

NDIR Gas Analyzer



GA9281

CO, CO₂, CH₄, C₃H₈,
H₂O, O₂, NO, SO₂

Highlights:

- ✓ multi-channel measuring NDIR sensor for up to 6 gases
- ✓ Paramagnetic and electro chemical cells connectable (for O₂, NO)
- ✓ no moving parts for zero abrasion and wear
- ✓ temperature and pressure compensation, reference channel for maximum precision
- ✓ energy saving & combustion control
- ✓ temperature control of burners and heaters
- ✓ process control and quality control
- ✓ explosion risk control
- ✓ reduce emission

ویژگیها:

- ✓ اندازه گیری همزمان تا ۶ گاز بروش مادون قرمز
- ✓ استفاده از متدهای پارامگنتیک و الکتروشیمیایی جهت گاز های O₂, NO
- ✓ بدون موتور چاير و قطعه متحرک
- ✓ دارای تصحیح فشار و دما برای مقادیر اندازه گیری
- ✓ بهینه سازی فرآیند احتراق و صرفه جویی در مصرف انرژی
- ✓ جلوگیری از افت دمایی کوره ها
- ✓ کنترل فرآیند و بهبود کیفیت تولید
- ✓ جلوگیری از انباشت گاز در زمان راه اندازی و کنترل خطر انفجار آن
- ✓ کاهش انتشار آلاینده های زیست محیطی

Product Details:

	min. range	max. range	Type of Sensor
CO	0 – 5000 ppm	0 – 50 Vol%	NDIR ¹
CO ₂	0 – 100 ppm	0 – 100 Vol%	NDIR
CH ₄	0 – 5 Vol%	0 – 100 Vol%	NDIR
C ₃ H ₈	0 – 10000 ppm	0 – 50 Vol%	NDIR
SO ₂		0 – 2000 ppm	NDIR
NO		0 – 5000 ppm	NDIR
O ₂	0 – 5 Vol%	0 – 100 Vol%	Paramagnetic ²
H ₂ O ⁴	0 – 100 % rel. / 0 – 6 % abs.		NDIR
O ₂		0 – 25 Vol%	Electrochemical ³
NO		0 – 5000 ppm	electrochemical

Notes:

- 1- None Dispersive Infra-Red method
- 2- Paramagnetic measuring cell
- 3- Life time 1-2 years depends on sample condition and concentration. Other Sensors available as option at order.
- 4- H₂O is measured for compensation of SO₂, NO measurement.

کاربردها:

نصب در سیستم های آنالایزر برخط گاز در صنایع سیمان و فولاد

- پایش گازهای فرآیندی در دهانه کوره دوار
- بهینه سازی احتراق ثانویه در کلساینر
- پایش فرآیند و محافظت از فیلتر الکتروستاتیکی در پیش گرم کن
- کنترل فرآیند کارخانجات احیا مستقیم آهن
- اندازه گیری گاز در صنعت متالوژی و کنترل کیفیت محصول نهایی فولادی (نورد، قطعه سازی، عملیات حرارتی)

Applications :

Suitable to install in gas analyzer system of Cement, Steel plants

- Kiln inlet combustion control
- Calcination combustion control
- Prevent explosion of Electrostatic filters
- Process control DRI steel plans
- Metallurgy gas measurements (heat treatments of parts by gas)
- Any other application by request



Technical Information For GA9281

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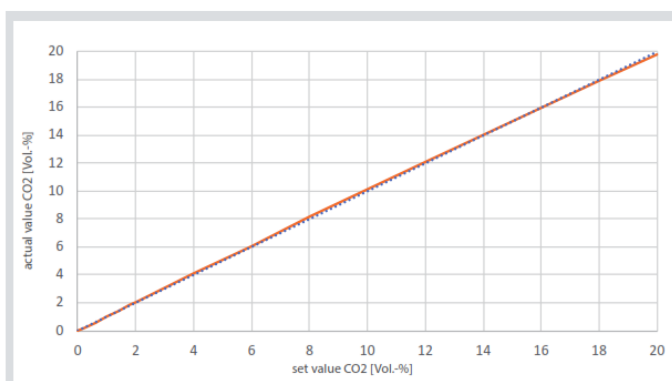
Technical Data of NDIR sensor

measuring principle	non-dispersive infrared (NDIR)
max. NDIR channels	6
digital resolution	1 ppm
Linearity	$\pm 0.1 \%$ of MR
accuracy	$\pm 2.0 \%$ of MR
zero point drift	$\pm 2.0 \%$ of MR / 24 h
sensitivity drift	$\pm 2.0 \%$ of MR / week
pressure influence	$\pm 0.1 \%$ of MR / hPa
temp. influence	$\pm 0.1 \%$ of MR / K
ripple	$\pm 0.1 \%$ of MR
response time	T90 < 4 s

warm-up time	20 s quick start < 10 min full specification
dimensions	320 x 111 x 60 mm (LxWxH)
mass	0.8 kg
power supply	+ 15 V DC ... 25 V DC 150 mA @ 24 V DC
communication	RS232
analog output	0 ... 24 mA 4 ... 24 mA
Operating temp.	5 ... 45 °C
operating pressure	760 ... 1160 hPa
gas flow	20 ... 100 l/h max. flow difference ± 2 l/h
permissible gas pressure	20 ... 200 hPa gauge pressure
warm-up time	20 s quick start < 10 min full specification



NDIR 8000 sensor



Linearity of NDIR8000 V172

Measuring ranges:

CO2 0 - 1,000 vppm

CO2 0 - 20,000 vppm

CO2 0 - 20 Vol.-%

dynamic range switching

$R^2=0.9998$



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Sensors Technical Data



NDIR

non-dispersive infrared (NDIR) for measure of gases CO, CO₂, CH₄, C₃H₈, H₂O, O₂, NO, SO₂
See details in section 1

Manufacturer
SAXON JUNKALOR GmbH
Germany



Para.M

Paramagnetic Sensor
Oxygen Measuring Range
0-100 % O₂, 0-25%, other ranges on request

min Range
0-50 % O₂

Repeatability
< ± 0,03 % O₂

Manufacturer
FOXSENSE AG GmbH
Swiss



EC

Oxygen Measuring Range
O₂ : 0 – 25 Vol%

NO Measuring Range
0 – 5000 ppm

NO Measuring Range
0 – 5000 ppm

Manufacturer
SAXON JUNKALOR GmbH
Germany

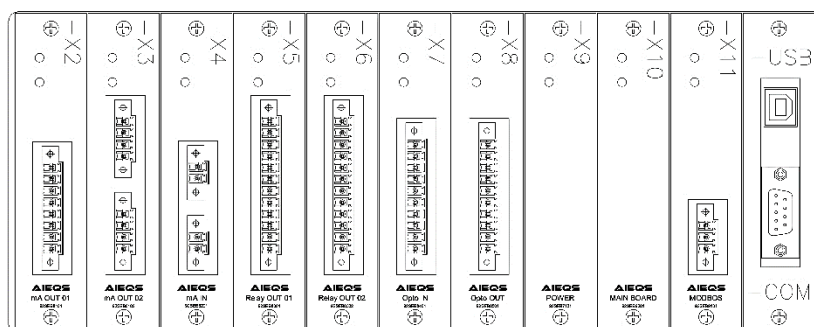
Sensor life time
1-2 years depends on sample condition

optional

optional

3

Power & I/O card Details



4...20 mA output

4 channels mA output 4 ... 20 mA, 500 Ω
Potential-free (electrically isolated)
Signal range: 0 ... 24 mA
Resolution/precision: 0.1 % (20 μA)

4...20 mA input

2 channels mA input 4 ... 20 mA
Potential-free (electrically isolated)
Highest allowable input signal 30 mA
Overload protection ±1000 mA
Input load 50 Ω

Gas connection

Swagelok 6 mm
Swagelok 1/4"

Opto-coupler input

8 Opto-coupler input
Switching range: 14 ... 42 V
Highest allowable voltage: ±50 V DC

Opto-coupler output

8 Opto-coupler input
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Highest allowable voltage: ±50 V DC

Wall mount enclosure Dimension

740x 550 x 289 mm

Wall mount enclosure weight

30-40 Kg

Standard Cards

-X2 : 1st mA out card
-X10 : mainboard card
-X11 : Modbus RS 485 and USB

optional cards as order

-X3 : 2nd mA out card
-X4 : mA IN card
-X5 : 1st Relay out card
-X6 : 2nd Relay out card
-X7 : opto-coupler IN
-X8 : opto-coupler out
-X9 : optional pump control

Relay output

8 relay outputs : 30 V AC/48 V DC
0,5 A; 1-pole changeover switch
3 connections
Max. switching current: 30 W (at 48 V DC/500 mA)

Supply Voltage

90 to 260 VAC (+10 %, -15 %),
switchable, 48 ... 62 Hz

Ambient temperature

+5 ... +45 °C

Storage temperature

-20 ... +70 °C

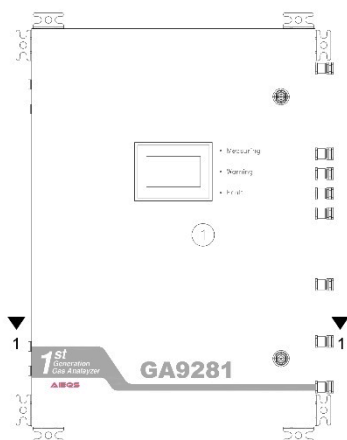
interface

RS-485 for Modbus
RS232USB

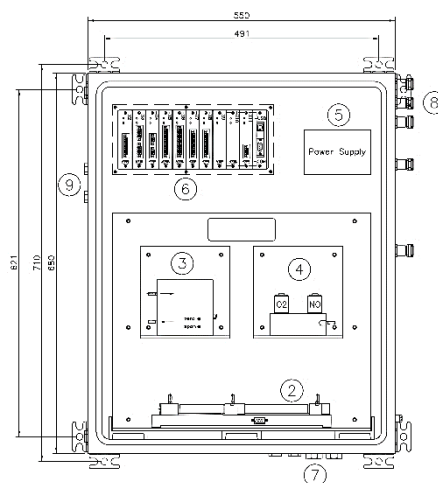


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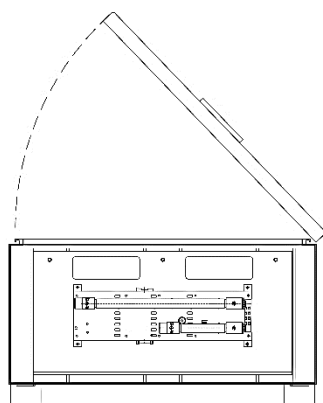
Dimensions



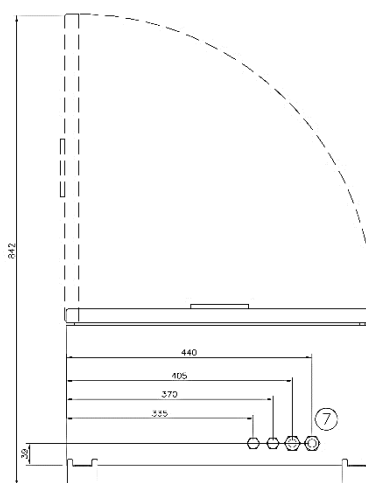
Front View



Inside View

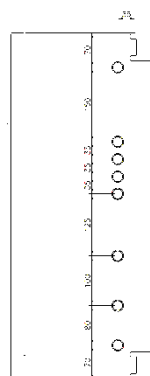


Section 1

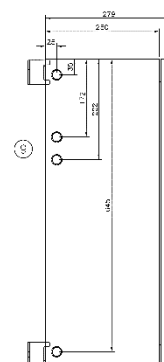


Bottom View

- ① Touch screen Display and LEDs for Status
- ② NDIR sensor NDIR 8000
- ③ Paramagnetic sensor(optional)
- ④ Electrochemical sensors (optional)
- ⑤ Power Supply
- ⑥ I/O cards Block
- ⑦ Gas inlet / outlet connections
- ⑧ Power / signal Cable glands
- ⑨ Purge gas Connections



Right View



Right View

