

Multiwarn II

Multi-gas monitor with IR sensor



Protection against hazardous gases ...

For decades, the name Dräger has been synonymous worldwide with safe breathing in hazardous areas.

Dangerous concentrations of different gases in the ambient air can pose a health risk to people working in areas such as

- waste water treatment
 - chemical industry
 - oil and gas industry
 - shipping
 - mining and
 - firefighting,
- to name but a few examples.

The safety of personnel must always be given top priority. Often several different gases need to be continuously and reliably monitored at the same time, so that workers can be warned about and protected in good time against hazards which could damage their health.

Multiwarn II is a powerful, intelligent and personal multi-gas monitor offering a wide variety of measurement possibilities – a partner you can rely on.

The following features guarantee reliability:

- concentrations of up to 5 different gases can be continuously and simultaneously monitored
- advanced infrared sensor technology
- durable design
- variability and flexibility
- variety of warning functions
- data logger
- sophisticated digital technology
- tried and tested microelectronics.



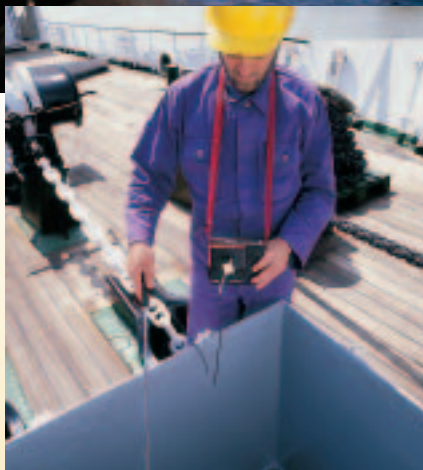
... in the gas and oil industry

ST-497-2000+ST-489-2000



... in waste water treatment

ST-488-2000



... in the shipping industry

ST-401-2000



... in waste disposal management

ST-494-2000+ST-492-2000



... in community sewer systems

ST-483-2000

... Multiwarn II, a reliable partner



Multiwarn II

is the most flexible and powerful instrument in Dräger's family of multi-gas monitors. All the different models available are based on the following two basic units:

Multiwarn II BP

is the basic version, equipped with a powerful internal pump and able to continuously monitor up to four gases at the same time.

Multiwarn II S

is the standard version which can be equipped with either of Dräger's two economical IR sensors and can continuously monitor up to five gases at the same time.

Both models can be equipped with an optional 50 hour data logger. The standard version can be supplied either with or without an internal pump.

Internal high performance pump

The Multiwarn II is the obvious choice when you need to conduct measurements in inaccessible places. The powerful internal pump, in combination with a pump adapter and hose, allows air sampling at distances of up to 45 metres. The pump is continuously monitored electronically and an alarm given if the flow rate is insufficient. The fact that the pump is integrated protects against dust, humidity and other environmental influences.

Warning functions

Multiwarn II is fitted with a very loud audible alarm to ensure that you will hear the warning clearly even when ambient noise levels are high. For additional safety an LED alarm also lights up a radius of 180°.

The large LCD display accurately and continuously informs the user about gases, alarm levels and all relevant conditions of the hazard situation. Unambiguous symbols ensure absolute clarity.

Easy operation

Multiwarn II is one of the most advanced gas monitors of its kind and is extremely easy to operate. Just three buttons are used to switch the instrument on and off, acknowledge alarms and access all necessary information.

Multiwarn II can be calibrated and configured using the innovative "CC Vision" software and simple menu commands. A code protects against inadvertent or unauthorized setting changes. Multiwarn II is designed for intuitive operation.



Durability by design

With a conductive fibre-reinforced plastic housing, Multiwarn II is durable enough to withstand the tough conditions of day-to-day use. The compact design optimizes wearing comfort and stability. Multiwarn II can be used for area monitoring and will continue to function perfectly even when standing in up to 3 cm of water.

Data logger

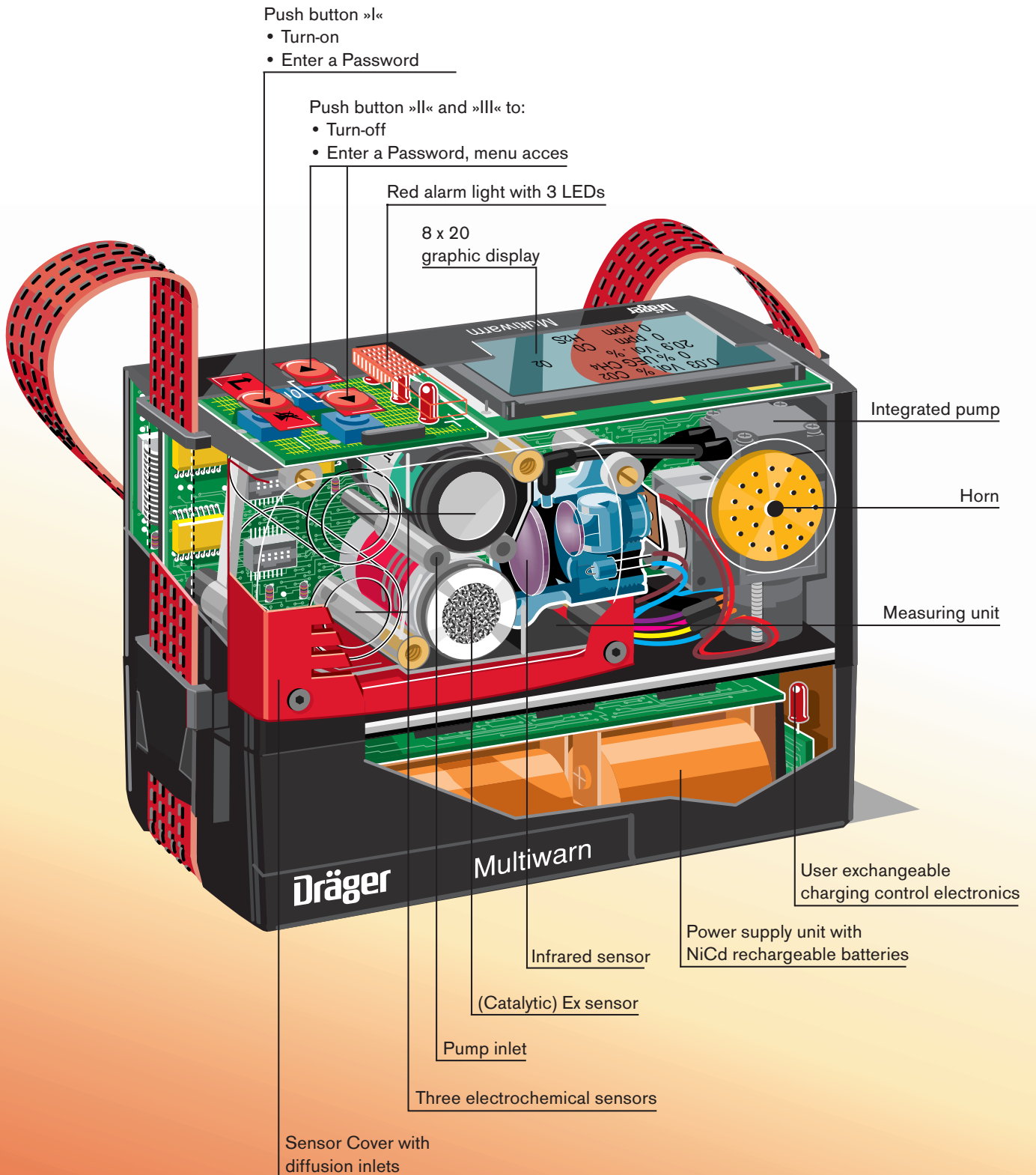
An internal data logger is available as an option to store all measurements and instrument functions for up to 50 hours. This provides easy access to information regarding measured gas concentrations, time and duration of instrument use and shows when alarms were triggered and acknowledged. All this information can be displayed and edited using the "Gas Vision" software from Dräger.

Ultimate flexibility

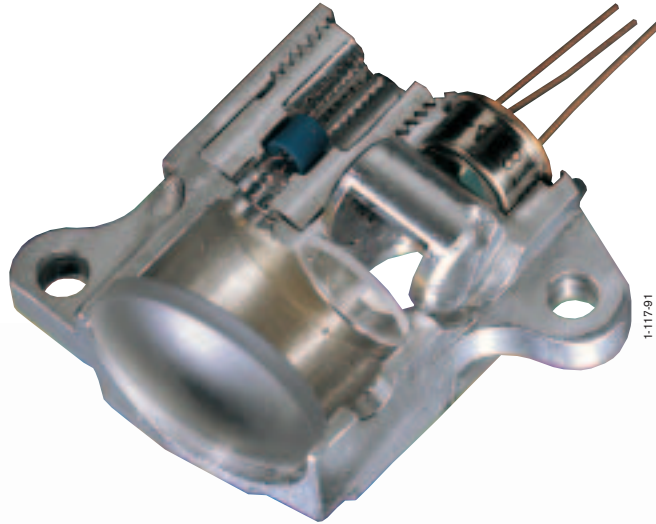
A Multiwarn II is available for every type of measurement task. More than 20 different electrochemical sensors, two catalytic sensors for combustible gases and two infrared sensors are available to be inserted into the Multiwarn II's four or five measuring channels. The electrochemical DrägerSensors can be replaced whenever necessary without any need for further calibration or resetting.

The menu can also be easily individually configured from simple settings for routine tasks in confined spaces to complex settings including TWA, STEL and maximum concentrations. Multiwarn II can be configured to current requirements using the new "CC Vision" software or via the instrument's three buttons. "CC Vision" even allows a number of standard configurations to be pre-set.

According to the application, configuration data can be easily transmitted to the Multiwarn II. The gas channels for infrared and catalytic Ex sensors can be set so that not only several gases can be measured but also different concentration ranges so-called multiple calibration. The corresponding gas or measurement range can be selected at the push of a button.



Intelligent sensors



Intelligent sensor technology

The intelligence of a measuring instrument is often defined by its ability to recognize which sensor is connected. Dräger's definition of an intelligent sensor is as follows: the chip in the DrägerSensor contains all important information about the sensor, e.g. measuring units, alarm limits, calibration data, temperature compensation data and much more. The sensor communicates this "knowledge" directly to Multiwarn II as soon as it is inserted, so the monitor does not require any re-configuration. Simply insert the sensor and measure the next gas.

Infrared sensors

Dräger infrared (IR) sensors have important advantages over conventional electrochemical and catalytic sensors:

- no cross sensitivities
- extremely long life-span
- highly economic
- maximum stability

Dräger IR sensors are insensitive to environmental influences and do not require oxygen, as the measurement technology is based on IR light energy. This sensor technology is available for measuring combustible gases (Ex) and carbon dioxide (CO₂).

Costs of ownership

Dräger sensors offer the maximum possible warranty period with minimum maintenance. CO, H₂S and O₂ XS R sensors and IR sensors, for example, have a five year warranty.

Technical Data

Environmental conditions

Temperature	-20 °C to 40 °C, short time up to 55 °C
Ambient pressure	700 to 1300 hPa
Humidity	10 to 95% rel. humidity

Recommended storage conditions

Temperature	0 to 30 °C
Humidity	30 to 80% rel. humidity

Protection class

IP class	IP 54
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Operating periods at 25 °C, without alarm and pump operation, with cat. Ex sensor, IR sensor and fully charged battery

NiCd	> 8 hours
Alkaline battery	> 12 hours
Audible alarm	85 dBA (at distance of 30 cm)

Pump operation

Max. hose length	30 m for hose with 4 mm inside diameter 45 m for hose with 5 mm inside diameter
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Dimensions including power supply unit

(W x H x D)	140 mm x 110 mm x 65 mm
Weight	approx. 1 kg
CE sign	Electromagnetic compatibility (Directive 89/336/EEC)

Ex approval

Multiwarn II w/o IR sensor and w/o cat. Ex sensor	EEX ib IIC T4, T _{Umax} = 55 °C
Multiwarn II with IR sensor and w/o cat. Ex sensor	EEX ib d IIB + H2 T4, T _{Umax} = 55 °C
Cat Ex sensor	Ex s IIC T4, T _{Umax} = 55 °C
USA	UL, Class 1, Division 1, Groups A,B,C,D, T4
Canada	CSA, Class 1, Division 1, Groups A,B,C,D,T4

Ordering information and accessories

Basic units

Multiwarn II BP
(w/o IR, with pump)
83 14 070

Multiwarn II BEP
(w/o IR, with pump
and data logger)
83 14 090

Multiwarn II SD
(with IR, w/o pump)
83 13 300

Multiwarn II SED
(for IR with data logger,
w/o pump)
83 14 050

Multiwarn II SP
(with IR and pump)
83 14 040

Multiwarn II SEP
(with IR, data logger
and pump)
83 14 060

Power supply units

NiCd power supply unit
83 15 485

Alkaline power supply unit CE
64 08 190

Alkaline power supply unit UL
64 08 240

Charging accessories

Wall plug charger
Worldwide / 100-240 V
83 15 706

Single charger station
83 13 889

Multi-charging stations
For connecting max. 5 charger
modules 83 13 600

Europe / 230 V
83 10 558

UK / 240 V
83 12 633

US / 110 V
83 12 632

Charging station
(for 1 Multiwarn II)
83 13 600

Car charging station, compl.
64 08 029

Hoses and probes

Telescopic probe
user installable
68 01 954

Telescopic probe 100
83 16 530

Bar probe 90
83 16 532

Grain silo probe
for measurements
in grain silos
68 05 880

Test probe
solvent resistant
68 02 279

Float probe
(without hose)
68 02 337

Hose for float probe
11 80 681

Viton hose
solvent resistant
12 03 150

Float probe
(incl. 10 m hose)
68 07 097

Data logging and configuration accessories

GasVision
83 14 034

CCVision
64 08 515

Data transmission cable
(RS 232)
83 14 000

Calibration accessories

Calibration chamber
for vapours
68 02 206

Calibration bottle
for ampoule calibration
68 03 407

E-Cal
Multiwarn II Modul
83 16 553

Calibration gases
on request

Other accessories

Leather case
83 13 555

Ampliwarn II
alarm amplifier
36 02 651

Sensors

Infra Red Sensors

IR-CO₂
0-25 Vol%
68 08 365

IR-EX
0-100 Vol% CH₄
0-100 % UEG
68 08 475

Catalytical Sensors

Kat-Ex C
0-100% UEG
0-100 Vol% CH₄
68 08 280

Kat-Ex CFR (Fast Response)
0-100% UEG
0-100 Vol% CH₄
68 10 122

Electrochemical Sensors

DrägerSensors XS R

CO 0-2000 ppm 68 10 258	H₂S 0-100 ppm 68 10 260	O₂-LS 0-25 Vol% 68 10 262
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DrägerSensors XS EC

CO 0-2000 ppm 68 09 105	H₂S 100 0-100 ppm 68 09 110	SO₂ 0-100 ppm 68 09 160
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O₂ LS 0-25 Vol% 68 09 130	NO 0-200 ppm 68 09 125	HCN 0-50 ppm 68 09 150
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NO₂ 0-50 ppm 68 09 155	NH₃ 0-200 ppm 68 09 145	CO₂ 0-5 Vol% 68 09 175
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CL₂ 0-20 ppm 68 09 165	Hydride 0-20 ppm 68 09 135	Odorant 0-40 ppm 68 09 200
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OV 0-200 ppm 68 09 115	OV-A 0-100 ppm 68 09 522	CO HC 0-10000 ppm 68 09 120
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PH₃ HC 0-1000 ppm 68 09 535	Amine 0-100 ppm 68 09 545	Phosgen 0-3 ppm 68 08 582
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H₂ 0-2000 ppm 68 09 185	H₂S HC 0-1000 ppm 68 09 180	O₂ 100 0-100 Vol% 68 09 550
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DrägerSensors XS 2

CO 0-2000 ppm 68 10 365	H₂S 0-100 ppm 68 10 370	O₂ 0-25 Vol% 68 10 375
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DrägerService

Dräger equipment must always be fully operational and safe. DrägerService offers a regular inspection service and is quickly available in the event of malfunction. Your equipment will be repaired and back in operation as quickly as possible. DrägerService facilitates the vital flow of information between client and manufacturer.

Dräger Expertise

Since 1889, Dräger has had an outstanding reputation for solving problems in the field of human breathing. Dräger has been deeply involved in the handling of gases, in particular hazard protection and the saving of life in medical and industrial emergencies. Many of the company's 9500 employees are active in research and innovation to ensure that the latest techniques and scientific advances are fully tested before their inclusion in new equipment.



Dräger Worldwide

The Dräger sales and service organisation is spread throughout the world. It comprises more than 25 subsidiaries and associated companies to ensure that Dräger is always within easy reach of its clients and in close contact with all important markets. Dräger's ever increasing market share demonstrates the company's international competitiveness and strength.

Dräger has subsidiaries in the following countries: Australia, Austria, Belgium, Bulgaria, Canada, China, Croatia, Czech Republic, Denmark, France, Great Britain, Hungary, Indonesia, Italy, Japan, the Netherlands, Norway, Romania, Singapore, Slovenia, Slovakia, South Africa, Spain, Sweden, Switzerland, Thailand, Yugoslavia, USA. Additionally, Dräger is widely represented in Central and South America, Africa, the Middle East, the Far East and Eastern Europe.

Quality and Environmental Management

Our mission includes the continuous improvement of our Quality and Environmental Management Systems in accordance with ISO 9001 and ISO 14001.