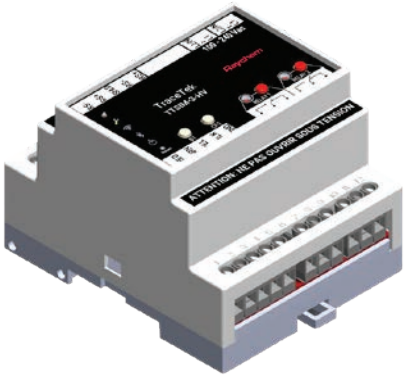
TTSIM-3 and TTSIM-4

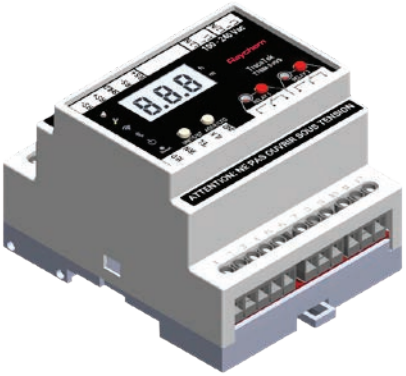
Raychem

Sensor interface module

PRODUCT OVERVIEW



TTSIM-3-HV



TTSIM-3-HVS

TTSIM-4-LV

Easy setup and simple operation

The Raychem TraceTek TTSIM-3 monitors up to 350 m (1150 ft) and TTSIM-4 up to 1500 m (5000 ft) of Raychem TraceTek sensing cable. When liquid is detected, the TTSIM 3 or 4 units indicate the leak with an LED, and switches one or two independently programmable relays to provide local voltage-free contact closure. The TTSIM-3/4 can also be used as a stand alone leak detection alarm unit or communicate to a host monitoring system such as Raychem TraceTek TT-TS12, TTDM-128 or directly to a PLC or other host system using standard protocols. The TTSIM 3 or 4 units can be wirelessly configured using the Elexant Connect app on any mobile device with Bluetooth or when connected to a TT-TS12 or TTDM-128 network master module.

The low cost of the TTSIM-3 makes it economical to build very robust systems with many small independent sensing cable segments. No field calibration is required.

The TTSIM-4 is well suited to applications where large areas are being monitored, or long sensor circuit lengths are required. Since it incorporates multiple sensor monitoring algorithms, the TTSIM-4 is capable of performing several specialized leak detection measurements. These algorithms make TTSIM-4 especially well suited to monitoring long circuits of TraceTek hydrocarbon sensing cables that are installed in demanding applications.

Design features

- LEDs to indicate power, leak, cable trouble, and communication status.
- Two voltage-free contacts for alarm signaling or taking action.
- Easy wireless configuration via available Elexant Connect app on Bluetooth enabled mobile devices.
- Optional LCD display for showing leak location (TTSIM-3 only).
- Simple twisted pair serial RS-485 communications up to 1200 meters (4000 feet) with automatic protocol selection.
- Accepts wide input voltages, LV model (12–24 Vdc / 24 Vac 50/60 Hz) and HV model (TTSIM-3 only, 100–240 Vac 50/60 Hz).
- Each TTSIM 3 or 4 unit has a unique address assigned with software – no switches.
- Relays are software selectable for normally energized or normally de-energized operation.
- DIN rail mounted for easy installation.
- Enclosures available for stand-alone indoor or outdoor installations.

GENERAL FEATURES

Sensor compatibility	All Raychem TraceTek sensor cables and point sensors or contact closure devices
Maximum length of sensing cable	TTSIM-3: 350 m (1150 ft), TTSIM-4: 1500 m (5000 ft)
Precision	TTSIM-3: +/– 0.5% of sensor length / +/–2 ft (0.6 m), TTSIM-4: +/– 0.1% of sensor length / +/– 2 ft (0.6 m)

ENVIRONMENTAL RATINGS

Storage temperature	–18°C to 60°C (0°F to 140°F)
Operating temperature	0°C to 50°C (32°F to 122°F)
Humidity	5% to 95% non-condensing

POWER REQUIREMENTS

TTSIM-3-LV / TTSIM-3-LV-NW	10–30 Vdc/ 24Vac ± 10%, 50/60 Hz, 6 VA
TTSIM-3-HV / TTSIM-3-HV-NW	100–240 Vac ±10%, 50 Hz/60 Hz, 10 VA
TTSIM-3-LVS / TTSIM-3-LVS-NW	10–30 Vdc/ 24 Vac ± 10%, 50/60 Hz, 6 VA
TTSIM-3-HVS / TTSIM-3-HVS-NW	100–240 Vac ±10%, 50 Hz/60 Hz, 10 VA
TTSIM-4-LV / TTSIM-4-LV-NW	10–30 Vdc/ 24 Vac ± 10%, 50/60 Hz, 6 VA
Wire sizes	#22 AWG to #14 AWG (0.5 to 2.5 mm^2)

ORDERING INFORMATION

Catalog Number	Part Number	Description
TTSIM-3-LV	2000004457	12–24 Vdc / 24 Vac TTSIM-3
TTSIM-3-HV	2000004458	100–240 Vac, 50/60 Hz TTSIM-3
TTSIM-3-LVS	2000004467	12–24 Vdc / 24 Vac TTSIM-3, with LCD display
TTSIM-3-HVS	2000004468	100-240 Vac, 50/60 Hz TTSIM-3 with LCD display
TTSIM-4-LV	2000004469	12–24 Vdc / 24 Vac TTSIM-4
TTSIM-3-LV-NW	2000004471	12–24 Vdc / 24 Vac TTSIM-3, no wireless
TTSIM-3-HV-NW	2000004472	100–240 Vac, 50/60 Hz TTSIM-3, no wireless
TTSIM-3-LVS-NW	2000004473	12–24 Vdc / 24 Vac TTSIM-3, with LCD display, no wireless
TTSIM-3-HVS-NW	2000004474	100–240 Vac, 50/60 Hz TTSIM-3, with LCD display, no wireless
TTSIM-4-LV-NW	2000004475	12–24 Vdc / 24 Vac TTSIM-4 , no wireless

SERIAL INTERFACE

Network configuration	RS-485 two wire network, 9600/19200/38400/57600/115200 baud
Communication protocol	Modbus, addressable from 1 to 247

RELAY CONTACTS

Type	Form C (SPDT)
Action	Software selectable; normally energized or normally de-energized; alarm on leak; leak or fault; or leak, fault or service
Rating	3 A maximum, 277 Vac or 30 Vdc

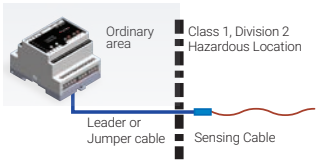
APPROVALS AND CERTIFICATIONS

The TTSIM-3/4 unit is approved for use in ordinary areas. The module must be located in an ordinary area, but may monitor intrinsically safe Raychem TraceTek sensors located in hazardous locations, as shown below.

c UL us LISTED

Open type process control Equipment
E529973

UL / CSA C22.2 No. 61010-1 for use in a general purpose area

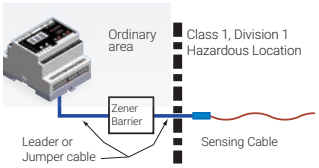


TraceTek sensors in Class I, Division 2, Groups A, B, C, D Hazardous Locations (Zone 2 in Europe). Refer to Installation Instruction and drawing 1027-5000 for complete installation information.

CE

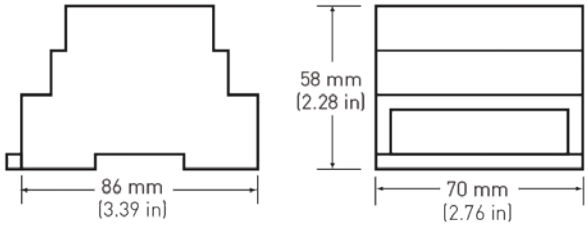
FM APPROVED

Non-incendive outputs for use in Class I, Division 2, Groups ABCD when installed per drawing 1027-5000:
CSA C22.2 No. 157
CSA C22.2 No. 213
FM 3600
FM 3610
FM 3810
FM 7745



If protected by an agency approved Zener barrier, TraceTek sensors in Class I, Division 1, Groups A, B, C, D Hazardous Locations (Zones 0 and 1 in Europe). Contact Chemelex to select proper Zener barrier.

DIMENSIONS



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