# Data sheet

# idSET<sup>®</sup>-OTM oil separator alarm system



idSET-OTM is a measuring device for real-time measurement of oil layer thickness in oil separators. An idSET-OTM sensor can be connected to the control unit, as well as an idOil-LIQ high level and an idOil-SLU sludge sensor.

### The equipment is used to monitor:

- Oil layer thickness; idSET-OTM sensor measures oil layer thickness, allowing the emptying of the separator to be planned, and scheduled well in advance
- Liquid level rise; the idOil-LIQ high-level sensor alerts you if the liquid level in the oil separator rises too much, for example, due to a blockage in the outlet pipe
- Sludge layer; idOil-SLU sludge sensor alerts when silt layer accumulated at the bottom has reached its maximum thickness
- Decrease in fluid level; The idSET-OTM sensor alerts you if the the liquid level in the separator drops abruptly

In alarm and fault situations, the buzzer of the device gives an audible alarm, the display shows the reason for the alarm and the relays switch to the alarm position. The analog signal of the device indicates the amount of accumulated oil in real time. idSET-OTM sends alarms and scheduled measurements to the LabkoNet service, from where the data can be easily shared with everyone who needs it, regardless of location.

The idSET-OTM control unit is compatible with LabkoNet CONNECTED. The device can be easily connected to the LabkoNet service by reading the QR code on the device cover. This enables quick and effortless commissioning as well as remote monitoring and management of the device via LabkoNet.

The device's data transfer to the LabkoNet server has been implemented with a cyber-secure data connection. The price of the idSET-OTM control unit includes the use of the LabkoNet service for 12 months.

Measures for a better tomorrow

Labkotec Oy Myllyhaantie 6 FI-33960 Pirkkala, FINLAND Tel. int. +358 (0)29 006 260 E-mail info@labkotec.fi idSET-OTM

# **Specifications**

### idSET-OTM control Unit

Mounting	Wall mount
Case material	Polycarbonate
Weight	1500 g
IP classification	IP65
Display	Four-line monochrome LCD display
Modem	LTE-M, NB-IoT (4G)
LabkoNet	Data transfer interval adjustable
Ambient temperature	-30 °C+60 °C
Supply voltage	230 V AC ± 10 %, 50/60 Hz Supply power fuse Max. 10 A
Power consumption	Max. 12 VA
Relay outputs	4 relays, 5 A, 250 V AC/30 V DC, 100 VA potential free changeover contacts
Analog output	4-20 mA, oil layer thickness
EMC	IEC/EN 61000-6-2 IEC/EN 61000-6-3
Electrical safety	Class I, IEC/EN 61010-1, UL 61010-1 CAN/CSA-C 22.2 NO. 61010-1-12 Surge class II
Ex classification	II (1) G [Ex ia Ga] IIB ATEX IECEx, UKEX
Exi interface values	$\rm U_{o}$ = 14,5 V, $\rm I_{o}$ = 78 mA, $\rm P_{o}$ = 363 mW, R = 243 $\Omega$
Max values in IIB	C <sub>o</sub> = 4,0 μF, L <sub>o</sub> = 15,0 mH

### idSET-OTM sensor

Operating principle	Capacitive
Measuring range	0-400 mm
Measurement accuracy	$\pm 10$ mm under normal operating conditions, when the value $\geq 10$ mm
Installation	Suspension by wire, Ø 2 mm, AISI 316
IP Classification	IP68
Materials	PP, POM, AISI 316, PUR, NBR
Weight (with 5 m cable)	1600 g
Ambient temperature	-30 °C+60 °C
Supply voltage	7,515 V DC
Cable	Length 5 m, 2 x 0,75 mm <sup>2</sup> , PUR, Ø 5 mm
EMC	IEC/EN 61000- 6- 2 IEC/EN 61000- 6- 3
Ex-classification	II 1 G Ex ia IIA T4 Ga ATEX, IECEx, UKEX Certified
Exi connection values	U <sub>i</sub> = 15 V, I <sub>i</sub> = 100 mA, P <sub>i</sub> = 550 mW C <sub>i</sub> ≤ 4.3 nF. L <sub>i</sub> ≤ 1.8 mH

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Labkotec SwedenLabkotecE-mail info@labkotec.seE-mail in

Labkotec GmbH E-mail info@labkotec.de ő

www.labkotec.com

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# **Application**

1/2025



## Settings, configurations and information via browser user interface

· Service history, downloadable

· Sensor detection and naming

Alarm settings

Relay configuration

· Software update

Sensor

suspension

· Customer data input for display



- System status view with current alerts
- Date and time settings
- Language selection
- · Measurement and alarm log, downloadable
- Inspection settings
- · Write inspection notes

# Equipment

#### LCJ1-1

Cable extension for one sensor

LCJ1-2

Cable extension for two sensors

LCJ1-3 Cable extension for three sensors

#### LMS-SAS6

Sensor suspension parts

### Measures for a better tomorrow



#### Labkotec Oy Myllyhaantie 6 FI-33960 Pirkkala, FINLAND Tel. int. +358 (0)29 006 260 info@labkotec.fi E-mail

Fine-tuning

Coarse adjustment

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Labkotec Sweden E-mail info@labkotec.se Labkotec GmbH E-mail info@labkotec.de

CE RR (Ex)

# idSET-OTM



Supply voltage	X1			
Ground conductor	PE			
Neutral conductor	N			
Phase conductor	L1			
Relay outputs	Relay 1 Oil layer thickness sensor X2	Relay 2 High-level alarm X3	Relay 3 Sludge alarm X4	Relay 4 Failure X5
Relay common contact	4	7	10	13
Contact opened in case of alarm	5	8	11	14
Contact closing in case of alarm	6	9	12	15
Analog output for oil layer thickness measurement	X6			
+	16			
-	17			
NC not connected	18			
Sensor connectors	Sensor 1	Sensor 2	Sensor 3	
X7 and X8				
Connection 1	19	21	23	
Connection 2	20	22	24	

All sensor connectors are part of the same bus. The sensors can be connected separately to their own connectors or to one pair of connectors.



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