LIQUID LEAK DETECTION SYSTEMS

FG-ECS Kit

Stand-alone Sensor

Installation Instructions

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Installation Instructions FG-ECS Kit

1 FG-ECS Kit Stand-alone Sensor Description

- The FG-ECS Kit Stand-alone Sensor is designed to connect to a length of TTK's sensing cable FG-ECS, allowing liquid leak detection.
  - When a leak occurs, the LED indicator illuminates red.
  - For a cable break, the LED indicator flashes red.
  - The relay switches during both a leak and cable break.
  - Once the alarm ends, the LED indicator flashes green, and the relay returns to its initial position.

- **FG-ECS Kit Stand-alone Sensor contains:**
  - 1 FG-ECS Kit Stand-alone Sensor
  - 1 FG-ESC Sensing Cable, preterminated in various metres length (maximum 15 metres length)
  - 1 Installation Instructions (this guide)

2 Power Recommendations

- **Power Supply:**

  12-24 VAC / 15-30 VDC
  No polarity on power terminal.
  Earth terminal connected to internal GND.

- **Relay for leak, cable break and power failure:**

Relay:	COM-NO-NC
Max. commutated Voltage:	125 VAC / 60 VDC
Max. commutated Power:	62,5 / 30 W
Max. commutated Capacity:	1A
Nominal load:	0,5 A with 125 VAC 1 A with 24 VDC
Working load min.:	5 VDC - 1 mA

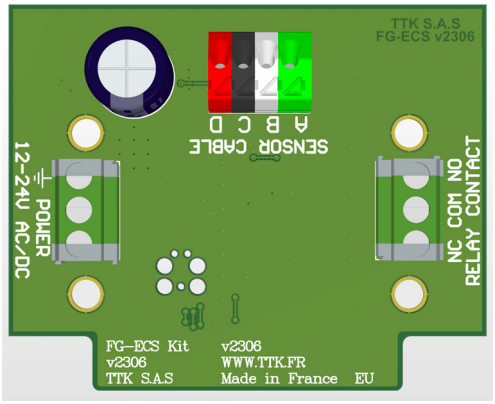
Caution:
All connections of the connector blocks must be done with FG-ECS Kit Stand-alone Sensor supply switched off.

3 Circuit Board Connection

- **Connect the various cables (sense cable FG-ECS, power supply and relay) to the corresponding terminal blocks.**

- **Sense cable:** FG-ECS 3m / 7m / 15m
  A - Green wire
  B – White wire
  C – Black wire
  D – Red wire

- **Relay:**
  NC – Normally Closed
  COM – Common
  NO – Normally Opened



4 Fixing The Clips on The Ground

After determining the suitable layout for the water sensing cable, it's essential to fix the clips (1 per meter of cable). These clips facilitate cable installation and maintenance.
We recommend securing them with cold glue.
Ensure the clips are placed in alternating directions.
Allow time for the clips to completely dry.

5 Installing the Sensing Cable

Place the cable within the previously fixed clips on the ground.

6 Signal Tags

Utilize green signal tags to identify the water sensing cable.

7 Power Connection to the Stand-alone Sensor

FG-ECS Kit is designed for a power supply 12-24 VAC / 15-30 VDC.

The maximum section of the cable is of 14 AWG for 24 VAC/DC. Polarity is not necessary for 12/24 V.

8 Connection of the Relay

- The relay is potential-free. The maximum cable section is of 14 AWG.
- Relay for leak, cable break, and power supply failure

  In the event of leak, cable break, or power supply failure, the triggered relay sends information to a PC (or supervisor), enabling control of automated equipment.

9 Connection of the Sensing Cable FG-ECS

All terminal connections should be made with the FG-ECS Kit Stand-alone Sensor supply turned off.

10 Commissioning Guide

Normal Operation	- Switch on the FG-ECS kit Stand-alone Sensor. The LED flashes green, the alarm unit is under operation.
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Simulation of Leak	- Pour water directly on the FG-ECS sense cable. - The LED illuminates red and triggers the leak relay. - Absorb water with a dry cloth. - The LED flashes green, and the relay retruns to its initial postion.
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Simulation of Cable Break	- Disconnect the sense cable from FG-ECS kit Stand-alone Sensor. - The LED flashes red and triggers the cable break relay. - Reconnect the cable to the FG-ECS kit Stand-alone Sensor. - The LED flashes green, and the relay returns to its initial position.

11 After Installation: ABC Steps

A. Carry out and place a clear and precise installation drawing close to the FG-ECS kit Alarm Unit.

B. Make sure that the following documents are at the disposition of the Customer:
- FG-ECS kit Alarm Unit data sheet
- Drawing of the installation
- Installation Instructions

C. Inform the Customer, it is recommended to take out maintenance operation twice per annum on the system.

Company _____

Operator name _____ **Date**____ /____ /____

i Information and Reservations

- The FG-ECS Kit Stand-alone Sensor is exclusively designed for use with TTK's sensing cables and can effectively detect water and basic liquids.
- Regular maintenance is advisable, with a recommended interval of at least every six months.
- To prevent damage to the sensing cable, it's advised to dry it if it comes into contact with liquid. Avoid leaving the cable submerged in water for more than 4 hours.