



SEPARIX

The alarm system for oil and light liquid separators



FAFNIR GmbH: Innovation with Tradition. Quality and Satisfaction – made in Germany

Company

FAFNIR GmbH was founded in Hamburg in 1965. The traditional company continues to impress with innovative products, reliable quality and a strong focus on customers and service in the area of sensors and systems for process control optimisation. This long-established company develops and produces overflow prevention devices, overflow protection devices, limit signal controls and continuous filling level measurement for every type of liquid, and puts a strong emphasis on human and environmental safety. Development and production site is Hamburg.

FAFNIR is named after Fafnir the dragon taken from the Nibelungen saga. Like its namesake, the company watches over its greatest treasure with passion: the satisfaction of its customers and the quality of its products.



Quality for your satisfaction

To provide all customers with devices of consistently high quality, FAFNIR years ago introduced the internationally-recognised, comprehensive quality management system in accordance with ISO 9001 (EN 2008). Our expertise in the development and manufacture of explosion-proof equipment is certified by an independent body. All our products are subject to strict FAFNIR quality requirements. We are committed to meeting international standards and applicable EU directives.



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The alarm system for oil and light liquid separators



SEPARIX-Control CT



**Interface sensor
SEPARIX-C L Plus**



**High-level sensor
SEPARIX-T L Plus**

Product information

Oil and light fluids present a huge danger potential for ground and waste water. The alarm system SEPARIX is the ideal sensor technology to alert the operator of separators in time of this danger.

Range of application

The separator alarm system SEPARIX is suitable for all kinds of light fluids, in particular for petrol, mineral oil components, and oil of vegetable or animal origin. The interface sensor SEPARIX-C for detecting the layer thicknesses and the high-level

sensor SEPARIX-T provide the optimum monitoring and safeguarding of all separators. Alarms are signalled visually and audibly by the measuring transducer SEPARIX-Control CT.

Features of FAFNIR Technology

- Suitable for all oil and light liquid separators
- ATEX approval for zone 0
- Modular system with interface sensor and high-level sensor
- Function test of internal and external alarm devices by push-button
- No mechanically moving parts
- Compact and robust design
- Easy installation

Function

SEPARIX-C L Plus

A cylindrical capacitor is placed in the measuring range of the interface sensor. The capacitance C of this capacitor is changed by the relative dielectric constant ϵ_r of the medium that encloses the sensor. Since the dielectric constant ϵ_r is very different between water and the layer to be measured in the separator, the liquid interface can be measured clearly. All oils and light liquids can be measured that form a separating layer in the separator. Light liquids are fluids with a lower density than water, which are not or only slightly soluble and unsaponifiable in water, such as petrol, diesel and heating oils, filter oils (white oils) and other oils of mineral, vegetable and animal origin. Water emulsions cannot be detected.

SEPARIX-T L Plus

At the response point of the high-level sensor is an encapsulated PTC resistor. The PTC resistor is a variable resistor whose resistance value increases with rising temperature. As liquids have better thermal conductivity values than air or gas, the PTC resistor heats up more strongly in the air or gas. When immersed into liquid, the PTC resistor cools down. The change of resistance value is evaluated by the SEPARIX-Control CT. The correct function of the high-level sensor is permanently monitored with a scanner function.

System Design

Measuring transducer

SEPARIX-Control CT

- » Transducer for connecting a calorimetric high-level sensor and/or a capacitive interface sensor

Sensors

SEPARIX-C L Plus

- » Capacitive interface sensor made of stainless steel (1.4305/303) for use in Zone 0

SEPARIX-T L Plus

- » Calorimetric high-level sensor made of stainless steel (1.4301/304) for use in Zone 0

Installation notes

The measuring transducer SEPARIX-Control CT must be installed outside potentially explosive atmospheres. The SEPARIX-C L Plus interface sensor and the SEPARIX-T L Plus high-level sensor are designed for use in light liquid separators. They are not suitable for use in strongly flowing liquids (e.g. in pipelines or agitators).

Technical Data

SEPARIX-C L Plus interface sensor

Operating data

- » Ambient temperature:
-20 °C to +60 °C
(for use in Ex zones);
-20 °C to +70 °C
- » Medium temperature:
0 °C to +60 °C
(for use in Ex zones);
0 °C to +70 °C
- » Protection class: IP68

Materials of wetted parts

- » Stainless steel (1.4305/303),
PE-HD (high density
polyethylene)

Dimensions

- » Diameter: 34 mm
- » Length:
178 mm
- » Cable length:
5.0 m
(prolongable up to 250 m)
- » Further data:
see drawing

Explosion protection

- » II 1 G Ex ia IIB T4 Ga

Approval

- » Ex (ATEX)

SEPARIX-T L Plus high-level sensor

Operating data

- » Product temperature:
-25 °C to +50 °C
- » Ambient temperature:
-25 °C to +60 °C
- » Switching delay on response:
< 2 seconds
- » Protection class:
IP68

Materials of wetted parts

- » Stainless steel (1.4301/304),
galvanized spring steel, Viton,
Ultradur

Dimensions

- » Tube diameter:
16 x 2
- » Probe length:
278 mm
- » Cable length:
5.0 m
- » Further data:
see drawing

Explosion protection

- » II 1 G Ex ia IIC T4 Ga
- » II 1/2 G Ex ia IIC T4 Ga/Gb

Approval

- » Ex (ATEX)

SEPARIX-Control CT measuring transducer

Operating data

- » Power supply:
230 V; 50 Hz
- » Power consumption:
8 VA
- » Ambient temperature:
0 °C to +40 °C
- » Protection class:
IP67

Signal output:

- Relay: Changeover contact,
floating
- Load:
 - » AC: ≤ 250 V, ≤ 5 A, ≤ 100 VA;
 - » DC: ≤ 30 V, ≤ 5 A, ≤ 150 W

Input

- » SEPARIX-C L Plus
- » SEPARIX-T L Plus

Dimensions

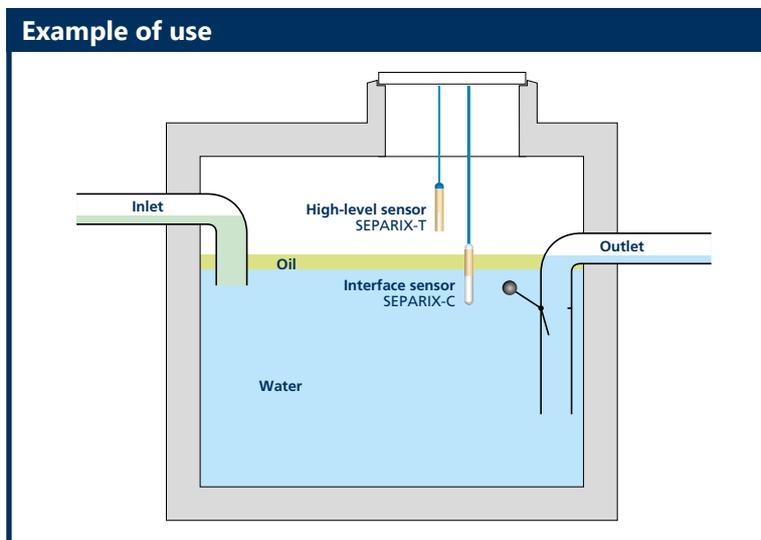
- » 180 mm x 155 mm x 60 mm

Explosion protection

- » II (1) G [Ex ia] IIC

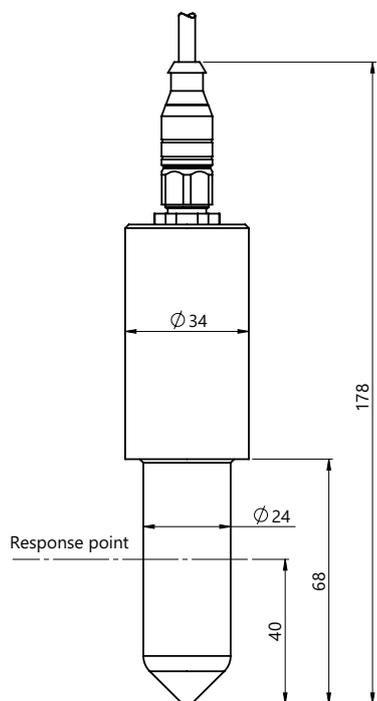
Approval

- » Ex (ATEX)

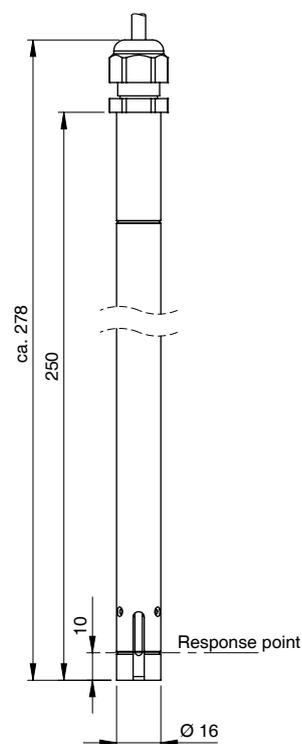


Technical drawing

**Interface sensor
SEPARIX-C L Plus**



**High-level sensor
SEPARIX-T L Plus**



Dimensions in mm

Installation kit



SEPARIX - Order codes

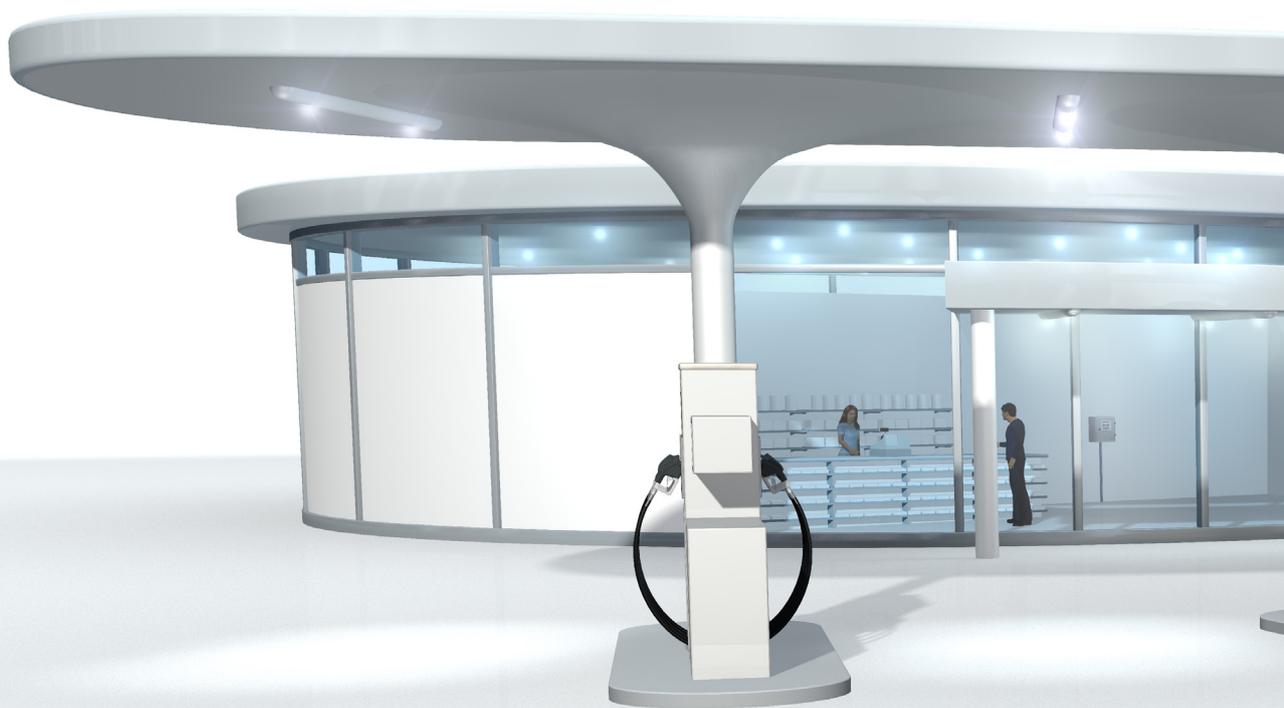
Designation	Specification	Order number
SEPARIX Set C L		
1 unit SEPARIX-Control CT 1 unit SEPARIX-C L Plus 1 unit Installation Kit 1	Measuring transducer for connecting a SEPARIX-C and / or SEPARIX-T Capacitive interface sensor made of stainless steel (1.4305/303)	910023
SEPARIX Set T L		
1 unit SEPARIX-Control CT 1 unit SEPARIX-T L Plus 1 unit Installation Kit 1	Measuring transducer for connecting a SEPARIX-C and / or SEPARIX-T Calorimetric high-level sensor made of stainless steel (1.4301/304)	910026
SEPARIX Set CT L		
1 unit SEPARIX-Control CT 1 unit SEPARIX-C L Plus 1 unit SEPARIX-T L Plus	Measuring transducer for connecting a SEPARIX-C and / or SEPARIX-T Capacitive interface sensor made of stainless steel (1.4305/303) Calorimetric high-level sensor made of stainless steel (1.4301/304)	
Optional installation:		
2 units Installation Kit 1	for 5-wire installation	910028
1 unit Installation Kit 5	for 4-wire installation	910038

Single parts

Designation	Specification	Order number
SEPARIX-Control CT	Measuring transducer for connecting a SEPARIX-C and / or SEPARIX-T	910029
SEPARIX-C L Plus	Capacitive interface sensor made of stainless steel (1.4305/303)	910021
SEPARIX-T L Plus	Calorimetric high-level sensor made of stainless steel (1.4301/304)	910027

Accessories

Designation	Specification	Order number
Installation kit 1	to install SEPARIX sensors in the liquid separator	910031
Installation kit 5	4-wire installation for 2 SEPARIX sensors	910037
Cable 4 x 0.75 mm	blue	904107



FAFNIR GmbH

**Schnackenburgallee 149 c
22525 Hamburg, Germany**

Phone: +49/40/39 82 07-0

Fax: +49 / 40 / 390 63 39

E-mail: info@fafnir.com

Internet: www.fafnir.com