



ALTAIR™ Pro Single-Gas Detector

[Bid Specification]

Physical Characteristics	
Size	Instrument shall not exceed 3.4" x 2.0" x 1.0" in total size.
Weight	4.0 oz including clip.
Handling	Unit shall be easy to hold and operate.
Case Material	Polycarbonate with rubber overmolding.
Environmental Protection	Instrument shall be rated to IP67 protection levels for dust/water ingress.
Display Location	Display is viewable from the front.
Carrying Attachments	Unit shall have various optional belt attachments: Suspend-style clip Lanyard Cell phone belt clip Hard hat clip
Event Log	Unit shall be equipped with standard event data-logging of no less than 50 events before overwriting oldest logged events.
Data Log	Unit shall be equipped with standard data-logging feature.

User Interfaces	
Display Info.	Liquid crystal display (LCD) with large, easy-to-read characters. Must display gas concentration in PPM or display % O ₂ .
Alarms	Must be equipped with visual, vibrating, and audible alarms. Audible alarms sound at an average of 95 dB @ 1 foot. Visual alarms shall be bright and must be viewable from top, front, and sides.
Buttons	Unit must have no more than one pushbutton to operate. No access to internal switches shall be necessary for any instrument operations.
Data Access	Access to the event and data log shall be non-intrusive using MSA Infrared Link to IBM-compatible computers and MSA FiveStar® Link® version 4.4 or higher.
Bump Test	Display shall have a checkmark as an indication of a successful bump test for 24 hours after the bump test has been conducted.
Operating Lifetime	Typical battery life is > one year installed. Sensor life is two years. Both the sensor and the battery must be replaceable.
Confidence Flash	Unit shall periodically (average every 60 seconds) confirm proper operation through: confidence flash on alarm LEDs confidence dot on display (heartbeat indicator)
Backlight	A backlight shall activate at the start of any alarm situation or with the simple press of a button.



Monitoring					
Instrument Activation	Instrument shall have provisions to prevent inadvertent activation. A three second button hold is needed to turn the unit on.				
Inadvertent Shut Off	Once activated, instrument must not turn off inadvertently. A five second button hold is needed to turn the unit off.				
Sensor Types	Instrument shall be available with the following gas sensing capabilities:				
	Gas Type	Sensor Type	Range	Resolution	
	Oxygen	Echem	0-25%	0.1 Vol.%	
	Carbon Monoxide	Echem	0-1500 ppm	1 ppm	
	Hydrogen Sulfide	Echem	0-200 ppm	1 ppm	
	CO FIRE	Echem	0-1500 ppm	1 ppm	
Standard Alarm Points	Instrument shall be available with the following standard alarm points:				
	Gas	Low	High	STEL	TWA
	Oxygen	19.5%	23.0%	N/A	N/A
	Carbon Monoxide	25 ppm	100 ppm	100 ppm	25 ppm
	Hydrogen Sulfide	10 ppm	15 ppm	15 ppm	10 ppm
	CO FIRE	25 ppm	100 ppm	100 ppm	25 ppm
CO STEEL	75 ppm	200 ppm	200 ppm	75 ppm	

Instrument Power	
Battery	Instrument shall be powered by a replaceable CR2 lithium battery. Only Energizer EL1CR2, Varta CR2, or Panasonic CR2 batteries should be used.
Battery Life Indication	The monitor shall provide the user with an icon depicting battery life.
Instrument Shutdown	Instrument must clearly indicate end of life through audible and visual display information.

Instrument Alarms	
Visual Alarms	Instrument must consist of bright flashing LEDs visible from the front, top, and sides.
Audible Alarm	The audible alarm shall be rated at no less than 95 dB @ 1 ft. on average.
Vibrating Alarm	Instrument shall be standard-equipped with a vibrating alarm.
Changing Set Points	Alarm set points shall be manually adjustable prior to the first time the units are turned on, or with the use of IR communication at any time. All alarms (LOW, HIGH, TWA, and STEL) must be field adjustable.

Calibration	
Calibration	Unit must be able to be zeroed and calibrated easily using one button.
Calibration Set Point	Calibration gas concentration set points shall be user adjustable.
Tools	Calibration must be easily accomplished using no tools other than a cylinder, regulator, and tubing. No calibration cap shall be required.



Data Storage	
Event Logging	Instrument must be equipped standard with event logging.
Capacity	The log capacity shall be no less than the 50 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 Bump: pass/fail, time, and date Error non-shutdown: error type, time, and date End of life: reason, alarm minutes, months life, time, and date
Data Retention	Instrument shall remain accessible at the end of the instrument life.
Data Logging	The instrument must be equipped standard with a data-logging function. The default setting is three-minute peak readings. This sample rate shall be configurable via PC from 15-second to 15-minute peaks, or a one-minute peak average.

Certifications	
Intrinsic Safety Approval	The detector must meet global approvals per: UL Class 1, Division 1, Groups A, B, C, and D Tcode T4 CSA Class 1, Division 1, Groups A, B, C, and D Tcode T4 ATEX II 2G EEx ia IIC T4 Australia Ex ia IIC T4
Quality System	The instrument manufacturer must be certified as compliant with ISO 9001 provisions.
Manufacturing	Instrument must be manufactured in the USA.

Environmental	
Temperature	Normal Operation: -20 to +50 °C
Humidity	10-95% RH non condensing

Maintenance & Warranty	
Maintenance	Units shall have replaceable sensors and battery.
Warranty	The instrument shall have a full two-year warranty. Warranty does not cover the battery.