

DrägerSensor IR



ST-9089-2005

The new DrägerSensor IR offers a cost-efficient opportunity to benefit from IR-technological advantages without additional installation costs. Pellistors or catalytic bead sensors already installed into various industries can easily be replaced by the innovative DrägerSensor IR – without any technical hurdles. Neither the control system nor the electrical wiring need to be adapted.

ST-8821-2005



DrägerSensor IR:
Infrared optical sensor for detecting combustible gases with half-bridge interface (like a pellistor).

Pellistor-like behaviour

Due to the implemented emulation of a Wheatstone half-bridge, a mV signal is sent to the controller module and it responds in exactly the same manner as today with a pellistor. For this reason not only all control systems manufactured by Dräger Safety but also components of most other control unit brands are supported.

With its 3-wire connection, the DrägerSensor IR does not need additional wiring to be run. Thus, cabling efforts are reduced to zero. Already mounted junction boxes can be further used because of metric M25 as well as 3/4" NPT thread available with the new sensor.

Fail safe and immune to poison

Technological preferences such as fail safe operation and immunity to poison, combined with a long lifetime of more than 15 years and significantly-reduced maintenance costs underline the advantages of the DrägerSensor IR.

Based on an outstanding product quality, the DrägerSensor IR is equipped with a robust stainless steel enclosure and

provides high reliability and excellent measuring performance, e.g. in terms of fast response and long-term stability. The temperature range is specified from – 40 to + 65 °C, and, due to the heated optics, the sensor can be operated in humid environments from 0 to 100 %RH.

Advanced flexibility

The customer can choose from three different target gases – methane, propane and ethylene – all listed in one internal gas library. Via magnetic wand the selected target gas can be changed – as well after beginning of operation in the field. Individual linearisation curves offer temperature-compensated readings.

The mounting orientation is completely flexible and the DrägerSensor IR is approved according to worldwide preferred standards: ATEX, IECEx, UL and CSA. Weather protection is secured by the attached splash guard, included in delivery and certified with IP 67.

A wide range of accessories including calibration adapter, process adapter and duct mount set meet the advanced requirements for special applications.

TECHNICAL DATA

Type	Explosion proof infrared gas sensor	
Working principle	Temperature-compensated infrared absorption	
Gases and ranges	Methane, propane, ethylene: 0 to 100 %LEL (further substances on request)	
Measuring performance (methane)	Digital resolution	0.5 %LEL
	Repeatability	≤ ± 2 %LEL
	Response time $t_{0...90}$	≤ 30 seconds (with splash guard and calibration adapter)
Electrical data	Output signal	45 to 55 % of supply voltage (half-bridge emulation)
	Failure signal	Close to negative supply voltage
	Power supply	200 to 400 mA DC or 2 to 5 V DC
	Power consumption	≤ 1 W
Ambient conditions	Temperature	- 40 to + 65 °C / - 40 to + 150 °F
	Pressure	700 to 1300 hPa / 23.6 to 32.5 inch Hg
	Humidity	0 to 100 %RH
Enclosure	Material	Stainless steel SS 316
	Connecting thread	M25 or 3/4" NPT
	Weight	550 g
	Size	170 mm x Ø 37 mm / 6.7" x Ø 1.45"
	Ingress protection	IP 65 and IP 67
Approvals	ATEX	II 2G EEx d(e) IIC T6, II 2D IP6X T80 °C
	IECEx	Ex d(e) IIC T6, DIP A21 IP6X T80 °C
	UL	Class I, Div. 1, Groups A, B, C, D, Class II, Div. 1, Groups E, F, G
	CSA	Class I, Div. 1, Groups A, B, C, D
	CE mark: electromagnetic compatibility (directive 89/336/EEC)	

ORDER INFORMATION

DrägerSensor IR (M25)	68 11 100
DrägerSensor IR (NPT)	68 11 110
DrägerSensor IR (for Dräger Polytron Fx)	68 11 111
DrägerSensor IR (for Dräger Polytron 2 XP Ex)	68 11 300
DrägerSensor IR complete set e	68 11 165
DrägerSensor IR complete set e2	68 11 265
DrägerSensor IR complete set d	68 11 185

All sensors are equipped with splash guard and calibration adapter.

The complete set contains a junction box, already pre-assembled.

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