MSA Gasgard® XL Gas Monitor
[Bid Specifications]

Physical Characteristics

Size	Wall-mounted controller shall not exceed 20" x 11" x 5" in total size.
Weight	Unit shall not weigh more than 11 kg [without battery].
Configuration	Unit shall be easily configured from front-mounted keyboard and laptop menu via USB and RS485 connectors.
Case Material	Robust ABS housing material flame-retardant rated V0 UL.
Environmental Protection	Instrument shall be at minimum IP56-rated [protection levels for dust/water ingress] and NEMA 4X.
Display Location	Display shall be large LCD graphic with intuitive icons and stored multi-language capability.
Wiring	Unit shall have minimum 23 pre-formed entries for easy cable connection to internal relays and terminals for remote sensors and output signals. Cable entries should be capable to accept cable glands M20 or 0.75" for industrial applications.
Expansion	Unit must expand up to 8 hot-swap channels with 4-20 mA remote sensor signals.
Event log	Unit shall be equipped with standard event data logging.

User Interfaces

Display Info	Liquid crystal display [LCD] shall be easy to read: • all channels status at glance without scrolling. • individual channel configuration and status. • warning and error messages.
Alarms	Shall be equipped as standard with visual and audible alarms. Internal buzzer sounds at an average of 85 dB @ 30cm. Highly visible LEDs for visual alarm shall be provided with each individual channel and system status.
Keyboard	Unit must have one front-mounted keyboard for configuration and operation.
Power Supply	Unit must be equipped with a dynamic main power supply to provide 85-265 VAC, accepting 24 VDC continuous operation with optional back-up battery.
Configuration	Shall be accessible via USB/RS485 connectors located on main board.
Output Signal	Unit must have Ethernet interface configurable for Modbus TCP/IP protocol, and RS485 interface configurable for Modbus RTU protocol. Both interfaces shall be galvanically isolated.
PCB Installation	Must be fail-to-safe and hot-swap.

Instrument Alarms

Visual Alarms	Instrument shall have bright and highly visible flashing LEDs to signal alarm conditions, and steady green light for Power ON
Audible Alarm	Audible internal buzzer alarm shall be rated at 85 dB @ 30 cm on average at minimum.
Alarm Set Points	Instrument shall have two independent alarm levels A1 and A2 with adjustable alarm set-point.
Relays-common	Instrument shall have common relay array for Alarm levels A1, A2, Fault [redundant as safety function] and two addressable Horn relays H1 and H2.
Relays-Individual	Instrument shall have option to add individual per channel relay board for fully-configurable A1, A2 alarm levels.

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Monitoring

Sensor Types Instrument shall accept virtually all 4-20 mA gas sensor transmitters.

Data Storage

Event Logging Instrument shall be equipped standard with event data logging. Unit shall be able to upload event archives via RS485/USB.

Capacity Log capacity shall be no less than 100 latest events.

Record Content Event log entries shall contain as a minimum:
- alarm: type, value, time and date.
- alarm clear: type, value, time and date.
- calibration: pass/fail, time and date.
- error non-shutdown: error type, time and date.
- end of life: reason, alarm minutes, month of life, time and date.

Data Transmission 9600 baud rate

Certifications

Electrical Safety and Performance Approvals Controller must meet global approvals per:
- cCSAus
- EC-ATEX
- SIL2

Quality System Instrument manufacturer must be certified according to ISO 9001 provisions.

Environmental

Temperature Normal operation: -10°C to +50°C

Humidity 10-95% RH non condensing

Maintenance & Warranty

Maintenance Normal maintenance shall be required according to instruction manual and applicable safety norms.

Warranty The instrument shall have a full two-year warranty subject to proper installation and use [as specified per instruction manual and relevant documentation].

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