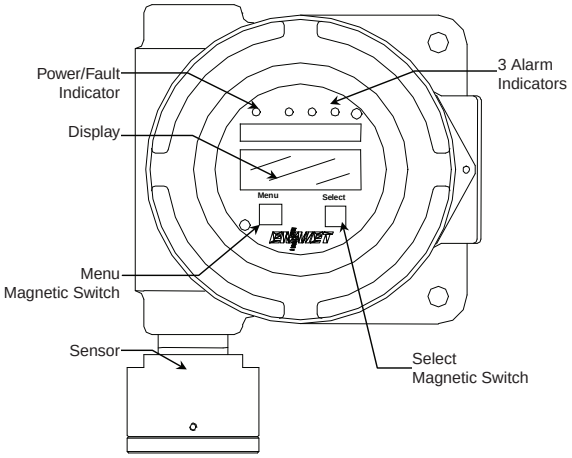
EX-5185 SENSOR/TRANSMITTER

for PPM/PPB Level Detection of VOCs, Toxic Hydrocarbons & Organic Solvents

FEATURES

- **PID Sensor**
- **Three Alarm LEDs**
- **NEMA 4X, NEMA 7 and IP66 Rated Enclosure**
- **24 VDC, 4-20mA**
- **Liquid Crystal Display**
- **Non-Intrusive Calibration**
- **Approved for Class I, Division 1, Groups B, C, & D**



EXAMPLES of Some Typical Calibrations

Gas/Vapor	Range
1, 3-Butadine	20 ppm
Benzene	20 ppm
Cyclohexanone	200 ppm
Hydrazine	20 ppm
Isopropylamine	20 ppm
Methylamine	20 ppm
Methyl mercaptan	20 ppm
Phenol	20 ppm
Tetrachloroethylene	200 ppm
Toluene	2000 ppm
Trichloroethylene	200 ppm
Vinyl chloride	20 ppm

In general, the EX-5185 can be calibrated for ppm concentrations of Hydrocarbons, Halogenated Hydrocarbons, Jet Fuels, Refrigerants, Organic Solvents, Esters, Ethers, Alcohols, Ketones, and other similar compounds which have an IP of 10.6 eV, or less.

Photoionization (PID) Gas Sensor

The EX-5185 features photoionization (PID) gas sensor technology. In the briefest and simplest terms, the PID consists primarily of a UV lamp and a set of electrodes. As sample gas enters the PID cell, high-energy UV light reacts with the target gas molecules to cause the formation of negatively charged electrons and positively charged ions. This process is known as photoionization. A small current, proportional to the concentration of ionizable gas molecules, is produced by the flow of these charged particles to their respective polarizing and signal electrodes.

The amount of energy required to cause a chemical substance to undergo the photoionization process is referred to as its ionization potential (IP), which is stated in electron volts (eV). The EX-5185 PID has an energy level of 10.6 eV. It can be used to detect many different hydrocarbons, organic gases and some inorganic gases. This technology is suitable for detecting contaminants in air primarily because of three important factors. First, the EX-5185 PID can detect only those gases which have an IP of 10.6 eV and lower. Second, the principle constituents of clean air have ionization potentials greater than 10.6 eV; nitrogen N_2 (15.58), Oxygen O_2 (12.07), argon Ar (15.76), and carbon dioxide CO_2 (13.78). Finally, a significant number of hydrocarbons and other air contaminants of interest have ionization potentials below 10.6 eV. Examples include benzene 9.25, isobutylene 9.4, toluene 8.82, vinyl chloride 10.00 eV, etc. In general, the greater the difference between the energy level of the PID and the IP of the gas, the bigger the response produced.

ENMET

Creative Gas Detection Solutions

680 Fairfield Court, Ann Arbor, MI 48108 734-761-1270 800-521-2978 www.enmet.com info@enmet.com

EX-5185 *Sensor/Transmitter for PPM/PPB Level Detection of VOCs, Toxic Hydrocarbons & Organic Solvents*

SPECIFICATIONS

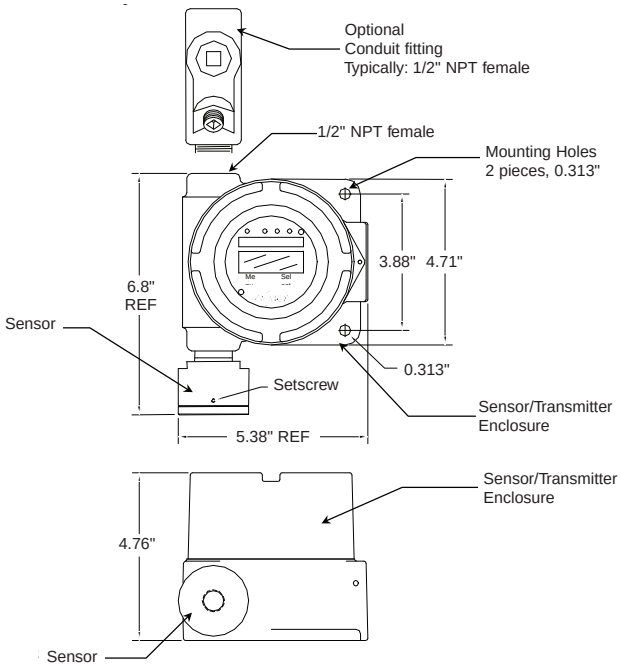
Voltage: 24 VDC powered
Output: 4-20 mA
Installation: 3-wire, typically 16 to 18 AWG, depending upon distance
Connection: 1/2 inch NPT, conduit
Weight: 5.5 lbs. (2.5 Kg)
Display: 8-character, single-line, backlit LCD
Resolution: 0.01 to 20.00 ppm
0.1 to 200.1 ppm
1 to 2000 ppm
Alarm Indicators: 3 LEDs at programmable set points
Menu/Calibration: Magnet actuated switches
Sensor: PID (photoionization detector)
Approvals:

Approved for Class I, Div. 1, Groups B,C, & D

Classified to:
UL 916 (3rd ed.) and UL 1203 (4th ed.)
CSA 22.2, No. 0-M91, 30-M1986 and 142-M1987

Specifications subject to change without notice

NOTE: Loss of primary power renders continuous gas monitors inoperative. Contact factory for specifications and pricing for backup battery systems compatible with ENMET monitors.



ORDERING INFORMATION

Description	Part Number
EX-5185 Sensor/Transmitter 0-20 ppm	10014-026
EX-5185 Sensor/Transmitter 0-200 ppm	10014-027
EX-5185 Sensor/Transmitter 0-2000 ppm	10014-028
Gas Regulator Assembly for 34 liters steel gas cylinders	02506-004
Calibration Adapter for Sensor	03700-034
Calibration Gas, 34 liters steel cylinder, 10 ppm Isobutylene	03290-010
Calibration Gas, 34 liters steel cylinder, 100 ppm Isobutylene	03290-0100
Calibration Gas, 34 liters steel cylinder, 750 ppm Isobutylene	03290-0750
Calibration Gas, 34 liters steel cylinder, 2000 ppm Isobutylene	03290-2000

Partial List of Compounds that EX-5185 can be calibrated for:

Chemical	IP	TWA*, PPM	Typical Range, PPM	Typical LED Alarms, PPM
Acetone $(CH_3)_2CO$	9.69	250**	2000	500, 1000, 1500
Benzene C_6H_6	9.25	0.1(Ca)	20	0.5, 1, 5
1,3-Butadiene CH_2=CHCH=CH_2	9.07	- (Ca)	20	0.5, 1, 5
Carbon disulfide CS_2	10.08	1**	20	1, 5, 10
Chlorobenzene C_6H_5Cl	9.07	75	200	50, 75, 100
Cumene $C_6H_5CH(CH_3)_2$, [Isopropyl benzene]	8.75	50	200	50, 75, 100
Cyclohexane C_6H_{12}	9.88	300	2000	300, 600, 800
Cyclohexanone $C_6H_{10}O$	9.14	25**	200	25, 50, 75
o-dichlorobenzene $C_6H_4Cl_2$	9.06	50(C)	20	5, 10, 15
Diethylamine $(C_2H_5)_2NH$	8.01	10**	20	5, 10, 15
Dimethyl acetamide $CH_3CON(CH_3)_2$	8.81	10	20	5, 10, 15
Dimethyl formamide $HCON(CH_3)_2$, [DMF]	9.12	10	20	5, 10, 15
Dioxane $C_4H_8O_2$	9.13	1(C)(Ca)	20	0.5, 1, 5
Ethyl ether $C_2H_5OC_2H_5$, [diethyl ether]	9.53	400	2000	300, 600, 800
Ethyl mercaptan CH_3CH_2SH	9.29	0.5(C)	20	0.5, 1, 5
Ethyl benzene $CH_3CH_2C_6H_5$	8.76	100	200	75, 100, 150
n-Heptane $CH_3(CH_2)_5CH_3$	9.90	85**	2000	100, 250, 500
Hydrazine H_2NNH_2	8.93	0.03(C)(Ca)	20	0.5, 1, 5
Isobutyl acetate $CH_3COOCH_2CH(CH_3)_2$	9.97	150	2000	100, 250, 500
Isophorone $C_9H_{14}O$	9.07	4**	20	1, 5, 10
Isopropyl acetate $CH_3COOCH(CH_3)_2$	9.95	250	2000	100, 250, 500
Isopropyl ether $(CH_3)_2CHOCH(CH_3)_2$	9.20	500	2000	400, 800, 1200
Isopropylamine $(CH_3)_2CHNH_2$	8.72	5	20	5, 10, 15
Mesityl oxide $(CH_3)_2C$=$CHCOCH_3$	9.08	10**	20	5, 10, 15
Methyl bromide CH_3Br, [Bromomethane]	10.54	- (Ca)	20	5, 10, 15
Methyl ethyl ketone $CH_3COCH_2CH_3$, [MEK]	9.54	200	2000	100, 250, 500
Methyl isobutyl ketone $CH_3COCH_2CH(CH_3)_2$, [MIBK]	9.30	50**	200	75, 100, 150
Methyl mercaptan CH_3SH	9.44	0.5 (C)	20	0.2, 0.5, 1
Methylamine CH_3NH_2	8.97	10	20	5, 10, 15
Naphthalene $C_{10}H_8$	8.12	10	20	5, 10, 15
Nonane $CH_3(CH_2)_7CH_3$	10.21	200**	2000	100, 250, 500
Octane $CH_3(CH_2)_6CH_3$	9.82	75**	2000	100, 250, 500
2-pentanone $CH_3COCH_2CH_2CH_3$	9.39	150**	2000	100, 250, 500
Phenol C_6H_5OH	8.50	5	20	5, 10, 15
Pyridine C_5H_5N	9.27	5	20	1, 5, 10
Styrene C_6H_5CH=CH_2	8.40	50**	200	50, 75, 100
Tetrachloroethylene Cl_2C=CCl_2	9.32	100	200	75, 100, 150
Tetrahydrofuran C_4H_8O, [THF]	9.45	200	2000	100, 250, 500
Toluene $C_6H_5CH_3$	8.82	100**	2000	100, 250, 500
Trichloroethylene $ClCH$=CCl_2	9.45	25 (Ca)	20	5, 10, 15
Trimethylamine $(CH_3)_3$ N	7.82	10**	20	5, 10, 15
1,2,3-trimethylbenzene $C_6H_3(CH_3)_3$	8.48	25**	20	5, 10, 15
Vinyl acetate CH_2=$CHOOCCH_3$	9.19	4 (C)	20	0.5, 1, 5
Vinyl bromide CH_2 = CHBr	9.80	- (Ca)	20	0.2, 0.5, 1
Vinyl chloride CH_2 = CHCl	9.99	- (Ca)	20	0.2, 0.5, 1
Vinylidene chloride CH_2=CCl_2	10.00	- (Ca)	20	0.2, 0.5, 1
o-xylene $C_6H_4(CH_3)_2$	8.56	100	200	75, 100, 150
p-xylene $C_6H_4(CH_3)_2$	8.44	100	200	75, 100, 150

*OSHA PEL TWA, except where noted **NIOSH value listed. Either no OSHA value established or the NIOSH value is lower
(C) NIOSH ceiling value (Ca) NIOSH designated potential carcinogen

NOTE: *Information offered in good faith as a guide only. We assume no responsibility for any errors or omissions. Users are advised to consult the latest data and regulations applicable to their applications and locations.*

680 Fairfield Court, Ann Arbor, MI 48108 734-761-1270 800-521-2978 www.enmet.com info@enmet.com

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