

# Pipeline Stream Monitor

## For Continuous Monitoring of Process Variables for Early Warning or Gross Upset

- \* Can be certified for Class I, Div 1 hazardous installations
- \* Monitor one, two, three or more gases simultaneously
- \* Graphic display shows values, units, trend graph, alarm levels
- \* Built-in calibration port and three-way valve for easy maintenance
- \* Non-intrusive, prompted calibration with programmable cal gas
- \* Power-up and post-calibration delays eliminate false alarms
- \* Backlit GASMAX display for better visibility in low light conditions
- \* Options for 3x 5A alarm contacts, isolated 4-20mA and MODBUS®
- \* High quality stainless steel tubing and fittings in XP applications
- \* Easily replaceable Smart Sensors upload calibration data & more
- \* Fault supervision circuitry detects failed sensor & transmits warning
- \* Setup in hazardous area requires only simple magnetic wand

The GDS Corp. Pipeline Stream Monitor (PSM) is custom designed to continuously monitor an incoming gas sample for hydrogen sulfide, carbon dioxide, combustibles and / or other toxic gases. Output options include 4-20mA current loop, multiple alarm-level-based relay contact closures, RS-485 MODBUS® interface or wireless modem.

Built for use in hazardous areas, the PSM integrates state-of-the-art GDS Corp sensors and transmitters with gas flow control and conditioning subsystems uniquely designed to meet specific application needs. The PSM is available with or without standard fiberglass or optional stainless steel enclosure.

Suitable for both high-pressure and ambient monitoring, the GDS Corp PSM can be designed with input regulators or sample draw pumps. Incoming gas is filtered and, if necessary, mixed with a flow of ambient air to ensure long sensor life and accurate readings. Dilution air can be drawn from an instrument air source or created locally using a DC air pump.

If local display is required, a GASMAX II powered gas monitor or GASMAX / EC two-wire gas monitor can provide single or dual-channel inputs for any GDS Corp sensor. If no local display is required, a GDS-49 sensor transmitter can be used for cost-sensitive applications.

Fully customized versions of the PSM are available. Please contact GDS Corp for more information.



Industrial and Petrochemical Sampling Systems



Combustible Gas Monitoring in Automotive Engine Facility



H<sub>2</sub>S and CO<sub>2</sub> Monitoring in Natural Gas Pipeline



Oxygen Monitoring in Landfill Applications

**GDS Corp**

Gas and Flame Detection

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Toxic & Combustible Gas Detection • Controllers • Process Monitors • Calibration Supplies

PSM SPECIFICATIONS (Typical)	
<b>Power Input</b>	+24VDC (+/- 1%) or 120 / 240 VAC standard 12-30 VDC input with DC/DC converter optional Solar power system optional
<b>Display</b>	Available with or without local display; GASMAX offers backlit 64 x 128 pixel LCD with 30-minute trend, bargraph & more
<b>Input Gas Stream</b>	Input pressure up to 3600psi Input vacuum up to 20 inches of water column Gas stream should be clean / dry for best operation
<b>Sensing Technology</b>	Electrochemical, catalytic bead, infrared or photoionization detectors available
<b>Standard Output</b>	Standard dual 3-wire 4-20mA current source.
<b>Optional Output</b>	Isolated 4-20mA, 3X 5A relays, MODBUS slave interface, radio modem for wireless data communications
<b>Accuracy</b>	+/- 5% of full scale
<b>Temp</b>	-25°C to +65°C typical (see sensor limitations)
<b>Housing</b>	Fiberglass or stainless steel enclosures available.
<b>Dimensions</b>	Determined by configuration
<b>Approvals</b>	Available for Class I, Division 1 hazardous areas
<b>Warranty</b>	2 years from date of purchase on electronics (no warranty on sensors)

AVAILABLE SENSOR TYPES					
10	Oxygen (0-25)	-30 to +55C	27	Hydrazine (0-1)	-10 to +40C
11	Carbon Monoxide (0-300)	-30 to +50C	28	Nitric Oxide (0-50)	-20 to +50C
12	Chlorine (0-5) <sup>6</sup>	-20 to +50C	29	Nitrogen Dioxide (0-100)	-20 to +50C
13	Chlorine Dioxide (0-1) <sup>6</sup>	-20 to +40C	30	Mercaptan TBM (0-15)	-10 to +40C
14	Hydrogen (0-2000)	-20 to +50C	31	Tetrahydrothiophene (0-100)	-10 to +40C
15	Hydrogen Sulfide (0-100)	-30 to +50C			
16	Hydrogen Cyanide (0-50)	-20 to +50C	50	SmartIR 0-100% LEL (Methane)	-20 to +50C
17	Hydrogen Chloride (0-30) <sup>6</sup>	-20 to +50C	51	SmartIR 0-100% LEL (Propane)	-20 to +50C
18	Hydrogen Fluoride (0-10) <sup>6</sup>	-20 to +50C	53	SmartIR 0-100% v/v (Methane)	-20 to +50C
19	Sulfur Dioxide (0-25)	-30 to +50C	53	SmartIR 0-5% v/v CO2	-20 to +50C
20	Ammonia (0-100)	-20 to +40C			
21	Ozone (0-1)	-20 to +40C	61	PID Low (0-50 ppm ISOB)	-40 to +60C
22	Ethylene Oxide (0-20)	-20 to +50C	62	PID High (0-300 ppm ISOB)	-40 to +60C
23	Arsine (0-1)	-20 to +40C	70	Catalytic Bead 0-100% LEL	-40 to +65C
24	Silane (0-50)	-20 to +40C	90	4-20mA input	-40 to +60C
25	Fluorine (0-1)	-10 to +40C	95	GDS-IR 0-100% LEL (Methane)	-40 to +65C
26	Phosgene (0-1)	-20 to +40C	96	GDS-IR (other)	-40 to +65C



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## PSM Order Guide

Each PSM application is carefully analyzed based on input gas stream components, pressure and temperature, power availability, hazardous area classification, discharge requirements, communications needs and many other potential requirements.

A PSM questionnaire is available at [www.gdscorp.com/downloads](http://www.gdscorp.com/downloads) that can be helpful in developing the complete set of specifications necessary for a detailed system quote.

In addition to the desired specific gas and concentration value, data necessary for an accurate quote includes a full analysis of the gas sample stream, geographic location, temperature variation, power availability, indoor or outdoor installation, output (analog, digital, relays), local display and / or local audible or visual alarms and more.

GDS Corp. Process Monitor System Data Form

Project Name: \_\_\_\_\_ Stream Name: \_\_\_\_\_ Date: \_\_\_\_\_

Application: \_\_\_\_\_

Process Components			Input Parameters		Output Specifications	
Gas	Component	Mount H	Range	Units	Output Type	Alarm Action
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Installation Specifications: \_\_\_\_\_ Additional Comments: \_\_\_\_\_ Contact Information: \_\_\_\_\_

Name: \_\_\_\_\_ Company: \_\_\_\_\_ Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_ Sales Rep: \_\_\_\_\_

Printed On: \_\_\_\_\_

### PSM Applications:

- Natural Gas Production
- Natural Gas Pipelines
- Process Monitoring
- Gas Treatment Plants
- Tail Gas Lines
- H<sub>2</sub>S Removal Efficiency
- Mercaptan Monitoring
- Custodial Transfer Checking
- Automotive Engine Exhaust Monitoring
- Landfill Monitoring
- Monitoring Exhaust Drawn From Coal or Oil Storage