

DrägerSensor® PID HC

Order no. 68 13 475

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)

TECHNICAL SPECIFICATIONS

Detection limit:*	0.3 ppm isobutylene
Resolution:*	0-20 ppm 100 ppb
(valid for isobutylene)	> 20-50 ppm 200 ppb
	> 50-100 ppm 500 ppb
	> 100-200 ppm 1 ppm
	> 200-500 ppm 2 ppm
	> 500-1.000 ppm 5 ppm
	> 1,000-2,000 ppm 10 ppm
Measurement range:	0 to 2,000 ppm isobutylene
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:	2 minutes ready for measurement (warm-up 1)
	2 minutes ready for calibration (warm-up 2)

TYPICAL MEASURING PROPERTIES FOR THE MEASUREMENT RANGE 0 TO 2,000 PPM WHEN CALIBRATED WITH ISOBUTYLENE IN AIR:

Response time:	Diffusion mode ≤ 5 seconds (t_{20})
	Diffusion mode ≤ 10 seconds (t_{90})
	Pump mode ≤ 5 seconds (t_{20})
	Pump mode ≤ 10 seconds (t_{90})
Precision	
at 100 ppm isobutylene:	≤ ± 2% of measured value; at zero point ≤ ±0.3 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 temperature (-20 to 50 °C)	
Zero point:	0.02 ppm/K
Sensitivity:	0.2 ppm/K
Influence of pressure	compensated
Influence of humidity, at 20 °C (68 °F) (0 to 90% RH, non-condensing)	
Zero point:	≤ ± 0.05 ppm isobutylene/% RH
at 100 ppm isobutylene:	≤ ± 0.15 ppm isobutylene/% RH
Test gas:	approx. 100 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 hours²⁾ 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

The PID can be used to detect numerous volatile organic compounds (VOCs). More than 80 of the VOCs most commonly used in industry are stored in its data memory. Other gases can be added to the memory on the customer's request.

GASES STORED IN THE MEMORY

Gas/Vapor	CAS no.	Code	Measurement range
Acetaldehyde	75-07-0	Aald	0 - 10000 ppm
Acetone	67-64-1	Acet	0 - 2000 ppm
Acetophenone	98-86-2	AcPh	0 - 2000 ppm
Acrolein	107-02-8	Acro	0 - 8000 ppm
Allyl alcohol	107-18-6	AlOH	0 - 4500 ppm
Allyl chloride	107-05-1	AlCl	0 - 8000 ppm
alpha-Pinen	2437-95-8	aPIN	0 - 800 ppm
Ammonia	7664-41-7	NH3	0 - 10000 ppm
Benzene	71-43-2	C6H6	0 - 1000 ppm
1-Bromopropane	106-94-5	BrPr	0 - 3000 ppm
1,3-Butadiene	106-99-0	BDT1	0 - 1500 ppm
1-Butanol	71-36-3	BuOH	0 - 9500 ppm
2-Butanol	78-92-2	2BOH	0 - 6500 ppm
1-Butene	106-98-9	Bute	0 - 2000 ppm
n-Butyl acetate	123-86-4	Bace	0 - 5500 ppm
Carbon disulfide	75-15-0	CS2	0 - 2000 ppm
Chlorobenzene	108-90-7	ClBz	0 - 1000 ppm
Cumene	98-82-8	Cume	0 - 1500 ppm
Cyclohexane	110-82-7	Chex	0 - 2500 ppm
Cyclohexanone	108-94-1	CyHo	0 - 2000 ppm
1,2-Dichlorobenzene (ortho-)	95-50-1	BeDi	0 - 1500 ppm
trans-1,2-Dichloroethylene	156-60-5	DiCl	0 - 900 ppm
Diesel fuel	68476-34-6	Desl	0 - 2000 ppm
Dimethyl ether	115-10-6	DME	0 - 5000 ppm
N,N-Dimethylformamide	68-12-2	DMF	0 - 2000 ppm
1,4-Dioxane	123-91-1	Diox	0 - 2500 ppm
Ethanol	64-17-5	EtOH	0 - 10000 ppm
Ethyl acetate	141-78-6	Etat	0 - 8000 ppm
Ethylbenzene	100-41-4	EtBz	0 - 1000 ppm
Ethylene	74-85-1	C2H4	0 - 10000 ppm
Ethylene oxide	75-21-8	EO	0 - 10000 ppm
Ethyl ether	60-29-7	DETH	0 - 2000 ppm
Ethyl mercaptan	75-08-1	EtM	0 - 5000 ppm
Ethyl tert-butyl ether	637-92-3	ETBE	0 - 2000 ppm
4-Ethyltoluene	622-96-8	EtTo	0 - 1000 ppm
Furfural	98-01-1	Furf	0 - 3000 ppm
Gasoline	8006-61-9	Gaso	0 - 2000 ppm
n-Heptane	142-82-5	Hept	0 - 6500 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 - 500 ppm
n-Hexane	110-54-3	Hexa	0 - 8000 ppm
1-Hexene	592-41-6	Hex1	0 - 2000 ppm
Hydrogen sulfide	7783-06-4	H2S	0 - 8000 ppm
Isobutanol	78-83-1	iBto	0 - 10000 ppm
Isobutyl acetate	110-19-0	iBAc	0 - 6500 ppm
Isobutylene	115-11-7	iBut	0 - 2000 ppm
Iso-octane	540-84-1	iOct	0 - 2000 ppm
Isoprene	78-79-5	iPre	0 - 1500 ppm
Isopropanol (IPA)	67-63-0	PrOH	0 - 10000 ppm
Isopropyl acetate	108-21-4	iPAc	0 - 6000 ppm
Isopropyl ether	108-20-3	iPEt	0 - 2000 ppm
Jet fuel	8008-20-6	JetF	0 - 2000 ppm
2-Methoxyethanol	109-86-4	EGME	0 - 6500 ppm
Methyl acetate	79-20-9	MeAc	0 - 10000 ppm
Methyl bromide	74-83-9	MeBr	0 - 4000 ppm
2-Methylbutane (Isopentane)	78-78-4	iPen	0 - 10000 ppm
Methylcyclohexane	108-87-2	Mche	0 - 2000 ppm
Methyl ethyl ketone	78-93-3	MEK	0 - 2000 ppm
Methyl isobutyl carbinol	108-11-2	MIBC	0 - 4000 ppm
Methyl isobutyl ketone	108-10-1	MiBK	0 - 2000 ppm
Methyl mercaptane	74-93-1	MeM	0 - 1500 ppm
Methyl tert-butyl ether	1634-04-4	MTBE	0 - 2000 ppm
n-Nonane	111-84-2	Nona	0 - 3000 ppm
n-Octane	111-65-9	Octa	0 - 4000 ppm
n-Pentane	109-66-0	Pent	0 - 10000 ppm
1-Pentanol	71-41-0	PeOH	0 - 9500 ppm
Phosphine	7803-51-2	PH3	0 - 8000 ppm
n-Propanol	71-23-8	nPOH	0 - 10000 ppm
Propyl acetate	109-60-4	PrAc	0 - 9000 ppm
Propylene	115-07-1	C3H6	0 - 2500 ppm
Styrene	100-42-5	Styr	0 - 800 ppm
Tetrachloroethylene	127-18-4	PCE	0 - 1500 ppm
Tetrahydrofuran	109-99-9	THF	0 - 4000 ppm
Thiophene	110-02-1	ThPh	0 - 700 ppm
Toluene	108-88-3	Tolu	0 - 1000 ppm
Trichloroethylene	79-01-6	TCE	0 - 1000 ppm
1,2,4-Trimethylbenzene (Pseudocumene)	95-63-6	PsDo	0 - 1000 ppm
1,3,5-Trimethylbenzene	108-67-8	Mesi	0 - 1000 ppm
Vinyl acetate	108-05-4	Vac	0 - 2500 ppm
Vinyl chloride	75-01-4	VC	0 - 4000 ppm
Vinylidene Chloride	75-35-4	DCE	0 - 2000 ppm
meta-Xylene	108-38-3	mXyl	0 - 800 ppm
ortho-Xylene	95-47-6	Xyol	0 - 1000 ppm
para-Xylene	106-42-3	pXyl	0 - 1000 ppm

The standard gas is: Isobutylene

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).