

Intelligent measuring and controlling

Multi-Parameter Controller diaLog DACa



The diaLog DACa controller uses intelligent controller functions to close the control circuit between ProMinent DULCOTEST® sensors and ProMinent® metering pumps. The multi-parameter measurement and control device offers special functions for water treatment, such as the processing of variables and control parameter changeover. The new controller platform from ProMinent was developed to continually measure and control the parameters required and can be configured for one or two

measuring channels depending on application. Sensors from 14 freely selectable measured variables can be connected per channel. The measurement and control device can communicate with analogue or digital* sensors and actuators. The following will be available in the future for communication* with the control level: Profibus® DP, Modbus RTU, OPC and a web server via LAN and WLAN

Advantages

- Two measuring channels (via mV and mA inputs)
- Free combination of 14 selectable measured variables
- Two 2-way PID controllers with 4 metering pump relays
- Sensor monitoring of pH
- Control variables monitored by time to avoid incorrect metering
- Data logger for measured values, control variables, calibration data and events with storage on SD card and depiction on the controller display
- Storage and transfer of device setup via SD card
- The pH influence on the chlorine disinfection parameter is compensated
- 24 operating languages: all European languages as well as Arabic, Chinese, Korean, Hebrew, Russian, Thai
- Measured variables and menu language are initialised during commissioning
- Temperature compensation of measured variables pH, conductivity, chlorine dioxide and fluoride
- Subsequent extension of software function via activation key or firmware update
- Web server via LAN/WLAN for setup and visualisation*
- Two analog outputs for measured value, correction value or control variable (depending on optional equipment)
- Five digital inputs for sample water error detection, pause and parameter changeover, chemicals level warning
- Two relays with limit value function, timer and discontinuous control, 3-point step control (depending on optional equipment)

* in preparation

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Key applications

- Potable water and sewage treatment
- Industrial and process water treatment
- Swimming pool water treatment

Technical data

Measuring ranges	Type of connection mV: pH: 0.00 ... 14.00; ORP/redox potential: -1500 ... +1500 mV Type of connection mA (amperometric measured variables, measuring ranges according to sensors): Chlorine; chlorine dioxide; chlorite; bromine; ozone; hydrogen peroxide (PER sensor) hydrogen peroxide (PEROX sensor with transducer); peracetic acid; dissolved oxygen Type of connection mA (potentiometric measured variables, measuring ranges according to transmitters): pH; ORP/redox potential, fluoride conductivity* (measuring ranges according to transmitters): via transmitter 0/4...20 mA Temperature: via Pt 100/Pt 1000, measuring range 0...150 °C
Resolution	pH: 0.01; ORP/redox potential: 1 mV; temperature: 0,1 °C; amperometric measurements (chlorine etc.): 0.001/0.01 ppm, 0.01 vol. %, 0.1 vol. %
Precision	0.3 % based on the full-scale reading
Measurement input	pH/ORP/redox (input resistance > 0.5 x 10 ¹² Ω)
Correction variable	Temperature via Pt 100/Pt 1000
Correction range	0...100 °C
Temp. correction range	6.5...8.5
pH and chlorine disturbance variable	Flow via mA or frequency
Control characteristic	P/PID control
Control	2 two-sided controllers
Signal current output	2 x 0/4...20 mA electrically isolated, max. load 450 Ω, range and assignment (variables for measurement, correction and control) can be adjusted
Control output	2 x 2 pulse frequency outputs to control metering pumps 2 relays (limit value, 3-point step or pulse length control) 2 x 0/4 ...20 mA
Alarm relay	250 V ~3 A, 700 VA contact type changeover contact
Electrical connection	90-253 V, 50/60 Hz, 25 VA
Ambient temperature	0...60 °C (for indoor installation or installation with protective housing)
Degree of protection	Wall mounted: IP 67; control cabinet mounting: IP 54 (based on NEMA 4 X)
Tests / certifications	CE, MET (corresponds to UL in accordance with IEC 61010)
Housing materials	PC with flame protection
Dimensions	250 x 220 x 122 mm (WxHxD)

The complete measuring station comprises

- Measuring transducer / controller DACa (see identity code)
- Fitting: DGMa..., DLG III ..., immersion fitting
- pH sensor (depending on identity code)
- Redox sensor (depending on identity code)
- Chlorine, chlorine dioxide, chlorite, bromine, dissolved oxygen sensor
- Transducer for pH or redox (depending on identity code)
- Sensor cable