

# MIL-RAM TECHNOLOGY

## TOX-BOX<sup>®</sup>

### Natural Gas Pipeline Carbon Dioxide, CO<sub>2</sub> Portable Analyzer

The TOX-BOX Single Gas Portable Instrument provides high resolution measurement (16-bit analog-to-digital conversion) of Carbon Dioxide gas utilizing Mil-Ram's non-dispersive infrared (NDIR) sensor technology. The TOX-BOX efficiently and accurately measures CO<sub>2</sub> contaminant levels in natural gas pipelines with simple connection to a positive pressure sample line. The TOX-BOX is housed in a rugged, weather-proof, plastic instrument enclosure for dependable service under demanding field conditions. The instrument is easily configured through the operator interface consisting of front panel push button switches and a large backlit LCD display (no dip switches). Low, mid, and high fault relays can be used to activate external alarms and/or switch equipment on/off. The alarm relays are easily configured for non-latching/latching, non-energized/energized and 0-255 sec. time delay. The alarm relays can be configured to trigger with increasing or decreasing meter readings. Software filtering can be enabled at various levels to offer increased stability in noisy electrical environments. A regenerated 4-20mA signal and/or Modbus serial interface (optional) provides reliable connection to a data logger. Continuous diagnostics further ensures system integrity and long-term stable operation and performance.



## Features

- ◆ *no false alarms* Infrared (NDIR) sensor technology
- ◆ Flow meter and coalescing filter
- ◆ Rechargeable 12 VDC sealed lead-acid battery: >12 hrs./charge
- ◆ Rugged, weather-proof, portable instrument enclosure
- ◆ Backlit LCD display and push button switches
- ◆ Alarm Relays: Fully programmable
- ◆ Local Alarms: Buzzer and LED indicators
- ◆ Regenerated 4-20mA Output
- ◆ Modbus RTU (optional)
- ◆ Low Battery Indicator
- ◆ Buzzer Silence Mode
- ◆ Alarm Disable Mode
- ◆ Digital Filter
- ◆ Continuous Diagnostics
- ◆ Flash Programming

Tel: 510-656-2001 • Toll Free: 1-888-4MILRAM (1-888-464-5726)  
Fax: 510-656-2004 • Email: [sls@mil-ram.com](mailto:sls@mil-ram.com) • Web: [www.mil-ram.com](http://www.mil-ram.com)

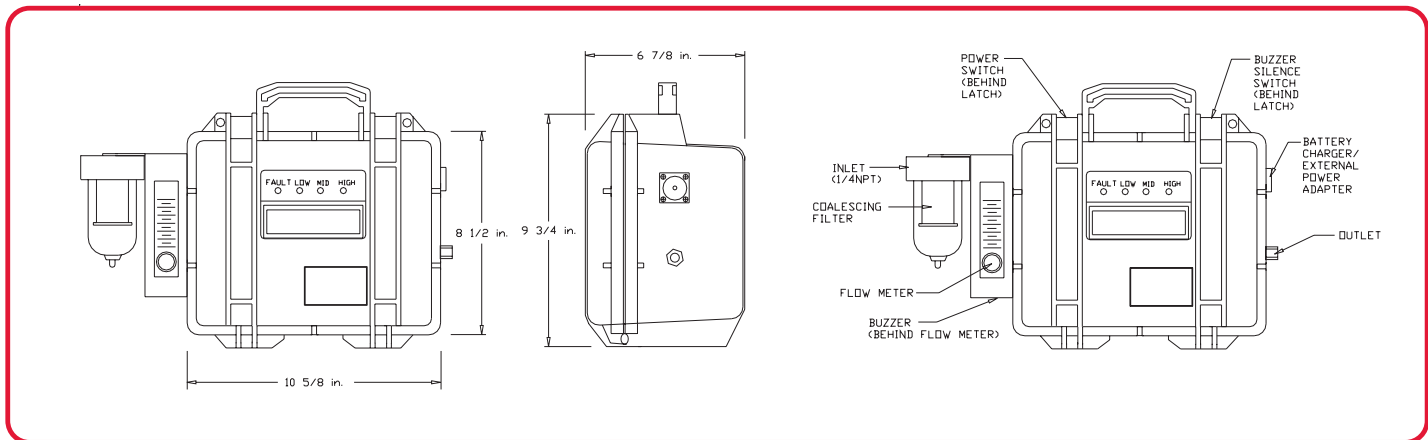
# Specifications

Instrument Type	Single Gas Portable
Part No.	01-2001TBF-89
Sensor	Non-dispersive infrared for CO <sub>2</sub> (other models available for H <sub>2</sub> S)
Range	0.0-5.0% Vol. (other ranges available)
Inlet Pressure	Up to 25 psig
Power Source	Rechargeable sealed lead-acid battery, 12 VDC
Power Rating	12 VDC @ 2.1W
Battery Charger	110 VAC operation
Battery Life	>12 hours continuous/charge
Operator Interface	Back-lit LCD display (16 character x 2 lines) 4 push button switches (no dip switches) All parameters front panel programmable
Alarm Levels	Low, mid, high, and fault
Local Alarms	Integral Buzzer, LED's, LCD messages <i>Low Alarm:</i> buzzer pulses, green LED <i>Mid Alarm:</i> buzzer pulses faster, yellow LED <i>High Alarm:</i> buzzer continuous, red LED <i>Fault Alarm:</i> buzzer continuous, red LED

All alarm conditions accompanied by LCD messages

Alarm Relays	Low, mid, high and fault SPST, 10 A @ 28 VDC, resistive 12 A @ 120 VAC, resistive
Relay Function	Front-Panel programmable for non-latching/latching, non-energized/energized, 0-255 sec. time delay and alarm on increasing/decreasing reading. Fault relay factory set: non-latching, normally non-energized and 0 sec. time delay
Digital Filter	Selectable levels of digital filtering for increased stability in noisy electrical environments
Analog Output	Regenerated 4-20mA output (16-bit resolution) for connection to data logger or chart recorder
Serial Interface (optional)	Modbus RTU protocol
Operating Temp.	-20°C to +50°C -4°F to +122°F
Rel. Humidity	5-95% non-condensing
Enclosure Type	Plastic-ultra high impact structural copolymer, neoprene o-ring, dust/water/chemical/corrosion resistant. Color: black (yellow or orange avail.)
Enclosure Dimensions	10 5/8 in. W x 9 3/4 in. H x 6 7/8 in. D
Options	RS-485 Modbus RTU, 2 or 4-wire External Alarm Station 4-20mA Data Logger Calibration Kits Battery Charger Continuous Operation Adapter

Specifications subject to change without notice



**Mil-Ram Technology, Inc.**  
Patented Technology

*no false alarms*

Toll Free: (888) 4MILRAM • (888) 464-5726  
48009 Fremont Blvd • Fremont, CA 94538  
Tel: (510) 656-2001 • Fax: (510) 656-2004