

Installation Notice FG-STAD

CAUTION

- Please read all the instructions in this manual carefully before installation. Do not start installation before reading these instructions.
- This equipment may receive some hazardous voltages. Failure to read these instructions may lead to serious injury or material damage. Before setting up the installation, check that both the model and power supply suit your application.
- This equipment must be wired in accordance with standard practice by qualified staff.

1 Application

- FG-STAD stands for "standalone alarm unit for hydrocarbon leak detection sensors". This unit can be connected with one hydrocarbon sensor only, and by TTK SAS.
- This equipment can be installed in explosive atmospheres in accordance with Directive 94/9/EC. The surface temperature must not exceed the value shown below.

2 Conditions for installation and maintenance

- As the unit is powered permanently, all wiring connections must be made away from explosive atmospheres. The unit should be grounded correctly to earth to avoid static electricity issues.
- As the unit housing contains aluminum, it is considered a potential risk of ignition by impact or friction. Care must be taken to prevent impact and friction during installation and use.
- The ambient temperature range is from -30°C (-22°F) to 80°C (175°F).

3 Mounting

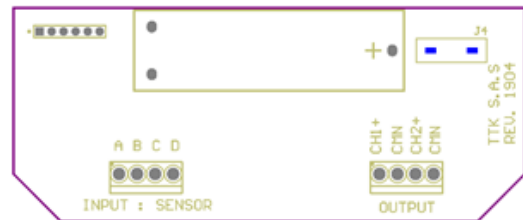


Figure 1: Input sensor and output terminal block connection

- **INPUT SENSOR:** This input will work only with a TTK hydrocarbon detection sensor.
 - A: To connect with the GREEN wire (use with FG-ODP probe sensor only)
 - B: To connect with the WHITE wire (of FG-CLOD: Leader cable for OD BUS)
 - C: To connect with the BLACK wire (of FG-CLOD: Leader cable for OD BUS)
 - D: To connect with the RED wire (of FG-CLOD: Leader cable for OD BUS)
- **SWITCH OUTPUT:**
 - CH1+: Channel one positive
 - CMN: Common
 - CH2+: Channel two positive
 - CMN: Common
- **UNIT ON-OFF SWITCH:**
 - J4: To be moved to ON (internally) position to power-on the unit

3 Mounting (continued)

a. Discrete output.

Note: It is very important to follow the output circuit polarity as shown below, with the positive (+) side of the circuit wired to the CH1+/CH2+ terminal and the negative side (-) wired to the CMN terminal. Otherwise, the output circuit will remain ACTIVE (or CLOSED) regardless of the state of the output channel.

The discrete output of FG-STAD is driven by the unit and designed to give an alarm signal.

State	CH1	CH2
Normal	Close	Close
Leak	Open	Close
Break	Close	Open
Others	Open	Open

Table 1: True discrete output table

Other faults: Leak and break sensor / bus simultaneous, power supply lost.

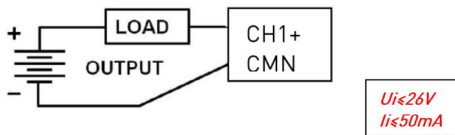


Figure 2: Single-output wiring

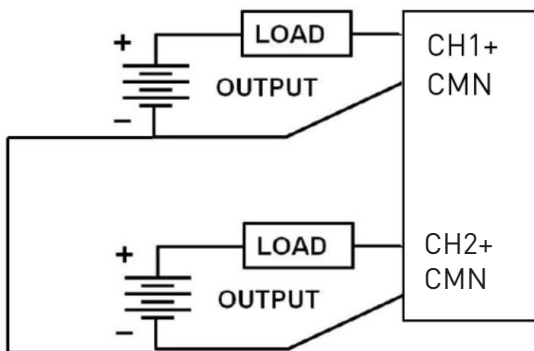


Figure 3: Dual output wiring must have a common ground

TTK's FG-OD cables are certified ATEX / IECEx according to the marking mentioned above, according to EN / IEC 60079-0, EN / IEC 60079-18 and EN / IEC 80079-34. Special installation precautions are required when working in explosive atmospheres, such as use of zener barriers, specific location of alarm and/or satellite panels etc. The client is responsible for verifying that the design and installation of the detection system, in an ATEX / IECEx classified zone, is consistent with the classification of the area. The client retains sole responsibility for its use of TTK's products.

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b. Sensor terminal connections

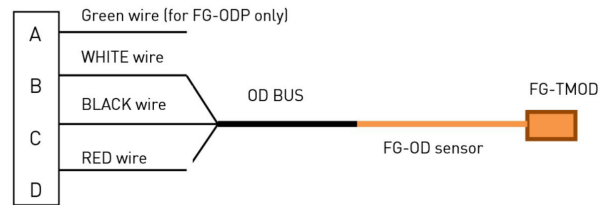


Figure 4: Sensor input wiring

4 Meaning of marking

Manufacturer	TTK SAS
Equipment type	FG-STAD
ATEX protection	Intrinsic safety in compliance with: EN 60079-0: 2012 et EN 60079-11: 2012
CE type exam	LCIE 13 ATEX XXXXX
IP rating	IP65
IECEx marking	II 1G Ex ia IIB T4 Ga ia: Intrinsic safety level a; IIB: gas grouping for Propane and Ethylene; T4: gas group temperature class (135°C); Ga: equipment protection level
Use area	ZONE ATEX 0 Group IIB
Equipment device	Ga
Ambient temperature range	-22°F ≤ Ta ≤ 175°F

5 Specific parameters of protection mode in question

- **Switch terminal parameters:**
 U_i : 26V, I_i : 50mA, P_i : 0.325W, C_i : NA, L_i : NA
- **Sensor terminal parameters:**
 U_o : 3.6V, I_o : 20mA, P_o : 0.018mW, C_o : 15μF, L_o/R_o : 200m