



MIC Smoke Measuring Equipment, type EC-912

The second generation of the MIC smoke measuring equipment

General

The MIC is suitable for smoke density measurements, for example in connection with the testing of smoke detectors and smoke alarms. The MIC is based on the ionisation measuring principle, with the usage of a small radioactive source emitting alpha particles.

Applications

The MIC is used for reference measurements of smoke density:

- In smoke tunnel measurements according to EN54-7
- In fire sensitivity testing according to EN54-7/9
- In the UL smoke box measurements according to UL 217 and UL 268
- In other applications where accurate smoke measurements are required

DELTA has exclusive licence

The MIC was originally developed by Cerberus Ltd. of Switzerland. DELTA Test & Consultancy has been granted an exclusive license to manufacture, sell and repair the equipment for customers worldwide.

Technical components

The MIC smoke measuring system type EC-912 consists of the following parts:

- MIC smoke measuring head
- Multi-cable, 10 m (other

- lengths on request)
- MIC control unit with power supply
- Flow control unit with filter
- Vacuum pump
- Air tube
- Accessories, instruction manual, etc.

The smoke measuring head is installed at the measuring site and connected to the control unit via the multi-cable. The control unit, flow control unit and power supply are housed in a cabinet, which can be placed in an operator room. The vacuum pump is placed in a convenient location.

System operations

Zero and full-scale adjustment is done manually from the front of the control unit. These adjustments are done in clean air before each measurement (smoke ramp).

System Specifications

Mains supply: 100-240 VAC, 50-60 Hz without switchover.

Cabinet

19 inch desktop/subrack cabinet with power supply, MIC controller and Flow control unit.

Measuring head

Chamber quiescent current: 100 pA (nominal).

Chamber impedance: $1.9 \times 10^{11} \Omega \pm 5\%$.
Radioactive source: Am241.
Smoke sensitivity: The measuring head is calibrated against DELTA's reference MIC within $\pm 3\%$ smoke sensitivity. Calibration certificate is enclosed with each measuring head.

Control unit

Readout: 3.5 digit LCD display. Chamber voltage or smoke density X can be selected.
Analogue outputs: X (0.0 - 10.0 VDC), chamber voltage U_c (14-25 VDC approx.).
Load impedance $> 100 \text{ k}\Omega$.
Flow control unit: Flow rate: Adjustable between 0 - 50 l/min.

Vacuum pump

115 VAC $\pm 10\%$, 50-60 Hz or 230 VAC $\pm 10\%$, 50-60 Hz, approx. 0.15 kW

Contact and further information

For further information about prices and availability of the MIC Smoke Measuring Equipment, type EC-912, please contact Test & Consultancy support at +45 72 19 45 00 or e-mail: customercentre@delta.dk

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