D-ReX Gas Monitoring Series

smart GasDetection Technologies

Remote Diffusion Mode Gas Detection at the Point of Installation

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D-ReX PoI

Remote Diffusion Mode Gas Detection at the Point of Installation (PoI)

The external sensor of the D-ReX PoI can be mounted in a location up to 30 meters / 100 feet away from the device to monitor toxic, combustible and corrosive gases. Its reliable alarm system, clear information display and wide range of communication options, including Bluetooth® and Power over Ethernet, are what sets it apart.

The external sensor can be installed directly on pipe systems, gas cabinets and other hard-to-reach locations so that the actual gas detector can be mounted at eye level for easy access and inspection.

With the optional saddle, it can also be used for in-situ measurements in ducts.

USPs:

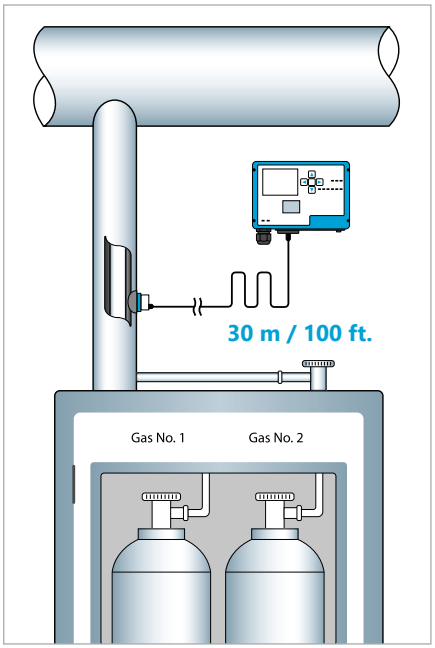
- High-resolution, full-color 2.4" TFT display
- Cable length up to 30 m / 100 ft
- Plain text information
- Bluetooth®

Options:

- 5x internal relays (form C, programmable)
- 16x external relays (GMA200-RT/D)
- LonWorks®

Features:

- Sensors for more than 30 gases
- Hot-swappable smart sensor cartridge
- Tool-free maintenance
- Power over Ethernet (PoE) communication
- Addressable over a web portal
- Password protected menu
- Interface:
  - Analog: 4–20 mA output
  - Digital: RS-485 (Modbus/RTU)
  - 10/100 Mbit Ethernet (Modbus/TCP)
- Bright status and alarm LEDs
- Data logger to review sensor and alarm history
- CE marked and UL certified



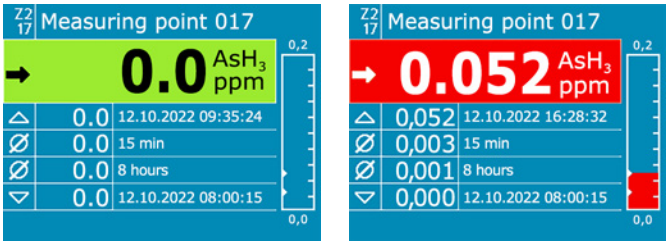
A cost-efficient, easy to use alternative

The D-ReX is a reliable, easy to use gas detection device that enhances the user experience.

High-resolution, full-color display

The 2.4", 320 x 240 pixel full-color TFT display sets new standards for gas detectors. It provides clear and concise information on the gas reading, LTEL or STEL exposure as well as the status of any issues. Information can be displayed in a variety of languages and scripts, including English, German and Simplified Chinese.

Get all the information you need exactly the way you want: no longer will you have to decipher cryptic error codes – information on any issue is displayed in plain text. Status LEDs provide an additional instant overview of vital components of the system.



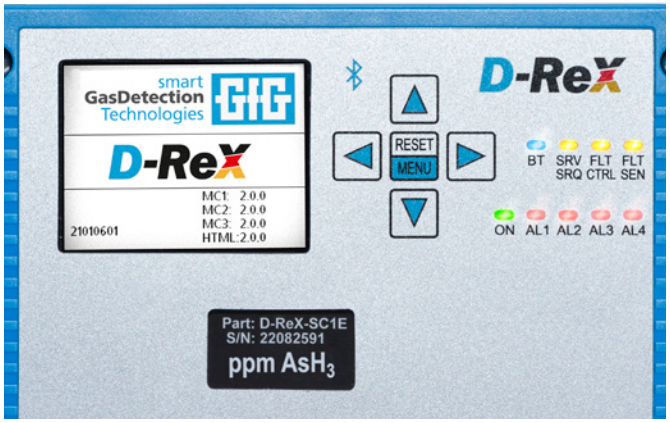
Display in monitoring and alarm mode

Intuitive device management via Bluetooth® and app

Easily manage the D-ReX by accessing all relevant information and its menu by connecting it to your mobile device through Bluetooth®. The app (Android) will give you access to all the information and options you would normally get on the device itself, but without having to physically press any buttons.

Advanced connectivity

The D-ReX comes with a wide variety of communication interfaces. Choose between analog 4–20 mA, digital RS-485 (Modbus/ RTU), Ethernet (Modbus/ TCP) and LonWorks® (option) to convey information. For wireless connectivity, you can use the Bluetooth® option. It also features 5 internal programmable changeover relays (option). 16 additional relays can be addressed by connecting the D-ReX to a GMA200-RT/D relay module.



User interface with display, control keys and status LEDs

Periodic sensor self-tests

The plug-and-play smart sensor cartridges are pre-configured and pre-calibrated for easy installation or replacement. Automatic sensor self-tests every 24 hours increase safety while reducing maintenance costs even further.

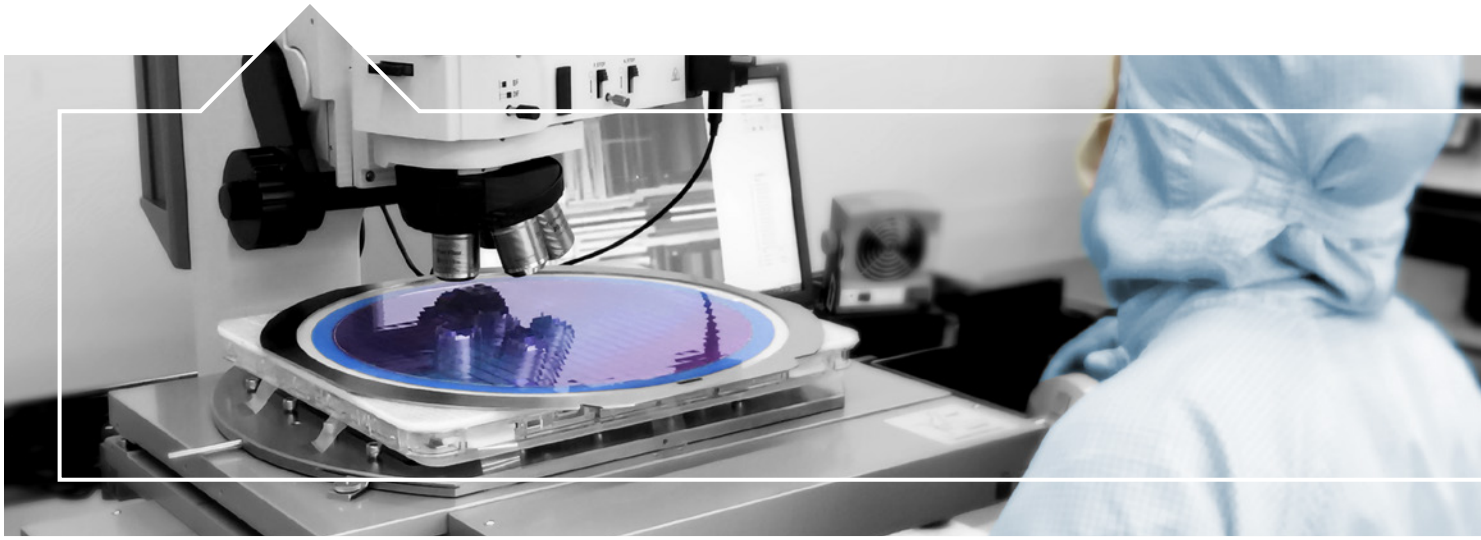
The new standard for versatility: D-ReX

All the advantages mentioned perfectly qualify the D-ReX for numerous applications in virtually all industries. Some of its unique features make it particularly suitable for use in the semiconductor industry, photovoltaic industry and industrial manufacturing as well as laboratories. If you are looking for the gas detector that best suits your needs, the D-ReX will be your first choice for many applications.

Possible areas of application:

- VMBs (valve manifold boxes)
- Process tools
- Vacuum pumps
- Scrubbers
- Gas cabinets
- Ambient breathing zones
- Storage areas
- Cleanroom environments
- Sub fabs

and many more.



Versatility means having options

No two facilities are the same and even within a facility, the requirements for a gas detector can vary from department to department or from one gas being monitored to another. It is therefore an immense help to have a gas detector that can be configured and adapted accordingly.

LonWorks®

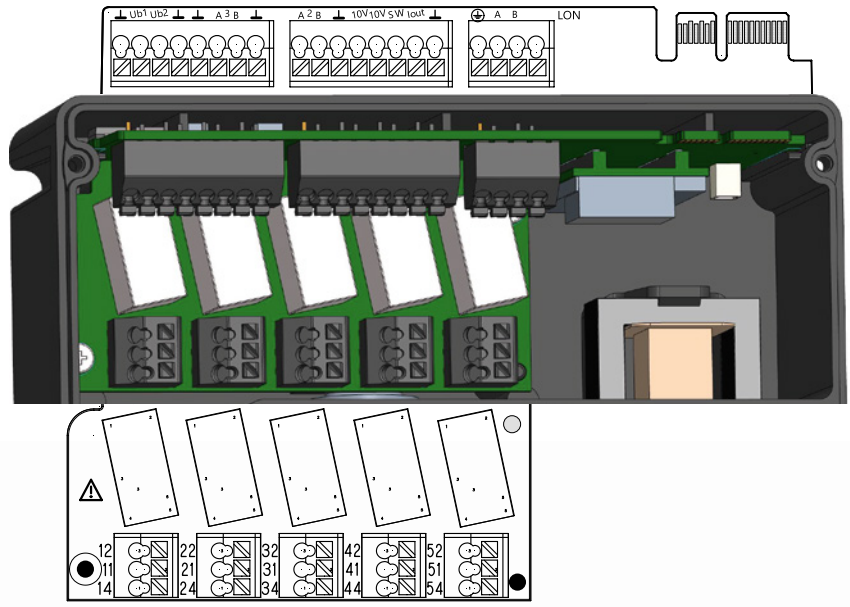
LonWorks is an open and interoperable system for building automation and is characterized by its flexible topology and cross trade functions.

If your previous gas detection system was integrated into your infrastructure via LonWorks or you want your new system to be integrated using the LonTalk® protocol, the D-ReX can be incorporated seamlessly, as all D-ReX versions are available with an optional LonWorks module. Keep the advantages of LonWorks, while benefitting from a state-of-the-art gas detection solution at the same time.

Internal Relays

Depending on the application, it may be beneficial for the gas detector to have its own relays. All versions of the D-ReX are optionally available with 5 internal, freely programmable form C relays. The terminal allocation can be seen here:

Alternatively, you can also connect an external GMA200-RT/D relay module to add a further 16 relays to the D-ReX.



D-ReX versions and options

D-ReX Version	Diffusion Mode	Remote Sensor	eXtraction Module	Py-ReX*	Internal Relays	LonWorks®
Point of Use (PoU)	yes				5 (option)	(option)
Point of Installation (PoI)		yes			5 (option)	(option)
Point of Sampling (PoS)			yes	yes	5 (option)	(option)

* available soon (option)

Smart Cartridge Technology with a Small Environmental Footprint

Smart devices are everywhere by now, but GfG is going one step further by offering you Smart Design. One of the most efficient ways to optimize your company's environmental footprint is to minimize waste. That's why the D-ReX was designed to ensure that only components that are actually subject to wear need to be replaced.

USPs:

» Only one type of sensor cartridge for all applications
» Suitable for all available sensors
» Hot-swappable within seconds in all operation modes
» Exchangeable joint with bayonet lock
  - Threaded, for use with duct mounting saddle
» M12 connector system

Gases and Measuring Ranges:	See gas list
Interface:	M12
Response Time:	Sensor dependent (See sensor data sheet)
Expected Average Life of the Sensor:	Sensor dependent (See sensor data sheet)
Measuring Principle:	Sensor dependent; available options: EC = electrochemical CC = catalytic combustion (LEL) IR = infrared (CO_2, N_2O, LEL)

Available Accessory:

» Duct mounting saddle
» Silicon sealing for all saddle types
» M12 remote sensor cable, various sizes from 1 to 30 meters
» Calibration cap for PoI

GfG gas sensors are designed to be highly specific to the gas they are intended to detect. While the cross sensitivities of GfG sensors are in accordance with the typical values of sensors for the respective gases in industrial applications, GfG sensors offer the highest level of stability, performance and relative response documentation of any available sensors. For detailed information on this, please refer to the sensors' individual data sheets.

List of detectable gases

Formula	Gas Name	Nominal Range	Available
AsH_3	arsine	0 ... 1.00 ppm	yes
B_2H_6	diborane	0 ... 1.00 ppm	yes
Br_2	bromine	0 ... 5.00 ppm	yes
Cl_2	chlorine	0 ... 5.00 ppm	yes
ClF_3	chlorine trifluoride	0 ... 1.00 ppm	yes
ClO_2	chlorine dioxide	0 ... 1.00 ppm	yes
CO	carbon monoxide	0 ... 500 ppm	yes
CO_2	carbon dioxide	0 ... 5 vol%	yes
$COCl_2$	phosgene	0 ... 1.00 ppm	yes
ETO	ethylene oxide		tbd
F_2	fluorine	0 ... 5.00 ppm	yes
GeH_4	germane	0 ... 5.0 ppm	yes
H_2	hydrogen	0 ... 1.000 vol%	yes
		0 ... 4.000 vol%	yes
H_2S	hydrogen sulfide	0 ... 100 ppm	yes
HBr	hydrogen bromide		tbd
HCl	hydrogen chloride	0 ... 30.0 ppm	yes
HCN	hydrogen cyanide	0 ... 30.0 ppm	yes

Formula	Gas Name	Nominal Range	Available
HF	hydrogen fluoride	0 ... 10.0 ppm*	yes
HMDS	hexamethyldisilazane	0 ... 0.500 vol%	yes
LEL	combustible gases		yes
N_2H_4	hydrazine	0 ... 1.00 ppm	yes
N_2O	nitrous oxide	0 ... 1000 ppm	yes
		0 ... 1.0 vol%	yes
NH_3	ammonia	0 ... 100 ppm	yes
		0 ... 1000 ppm	yes
NO	nitrogen monoxide	0 ... 25 ppm	yes
		0 ... 250 ppm	yes
NO_2	nitrogen dioxide	0 ... 30 ppm	yes
O_2	oxygen	0 ... 25 vol%	yes
O_3	ozone	0 ... 1.00 ppm	yes
PH_3	phosphine	0 ... 1.00 ppm	yes
SeH_2	hydrogen selenide	0 ... 5.00 ppm	yes
SiH_4	silane	0 ... 50 ppm	yes
SO_2	sulfur dioxide	0 ... 20 ppm	yes
TEOS	tetraethyl orthosilicate	0 ... 100 ppm	yes
TMB	trimethyl borate	0 ... 200 ppm	yes

* above > 0.3 mg/m³
additional gases on request

Technical Specification: D-ReX (PoI)

Gases and Measuring Ranges:	See gas list
Measuring Principle:	Sensor dependent; available options: EC = electrochemical CC = catalytic combustion IR = infrared
Sampling Method:	Remote sensor
Display and Interface:	Display: 2.4" full color TFT (320 x 240 pixels) Interface: 5 push buttons
Selectable languages:	German, English, more to come (up to 6)
Communication:	» Analog: 4–20 mA output » Digital: RS-485 (Modbus/RTU) » 10/100 Mbit Ethernet (Modbus/TCP) » Bluetooth® » LonWorks® (option) Relays: 5x internal (programmable) form C relays (optional) 16x external relays (optional) Max. 2 A / 30 V DC Min. 10 mA / 5 V
Response Time:	Sensor dependent (see sensor data sheet)
Expected Average Life of the Sensor:	Sensor dependent (see sensor data sheet)
Operating Temperature:	-10 to +40 °C 14 to 104 °F
Operating Humidity:	5 to 90 % RH*
Operating Pressure:	70 to 130 kPa
Power Supply:	12 to 30 V DC SELV/PELV PoE = 48 V DC
Housing:	Plastic
Protection Class:	IP54 (IP20 with Ethernet)
Mounting:	(DIN) rail IEC/EN
Weight:	650 g up to 850 g
Dimensions:	145 x 105 x 78 mm
(W x H x D)	5.7 x 4.1 x 3.0 in
Labelling:	CE and UL certification
Approvals / Certifications:	
Functional Safety (SIL):	DIN EN 61508-2 (pending)

* sensor dependent

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