

Product information Two-Channel Controller TOPAX® DE

Important values securely under control

As a two-channel controller the TOPAX DE monitors the current water values during water preparation and waste water treatment and it controls up to two metering systems connected for treating the water in real-time. In this way it ensures constant water values in the most varied of applications – taking into account the given norms and guidelines – it is universally applicable.

Compact solutions available in several versions

The further developed TOPAX DE is based on the proven and tested modern technology of our multi-channel controller TOPAX DX and is available in different versions. The modular design makes the TOPAX DE to adaptable and highly compatible partner in the field of measuring and control technology. With the option of connecting it directly to a variety of sensors to measure the water parameters, every TOPAX DE version fulfils the demands for optimal water preparation.

The large colour display, the representation of all information in clear text and the very clear, multilingual menu navigation makes the TOPAX DE very easy for anyone to understand and operate. The integrated online help adds to its user friendliness.

The access possibilities to the actual measuring and control values are extensive: All current measurement data and controller values are displayed in the main view. They can also be displayed in the screen writer for 24 h at various zoom levels. The data logger and the logbook use the memory card to archive the values. The computer can read-out, display and archive the memory card (software TopReader) of the TOPAX DE. The two-channel controller can optionally be equipped with an RS 485 serial interface. This provides the option of transferring the data direct to a computer for displaying it with the visualisation software TopView. Communication with a PLC controller via RS 485 is also possible as the Modbus protocol is installed as data communication protocol.

The maintenance and upkeep of the measuring unit with the sensors and the regulator is greatly facilitated with the menu-guided calibration with the subsequent validity check. Faulty sensors or errors in the calibration process are automatically recognised and displayed by the TOPAX DE.

Functionality

The TOPAX DE is equipped with a variety of digital as well as analogue measurement inputs. For transferring the measurement value or as control outputs, the following analogue outputs 0/4 ... 20 mA are available. Moreover, control outputs can also be configured as potential-free electronic switching outputs or relay outputs as pulse frequency, long or as three point step output.

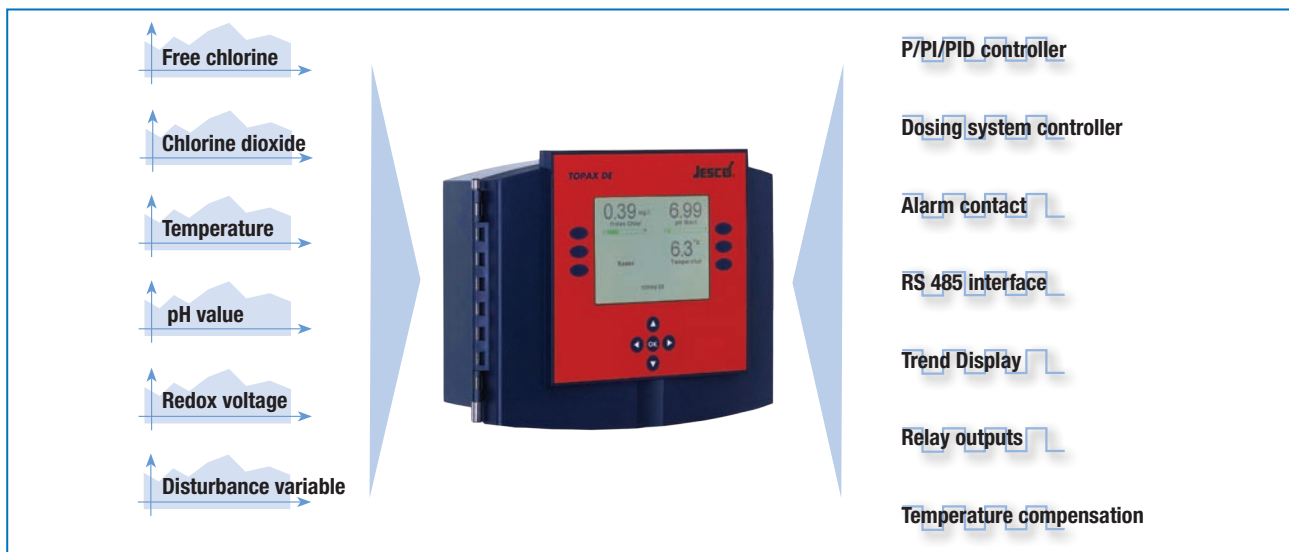
The connection of Lutz-Jesco sensors as well as dosing pumps is achieved in the easiest way via terminal blocks to the modules in the TOPAX DE. The start up is supported by the pre-selection for controlling the actuators displayed in plain text, which can be assigned in the most varied of outlet signals and, in the process, also configured. Following the configuration the complete wiring diagram is displayed.



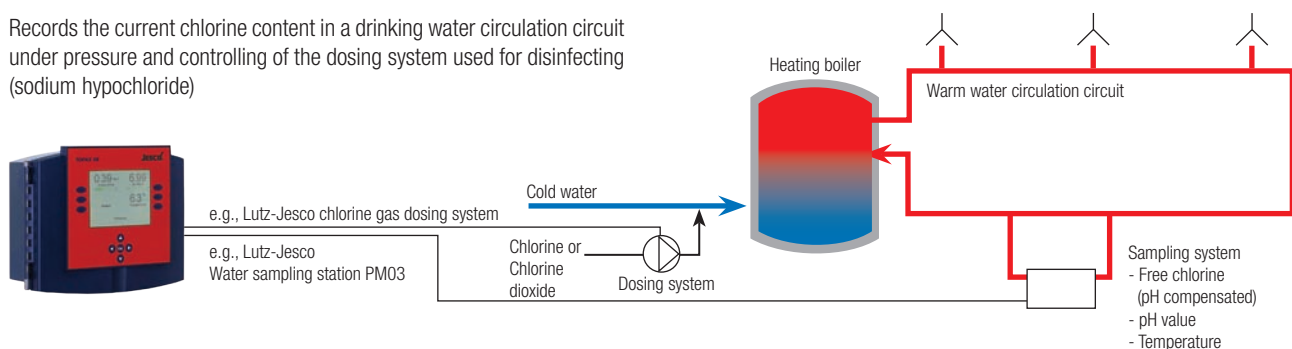
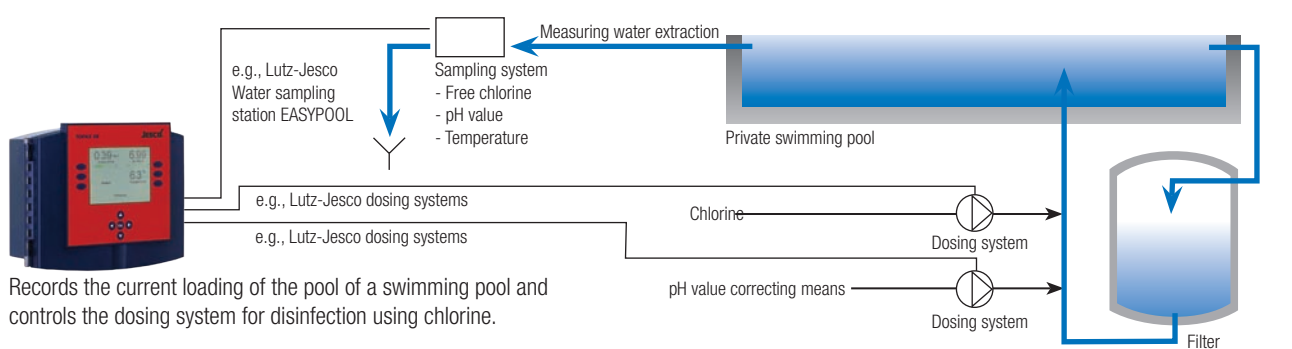
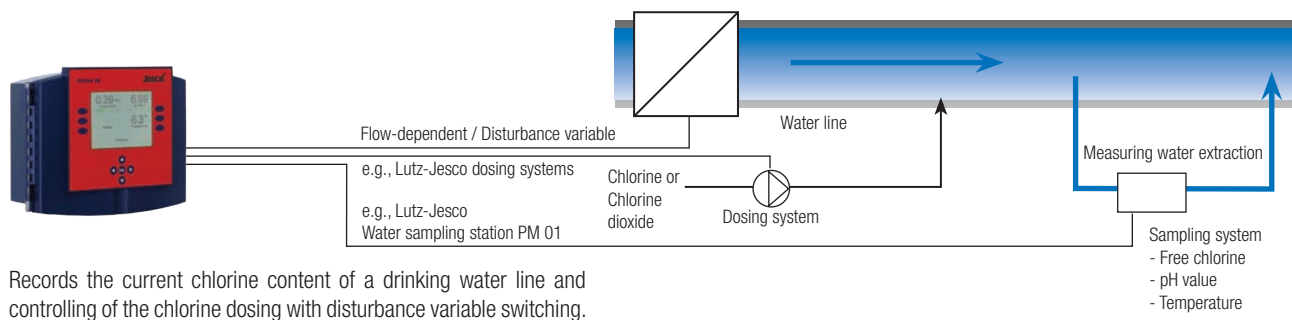
In Short

- Measuring free chlorine with open amperometric 2-electrode measuring cell, 3-electrode measuring cell with potentiostatic control or diaphragm-covered measuring cells
- Measurement of the pH value and temperature
- Redox measurement for disinfection control
- Display of the effective chlorine according to dissociation curve
- 4 measurement values and 5 digital inputs, galvanically isolated
- Analogue outputs 0/4 ... 20 mA for measurement or control values, galvanically isolated
- 2 controllers for controlling the parameter for disinfection and the pH value
- pH value compensation of the chlorine value
- Temperature compensation of the pH value
- Modbus protocol via RS 485
- Memory card for data logger and logbook
- Very easy to operate, guided start up
- Large display with operator guidance in plain language, a flat, multilingual menu structure and context oriented online help
- Integrated 24 h screen writer
- Display of the quality of the measuring cells during calibration
- Validity check during calibration

Measurement inputs (depending on model) and main functions of the TOPAX DE



Application example of the TOPAX DE



Technical data

Features	
Display and controls	Colour display with graphical capabilities, 5.7 inch, 320 x 240 pixels with background lighting 6 sensor keys to navigate the menu 5 sensor keys to control the cursor
Measuring input for free chlorine Measuring cell-options	Amperometric 2-electrode measuring cells, measuring range adjustable from 0 ... 10 mg/l Amperometric 3-electrode measuring cell with potentiostatic control, measuring range adjustable from 0 ... 2 mg/l Diaphragm-covered measuring cell, 0/4 ... 20 mA, measuring range according to the sensor (max. 10 mg/l)
Further measurement inputs	<ul style="list-style-type: none"> • pH value, measuring range: pH 0 ... 14 • Temperature, measuring range -10 ... +100 °C • Total chlorine, 4 ... 20 mA input, diaphragm covered measuring cell, 24 VDC supply of the measuring cell
Digital inputs	Inputs for: <ul style="list-style-type: none"> • Low level alert and main alarm of the chemical tank dosing pump 1 and dosing pump 2 • Measuring water deficiency of the regulating function with alarm (external cut off)
Connection of the inputs and outputs	By means of terminal blocks, max. 1 mm ²
Control characteristic for 2 inputs (disinfection and pH value)	P, PI, PD or PID performances Fixed value regulation, standard channel selectable, disturbance variable feed forward (optional), 2-sided control
Disturbance variable (optional)	0/4 ... 20 mA programmable, disturbance factor: 0.1 ... 10 times amplification
Controller outputs (each as per the configuration)	3 digital outputs, optocoupler, 48 V DC; 250 mA, pulse frequency 10 ... 350 pulses/min 5 relay outputs programmable as: <ul style="list-style-type: none"> • ON/OFF • Pulse frequency 10 ... 100 impulses/min. • Pulse length 10 ... 120 seconds • 3-point step output with feedback position, value of the Potentiometer 1 ... 10 kOhm Analogue outputs 0/4 ... 20 mA, max. load 500 Ohms
Alarm output	Relay output as collective alarm for the measured variables of free chlorine, pH value, Redox potential, temperature as potential free changer Measurement value alarm, min. and max. alarm freely adjustable. Time delay adjustable max. 200 minutes Safety cutout To prevent overdosing (Y-alarm), time delay adjustable: max. 200 minutes
Current outputs for remote transfer of the measured value to the inputs	Current outputs for each measured value 0/4 ... 20 mA possible spreading; max. load 500 Ohms potential free Significant geometric spreading: >50 % with measuring input free chlorine and 0/4 ... 20 mA >10 % during measurement input of pH value and Redox potential
Interface (optional)	Modbus protocol via RS 485
Load capacity of the relay	230 V / 50 Hz, 3 A
Protection class	IP 65 with locked screw connections
Ambient temperature	-5 °C ... +45 °C
Supply voltage	90 to 264 VAC, short circuit and overload-proof
Power consumption	24 VA
Housing dimensions	302 x 231 x 107 mm (W x H x D) wall-mounted housing
Weight	2 ... 2.5 kg

Product information Two-Channel Controller TOPAX® DE

Model variants

The TOPAX DE is available in different product versions.

Model	Function	Order no.
TOPAX DE 7	free chlorine (CS 120), pH value, temperature	40401001
TOPAX DE 7	free chlorine (CS 120), pH value, temperature, RS 485	40401003
TOPAX DE 7	free chlorine (CS 120), pH value, temperature, disturbance variable	40401005
TOPAX DE 7	free chlorine (CS 120), pH value, temperature, disturbance variable, RS 485	40401007
TOPAX DE 8	free chlorine (Potentiostat), pH value temperature	40401002
TOPAX DE 8	free chlorine (Potentiostat), pH value, temperature, RS 485	40401004
TOPAX DE 8	free chlorine (Potentiostat), pH value temperature, disturbance variable	40401006
TOPAX DE 8	free chlorine (Potentiostat), pH value, temperature, disturbance variable, RS 485	40401008

The TOPAX DE listed are standard versions. Other versions can be found in the Matchcode order system in the price list.

Options

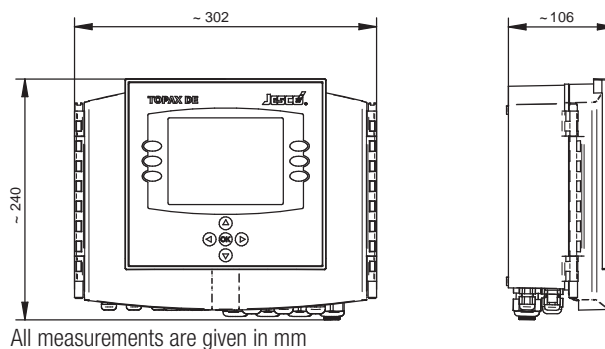
Description	Order no.
Interface RS 485	78406

Scope of delivery

- TOPAX DE
- Tool (M4 screw) to open the casing
- Memory card
- Mounting material
- Operating instructions
- Measuring protocol
- Terminal diagram for the sensors
- pH single-rod measuring cell (optional)
- Cable connection for the electrode (optional)

The device is delivered either as detached or mounted onto a measuring water table.

Dimensional figure



All measurements are given in mm

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