



RO3

Features

- Hardware and software according to SIL2 compliant development process
- Easy maintenance / calibration by replacing the O3 sensors or via comfortable on-site calibration
- Modular technology (plug-in and exchangeable)
- Remote installation of the detector in a distance of up to 500 m
- Reverse polarity protected, overload and short-circuit proof
- One analog input 4-20mA, e.g. other gas detector
- One analog output 4-20 mA / 2-10V
- Two relays with change-over contact, potential-free, max. 250Vac, 5A
- Different types of housing with IP 65
- Buzzer, status LEDs with warning buzzer (option)
- Display (option)
- Operating voltage 24 Vac/dc 90-230 Vac (option)
- 12 Vdc (option)
- Duct mounting kit (accessory): See datasheet MC2

Technical data:

Power supply 24 Vac/dc $\pm 20\% \pm 15\%$, reverse-polarity protected

Power consumption (24 V) Max. 60mA (1.5VA)

- **Sensor** Max. 85mA (2.1VA)

- **Buzzer** Max. 40mA (1.0 A)

Alarm relays (2) 250 Vac, 5 A, potential-free, change-over contact (SPDT)

Analog input 4 – 20mA overload and short-circuit proof, input resistance 200 Ω

Analog output signal Proportional, overload and short-circuit proof, load $\geq 500 \Omega$ 4 - 20mA or 2-10V

Ambient conditions

Temperature range -10 °C to +45 °C (-14 °F to +113 °F)

Humidity range 15 - 95 % rH non-condensing

Storage temperature +5 °C to +30 °C (+41 °F to +86 °F)

Storage time 6 months

Physical

Housing type N ABS

Protection class IP 65

Directives

EMC directives 2014/30/EU
Low voltage directive 2014/35/EU
CE
Conformity to:
EN 50271 / IEC 61508
EN 61010-1:2010
ANSI/UL 61010-1
CAN/CSA-C22.2 No. 61010-1

Application

The RO3 is designed for display and warning of gases in many commercial and industrial applications.

The detector can be placed remotely in a distance of up to 500 m away from the RO3.

Function

Gas measuring, monitoring and warning gas leak unit based on state-of-the-art technology for continuous monitoring of the ambient air to detect ozone.

The RO3 is designed for the connection of one 4-20 mA analog detector, e.g. A-series.

The board monitors the measured value and activates the alarm relays if the set alarm thresholds for pre-alarm and main alert are exceeded.

In addition, the value is provided at the analog output as 4-20 mA signal.

Options such as LCD display and warning unit (WAO) ensure proper adaptation to the wide range of applications in gas detection technology.



Warranty	1 year on sensor (not if poisoned or overloaded), 2 years on device		
OPTIONS			
Display	LCD, two lines, 16 characters each		
Power consumption	5V, 60 mA, 0.3 VA		
Status LED (Buzzer)			
Colour / mode	Red / yellow / green (alarm – fault – operation - service)		
Buzzer	Acoustic pressure > 90 dB (A), frequency 2300 Hz		
Housing	Std	XL	XXL
Dimensions (mm)	80x82x55	90x130x57	130x130x75
Protection class	IP 65	IP 65	IP 65
Power unit & wide range input	90 - 240Vac - 50/60 Hz		
Output rating	15VA		
Rechargeable battery	12V, 0.8Ah		
Operating time	> 60 min		
Power supply 12V			
Power consumption (12Vdc)	Max. 120 mA (1.5 VA)		
- Detector	Max. 170 mA (2.1 VA)		
- Buzzer	Max. 80 mA (1.0 VA)		

Technical Data	Sensor
Power Supply	16 - 19Vdc, reverse polarity protected; 18 - 27Vac (only for output signal 2 - 10V)
Power Consumption	223mA max. (o.6VA for 24V)
Analog output signal	Proportional overload- and short-circuit proof > 20 - 21.2mA or 10 - 10.6V = overrange
Serial Interface, local bus	1-wire, 19200 Baud
Sensor element	Electrochemical
Measuring range	0 - 5 ppm
Accuracy	0.1 ppm
Resolution	0.05 ppm
Pressure range	Atmospheric ± 20%
Repeatability	< ± 5% sig.
Response time t₉₀	60 sec
Zero point variation	0,15 ppm
Zero Drift	< 2% signal/month
Zero Gain	< 2% signal/month

Ordering Codes

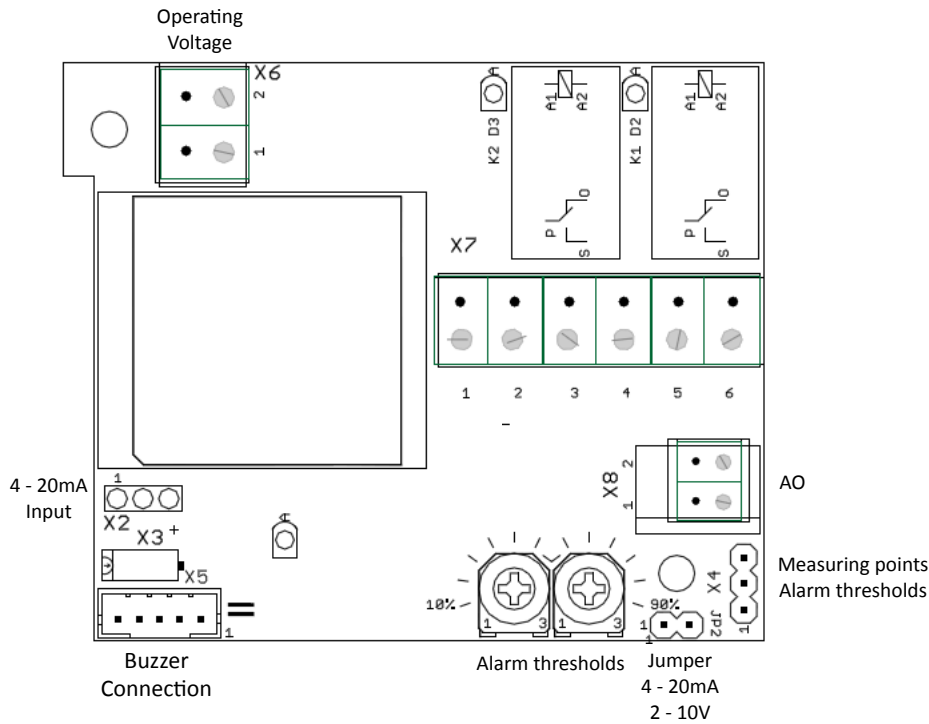
RO3 005	24Vac/dc power supply, 12Vdc on demand Ozone 0-5ppm (0-5000ppb). Life time 2 years.
RO3 005/3	230Vac Ozone 0-5ppm (0-5000ppb). Life time 2 years.
RO3 005D	24Vac/dc power supply, display and keypad buttons, 12Vdc on demand Ozone 0-5ppm (0-5000ppb). Life time 2 years.
RO3 005D/3	230Vac/dc power supply, display and keypad buttons Ozone 0-5ppm (0-5000ppb). Life time 2 years.
ZOZ 005	Exchange detectors Sensor head 0-5ppm (0-5000ppb). Life time 2 years.
GS Select	Gas Selector
SP 600	Stainless steel impact protection
SW 03	Vandal protection, Gas Detector
WS40	Vandal protection, Gas Detector XL and XXL
DR 24/30	Power supply 24Vdc
USV 90/240 12	Battery supply, 90 - 240V/24V, 0.8A
SDUCT	Kit for duct mounting
Alarm Units	
Buzzer	Warning Siren - built in
AAW 24	Warning Horn 24Vdc 98dB
AAW 230	Warning Horn 230Vac 98dB

OA 24R	Flashlight 24Vdc, red
OA 24Y	Flashlight 24Vdc, yellow
OA 24B	Flashlight 24Vdc, blue
OA 24G	Flashlight 24Vdc, green
OAW 24R	Combined Warning Horn/Flashlight, 24Vdc 98dB, red
OAW 24Y	Combined Warning Horn/Flashlight, 24Vdc 98dB, yellow
OAW 24B	Combined Warning Horn/Flashlight, 24Vdc 98dB, blue
OAW 24G	Combined Warning Horn/Flashlight, 24Vdc 98dB, green
OAW 230R	Combined Warning Horn/Flashlight, 230Vac 98dB, red
OAW 230Y	Combined Warning Horn/Flashlight, 230Vac 98dB, yellow



Sensor lifetime	2 years / normal ambient conditions	OAW 230B	Combined Warning Horn/Flashlight, 230Vac 98dB
Calibration interval¹	12 months	OAW 230G	Combined Warning Horn/Flashlight, 230Vac 98dB
Storage temperature range	+ 5 to + 30° C (41- 86° F)	OAW 24TR	Combined Warning Horn/Flashlight with reset button, 24Vdc 98dB
Warranty	1 year on material (without sensor element)	OAW 24TY	Combined Warning Horn/Flashlight with reset button, 24Vdc 98dB
		OAW 24TB	Combined Warning Horn/Flashlight with reset button, 24Vdc 98dB
		OAW 24TG	Combined Warning Horn/Flashlight with reset button, 24Vdc 98dB
		Warning Signs	
		Gas Alarm IP65	Flashing gas alarm sign "GAS ALARM" 24Vac/dc, IP65
		Gas Alarm IP54	Flashing gas alarm sign "GAS ALARM" 24Vac/dc, IP54
		XL House	Large enclosure housing (90 x 130 x 57)
		XXL House	Extra large enclosure housing (130 x 130 x 75), required with UPS option.

Electrical Connection



Alarm levels, garage

Pre-Warning set at 0,1 ppm (100ppb)

Critical alarm level set at 0,3 ppm (300ppb)

Cross Sensitivity

The sensor reacts differently to the following gases

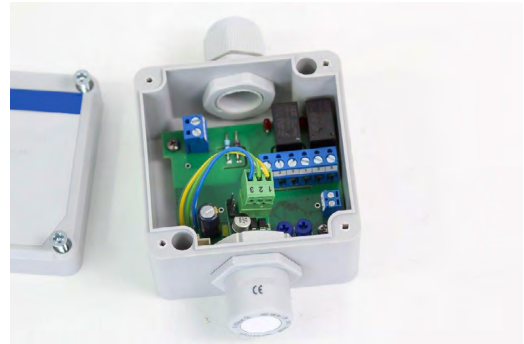
Gas	Concentration, ppm	Reaction, ppm
Chlorine, Cl ₂	5/45	4
Ethanol, C ₂ H ₅ OH	100	0
Carbon Monoxide, CO	300	0
Sulphur Dioxide, SO ₂	5	0
Nitrogen Dioxide, NO ₂	20	10
Nitrogen Monoxide, NO	35	0
Hydrogen, H ₂	100	0

Sensor mounting height 0,3 - 0.4 above floor

Density 1,66



RO3 with sensor, buzzer and display



RO3 -open



RO3 with sensor



RO3 with sensor and display



RO3 90 - 240Vac/24Vac/dc power supply