ProMinent® diaLog DACb

DACb Multi-parameter Controller: Overview

Water parameter analysis made easy – with the DULCOMETER diaLog DACb.
With its specially designed functionalities, processing or interference variables and switchover of control parameters, it closes the control circuit between DULCOTEST sensors and ProMinent® metering pumps.
The two measuring and control channels of the DULCOMETER diaLog DACb can be individually configured to meet customer requirements. Everything that you need for the reliable treatment of industrial process water, potable water, and swimming pool water.

Your Benefits

- Simple operation thanks to a clearly arranged display
- More for your money: two measuring and control channels
- Versatile use: all common measured variables can be set per Channel and reconfigured as needed
- Control from everywhere: LAN-capable and convenient remote access via integrated web server
- Maximum flexibility: individually adjustable to different operating statuses, example: Day-Night mode
- Excellent process safety and reliability: precise metering by time-based monitoring of control variables
- Minimal time and effort: effortless duplication of device settings
- Precise monitoring and documentation: Event, calibration and measured data logger with easy-to-access SD memory card
- Optimum communication: Integration into customer networks through different fieldbus systems (PROFIBUS® DP and Modbus RTU, PROFINET)

Technical Details

- Measured variables: pH, ORP, chlorine, chlorine dioxide, chlorite, bromine, conductivity, peracetic acid, hydrogen peroxide, ozone, dissolved oxygen and fluoride
- Method of installation, degree of protection: Combination housing (wall mounting, control panel mounting, pillar assembly) IP 67 and IP 66
- Control: two measuring and control channels, each with independent monodirectional PID controller (optional: two bidirectional PID controllers)
- Temperature compensation for pH and for chlorine dioxide process sensor CDP, pH compensation for chlorine
- Digital inputs for the processing of control signals, of process water limit contacts, remote stop control and to monitor the liquid levels in chemical storage tanks
- Control outputs for electronically controlled metering pumps and solenoid valves
- Interference variable processing: simple control of water parameters in flowing water by processing the flow in the control algorithm
- Adaptation of the controller set point to changed process conditions is possible via remote control by means of the mA signal of a PLC Programmable Logic Controller or with higher requirements via the fieldbus option

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DACb Multi-parameter Controller: Technical data

- Measuring range mV connection type:
- pH: 0.00 - 14.00
- ORP voltage: (-1500) - (+1500) mV
- Connection type mA (amperometric measured variables, measuring ranges corresponding to the sensors):
- Chlorine
- Chlorine dioxide
- Chlorite
- Bromine
- Ozone
- Hydrogen peroxide (PER sensor)
- Hydrogen peroxide (PEROX sensor with PEROX transducer V2 Order No. 1047979)
- Peracetic acid
- Dissolved oxygen
- Connection type mA (potentiometer measured variables, measuring ranges corresponding to the transmitter):
- pH
- ORP voltage
- Fluoride
- Conductivity (measuring ranges corresponding to the transmitters):
- via Transmitter 0/4 - 20 mA
- Temperature: via Pt 100/Pt 1000, measuring range 32°F - 302°F
- Resolution pH: 0.01
- ORP voltage: 1 mV
- Temperature: 32.18°F
- Amperometric analysis (chlorine etc.): 0.001/0.01 ppm, 0.01 vol.%, 0.1 vol.%
- Accuracy 0.3% based on the full-scale reading
- Measurement input pH/ORP (input resistance > 0.5 x 1012 Ω)
- Temperature compensation Pt 100/Pt 1000 for pH, chlorine dioxide (CDP) sensor and fluoride
- Correction range 32°F - 302°F
- pH compensation range for chlorine Sensor CLE 3 and CLE 3.1: 6.5 - 8.5, sensor CBR: 6.5 - 9.5
- Disturbance signals Flow via 0/4 - 20 mA or contact water meter 1 - 500 Hz, the interference variable acts on both channels
- Control characteristic P/PID control
- Control 2 x bidirectional control
- Analogue outputs 2 (3) x 0/4 - 20 mA electrically isolated, max. load 450 Ω, range and assignment (measured, correction, control variable) can be set
- Control outputs 2 x 2 pulse frequency outputs for metering pump control 2 relays (limit value, 3-point step or pulse length control)
- Alarm relay 250 V ~3 A, 700 VA contact type changeover contact
- Digital control inputs 2 (5) as a remote-control input for the functions pause control / sample water fault, parameter set switch-over, level monitoring of chemical tanks
- Electrical connection 90 – 253 V, 50/60 Hz, 25 VA, 24 V DC
- Field bus connection PROFIBUS®-DP, Modbus RTU, PROFINET
- Ambient temperature 32°F - 122°F (for use indoors or with a protective enclosure)
- Enclosure rating Wall-mounted: IP 66 and IP 67 (NEMA 4X) Installation in the control cabinet: IP 54 for control cabinet door
- Tests and approvals CE, MET (corresponding to UL according to IEC 61010)
- Housing material PC with flame proofing equipment
- Dimensions 9.84 x 8.66 x 4.80 mm (WxHxD)
- Weight 2.86 lb

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Standard equipment

Basic measuring variable

- AA: 2 measuring channels with freely selectable measured variables for mA, including interference variable and pH compensation for chlorine
- VA: 2 measuring channels with freely selectable measured variables for mV (pH and ORP) and mA, including interference variable and pH compensation for chlorine
- VV: 2 measuring channels for pH and ORP
- L3: 2 measuring channels for the measured variable conductive conductivity
- PID controller with pulse frequency-based metering pump control for 2 metering pumps
- 2 analog outputs for measured value, correction value or control variable (dependent on the optional equipment)
- 4 digital inputs for sample water fault detection, pause and parameter switch-over
- 2 output relays selectable as limit value, cycle timer, real-time timer or intermittent programmable control output (depending on the optional equipment)
- Measured variables and language selection during commissioning
- Temperature compensation of the pH, chlorine dioxide (CDP) and fluoride measurement via Pt 100/Pt 1000
- Saving and transfer of device parameters by means of the SD card
- Calibration and event data logger (without SD card, data is saved in the controller)
- Interference variable processing (flow) via frequency (contact water meter)
- Subsequent upgrade of the software function by means of an activation key or firmware update

Optional equipment for 3rd pH measuring channel

Package 2

- 3rd mA output
- Two additional metering pumps control
- External remote set-point via an analog signal for Channel 1

Package 3

- Third complete measuring and control channel with PID controller
- 3rd analog output for measured value, correction value or control variable (depending on the optional equipment)
- 3 additional digital inputs: level monitoring, pause and sample water alarm for Channel 2
- Temperature compensation of the pH, chlorine dioxide (CDP) and fluoride measurement

Package 4

- Combination of packages 2 and 3 (only one Channel for amperometric sensors is available with the interference variable mA)
- **Communication options:**
- Measurement data logger with SD card
- Visualization of the measured data using a web server via LAN NS, PC/tablet and web browser
- PROFIBUS®-DP, Modbus RTU
- **Hardware extension:**
- Protective RC circuit for output relay: Protects the output relay if inductive loads are to be switched (example: solenoid valves or motors), not with 24 V DC electrical connector
- **A complete measuring point comprises:**
- Transmitter/controller DACb (see identity code)
- Fitting: DGMa, DLG III, immersion fitting
- pH sensor (identity code-dependent)
- ORP sensor (identity code-dependent)
- Chlorine, chlorine dioxide, chlorite, bromine, dissolved oxygen sensor
- Transducer for pH or ORP dependent on the cable length (> 10 m)
- Sensor cable

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Identcode Ordering System DACb

DACb	Version:													
	Type of Mounting:													
	W	Wall mounted												
		Logo:												
		00	with ProMinent Logo											
			Operation Voltage:											
			6	100-230VAC, 50/60Hz										
				Channel 1 & 2										
				AA	mA/mA Measurement input									
				L3	2x Conductivity conductivity, Temperature									
				VA	mV/mA Measurement input									
				VV	mV/mV Measurement input									
					Channel 3:									
					4	M&C + 2DP + 3DI + FFWRD + pH								
						Software Presets:								
						0	No default settings							
							Channel Connections:							
							0	Channel 1, 2 & 3 hardwired						
							1	1x mV input on SN6 connection						
							2	2x mV input on SN6 connection						
							3	3x mV input on SN6 connection						
								Connection of Digital Sensors:						
								0	Without					
									Communication:					
									0	None				
									A	Mod RTU (RS485 or R232				
									B	PROFIBUS DPV1				
									E	Ethernet/LAN with Web Server				
										Data Logger:				
										1	with Data Logger			
											Hardware Upgrade:			
											0	None		
												Approvals:		
												01	CE	
													Certificates:	
													0	without
														Document Language:
														EN
DACb	**W**	**00**	**4**	**AA**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**01**	**0**	**EN**

ProMinent® DACb Reagentless Analyzers

DACb Complete Package Part Numbers

Free Chlorine Package

Fluoride/ Total Chlorine Package

Part Number	Package Type	Part Number	Package Type
	Chlorine		**Chlorine**
1055407	2 PPM Total Chlorine	1083297	5 PPM Total/Total Chlorine
1055408	2 PPM Free Chlorine/pH	1093232	5 PPM Free/Total Chlorine/pH
1080700	2 PPM Total Chlorine/pH	1049062	10 PPM Total Chlorine
1083296	2 PPM Total/Total Chlorine	1049063	10 PPM Free Chlorine/pH
1093231	2 PPM Free/Total Chlorine/pH	1080702	10 PPM Total Chlorine/ pH
1079048	5 PPM Total Chlorine	1083298	10 PPM Total/Total Chlorine
1079050	5 PPM Free Chlorine/pH	1093233	10 PPM Free/Total Chlorine/pH
1080701	5 PPM Total Chlorine/pH	1081716	20 PPM Total Chlorine/pH
	Fluoride		
1058259	10 PPM Fluoride/ 2 PPM Total Chlorine		
1093227	10 PPM Fluoride		
	Hydrogen Peroxide (H_2O_2)		
1082570	2,000 PPM Hydrogen Peroxide		
	Peracetic Acid (PAA)		
1093229	200 PPM Peracetic Acid		
1093230	2,000 PPM Peracetic Acid		