



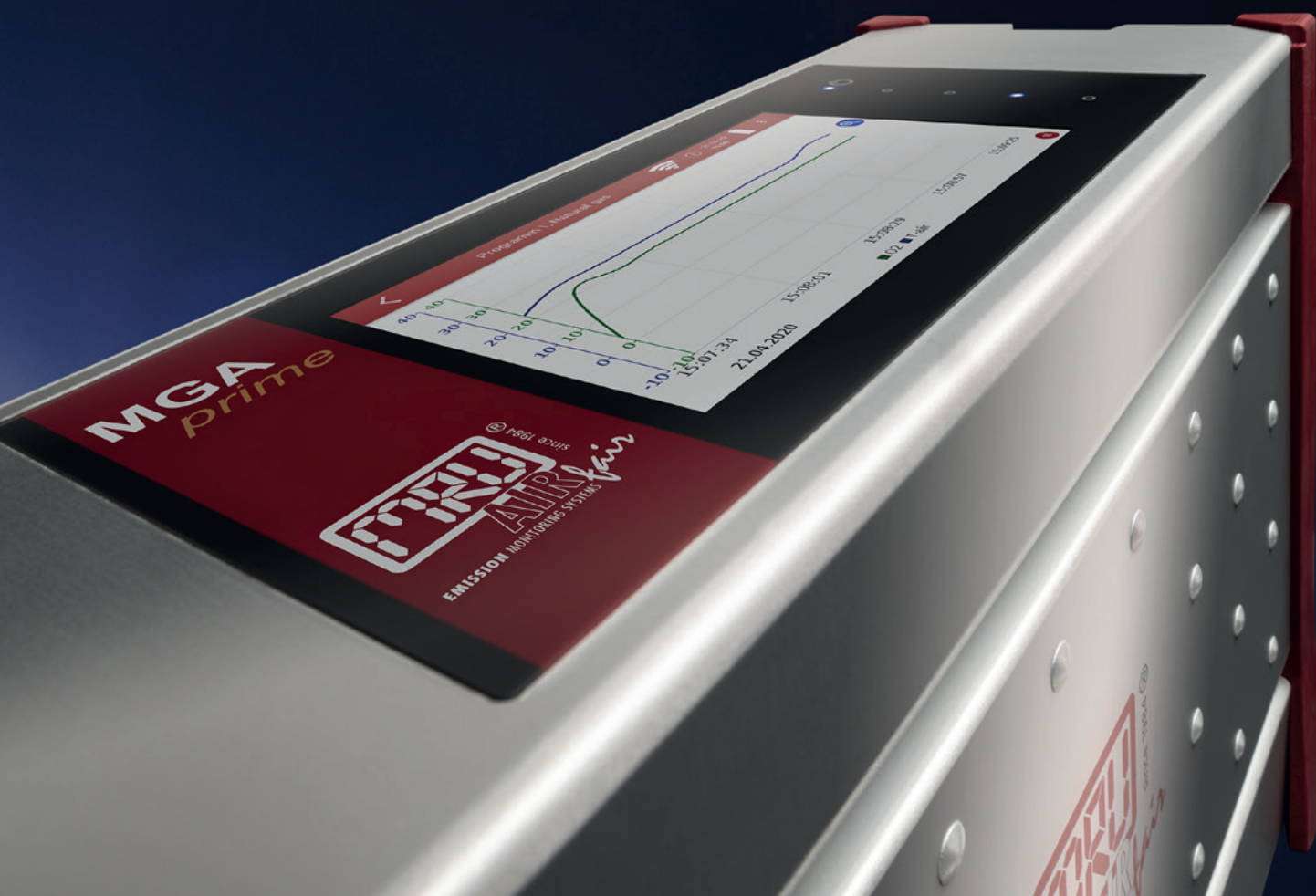
NO_x | NO | NO₂ | CO | CO₂ | SO₂ | N₂O | CH₄ | HC as C₃H₈ | O₂

MGAprime Q

Portable
emissions analysis.



Verified and certified according
to EN 15267 sheets 1, 2 and 4.



MGAprime Q

Certified for official measurements

The gases and measuring ranges

Gas	Measur. range ppm/mg/Nm ³	Add. measuring range ppm/mg/Nm ³	TÜV certified	QAL1 certificate
CO	0 ... 176/0 ... 220	0 ... 3.000/0 ... 3.750	yes	yes
CO ₂	0 ... 20%	0 ... 20%	yes	yes
NO	0 ... 200/0 ... 270	0 ... 2.000/0 ... 2.680	yes	yes
NO ₂	0 ... 150/0 ... 308	0 ... 500/0 ... 1.025	yes	applied for
N ₂ O	0 ... 100/0 ... 194	0 ... 250/0 ... 484	applied for	applied for
SO ₂	0 ... 150/0 ... 430	0 ... 1.000/0 ... 2.855	applied for	applied for
CH ₄	0 ... 500/0 ... 357	0 ... 10.000/0 ... 7.138	no	no
HC as C ₃ H ₈	0 ... 200/0 ... 393	0 ... 5.000/0 ... 9.815	no	no
O ₂	0 ... 25%	0 ... 25%	yes	yes

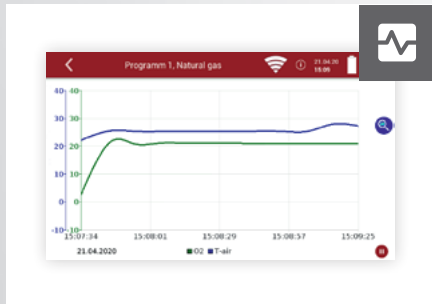
We offer you these special advantages:

- duration of measurement, interval and averaging can be set by user, measured value display also possible as a curve chart
- Lithium-ion battery operation, including gas cooler and measurement, but without heated hose
- Data transmission LAN, WiFi, USB, RS 485, analog as well 400 MB internal data storage



The device in detail

An overview of the special features



Practical touch display

High resolution 7" color display with graphical output of the measured values



Optimal protection

All-metal housing with soft bumper corners for the harsh industrial everyday use



Comfortable size

Very compact dimensions (W x H x D: 430 x 290 x 150 mm) and light weight (15 kg) including nylon pouch, IP 42



On the go

Handy nylon IP42 protective bag (part of the certification)

Operation and interfaces

Simple and clear

Operating options



Touchscreen

Device operation via the 7" touch/swipe display, resolution 800 x 480 px, 750 cd/m²



Contactless

Operation via smartphone or PC via VNC connection, mirrored device display on smartphone



Zoom function

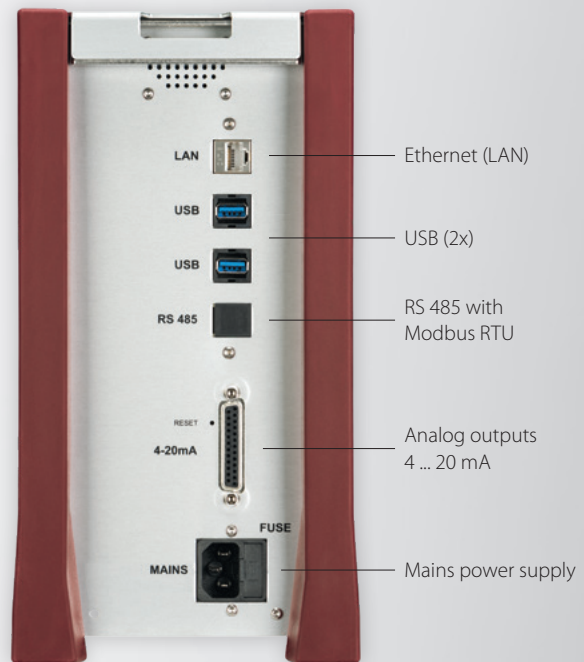
Variable display modes for the display

Connections and interfaces

Measuring technology



Data communication



The gas conditioning

An overview

Gas sampling probe

- Robust industrial probe with heated hose
- Equipped with probe tube $\varnothing 12/300$ mm (changeable)
- Also for exhaust gas temperature measurement
- Heated gas sampling line (3 m)
- Easy to change filter in the probe head
- Filters can be filled with different material, depending on the amount of dirt



Effective filter system, quickly exchangeable by the user, filled with:

- Glass wool for high amounts of dirt
- Filter sleeve for little dirt



Double stage gas cooler

- Keeps sample gas at a constant dew point of 4 °C
- Constant dew point compensates the cross sensitivity of water on the measured gas components
- Automatic condensate delivery



Gas pump

- Powerful pump for use with high negative pressure
- Regulation on low, constant flow volume to increase in filter life
- High contamination alarm of the filter



Phosphoric acid dosage

- Controlled injection of 10% phosphoric acid for reliable, precise measurement of SO₂ and NO₂

Data transmission and measurement

The technology behind

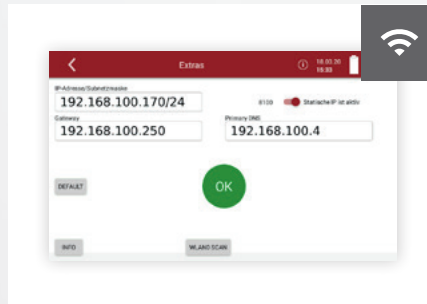
Data transmission

Fully equipped standard device:

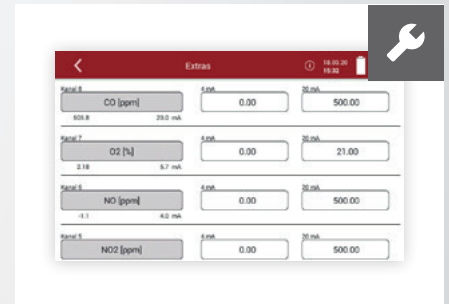
- Ethernet (LAN) TCP/IP
- WiFi
- 8 analog outputs 4 ... 20 mA
- 4 analog inputs
- USB (2x)
- RS 485

Internal data storage:

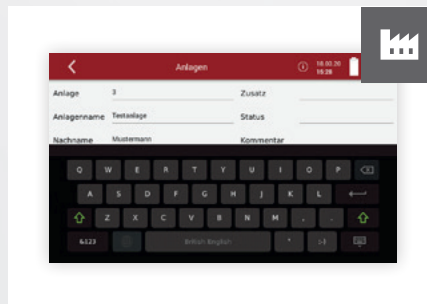
The huge memory with 400 MB offers space for thousands of facilities and data sets.



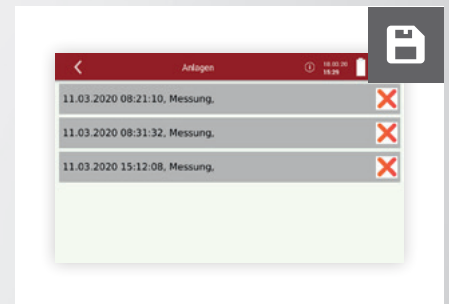
Set LAN



Set analog outputs



Manage facilities

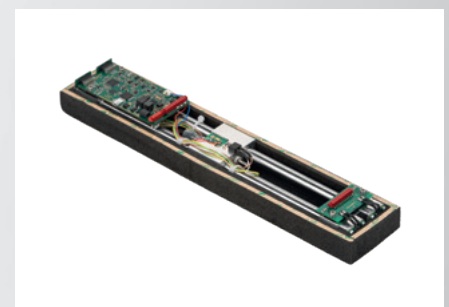


Save measurements by facility

High quality measurement technology

The optimized NDIR measurement technology of the MGPrime Q guarantees standard-compliant measuring ranges and accuracies without zero point drift.

- Double tube infrared module for gas analysis
- Paramagnetic O₂ analysis
- Differential pressure measurement ±100 hPa
- Temperature measurement of flue gas (1,100 °C) and combustion air (500 °C)
- Flow rate measurement and volume flow calculation



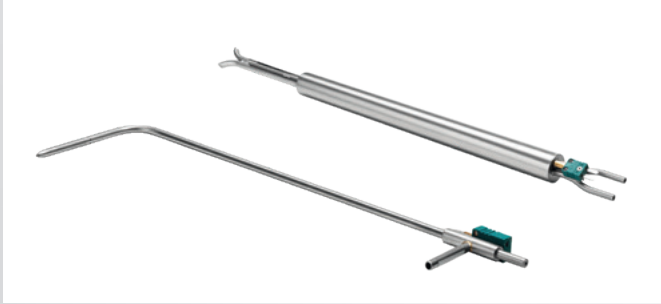
Equipment

8 channel NDIR module

NO, NO₂, CO, CO₂, SO₂,
N₂O, CH₄, HC as C₃H₈

Practical accessories

For more flexibility



Pitot tubes for flow velocity measurement

- L-type or S-type with temperature measurement (up to 1,000 °C), length: 300 ... 1,500 mm
- Measuring ranges from 3 to 100 m/s at a resolution of 0.1 m/s
- Additional calculation of the volume flow (m³/s)



Combustion air temperature sensor

- Length: 300 mm



PC software "MRU4Win"

- Software for Windows to visualize measure data, manage, export and print
- Connect multiple devices at the same time and read out live values
- Logging and saving live values
- Database with customer contacts, attachments and manage users
- Export measurement reports as PDF
- Documents with customized logo and print out the address
- Read out data storage, save measurements, print and save as PDF



WiFi printer

- With lithium-ion battery and USB socket
- Suitable for 80 mm paper width



Dosage unit for phosphoric acid

- Controlled dosage and injection of 10% phosphoric acid for reliable, precise measurement of SO₂ and NO₂

MGAprime Q

Technical data

Gas measurement (NDIR)	Measuring range min./max.	Resolution	Repeatability*	8h-Drift*	Linearity
Nitric monoxide (NO)	0 ... 200/2,000 ppm	0.1 ppm	2 ppm or 1 % reading	2 ppm or 1 % reading	1 % m. r.
Nitric dioxide (NO ₂)	0 ... 150/500 ppm	0.1 ppm	1 ppm or 1 % reading	2 ppm or 1 % reading	1 % m. r.
Sulphur dioxide (SO ₂)	0 ... 150/3,000 ppm	0.1 ppm	2 ppm or 1 % reading	2 ppm or 1 % reading	1 % m. r.
Carbon dioxide (CO ₂)	0 ... 20%	0.01 Vol%	0.2% or 1 % reading	0.2% or 1 % reading	1 % m. r.
Carbon monoxide (CO)	0 ... 175/3,000 ppm	0.1 ppm	2 ppm or 1 % reading	2 ppm or 1 % reading	1 % m. r.
Nitrous oxide (N ₂ O)	0 ... 100/250 ppm	0.1 ppm	2 ppm or 1 % reading	2 ppm or 1 % reading	1 % m. r.
Methane (CH ₄)	0 ... 500/10,000 ppm	0.1 ppm	10 ppm or 1 % reading	2 ppm or 1 % reading	1 % m. r.
Propane (C ₃ H ₈)	0 ... 200/5,000 ppm	0.1 ppm	2 ppm or 1 % reading	2 ppm or 1 % reading	1 % m. r.

Gas measurement (PM)	Method ¹	Measuring range	Resolution	Accuracy
Oxygen (O ₂)	PM	0 ... 25 %	0,01 %	0,1 %

Other measurements	Method	Measuring range	Resolution	Accuracy*
Stack gas temperature (T _{gas})	NiCrNi	0 ... 1,100 °C	1 °C	± 1 °C or 2 % reading
Combustion air temperature (T _{air})	NiCrNi	0 ... 500 °C	1 °C	± 1 °C or 1 % reading
Ambient air temperature (T _{amb})	NiCrNi	0 ... 100 °C	1 °C	± 1 °C or 2 % reading
Differential pressure (P-Druck)	Piezoresistive	-120 ... +120 hPa	0.1 Pa	± 2 Pa or 1 % reading
Flow velocity measurement (v)	Pitot	3 ... 100 m/s	0,1 m/s	± 1 m/s or 1 % reading
Standardized ext. signal (AUX connection)	software	for K-thermocouple, 0 ... 10 Vdc, 4 ... 20 mA, RS 485		
Combustion calculations (fuel type depend.)	software	Losses, ExcAir, Air Ratio, dew point, CO ₂		
Emission calculations	software	mg/Nm ³ , reference to O ₂ , g/s, kg/h		

General technical data	
Operating system	LINUX
Display, operation	7" TFT (800 x 480 px) colour display, backlit, with touch pad
Data storage type	dynamic, internally 10,000 data sets, external USB stick
Interface to PC/notebook	Ethernet, WiFi, RS 485
Cable/wireless communication interface	RS 485, RJ45 (Ethernet), WiFi
Printer	external USB/WiFi printer
Analog output/input 4 ... 20 mA	8 channel out, 4 channel in, user configurable
Universal analog input (AUX)	0 ... 10 Vdc, 4 ... 20 mA, NiCrNi-thermocouple, RS 485
System warm up time	30 minutes, typical
Mains free operation time	Li-Ion, 96 Wh, for standby 1 hour
Operating conditions	+5 ... +45 °C; RH up to 95 % non condensing
Storage temperature	-20 ... +50 °C
Power supply	86 ... 265 Vac, 47 ... 63 Hz, 105 W (up to 600 W with heated gas sample line)
Protection class	IP42 inside transport case
Dimensions (W x H x D)	430 x 290 x 150 mm
Weight	approx. 15 kg only device, approx. 10 kg bag with accessories

MRU – Competence in gas analysis. For over 35 years.

MRU · Messgeraete fuer Rauchgase und Umweltschutz GmbH

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