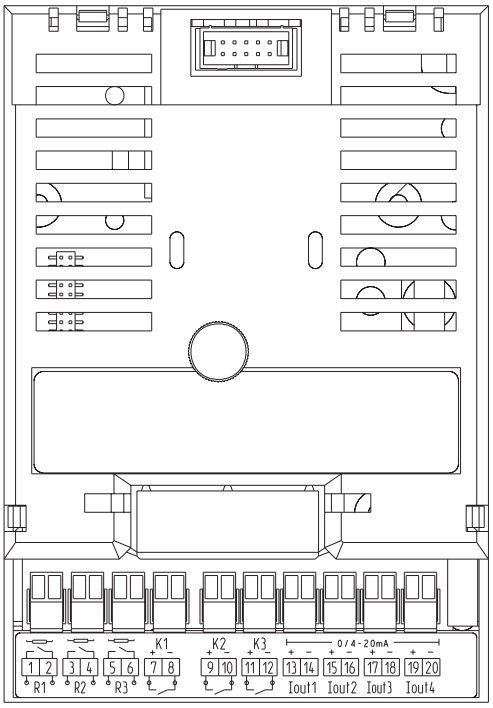
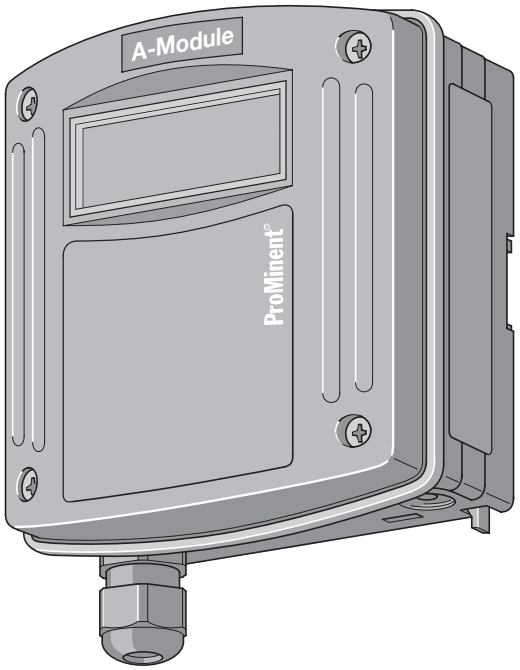
Supplementary Instructions

DULCOMARIN® II, A Module
(Actuator Module, Pumps and
Standard Signal Outputs mA)
DXMaA





DXMa ___ ___ ___ ___ ___ ___

Please enter the identcode of your module!

Please carefully read these operating instructions before use! · Do not discard!
The operator shall be liable for any damage caused by installation or operating errors!

These operating resp. supplementary instructions apply only in conjunction with the following ticked operating resp. supplementary instructions:

- ☑ Operating Instructions Multi-Channel Measuring and Control System DULCOMARIN® II Swimming Pool Controller and Disinfection Controller DXCa Part 1: Mounting and Installation
- ☑ Operating Instructions Multi-Channel Measuring and Control System DULCOMARIN® II Swimming Pool Controller DXCa Part 2: Operation
- ☑ Operating Instructions Multi-Channel Measuring and Control System DULCOMARIN® II Disinfection Controller DXCa Part 2: Operation
- ☐ Supplementary Instructions DULCOMARIN® II Videographic Recorder Operation
- ☐ Supplementary Instructions DULCOMARIN® II, M Module (Measurement Module for pH, Redox/ORP, Temperature) DXMaM Operation
- ☐ Supplementary Instructions DULCOMARIN® II, M Module (Measurement Module for pH, Redox/ORP, Temperature) DXMaM Connection
- ☐ Supplementary Instructions DULCOMARIN® II, A Module (Actuator Module, Pumps and Standard Signal Outputs mA) DXMaA
- ☐ Supplementary Instructions DULCOMARIN® II, N Module (Power Supply Module without Relays) DXMaN
- ☐ Supplementary Instructions DULCOMARIN® II, P Module (Power Supply Module with Relays) DXMaP
- ☐ Supplementary Instructions DULCOMARIN® II, I Module (Current Input Module, Standard Signal Inputs mA) DXMaI

Imprint:
Supplementary Instructions
DULCOMARIN® II, A Module
(Actuator Module, Pumps and Standard Signal Outputs mA)
DXMaA

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Identcode

The identcode describes the external modules for the **DULCOMARIN® II, series DXM**

DXMa | **Measurement module for DULCOMARIN® II, series DXM**

Module:
A | A-module, actuator module: 3 pump and 4 standard signal outputs mA

Type of mounting:
W | Wall mounting (IP 65)
H | Mounting rail (IP 20)
E | Retrofit module (installation module for DXCa, IP 20)

Version:
2 | Without controls
3 | Without controls (only mounting type “E” and “H”)

Application:
0 | Standard

Language:
00 | No controls [2)]

Approval:
01 | CE mark

[2)] only with Version: 2, no operator control

DXMa A W 2 0 00 01

Only the measurement module in the mounting type W “wall-mounted” is available with controls and different languages.

DXMa Internal modules for DULCOMARIN® II, series DXC

These modules can be ordered via the identcode of the DXC (see “Operating Instructions Multi-Channel Measuring and Control System DULCOMARIN® II Swimming Pool Controller and Disinfection Controller DXCa, Part 1: Mounting and Installation”).

1 About this Module

The actuator module DXMaA provides to the DULCOMARIN® II with the control options for 3 dosing pumps via pulse frequency, e.g. to raise and lower the pH value or to dose disinfectants.

The actuator module DXMaA is equipped with the following outputs:

- 4 standard signal outputs 0/4…20 mA, user-programmable and scalable for the measuring values of e.g. pH value, redox/ORP, concentration of free chlorine or total chlorine or combined chlorine or temperature.
- 3 frequency outputs for controlling dosing pumps, e.g. to raise and lower the pH value or to dose disinfectants.

and the following inputs:

- 3 digital inputs for evaluating the alarm relay of the dosing pumps and for monitoring of the tank level.

2 Safety Chapter

The actuator module DXMaA may only be used as component part of the DULCOMARIN® II.

The installation may only be performed by specially trained personnel!

3 Storage and Transport

Only store and transport the module in its original packaging.

CAUTION

Also protect the packaged module against humidity and exposure to chemicals.

Environmental conditions for storage and transport:

Temperature: - 10 °C to 70 °C

Climate: Permissible relative humidity: 95%, non-condensing (DIN IEC 60068-2-30)

4 Mounting and Installation

WARNING

- ***The installation may only be performed by specially trained personnel!***
- ***Please carefully read the instructions in the "Operating Instructions Multi-Channel Measuring and Control System DULCOMARIN® II Swimming Pool Controller and Disinfection Controller DXCa, Part 1: Mounting and Installation" before carrying out any mounting and installation work!***

CAUTION

The standard signals can be distorted, which might have consequences for the process!

Only devices with own electrical isolation of the individual standard signal inputs (e.g. standard signal inputs of a recorder, …) may be directly connected to the standard signal outputs!

If a multi-channel standard signal input module of a PLC is to be connected to several standard signal outputs of the DXMaA module, each standard signal line is to be routed via a 3-way standard signal separator (a 3-way standard signal separator electrically isolates the input, the output and the supply voltage).

In case of several standard signal lines, a multi-channel isolating amplifier can be used. ProMinent recommends 4-channel isolating amplifiers of the type LC-TV-4I.4I of the company of Rinck (www.rinck-electronic.de) or of the type 6185D of the company of PR Electronics (www.prelectronics.de) to connect up to 4 standard signal lines.

NOTE

The terminal connection diagram is enclosed at the end of these supplementary instructions.

Carry out the CAN connection as described in the "Operating Instructions Multi-Channel Measuring and Control System DULCOMARIN® II Swimming Pool Controller and Disinfection Controller DXCa, Part 1: Mounting and Installation".

5 Technical Data

Electrical data

Frequency outputs (Opto-MOS relay) for pump control (R1, R2, R3):

Contact type: make contact with series inductance, interference-suppressed
Load rating: 400 V peak, 250 mA switching current, max. 0.8 W
maximum frequency: 8.33 Hz (500 strokes/min.)
Close/open time: 5 ms

Digital inputs (K1, K2, K3) (Kl. 9 – 14):

galvanically isolated among each other
Insulation voltage: 500 V
max. switch frequency: 2 kHz

Connectable contacts: mechanical relays
max. connectable cable length: 20 m

Standard signal outputs mA (I out 1 - I out 4):

Insulation voltage: 500 V
Output range: 0/4-20 mA (programmable)
23 mA for error message
maximum load: 400 Ω
Accuracy: 0.5% of the output range
For the installation, Chap. 4 “Mounting and installation” must be observed!

Environmental conditions

Storage temperature: -10...70 °C

Type of protection IP 20 (within the housing DXM: IP 65)

Humidity: Permissible relative humidity: 95 %, non-condensing (DIN IEC 60068-2-30)

Materials

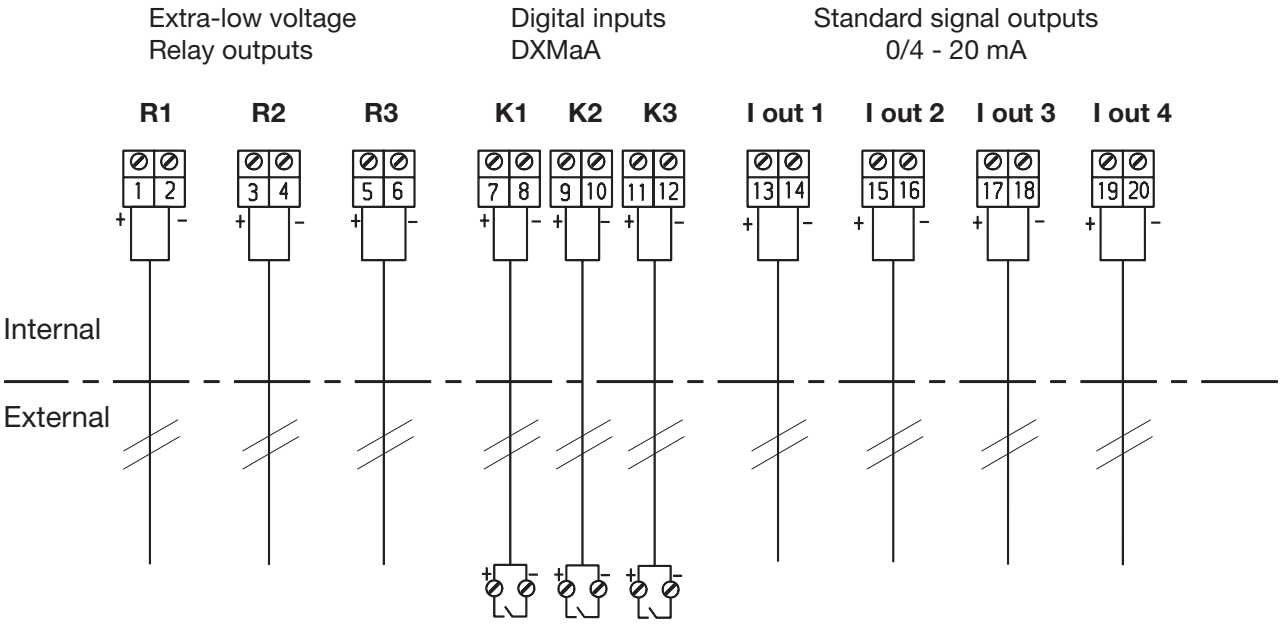
Housing: PPE-GF 10

6 Terminal Assignment

Description	Terminal description	Terminal no.	Pole	Function
Frequency output 1	**R 1**	1	+	pH lowering pump (control)
		2	-	pH raising pump
Frequency output 2	**R 2**	3	+	chlorine pump (control)
				redox pump
		4	-	acid pump
Frequency output 3	**R 3**	5	+	flocculant pump
				redox pump
		6	-	chlorine pump
Digital input 1	**K 1**	7	+	error pump
		8	-	
Digital input 2	**K 2**	9	+	error pump
		10	-	
Digital input 3	**K 3**	11	+	error pump
		12	-	
Power output 0/4-20 mA 1	**I out 1**	13	+	pH value
		14	-	control variable pH lowering
				control variable pH raising
				control variable chlorination
				control variable flocculation
				control variable redox/ORP
				(recorder connection)

Description	Terminal description	Terminal no.	Pole	Function
Power output 0/4-20 mA 2	**I out 2**	15	+	redox/ORP value
		16	-	control variable pH lowering
				control variable pH raising
				control variable chlorination
				control variable flocculation
				control variable redox/ORP
				(recorder connection)
Power output 0/4-20 mA 3	**I out 3**	17	+	chlorine value
		18	-	control variable pH lowering
				control variable pH raising
				control variable chlorination
				control variable flocculation
				control variable redox/ORP
				(recorder connection)
Power output 0/4-20 mA 4	**I out 4**	19	+	combined chlorine
		20	-	control variable pH lowering
				control variable pH raising
				control variable chlorination
				control variable flocculation
				control variable redox/ORP
				(recorder connection)

7 Terminal Connection Diagram



Technical changes reserved.

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