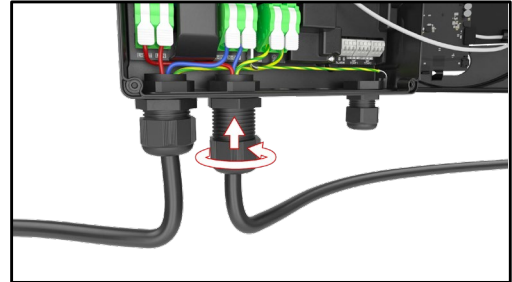

c. Repeat the steps for all the three connections.

d. Pull excess wiring outside of the enclosure. Leave enough slack to prevent any tension on the wires.

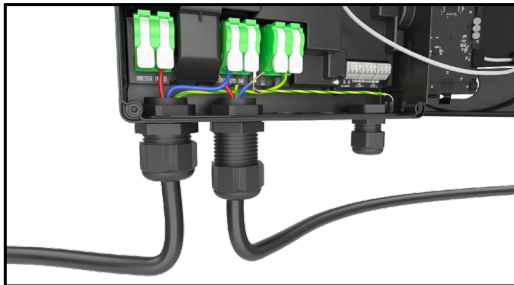e. Tighten the cable gland by rotating the cap clockwise applying the recommended torque.

2. Heat Trace Wiring

a. Route the cold leads (from the junction box) through the right M25 cable gland into the unit.

Note: If routing the heat trace directly, insert the power boot through the cable gland.

b. Make the connections to Line Out(L-OUT), Neutral (N-OUT), GND (PE) following the same process as for the power wiring.

c. Pull excess wiring outside of the enclosure. Leave enough slack to prevent any tension on the wires.

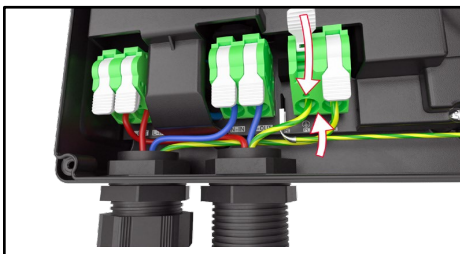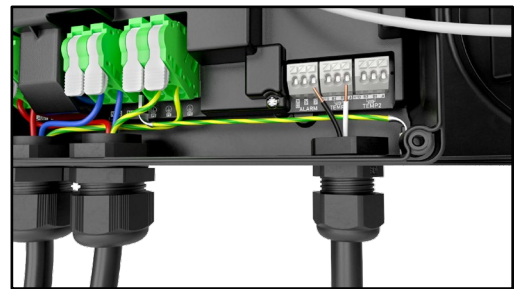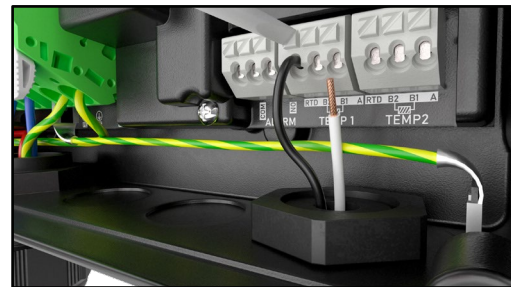d. Tighten the cable gland cap by rotating clockwise applying the recommended torque.

3. Thermistor 1 Wiring

a. Route the Thermistor wires through the M20 cable gland into the unit.

b. Use points B1 & B2 for making the thermistor connection on terminal labelled as TEMP1.

c. Use a flat head screwdriver to press down on the top tab of the thermistor port and secure it. Insert the wire and release the tab.

Note: When using a single thermistor, connect to terminal labelled TEMP1.

d. A light pull will verify if the connection is secure.

e. Pull excess wiring outside of the enclosure. Leave enough slack to prevent any tension on the wires.

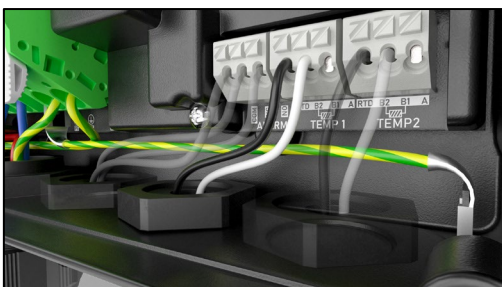f. Tighten the cable gland cap by rotating clockwise applying the recommended torque.

4. Alarm Wiring (Optional)

a. Insert the alarm wires through the M20 cable gland.

b. Connect the alarm wires to Common Terminal (COM) **AND** Normally Closed (NC) **OR** Normally Open (NO) depending on your preferred configuration.

c. Use a flat head screwdriver to press down on the top tab of the Alarm port and secure it. Insert the wire and release the tab.

d. A light pull will verify if the connection is secure.

5. Thermistor 2 Wiring (Optional)

a. Ensure that M20 cable gland is installed for the second thermistor.

b. Route the Thermistor wires through the M20 cable gland into the unit.

c. When using two thermistors, connect the one routed from the extreme right cable gland to TEMP2 and the other to TEMP1.

d. Use the steps given in Thermistor Wiring to make connections.

e. Pull excess wiring outside of the enclosure. Leave enough slack to prevent any tension on the wires.

f. Tighten the cable gland cap by rotating clockwise applying the recommended torque.

6. Closing & Mounting

Close the Cover

a. Close the cover.

b. Using a 7/64'' Allen key, tighten the five hex screws.

c. Tighten the captive screws using 9-in-lbs torque.

Mount the Unit

a. Install the DIN rail on the wall or point of preferred installation.

b. Mount the unit on the DIN rail by hooking up the bottom bracket on the DIN rail first.

c. Push the unit up and snap the unit in place by pushing the top in place.

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Congratulations! Your EXO TOUCH installation is complete! You can power up the unit.

Note - Please report any issues using the following link.

[CUSTOMER ISSUE REPORTING Controls & Monitoring](#)

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