

■ DEVICE FOR GAS ANALYSIS



For verification of several parameters with only one measurement

C4-3-039R-R...

MULTI-ANALYSER C⁴ with gas return system

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

- » Percentage of substance amount 3M™ Novec™ 4710 [%]
- » Moisture concentration [div.]
- » Percentage of substance amount oxygen O₂ [%]
- » Option: percentage of substance amount carbon dioxide CO₂ [%]
- » Option: concentration carbon monoxide CO [ppm]



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

The MultiAnalyser C⁴ 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 measuring gas:

- » The measuring gas can be stored in an internal storage vessel and pumped back into the gas compartment (up to 10 bar p_g)
 - » External storage of the measuring gas into a cylinder:
For measurements on cylinders, vessels or gas compartments with higher pressure (max. inlet pressure 35 bar p_g) or if the measuring gas should not be pumped back, a cylinder can be connected directly to the separate outlet (max. 10 bar p_g). It is not necessary to use a pressure reducer and to separate the device from the gas cylinder or the gas compartment.
 - » External storage of the measuring gas into a collecting bag:
An external gas collecting bag can be connected allowing continuous measurements (inlet pressure max. 35 bar p_g) without pumping the gas back. It is possible to empty the external bag by means of the MultiAnalyser C⁴ or via the connection on a service cart or compressor unit.
- No emissions of measuring gas
 - Modular interchangeability of the sensors
 - Easy and user-friendly menu navigation via high quality 7" capacitive colour touch screen
 - Storage of up to 500 measurement results with name, date and time
 - Battery and external power supply
 - USB and LAN connection
 - 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)



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C4-3-039R-R... MULTI-ANALYSER ^{C4}

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

Another big advantage of the MultiAnalyser ^{C4} is its high precision. The gas 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 ambient pressure. The device is very maintenance-friendly. The residual lifetime of the electrochemical sensors is displayed automatically. A very practical and useful device.

Technical data:

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| Dimensions: Length 406 mm, Width 538 mm, Height 269 mm |
| Weight: 25 kg |
| Inlet pressure: p_a 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 |
| Number of measured values to be stored internally: 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 |
| Inlet pressure indication in bar p_a or p_a , psi, kPa, MPa |

Standard equipment:

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| Transport case; 6 m long connecting hose with DILLO couplings DN8 (M28x1,5) and DN20 (M48x2); 2 m long connecting cable |
| USB stick with data file for evaluation and reading out of measured data |
| Operating manual |




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MULTI-ANALYSER ^{C4}

| Sensor data: | | | | | |
|-------------------------------------|--|---|--|--|---|
| | Mole percent * 3M™ Novec™ 4710 | Moisture | Mole percent oxygen (O ₂) | Option: mole percent carbon dioxide (CO ₂) | Option: Concentration carbon monoxide (CO) |
| Measuring principle | Non-dispersive infrared sensor (NDIR) | Electronic dew point measurement (capacitive) | Electrochemical reaction | Non-dispersive infrared sensor (NDIR) | Electrochemical reaction |
| Measuring range | 0 - 10 mol-% | -60 °C to +20 °C | 0 – 25 mol % | 0 - 100 mol % | 0,0 – 500,0 ppm |
| Measuring accuracy | ≤ ±0,1 mol-% (at < 7%) ≤ ±0,2 mol-% (at ≥ 7%) | ≤ ±2 °C (at > -40 °C) ≤ ±3 °C (at < -40 °C) | ≤ ±0,2 mol % | ≤ ±2 mol % | ≤ ±2 % of measuring range |
| Adjustable limit value | 0,0 - 10,0 % | -60 °C to +20 °C | 0,0 - 25,0 % | 0,0 - 100,0 % | 0,0 – 500,0 ppm |
| Recommended calibration interval | 2 years | 2 years | 2 years lifetime | 2 years | 2 years lifetime |

*Mole % represents the amount of substance in a mixture and is equivalent to the ideal volume fraction. Its size is independent of pressure and temperature.

Available option of the MultiAnalyser ^{C4}:

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| Single measuring device: Percentage 3M™ Novec™ 4710 (%) | C4-3-039R-R101 |
| Two-in one measuring device: Percentage 3M™ Novec™ 4710 and moisture | C4-3-039R-R201 |
| Three-in-one measuring device: Percentage 3M™ Novec™ 4710, moisture and oxygen O ₂ (%) | C4-3-039R-R301 |
| Five-in one measuring device: Percentage 3M™ Novec™ 4710, moisture and oxygen O ₂ (%), carbon dioxide CO ₂ (%) and carbon monoxide CO (ppm) | C4-3-039R-R501 |

Optional accessories at an extra charge:

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|--|-------------|
| External compressor for increase of pressure for application of the MultiAnalyser ^{C4} in medium voltage switchgear with a pressure of < 0.2 bar p _e | 3-826-R003 |
| Discharge gas collecting bag | B151R95 |
| Adapter case for measuring device | On request |
| 6 m long connecting hose with self-closing couplings (as extension hose) | 3-531-R060 |
| Additional operating manual on CD-ROM | 6-0004-R213 |

Packing:

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| Packing for C4-3-039R-R... | 3-775-R104 |
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