MONICON
ADVANCED GAS MONITORING INSTRUMENTS

Model MC45 Gas Monitor

- **Individual voltage free relay contacts**
- **Advanced colour TFT backlit display**
- **1 to 4 channels**
- **User programmable**
- **Low power consumption**
- **Built-in battery backup circuit**
- **Alarm inhibit during calibration**
- **Individual 4-20mA analogue outputs**
- **Extensive fault detection firmware**
- **Sealed to IP65 rating**
- **RS485 communications interface**
- **Remote reset and accept terminals**

Digital Signal Processing

Monicon have pioneered a novel approach to significantly reduce false alarms by processing the sensor signal through an advanced analysis program in the microprocessor. Monicon's digital signal processing algorithms and advanced firmware are an innovative approach to compensate for the undesirable effects of RFI, Humidity changes, EMI, pressure changes, vibration and electrical noise.

Automatic self-test

The microprocessor implements a comprehensive self-test routine, continually monitoring the system's performance and functionality. The self-test routine examines the integrity of the system's electronic circuitry, system software, sensor cabling, sensor signal, ancillary cabling etc. In the unlikely event of a fault, the colour TFT display will indicate the nature of the condition in a user-friendly diagnostic

The Monicon model MC45 Gas Monitor is an innovative, cost effective, wall mounted unit to monitor from one to four gas sensors. It is designed to operate in conjunction with the T100 toxic gas detector and the highly successful CGS500 combustible gas sensor to monitor a range of toxic gases, combustible gases and oxygen in a wide range of applications. It will also operate with the T80, IR80 and S500L gas detectors.

The MC45 Gas Monitor is also compatible with a wide range of third party 4-20mA transmitters including temperature probes. The gas concentration and instrument status is indicated on a colour TFT backlit display. The display may be configured for split screen or full screen operation.

Simple to use and microprocessor controlled, the MC45 Gas Monitor is menu assisted and fully user programmable for alarm setpoints, relay options, range, sensor type, gas type and many other parameters in a user friendly manner offering unique flexibility and control over the system.

The Monicon model MC45 Gas Monitor has a built-in battery trickle charger circuit and an optional 12V, 1.2AH rechargeable battery (sealed lead-acid type) may be fitted inside the enclosure to ensure uninterrupted operation in the event of a mains power failure.

Careful product design and rigorous product testing combined with a stringent ISO9002 quality assurance program at Monicon's state-of-the-art manufacturing facility ensure ultimate reliability.

The MC45 Gas Monitor offers a robust, easy to use, cost effective approach to providing an effective gas monitoring system where safety matters.

Model MC45 Monitor Specifications

Mechanical Specifications

Height	*230mm*
Width	*300mm*
Depth	*110mm*
Weight	*3.5Kg (including optional 1.2AH battery, if fitted)*
Mounting holes	*4 holes, Ø4.2mm, spaced at 200mm (vert) 288mm (horz)*

Environmental Specifications

Operating temperature	*-18˚C to +50˚C (-18˚C to +66˚C without battery)*
Storage temperature	*-40˚C to +66˚C*
Humidity range	*10%RH to 90%RH (Non-condensing)*

Electrical Specifications

Supply voltage	*230Vac ±10% (240Vac ±10% or 115Vac ±10% optional)*
Power consumption	*6W (Maximum rating 20W)*
Mains fuse	*1A'T'*
Transformer secondary fuse	*1A PCB mounted 5 x 20mm fuse*
Battery fuse	*1.5A PCB mounted, auto reset, PTC fuse*
Sensor cables	*3 core, screened, 0.5mm^2 to 1.5mm^2*
Relay contacts	*SPDT, 250V, 3A each for A1, A2, Common A3 & FAULT (10 relays)*
Display	*3.5" (9cm) TFT colour display, 320 x 240 pixels, backlit*
Analogue outputs	*4-20mA into maximum 250 Ω for each channel*
RS485 operating mode	*Slave mode, half duplex, polled*
Max. units on RS485 loop	*25 controllers (100 channels)*
RS485 communications parameters	*1200-N-8-1*
RS485 error checking	*1 byte checksum*
Unit interrogation time	*40mS*
Battery operation time	*1.2AH battery: typically 2 hours with all 4 detectors fitted*
Battery voltage	*12V*
Battery type	*Sealed lead-acid*
Combustible gas sensor type	*Monicon CGS500 or compatible third-party sensor*
Toxic gas sensor type	*Monicon T100, or compatible thirt-party 4-20mA transmitter*
Stabilisation time	*User selectable between 1 and 255 seconds*
Annunciator output	*2.5kHz, 84dB(A) @ 1m*
Transient protection	*PCB mounted Metal Oxide Varistor*
Terminations	*PCB headers & detachable terminal blocks up to for 1.5mm^2 cable*
Option setting	*Digital setting (all options fitted as standard and user selectable)*
Alarm setting	*Digital setting (fully adjustable between 10% and 90% of full scale)*
Alarm types	*Energised/de-energised. Enrichment/deficiency. User selectable*
Resolution	*1%*
Accuracy	*5%*
Full scale range	*1.00 to 5000 (user selectable)*
User variable storage	*Non-volatile RAM (EEPROM)*
Enclosure material	*Two-piece, hinged, ABS or polycarbonate with neoprene gasket*
Electromagnetic Conformance (EMC)	*Complies with EN50081, EN50082 and EN50270*
Literature supplied	*40-page detailed instruction manual with wiring diagram*