APLAST

MANUAL SQUEALER-2

EN

SQUEALER-2 – manual

2 inputs
1 output
PS 230 V

The alarm module, powered by 230V, is used to measure and control the level of the sludge layer, oil substances, grease, petroleum substances and overflow of the tank.

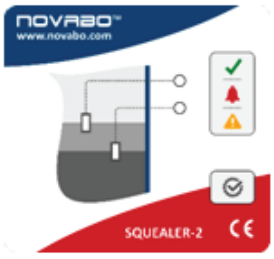
WARNING

To avoid problems in operating the unit, it is recommended to read this manual thoroughly before using it. Do not interfere with construction or carry out repairs yourself. Maintenance or repair work should be carried out by qualified personnel (installer or company service). The manufacturer assumes no responsibility for any damage resulting from improper assembly, malfunction (device, software) or damage to the controller.

System description based on SQUEALER controller

SQUEALER controller is a modern microprocessor device for continuous monitoring the status of selected probes (MAX, OILER, SLUDO). The basic parameters of the controller are 2 inputs, 1 relay output, LEDs indicating normal state, failure status and alarm status, buzzer generating an alarm signal, alarm output, relay output, activated at the time of alarm.

Front panel description



LED green - probe is OK
LED lights alternately green and red – ALARM
LED lights alternately yellow and red – FAILURE

Short press - cancel acoustic alarm signal.
Long press of the button - device test (LED, BUZER and RELAY). Test possible only in normal state (without alarm).

Technical data

- Power: 230 V AC
- Max. fuse: 1,25 A
- Power consumption (nominal): 2,2 VA
- Output NO-/NC - potential-free, relay 2 A/120 VAC or 2 A/24 VDC
- Ambient temperature : –40 to +60 °C
- Mechanical strength: IK 07
- Housing dimensions (without glands (H x W x D): 96 x 130 x 66 mm
- Cable glands:
  - Probe inputs: 2 x M12, cable dimensions Ø 4,0–6,0 mm
  - Power supply: 1 x M12, cable dimensions Ø 4,0–6,0 mm
  - Relay output: 1 x M12, cable dimensions Ø 4,0-6,0 mm

Cooperating devices

OILER – thickness measurement of fat, oil, mineral oil, organic, petroleum substances.

COUPLER-01 – hermetic coupling plug

SLUDO – detecting the sediment layer in the separator or the maximum level.

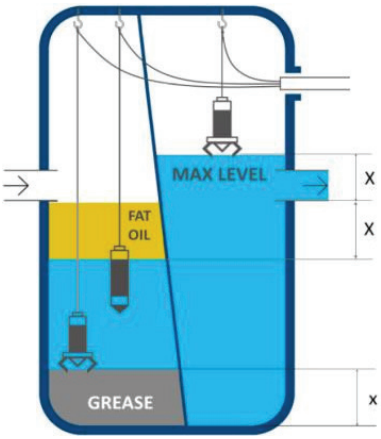
NFIX-01 – set for mounting the probe

CABLE-21 – sensor extension cable

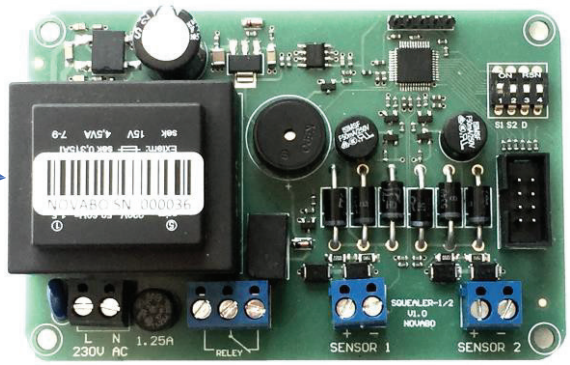
Probes assembly

The sensor mounting should be carried out as follows:

1. Lower the sensor so that the measuring point is at a exceeding level.
2. Attach the sensor cable to the mounting bracket.
3. Use the NCOUPLER connector to lengthen the sensor cable.



Description of controller connectors



Transformer

DIP switches

Front panel connector

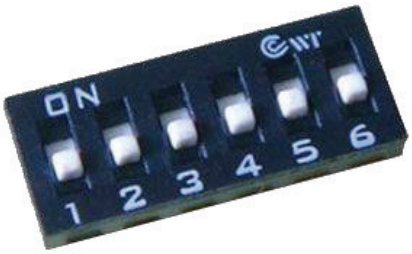
Power supply 230V AC

Relay output

Sensor connector 1 and 2

DIP-SWITCH configuration

DIP1	"ON"	– input SENSOR 1 active – probe 1 connected
	"OFF"	– input SENSOR 1 inactive – probe 1 not connected
DIP2	"ON"	– input SENSOR 2 active – probe 2 connected
	"OFF"	– SENSOR 2 inactive – probe 2 not connected
DIP3	"ON"	– alarm delay time from input 5 sec
	"OFF"	– alarm delay time from entry 30 s (recommended setting)
DIP4	"ON"	– inverse input logic SENSOR 1 (SONDA SLUDO, OILER as MAX)
	"OFF"	– normal input logic SENSOR 1



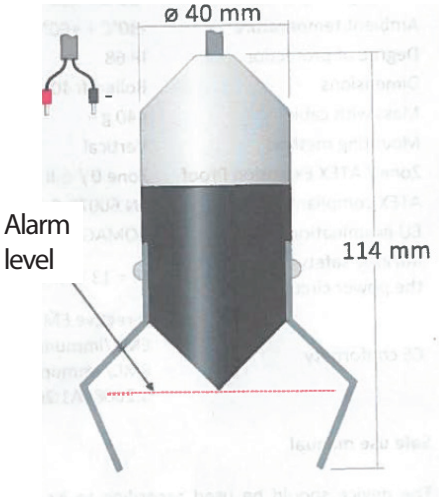
APLAST

SLUDO

The probe is used in oil, grease or petroleum substances separators. SLUDO probe is used to measure the thickness of the sludge layer, or maximal liquid layer. It is ATEX certified and can be installed in explosion hazard areas "0" of gas, steam and dust.

Device construction

The SLUDO probe has in the lower part an ultrasonic measuring system. Depending on the environment in which it is located, the intensity of the signal between the two ultrasonic components changes. As a result, the signal at the output of the probe changes.



The system works binary:

– normal state – the probe is in water
– alarm state – the probe is immersed in the sediment

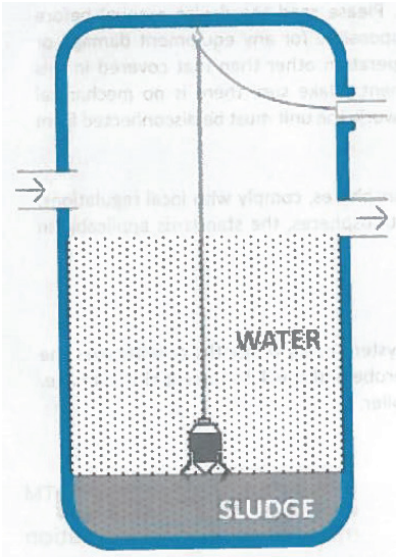
Application

The measuring point is located in the lower part of the probe, at the height of the metal parts bent to the body. The probes should be mounted so that the level of measurement coincides with the height corresponding to the upper level of the sludge layer.

Hanging the probe should proceed as follows:

1. Fill the separator with water to the level of overflow at the outlet,
2. Place the probe in the separator at the required depth (for measuring the thickness of the petroleum liquid it is 100mm),
3. Attach the probe cable to the mounting ear.

For extending the probe cable, use the cable coupler for connecting ends of the wires.



Technical data

Supply voltage	10 V
Current consumption	9 mA–15 mA
Cable	Length 5 m, oil resistant, type: OZ-BL_2 x 0,75
Working temperature	from –30 °C to +60 °C
Ambient temperature	from –30 °C to +60 °C
Degree of protection	IP68
Dimensions	Roller, Φ 40 mm, height 114 mm 440 g
Mass with cable	440g
Mounting method	Vertical
Zone/ ATEX Explosion Proof	Zone O/G II 1G Ex ia IIB T4 Ga
ATEX compliant	EN 60079-0, EN 60079-11, EN 60079-26
EU examination certificate	KOMAG 17ATEX0142X
Intrinsic safety parameters of the power circuit	Ui = 13V; Ii = 0,14A; Ci ≈ O; Li = 6 µH; Pi = 1,05 W
CE conformity	Directive EMC 2004/108/WE EMC/ immunity: PN-EN 50130-4:2012, PN-EN 61000-6-1:2008 EMC/ immunity: PN-EN 55022:2011, PN-EN 61000-6- 3:2008+A1:2012

Safe use manual

The device should be used according to its purpose. Please read the device manual before installation. The manufacturer shall not be legally responsible for any equipment damage or personnel injury caused by incorrect installation or operation other than that covered in this manual. Check the technical condition of the equipment. Make sure there is no mechanical damage to the case and the cable. During maintenance work, the unit must be disconnected from the power supply.

When installing in areas with potentially explosive atmospheres, comply with local regulations. During servicing, inspection and repairs in explosive atmospheres, the standards applicable in your country must be complied with.

Test and reviews

The manufacturer recommends reviewing the entire system every 6 months or whenever the separator is drained. During the inspection, clean the probe and check for mechanical damage. Then perform the action test with the SQUEALER controller.

OILER

The probe is used in oil, grease or petroleum substances separators. OILER probe is dedicated to measuring the thickness of the substance being measured. It is ATEX certified and can be installed in explosion hazard areas "0" of gas, steam and dust.

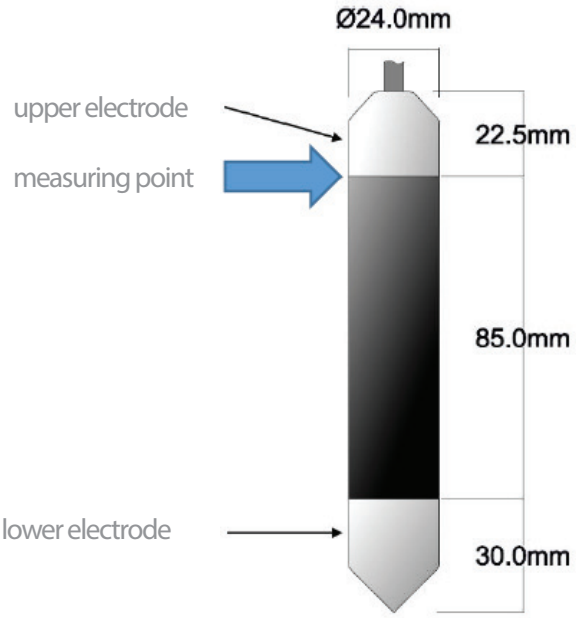
Device costruction

The upper and lower part probe has stainless steel electrodes, and between them is the polyacetal dielectric. Inside the probe is placed PCB electronics. The electronic circuit controls the conductivity between the electrodes.

The system works binary:

– normal state - the probe is in conductice environment, e. g. water (low resustance)

– alarm state – probe is placed in dielectric environment, e. g. oil, grease, fat (high resistance)



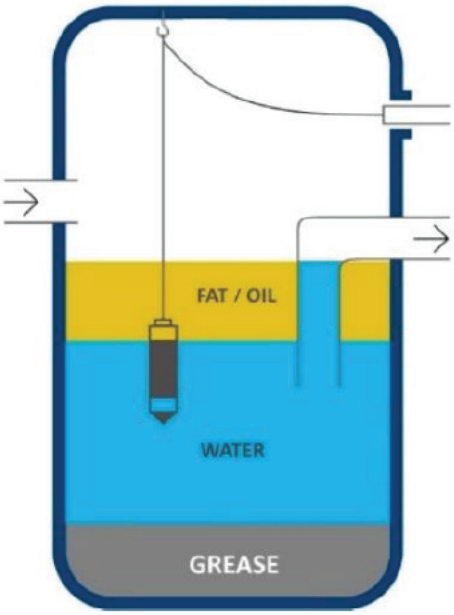
Application

The probe measuring point is located on the upper connection of the metal and non-metallic (black) part. The probe should be placed at the height corresponding to the lower level of the grease or oil layer.

Hanging the probe should proceed as follows:

1. Fill the separator with water to the level of overflow at the outlet,
2. Place the probe in the separator at the required depth (for measuring the thickness of the petroleum liquid it is 100 mm).
3. Attach the probe cable to the mounting ear.

For extending the probe cable, use the cable coupler for connecting ends of the wires.



Technical data

Supply voltage	10 V
Current consumption	9 mA–15 mA
Cable	Length 5 m, oil resistant, type: OZ-BL_2 x 0,75
Working temperature	from –30 °C to +60 °C
Ambient temperature	from –30 °C to +60 °C
Degree of protection	IP68
Dimensions	Roller, Φ 24 mm, heigt137,5 mm
Mass with cable	390 g
Mounting method	Vertical
Zone / ATEX Explosion Proof	Zone O/o II 1G Ex ia IIB T4 Ga
ATEX compliant	EN 60079-0, EN 60079-11, EN 60079-26
EU examination certificate	KOMAG 17ATEX0082X
Intrinsic safety parameters of the power circuit	Ui = 13V; Ii = 0,14A; Ci ≈ 0; Li = 6 µH; Pi = 1,05 W
CE conformity	Directive EMC 2004/108/WE EMC/immunity: PN-EN 50130-4:2012, PN-EN 61000-6-1:2008 EMC/immunity: PN-EN 55022:2011, PN-EN 61000-6- 3:2008+A1:2012

Safe use manual

The device should be used according to its purpose. Please read the device manual before installation. The manufacturer shall not be legally responsible for any equipment damage or personnel injury caused by incorrect installation or operation other than that covered in this manual. Check the technical condition of the equipment. Make sure there is no mechanical damage to the case and the cable. During maintenance work, the unit must be disconnected from the power supply.

When installing in areas with potentially explosive atmospheres, comply with local regulations. During servicing, inspection and repairs in explosive atmospheres, the standards applicable in your country must be complied with.

Test and reviews

The manufacturer recommends reviewing the entire system every 6 months or whenever the separator is drained. During the inspection, clean the probe and check for mechanical damage. Then perform the action test with the SQUEALER controller.