

QUICK INSTALLATION GUIDE

CONTENUTO DEL KIT

- Remote reading device I-READ ZERO ("IRZ"), with battery inside
- Mounting bracket
- Quick installation guide
- Level sensor with screw (optional according to the kit ordered)



ASSEMBLY TOOLS

For installation you need:

- cross-head screwdriver
- flat head screwdriver

POSITIONING AND FIXING

The device must be properly fastened in vertical position with the level sensor cable placed face down and in conditions for which cannot be covered by snow or water (see notes and next steps for the installation).

In the installation site a good GSM network signal of the SIM card's mobile operator used in the device must be present.

INSTALLATION RECOMMENDATIONS AND SAFETY

Install the device by checking all the electrical characteristics in accordance with the ATEX directive. Shitek Technology Srl does not assume responsibility for inappropriate or incorrect use of the device and / or not meet the safety requirements indicated.

The device is suitable for operation in Hazardous Area (Zone 0) according to the label:

II 1 G Ex ia IIB T2 Ga

Operating temperature range: $-20^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$.

Do not rub or scratch the device plastic housing in order to avoid the occurrence of electrostatic charges (see rating plate located on the housing of the device).

Use only approved battery packs supplied by the manufacturer.

Install and / or replace the battery in a safe area after removing the IRZ from its mounting and taken to a safe area at least 2 meters from the Hazardous Area.

Do not place the device without the cap on conductive surfaces, it could damage irreparably even without a battery inserted.

Install and/or replace the level sensor in a safe area at least 2 meters from the Hazardous Area.

Periodically check the tightening and tightness of the seal of the closure device.

Maintenance in Hazardous Area must be performed by qualified and authorized personnel

Shitek Technology Srl reserves the right to check the personnel responsible for this function both adequately instructed with appropriate audit that can be planned with the direction.

I-READ ZERO

PROCEDURE TO INSTALL AND FIX TO THE TANK

IRZ can use two types of sensor:

- level sensor ("PRZ")
- potentiometric/ ratiometric Cotrako® sensor

1. Using probe "PRZ" unscrew the screw at the bottom (0% side) of the level indicator (standard) already present in the level indicator gauge.

Fix the sensor "PRZ" using the supplied screw above the pre existing level indicator, taking care to place the probe in the correct direction (see Figure below) and in line with the 2 screws of the level indicator.



Using potentiometric/ratiometric sensor, replace the gauge pre-existing with the new probe.

2. Unscrew the IRZ (operation to be performed in a safe area), remove the printed circuit board from the plastic base and place it on a panel of non-conductive material (eg. Wood).

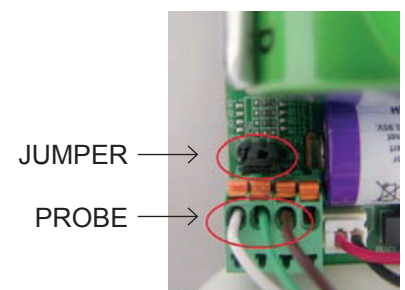
Pass the sensor cable through the cable glands prepared and connect the wires as shown in Table 1

Caution: When inserting wires into the terminal it is important that the printed circuit board is supported on the panel of non-conductive material and that it is removed from the plastic base otherwise it is impressed with the twists that may damage it.



PIN	Function	Colours	
		PROBE PRZ	CK POTENTIOMETRIC PROBE
1	GND	WHITE	WHITE
2	SIGNAL	GREEN	GREEN
3	POLARIZATION	BROWN	-

Table1: Sensor wiring



3. Place the jumper JP3 depending on the sensor type used (PRZ or potentiometric).

PRZ: jumper placed between pin 2 and pin 3;

potentiometric: jumper placed between pin 1 and pin 2.

4. Fix the PCB in the plastic base, if it is necessary shorten the length of the sensor wire between the cable gland and the IRZ, tighten the cable gland according to specification of DIN standard cable glands PG7.

5. Connect the battery to the appropriate terminal (see above image).

6. Screw the cap and pay attention to the the battery pack's cable and to the sensor's cable.

Check the correctly tightening of the cap with the respective base so that it can be guaranteed the tightness of the device.

7. IRZ is provided with a metal bracket suitable for fixing to the tank's eyebolt.

See Figure below

If the eyebolt position was not reached, fix the device to the brackets of the edge of the tank or to other parts metal not subject to the passage of the gas (do not use pipes or fittings pre-existing to the fixing of the IRZ)



Not make holes in any part of the tank.

ACTIVATION PROCEDURE

The activation procedure must be performed to the first installation of the device, or whenever it is reset to factory defaults.

1. Push the ON button and hold it for at least 5 seconds; wait until the GREEN LED flashes continuousl .

2. Wait an acoustic signal consisting of tones repeated. There are 3 possibilities:

a) 3 tones repeated every 5 seconds: The GSM is registered and the quality of the signal is good.

b) 2 tones repeated every 5 seconds: The GSM is registered but the quality of the signal is not good.

In this case the installation could to be not completed successfully

c) 1 tone repeated every 5 seconds: The GSM is not registered or there are some troubles in the SIM card. In this case the installation will fail.

3. Push the **WK button** 5 times in maximum 5 seconds, you have to hear a long and prolonged tone.

As soon as the tone ends, press the button WK other 5 times within 5 seconds; the confirmation of the exact procedure is done by a tone with length 1 second repeated 2 times.

4. Wait the end of activation process, that must be completed within a few minutes. At the end of the procedure the WebVision server will automatically send an SMS or an e-mail with the installation data to the maintainer or to other qualified personnel

5. Check the data shown in the SMS message or in the e-mail, in particular the percentage value of the level, which must meet to that reported on the level indicator installed on the tank with a maximum error of $\pm 3\%$.

6. Check and verify the data as in table:

SERIAL NUMBER	LEVEL	BATTERY	GSM SIGNAL
00000000019573	57.3%	>3.5V	>7

NOTE: if the maintainer does not receive the SMS or e-mail with the report of the installation you need to contact the Shitek assistance service.

NOTE: to calculate the level, IRZ reads the angle of the magnetic field provided by the level indicator.

It is advisable to replace the level indicator with a new one, since there is the certainty of the quality of the magnet of a old level indicator.

Shitek Technology Srl is not responsible for the quality and/or of the measure's error if the technical conditions do not comply with the requirements.

VISUAL FEEDBACK ON ELECTRONIC BOARD: LED

The following table show the functionality provided by the 2 LEDs on the printed circuit board

LED GREEN	
Off	GSM/GPRS module off
Always On	GSM/GPRS module on, but not registered to GSM network
Slow blink	GSM/GPRS Module on, registered to GSM network
Fast blink	GSM/GPRS Module on, registered to GSM network, ongoing communication

LED RED	
On	SMS or GPRS communication active
10 Fast blinks	Start or end of the installation procedure

INSTALLATION DATA

It is advisable to write in the table below the data of the installed device to align the setup information at the venue

SERIAL NUMBER		
INSTALLATION CODE		
ADDRESS		
DESCRIPTION		
TANK TYPE	HORIZONTAL	VERTICAL

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