



# Installation Instructions FG-ALS



## 1 FG-ALS Alarm Locating Unit Description

- The FG-ALS Alarm Location System is designed to be used with TTK analog sense cables; FG-ECS, FG-ACS and FG-ECX, FG-ACX to give instant detection of liquid leaks (water, acid or base). If a leak is detected, the FG-ALS will act in the following way:
  - An audible alarm is triggered;
  - The LCD display on the alarm unit front panel show the distance in metres to the leak, the red LED is switched on and the leak relay is activated.
- In the case of cable break, an audible alarm is triggered, the yellow LED is switched on and the cable break relay is activated.
- To stop the audible alarm, press the "reset" button. The diode and the dry contact remain activated as long as the fault is present. When the fault disappears, the diode is switched off, the relay returns to its original normal status and the content of the display disappears.
- The maintenance of the system is recommended for every six months minimum.

## 2 Panel Mounting

- The FG-ALS is available in wall mounted unit.
- Two of the three cable glands are placed on the FG-ALS Alarm Locating Unit, the last one can be screwed in the place of plug PG7.
- Use the two fixing holes in the lower part of the unit box. Release the higher part of the box of the lower part which is maintained by two screws. These two parts could be easily dismantled after mural fixing. Withdraw carefully the higher part with the PCB (printed circuit board).
- **The FG-ALS Alarm Locating Unit contains:**
  - 1 FG-ALS Alarm Unit
  - 3 PG cable glands: 2 PG7 + 1 PG9
  - 1 Installation Instructions

## 3 Connection and Adjustment

<b>1. Power Connection</b>	FG-ALS Alarm Unit is powered into 100-240 Vac or 12-24 Vac/15-30 Vdc. The maximum section of the cable is of 14 AWG for 230-240 VAC. Use PG9 cable gland for the cable 230 V. There is no polarity specification for low voltage connection.
<b>2. Connection of the Dry Relays</b>	The dry relays are free of potential. The maximum section of the cables is of 18 AWG. Dry Contact for Leak: The leak contact transfers the information of leak to a PC (or supervisor), allowing automated equipment control. Dry Contact for Cable Break: A specific contact is activated in case of cable break. A power supply failure also activates this contact. Relay of Leak and Relay of Cable Break: Simple relay: NO-COM-NC Max. commutated Voltage: 125 Vac / 60 Vdc
<b>3. Serial Interface Physical Support</b>	Opto-isolated, Two-Wire RS485
<b>4. Serial Link Parameters</b>	9600 Baud, 8 Data Bits, 1 bit Stop, no Parity
<b>5. Supported Protocol</b>	Modbus, Functions 3 and 4

## 4 Sense Cables Connection

### ■ Connection of Sense Cables FG-ECS or FG-ACS:

A junction with a length of 3.5 metres of Belden jumper cable on each length of FG-ECS and FG-ACS, allows a simple connection to the FG-ALS alarm locating unit.

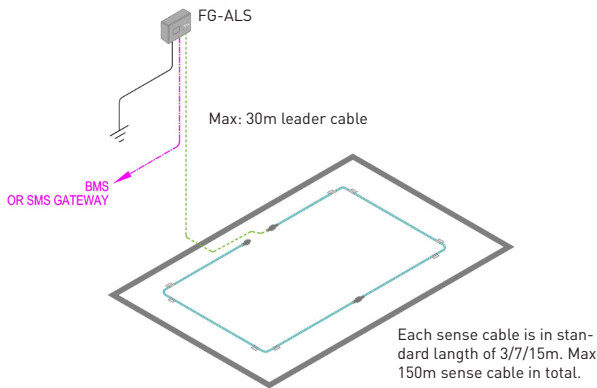


### ■ Connection of Sense Cables FG-ECX or FG-ACX:

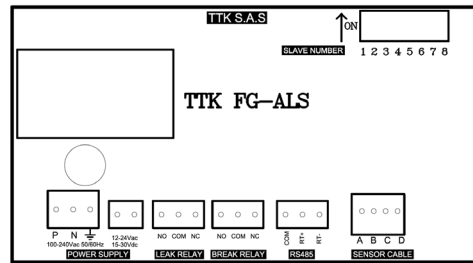
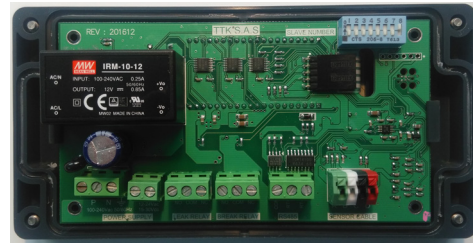
To connect the FG-CLC leader cable, refer "FG-SYS installation guide" chapter 1, sector 3.3 "Connection of FG-CLC leader cable".

The FG-CLC leader cable, connected to the FG-ALS alarm locating unit with a female connector, at its extremity. The beginning of the sense cable thus corresponds at its extremity with a male connector.

Connect the first sense cable to the leader cable, coming from the FG-ALS alarm locating unit.



## 5 Motherboard Connection



To connect the various cables (leader cable, power supply and relays) at the corresponding connector block.

<b>Power supply</b>	N : Neutral P : Live Earth
<b>Power supply 12-24Vac, 15-30Vdc</b>	No polarity and not isolating
<b>Leak Relay</b>	1: NO 2: COM 3: NC
<b>Cable Break Relay</b>	1: NO 2: COM 3: NC
<b>RS485</b>	1: COM 2: RT+ 3: RT-
<b>FG-ECS or FG-ACS or FG-ECX or FG-ACX</b>	A : Green wire B : White wire C : Black wire D : Red wire

Potentiometer (in blue colour) P1 for adjusting sensitivity of detection.

## 6 Commissioning Guide

Normal Operation	<ul style="list-style-type: none"> <li>- Switch on the FG-ALS alarm locating unit</li> <li>- An audible alarm is triggered, 3 diodes switch on, the display show the total length of the sense cable installed.</li> <li>- Alarm turns off, the green diode remains on, the display switches off.</li> <li>- The arlarm locating unit is under operation.</li> </ul>
Simulation of Leak	<ul style="list-style-type: none"> <li>- Place water directly on the sense cable.</li> <li>- The red diode switches on, the audible alarm resounds and the leak contact is activated. The display show the location of the origin of the leak, in metre.</li> <li>- Press on the button to switch off the audible alarm.</li> <li>- Absorb water with a dry duster.</li> <li>- The red diode turns off, the display switches off and the dry contact back to its normal position.</li> </ul>
Simulation of Cable Break	<ul style="list-style-type: none"> <li>- Disconnect the sense cable from FG-ALS alarm locating unit, block cablebreak.</li> <li>- The yellow diode switches on, the audible alarm is triggered and the cable break contact is activated.</li> <li>- Press on the button to switch off the audible alarm.</li> <li>- Connect the cable to the FG-ALS alarm locating unit.</li> <li>- The yellow diode turns off and the dry contact back to its normal position.</li> </ul>

## 7 After Installation: ABC Steps

- Carry out and place a clear and precise installation drawing close to the FG-ALS Alarm Locating Unit.
- Make sure that the following documents are at the disposition of the Customer:
  - FG-ALS Alarm Locating Unit data sheet
  - Drawing of the installation
  - Installation Instructions
- Inform the Customer, it is recommended to take out maintenance operation twice per annum on the system.

Company \_\_\_\_\_

Operator name \_\_\_\_\_

Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

**Caution: All connections of the connector blocks must be done with the FG-ALS Alarm Locating Unit supply switched off.**

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