GSM-60

Gas Sampling Monitor, with Internal Pump and Sensors
Also Accepts Additional Inputs from Remote Sensor/Transmitters

Designed for monitoring ductwork, tank headspaces, scrubber exhausts, etc.

The GSM-60 is a versatile instrument, which, in addition to having an internal sampling pump and sensors, can also accept inputs from remote gas sensor/transmitters. The system can be custom configured to monitor a variety of conditions, including VOCs, CO, CO_2, oxygen, as well as many toxic and other gases. The instrument has a user-friendly interface for all maintenance and operation functions, and it is protected by a compact and durable enclosure for process environments. Applications include: medical, pharmaceutical, aerospace and process manufacturing industries in general.

GSM-60
showing monitor only, with internal sensors

FEATURES

- Many Instrument Configuration Options Available for VOCs, Oxygen, H_2, CO_2, CO, and many Other Toxic Gases
- Internal Pump and Sensors for Monitoring Scrubber Exhaust, Tank Headspaces, Ductwork, or other Enclosed Spaces, plus the Capability of Ambient Air Monitoring with Remote Sensor/Transmitters
- Monitors Up to 4 Gases with a Combination of Internal Sensors and Remote Sensor/Transmitters
- Designed for use in Industrial, Aerospace, Medical, Pharmaceutical, Semiconductor, and General Process Applications
- Programmable Relay Contacts
- Adjustable Alarm Points
- Large Easy-to-Read Display
- RS-232/RS-485 Modbus Communication
- 4-20 mA Inputs and Outputs
- Can be Configured on Request for Reactive Gases, including O_3, HF, Cl_2, etc.

TABLE 1 SENSOR SPECIFICATIONS

Gas (1)	Sensor Type (1)	Sensor (2) Location	Typical Range (3)	Display Resolution	Example (4) Low, High (5) Alarm Point LEDs	Relay (6) Alarm Points	Life (7)	Temp °C (8)	Response Time t_{90}	Optional Range (3)	Optional Display Resolution
VOCs	PID	↑ INTERNAL (10) or REMOTE (11) *REMOTE WITH GAS SAMPLER (11)	0-20 ppm	0.01 ppm	5, 10 ppm	↑ Specify When Ordering User Programmable	60	0° to +40°	30 sec	0-2000 ppm	1 ppm
N_2O	IR		0-2000 ppm	20 ppm	100, 500 ppm		60	-10° to +50°	30 sec	--------	----------
HC	IR		0-100% LEL	1% LEL (9)	10, 20% LEL		60	-10° to +50°	30 sec	0-100% by Vol (9)	1% by Vol
HC/VOCs	MOS		0-500 ppm	1 ppm	100, 200 ppm		48	-10° to +50°	180 sec	0-100% LEL (9)	1% LEL
CO_2	IR		0-5000 ppm	20 ppm	1000, 2000 ppm		60	-10° to +40°	30 sec	0-100% by Vol (9)	1% by Vol
O_2	EC		0-30% by Vol	0.1% by Vol	19.5%, 23.5% by Vol		18	-10° to +40°	15 sec	0-100% by Vol	1% by Vol
CO	EC		0-500 ppm	1 ppm	50, 200 ppm		30	-10° to +40°	30 sec	0-1000 ppm	1 ppm
NH_3	EC		0-100 ppm	1 ppm	25, 75 ppm		24	-10° to +40°	60 sec	0-1000 ppm	1 ppm
SO_2	EC		0-30 ppm	0.1 ppm	2, 10 ppm		30	-10° to +40°	35 sec	---------	---------
H_2	EC		0-2000 ppm	1 ppm	200, 1000 ppm		30	-10° to +40°	60 sec	0-4% by Vol (9)	0.01% by Vol
H_2S	EC		0-100 ppm	1 ppm	10, 50 ppm		30	-10° to +40°	30 sec	0-30 ppm	0.1 ppm
NO	EC		0-100 ppm	1 ppm	25, 75 ppm		30	-10° to +40°	20 sec	---------	----------
NO_2	EC		0-30 ppm	0.1 ppm	3, 10 ppm		30	-10° to +40°	30 sec	---------	----------
ETO*	EC		0-10 ppm	0.1 ppm	3, 9 ppm		24	-10° to +40°	120 sec	---------	----------
Cl_2*	EC		10.0 ppm	0.1 ppm	0.5, 1 ppm		24	-10° to +40°	60 sec	---------	----------
HF*	EC		10.0 ppm	0.1 ppm	3,6 ppm		18	-10° to +40°	90 sec	---------	----------
O_3*	EC		1.00 ppm	0.01 ppm	0.1, 0.2 ppm		18	-10° to +40°	60 sec	---------	----------
AsH_3*	EC	↓	1.00 ppm	0.01 ppm	0.05, 0.1 ppm	↓	18	-10° to +40°	60 sec	---------	----------

NOTES FOR TABLE 1:

(1) See TABLE 2 for nomenclature, symbols and abbreviations used.

(2) See TABLE 3 for maximum quantity and combinations.

(3) Examples of typical ranges. Other ranges may be available on request.

(4) Examples of typical alarm points. Other alarm points available on request.

(5) High and Low alarm points are user programmable.

(6) See TABLE 4 for gas alarm relay programmable configurations.

(7) Typical sensor life in months.

(8) Maximum temperature range in degrees C. External sensors might exceed specified range.

(9) Internal sensors, utilizing sample pump.

(10) Internal sensors for monitoring compressed air or gas lines.

(11) Contact ENMET for information on remote gas sensor/transmitters and gas samplers.

TABLE 2

GAS/GAS GROUP	SENSOR TYPE
Volatile Organic Compounds (VOCs)	Photoionization Detector (PID)
Nitrous oxide (N_2O)	Non-dispersive infrared (NDIR, IR)
Hydrocarbons (HC)	Non-dispersive infrared (NDIR, IR)
Organic solvents (VOCs/HC)	Metal oxide semiconductor (MOS)
Carbon dioxide (CO_2)	Non-dispersive infrared (NDIR, IR)
Inorganics (O_2, CO, etc.)	Electrochemical (EC) cell
Ethylene oxide (ETO)	Electrochemical (EC) cell

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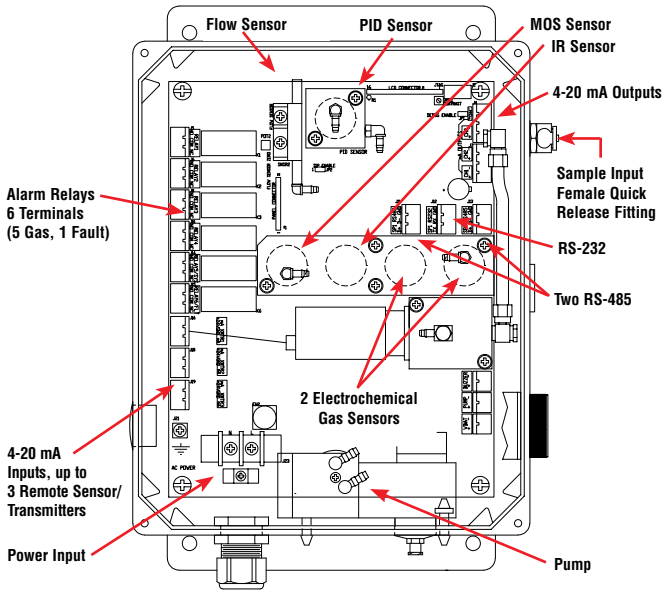
GSM-60 Gas Sampling Monitor

GENERAL SPECIFICATIONS

Display: 2 line, 16 character, dot matrix LCD
Alarms: Visual: LEDs, Audible: piezo electric
Horn: 95 dB at 2 feet
Alarm Relays: 5 programmable gas relays plus fault. All relays are programmable latching or non-latching, dry SPDT, 10 amps (resistive load only) at 110 VAC.
Operating Power: 100 to 240 VAC and/or 12 VDC, 15 Watts
Flow Rate: 1 Lpm (pump/internal sensors)
Sample Inlet Connection: Female quick release, supplied with male quick release for 1/4" I.D. tubing. Tubing available from ENMET on request
Enclosure: Thermoplastic box with clear, hinged front cover, designed for NEMA 12 and 4X
Size: 10.5"H x 8.5"W x 7.8"D
Weight: 9 lbs.

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



GSM-60 Interior Features

TABLE 3
SENSOR & SENSOR/TRANSMITTER LOCATION & QUANTITY

(SEE TABLE 2 FOR ABBREVIATIONS USED)

GSM-60 can be configured with up to a total combination of 4 internal sensors or external sensor/transmitters as follows:

A.) INTERNAL SENSORS (and/or B):
Any combination of up to 4 of the following internal sensor types: 1 each PID, 1 each IR, 1 each MOS, 2 each EC

B.) EXTERNAL SENSOR/TRANSMITTERS*:
Any combination of up to 3 of the following types of 4-20 mA sensor/transmitters: IR (CO2, HC), MOS, EC, Catalytic

Note: The maximum total combination of internal sensors and external sensor/transmitters is 4.

**Contact ENMET for information on available remote gas sensor/transmitters*

EXAMPLES

INTERNAL SENSORS
1.) PID
2.) PID MOS
3.) IR MOS EC

COMBINATION INTERNAL & EXTERNAL
1.) PID (internal) +3 EC (external)
2.) PID MOS (internal) +2 IR (external)
3.) IR MOS EC (internal) +1 PID (external)

TABLE 4
PROGRAMMABLE ALARM RELAYS

GSM-60 has 5 gas alarm relays and 1 fault relay. The gas alarm relays are completely user programmable. The instrument has the potential of a maximum of 4 sensors (channels), with 2 alarms (Low, High) per channel.

TYPICAL 4-CHANNEL		TYPICAL 2-CHANNEL	
CH 1	ALARM 1 RELAY 1	CH 1	ALARM 1 RELAY 1
CH 2	ALARM 1 RELAY 2	CH 1	ALARM 2 RELAY 2
CH 3	ALARM 1 RELAY 3	CH 2	ALARM 1 RELAY 3
CH 4	ALARM 1 RELAY 4	CH 2	ALARM 2 RELAY 4
CH 1-4	ALARM 2 RELAY 5	CH 1-2	ALARM 2 RELAY 5

ORDERING INFORMATION

See Price List

NOTE: Contact ENMET for information on our SDS-97D, EX-5150-MOS & other remote sensor/transmitters, ProAir 2200, MedAir 2200, ISA-300RAL and related products.

Specifications subject to change without notice 11/6/13

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