TT-FLAT PROBE

Water Leak Detection Probe Installation/Operation Instructions

GENERAL INFORMATION

Please read these instructions carefully and keep them in a safe place. These instructions must be followed carefully to ensure proper operation.

The nVent RAYCHEM TT-FLAT PROBE has been specifically designed for use with nVent RAYCHEM TraceTek leak detection systems. It is designed for use in ordinary areas with temperatures of 32°F to 122°F (0°C to 50°C).

TOOLS REQUIRED

- Small Phillips head or small flat head screwdriver
- Wire Stripper

INSTALLATION ITEMS (NOT SUPPLIED)

- Jumper cable TT-MJC-1 m/3 ft-PC 740923-000
- End termination TT-MET-PC 169905-000
- Wire loops
- Mounting screws

STORAGE

Keep the TT-FLAT PROBE in a dry place prior to installation. Avoid damage to components.

PRODUCT CHARACTERISTICS

Dimensions	4.7 in L x 3.8 in W x 1.3 in H (120 mm L x 98 mm W x 32 mm H) nominal
Weight	0.4 lb nominal
Shroud	Epoxy coated aluminum, orange
Probes	316 Stainless steel
Probe depth	0.03 in (0.75 mm) nominal
Housing	Black PVC
Maximum ambient temperature	122°F (50°C)
Minimum ambient temperature	32°F (0°C)
Connections	4-wire TraceTek jumper cable to terminal strip
Minimum water depth to trigger leak	0.2 in (5 mm) on metal surface*
Minimum water depth to trigger leak	0.5 in (12.7 mm) on insulating surface*

*With sensor tip height close to mounting surface but not touching

Installing the TT-FLAT PROBE

Note: To avoid damage to the TT-FLAT PROBE, store the unit in its packaging until ready to install.

Selecting the mounting location

The TT-FLAT PROBE is for use in ordinary areas. Choose a location that is expected to accumulate fluid in the event of a water leak, for example a drip pan or sump.

When mounted on a metal surface (e.g. a drip pan) minimum water depths of approximately 0.2 in (5 mm) may be required for leak detection. If the TT-FLAT PROBE is mounted on an insulating surface, minimum water depths of approximately 0.5 in (12.7 mm) may be required for leak detection.

Preparing the jumper cable segments for wiring to the terminal strip

- Cut in half the 3 foot modular jumper cable (TT-MJC-1M/3ft-PC part # 740923-000).
- The jumper cable segment with the female connector end is intended for wiring use on the terminal strip labeled OUT.
- The jumper cable segment with the male connector end is intended for wiring use on the terminal strip labeled IN.
- To prepare the jumper cable segment for wiring use, remove 2 inches of the outer (clear) jacket from the cut end, in order to provide enough slack for wire connection to the terminal strip.
- Also strip 0.5 in (12.7 mm) of insulation from the end of each colored wire.

Connecting the TT-FLAT PROBE to TraceTek jumper cable

- Remove the screw that secures the bottom cover of the unit (see Figure 1). Set cover aside, being careful not to lose the screw. Loose plastic tie wraps may be found inside the unit, set them aside for later use to provide strain relief on cable wiring.

Single end of line probe wiring connections

- If the TT-FLAT PROBE is being used as a single probe (or as the last component of a larger chain), refer to Figure 2A for guidance in making proper wiring connections.
- Connect the colored wires in the jumper cable segment with the male connector end per the Yellow (Y), Black (B), Red (R), Green (G) markings next to the terminal strip labeled IN.
- Push the lever lock to open the terminal strip and insert the wire end completely until it stops, then release the lever lock.
- Gently pull each wire to verify it is captured by the lever lock.
- Verify the wire connection quality by checking continuity.
- Create two wire loops, and install them on the terminal strip labeled OUT per the Illustration. One loop connects Yellow (Y) and Black (B), the other Red (R) and Green (G).

Note: Instead of using two wire loops, a segment of modular jumper cable and an end termination (TT-MET-PC) can be used as an alternative wiring connection to the terminal strip labeled OUT. See Figure 2B. This installation method allows for future extension of the system.

The modular jumper cable is connected to the terminal strip labeled OUT position as shown in Figure 3.

Push the lever lock to open the terminal strip and insert the wire end completely until it stops, then release the lever lock. Gently pull each wire to verify it is captured by the lever lock. Verify the wire connection quality by checking continuity.

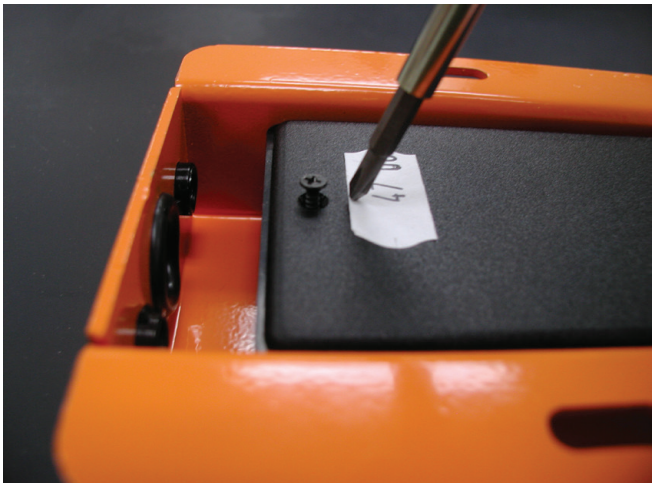

Figure 1. Removing the screw that secures the bottom cover of the unit

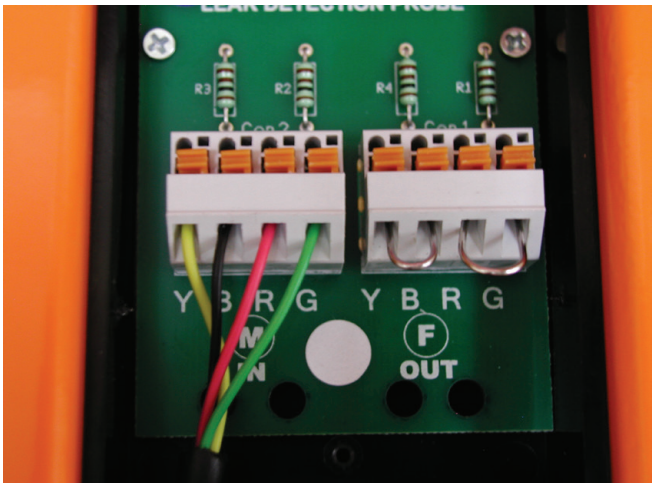

Figure 2A. Single probe wiring configuration with wire loops on terminal strip labeled OUT

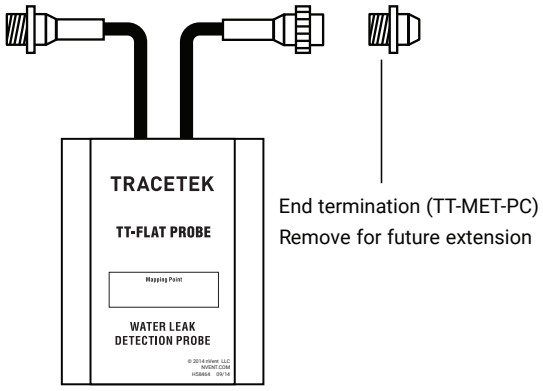

Figure 2B. Single probe wiring configuration if using jumper cable and an end termination

Multiple probe wiring connections

- Refer to the Figure 3 for the wiring connections associated with use of the TT-FLAT PROBE in a chain of TraceTek leak detection cable or other TT-FLAT PROBE.
- Connect the colored wires in the jumper cable segment with the male connector end per the Yellow (Y), Black (B), Red (R), Green (G) markings next to the terminal strip labeled IN.
- Push the lever lock to open the terminal strip and insert the wire end completely until it stops, then release the lever lock.
- Gently pull each wire to verify it is captured by the lever lock.
- Verify the wire connection quality by checking continuity.
- For the next component in the chain (either another TT-FLAT PROBE or TraceTek leak detection cable) connect the colored wires in the jumper cable segment with the female end connector to the terminal strip labeled OUT.
- Connect the colored wires in the jumper cable segment per the Yellow (Y), Black (B), Red (R), Green (G) terminal strip markings.
- Push the lever lock to open the terminal strip and insert the wire end completely until it stops, then release the lever lock.
- Gently pull each wire to verify it is captured by the lever lock.
- Verify the wire connection quality by checking continuity.

Figure 3. Multiple probe wiring configuration and suggested tie wrap location

Applying strain relief

Attach the provided plastic tie wrap to any connected jumper cable very close to interior side of the black wall of the unit. See the arrow on Figure 3 as a guideline for where to apply the tie wrap. Be sure to cut off excess portions of the tie wrap once secured to the cable, so that the rear cover can easily be reinstalled.

Putting the rear cover back on the TT-FLAT PROBE

Carefully position the rear cover with the screw hole properly aligned over the TT-FLAT PROBE body. Gently install the screw and tighten the screw to secure the bottom cover.

Mounting the TT-FLAT PROBE in position

The orange frame has been constructed with holes on each side to allow bolts or screws to secure the unit to the mounting surface. Alternately, adhesive could be used to secure the frame to the mounting surface.

If appropriate, the TT-FLAT PROBE can rest loosely on the mounting surface.

Verify prior to mounting the unit that the probe tips are at desired height above the floor surface.

Mapping point identified

It is recommended to characterize the mapping point information for the TT-FLAT PROBE. With the TTDM-128 master module powered on and all TraceTek cabling connected to the TT-FLAT PROBE, temporarily short the two metal probes on the TT-FLAT PROBE (for example, with a screwdriver). Be sure to maintain this temporary short for 20 seconds, which is long enough for the TTDM-128 master module to identify the leak location length. Write this length on the TT-FLAT PROBE label in the white mapping point area for future reference.

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