

# 16 pools with just one central unit – with ProMinent

The new swimming pool controller DULCOMARIN® II

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The DULCOMARIN® II and the DULCO®-Net technology are revolutionising measuring, control and dosing technology in public swimming pools. The decentralised modular concept with one single central unit controls sensors and actuators of up to 16 filtration cycles pursuant to DIN 19643.

#### **Simply plan**

The CANopen bus system known from vehicle technology only needs one single bus line. The central unit can be installed in an easily accessible position, e.g. in the attendant's room. And it is especially the DULCOMARIN® II DULCO®-Net which offers a cost-effective solution: Up to 16 pools are displayed through the central unit.

#### **Simply install**

Installation and commissioning are quick and easy – one single bus line is sufficient and conventional star-type wiring becomes superfluous. Coded socket connections prevent incorrect connections and polarity problems.

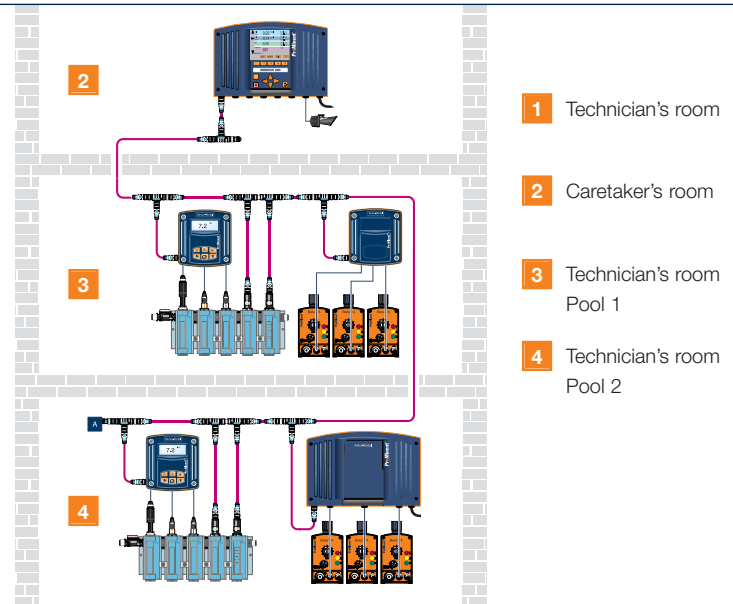
#### **Simply operate**

The 1/4 VGA colour display presents clear text dialogues to the user. The measuring data can be displayed with the integrated videographic recorder and transferred to a PC for storing using an SD card.

## DULCOMARIN® II compact



## DULCOMARIN® II DULCO®-Net



- The DULCOMARIN® II compact is the ideal solution for single pools. It is easy to operate, easy to install and offers all the ease of the new DULCOMARIN® II generation.
  - Integrated videographic recorder – saves on investment in a printer, ink and paper
  - Measurement of combined chlorine
  - Systems control, e.g. UV for reducing the combined chlorine component
  - Large 1/4 VGA colour display
  - Easy intuitive operation with full text operator instructions
  - Safety: Sensor monitoring triggers an alarm if the sensors fail and dosing stops
  - Logbook function saves all events such as calibration data, error messages etc.
  - Eco!Mode: Circulation rate is reduced if there is bad weather or during night operation with simultaneous adjustment of controller settings
  - Embedded web server – view measuring data from every PC with a standard web browser
  - Easy integration into existing display system by means of an OPC server
  - Control of flocculation aid dosing depending on circulation power and pH value
- The DULCOMARIN® II DULCO®-Net provides the full performance capability and range to control up to 16 filtration cycles
  - In addition to the many advantages of DULCOMARIN® II compact: Decentralised modular design - control of up to 16 filtration cycles
  - Big price advantage because of easy installation and decentralised concept
  - Easy on-site calibration
  - Plug & Play: automatic sensor and dosing pump detection



Further information:  
[www.prominent.com](http://www.prominent.com)

## Most important technical specifications of DULCOMARIN® II compact and DULCO®-Net

<b>Measuring parameters/ ranges (per filtration cycle, up to 16 times)</b>	pH* Redox/ORP free chlorine* total chlorine* combined chlorine as differential measurement temperature	-1 to 15 -1200 to +1200 mV 0.01 to 10 ppm 0.01 to 10 ppm (optional) 0.01 to 2 ppm (optional) -20 to +150 °C	*(temperature-compensated)
<b>Error of measurement</b>	pH, chlorine and ORP: max. $\pm 0.5$ % of the measuring scale range (at 25 °C) Temperature: max. $\pm 0.5$ °C of the measuring range (at 25 °C)		
<b>Measuring inputs</b>	pH and Redox/ORP via terminal mV chlorine via CANopen bus connection of sensor modules and actuator modules via CANopen bus		
<b>Control modes</b>	P/PI/PID control, intelligent control		
<b>Control (per filtration cycle)</b>	Bidirectional control for pH (acid/alkali), unidirectional control for disinfectants and minimisation of combined chlorine, control of flocculation aid		
<b>Eco!Mode</b>	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.		
<b>Digital inputs (per filtration cycle)</b>	6 potential-free inputs (water sampling, pause, 3 pump failures, disturbance variable, changeover of parameter set, contact water meter)		
<b>Signal current outputs (per filtration cycle)</b>	4 x 0/4-20 mA (for each measured variable galvanically separated), max. load 600 $\Omega$ range adjustable		
<b>Adjustable outputs (per filtration cycle)</b>	3 reed contacts for acid, alkali or flocculation aid and chlorine as pulse frequency outputs 2 relays (pulse length) contact type changeover to control solenoid valves or hose pumps 1 actuator control with position feedback max. contact load: 250 V~, 8 A		
<b>Alarm relay</b>	250 V~, 3 A		
<b>Interfaces</b>	Local Area Network (LAN), SD expansion slot (for SD or MMC cards)		
<b>Communication</b>	Embedded web server or embedded OPC server		
<b>Electrical connection</b>	85 to 265 V~, 50/60 Hz		
<b>Ambient temperature</b>	-5 to 45 °C		
<b>Storage temperature</b>	-10 to 70 °C		
<b>System of protection</b>	IP 65		
<b>Dimensions of central unit</b>	342 x 227 x 78 mm (WxHxD)		
<b>Weight</b>	Depending on design: 1.8 to 2.5 kg		
<b>Dimensions of external modules</b>	125 x 135 x 75 mm (WxHxD)		
<b>Weight</b>	approx. 500 g		
<b>Humidity</b>	Permissible relative humidity: 95 % non-condensing DIN IEC 60068-2-30		
<b>Compliance of all devices with CANopen specifications</b>	All devices meet on the hardware side the harmonised CAN specification 2.0 (ISO99-1, ISO99-2). This specification includes the CAN protocol (ISO 11898-1) and data on the physical layer pursuant to ISO 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.		



Swimming Pool Controller

# DULCOMARIN® II



## for planners

- **Simply upgrade**  
Thanks to the bus line, the decentralised modular system can be easily upgraded. Thanks to the CANopen bus, the DULCOMARIN® II is prepared for the future.
- **Simply central**  
An easily accessible central unit displays all sensors and actuators. DULCOMARIN® II compact is the ideal solution for one filtration cycle, DULCOMARIN® II DULCO®-Net controls up to 16 pools.
- **Simply cost-effective**  
DULCOMARIN® II DULCO®-Net offers a truly cost-effective solution: An intelligent controller for several pools with guaranteed simple installation. The economic solution for investment and operating costs.



## for fitters

- **Easy with just two lines**  
It only needs a magenta-coloured bus line for networking and a mains cable - and the DULCOMARIN® II is completely wired and ready for commissioning.
- **Easy to connect**  
Coded socket connectors ensure that no polarity problems arise because of accidentally switched terminals. If you know how to use a screwdriver you will be able to install the DULCOMARIN® II.
- **Easy to wire up**  
The star-type cable configuration is a thing of the past. Today, one single bus line links all sensors, actuators, and the central unit.



## for operators

- **Easy to understand**  
The illuminated display has the size of a 1/4 VGA colour screen (approx. postcard size). And all data are displayed in full text in the appropriate language. Cryptic abbreviations are history.
- **Easy to get help**  
And should any queries arise: A context-sensitive online help appears on the display with only one push of a button.
- **Easy to use**  
All data can be displayed on the control unit display and via PC and Internet browser. A multimedia card slot is provided for wireless data transfer.



Further information:  
[www.prominent.com](http://www.prominent.com)

## World-wide contact



ProMinent is at home in more than 100 countries of the world. This guarantees world-wide availability of the products and short distances to the customer. We offer you the same high quality standard in products and services worldwide. For you at your location: experience and know-how in water treatment and chemical fluid handling are available world-wide.

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