Draeger Safety



# Multiwarn II

# The Ultimate in Gas Detection

Intelligent
Versatile
Expandable
Personal
Portable
Multi-Gas
Instrument



# **Multiwarn**II



### Multiwarn II: The Ultimate in Gas Detection

No other gas detector offers so many features or capabilities! The Multiwarn II was the first multi-gas instrument to offer the advantages of IR sensing technology. Combine this with the wide selection of Draeger-Sensors® and the flexible menu structure, and you have an extremely versatile instrument. The Multiwarn II can be used for monitoring worker exposures or for confined space entry in more industries than any other monitor.





# Infrared Sensors

For combustible gases and CO<sub>2</sub>







# Sensors

### Intelligent Sensor Technology

What makes a sensor "intelligent"? Many manufacturers say that it is the ability for the instrument to recognize what sensor (gas type) has been plugged into its port. The Draeger-Sensors<sup>®</sup> provide much more comprehensive information. On the Draeger-Sensors<sup>®</sup> is a memory chip that contains all relevant information about the sensor; such as measurement parameters, alarm set points, calibration data, temperature compensation data and much more. All of this information is downloaded to the instrument. There is no need to configure the instrument, just plug it in and you are ready to monitor gas!

## Cost of Ownership

#### **Draeger-Sensors® XS/XSR** provide the longest warranty and maintenance of any sensor in the industry. The CO, H<sub>2</sub>S and O<sub>2</sub> sensors are covered by a three/five year warranty (depending on whether XS or XSR types are chosen)! These sensors require span calibration only once a year.

Gas	Max. Range	Resolution	Part No.
Acetaldehyde	0-200 ppm	1 ppm	6809115
Acetylene	0-100 ppm	1 ppm	6809115
Acrylonitrile	0-100 ppm	0.1 ppm	6809522
Ammonia	0-300 ppm	1 ppm	6809145
Arsine	0-10.0 ppm	0.01 ppm	6809135
Bromine	0-20.0 ppm	0.01 ppm	6809165
Butadiene	0-100 ppm	0.1 ppm	6809115
Carbon Dioxide Carbon Monoxide Carbon Monoxide Chlorine Chlorine Dioxide Combustible Gases	0-5.00 % Vol. 0-2000 ppm 0-10,000 ppm 0-20.0 ppm 0-20.0 ppm 0-100 % LEL	0.01 % Vol. 1 ppm 0.01 ppm 0.01 ppm 1 % LEL	6809175 6809105 6809120 6809165 6809165 6808280
Diborane	0-1.00 ppm	0.01 ppm	6809135
Diethylamine	0-100 ppm	1 ppm	6809545
Diethyl Ether	0-200 ppm	1 ppm	6809522
Dimethylamine	0-100 ppm	1 ppm	6809545
Dimethyl Sulfide	0-40 ppm	0.1 ppm	6809200
Ethanol	0-300 ppm	1 ppm	6809115
Ethylene	0-100 ppm	1 ppm	6809115
Ethylene Oxide	0-200 ppm	1 ppm	6809115
Formaldehyde	0-200 ppm	1 ppm	6809115
Fluorine	0-20.0 ppm	0.01 ppm	6809165
Germane	0-20.0 ppm	0.01 ppm	6809135
Hydrogen	0-2000 ppm	1 ppm	6809185
Hydrogen Cyanide	0-50.0 ppm	0.1 ppm	6809150
Hydrogen Selenide	0-1.00 ppm	0.01 ppm	6809135
Hydrogen Sulfide	0-100 ppm	1 ppm	6809110
Hydrogen Sulfide	0-1000 ppm	1 ppm	6809180
Iso-Butene	0-300 ppm	1 ppm	6809522
Iso-Propyl Alcohol	0-300 ppm	1 ppm	6809115
Methanol	0-200 ppm	1 ppm	6809115
Nitric Oxide Nitrogen Dioxide	0-100 ppm 0-100 ppm 0-50 ppm	1 ppm 1 ppm 0.1 ppm	6809545 6809125 6809155
Oxygen	0-25.0% Vol.	0.1 % Vol.	6809130
Phosphine	0-10.0 ppm	0.01 ppm	6809135
Phosphine	0-1000 ppm	1 ppm	6809535
Propylene	0-100 ppm	1 ppm	6809115
Propylene Oxide	0-200 ppm	0.1 ppm	6809115
Silane	00-10.0 ppm	0.01 ppm	6809135
Styrene	0-100 ppm	1 ppm	6809522
Sulfur Dioxide	0-50.0 ppm	0.1 ppm	6809160
Tetrahydrothiophene	0-40 ppm	0.1 ppm	6809200
tert-Butyl Mercaptan	0-40 ppm	0.1 ppm	6809200
Triethylamine	0-100 ppm	1 ppm	6809545
Trimethylamine	0-100 ppm	1 ppm	6809545
Vinyl Acetate	0-100 ppm	1 ppm	6809115
Vinyl Chloride	0-100 ppm	1 ppm	6809115



#### Infrared Sensor Specifications

Environmental Range	Temperature; -40 to 50 C Humidity; 10 to 95 %RH Pressure; 700-1300 hPa
Carbon Dioxide	9900 (50 ppm increments) 0.01 to 5.00 Vol.% 1.0 to 25.0 Vol.%
Combustible Gases	9900 (100 ppm increments) 0 -100 %LEL 0 -100 Vol.%
Specifications: Multiv	varn II
Size: Weight:	2.2 x 4.3 x 2.6 inch (55 x 110 x 65 mm) 2.2 lbs. (1kg) with NiCd battery
Environmental Rating: Environmental Range:	Ingress Protection; IP-54 (dust and water-protected) -5 to 120 °F (-20 to 40 °C) continuous -40 to 135 ° (-40 to 55 °) intermittent
Audible Alarm Visual Alarm Alarm Warnings	peizo-electric alarm; >85 dBA at 12 inch (30 cm) Two high intensity LED's; 180° visibility A1, A2, STEL, TWA, Low Battery and Fault
Datalogger Capacity Maximum Pump Draw	50 hours of one-minute averages (with "E" version) 135 ft (45 m) with 3/16 in ID (5 mm) hose
Battery Life (25 ℃ or 77 ℉)	NiCd; > 10 hours Alkaline; > 12 hours
Approval Classification	UL; Class I, Division 1, Groups A-D, T4 CSA; Class I, Division 1, Groups A-D, T4 CENELEC; EEx ib s IIC T4 (BVS) w/o IR Sensor CENELEC; EEx ibn d s IIB + H2 T4 (BVS) with IR Sensor MSHA

Infrared (IR) Sensor Technology The Multiwarn II is the smallest multi-gas monitoring instrument with advanced IR sensor technology.

These sensors provide long service life, the utmost stability, and very specific measurements. This sensor technology is available for measuring Combustible Gases (Ex) and Carbon Dioxide (CO<sub>2</sub>). The IR sensor for combustible gases (Ex) is impervious to poisoning agents that effect catalytic sensors. Since this measurement technique is based on infrared light energy, gases that contain sulfurs (like H<sub>2</sub>S), halogens (CL<sub>2</sub>, F<sub>2</sub>, etc.), silicones (Si), and heavy metals (like leaded gasoline/petrol) have no effect on the sensor.

Do you purge with nitrogen or another inert gas? Unlike catalytic oxidation sensors, hydrocarbons can be measured in the absence of oxygen with the Multiwarn II IR-Ex sensor. This makes the Multiwarn II ideal for the hydrocarbon processing industry or where process vessels or pipelines are purged for maintenance procedures. Measure hydrocarbons in the ppm range! The Dräger IR-Ex sensor is capable of measuring methane, propane, fuels, solvents and many petrochemical intermediates in the ppm range. Use this capability for leak detection, monitoring exposures, or additional protection in confined space entry.

Need to measure heavier hydrocarbons such as jet fuel and turpentine? Since large molecules absorb more infrared light, the Multiwarn II IR-Ex sensors actually works better on these hard to measure compounds. The IR-Ex sensor is better than catalytic sensors for measuring combustible levels of fuels and solvents.



Carbon dioxide  $(CO_2)$  is a toxic gas. High amounts of  $CO_2$  produce similar effects on humans as the deficiency of oxygen. People who work in the food processing and brewing industries are familiar with this situation. The Multiwarn II can also be equipped with an IR-CO<sub>2</sub> sensor. Measure  $CO_2$  in a confined space entry situation or measure worker exposures with the best accuracy and no cross-sensitivity.

Measure indoor air quality with Multiwarn II. The IR-CO<sub>2</sub> sensor can accurately measure CO<sub>2</sub> in the ppm range also! Combine this technology with the Draeger-Sensors<sup>®</sup> for CO and OV, and you have a very capable tool for this application.

## Multiwarn II

## The Ultimate in Gas Detection

#### It's in the Multiwarn II! Need to make remote measurements? A remote sampling pump is

standard equipment in the Multiwarn II. Just attach the pump adapter and the internal pump is automatically activated. The strong internal pump can draw samples in excess of 100 feet making this instrument ideal for confined space entry into tanker ships or other large storage vessels.

**Do you work in a noisy environment?** The Multiwarn II gets your attention! A very loud audible alarm immediately notifies the user of a potentially hazardous situation. The bright LED alarm is visible in a 180° radius. Additionally, the large LCD display continuously informs the user of the specific hazard by gas, by level (A1 or A2) and any other conditions which may exist with easily recognizable icons. In a hazard condition, you cannot depend on second best.

Need to record exposure information? The optional internal datalogger in the Multiwarn II records gas measurement and all instrument functions. Not only can you view exposure data, but you also know when the instrument was used, when alarms occurred, and when they were acknowledged and all other functions. This information can be viewed on the Draeger "Gas Vision" software.

## Easy Operation

The Multiwarn II is the most advanced monitor of its kind, but it's very easy to operate. The three buttons on the front of the monitor, turn it ON, OFF, acknowledge alarms and access routinely needed data like battery levels. Functions such as calibration and alarm set points are adjusted through plain language menu commands. These functions are protected by a pass code to prevent accidental or unauthorized adjustment. In the adjustment modes, the three buttons act as up, down, and enter buttons to navigate you through the menu. Operation of the Multiwarn II is very intuitive.

## Ultimate Flexibility

You design the Multiwarn II specifically for your application. Choose from over 28 different intelligent electrochemical sensors, a catalytic for combustible gases or two different infrared sensors for the four or five measurement channels. The electrochemical Draeger-Sensors can be changed as quickly as you need change, in the field, with no need to recalibrate or make adjustments to the instrument. Design the operating menu to meet your needs. The menu can be made simple for routine tasks like confined space entry, or adjust the menu so you can easily call up TWA, STEL, and Peak value in an industrial hygiene survey. The infrared and catalvtic combustible gas channels can be adjusted for measuring multiple gases and ranges (with multiple calibrations, too). These measuring channels can be set up so that the user can switch between these gases or ranges at the touch of a button. The Multiwarn II gives you the flexibility to meet your changing needs and conveniently address them as they arise.





# Multiwarn II

The Ultimate in Gas Detection



Remote Sampling Probes

Telescopic Probe, 4.5 ft	4510546
Telescopic Probe 6.5 ft	4510545
Float Probe	
Sampling Hose	4504707



Chargers

Single Unit Charger, Plug-in	8313502
Single Unit Charging Module	
Multi-Charger Power Supply	
Multi-Charger Charging Module	8313600



**Download Accessories** 



## Carrying Cases

_eather Carrying Case	
Plastic Transport Case	
Confined-Space Carrying Case	4523069

### Order Information

All Multiwarn Monitors come complete with an internal sampling pump, pump actuator, calibration adapter and battery charger. "E" versions contain the internal datalogger. "S" versions are equipped with an infrared sensor. All other sensors are ordered separately. "B" indicates 4-gas version and "P" indicates internal pump.

Multiwarn II BP Multiwarn II BEP4523062 4523047Multiwarn II SP IR-Ex Multiwarn II SEP IR-Ex4523049 4523052Multiwarn II SP IR-CO2 Multiwarn II SEP IR-CO24523055 4523057		
Multiwarn II SP IR-Ex4523049Multiwarn II SEP IR-Ex4523052Multiwarn II SP IR-C024523055Multiwarn II SEP IR-C024523057	Multiwarn II BP Multiwarn II BEP	4523062 4523047
Multiwarn II SP IR-CO2 4523055   Multiwarn II SEP IR-CO2 4523057	Multiwarn II SP IR-Ex Multiwarn II SEP IR-Ex	4523049 4523052
	Multiwarn II SP IR-CO2 Multiwarn II SEP IR-CO2	4523055 4523057

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