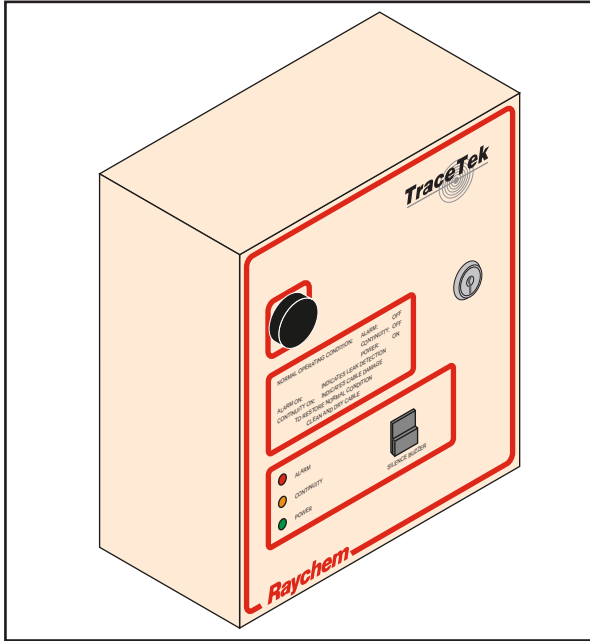


TTA-1-UL

Nonlocating Single-Channel Alarm Module



Description

The TTA-1-UL Alarm Module is designed for use with TraceTek sensing cables types TT1000, TT3000, TT501, and TT5000. All versions will detect liquid leaks at any point along the sensing cable and trigger an audible and visual alarm.

Module Location

The metal enclosure is rated NEMA 1 (IP-20). The ambient temperature of the module location must remain between 32° and 105° F (0° to 40° C).

Parts (supplied)

1 each Alarm module (TTA-1-UL)
includes: 2 wire nuts, 2 strain relief assemblies, TT-sponge

Parts (supplied separately)

As needed TraceTek sensing cable (TT1000, TT3000, TT501, TT5000)
As needed Hold-down clips (TT-HDC-x)
1 each Modular leader cable (TT-MLC-xx)
As Needed Modular jumper cable (TT-MJC-x-xx)
1 each TraceTek modular end termination (TT-MET-xx)

Electrical Codes

Installation must comply with relevant sections of the National Electrical Code including Article 504, "Intrinsically Safe Systems" and all other codes and regulations that apply.



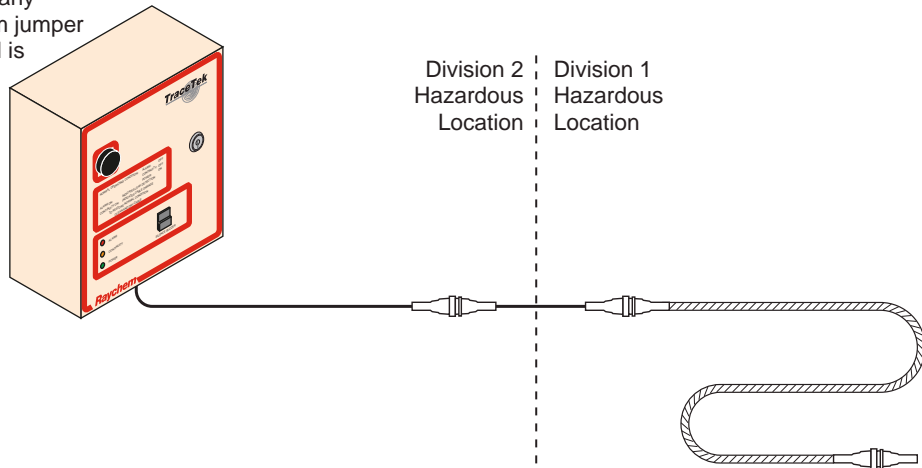
Hazardous Locations:
Class I, Div. 2, Groups A, B, C and D
For use with intrinsically



safe sensor circuits for
Class I, Div. 1, Groups A, B, C and D

Typical System

Note: Maximum sensor length on any channel is 50 feet. Maximum jumper cable length on any channel is 3000 ft. (1000 m)



⚠ WARNING: This module is an electrical device which must be installed correctly to ensure proper operation and to prevent shock or fire. Read these important warnings and carefully follow all the installation instructions.

- Turn off power supply to panel before working inside panel.
- Intrinsic safety and approvals are based on the use of specified components only. Do not substitute components.

⚠ WARNING: EXPLOSION HAZARD: Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.

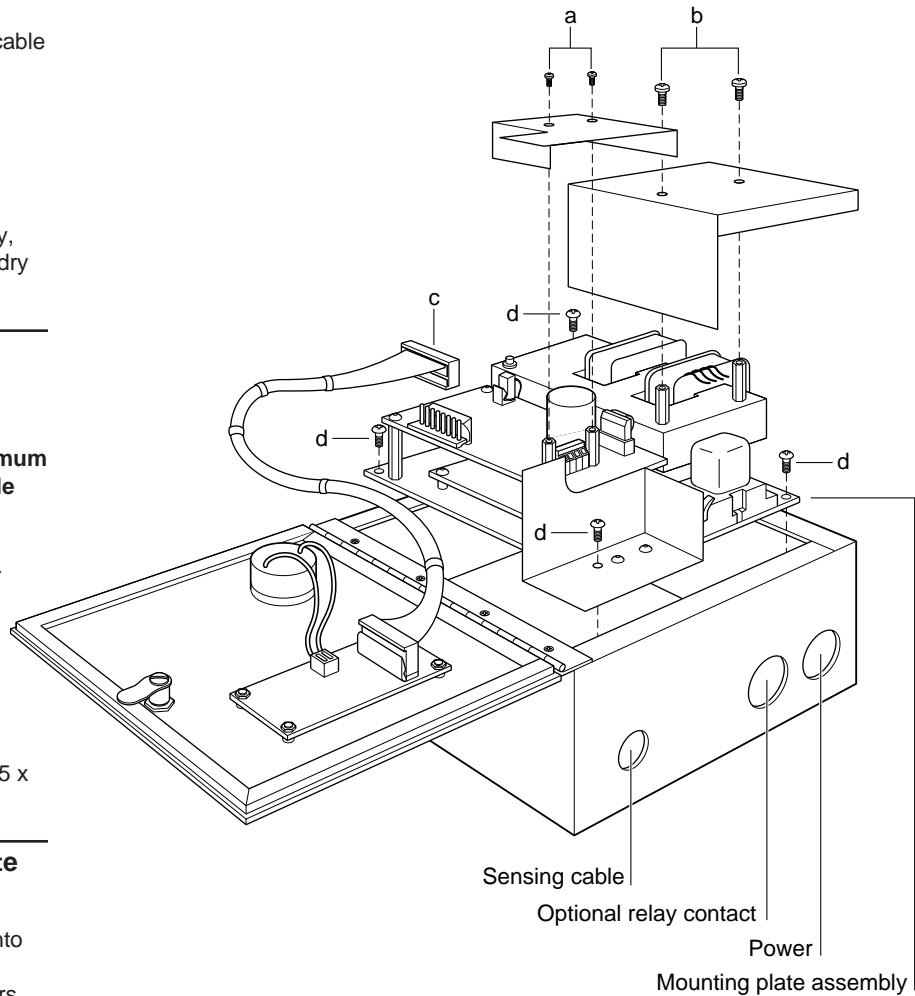
**TTA-1-UL Nonlocating Single Channel Alarm Module
Installation Instructions**

Step 1. Mounting Procedure

1. Remove the two screws (a) and the cable terminal cover.
2. Remove the two screws (b) and the transformer cover.
3. Disconnect the ribbon cable (c).
4. Remove the four corner screws (d).
5. Remove the mounting plate assembly, place in a plastic bag, and store in a dry clean area until ready for installation.

Step 2. Mounting the Enclosure

1. Knock out holes for field wiring as indicated.
Note: There must be a 2-inch minimum distance between the sensing cable entry hole and all other knockout holes.
2. Surface mount: Mount using the four holes on the back of the enclosure. Enclosure dimensions are 8-1/8" x 8-1/8" x 4" (21 x 21 x 10 mm).
3. For flush mounting:
The TTA-1-UL alarm module door includes a mounting flange. Flange dimensions are 10" x 10" x 4" (25 x 25 x 10 mm).



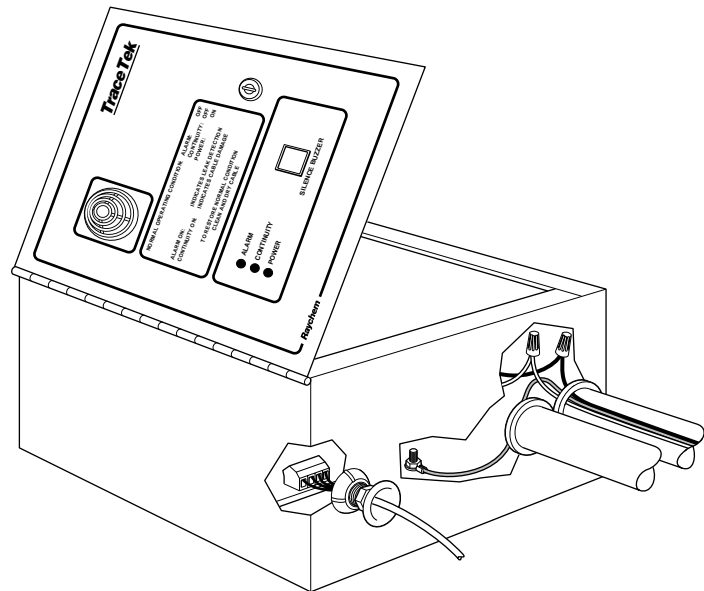
Step 3. Replacing Mounting Plate Assembly

1. Place the mounting plate assembly into the metal enclosure and fasten with retaining screws (d) at the four corners.
2. Plug ribbon cable into the 9-pin connector (c).
3. Replace transformer cover and fasten with two screws (b).
4. Replace cable terminal cover and fasten with two screws (a).

Step 4. Hooking Up Power and Cables

⚠ WARNING: Shock hazard. All wiring must be done with the power at breaker panel off.

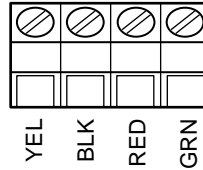
1. Run power cable through the knock-out on the lower right of the enclosure. Use 1/2" or 3/4" conduit (not included) or the strain relief assembly provided.
2. Make a power connection using the two wire nuts provided. Connect the two black wires together and the two white wires together. Connect the ground wire to the ground lug.



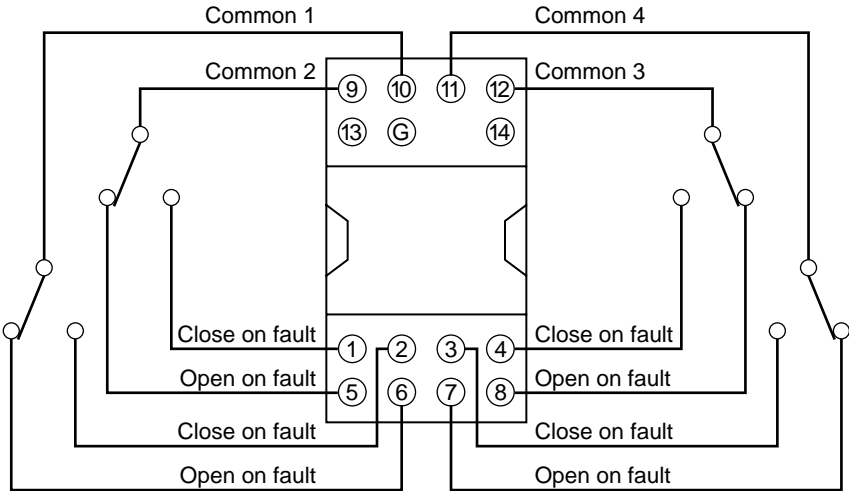
Note: Turning on module power before sensing cables are connected will result in an alarm condition.

Step 4. Hooking Up Power and Cables (continued)

3. Connect the TraceTek modular leader cable to the terminal strip TB3 on the PC board following the color code shown. Feed the cable through the sensing cable knock-out on the bottom left of the enclosure. Use the strain relief assembly or conduit to secure cable.



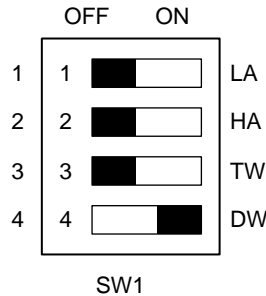
4. For optional relay connection: Connect relay contacts. Four circuits are provided each with a choice of normally open or normally closed potential free Form C contacts. These contacts are capable of switching 3 amps at 120 Vac or 28 Vdc.



5. For modules with a CSA Label: write the sensing cable type, (TT1000, TT3000, TT501, or TT5000) with permanent marker on the CSA Label located inside the front door of the module.

Step 5. Set the Sensor Selection Switch.

1. Select switch settings for switch SW1 to match the alarm module voltage to the type of fluids being detected



	Hydrocarbons	Water/Aqueous Chemicals	DI Water
1	ON	OFF	OFF
2	OFF	OFF	OFF
3	OFF	ON	ON
4	OFF	OFF	ON

Step 6. Installing the Sensing Cable

For installations where the sensing cable is floor mounted, use the following instructions. For other applications, contact the Raychem Representative.

1. Before installing the sensing cable, ensure that the floor, pipe, tank or other surface is clean and free from liquids, oil and other materials.

Consult the sensing cable "Dos and Dont's" included with the sensing cable for specific handling instructions.

Step 6. Installing the Sensing Cable (continued)

2. Lay the cable in the desired configuration.

Water Sensing Cable or Aqueous Chemical Sensing Cable:

Use hold-down clips (TT-HDC-1/4) with adhesive to secure clips to floor or other flat surface. Ensure that wet adhesive does not contact the sensing cable.

Hydrocarbon Sensing Cable:

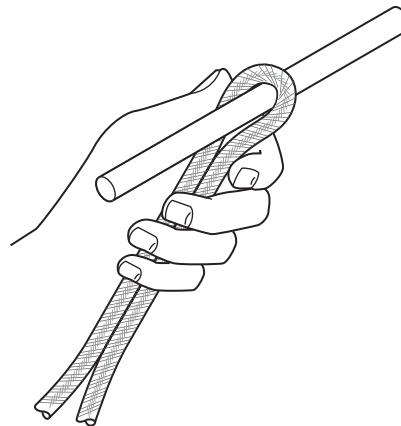
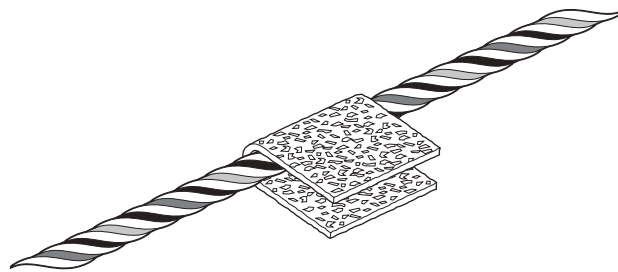
Use hold-down clips (TT-HDC-1/2) with adhesive to secure clips to floor or other flat surface. These cables are pressure and temperature sensitive. Do not exceed the minimum bend radius of 2". Avoid any pressure caused from hold-down clips, cable ties or tape. Sensing cable operating temperature range is -4° to 140 F (-20 to 60°C).

3. Plug the sensing cable to the modular leader cable (TT-MLC-xx) and turn the outer ring of the connector until tight. Use modular jumper cable (TT-MJC-x-xx) if additional interconnection cable is required.

Note: To ensure intrinsic safety, do not install intrinsically safe sensing cable wire and power supply cables in the same conduit.

Step 7. System Testing

1. Power the alarm module (green LED power indicator should light). If alarm sounds, press the SILENCE BUZZER button.
2. Simulate a leak:
For TT1000 or TT3000 sensing cable:
Depress the damp TT-sponge firmly onto the sensing cable and hold for 5 seconds. The red "alarm" LED should light and the alarm sound.
For TT501 or TT5000 sensing cable:
Using a 3/8" pipe or tube, wrap the sensing cable around it and hold firmly for 5 seconds. The red "alarm" LED should light and the alarm sound.
3. Simulate a broken cable:
Disconnect the sensing cable from the modular leader cable. The yellow "continuity" LED should light and the alarm sound.



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