FG-ALS8

Eight-Zone Alarm & Location System Unit

Installation Notice

TTK — LIQUID LEAK DETECTION SYSTEMS

Installation Notice FG-ALS8

1 Panel Mounting

- Fix the panel to the wall using 4 screws.
- Six-push through holes are available for installing the PG11 glands.
    1. Power supply
    2. Outputs 1 & 2 and relays 1 & 2
    3. Outputs 3 & 4 and relays 3 & 4
    4. Outputs 5 & 6 and relays 5 & 6
    5. Outputs 7 & 8 and relays 7 & 8
    6. JBUS/MODBUS
- Knock out the push-through holes from the outside.
- Connect all plug-in terminals (refer to step 2).
- Plug the terminals.
- Close the box, starting by inserting the top side, and then push the bottom down. Lock, using the two available screws.
- Power up from the circuit-breaker.

2 Electrical Connections

- Connect the sense cables following this color code:
    - A: Green
    - B: White
    - C: Black
    - D: Red

    Terminate unused outputs with two loops between the A&B and C&D connectors.

    The wiring diagram is on the back page.
- Connect the relays:
    - COM: Common
    - NC: Normally Closed
    - NO: Normally Open
- Nine relays are available on FG-ALS8:

Relay 1 = leak zone 1	Relay 2 = leak zone 2
Relay 3 = leak zone 3	Relay 4 = leak zone 4
Relay 5 = leak zone 5	Relay 6 = leak zone 6
Relay 7 = leak zone 7	Relay 8 = leak zone 8
Relay 11 = cable-break all zones	

- Connect the power supply following the signs:
    - Ground sign: Ground
    - N: Neutral
    - L: Line

    Power supply: 100-240 V AC 50/60 Hz 0.25 A

3 Capacity

The FG-ALS8 panel is designed to receive up to 100m (328 ft) of sense cable (FG-ECS, FG-ACS, FG-ECX, FG-ACX) per zone.

4 Powering-on the System

Power on from the circuit breaker:
The panel will sound and show ''SYSTEM TEST'' for 20 seconds on the display, and will then show the ''home'' screen:

TTK FG-ALS8

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- Touch the first button (flag) to change the language:
    - English
    - French
    - German

    The language setting will affect the bottom banner and the texts in the alarm screen.

- Touch the second button (arrows) to show the lengths installed in each of the 4 zones (please refer to step 5).

- Touch the third button (gears) to change the MODBUS slave number.

5 — Settings

- Touch the second button (arrows), the touch screen shows the lengths installed on each of the four cables:

ZONES

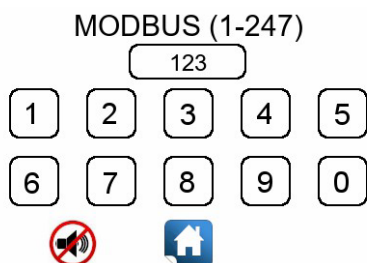|	
Zone 1: 15m	Zone 5: 7m
Zone 2: 30 m	Zone 6: 30
Zone 3: 60 m	Zone 7: 15m
Zone 4: 7m	Zone 8: 45 m

- Touch the ''home'' button to return to the main page.

- Touch the ''refresh'' button (arrows) to update the lengths displayed.

The system will return to the ''home'' screen after 30 seconds of inactivity.

- Touch the third button (gears) to change the Modbus slave number.

MODBUS (1-247)

```
           123

  1   2   3   4   5
  6   7   8   9   0
```

- Alarm screen:

  If a fault occurs (leak or cable-break), the leak alarms are represented by a drop of liquid;

  Cable-break alarms are represented by scissors and the "sensor" label.

ZONES

1: SENSOR	5: SENSOR
2: 30 m	6: OK
3: 99 m	7: SENSOR
4: OK	8: 45 m

The system will return to the ''home'' screen after 30 seconds of inactivity.

6 — MODBUS

The MODBUS protocol implemented on FG-ALS8 allows the current status of the system to be supervised. The two types of alarm (leak and cable-break) are coded using different Modbus registers for each individual zone.

The physical support of the MODBUS is two-wire RS485.

Serial port configuration	9600 B, 8 data bits, 1 stop bit, no parity
Communication protocol	MODBUS or JBUS, functions 3 or 4
Maximum number of FG-ALS connected to the same controller	31
Slave number	1 to 247
Maximum number of reading registers	16
MODBUS Addresses in the memory	Register 1 = length zone 1 Register 2 = leak zone 1 Register 3 = cable-break zone 1 Register 4 = leak location zone 1 Register 5 = length zone 2 Register 6 = leak zone 2 Register 7 = cable-break zone 2 Register 8 = leak location zone 2 Register 9 = length zone 3 Register 10 = leak zone 3 Register 11 = cable-break zone 3 Register 12 = leak location zone 3 Register 13 = length zone 4 Register 14 = leak zone 4 Register 15 = cable-break zone 4 Register 16 = leak location zone 4 From register 17 to 32 for zones 5, 6, 7, 8

Format of the solution:

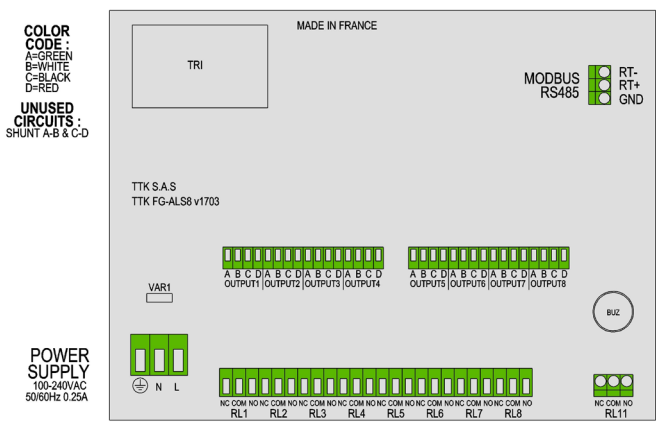| Slave number	Function	No. of bytes read	Byte 1	Byte 2	...	Byte N	CRC 16
1, 2, ..., 247	3 or 4	up to 32	XXh	XXh	...	XXh	XXXXh

- Remarks:

  The last panel on the serial link should be terminated by a 120 Ohms / 1W resistor between points RT- and RT+. The shielding of the data transmission cable should be connected to the controller's earth and to the terminal COM of each FG-ALS8 panel.

  - Slave number 0 inhibits the MODBUS operation.

  It is advisable to leave at least 200 ms between the successive requests.

TTK WIRING DIAGRAM / FG-ALS8

COLOR CODE :
A=GREEN
B=WHITE
C=BLACK
D=RED

UNUSED CIRCUITS :
SHUNT A-B & C-D

MADE IN FRANCE

TRI

MODBUS RS485
RT-
RT+
GND

TTK S.A.S
TTK FG-ALS8 v1703

VAR1

A B C D A B C D A B C D A B C D
OUTPUT1 OUTPUT2 OUTPUT3 OUTPUT4

A B C D A B C D A B C D A B C D
OUTPUT5 OUTPUT6 OUTPUT7 OUTPUT8

BUZ

POWER SUPPLY
100-240VAC
50/60Hz 0.25A

N   L

NC COM NO NC COM NO NC COM NO NC COM NO NC COM NO NC COM NO NC COM NO NC COM NO
RL1   RL2   RL3   RL4   RL5   RL6   RL7   RL8

NC COM NO
RL11

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