G460

Advanced Multi-sensor Atmospheric Monitor

smart
GasDetection
Technologies

Exceptional HAZMAT and Confined Space performance

Durable, compact design

The G460 is compact, robust and very easy-to-use. The dust proof and highly water resistant (IP-67) housing is designed to survive the toughest environmental conditions. The housing even includes a built-in rubberized boot to withstand the hard knocks of confined space entry.

Easy operation

The G460 keeps gas detection simple. Most day-to-day functions are controlled with a single button, and calibration is fully automatic. Simply attach the adapter and flow gas to the sensors. GfG AutoCal® programming automatically makes the adjustments and updates the information in the instrument's on-board memory.

Up to 24 hours continuous operation

Depending on the sensors installed, G460 battery packs deliver up to 24 hours of continuous operation. Alkaline packs are powered by two "AA" batteries. Rechargeable battery packs can even be equipped with optional "flash light" LEDs.

Lifetime warranty

The G460 carries a lifetime warranty on nonconsumable components and a two-year warranty on most sensors. The LEL (filtered), H_2S, CO, COSH and infrared sensors carry a full three-year warranty against failure and the lead free O_2 sensor carries a five year warranty.

Continuously measures up to six gas hazards

The durable G460 continuously measures and displays readings for up to six gases at the same time. The highly configurable smart sensor design for up to six channels of detection, including PID sensor for direct reading of toxic VOCs, infrared (NDIR) sensors for CO_2 and combustible gas (0% LEL - 100% volume) and a wide range of additional sensors including SO_2, HCN, Cl_2, NH_3, PH_3, H_2, NO, NO_2, ClO_2, O_3, ETO and more!

Top-mounted display easy to read even in the dark

Whether it's worn on your belt or held by hand, the G460 is easy to read. The top-mounted, full graphics LCD includes a built-in backlight for use in the dark. Readings can be "zoomed" or "flipped" at the push of a button to make it even easier to see your monitoring results.

Loud audible and bright visual alarms warn users

The G460 includes an extremely loud audible alarm (103 dB at 12 inches), built-in vibrator and bright wrap-around LED alarm lights visible from every direction. The top-mounted display changes color from green, to orange to red just like a traffic signal to help communicate the severity of the hazardous condition.

Innovative triple IR technology

One single GfG infrared sensor is enough to simultaneously measure CO2, the lower explosion limit (LEL) and up to 100% vol. of combustible gases. This innovative technology is exclusively available at GfG. The wear-free and extremely durable GfG infrared sensors considerably reduce your future expenditure for maintenance and replacement of sensors.

Reliable monitoring of VOCs

Comprehensive protection is provided by a PID (photoionization detector), which detects volatile organic compounds. Substances containing VOCs include solvents, paint thinner, and nail polish remover as well as the gases and vapors associated with fuels such as gasoline, diesel, heating oil or kerosene. Specific toxic substances such as benzene, butadiene, hexane, toluene, xylene, and many others can be reliably detected. For most VOCs, however, the occupational exposure limit value is achieved long before readings reach a concentration high enough to trigger a combustible range alarm. The PID provides additional protection under these circumstances.

Accessories

Each G460 comes complete with sensors and battery pack (as specified), calibration adapter, and a manual. Rechargeable instruments additionally include a drop-in cradle charger and wall power adapter. The DS400 Docking Station offers completely automatic functional testing, calibration, instrument charging and record keeping.

The G460 has a full featured, rugged design with the widest range of sensors and carries CSA and INMETRO approvals.

Smart, user friendly accessories

DS400 Docking Station

Easy operation
The operation of the DS400 docking station couldn't be any easier. Simply place the G450 or the G460 in the dock and the system will take over from there. The DS400 automatically performs a full functional test including fresh air calibration, bump test, extensive sensor tests, alarm tests and optionally performs an automatic AutoCal® calibration.

Extensive diagnostics
The DS400 is designed to go beyond the traditional basic docking station tests and includes sensor diagnostics tests such as T_{50} and T_{90}. After all, what good is a sensor that can respond to gas when it takes too long to get there? With the DS400 you can have confidence with this added level of safety.

Automatic charging
After all tests have been completed the DS400 will automatically start the charging process of the detector or you may remove and begin using it. In case the detectors battery condition is insufficient to complete a test the DS400 will charge the instrument before performing the test.

Reduced cost of ownership
The DS400 is designed to reduce the cost of ownership every step of the way. The built in pump has variable flow control to reduce the amount of gas consumed during the test. The DS400 is even smart enough take advantage of the gas remaining in the tubing after the previous test was completed.

Record keeping
A good instrument gas detection maintenance program is not complete without equally good records keeping. Whether you choose to download or maintain the records on a PC or network or your preference is to leave it to the docking station, the DS400 is the right choice.

The DS400 can retain as many as 2 million complete diagnostics in memory with maximum memory installed. That is over 50 years of data even if testing 100 detectors every single day!

PC communication
The DS400 comes complete with USB interface cable and download software. The SD card may also be downloaded using a standard SD card reader.

Maintenance certificates
The DS400 software includes a module to quickly print official calibration or bump test certificates. Simply download the records from the DS400 and start the "Certificate Generator" … it takes only seconds!

DS404 Multi-inlet Docking Station

Same innovative features
The DS404 multi-inlet docking station has all the same great features as the DS400 with the additional advantage for the ability to connect up to four gas cylinders to the four test gas ports as shown above.

G400 MP-2 Smart Pump

Optimized alarm system
The new G400 MP-2 pump continuously communicates with the G450/G460 gas detector. This interaction allows fault indication via the detector display. Alarms such as low battery, blocked sampling line or interrupted power fault are shown on the display and activate a visual and audible alarm on the monitor.

Various applications
Gas samples can be taken from a distance of up 100 meters (over 300 feet) at a typical draw rate of 0.5 liters per minute.

Superior flexibility
The G400 MP-2 is the only detachable pump on the market today which will allow for operation in both diffusion mode and remote sample-draw mode. Simply slide the shutter to turn the pump on or off. When the pump is on, the shutter covers the diffusion inlets and exposes them when the pump is switched off.

The G400 MP-2 features a high efficiency redundant filter system in addition to a standard external probe with dust and hydrophobic filters.

Independent power supply
The G400 MP-2 is operated by its own power supply, independent of the gas detector. The power supply of the pump allows for up to 10 hours of continuous operation.

Daily bump testing made simple

TS400 Test Station

Operation

The TS400 automatically performs a full functional test that includes performance of all sensors and alarms. It can store up to 2,000,000 bump test records for easy retrieval and report generation. The bump test, alarm testing, optional charging, and record keeping is automatic and includes a simple pass / fail indicator.

Charging option

The TS400 is available (optionally) for use as a charger as well as a test station. After all tests have been completed you may remove and begin using the detector or leave it in the TS400 for recharging.

Assurance of features

The TS400 test station has many of the same great features as the docking station. Extensive diagnostic tests such as T_{50} and T_{90} are included, the flexibility of maintainenance and storage of records is the same as the docking station, the push button regulator reduces the cost of ownership, and the software includes a module to print official bump test certificates.

TECHNICAL DATA: G460

Ranges & Resolution for Sensors:

Sensor	Range	Resolution
Ammonia (NH_3)	0 - 500 ppm	5 ppm
	0 - 200 ppm	1 ppm
Carbon dioxide (CO_2)	0 - 5% vol	0.01% vol
Carbon monoxide (CO)	0 - 2,000 ppm	1 ppm
	0 - 1,000 ppm	1 ppm
	0 - 500 ppm	1 ppm
	0 - 300 ppm	1 ppm
Carbon monoxide (CO-H)	0 - 1,000 ppm	1 ppm
	0 - 500 ppm	1 ppm
	0 - 300 ppm	1 ppm
COSH (CO)	0 - 500 ppm	1 ppm
(H_2S)	0 - 100.0 ppm	0.5 ppm
Chlorine (Cl_2)	0 - 10 ppm	0.1 ppm
Chlorine dioxide (ClO_2)	0 - 2 ppm	0.01 ppm
Combustible (Catalytic)	0 - 100% LEL	0.5%
	0 - 5% vol	0.02%
Combustible (Infrared)	0 - 100% LEL	0.2%
Ethylene oxide (C_2H_4O)	0 - 20 ppm	0.1 ppm
Hydrogen (H_2)	0 - 2,000 ppm	2 ppm
	0 - 4% vol	0.01% vol
	0 - 1% vol	0.01% vol
Hydrogen chloride (HCl)	0 - 30 ppm	0.2 ppm
Hydrogen cyanide (HCN)	0 - 50 ppm	0.5 ppm
Hydrogen fluoride (HF)	0 - 10 ppm	0.1 ppm
Hydrogen sulfide (H_2S)	0 - 100 ppm	0.1 ppm
Hydrogen sulfide (H_2S)	0 - 500 ppm	1.0 ppm
Methane (CH_4)	0 - 100% vol	0.01% vol
Nitric oxide (NO)	0 - 100 ppm	1 ppm
Nitrogen dioxide (NO_2)	0 - 30 ppm	0.02 ppm
Nitrogen dioxide (NO_2)	0 - 50 ppm	0.2 ppm
Oxygen (O_2)	0 - 25% vol	0.1%/vol
Ozone (O_3)	0 - 1 ppm	0.01 ppm
Phosgene ($COCL_2$)	0 - 2 ppm	0.01 ppm
Phosphine (PH_3)	0 - 10 ppm	0.05 ppm
PID (VOC)	0 - 10,000 ppm	5.0 ppm
	0 - 2,000 ppm	0.5 ppm
	0 - 500 ppm	0.1 ppm
Silane (SiH_4)	0 - 40 ppm	0.1 ppm
Sulphur dioxide (SO_2)	0 - 100 ppm	0.1 ppm
	0 - 10 ppm	0.05 ppm

Other Specifications:

Dimensions:	2.95x4.33x2.17 in (75x110x55 mm)
Weight:	10 oz (280 g) with O_2, LEL, CO, H_2S
Power:	2 "AA" batteries or rechargeable NiMH battery pack
Operation time:	Up to 24 hrs w/LEL and toxic sensors, Up to 18 hrs w/IR combst, IR CO_2 or PID
Charge time:	6 hours (to complete fast charging cycle)
Alarms:	Vibrating: Standard
	Audible: 103 db (30 cm)
	Visual: Bright, 360° wraparound LEDs, plus heterochromatic (green / orange / red) backlit display

Housing:	IP-67 (dust proof and highly water resistant)
Temperature range:	-4 to +131°F (-20 to +55°C) ambient
Humidity range:	5 to 95% r.h. (non-condensing)
Pressure range:	700 to 1,300 hPa

Standard Accessories:

Specified sensors
Charger (if specified)
Calibration adapter
Manual and Informational CD

Optional Accessories:

Motorized pump, 10 feet of tubing and probe
Datalogging kit
Docking station
Calibration gas, kits and regulators

Approvals:

Intrinsic safety: c-CSA-us
      Class I, Division 1, Groups A, B, C, and D T3
      Ex ia IIC T3
      Class I, Zone 0 AEx ia IIC T3
      Ex db eb ia IIC T3/T4 Gb (NiMH=T3) -20 ≤ Ta
        ≤ +45 / +50 °C
      08.1934905X
Standards: IEC 60079-0:2011 (Ed.6)
      IEC 60079-7:2015 (Ed.5)
      IEC 60079-1:2014 (Ed.7)
      IEC 60079-11:2011 (Ed.6)
      CSA C22.2 No. 152-M1984
      UL 913
      ANSI / ISA-12.13.01-2000
EMI / RFI Resistance: EMC Directive 89 / 336 / EEC
INMETRO: Ex db eb ia IIC T3 Gb
      (-20 °C ≤ Tamb ≤ +50 °C)
      Ex db eb ia IIC T4 Gb
      (-20 °C ≤ Tamb ≤ +45 °C)

Warranty:

Limited lifetime on instrument and electronics. Two years on most sensors, three years on select sensors including filtered LEL (Catalytic), LEL (IR), CO, COSH, H_2S, and IR CO_2. The lead free O_2 sensor carries a five year warranty.

Refer to GfG complete warranty for details.

Specifications subject to change without notification