

Multitec® 545



Multi-gas measuring device with infrared sensors and extended measuring range for hydrogen sulphide

With the *Multitec 545*, up to five gases can be measured simultaneously. The very high H₂S concentrations in wastewater treatment plants and palm oil factories, for example, place special demands on the measuring instrument. With its rugged design and wide H₂S measuring range, the *Multitec 545* is ideal for this use.

The use of infrared measuring techniques for methane and carbon dioxide eliminates the possibility of misleading results due to interaction with other gases. The large screen allows all parameters to be displayed simultaneously and quickly read off at a glance.

Measurement data is stored in log files and can easily be transferred to a PC via a USB connection.

Features

- Intuitive operating concept with jog dial, menu navigation and function keys
- Large-format matrix display with backlight
- Selective infrared sensors for hydrocarbons and carbon dioxide
- EC sensor for hydrogen sulphide with wide measuring range (5000 ppm)
- Rapid charging in 3 hours
- Power supplied from four replaceable AA-size rechargeable or disposable batteries
- Explosion protection: TÜV 07 ATEX 553353 X
⊕ II2G Ex d e ib IIB T4 Gb,
⊕ II2G Ex d e ib IIC T4 Gb when used with carrying bag TG8
- PC communication via USB port
- Supporting bracket for carrying and positioning

Technical Data Sheet

Multitec[®] 545

Device data	
Dimensions (W x D x H)	approx. 148 x 57 x 205 mm approx. 148 x 57 x 253 mm with supporting bracket
Weight	approx. 1000 g, depending on equipment

Certificates	
Certificate	TÜV 07 ATEX 553353 X II2G Ex d e ib IIB T4 Gb Basic device without leather bag for: CH ₄ , C ₃ H ₈ , C ₄ H ₁₀ , C ₉ H ₂₀ , H ₂ S, CO II2G Ex d e ib IIC T4 Gb Basic device with leather bag for: CH ₄ , C ₃ H ₈ , C ₄ H ₁₀ , C ₉ H ₂₀ , H ₂ S, CO, H ₂

Device elements	
Display	monochromatic graphic display, 320 x 240 pixels
Buzzer	frequency 2.4 kHz, volume 80 dB (A) / 1 m
Signal light	red
Pump	vacuum: > 250 mbar volume flow: typically 50 l/h ± 20 l/h
Port	USB 2.0
Data memory	8 MB
Operation	ON/OFF key, 3 function keys, jog dial

Operating conditions	
Operating temperature	-20 °C – +40 °C
Storage temperature	-25 °C – +60 °C (temperatures above 40 °C reduce the service life of the sensors)
Humidity	5 – 90 % r.h., non-condensing
Atmospheric pressure	800 – 1100 hPa
Pressure at gas inlet	-175 – +65 hPa
Protection rating	IP54

Power supply	
Power supply	NiMH rechargeable or disposable alkaline batteries, size AA
Operating time, typical	at least 6 h
Battery capacity	2000 mAh
Battery voltage	rechargeable batteries: 4 x 1.2 V disposable batteries: 4 x 1.5 V
Charging time	approx. 3 h (complete charge), depending on capacity
Charging temperature	0 °C – +30 °C
Charging voltage	12 V DC
Charging current	max. 1 A

Infrared sensor CH4 % vol. range	
Measuring range	0 – 100 % vol.
Resolution	0.1 % vol. (0 – 79.9 % vol.) 1 % vol. (80 – 100 % vol.)
Response times	t50 < 9 s, t90 < 17 s
Temperature range	-20 °C – +40 °C
Measuring error	± 1.5 % from upper range value
Interference	all hydrocarbons
Lifetime, expected	5 years

Infrared sensor CO2 % vol. range	
Measuring range	0 – 100 % vol.
Resolution	1 % vol.
Response times	t90 < 20 s
Temperature range	-20 °C – +40 °C
Measuring error	±1.5 % from upper range value
Interference	none
Lifetime, expected	5 years

Electrochemical sensor oxygen O2	
Measuring range	0 – 25 % vol.
Resolution	0.1 % vol.
Response times	t90 < 15 s
Warm-up time	approx. 1 min
Temperature range	-20 °C – +40 °C
Measuring error	±3 % or ±0.3 % vol. (±3 digits)
Interference	none
Lifetime, expected	24 months

Electrochemical sensor carbon monoxide CO	
Measuring range	0 – 500 ppm
Resolution	1 ppm
Response times	t90 < 30 s
Warm-up time	approx. 1 min
Temperature range	-20 °C – +40 °C
Measuring error	±10 % or ±3 ppm (±3 digits) ±5 ppm (long-term stability as per EN 45544)
Interference	at 20 °C – 3000 ppm H2: approx. 1000 ppm CO – 100 ppm NO; approx. 25 ppm CO
Lifetime, expected	36 months

Electrochemical sensor Hydrogen sulphide H2S	
Measuring range	0 – 5000 ppm
Resolution	1 ppm (0 – 100 ppm) 2 ppm (100 – 998 ppm) 0.02 % vol. / 200 ppm (0.10 – 0.5 % vol.)
Response times	t90 < 30 s
Warm-up time	approx. 1 min
Temperature range	-20 °C – +40 °C
Measuring error	±3% or ±5 ppm (±5 digits) ±5 ppm (long-term stability)
Interference	at 20 °C – 100 ppm CO: approx. 1 ppm H2S – 1 % vol. H2: approx. 10 ppm H2S – 100 ppm NO2: approx. 3 ppm H2S
Lifetime, expected	24 months

107424 – 26-01-2015 – Subject to technical changes.