

DrägerSensor® PID LC ppb

Order no. 68 13 500

Used in	Plug & Play	Replaceable	Guaranty	Expected sensor life	UV lamp
Dräger X-am 8000	no	yes	1 year ¹⁾	2 years	10.6 eV (Krypton)

MARKET SEGMENTS

Chemical industry, painters, storage and use of fuels (e.g. gas stations), benzene specific measurements

TECHNICAL SPECIFICATIONS

Detection limit:*	0.03 ppm / benzene
Resolution:*	0-2 ppm 10 ppb
(valid for isobutylene and benzene)	> 2-5 ppm 20 ppb
	> 5-10 ppm 50 ppb
Measurement range:	0 to 10 ppm isobutylene/0 to 5 ppm benzene
General technical specifications	
Ambient conditions	
Temperature: ²⁾	(-20 to 60)°C (-4 to 140)°F
Humidity: ²⁾	(10 to 95)% RH
Pressure:	(700 to 1,300) hPa
Warm-up time:	1 minute ready for measurement (warm-up 1)
	5 minutes ready for calibration (warm-up 2)

TYPICAL MEASURING PROPERTIES FOR THE MEASUREMENT RANGE 0 TO 10 PPM WHEN CALIBRATED WITH ISOBUTYLENE IN AIR:

Response time:	Diffusion mode ≤ 5 seconds (t_{20})
	Diffusion mode ≤ 15 seconds (t_{90})
	Pump mode ≤ 5 seconds (t_{20})
	Pump mode ≤ 15 seconds (t_{90})
Precision	
at 5 ppm isobutylene:	≤ ± 2% of measured value; at zero point ≤ ± 0.05 ppm isobutylene
Linearity error:	≤ ± 5% of measured value; A calibration in the range of the expected concentration will give a higher accuracy at the measuring point.
Influence of pressure	compensated
Influence of humidity, at 20 °C (68 °F) (0 to 90% RH, non-condensing)	
Zero point:	≤ ± 0.005 ppm isobutylene/% RH
at 5 ppm isobutylene:	≤ ± 0.02 ppm isobutylene/% RH
Test gas:	approx. 5 ppm i-C ₄ H ₈ (isobutylene)

* Depends on the response factor of the measured gas

¹⁾ At a run time of max. 2,500 hours

²⁾ Sudden temperature and humidity changes influence the measurement signal. When sudden temperature and humidity changes are expected, it is recommended to use a humidity pre-tube (81 03 531) for the measurement.

SPECIAL CHARACTERISTICS

Apart from the detection of a variety of volatile organic compounds (VOC) this sensor is suitable for a benzene specific measurement in the ppb range. Using the prefilter benzene (81 03 511) tube concurrent hydrocarbons will be filtered.

GASES STORED IN THE MEMORY

Gas/Vapor	CAS no.	Code	Measurement range
Acetaldehyde	75-07-0	Aald	---1)
Acetone	67-64-1	Acet	0 - 18 ppm
Acetophenone	98-86-2	AcPh	0 - 15 ppm
Acrolein	107-02-8	Acro	---1)
Allyl alcohol	107-18-6	AlOH	0 - 35 ppm
Allyl chloride	107-05-1	AlCl	0 - 80 ppm
alpha-Pinen	80-56-8	aPIN	0 - 8 ppm
Ammonia	7664-41-7	NH3	---1)
Benzene	71-43-2	C6H6	0 - 8 ppm
1-Bromopropane	106-94-5	BrPr	0 - 30 ppm
1,3-Butadiene	106-99-0	BTD1	0 - 10 ppm
1-Butanol	71-36-3	BuOH	0 - 80 ppm
2-Butanol	78-92-2	2BOH	0 - 40 ppm
1-Butene	106-98-9	Bute	0 - 20 ppm
n-Butyl acetate	123-86-4	Bace	0 - 40 ppm
Carbon disulfide	75-15-0	CS2	0 - 15 ppm
Chlorobenzene	108-90-7	ClBz	0 - 12 ppm
Cumene	98-82-8	Cume	0 - 12 ppm
Cyclohexane	110-82-7	Chex	0 - 24 ppm
Cyclohexanone	108-94-1	CyHo	0 - 15 ppm
1,2-Dichlorobenzene (ortho-)	95-50-1	BeDi	0 - 10 ppm
trans-1,2-Dichloroethylene	156-60-5	DiCl	0 - 8 ppm
Diesel fuel	68476-34-6	Desl	0 - 15 ppm
Dimethyl ether	115-10-6	DME	0 - 45 ppm
N,N-Dimethylformamide	68-12-2	DMF	---1)
1,4-Dioxane	123-91-1	Diox	0 - 25 ppm
Ethanol	64-17-5	EtOH	---1)
Ethyl acetate	141-78-6	Etat	0 - 75 ppm
Ethylbenzene	100-41-4	EtBz	0 - 14 ppm
Ethylene	74-85-1	C2H4	---1)
Ethylene oxide	75-21-8	EO	---1)
Ethyl ether	60-29-7	DETH	0 - 20 ppm
Ethyl mercaptan	75-08-1	EtM	0 - 35 ppm
Ethyl tert-butyl ether	637-92-3	ETBE	0 - 16 ppm
4-Ethyltoluene	622-96-8	EtTo	0 - 8 ppm
Furfural	98-01-1	Furf	0 - 20 ppm
Gasoline	8006-61-9	Gaso	0 - 15 ppm
n-Heptane	142-82-5	Hept	0 - 45 ppm

GASES STORED IN THE MEMORY

Gas/Vapor	CAS no.	Code	Measurement range
1,1,1,3,3,3-Hexamethyldisilazane	999-97-3	HMDS	0 - 6 ppm
n-Hexane	110-54-3	Hexa	0 - 70 ppm
1-Hexene	592-41-6	HEX1	0 - 20 ppm
Hydrogen sulfide	7783-06-4	H2S	0 - 60 ppm
Isobutanol	78-83-1	iBto	0 - 65 ppm
Isobutyl acetate	110-19-0	iBAc	0 - 45 ppm
Isobutylene	115-11-7	iBut	0 - 15 ppm
Iso-octane	540-84-1	iOct	0 - 20 ppm
Isoprene	78-79-5	iPre	0 - 10 ppm
Isopropanol (IPA)	67-63-0	PrOH	---1)
Isopropyl acetate	108-21-4	iPAc	0 - 50 ppm
Isopropyl ether	108-20-3	iPEt	0 - 20 ppm
Jet fuel	8008-20-6	JetF	0 - 15 ppm
2-Methoxyethanol	109-86-4	EGME	0 - 50 ppm
Methyl acetate	79-20-9	MeAc	---1)
Methyl bromide	74-83-9	MeBr	0 - 32 ppm
2-Methylbutane (Isopentane)	78-78-4	iPen	---1)
Methylcyclohexane	108-87-2	Mche	0 - 20 ppm
Methyl ethyl ketone	78-93-3	MEK	0 - 16 ppm
Methyl isobutyl carbinol	108-11-2	MIBC	0 - 25 ppm
Methyl isobutyl ketone	108-10-1	MiBK	0 - 18 ppm
Methyl mercaptane	74-93-1	MeM	0 - 10 ppm
Methyl tert-butyl ether	1634-04-4	MTBE	0 - 16 ppm
n-Nonane	111-84-2	Nona	0 - 32 ppm
n-Octane	111-65-9	Octa	0 - 32 ppm
n-Pentane	109-66-0	Pent	---1)
1-Pentanol	71-41-0	PeOH	0 - 65 ppm
Phosphine	7803-51-2	PH3	0 - 50 ppm
n-Propanol	71-23-8	nPOH	---1)
Propyl acetate	109-60-4	PrAc	0 - 65 ppm
Propylene	115-07-1	C3H6	0 - 19 ppm
Styrene	100-42-5	Styr	0 - 12 ppm
Tetrachloroethylene	127-18-4	PCE	0 - 15 ppm
Tetrahydrofuran	109-99-9	THF	0 - 25 ppm
Thiophene	110-02-1	ThPh	0 - 8 ppm
Toluene	108-88-3	Tolu	0 - 15 ppm
Trichloroethylene	79-01-6	TCE	0 - 14 ppm
1,2,4-Trimethylbenzene (Pseudocumene)	95-63-6	PsDo	---1)
1,3,5-Trimethylbenzene	108-67-8	Mesi	0 - 8 ppm
Vinyl acetate	108-05-4	Vac	0 - 30 ppm
Vinyl chloride	75-01-4	VC	0 - 32 ppm
Vinylidene Chloride	75-35-4	DCE	0 - 12 ppm
meta-Xylene	108-38-3	mXyl	0 - 10 ppm
ortho-Xylene	95-47-6	Xyol	0 - 12 ppm
para-Xylene	106-42-3	pXyl	0 - 8 ppm

The standard gas is: Isobutylene

---1) The measuring capability of the sensor type is not sufficient for this substance.

The response factors of the library gases are predefined and cannot be changed. For gases not included in the library, use the designated user gases VOC, VOC₁ to VOC₉. These can be configured accordingly on a customer-specific basis.

For additional information on the gases stored in the library see data sheet 9300316 at www.draeger.com at the Dräger X-am 8000 or the PID sensors (instructions for use).