Dräger Polytron IR

ST-3949-2004

The Dräger Polytron IR is an explosion proof infrared gas detector for continuous monitoring of combustible gases and vapours. With its stainless steel body and drift free optics this transmitter is built for the harshest offshore environments. Two models working with different wavelengths cover a broader range of detectable substances.

ST-743-2006

Dräger Polytron IR:
Configurable gas detector for reliable detection of combustible gases and vapours.

Technical innovation

The new model type 340 extends the area of applications for the Dräger Polytron IR product line. The new wavelength of the Dräger Polytron IR type 340 offers detection of alkanes at an even higher sensitivity. The possible monitoring of cyclohexane presents one of various new options for gas detection resulting from this innovation.

With both transmitter models Dräger Polytron IR type 340 and type 334, Dräger Safety defines the status quo of measurement technology for continuous monitoring of ambient air regarding combustible gases and vapours. Dräger Polytron IR works based on the physical principle of infrared absorption. The innovative double compensated and non-focussing optics effectively compensates all temperature and ageing effects. With its many field proved components it sets the standard for all relevant measurement requirements. It is approved by certification that Dräger Polytron IR can be used for SIL 2 (safety integrity level) safety functions.
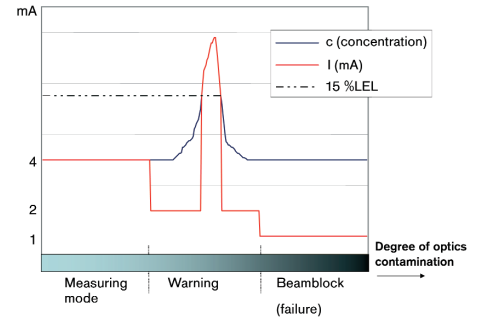
Configuration

New is the configurable measuring range for the Dräger Polytron IR transmitter: Type 334 offers 0 to 20 %LEL and up to 100 %LEL, alternatively 0 to 100 %v/v for methane. Type 340 is configurable from 5 to 100 %LEL. Configuration is menu guided and easy to perform, using a HART® handheld terminal or laptop.

Calibration

For the easy calibration of the Dräger Polytron IR, only one gas needs to be selected from an internal list, and this gas can differ from the gas to be measured. All data will be converted automatically to the substance to be monitored. So, the intricate use of factors for cross sensitivity is no longer necessary. Thus for all Dräger Polytron IR transmitters there is only one calibration gas required, independent of the monitored substance.

Drägersafety

Stand-by mode
(preventive maintenance function)

Using a preventive maintenance function – stand-by mode – the Dräger Polytron IR transmitter does not immediately shutdown in case of dirty optics. Prior to providing a beam block failure signal, there will be a warning transmitted to the control unit. The measurement continues in the background, and it will be switched back to normal operation when measuring gas concentrations of more than 15 %LEL. Alarming in a hazardous situation and with it the complete safety functionality will be maintained.

Stand-by mode:
Special warning informs about the degree of optics contamination.

Body of SS 316 stainless steel

Accessories bump test adapter / flowcell

Heated optics

Connector for handheld terminal

ST-5762-2004

Dräger Polytron IR offers:

- Gas list including up to 38 substances
- SIL 2 (safety integrity level) certified
- Configurable measuring range
- Precise measurement
- No moving parts
- Fast, accurate response
- Dirty optics pre-warning
- Long maintenance intervals

- Double compensated, non-focussing optics (4 beams)
- Hermetically sealed SS 316 body
- Ex-approvals for worldwide application
- Dust-approval zone 21, 22
- Single cable multidrop capability HART®, 4 to 20 mA, RS 485
- Expected life greater than 15 years

ORDER INFORMATION

Dräger Polytron IR UL	Type 334	68 10 098
Dräger Polytron IR CEN	Type 334	68 10 100
Dräger Polytron IR CEN	Type 334 complete set	83 15 629
Dräger Polytron IR UL	Type 340	68 10 820
Dräger Polytron IR CEN	Type 340	68 10 760
Dräger Polytron IR CEN	Type 340 complete set	83 18 590

The complete set contains an EEx e junction box, splash guard and mounting set, already pre-assembled.

Accessories	
Dräger Polytron IR splash guard	68 09 750
Dräger Polytron IR calibration adapter	68 09 780
Dräger Polytron IR flowcell	68 09 450
Dräger Polytron IR gassing adapter	68 09 946
Dräger Polytron IR process cuvette	68 10 780
Dräger PRC 3000, remote control software	83 18 906
Dräger Polytron IR bump test adapter	68 10 985
Dräger Polytron IR insect guard	68 10 162
Dräger Polytron IR hydrophobic filter	68 10 519
Mounting set	68 09 951
HART® handheld terminal ABB 691 (FM approval) complete set	83 17 560
HART® handheld terminal ABB 691 (ATEX approval) complete set	83 17 530
Charger HHT ABB 691	83 17 532
Accu pack HHT ABB 691	83 17 533
Adapter cable HHT ABB 691	83 15 437
Dräger Polytron IR extension box HHT-T	83 15 083
Dräger Polytron IR extension box HHT-H	83 15 137

HART® is a registered trademark of the HCF, Austin, TX.

The complete set contains the accu pack and a quick guide.

ST-5763-2004

HART® handheld terminal ABB 691:
Convenient operation with control keys for direct access to submenus.

TECHNICAL DATA

Type	Explosion proof gas transmitter with infrared sensor technology
Gases and ranges	Combustible gases and vapours: 0 to 5 … 100 %LEL (depending on substance)
	0 to 350 … ppm (depending on substance)
	Methane: 0 to 100 %v/v (type 334 only)
Longterm stability (drift)	< 2 %LEL (measuring range 0 to 100 %LEL methane) / 2 years
Repeatability	< 2 %LEL (measuring range 0 to 100 %LEL methane)
Response time $t_{0…90}$	< 5 seconds
Output signals analog	4 to 20 mA
Output signals digital	HART®, RS 485
Preventive maintenance function	2 mA in case of dirty optics
Failure signals	< 1.2 mA
	Signals for warning and maintenance configurable
Power supply	15 to 30 VDC, < 5 W, 3-wire
Ambient conditions	Temperature -40 to +65 ℃ / -40 to +150 °F
	Pressure 700 to 1300 hPa / 23.6 to 32.5 inch Hg
	Humidity 0 to 100 %RH, non-condensing
Enclosure	IP 66 and IP 67, NEMA 4 and 7
Size	125 mm x 180 mm x 155 mm / 4.9 " x 7.1 " x 6.1 " (W x H x D)
Weight	3.1 kg
Approvals	UL, CSA Class 1, Div 1, Groups B, C, D
	ATEX II 2G EEx de [ia] IIC T5
	II 2D IP 6X T100℃ EN 50281-1-1
	Explosion protection and performance approval
	EN 61779-1
	EN 61779-4
	EN 50271
	CE-mark: electromagnetic compatibility (directive 89/336/EEC)
	SIL 2 (safety integrity level) certified

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