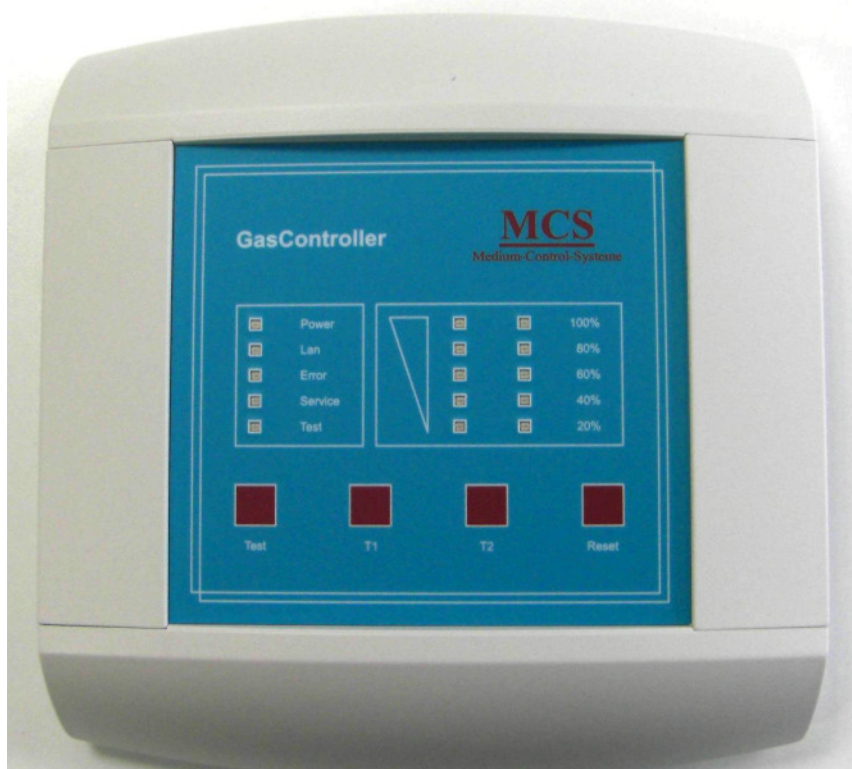


User Guide **MCS GasController**



Microprocessor controlled measurement and warning unit for monitoring the air for inflammable gases and toxic gas concentrations

Internal sensor for inflammable or toxic gases

1 measurement signal input 4-20 mA for connection to an external gas sensor

5 freely programmable alarm switching points per measuring point

5 alarm levels

Collective and zone alarm output

2 potential-free switch outputs, statically or cyclically freely programmable

LED display of operating & fault indicators and alarm messages

Internal piezo signal generator, speech output possible,

Internal monitoring, software watchdog,

Line monitoring, cold start alarm check,

Ethernet interface RJ 45 for network connection,

Connection for external 24V/DC supply

Elegant, flat plastic wall housing

All handling of the device requires detailed knowledge of and compliance with these operating instructions as a prerequisite.

Liability for function or damage

Liability for the function of the device rests with the owner or operator, insofar as the device has been improperly maintained or repaired by persons who do not belong to the manufacturer's service department or in the event of any kind of handling that does not correspond to proper intended usage.

The manufacturer shall not be held liable for damages which occur due to the failure to comply with these instructions.

Servicing / maintenance

The device should be subjected to 6 monthly inspections by trained specialists.

The conclusion of a maintenance contract with the manufacturer's service department is recommended.

Intended Use

The device:

- * Serves for the measurement and evaluation of toxic and combustible gas concentrations.
- * Serves to issue or control alarm messages (warning lights, sirens, safety valves, air extraction, ventilation, etc.).

Sensor connection

Up to 2 sensors can be connected.

The device provides a 24VDC power supply for the sensors. The sensors can be wired individually or as a star connection

Screened cable, such as JY(St)Y 2x2x0.8mm, should be used for the sensor wiring. The core colours should be arranged as follows:

Red -> +24V (S+) Black -> GNP (S-) White -> Signal 4-20mA (S1/2) Yellow -> Spare

The ground wire should be twisted with the yellow core and connected at the device to the PE terminal (protective conductor).

The ground wire is joined to the screen in the cable.

The ground wire should be connected to the metal housings of the sensors, if the sensors used have metal housings.

When installing take care to ensure that the bare ground wire cannot come into contact with the circuitry.

Relay outputs

The alarm relay outputs in the basic device are designed with 3 contacts.

The relay can be programmed as NC contacts or NO contacts with the software.

The NO contacts are closed if a message is to be issued, i.e. with alarms present or if there is no fault message present.

Alarm messages

The device is equipped with 4 alarm switching thresholds.

If a measured signal reaches a switching point, the corresponding alarm is triggered.


The corresponding alarm LED illuminates and the associated programmed relay is activated or deactivated in the event of the alarm being reset.

The determination of measurement parameters and switching thresholds for the individual measurement locations as well as the arrangement of output relays for alarm messages are programmed.

The parameters set can be found in the test log.

Individual alarm messages can remain present after the triggering cause has passed. This can be used, for example, to set run-on times for alarm stages, in order to provide sufficient ventilation for example, or to comply with minimum fan runtimes or to program them as self-latching.

This can only be reset by actuating the

Reset  button.

A reset of a latched sensor alarm is only possible after the cause of the alarm has been rectified.

Otherwise, the alarm will be reset again after a signal hysteresis (min. 3 digits) has been passed, if the alarm cause has been rectified.

If acoustic alarms have been connected then these can also be reset in the event of an alarm with

the *Reset*  button.

Device fault messages

A device fault message will be issued in the following circumstances:

- * Mains failure
- * With cold start 1 min after the mains is restored
- * Fuse blown
- * Device defective
- * Drop in the supply voltage for the sensors (< 18 V)
- * Interruption or short-circuit in the measurement sensor line,
- * measurement signal outside the measurement range (<2.5mA or >25mA)
The monitoring of the measurement sensors for defects includes this condition.
- * Software fault
- * Loss of parameter settings

The ready LED extinguishes and a device fault LED flashes regularly.

Alarm suppression in the event of mains failure

The device has a programmable time delay, which can be activated after each failure of the sensor power supply (cold start) and which suppresses the alarm, until the sensor is ready for operation.

With the time delay activated the device starts to operate one minute after the supply power is active if there are no faults present.

Programming the central unit

The programming of the central unit is only to be implemented by our service technicians or authorised specialists.

The software (TMCS2000GC) is required for programming.

Controls

Test/menu button	Function	LED display
Press 1x	Lamp test, system in programming mode	All LEDs activated
Press 2x	Alarm 1 relay activated	Test illuminates Alarm 1 illuminates
Press 3x	Alarm 2 relay activated	Test illuminates Alarm 2 illuminates
Press 4x	Alarm 3 relay activated	Test illuminates Alarm 3 illuminates
Press 5x	Alarm 4 relay activated	Test illuminates Alarm 4 illuminates
Press 6x	Error is activated	Test illuminates Error illuminates
Press 7x	Return to the normal operating mode	Ready illuminates

It is possible to exit any menu test point with the reset button. The system returns to normal operating mode and the Test LED extinguishes.

Reset button	Function	LED display
Press 1x	Cancelling the acoustic signal	
Press 2x	Cancelling the alarm with self-latching Only possible once the system has dropped below the alarm trigger point again	Alarm LED extinguishes

LED display

LED	Colour	Condition	Explanation	Miscellaneous
Power	Green	Steady	System without fault	
LAN	Green	Steady	Connected to the PC	
A1	Red	Steady	Collective alarm 1 triggered Alarm threshold exceeded	Alarm can be cancelled
A2	Red	Steady	Collective alarm 2 triggered Alarm threshold exceeded	Alarm can be cancelled
A3	Red	Steady	Collective alarm 3 triggered Alarm threshold exceeded	Alarm can be cancelled
A4	Red	Steady	Collective alarm 3 triggered Alarm threshold exceeded	Alarm can be cancelled
Error	Yellow	Steady	System fault condition	
Service	Yellow	Flashing	Service period exceeded	System service required
Test	Yellow	Steady	System in test mode	

Internal buzzer

The internal buzzer is activated with the programmed acoustic alarm.

Warranty

The manufacturer provides a 4 year warranty upon conclusion of a maintenance contract with our service department or with an authorised company.

If no maintenance contract is concluded then the warranty expires after 1 year.

Decommissioning

The programmed data is not lost during decommissioning. The data in the memory for messages issued is likewise retained.

If the device is out of service for more than 4 weeks then the measurement sensors must be checked with test gas after being commissioned and may need to be re-calibrated.

Maintenance/service messages

Gas warning systems must be subjected to regular, six-monthly or annual inspections. The maintenance interval can be found on the maintenance sticker. The conclusion of a maintenance contract with the manufacturer's service department is recommended. The service LED flashes to indicate that a service is due.

Technical data

Subject to technical alterations

Housing	Wall housing			
Housing material	Polystyrene			
Dimensions	H x W x D	200 x 220 x 40 mm		
Protection type	IP 54			
Temperature range	-20°C+50°C			
Relative humidity	15-90%			
Measurement sensor connection	1 external analogue input 4-20mA			
Internal sensor	Combustible gases			
Switching thresholds	Alarm 1	Self-extinguishing / self-latching	Freely programmable	
	Alarm 2	Self-extinguishing / self-latching	Freely programmable	
	Alarm 3	Self-extinguishing / self-latching	Freely programmable	
	Alarm 4	Self-extinguishing / self-latching	Freely programmable	
	Alarm 5	Self-extinguishing / self-latching	Freely programmable	
Switch outputs	2	Potential-free changeover 250V/2.5A	Freely programmable	
	1	digital output		
Control	1 button	Alarm reset		
	1 Button	Test		
	2 Button	System controller		
Display elements	LED display	Green Power	Red	Alarm 1
		Green LAN	Red	Alarm 2
		Yellow Error	Red	Alarm 3
		Yellow Service	Red	Alarm 4
		Yellow Test	Red	Alarm 5
Acoustic alarm	Piezo signal generator 90 dbA			
Data interface	Ethernet interface RJ 45 for network connection			
Connection values	230V/50Hz/60W	110V/	24V/DC/60W	