



DEVICES FOR THE DETERMINATION OF THE SF₆ GAS QUALITY

For verification of several parameters in one operation

3-038R-R...

MULTI-ANALYSER SF₆ with gas return system

This multi-functional measuring device allows the determination of up to six quality parameters with only one measurement:

- » SF₆ volume percentage (%)
- » Moisture concentration
- » SO₂ concentration (ppm_v)
- » Option: HF concentration (ppm_v)
- » Option: CO concentration (ppm_v)
- » Option: H₂S concentration (ppm_v)



If sensors need to be calibrated, they can be easily exchanged on site by the user. The device is immediately ready for use without loss of time based on the "Plug & Play" principle.

The MULTI-ANALYSER SF₆ is a battery-operated, compact, user- and maintenance-friendly device which guarantees high measuring accuracy. The unit allows different kinds of measurements and treatment of the measured gas in one of the following ways:

- » The measured gas can be stored in an internal storage vessel and pumped back into the gas compartment (up to 10 bar p_g)
 - » For measurements on cylinders, vessels or gas compartments with higher pressure (max. inlet pressure 35 bar p_g) a pressure reducer is not needed. If the gas should not be pumped back into the SF₆ filled equipment, a cylinder can be connected directly to the outlet. It is not necessary to disconnect the device from the gas compartment, the vessel or cylinder with the higher pressure.
 - » An external gas collecting bag can be connected allowing continuous measurements (inlet pressure max. 35 bar p_g) without pumping the gas back. The external bag can be emptied by using the MULTI-ANALYSER SF₆, a service cart or compressor unit.
- No gas emissions during the measuring process
 - Modular interchangeability of all sensors
 - Operation with or without battery (external power supply)
 - Exchangeable battery (replacement and separate shipping is possible)
 - Easy and user-friendly menu navigation via high quality 7" capacitive colour touch screen
 - Optional remote control
 - Automatic interval measurement is possible
 - USB and LAN connection
 - Storage of up to 500 measurement results with name
 - Adjustable user languages: DE, EN, FR, ES, IT, PT, CZ, PL, CN, JPN, RUS
 - Compact design, easy handling and transportation (installed in a trolley case)



DEVICES FOR THE DETERMINATION OF THE SF₆ GAS QUALITY



3-038R-R...

MULTI-ANALYSER SF₆

Precise and correct results for subsequent measurements can be guaranteed by purging the measuring hose prior to each measurement.

Another big advantage of the MULTI-ANALYSER SF₆ is its high precision. The SF₆ moisture is measured at operating pressure. Thus, very precise results are obtained during a short measuring time even in the critical dew point range (< -40 °C). The dew point is calculated at atmospheric pressure.

The device is very maintenance-friendly. The residual lifetime of the electrochemical sensors is displayed automatically. A very practical and useful device.

No SF₆ gas is released into the atmosphere!

Technical data:

Dimensions: Length 406 mm, Width 538 mm, Height 269 mm
Weight: 25 kg
Inlet pressure: p ₀ 0.2 - 35 bar
Operating temperature: -10 °C to +50 °C
Ambient moisture: max. 90 % relative moisture, non condensing during operation
Operating voltage: 85 - 264 VAC, 47 - 63 Hz (exchangeable battery)
Number of measured values to be stored: 500
Interface: USB/LAN
Measuring time: variably calculated by the system, max. 15 minutes
Indication of moisture concentration in dew point °C or °F, referred to atmospheric or inlet pressure, reversible to indication in ppm _v , ppm _M
Indication of inlet pressure in bar, psi, MPa and kPa (in p ₀ or p _e)

Standard equipment:

Transport case; 6 m long connecting hose with DILLO couplings DN8 and DN20; 2 m long connecting cable
USB stick with data file for evaluation and reading out of measured data
Operating manual



DEVICES FOR THE DETERMINATION OF THE SF₆ GAS QUALITY



3-038R-R...

MULTI-ANALYSER SF₆

Sensor data:						
	Vol.-%	Moisture	SO ₂	Option: HF	Option: H ₂ S	Option: CO
Measuring principle	Velocity of sound	Electronic dew point measurement (capacitive)	Electrochemical reaction	Electrochemical reaction	Electrochemical reaction	Electrochemical reaction
Measuring range	0 - 100 vol.-%	-60 to +20 °C	0 - 20 ppm _v 0 - 100 ppm _v 0 - 500 ppm _v	0 - 10 ppm _v	0 - 100 ppm _v	0 - 500 ppm _v
Measuring accuracy	±0,5 vol.-%	±2 °C (to > -40 °C) ±3 °C (to < -40 °C)	< ±2 % of measuring range	< ±10 % of measuring range	< ±2 % of measuring range	< ±2 % of measuring range
Adjustable limit value	0,0 – 100,0 vol.-%	-60 – +20 °C	0,0 – 20,0 ppm _v 0,0 – 100,0 ppm _v 0,0 – 500,0 ppm _v	0,0 – 10,0 ppm _v	0,0 – 100,0 ppm _v	0,0 – 500,0 ppm _v
Recommended calibration interval	2 years	2 years	2 years (lifetime)	2 years (lifetime)	2 years (lifetime)	2 years (lifetime)

Ordering designations of the MULTI-ANALYSERS SF₆:

Device with gas return system

3-038R-

Single measuring device for percentage measurement 0 - 100 vol.-%	R101
Single measuring device for moisture measurement -60 °C to +20 °C dew point temperature	R102
Two-in one measuring device for percentage and moisture measurement	R201
Three-in-one measuring device for measurement of percentage, moisture and SO ₂ with 0 - 20 ppm _v	R301
Three-in-one measuring device for measurement of percentage, moisture and SO ₂ with 0 - 100 ppm _v	R302
Three-in-one measuring device for measurement of percentage, moisture and SO ₂ with 0 - 500 ppm _v	R303
Four-in one measuring device for measurement of percentage, moisture and SO ₂ with 0 – 20 ppm _v and HF with 0 – 10 ppm _v	R401
Four-in one measuring device for measurement of percentage, moisture and SO ₂ with 0 – 100 ppm _v and HF with 0 – 10 ppm _v	R402
Four-in one measuring device for measurement of percentage, moisture and SO ₂ with 0 – 500 ppm _v and HF with 0 – 10 ppm _v	R403
Six-in one measuring device for measurement of percentage, moisture and SO ₂ with 0 – 100 ppm _v , HF with 0 – 10 ppm _v , CO with 0 – 500 ppm _v and H ₂ S with 0 -100 ppm _v	R602

Options (please inquire separately): All devices with percentage measuring system are additionally available for SF₆ concentrations in SF₆/CF₄ gas mixtures (measuring accuracy: ±2.0 vol.-%). Thus it is possible to switch over between the SF₆/N₂ and SF₆/CF₄ measurement.

Optional accessories at an extra charge:

External compressor for increase of pressure for application of the MULTI-ANALYSER SF ₆ in medium voltage switchgear with a pressure of < 0.2 bar p _g	3-826-R003
Gas collecting bag, volume 52 l	B151R95
Adapter case for measuring devices	Z340R42
6 m long connecting hose with self-closing couplings (as extension hose)	3-531-R060
Additional operating manual	6-0004-R213
Remote control via mobile devices	K176R01
Remote control router kit	K176R21
Remote control router kit with extended functions	On request

Packing:

Packing für 3-038R-R...	3-775-R104
-------------------------	------------

