

Multi-variable disinfection controller



*The **DULCOMETER®** Disinfection and Process Monitor/Controller technology is revolutionizing measuring, control and metering technology in public, industrial and process water systems. The decentralized modular concept with one single central unit controls sensors and actuators for up to 16 locations.*

Features & Benefits

- The DULCOMETER® Disinfection and Process Monitor/Controller is compact and configurable for any application. It is easy to operate and easy to install
- Integrated videographic recorder
- Large VGA color display
- Context-sensitive on-line help
- Logbook function saves all events such as calibration data, error messages etc.
- Embedded web server – view measurement data from any PC with a standard web browser
- Maintenance/error messages by SMS or e-mail
- Decentralized modular design - control of up to 16 measurement locations.
- Easy on-site calibration
- Access Codes to prevent unauthorized adjustment
- It is easy to operate and easy to install

Applications

- Water and wastewater disinfection
- Process water control and water reuse
- Food and beverage
- Legionella control
- Aquatic, Water park, and Zoo markets

Specifications

Measurement parameters (per system, up to 16 systems)	pH	1 to 14
	Redox/ORP	-1200 to +1200 mV
	free chlorine	0.01 to 100 ppm
	total chlorine	0.01 to 10 ppm (optional)
	combined chlorine as differential measurement	0.01 to 2 ppm (optional)
	temperature	-4°F(-20°C) to +302°F+150°C
Other Measurements available	Fluoride, Bromine, Dissolved Oxygen, Chlorite, Chlorine Dioxide, Ozone, PAA, Turbidity, Conductivity and any 4-20 mA pH, chlorine and ORP: max. ± 0.5 % of the measuring scale range (at 77°F / 25 °C)	
Error of measurement	Temperature: max. ± 0.5 °C of the measuring range (at 77°F / 25 °C)	
Measurement inputs	pH and Redox/ORP via terminal mV	
	chlorine via CANopen bus	
	connection of sensor modules and actuator modules via CANopen bus	
Control modes	P/PID control, intelligent control	
Control	Bidirectional control for pH (acid/alkali), unidirectional control for disinfectants	
Eco!Mode	Eco!Mode – contact provides release for reduction of circulation power, provided DIN values are observed. After completed reduction, the control parameters optimised for reduced operation can be activated	
Digital inputs (per system)	6 x 16 potential-free inputs (sample water, pause, 3 pump fault relays, disturbance variable, changeover of parameter set, contact water meter)	
Analog inputs (per system)	3 x16 4-20 mA Inputs	2 x 16 Digital Inputs
Signal current outputs (per system)	4 x 0/4-20 mA (for each measured variable galvanically separated), max. load 600 Ω range adjustable	
	3 x 16 Digital Inputs	3 x 16 Pulse Inputs
Alarm relay	250 V~, 3 A	
Interfaces	Local Area Network (LAN), SD expansion slot (for SD or MMC cards)	
Communication	Embedded web server or embedded OPC server	
Electrical connection	85 to 265 V~, 50/60 Hz	
Ambient temperature	23°F to 113°F (-5°C to 45°C)	
Storage temperature	14°F to 158°F (-10 to 70 °C)	
System of protection	IP 65 NEMA 4x	
Dimensions of central unit	13.46" x 8.94" x 3.07" (342 x 227 x 78 mm) (WxHxD)	
Weight	Depending on design: 1.8 to 2.5 kg	
Dimensions of external modules	4.92" x 5.31" x 2.95" (125 x 135 x 75 mm) (WxHxD)	
Weight	approx. 16.08 oz. (500 g)	
Humidity	Permissible relative humidity: 95 % non-condensing DIN IEC 60068-2-30	
Signal current output	2 x 0/4 - 20 mA electrically isolated, max. load 450 Ω ,	
	range and allocation (measured, correction, control variable) can be set	
Compliance of all devices	All devices meet on the hardware side the harmonised CAN specification 2.0 (ISO99-1, ISO99-2). with CANopen. This specification includes the CAN protocol (ISO 11898-1) and data on the physical layer pursuant to ISO specifications 11898-2 (high speed CAN up to 1MBit/sec) and ISO 11898-3 (low speed CAN up to 125kBit/sec). The device complies with the CANopen specification CIA-DS401 which forms the basis of the European Standard EN50325-4. The control device profile CiA-404 is met.	

