

# Installation Instructions FG-STAD

## CAUTION

- You must carefully read all the instructions within this manual before installation. Do not start installation before taking these instructions into account.
- This equipment might receive some hazardous voltages. If you do not consider these instructions, you risk facing serious corporal and material injuries. Before setting up the installation, check both the model and power supply suit your application.
- The wiring of this equipment must be executed with the forces rules by qualified staff.

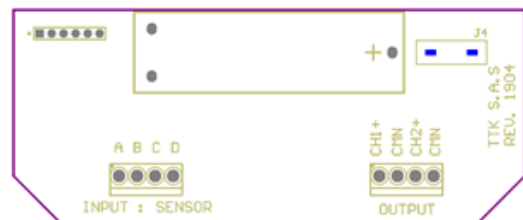
## 1 Application

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

## 2 Conditions for installation and maintenance

- The unit is powered permanently, hence all wiring connections have to be done out of Explosive Atmospheres. The unit should be grounded correctly to the earth to avoid all electrostatic issues.
- The unit housing contains aluminum and is considered a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact and friction.
- The ambient temperature range is from -30°C to 80°C.

## 3 Mounting



**Figure 1: Input sensor and output terminal block connection**

- **INPUT SENSOR:** This input work only with a TTK hydrocarbon detection sensor.
  - A: To connect with the GREEN wire (use only for FG-ODP probe sensor)
  - 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 (following)

#### a. Discrete output.

**Note:** It is very important that the polarity of output circuit is followed as figures below, with the positive (+) side of the circuit wired to the CH1+/CH2+ terminal, and the negative side (-) wired to the CMN terminal. If not, the output circuit will remain ACTIVE (or CLOSE) regardless the state of output channel.

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

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

Table 1: True table of discrete output

Other faults: Leak and Break sensor / bus simultaneous, no more power supply.

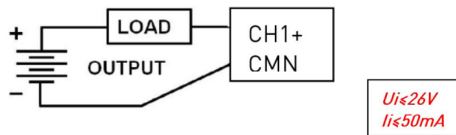


Figure 2: One output wiring

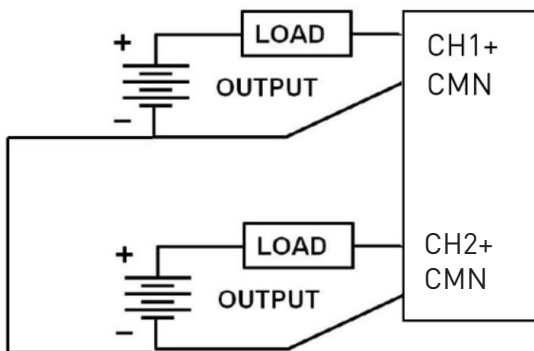


Figure 3: Dual output wiring should have a common ground

TTK's FG-OD cables are certified ATEX / IECEx according to the above mentioned marking, according to EN / IEC 60079-0, EN / IEC 60079-18 and EN / IEC 80079-34. Special installation precautions are required where explosive areas are concerned. E.g. the use of zener barriers, specific location of alarm and/or satellite panels, .... The customer is responsible for the verification that the design and installation of the detection system, in an ATEX / IECEx classified zone, is consistent with the classification of the area. The customer retains sole responsibility for their use of TTK's products.

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#### b. Sensor terminal connections

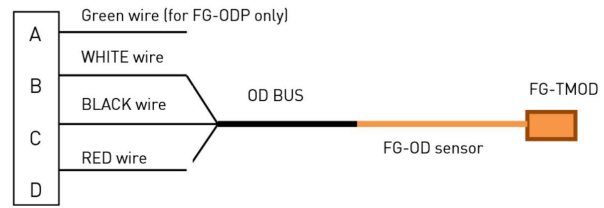


Figure 4: Sensor input wiring

### 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	Ex 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	-30°C ≤ Ta ≤ 80°C

### 5 Specific parameters of the concerned protection mode

- Switch terminal parameters:  
Ui: 26V, Ii: 50mA, Pi: 0.325W, Ci: NA, Li: NA
- Sensor terminal parameters:  
Uo: 3.6V, Io: 20mA, P0: 0.018mW, Co: 15µF, Lo/Ro: 200m