EUROFID3010
TOTAL HYDROCARBON ANALYZER

Continuous monitoring of the lower explosion limit (LEL)

Extractive gas analyzers

SICK
Sensor Intelligence.

Specialist for the measurement of the lower explosion limit (LEL) of total hydrocarbons

The EuroFID3010 total hydrocarbon analyzer is the specialist for the continuous monitoring of the lower explosion limit (LEL) of hydrocarbon mixtures. The integrated sample gas dilution, short response time, and design with no moving parts ensure high availability and, above all, fast and reliable information about your process. The EuroFID3010 is modular and can be configuerd in a system consisting of the following components: analyzer unit, control unit, and terminal box. Additional options, such as the Ex 1 industrial enclosure, enable the system to be adapted to handle challenging tasks.

The EuroFID3010 from SICK is approved as a gas warning device in accordance with the latest version of the EN 50271:2010 standard.

Quick availability

The EuroFID3010 is attached directly to the plant via a flange. The sampling pipe extends directly into the process chamber. The fast supply of sample gas through the ejector pump and the measurement principle of the EuroFID3010 ensure a short response time (T_{90}), allowing you to detect changes in the process very quickly and react to them accordingly.

No moving parts

The EuroFID3010 measures continuously and has no moving parts. An ejector pump is used instead of a mechanical pump to supply the sample gas. Wear and mechanical failures are not an issue. This results in lower maintenance costs (low cost of ownership).

Heating

All of the parts of the device that come into contact with gas, including the analysis chamber, are heated, which prevents condensation from forming inside the analyzer unit.

Integrated dilution

The sample gas is diluted using the ejector principle, enabling measurements of gas mixtures which would solidify if left undiluted to be taken. Dilution also allows high concentrations to be measured.

Adaptation to process conditions

The EuroFID3010 offers various options as a system. These include the industrial enclosure for Ex and non-Ex applications, the process gas lock-out, and the flexible positioning of the control unit at a distance of up to 500 m from the analyzer unit.

EC type examination according to Directive 94/9/EC

The EuroFID is approved as a fixed gas warning device for measuring combustible gases and vapors mixed together with air. The measuring range is from 0 to 100% of the LEL. Type examination certificate: BVS 05 ATEX G 005 X.

Versions of the EuroFID3010

Analyzer unit with control unit and terminal box

Version in industrial enclosure for Ex Zones 1 and 2

The inline version of the analyzer unit is installed directly in the process via the flange. The terminal box supplies the power to the analyzer unit. The control unit can be installed at a distance of up to 500 m from the analyzer unit. It provides a display and offers the option to enter parameters and output measured values. The EuroFID can be installed in Ex Zones 1 and 2 by using the Ex 1 industrial enclosure. In this case, the terminal box is located in the enclosure along with the analyzer unit. The system can be fitted with an air conditioning unit. The control unit is installed in a safe area at a distance of up to 500 m from the analyzer unit.

RELIABLE LEL MONITORING IN PROCESSES
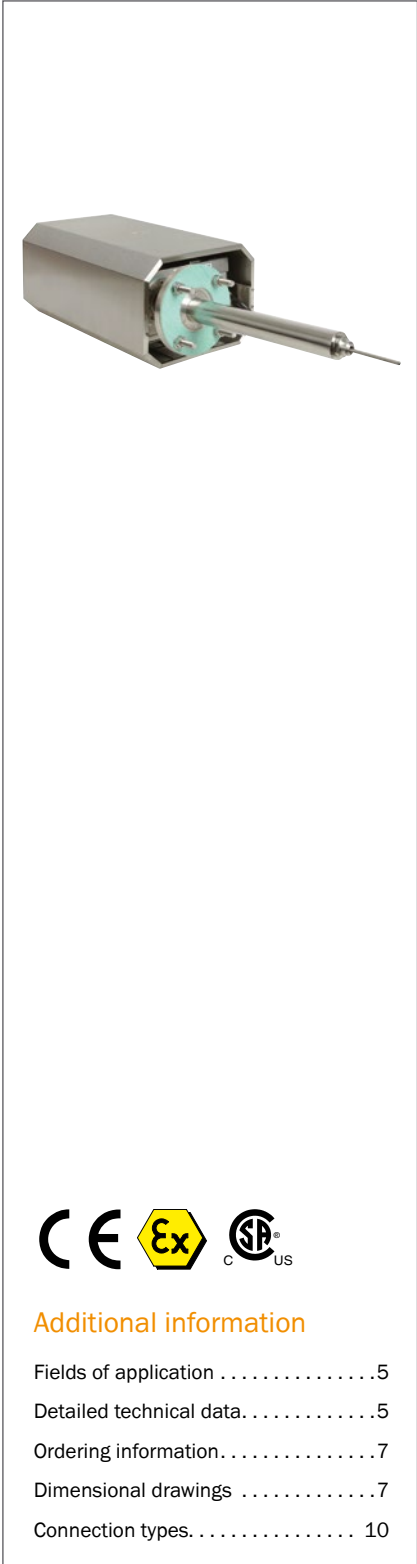
Product description

The EuroFID3010 total hydrocarbon analyzer is a heated flame ionization detector for the determination of volatile organic compounds (VOC) in exhaust air and exhaust gas. Typical applications are LEL monitoring in drying facilities and leak detection for solvent-filled containers. The inline analyzer can be combined with the control unit and terminal box to form a system.

At a glance

- Gas warning device for volatile organic compounds
- Certified according to EN 50271
- Inline version for direct connection to the process
- Enclosure for use in Ex Zones 1 and 2 as an option
- Modular design for flexible installation
- Integrated dilution of sample gas
- All gas paths are heated
- No moving parts

Your benefits

- Early warning thanks to short response time
- Measurement in corrosive gases possible
- No condensation inside the analyzer due to heating and dilution of sample gas
- Low maintenance effort due to wear-resistant design
- Direct mounting at the gas duct possible
- EC type examination as gas warning device according to 94/9/EC

Additional information

➜ www.mysick.com/en/EuroFID3010

For more information, simply enter the link to get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.

Fields of application

- Monitoring of VOC concentration in raw gas prior to exhaust air cleaning systems
- LEL measurement in the production of solvent-based products
- LEL monitoring in coating system dryers
- LEL monitoring of spray booths
- Leak detection in solvent-filled containers

Detailed technical data

The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications.

System

Measured values		% LEL
TÜV-approved measurands		% LEL
Measurement principles		Flame ionisation detection
Sample quantity		40 l/h ... 170 l/h
Measuring ranges		
	% LEL	0 ... 100 %
Certified measuring ranges		
	% LEL	0 ... 100 %
Sensitivity drift		< 3 % of measuring range full scale per month
Zero point drift		< 0.5 % of measuring range full scale per month
Detection limit		< 1.5 % of measuring range full scale
Sample temperature		≤ +350 °C
Process pressure		–50 hPa ... 50 hPa
Process gas humidity		Non-condensing
Ambient pressure		800 hPa ... 1,100 hPa
Ambient humidity		5 % ... 90 % Relative humidity; non-condensing
Conformities		ISO 60079-29-1 EN 50271
Electrical safety		CE, cCSAus
Electrical connection		
	Voltage	115 V / 230 V
	Frequency	50 Hz / 60 Hz
	Power consumption	Analyzer ≤ 230 W BCU operating unit ≤ 400 W Terminal box ≤ 275 W

Analyzer

Description		Analyzer unit of the measuring system
Ambient temperature		0 °C ... +55 °C
Storage temperature		–25 °C ... +70 °C
Ex-approvals		
	ATEX	Standard version: II 2/- G IIB+H2 XXX °C (XXX = 170 ... 220 °C) With industrial enclosure Ex1: II 2 G EEx p IIB+H2 XXX °C (XXX = 170 ... 220 °C)
Enclosure rating		Standard version: IP 22 With industrial enclosure Ex1: IP 65
Dimensions (W x H x D)		275 mm x 210 mm x 887 mm 596 mm x 400 mm x 844 mm (industrial enclosure Ex1)
Weight		< 25 kg Industrial enclosure Ex1: < 56 kg

Electrical connection	
	Supply via teminal box

Auxiliaries		
	Fuel gas:	1.3 l/h … 1.8 l/h Hydrogen 5.0; 3 ±0.3 bar; residual hydrocarbon content < 0.5 ppm
	Instrument air:	360 l/h 4.0 ±0.2 bar; particle size ≤ 1 μm; particle content ≤ 1 mg/m³; oil content ≤ 0.1 mg/m³; water content ≤ 0.12 g/m³ (pressure dew point max. 10 °C below lowest ambient temperature); hydrocarbon content ≤ 4 ppm (≤ 1 % full scale, non-fluctuating)
	Reference gas:	200 l/h Typical consumption during adjustment; 8,000 ppm propane in synthetic air (LEL monitoring) or 80% of measuring range full scale; 3 ±03 bar

Auxiliary connections	
	Compression fitting for 6mm-tubes Compression fitting for 1/4''-tubes (US version)

BCU operating unit

Description	Unit to control the system components and to evaluate and output the data provided by them
Ambient temperature	0 °C … +40 °C
Storage temperature	−20 °C … +60 °C
Ex-approvals	
ATEX	II (2) G
Enclosure rating	IP 20
Analog outputs	2 outputs: 0/4 … 20 mA, 500 Ω ≤ 36 V Floating
Analog inputs	4 inputs: 0.25 … 20 V
Digital outputs	7 FET switch: 24 V AC/DC, 100 mA For status signals
Digital inputs	3 floating contacts: 24 V, 10 mA Preset for lack of gas, adjustment lock and maintenance lock
Interfaces	RS-232c (for printer, I/O terminal strip and remote control)
Indication	LC display and status LEDs
Operation	Menu-driven operation via LC-display and membrane keyboard
Dimensions (W x H x D)	213 mm x 173 mm x 320 mm
Weight	≤ 4.5 kg

EuroFID3010 terminal box

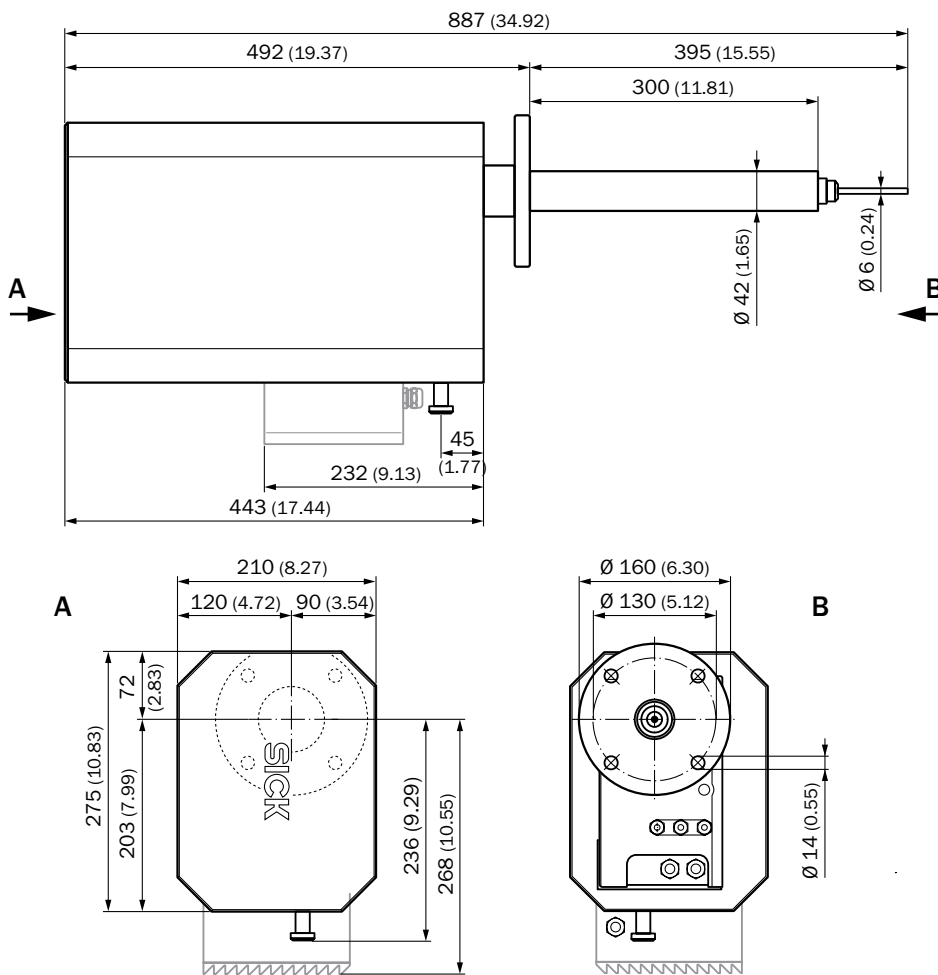|	
Description	Unit for connecting data cables and power supply to the system components; for potentially explosive atmospheres
Ambient temperature	0 °C … +55 °C
Storage temperature	−25 °C … +70 °C
Ex-approvals	
ATEX	II 3 G Ex nR II T4
Enclosure rating	IP 65
Dimensions (W x H x D)	262 mm x 395 mm x 95 mm
Weight	≤ 8 kg

Terminal module V2

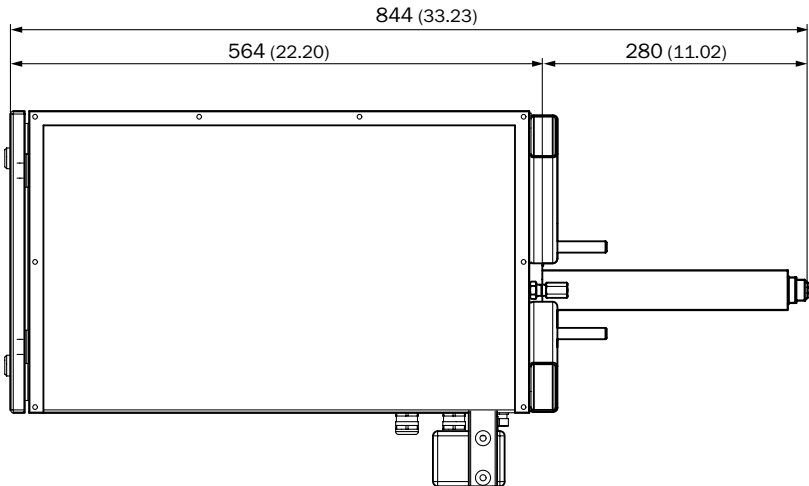| Description	Serves for connection of power supply, data and signal cabelling provided by the customer
Ambient temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +60 °C
Dimensions (W x H x D)	158 mm x 76 mm x 48 mm
Electrical connection	
Voltage	24
	External power supply according SELV (EN 61140) required

Ordering information

Our regional sales organization will help you to select the optimum device configuration.

Dimensional drawings (Dimensions in mm (inch))
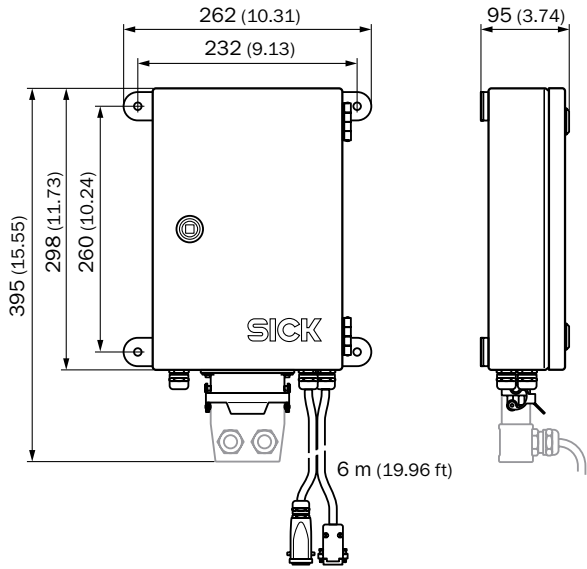
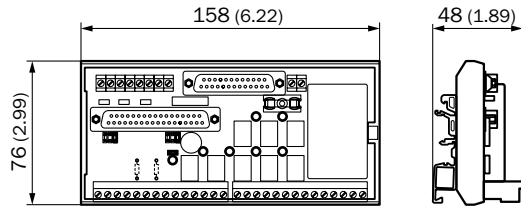Analyzer unit

Industrial enclosure Ex1
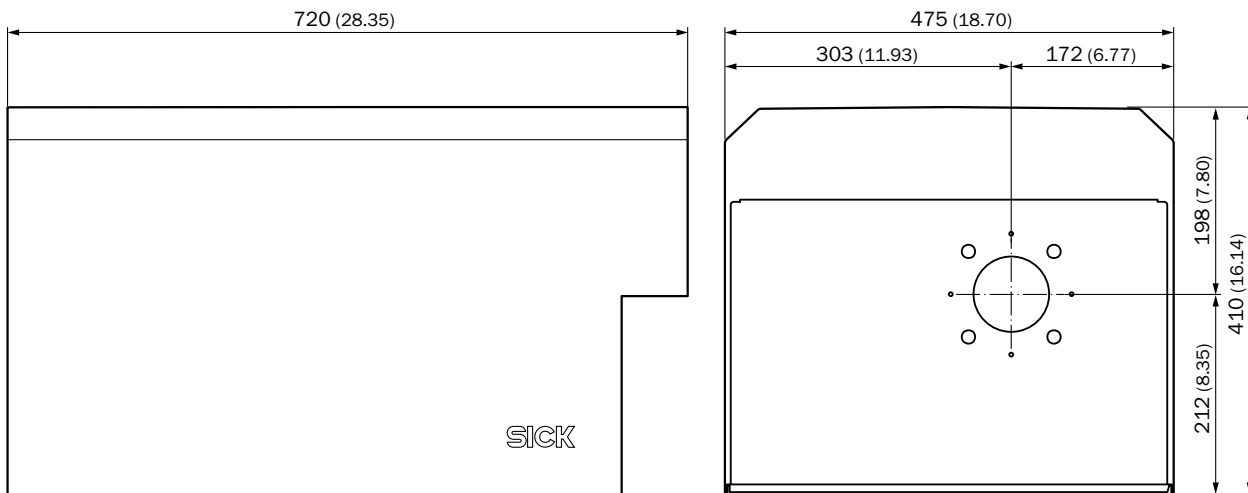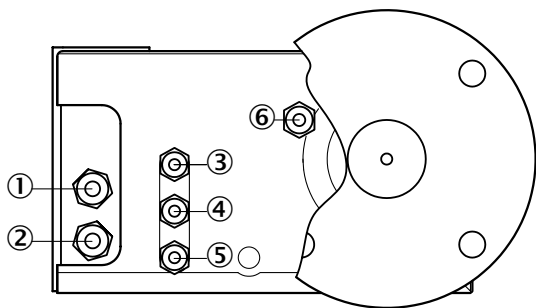

BCU operating unit

EuroFID3010 terminal box

262 (10.31)
232 (9.13)
95 (3.74)
395 (15.55)
298 (11.73)
260 (10.24)
6 m (19.96 ft)

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Terminal module V2

158 (6.22)
48 (1.89)
76 (2.99)
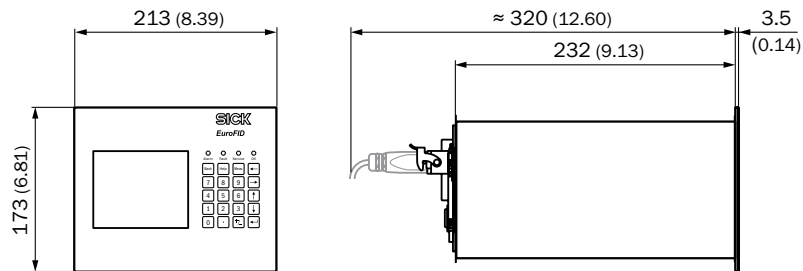
Weather hood for analyzer unit

720 (28.35)

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475 (18.70)
303 (11.93)
172 (6.77)
198 (7.80)
410 (16.14)
212 (8.35)

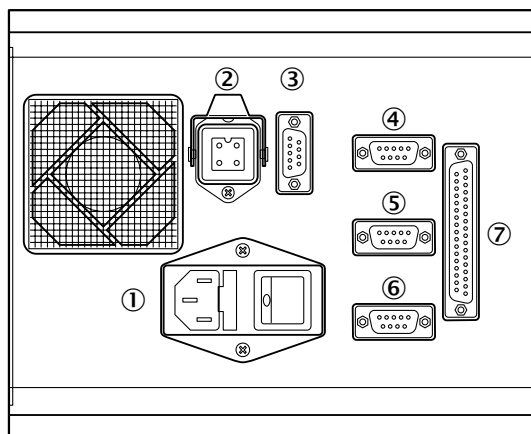## Connection types

Analyzer unit

① Data connection
② Power supply
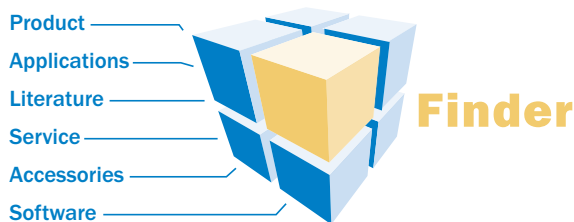③ Fuel gas
④ Reference gas
⑤ Instrument air
⑥ Exhaust gas outlet

BCU operating unit

① Power supply
② Analyzer
③ Data connection
④ System
⑤ Printer
⑥ RS-232c
⑦ I/O (analog and digital)

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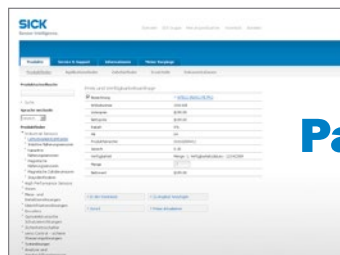
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Uncovers new potential for machines and systems

Training & Education
Employee qualification for increased competitiveness

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for factory, logistics, and process automation. With more than 6,000 employees and over 40 subsidiaries worldwide, we are always close to our customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in various industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

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Please find detailed addresses and additional representatives and agencies in all major industrial nations at: **www.sick.com**

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