



## FiveStar® Alarm

[ Rugged, reliable detection at your fingertips ]



## The FiveStar Alarm

The FiveStar Alarm is extremely flexible yet simple to use. Providing the “best-in-class” combination of durability, simplicity and reliability, the product finds many uses in industries such as:

- Petrochemical
- Steel Mills
- Chemical
- Mining
- Electric Utilities
- Construction
- Telecommunications

## A New Look



The standard version provides the highest levels of Radio Frequency Interference (RFI) protection while the stainless-fiber-filled version provides the greatest performance against harsh chemical environments where corrosion is a serious concern.

The FiveStar Alarm is now offered in two case housings: stainless-steel-fiber-filled ABS or standard, nickel-plated ABS.

## Hundreds of Applications

The FiveStar Alarm’s flexibility means it is ideally suited for many gas detection tasks, including:

- Confined space remote sampling
- Confined space continuous monitoring
- Industrial open air hazard monitoring
- CO monitoring from furnaces
- Diesel emissions sampling for mining

*The FiveStar Alarm’s three control buttons combine ease-of-operation and functionality. The PAGE button displays alarm options, including information on time-weighted averages (TWA), short-term exposure limits (STEL), battery power and other pages.*



## Features and Benefits

- **Smallest, lightest five-gas detector on market**  
Easy to carry, less intrusive to user
- **Rugged, portable design**  
Provides years of reliable, low-maintenance use
- **Weatherproof**  
Improved reliability, reduced repair costs
- **Simplest software in the industry**  
Reduced training costs
- **One-button calibration**  
Simpler to use and access calibration mode
- **Display faces user when worn**  
Hands-free viewing/monitoring
- **Sampling pump powered by instrument**  
Real fault alarms and reduced maintenance
- **Pressure-compensated oxygen reading**  
None recovers from pressure changes faster
- **Datalogging is standard**  
Do not underestimate the importance of knowing the instrument’s gas exposure record
- **Battery gas gauge shows remaining run time in hours**  
Less lost time due to unexpected power losses
- **Multilingual displays**  
Less misunderstanding leads to greater safety in use
- **5-gas capability**



Reduced costs: no need for two instruments



The FiveStar Alarm's gas gauge feature helps you know when to change your batteries.

## The Safety Features to Get You Home

The FiveStar Alarm has the most advanced bundle of safety features available in the market today. You may never notice many of them, but they are built in to every instrument to help ensure that you get home at

night. Compare the following to other gas detectors to see if they match the FiveStar Alarm's ability to keep you safe:

- **Limits on "Fresh Air Setup"**  
Some instruments allow you to "zero out" dangerous levels of background gas. The FiveStar Alarm does not.
- **Limits on autocalibration**  
A 30% limit ensures the proper gas is used to calibrate.
- **LockAlarm™ feature**  
Locks in alarm after 100% LEL exposure to reduce possibility of erroneous return to low gas reading.
- **Latching alarms**  
Helps ensure that users respond to the presence of hazardous gases.
- **User acceptance of sensor configuration changes**  
User must acknowledge when sensors are changed, added or removed. Not all instruments enforce this.



Choose up to five different sensors to configure the FiveStar for your need.

## "Smart" Sensors are Standard

The FiveStar Alarm's smart sensors are designed with flexibility in mind. As sensing needs change or as technology advances, the FiveStar Alarm's smart sensors ensure that the instrument is never out of date. The memory chip on each sensor allows MSA to provide the latest enhancements and new sensor offerings without any changes to the base instrument.

The sensors are extremely easy to change. Sensors for additional gases are being tested continuously, so if your gas detection needs change, the FiveStar

Alarm is still your best choice.

## Power As You Need It

The FiveStar Alarm can be ordered with three different battery packs, depending upon your needs. All the rechargeable packs have a unique "Gas Gauge" feature that provides an estimated remaining run time. Displayed as hours remaining on the instrument display, the Gas Gauge helps ensure the job is never shut down for lack of power.

### ■ Standard rechargeable nickel cadmium (NiCad) battery pack

The standard in the industry, NiCad battery packs provide long life and minimal maintenance at a reasonable cost.

### ■ Heavy-duty nickel metal hydride (NiMH) battery pack

For those long-running jobs where there is no time to change batteries, MSA's NiMH battery pack provides up to 20 hours of continuous operation.

### ■ Replaceable lithium or alkaline battery pack

Power on the go. Replaceable battery packs help ensure that power is available wherever the job takes you.<sup>1</sup>

## Reliable Remote Sampling

The FiveStar Alarm's Pulsecheck® Pump sets a new standard in remote sampling pumps. The unique pulsecheck feature restarts the pump every 15 seconds to verify the operation of the system and can trigger a blocked flow warning without using a pressure sensor.

### ■ Audible and visual pump-system alerts

Since the pump is part of the instrument electronics, the instruments can alert the user the problems.

### ■ High accuracy through sophisticated design and testing

Consistent readings whether in pumped or diffusion mode.

## Worry Free, Hassle Free

The FiveStar Alarm provides durability backed by MSA's unmatched warranty and service.

When you see field personnel today using MSA gas

<sup>1</sup> Replaceable pack is not available for EN approved instruments and approved for use only with alkaline batteries in Australia.



Draw an accurate sample with the FiveStar Alarm's Pulsecheck Pump.

# Specifications

## Gas-Sensing Performance

Gas	Range	Resolution
Combustible gas	0-100% LEL	1% LEL
	0-5% CH <sub>4</sub>	0.05% CH <sub>4</sub>
Oxygen	0-25%	0.1%
Carbon monoxide	0-2000 ppm	1 ppm
Hydrogen sulfide	0-200 ppm	1 ppm
Nitrogen dioxide	0-100 ppm	0.5 ppm
Nitric oxide	0-100 ppm	0.1 ppm
Sulfur dioxide	0-100 ppm	0.5 ppm
Phosphine	0-5 ppm	0.05 ppm
Chlorine	0-20 ppm	0.1 ppm
Chlorine Dioxide	0-5 ppm	0.05 ppm
Ammonia	0-100 ppm	1 ppm

## Operational Performance

Battery types	NiCd, NiMH, Lithium and Alkaline	
Operating time (at 20°C)	Diffusion:	Pumped:
	NiCd-11 hours	NiCd-8 hours
	NiMH-20 hours	NiMH-15 hours
	Lithium-11 hours	Lithium-8 hours
	Alkaline-8 hours	Alkaline-6 hours
Case material	Plated:	Black ABS:
	Impact-resistant, nickel-plated ABS	Impact-resistant, stainless-steel-fiber-filled ABS
Operating temperature	Normal: -10° to 40°C	Extended: -20° to 50°C
Operating humidity	Continuous:	Intermittent:
	15-90% RH	5-95% RH
Operating pressure	Fully compensated 80-133 kPa (560-1010 mmHg)	
Ingress Protection	Independently tested to IP54 rating	
Warm-up time	<20 seconds to initial readings	
Datalog capacity	Up to 130 hours standard on all instruments	
Keypad	3 clearly marked, metal-domed keys	
Warranty	Case & electronics: Lifetime	
	Sensors, consumables: 2 years	

# Ordering Information

## Battery Packs

	Black ABS	Ni-Plated
Standard NiCd Rechargeable	710427	10008606
NiMH	10008642	10013145
Replaceable AA	710955	10008607

## Battery Charging

Description	Part No.
110 V, Single-unit	494716
8-24 VDC, Single-unit (vehicular)	710423
110/220 V, Five-unit	801759
Charging Stand (required in addition to chargers listed above)	710570
Fast Charger, NiCd	710989
Fast Charger, NiMH and NiCd	10018394

## Sampling Accessories

	Black ABS	Ni-Plated
Pump Module	710790	10008609
Aspirator Assembly	710959	10008608
Pump Module, Cl <sub>2</sub> Compatible	10018395	
Calibration Adapter	710824	
Probe, 1-ft, Water Stop	800332	
Probe, 3-ft, Water Stop	800333	
Replacement filters, 10 ea	801582	
Sampling Line, 5-ft, coiled	710465	
Sampling Line, 10-ft	497333	
Sampling Line, 15-ft	497334	
Sampling Line, 25-ft	497335	

## Protective Jackets

Description	Part No.
Nylon Carrying Case, Pumped	711120
Nylon Carrying Case, Diffusion	711242
Leather Carrying Case, Pumped	711119
Leather Carrying Case, Diffusion	710884

## Calibration Accessories & Cylinders

Description	Part No.
Calibration Kit, Model RP	477149
LEL/O <sub>2</sub>	478192
LEL, O <sub>2</sub> , CO	10010162
LEL, O <sub>2</sub> , CO, H <sub>2</sub> S (Please call for other cylinders.)	804770

## Replacement Sensors

Description	Part No.
Combustible Sensor	710317
Oxygen Sensor	815333
Carbon Monoxide Sensor	710656
Hydrogen Sulfide Sensor	710657
Sulfur Dioxide Sensor	710664
Nitric Oxide Sensor	710662
Nitrogen Dioxide Sensor	710663
Phosphine Sensor	10011530
Chlorine Sensor*	10012282
Chlorine Dioxide Sensor	10022765
Ammonia Sensor	10012288

\* Chlorine and Chlorine Dioxide sensor requires special sensor cover and pump.

## FiveStar Alarm Kit Options

		LEL	O <sub>2</sub>	CO	H <sub>2</sub> S	NiCd Battery	AC Charger	Fast Charger	Calibration Cap	Pulsecheck Pump	10ft Line	1ft Probe	Leather Jacket	Carrying Case
Deluxe, 4-gas	10018002	•	•	•	•	•	•	•	•	•	•	•	•	•
Deluxe, 3-gas, CO	10018003	•	•	•	•	•	•	•	•	•	•	•	•	•
Deluxe, 3-gas, H <sub>2</sub> S	10018004	•	•	•	•	•	•	•	•	•	•	•	•	•
Industrial, 4-gas	10018005	•	•	•	•	•	•	•	•	•	•	•	•	•
Industrial, 3-gas, CO	10018006	•	•	•	•	•	•	•	•	•	•	•	•	•
Industrial, 3-gas, H <sub>2</sub> S	10018007	•	•	•	•	•	•	•	•	•	•	•	•	•
Economy, 4-gas	10018008	•	•	•	•	•	•	•	•	•	•	•	•	•
Economy, 3-gas, CO	10018009	•	•	•	•	•	•	•	•	•	•	•	•	•
Economy, 3-gas, H <sub>2</sub> S	10018030	•	•	•	•	•	•	•	•	•	•	•	•	•

## Safety Approvals

The FiveStar Alarm is available in three versions to meet approval-agency requirements:

**North American** instruments are approved by MET and CSA for use in Class I, Division I, Groups A, B, C and D; Class II, Division I, Groups E, F and G; and Class III hazardous environments. Methane versions are approved by the Mine Safety and Health Administration (MSHA), Approval No. 8C-67-a, for use in underground mining applications.

**European- and Australian-approved** instruments are also available.

Other third-party approvals pending.

**Note:** This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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