

IQ 1000

MEGA-Channel™

Gas & Vapor Detector

with the exclusive MEGA-Gas™ Sensor

and GAS SEARCH feature



**MATHESON
TRI•GAS**

ask. . .The Gas Professionals™

Introducing

MEGA-Channel™ Gas Detector Model IQ1000

Description

The Matheson Model IQ1000 is a very unique gas detection instrument offering features not found in any other portable multi-channel monitor. Its innovative technology gives you the flexibility to monitor for more than 100 gases and vapors, without having to change sensors.

Exclusive MEGA-Gas™ Sensor and GAS SEARCH Feature

Equipped with the MEGA-Gas™ Sensor, the IQ1000's exclusive GAS SEARCH feature enables the IQ1000 to scan the air and quickly determine the presence or absence of more than 100 gases or vapors. This provides you with a rapid confirmation that it is either safe or unsafe to enter an area, without the need for multiple detectors or expensive analyzers. Additionally, the IQ1000 contains a library of calibration curves so the MEGA-Gas Sensor can be set to monitor for a particular gas or vapor.

Easy to Follow Menu-Driven Controls

The IQ1000 is an intelligent, microprocessor based instrument that is operated through easy to follow menu driven controls. The viewing screen is a large, 8 line, 40 character per line LCD supertwist display with backlight switch and display contrast adjustment for easy viewing in any lighting condition.

User Adjustable Alarm Set Points

The IQ1000 furnishes three user-adjustable alarm set points (low, mid, high) for each sensor with both audible and visual alarm indicators. An alarm acknowledgement function silences the audible alarm while keeping the visual alarm active as long as the alarm condition exists.

Advanced Data Management

An optional data logging feature stores months of readings which can easily be downloaded to a printer or computer at a later date or time using its RS232 serial interface. The IQ1000's optional data management software, Einstein, allows you to plot accumulated data and calculate time weighted



averages. Data can also be exported to your favorite spreadsheet program.

The IQ1000 will operate approximately 20 hours on its 6, size D alkaline batteries, or 14 hours on optional rechargeable NiCad batteries. The level of battery power remaining is monitored on the LCD display screen.

Other features include touch of a button calibration, built-in sampling pump with sampling wand and weatherproof case. UL Intrinsic Safety Approval for use in Class 1, Division 1, Group B,C,D locations is pending.

Specifications

Power: Six size D alkaline batteries, standard.
Rechargeable NiCad system, optional.

Operating Time: 20 hours on alkaline batteries,
14 hours on NiCad battery.

Sampling: Built-in sample pump with sampling wand draws
up to 1000 cc/min.

Controls: Touch button. Optional magnetic switches.

Display: Backlit LCD supertwist with backlight switch and contrast
adjustment. 8 lines, 40 characters per line.

External Interface: With optional data logging feature,
RS232 using a DB-9 connector (1200 – 38400 baud).

Temperature: 0° to 50°C operating, -20° to 60°C storage

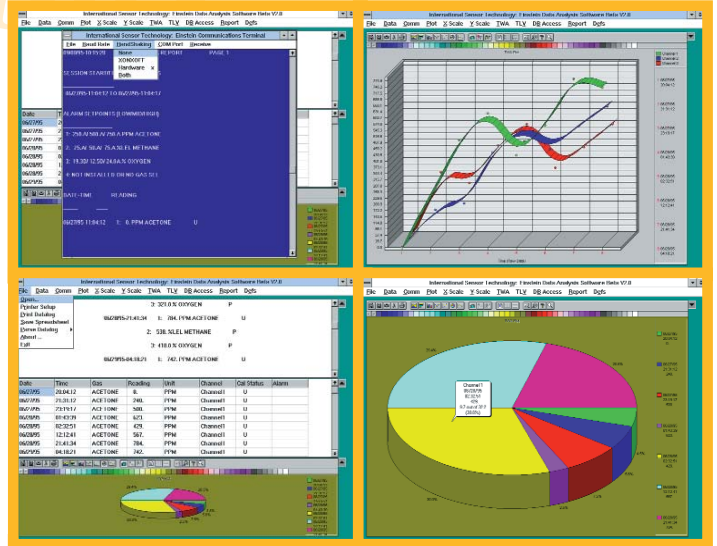
Humidity: 0-95% RH non-condensing

Size: 9.0"L X 4.5"W X 5.4"H
(229mm X 114mm X 137mm)

Weight: 6lbs (2.7kg) including batteries

Approvals: Pending UL Intrinsic Safety Approval for Class 1,
Division 1, Group B, C, D locations.

Warranty: 1 year



INTRODUCING...EINSTEIN WINDOWS® Based Data-Analysis Software for the IQ-1000

Features

- Automatically uploads data from your IQ-1000
- Plotting, plotting and more plotting!
- Displays multi-channel 3-dimensional plots and pie charts
- Calculates Time Weighted Average (TWA) and Threshold Limit Value (TLV)
- Exports data into your favorite spreadsheet program
- Database feature organizes your data
- Produces custom reports

Features Under Development

- On-line IQ1000 maintenance and calibration via modem
- Enhanced reporting features
- Windows 95 version

Models Available/Description:

IQ1000-01: MEGA-Channel Gas Detector with MEGA-Gas Sensor

IQ1000-02: MEGA-Channel Gas Detector with 1 additional sensor

IQ1000-03: MEGA-Channel Gas Detector with 2 additional sensors

IQ1000-04: MEGA-Channel Gas Detector with 3 additional sensors

IQ1000-11: Optional rechargeable NiCad battery system

IQ1000-12: Optional data logging system and RS232 interface

IQ1000-13: Optional **Einstein** data management software

IQ1000-14: Optional MEGA-Gas Calibration Parameters

MEGA-Gas Sensor Gas and Vapor List

Gas	Full Scale Range(s)	Gas	Full Scale Range(s)	Gas	Full Scale Range(s)
Acetic Acid	1000 ppm	Dichlorosilane	100 ppm	Methyl Bromide	50 ppm
Acetic Aldehyde	1000 ppm	Diesel Fuel	2000 ppm	Methyl Butanol	2000 ppm
Acetone	1000 ppm	Diethyl Benzene	2000 ppm	Methyl Chloride	100, 1000 ppm
Acetonitrile	200, 1000 ppm	Epichlorohydrin	100 ppm	Methyl Ethyl Ketone	100ppm,100% LEL
Acetylene	1000 ppm, 100% LEL	Ethane	1000 ppm, 100% LEL	Methyl Isobutyl Carbinol	2000 ppm
Acrolein	50, 200 ppm	Ethanol	1000 ppm, 100% LEL	Methyl Isobutyl Ketone	1000 ppm
Acrylonitrile	1000 ppm	Ethyl Acetate	500 ppm, 100% LEL	Methyl Mercaptan	50 ppm
Allyl Methacrylate	1000 ppm	Ethyl Benzene	1000 ppm, 100% LEL	Methyl Methacrylate	500 ppm,100% LEL
Ammonia	200, 500 ppm	Ethyl Chloride	100 ppm	Methylene Chloride	100, 500 ppm
Anisole	4000 ppm	Ethyl Ether	500 ppm, 100% LEL	Monoethylamine	500 ppm
Arsine	10 ppm	Ethylene	1000 ppm, 100% LEL	Naphtha	500 ppm, 100% LEL
Benzene	100 ppm	Ethylene Oxide	50 ppm	Nonane	2000 ppm
Boron Trichloride	1000 ppm	Formaldehyde	100 ppm	Pentane	1000 ppm, 100% LEL
Boron Trifluoride	2000 ppm	Formic Acid	2000 ppm	Pentanol	1000 ppm
Butadiene	100 ppm	Freon 22	1000 ppm	Pentene	1000 ppm
Butane	1000 ppm, 100% LEL	Freon 502	1000 ppm	Phosphine	10 ppm
Butanol	2000 ppm, 100% LEL	Gasoline	1000 ppm	Propane	1000 ppm, 100% LEL
Butene	1000 ppm, 100% LEL	Hexane	1000 ppm, 100% LEL	Propanol	500 ppm, 100% LEL
Butyl Acetate	1000 ppm	Hexene	1000 ppm	Propylene	1000 ppm, 100% LEL
Carbon Disulfide	50, 1000 ppm	Hydrogen	500 ppm	Propylene Oxide	100, 1000 ppm
Carbon Monoxide	500 ppm	Hydrogen Bromide	100 ppm	Silane	50 ppm
Carbon Tetrachloride	1000 ppm	Hydrogen Chloride	200 ppm	Styrene	100% LEL
Carbonyl Sulfide	100 ppm	Hydrogen Cyanide	100 ppm	Sulfur Dioxide	50 ppm
Cellosolve Acetate	2000 ppm	Hydrogen Sulfide	50 ppm	Tetrahydrofuran	200, 1000 ppm
Chloroform	200 ppm	Isobutane	1000 ppm	Toluene	200 ppm
Cyanogen Chloride	100 ppm	Isobutanol	1000 ppm	Trichloroethane	100 ppm
Cyclohexane	1000 ppm, 100% LEL	Isobutylene	1000 ppm, 100% LEL	Trichloroethylene	500 ppm
Cyclohexanol	2000 ppm	Isopropanol	1000 ppm, 100% LEL	Triethylamine	200 ppm
Cyclopentane	1000 ppm	JP-4	2000 ppm	Trifluoroethanol	1000 ppm
Diborane	10 ppm	JP-5	2000 ppm	Trimethylamine	500 ppm
Dibromomethane	100 ppm	Methane	1000 ppm, 100% LEL	Vinyl Acetate	50 ppm
Dichlorobutane	1000 ppm	Methanol	500 ppm, 100% LEL	Vinyl Chloride	50 ppm
Dichloroethane	500 ppm	Methyl Acrylate	500 ppm	Xylene	1000 ppm

Sensor Technologies

Sensor Technologies

The IQ1000 can accommodate several kinds of sensor technologies. Which ones to select depend upon your application requirements.

MEGA-Gas Sensor

The revolutionary MEGA-Gas Sensor is a specially developed solid state sensor capable of detecting over 100 gases and vapors. While it cannot readily differentiate between these gases, the MEGA-Gas Sensor does enable you to perform a GAS SEARCH of the air, determining if any of these gases or vapors are present. In addition, because the IQ1000 is micro-processor controlled with 256K memory, it can contain a library of the setup and calibration parameters for the gases you choose. At the touch of a button, you can configure the instrument to monitor for any one of these gases, and can then switch gases as frequently as you like without changing any sensors. If the target gas is present, the IQ1000 will provide you with an accurate concentration. See the table inside for the MEGA-Gas Sensor gas list.

Solid State Sensors

In addition to the MEGA-Gas Sensor, any of more than 140 gas specific solid state sensors can be selected to provide more selective gas detection than the MEGA-Gas solid state sensor. Consult Matheson or the attached listing of *Solid State Sensor Gases and Ranges*, TB-321.

Electrochemical Sensors

Electrochemical Sensors, a popular sensor used in many gas detection instruments, can also be accommodated by the IQ1000. Choose from 11 available gases and vapors (ranges in ppm):



- Ammonia (0-50, 0-100)*
- Carbon Monoxide (0-50, 0-100)*
- Chlorine (0-5, 0-10)*
- Hydrogen (0-500)*
- Hydrogen Chloride (0-25)*
- Hydrogen Cyanide (0-25)*
- Hydrogen Sulfide (0-20, 0-50)*
- Nitric Oxide (0-50)*
- Nitrogen Dioxide (0-10)*
- Oxygen (0-25%)*
- Sulfur Dioxide (0-10, 0-20)*

Catalytic Bead-Sensors

For combustibles, a Catalytic Bead Sensor is available to detect for LEL levels of most combustible gases and vapors.

Sensor Configuration

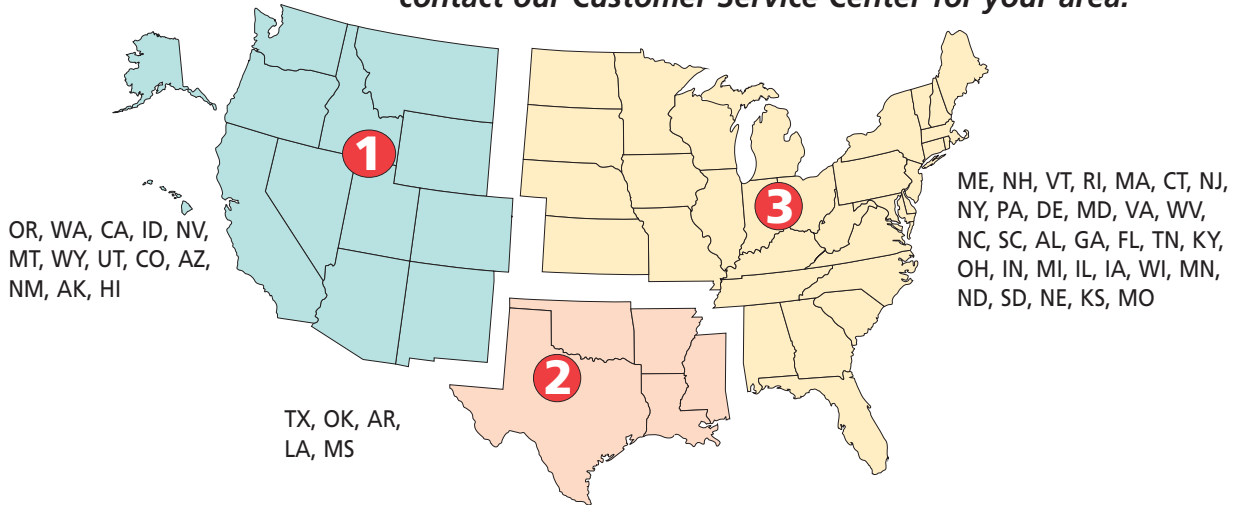
While there are hundreds of sensor combinations, keep the following guidelines in mind when customizing your Model IQ1000 detector: Channel 1 is reserved for the MEGA-Gas Sensor; other channels are optional. Channel 2 can be equipped with any of the four sensor types listed; Channels 3 and 4 can only be equipped with electrochemical sensors.



MATHESON TRI•GAS

CUSTOMER SERVICE CENTERS

To place an order, or to obtain more information, please contact our Customer Service Center for your area:



SPECIALTY GASES

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24 HOUR EMERGENCY ASSISTANCE

CHEMTREC
Phone: 800-424-9300

MATERIAL SAFETY DATA SHEETS (MSDS)

Data Sheets for gases can be downloaded from the Matheson Tri-Gas, Inc. Web site at www.mathesontrigas.com/msds



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