Measurement and control technology for industrial applications

Dosing | *Liquids*
Conveying | *Gases*
Control | *Systems*

Multi-channel controller **TOPAX® MC**

A versatile partner

The **TOPAX® MC** is Lutz-Jesco GmbH's latest multi-channel controller. Its modular design makes it an adaptable and extremely competent partner for all your measurement and control technology requirements. Whether you need to measure chlorine, the pH value, Redox value or the pH value four times or chlorine four times, the modular design permits any combination.

The outputs can also be selected freely. For instance, you can actuate dosing pumps via an optocoupler or relay and servomotors via a relay or a 20 mA output. The high-resolution 5 inch colour display has a user-friendly operating interface. User-friendliness is rounded off with a simple touch control and multi-lingual intuitive menu navigation.

Free digital outputs can be configured freely. Irrespective of whether they need to switch following measuring water shortage, measuring value exceedance or undercutting or other possible alarm triggers: the configuration is not subject to any limits.

You can chose: You can use the four analogue outputs (0/4 – 20 mA) or the network capability to transfer the measured values to a web browser or a tele-maintenance point. A settable time interval can be used e.g. to issue an automatic reminder for wear-related sensor change.

You can use the USB interface to save data (e.g. measured values and parameter settings, alarms, messages etc.) on a USB flash drive.

Comparison old and new	TOPAX® L	TOPAX® DX	NEW TOPAX® MC
Display	2 lines monochrome with 5 keys	320 x 240 px with 11 keys	800 x 480 px RGB Touchscreen
Controllable values	1	up to 4	up to 4
Digital inputs	1	8 (not configurable)	8 (configurable)
Relay outputs	3	6	up to 9
Analogue outputs	1	8 x 4 – 20 mA	4 x 4 – 20 mA
Measurement of temperature	1 x Pt100	1 x Pt100	up to 4 x Pt100
Password level	1 level	2 levels	3 levels
Data storage	-	Reports, alarms, trends, configuration	Reports, alarms, trend, changes, service entries, configuration
Softwareupate	-	with SD card	with USB flash drive
Network	RS485 optional	RS485, Ethernet interface optional	Ethernet interface, RS485 optional
Power supply unit	230 V, 110 V or 24 V	90 – 264 V AC	100 – 240 V AC

One-channel controller TOPAX® MC1

Use the **TOPAX® MC1** one-channel controller to measure and control one water parameter that you can freely select.

Standard versions*	
Measuring input	**Output modules**
Free chlorine (0 – 2 mg/l)	1 x servomotor relay, 1 x relay, 1 x optocoupler
Free chlorine (0 – 2 mg/l)	1 x relay, 1 x optocoupler
Free chlorine (0 – 15 mg/l)	1 x servomotor relay, 1 x relay, 1 x optocoupler
Free chlorine (0 – 15 mg/l)	1 x relay, 1 x optocoupler
Free chlorine (0 – 10 mg/l)	1 x servomotor relay, 1 x relay, 1 x optocoupler
Free chlorine (0 – 10 mg/l)	1 x relay, 1 x optocoupler
Chlorine dioxide (0 – 15 mg/l)	1 x relay, 1 x optocoupler
Total chlorine (0 – 2 mg/l)	1 x relay, 1 x optocoupler
pH value (pH 0 – 14)	1 x relay, 1 x optocoupler
Redox value (0 – 1000 mV)	1 x relay, 1 x optocoupler

* The multi-channel controllers mentioned are our standard versions, each multi-channel controller can be configured according to your own requirements.

Multi-channel controller TOPAX® MC2

Use the **TOPAX® MC2** multi-channel controller to measure and control two water parameter that you can freely select.

Standard versions*	
Measuring inputs	**Output modules**
Free chlorine (0 – 15 mg/l) pH value (pH 0 – 14)	1 x servomotor relay, 1 x relay, 1 x optocoupler
Free chlorine (0 – 15 mg/l) pH value (pH 0 – 14)	2 x relay, 2 x optocoupler
Free chlorine (0 – 10 mg/l) pH value (pH 0 – 14)	1 x servomotor relay, 1 x relay, 1 x optocoupler
Free chlorine (0 – 10 mg/l) pH value (pH 0 – 14)	2 x relay, 2 x optocoupler
Chlorine dioxide (0 – 15 mg/l) Redox value (0 – 1000 mV)	2 x relay, 2 x optocoupler
pH value (pH 0 – 14) Redox value (0 – 1000 mV)	2 x relay, 2 x optocoupler
Free chlorine (0 – 2 mg/l) pH value (pH 0 – 14)	1 x servomotor relay, 1 x relay, 1 x optocoupler
Free chlorine (0 – 2 mg/l) Redox value (0 – 1000 mV)	2 x relay, 2 x optocoupler

Multi-channel controller TOPAX® MC3

Use the **TOPAX® MC3** multi-channel controller to measure and control three water parameter that you can freely select.

Standard versions*	
Measuring inputs	**Output modules**
Free chlorine (0 – 15 mg/l) pH value (pH 0 – 14) Redox value (0 – 1000 mV)	1 x servomotor relay, 2 x relay, 1 x optocoupler
Free chlorine (0 – 15 mg/l) pH value (pH 0 – 14) Redox value (0 – 1000 mV)	2 x relay, 2 x optocoupler
Chlorine dioxide (0 – 15 mg/l) pH value (pH 0 – 14) Redox value (0 – 1000 mV)	2 x relay, 2 x optocoupler
Free chlorine (0 – 2 mg/l) pH value (pH 0 – 14) Redox value (0 – 1000 mV)	1 x servomotor relay, 2 x relay, 1 x optocoupler
Free chlorine (0 – 2 mg/l) pH value (pH 0 – 14) Redox value (0 – 1000 mV)	2 x relay, 2 x optocoupler

Multi-channel controller TOPAX® MC4

Use the **TOPAX® MC4** multi-channel controller to measure and control four water parameter that you can freely select.

Standard versions*	
Measuring inputs	**Output modules**
Free chlorine (0 – 15 mg/l) Total chlorine (0 – 2 mg/l) pH value (pH 0 – 14) Redox value (0 – 1000 mV)	1 x servomotor relay, 2 x relay, 1 x optocoupler
Free chlorine (0 – 15 mg/l) Total chlorine (0 – 2 mg/l) pH value (pH 0 – 14) Redox value (0 – 1000 mV)	2 x relay, 2 x optocoupler

* The multi-channel controllers mentioned are our standard versions, each multi-channel controller can be configured according to your own requirements.

Product overview multi-channel controller **TOPAX® MC**

	One-channel controller **TOPAX® MC1**	Multi-channel controller **TOPAX® MC2**	Multi-channel controller **TOPAX® MC3**	Multi-channel controller **TOPAX® MC4**
	Software languages*: DE, EN, FR, ES, PT	**Software languages*:** DE, EN, FR, ES, PT	**Software languages*:** DE, EN, FR, ES, PT	**Software languages*:** DE, EN, FR, ES, PT
Measuring inputs				
Bromine Free chlorine Chlorine dioxide Total chlorine pH value Redox value Chlorite Hydrogen peroxide	1 Water parameter The **TOPAX® MC1** can additionally measure one temperature via one temperature sensor.	up to 2 water parameters The **TOPAX® MC2** can additionally measure two temperatures via two temperature sensors.	up to 3 water parameters The **TOPAX® MC3** can additionally measure three temperatures via three temperature sensors.	up to 4 water parameters The **TOPAX® MC4** can additionally measure four temperatures via four temperature sensors.
TopView3 connection				
via RS485	-	-	optional, with chlorine, pH- and redox measurement	-
error compensation				
pH-compensation	with measurement of chlorine			
temperature compensation	With chlorine, total chlorine and pH value			
Output modules				
Servomotor relay Servomotor 20 mA Relays Optocoupler	up to 2 (freely-configurable)	up to 4 (freely-configurable)		
Analogue outputs				
0/4 – 20 mA	2	4		
Control characteristic				
2-side controller	•			
On/Off	•			
P, PI, PD, PID	•			
Alarm function				
Alarm relay, freely-configurable	1			
Further freely configurable digital outputs	∘			
Disturbance variable input				
0/4 – 20 mA	1			

• Standard equipment ∘ Optionally available

* Further software languages upon request

Product overview multi-channel controller **TOPAX® MC**

	One-channel controller **TOPAX® MC1**	Multi-channel controller **TOPAX® MC2**	Multi-channel controller **TOPAX® MC3**	Multi-channel controller **TOPAX® MC4**
	Software languages*: DE, EN, FR, ES, PT	**Software languages*:** DE, EN, FR, ES, PT	**Software languages*:** DE, EN, FR, ES, PT	**Software languages*:** DE, EN, FR, ES, PT
Communication				
Ethernet	•			
RS485	◦			
Voltage supply				
100 – 240 V AC, 50/60 Hz	•			
Device type				
wall mounted housing	•			
Dimensions				
W x H x D	302 x 240 x 107 mm			
Additional functions				
Modular design of the input modules	•			
Modular design of the output modules	•			
Freely-configurable overviews	•			
Difference value measurement (e.g. ΔpH)	•			
Graphical display of the deviation from the desired setpoint	•			
Up to 4 reference sets can be configured and loaded via a digital input or time control	•			
Service entries and sensor change can be saved	•			
Limit value control (can be used as a DIN contact for partial load operation in accordance with DIN 19643)	•			
Web server and Modbus TCP/IP via Ethernet for remote maintenance	•			
Trend Display	•			
Large colour touch-display	•			
Data is saved on a USB flash drive	•			
LED control water sampling station EASYPRO	•			
3-step password protection	•			
Software update via USB flash drive	•			

• Standard equipment ◦ Optionally available

* Further software languages upon request

Water sampling station **EASYPRO**

Reliable and individual

Designed to meet your every need, the **EASYPRO** system monitors and controls a range of water parameters in your industrial application.

The **TOPAX® MC** multi-channel controller installed* in the **EASYPRO** subjects the water parameters to constant measurement, keeping them within the target range. It enables you to control a large number of actuators and permits easy and intuitive operation.

The multi-coloured LEDs provide an optical warning if the water parameters leave the target range.

Automatic continuous recording of the water parameters and depiction of their development permit simple diagnosis.

Possible measured values depending on the equipment

- Measurement and control of free chlorine
- Measurement of the total chlorine quantity
- Calculation of bound chlorine
- Measurement and control of the pH value
- Measurement and control of the redox value
- Measurement of temperature

EASYPRO 1

Measuring inputs:
- Measurement and control of bromine (0 – 5 mg/l)
- Measurement and control of free chlorine (depending on the measuring cell 0 – 15 mg/l or 0 – 10 mg/l)
- Measurement and control of chlorine dioxide (depending on the measuring cell 0 – 15 mg/l, 0 – 10 mg/l or 0 – 2 mg/l)
- Measurement of total chlorine (0 – 10 mg/l)
- Measurement and control of the pH value (pH 0 – 14)
- Measurement of the redox value (0 – 1000 mV)
- Measurement and control of chlorite (0 – 2 mg/l)
- Measurement and control of hydrogen peroxide (0 – 200 mg/l)
- Measurement of the temperature (5 – 45 °C)

Output modules:
- 1 x relay, 1 x optocoupler

Dimensions:
- with cover (W x H x D): 500 x 530 x 117 mm approx.
- without cover (W x H x D): 490 x 490 x 117 mm approx.

EASYPRO 2

Measuring inputs:
- Measurement and control of free chlorine (depending on the measuring cell 0 – 15 mg/l or 0 – 10 mg/l)
- Measurement and control of chlorine dioxide (0 – 15 mg/l)
- Measurement of total chlorine (0 – 10 mg/l)
- Measurement and control of the pH value (pH 0 – 14)
- Measurement of the redox value (0 – 1000 mV)
- Measurement of the temperature (5 – 45 °C)

Output modules:
- 2 x relay, 2 x optocoupler

Dimensions:
- with cover (W x H x D): 500 x 530 x 117 mm approx.
- without cover (W x H x D): 490 x 490 x 117 mm approx.

* Our standard versions are delivered with the **TOPAX® MC** multi-channel controller. Use the match code ordering system to order the **EASYPRO** water sampling stations without the **TOPAX® MC**.

EASYPRO 3

Measuring inputs:
- Measurement and control of free chlorine (depending on the measuring cell 0 – 15 mg/l or 0 – 10 mg/l)
- Measurement and control of the pH value (pH 0 – 14)
- Measurement of the redox value (0 – 1000 mV)
- Measurement of the temperature (5 – 45 °C)

Output modules (depending on version*)**:**
- 2 x relay, 2 x optocoupler
- 1 x servomotor relay, 2 x relay, 1 x optocoupler

Dimensions:
- with cover (W x H x D): 500 x 933 x 128 mm approx.
- without cover (W x H x D): 490 x 900 x 117 mm approx.

EASYPRO 4

Measuring inputs:
- Measurement and control of free chlorine (0 – 15 mg/l)
- Measurement of total chlorine (0 – 10 mg/l)
- Measurement and control of the pH value (pH 0 – 14)
- Measurement of the redox value (0 – 1000 mV)
- Measurement of the temperature (5 – 45 °C)

Output modules (depending on version*)**:**
- 1 x relay, 1 x optocoupler
- 1 x servomotor relay, 2 x relay, 1 x optocoupler

Dimensions:
- with cover (W x H x D): 500 x 933 x 128 mm approx.
- without cover (W x H x D): 490 x 900 x 117 mm approx.

Overview of controllable products

Output modules	to control the following devices
Servomotor relay	• Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA (can be configured via the Matchcode ordering system)	• Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relays	• Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	• Dosing pumps MAGDOS LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* The water sampling stations mentioned are our standard versions, each water sampling station can be configured according to your own requirements.

Accessories and spare parts

Photometer

Photometers serve the adjustment of measurement systems through reference measurements. Systems with multiple sampling points need simple and quick reference measurements. The Lutz-Jesco photometer combines this requirement with high measurement accuracy and a robust structure.

Functions

- For free chlorine and pH value
- Internal memory for 16 data sets
- Automatic switch off
- Real-time clock and date
- Adjustable functional display
- Illuminated display
- Water-tight (analogue IP68, 1 hour at 0.1 metre)

TopView

The **TOPAX**® TopView computer software enables the control of networked **TOPAX**®systems via a PC - and thus the remote monitoring and adjustment of the controllers. It also generates a central log of the measured values. TopView is tailored entirely to your wishes as the program can be used for different stages of system development.

Functions

- Representation, operation and monitoring of the **TOPAX® MC** controller
- Connection of up to 15 devices
- Connection for digital modules
- Selectable parameters for archiving
- Setting the control parameters from the PC
- Display and storage of all alarms issued
- Journal

Further products

Buffer solutions

- pH value: pH 6.80 and 9.27
- Redox value: 468 mV
- Electrolytes for diaphragm-covered measuring cells

Sensors

Lutz-Jesco sensors are characterised by high quality, a robust build and good price-performance ratio. Intensive research and many years of practical experience mean we have the skills to successfully deal with the measurement tasks you set us. We provide all measuring procedures for chlorine measurement, enabling you to select the procedure which matches your needs.

Wide range of sensors

- **Open amperometric measuring cells**
  The inexpensive solution for all halogens and oxidizing chemicals, with automatic electrode cleaning
- **Open potentiostatic measuring cells**
  With automatic electrode cleaning, selective measuring system without zero point drift, robust compact design
- **Diaphragm-covered potentiostatic measuring cells**
  High selectivity, internal temperature compensated
- **pH and redox single-rod measuring cells**
  In glass, plastic and pressure-resistant versions
- **Temperature sensors**
  As Pt100 resistance thermometer

Fittings

The chlorine measuring cells, pH and Redox single-rod measuring cells, temperature sensor and flow control have been combined into a single unit to facilitate integration into the system. We provide a wide range of different fittings, so that you always have the correct solution for connecting the sensors into your process.

Fitting variants

- **Throughflow fittings**
  Can be installed directly in the pipeline or in the bypass
- **Immersion fittings**
  For installation in tanks or boilers
- **Valve blocks**
  For installation in bypass to pipelines

Notes

Notes

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