

Lokaset 20

Septic tank full alarm


Installation and Operation Instructions



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1 TECHNICAL DATA

Lokaset 20 Control Unit	
Supply voltage	230 V \pm 10%, 50/60 Hz, 2,8 VA
Probe	SET/LV or SET/L
Operating limits within the entire temperature range	Alarm on < approx. 8 k Ω , alarm off > approx. 40 k Ω
Operating indications	Green light: Power on/off Red light: Alarm Buzzer: Alarm sound
Relay output	De-energised on alarm, potential-free switching contacts (μ). Max. connection values: 250 V / 4 A /100 VA
Operating environment	Temperature: 0°C...+50°C Max. elevation above sea level 2,000 m Relative humidity RH 100% Suitable for indoor and outdoor use (protected from direct rain)
Enclosure	Polycarbonate, 130 x 80 x 35 [mm] (w x h x d), IP54
Cable glands	2 pcs M12 for cable diameter 3-6,5 mm
Weight	Approx. 0,5 kg
EMC	Immunity Emission EN IEC 61000-6-2 EN IEC 61000-6-3 EN IEC 61000-3-2
Electrical safety	EN IEC 61010-1, Class II  , CAT II, POLLUTION DEGREE 2

SET/LV probe	
Cable	Oil PVC 2 x 0,5 mm ² , \varnothing 4,5 mm, standard length 15 m
Material	RFe / PVC
Max. cable length	150 m, shielded instrumentation cable 3 x 0,5 mm ²
Ambient temperature	-10°C...+60 °C
Weight	Approx. 1,3 kg with cable

2 GENERAL

The Lokaset 20 is a conductivity-operated limit switch which consists of a probe and control unit.

When the probe comes into contact with a conducting liquid the control unit will give an alarm; the red indicator light comes on, the buzzer starts to sound and the alarm relay is de-energised.

The buzzer is silenced by the alarm acknowledge button but the indicator light will stay on and the relay de-energised until the alarm is removed, i.e. the probe is no longer in contact with liquid. The alarm operations are provided with an approx. 4-5 s delay to eliminate unnecessary alarms caused by splashes.

When using the SET/LV probe, the probe and its cable are provided with fault detection, indicating any breakage in the probe circuit.

The device is powered by the 230 V mains via a connecting lead provided with a plug. When the device is not powered the alarm relay is in alarm state, i.e. de-energised. When power is connected it is indicated by the green light.

NOTE! THE DEVICE MUST NOT BE USED FOR

INSTALLATIONS IN HAZARDOUS AREAS.

The SET/LV or SET/L probe must not be installed in a hazardous area.

The SET/LV or SET/L probe is not recommended to be installed in a location where steams, gases or liquids can have a corrosive effect on probe materials, e.g. aromatic and chlorated hydrocarbons (PVC), strong bases or acids.

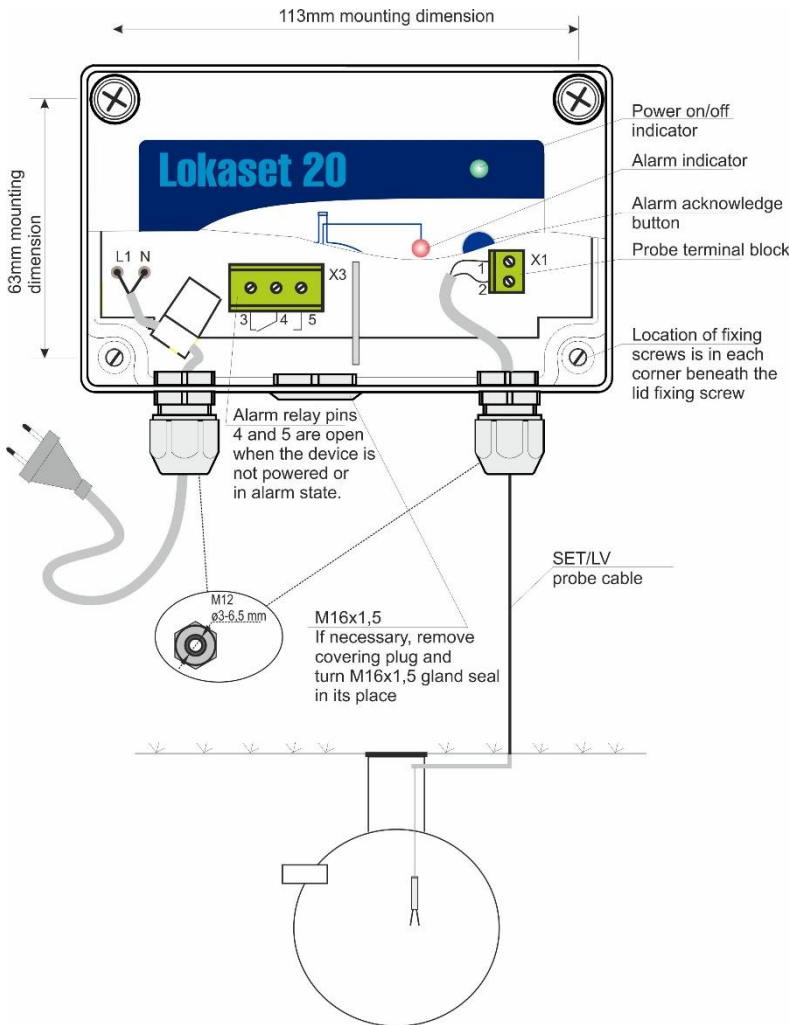
3 OPERATION

Lokaset 20 is designed to be used as a tank full alarm for septic tanks.

4 INSTALLATION AND ELECTRICAL CONNECTIONS

WARNING! Ensure that the plug of the device is disconnected from the socket when the lid of the housing is open.

4.1 Installation of the Lokaset 20 control unit



The Lokaset 20 is installed in a dry indoor location. A good location is one which is visited sufficiently often so that the tank full alarm data is registered and emptying is made at the right time.

The device is fixed on wall with screws through the holes beneath the fixing screws of the lid.

The probe cable conductors are connected to poles 1 and 2 on terminal block X1 (see Fig. 1), the connection order has no significance.

If the relay is taken into use, the covering plug on the bottom of the housing is removed and the M16x 1.5 gland seal turned in its place. The potential-free contact data about the tank full alarm is received from terminal block X3 to the alarm control or building control system. The relay is provided with switching contacts. On alarm or mains failure the relay will be de-energised, pins 4 and 5 being opened and pins 3 and 4 closed.

The device is plugged to the 230 V mains by connecting its mains lead to the socket.

Figure 1.

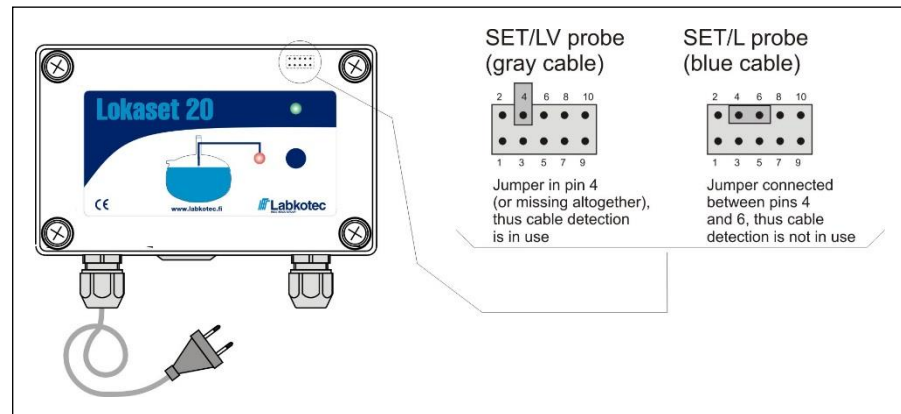


Figure 2.

The Lokaset 20 control unit is intended for use with the SET/LV probe (gray cable) which is provided with cable detection facility.

If the control unit is to be used with the SET/L probe (blue cable) without cable detection facility, cable detection must be removed from the control unit.

Cable detection is removed by connecting the jumper between pins 4 and 6 in the connection field (Fig. 2).

The recommended probe installation is such that the probe can be lifted up through the inspection tube for mechanical cleaning.

If the 15 m standard cable length is not sufficient, the cable extension must be made water-tight to ensure undisturbed operation. Max. cable length is 150 m.

5 SERVICE AND REPAIR

The sensing elements of the probe should be cleaned sufficiently often, e.g. when emptying the tank. The function of the probe can be tested by immersing its sensing element in water - then the control unit should give an alarm in 4-5 s.

The function of the control unit can be checked in conjunction with the probe function test. The function of the alarm indicator lamp, relay and buzzer on the control unit can be checked separately by first disconnecting line power, where after the alarm relay will be de-energised.

When reconnecting line power:

- the buzzer will give a short signal sound
- the red alarm indicator is on for about 1 s
- the alarm relay will be energised in about 4 s if the probe does not give an alarm

The control unit does not include serviceable parts. In the event of damage, please contact the supplier.

The mains lead of the control unit may be replaced only by the manufacturer of the device or a service organization authorized by the manufacturer.

6 OPERATING MODES OF THE DEVICE

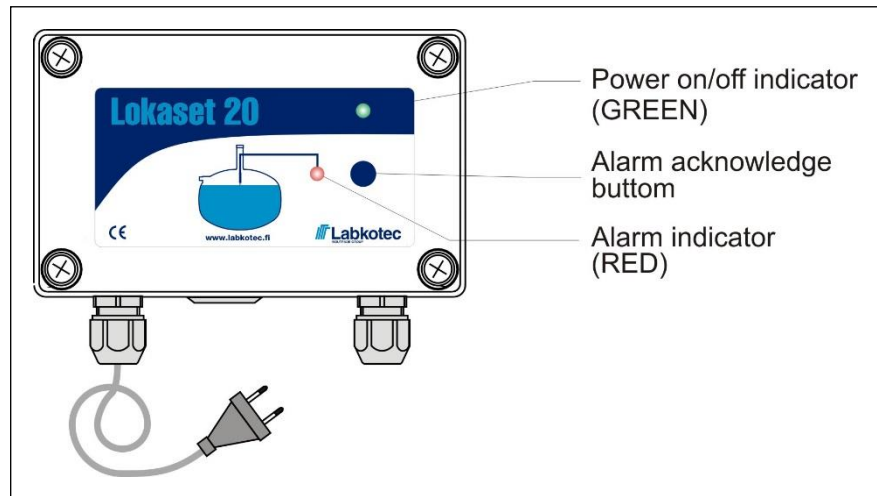


Figure 3.

INDICATOR AND BUZZER STATES					
		Operation indicator status		Buzzer status	
		GREEN	RED		
1	Normal operation	ON	OFF	NO SOUND	The tank is not full.
2	Tank full alarm	ON	ON	CONTINUOUS SOUND	The tank is full. The alarm can be acknowledged and the buzzer silenced by pressing the acknowledge button.
3	Tank full alarm, acknowledged	ON	ON	NO SOUND	The tank is full.
4	Tank full alarm, disappeared	ON	FLASHING	NO SOUND	Tank full alarm which has disappeared before it has been acknowledged. The tank has been full and it has been emptied, or the tank is being filled up. Flashing can be stopped by pressing the acknowledge button.
5	Cable fault alarm	FLASHING	FLASHING	NO SOUND	The probe or its cable is damaged or the probe is not connected to the device, or a SET/L probe without cable detection facility is being used (see Fig. 2).
6	Power is not connected or the device is damaged	OFF	OFF	NO SOUND	Check that the device is connected to the mains.

The alarm relay is in alarm state, i.e. de-energised in states 2, 3, 5 and 6.

EU DECLARATION OF CONFORMITY

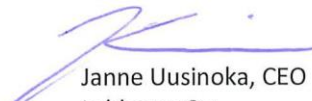
We hereby declare that the product named below has been designed to comply with the relevant requirements of the referenced directives and standards.

Product	Control unit and conductivity-based sensor Lokaset 20 control unit SET/LV or SET/L sensor
Manufacturer	Labkotec Oy Myllyhaantie 6 FI-33960 Pirkkala Finland
Directives	The product is in accordance with the following EU Directives: 2014/30/EU Electromagnetic Compatibility Directive (EMC) 2014/35/EU Low Voltage Directive (LVD) 2011/65/EU Restriction of Hazardous Substances Directive (RoHS)
Standards	The following standards were applied: EMC: EN IEC 61000-6-3:2021 EN IEC 61000-6-2:2019 EN IEC 61000-3-2:2019 LVD: EN 61010-1:2010/A1:2019/AC:2019-04 RoHS: EN IEC 63000:2018

The product is CE-marked since 2009.

Signature This declaration of conformity is issued under the sole responsibility of the manufacturer. Signed for and on behalf of Labkotec Oy.

Pirkkala 31.8.2021


Janne Uusinoka, CEO
Labkotec Oy