User Manual

for
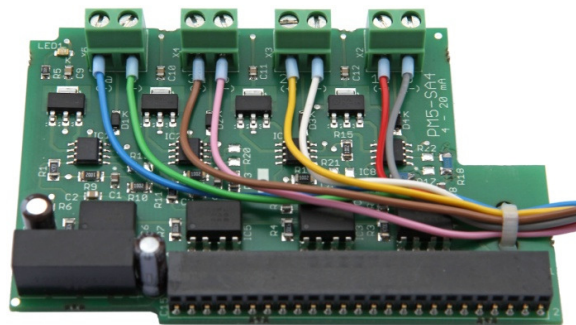
PM5-SA4 Converter 4-20mA

Plug-in module with 4 current outputs 4-20mA
Order No.: 127 011

Status as at 02.04.2013

Compatible with

PoolManager[®]
PoolManager[®] PRO
Analyt

1   Identification of safety information

Please refer to the information concerning the identification of safety information in your PoolManager® or Analyt user manual.

2   General safety information

⚠️ **HAZARD!**
Please follow the general safety information in your PoolManager® or Analyt user manual carefully.

3   User qualification

Please refer to the different user qualifications as defined in your PoolManager® or Analyt user manual.

4   Overview

The PM5-SA4 Converter 4-20mA is a plug-in module for the BAYROL Measuring, Control und Dosing Systems PoolManager® and Analyt of the 5th generation (from 2012). It provides 4 standard current outputs 4-20mA, which can be used to transmit the current measurement readings to external systems, e.g. Building Management Systems (BMS), remote displays or data loggers.

5   Installation

This chapter describes the installation of the PM5-SA4 plug-in module inside the PoolManager® controller and the cable connections.

✋ **Required user qualification:**
ELECTRICAL SPECIALIST
Electrical connection may only be performed by an ELECTRICAL SPECIALIST as defined in the chapter *User qualification* of your PoolManager® or Analyt user manual.

5.1   Opening the casing

⚡ **HAZARD DUE TO VOLTAGE!**
Inside the controller you may get in touch with dangerous electrical voltages.
Potential consequence: Death or the gravest degree of injury.
Disconnect the controller from mains power supply before opening the casing and, in particular, the lid of the connection terminal box.

🛈 **IMPORTANT NOTICE!**
Open on the right
Never open the casing on the left side, as damage may otherwise occur.
Always open on the right side!

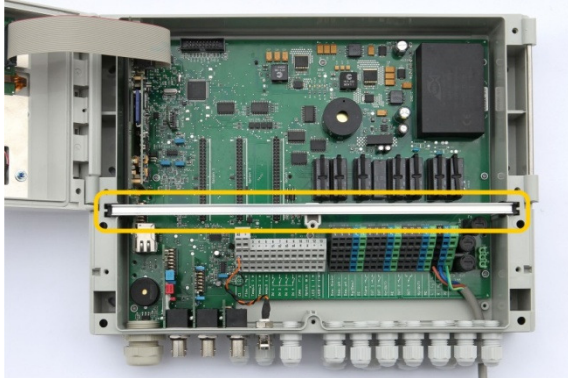1. Firmly press the hinge on the right side out and to the right.

2. Remove the cover plate and unhook the hinge on the bottom.
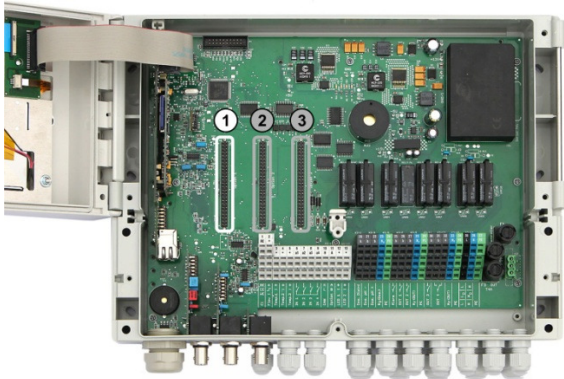

3. Swing the casing cover open to the left.

4. Unbolt the four screws of the lid of the connection terminal box and remove the lid. Take out the aluminium rail afterwards.
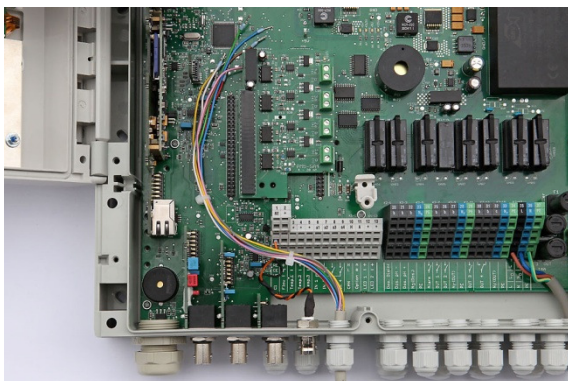

5. To close the casing, reverse this procedure.

5.2 Insert the PM5-SA4 plug-in module

1. Use plug-in connector 1 (on the left) for the installation of the PM5-SA4 plug-in module.
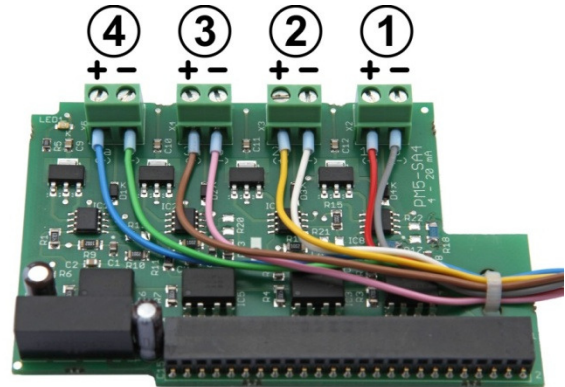

2. Dismantle the cable (or cables) on the required length inside the casing and insert it (them) into the casing through one or more cable glands.

IMPORTANT NOTICE!
In order to minimize the influence of possible inductive disturbances, we recommend to use cables with twisted cable pairs for each channel.

3. Now connect the cable ends to the connection terminals of the PM5-SA4 plug-in module. The digits 1 to 4 indicate the channel numbers which you can later select in the configuration menu.

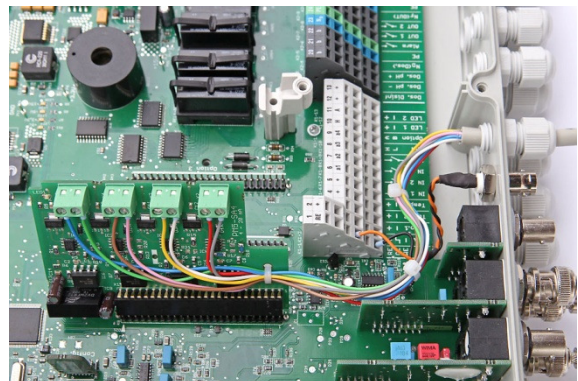4. Insert the PM5-SA4 plug-in module carefully into the plug-in connector 1 (on the left).

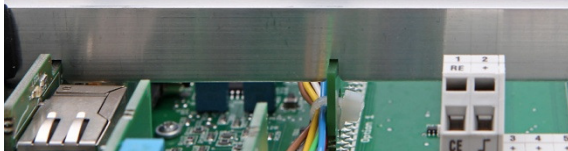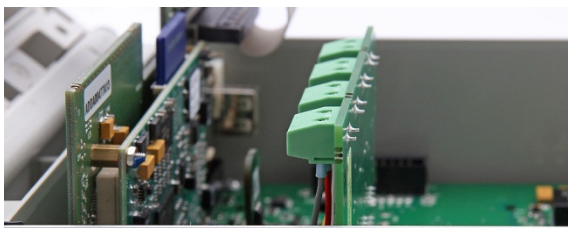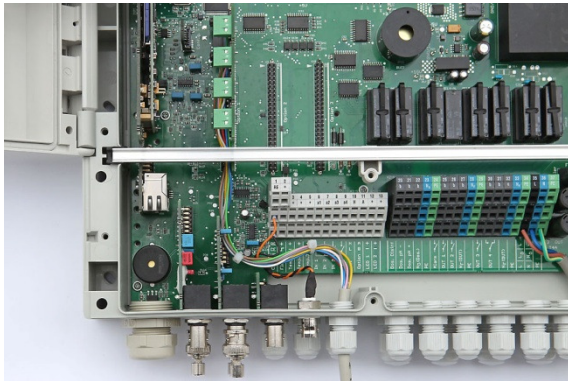**HAZARD!**
Improper positioning
Improper (inaccurate) positioning of the plug-in module and applying too strong forces may bent or even break the contact pins of the plug-in connector.
Potential consequence: Irreparable damage of the plug-in connector, need for factory repair service.
Take care for the correct and accurate position of the plug-in module and do not apply too strong forces.

5. Now insert the aluminium rail at its original position. Take care that the PM5-SA4 plug-in module is exactly located in the corresponding slot of the aluminium rail as shown on the second photo below.

6. Remount the lid of the connection terminal box and close the controller casing.
7. After completion and verification of the installation you can reconnect mains power supply to the PoolManager® controller.

6   Technical data

	Min.	Max.
Allowed ohmic resistance of the connected current input	0Ω	400Ω

7   Menu Configuration

The configuration menu for the PM5-SA4 plug-in module is called up as follows:

 Menu Hotkey

 Communication & Interfaces

Submenu *Current outputs 4-20mA*:

7.1   Output of measured values

Select the submenu for the current output of the desired measurement, e.g. *Current output pH*.

The following parameters can be set in this menu:

Parameter	Possible settings	Default setting (default-set Europe)
Current output pH / Cl / Br / mV / O2 / T1	Current output 1.1 / 1.2 / 1.3 / 1.4[1]	Depends on measurement [2]
Minimum value (at 4 mA)	Depends on measurement [3]	
Maximum value (at 20 mA)	Depends on measurement [3]	

[1] Current output x.y means:
- x is the No. of the used plug-in connector (usually this is plug-in connector 1)
- y is the No. of the current output on the PM5-SA4 plug-in module

[2] The default allocation is as follows:
- Current output 1.1: pH
- Current output 1.2: Cl or Br
- Current output 1.3: mV or O2
- Current output 1.4: Temperature T1

[3] These Parameters can be used to adjust the desired measuring range which is output on the 4-20 mA current output. The minimum value always corresponds with the minimum current signal of 4 mA; the maximum value corresponds with the maximum current signal of 20mA.

The default settings are as follows:

	Minimum. value (at 4 mA)	Maximum value (at 20 mA)
pH	0,00 pH	10,00 pH
Cl or Br	0,00 mg/l	10,00 mg/l
mV	0 mV	1000 mV
O2	0 l	10 l
T1	0°C	50 °C