GasPoint

Gas Transmitter

4-20 mA Fixed Gas Gas Monitor

Installation and Operating Instructions

"INNOVATORS IN GAS DETECTION"

BW Technologies

Mounting the Enclosure

Modular design simplifies the installation of the transmitter. The transmitter's main board is mounted to the inner control door, which is equipped with slip hinges. The transmitter's back enclosure contains the relays and power board and is equipped with a threaded 3/4 inch NPT conduit fitting outlet and pre-drilled mounting flanges. Power and signal lines connect to the plug-in terminal block on the power board. The transmitter may be disassembled, simplifying the installation.

⚠ Caution: Qualified personnel should perform the installation according to applicable electrical codes, regulations, and safety standards. Ensure correct cabling and sealing fitting practices are implemented.

Install the transmitter. The predrilled mounting flanges: I.D. 0.25 on 5.5 inch centers.

It is preferable to attach the transmitter to a wall or bracket, using bolts through the two mounting holes. These mountings, however, may be omitted if the electrical conduit is sufficiently rigid to support the weight of the transmitter.

Note: *The sensor should never be installed pointed upwards.*

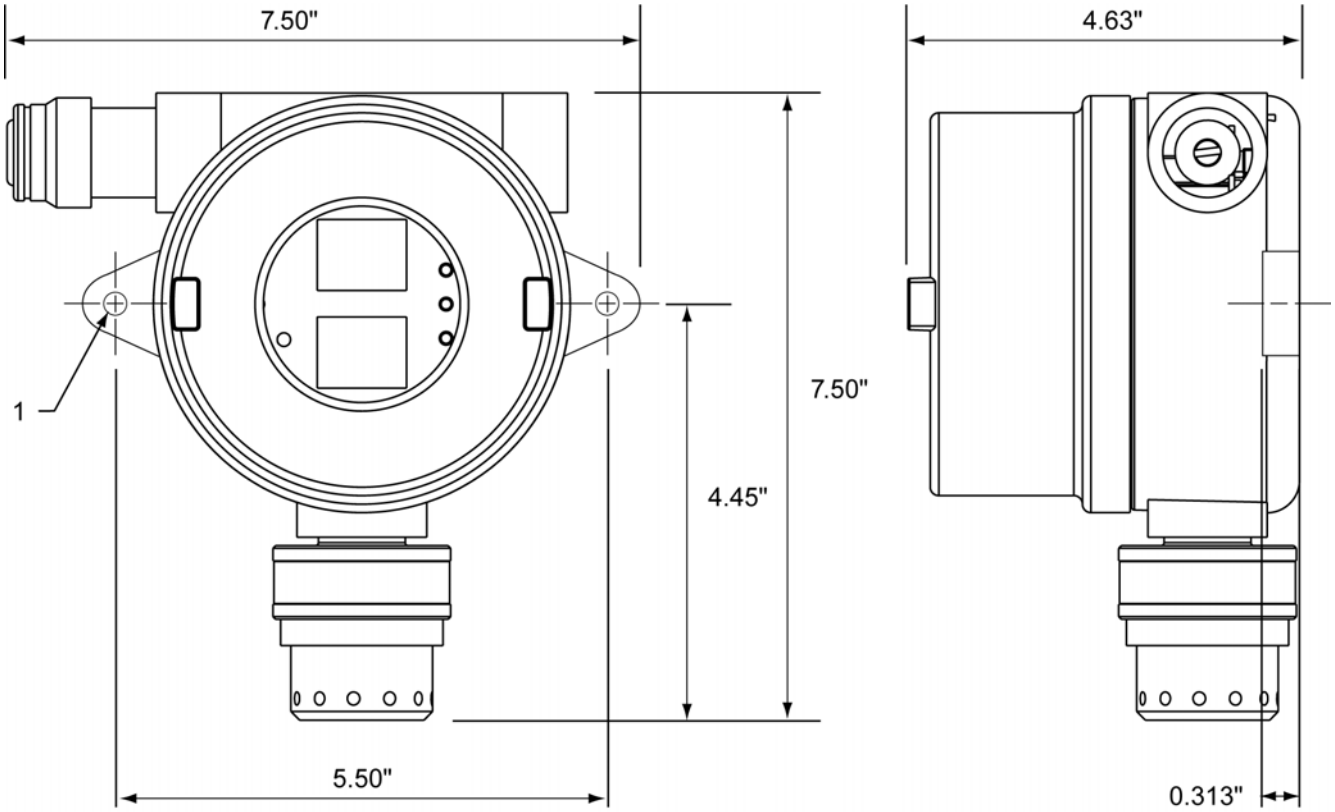

Figure 4. Outline Drawing

Specifications

Sensor Specifications

Table 16. Operating and Calibration Specifications

Specifications	**IR Combustibles %LEL**	**Catalytic Combustibles %LEL**	**Hydrogen sulfide H_2S ppm**	**Carbon monoxide CO ppm**	**Sulfur dioxide SO_2 ppm**	**Ammonia NH_3 ppm**	**Hydrogen cyanide HCN ppm**	**Nitrogen dioxide NO_2 ppm**	**Oxygen O_2 % v/v**
Repeatability % of signal	1	1	1	1	1	<10	0.5	2	0.1
Temperature Range °C °F	-40 to +50 -40 to +122	-40 to +90 -40 to +194	-40 to +50 -40 to +122	-20 to +50 -4 to +122	-20 to +50 -4 to +122	-10 to +50 +14 to +122	-20 to +50 -4 to +122	-20 to +50 -4 to +122	-20 to +50 -4 to +122
Relative Humidity Range	0 to 100% Non Condensing	5 to 95% Non-condensing							
Long Term Drift Zero: % of signal loss per month Span:	Nominal <1	Nominal <1	Nominal <2	Nominal <2	Nominal <2	Nominal <2	Nominal <2	Nominal <2	Nominal <1%
LCD Increments	1%	1%	1 ppm	1 ppm	1 ppm	1 ppm	0.1 ppm	0.1 ppm	0.1%
Calibration[1] Flow Rate (min). mls/minute at a % or ppm reading of:	250 50% LEL	250 50% LEL	250 20 ppm	150 200 ppm	250 20 ppm	500 50 ppm	250 15 ppm	1,000 10 ppm	250 20.9 %[2]
Sensor: Replacement Part Numbers	IR-RW03	SS-RW02	SS-RH02	SS-RM02	SS-RS02	SS-RA02	SS-RZ02	SS-RD02	SS-RX02

1: It is recommended that the calibration gas concentration for toxic sensors be 50% of the selected measuring range. (Factory default values are shown.)

Auto span. Values expected by the transmitter for toxic gases can be changed at any time. Refer to Changing the Alarm Setpoints and Calibration Gas Setpoints section.

2**:** For oxygen use pure air calibration gas

Note: *Performance data is based on conditions at 20°C, 50% RH, 1013 mBar.*

Do not adjust the oxygen sensor span value.

Sensors:

Toxic and Oxygen: Electrochemical
Combustible: Catalytic or Infrared (IR)
Position Sensitivity: None
Operation Pressure Range: 900 to 1100 mBar (atmospheric +/-10%)

Calibration Notes:

For maximum accuracy, calibrate with a mixture in the range most measurements are made. For most purposes a 2 minute exposure is satisfactory. (NH_3, Cl_2, ClO_2, and HCl need a 5 minute exposure.)

Specifications

Monitor:	3-wire, 4-20 mA gas transmitter with advanced micro-controller based circuitry
Power Input:	12 to 32 volts dc
Output Current:	Normal Operation: Isolated linear 4-20 mA output Calibration Mode: Steady 3 mA (automatic reset to normal operation) Fault Mode: 2 mA signal (and less)
Current Consumption:	
	Toxic Versions: 40 mA at 24 Vdc Catalytic Combustible Version: 100 mA at 24 Vdc Infrared Combustible Version: 75 mA at 24 Vdc Relays: 50 mA per relay at 24 Vdc
Sensors:	Plug-in, logic sensors
Self-Test:	Automatic self-test of sensor integrity upon power on
Calibration:	Non-intrusive, via pushbutton Auto Zero and Auto Span
Displays:	Two backlit liquid crystal displays (LCD)
LCD 1:	3 digit continuous readout of the gas present (ppm or %LEL)
LCD 2:	Alphanumeric diagnostic status display
Alarm Setpoints:	Two (2) setpoints - User selectable
Relay Contacts:	Three field retro-fittable SPDT relays; 5 amps @ 250 Vac
Low/High:	Field selectable for normally energized/de-energized and latching/non-latching
Fault:	Normally energized and non-latching
Controls:	
Calibration:	Non-intrusive via external pushbutton
Alarm Setpoints:	Simple up/down pushbuttons with LCD readout of setpoints
Physical:	
Size (w x l x h):	6.8 x 7 x 4.3 in. (17 x 17.8 x 10.8 cm) including sensor
Weight:	4.85 lb. (2.2 kg) approximately
Enclosure:	Explosion-proof, anodized aluminum enclosure c/w mounting flanges
Sensor:	Stainless steel enclosure
Wiring Port**:**	3/4 inch n.p.t.
Warranty:	
Instrument:	2 years non-prorated
Sensor:	2 years warranty
FCC Statement:	This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules and ICES-003 Canadian EMI requirements. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
Approval:	Approved by CSA to both U.S. and Canadian standards: Class I, Group B, C, D Approved by CSA to both U.S. and Canadian standards: Class II, Group E, F, G for toxic gas transmitter only Approved to Combustible Performance Standards ISA-S12.13 and C22.2 No. 152

Replacement Parts and Accessories

Transmitters c/w Sensor Assemblies and Relays		
Model No.	**Description**	**Qty**
GP-WD	Transmitter c/w combustible sensor	1
GP-IR-WD	Transmitter c/w IR combustible sensor	1
GP-HD	Transmitter c/w hydrogen sulfide sensor	1
GP-MD	Transmitter c/w carbon monoxide sensor	1
GP-SD	Transmitter c/w sulfur dioxide sensor	1
GP-ZD	Transmitter c/w hydrogen cyanide sensor	1
GP-XD	Transmitter c/w oxygen sensor	1
GP-AD	Transmitter c/w ammonia sensor	1
GP-DD	Transmitter c/w nitrogen dioxide sensor	1
GP-CD	Transmitter c/w chlorine sensor	1
GP-VD*	Transmitter c/w chlorine dioxide sensor	1
GP-YD*	Transmitter c/w hydrogen sensor	1
GP-LD*	Transmitter c/w hydrogen chloride sensor	1

Add Suffix "-SS" for optional stainless steel transmitter enclosure
*Contact BW Technologies for sensor availability.
Cl_2 ,ClO_2 and HCl sensors are only certified for ordinary locations.
Sensor Assembly enclosures are stainless steel (standard)

Accessories and Spares

Model No.	**Description**	**Qty**
D2DT	Duck mounting kit	1
GP-DUC-K1	Duct mount adapter	1
GP-1	Gas transmitter only c/w LCDs and relays (no sensor)	1
GP-SEP	Sensor separation kit	1
GP-MBUS3	MODBUS communication expansion module	1
GP-MBUS4	MODBUS communication expansion module	1
IR-RW03	IR combustible sensor assembly	1
SS-RA02	Ammonia sensor assembly	1
SS-RC02	Chlorine sensor assembly	1
SS-RD02	Nitrogen dioxide sensor assembly	1
SS-RH02	Hydrogen sulfide sensor assembly	1
SS-RL02	Hydrogen chrloride sensor assembly	1
SS-RM02	Carbon monoxide sensor assembly	1
SS-RS02	Sulfur dioxide sensor assembly	1
SS-RW02	Combustible sensor assembly	1
SS-RX02	Oxygen sensor assembly	1
SS-RZ02	Hydrogen cyanide sensor assembly	1
E0036	Calibration plug	1
GP-CAL-3	Non-conductive remote calibration cup and splash guard	1
GP-SSPLASH4	Stainless Steel splash guard	1
GP-SSCAL4	Stainless steel remote calibration cup and splash guard	1
GPOINT-B	GasPoint pushbutton protective boot	1
GP-FP-MPCB1	PCB – main control board with LCDs and internal faceplate	1
GP-MPCB1	PCB - main control board with LCD	1
GP-PPCB1	PCB – power board with relays	1
GP-HART	Hart communication expansion module (2-wire system)	1
GP-2210	Internal faceplate with hinge and label	1
M1147	Enclosure with glass window	1
GP-POWER1	Power supply 110/220 Vac – 24 Vdc	1
GP-SSPB	Stainless steel process baffle	1
GP-SSPB-2	Stainless steel process baffle with NPT fitting	1
D1374	User manual	1