Correction sheet

Correction to Installation and Operating Instructions, and Safety Instructions for SE/SL 9-30 kW 50/60 Hz, part number 98142266 and 99230405. These sections below replace the version in the instructions.

Section 5.3 - Sensors

Switch and sensor specification

	Standard pump	Sensor version 1	Sensor version 2	Standard Ex	Sensor version 1 Ex	Sensor version 2 Ex
Thermal switches or PTC	●	●	●	●	●	●
Moisture switch	●	●	●	●	●	●
Level switch in leakage chamber for standard and Ex motors	●	●	●	●	●	●
Pt1000 in stator winding		●	●		●	●
Pt1000 in upper bearing			●			●
Pt1000 in lower bearing			●			●
PVS-3 vibration sensor			●			●
SM 113 module [1)]			●			●
IO 113 module [2)]			●			●

1) For pumps fitted with two power supply cables, the SM 113 module must be ordered separately and installed in the control cabinet. SM113 needs to be fitted with a resistor.

2) The IO 113 with communication functionality must be chosen and ordered separately. In case of using Grundfos Dedicated Controls it must be the IO531B.

Section 5.3.2 - Moisture and Level Switches

Ex version:

A moisture switch and a level switch are mounted in an Ex pump. The moisture switch is placed in the top cover and the level switch is in the leakage chamber. See the Appendix.

All switches in both non-Ex and Ex versions are hardwired from the pump to IO 113. If moisture or a leakage is detected, they break the electric circuit. This generates both a hardware and a software alarm in IO 113, and the alarm relay opens. If the pump is connected to Dedicated Controls, the IO351B must be used.

Moisture- and level switches are motor protection devices protecting the motor from moisture or leakage. The moisture switch is non-reversing, and it must be replaced after being released. The level switch does not have to be replaced after being released.

The moisture- and level switches are connected in a separate circuit and to the control cable. See Appendix. They are also to be connected to the safety circuit of the separate pump controller.

Level switch [3)] must be installed with an Intrinsically Safe Apparatus and must meet the following:

- Apparatus must be Ex approved [4)]
- V_{max} or U_i [5)] > V_{oc},V_t, or U_o [6)]
- I_{max} or I_i [7)] ≥ I_{sc}, I_t, or I_o [8)]
- P_{max} or P_i [9)] ≥ P_o [10)]
- C_o [11)] ≥ C_i + C_{cable} [12)]
- L_o [13)] ≥ L_i + L_{cable} [14)]

4) The Ex approved barriers are either a multiple channel Ex approved barrier having parameters less then those quoted, or a combination of single channel Ex approved barriers for which the combinations of outputs are less than those quoted are nonignition capable for the Class, Division and Group or Class, Zone and Group of use.

5) V_{max} or U_i: Maximum voltage of the equipment in hazardous area

6) V_{oc},V_t, or U_o: Voltage of the associated equipment (barrier itself) located in safe area

7) I_{max} or I_i: Maximum current of the equipment in hazardous area

8) I_{sc}, I_t, or I_o: Current of the associated equipment (barrier itself) located in safe area

9) P_{max} or P_i: Maximum power of the equipment in hazardous area

10) P_o: Power of associated equipment (barrier itself) located in safe area

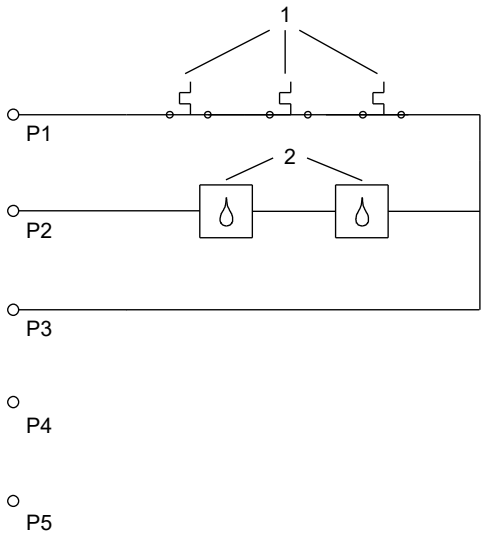
11) C_o: Capacitance of associated equipment (barrier itself) located in safe area

12) C_i + C_{cable}: Maximum capacitance of the equipment (together with cable) in hazardous area

13) L_o: Inductance of associated equipment (barrier itself) located in safe area

14) L_i + L_{cable}: Maximum inductance of the equipment (together with cable) in hazardous area

Standard, single cable

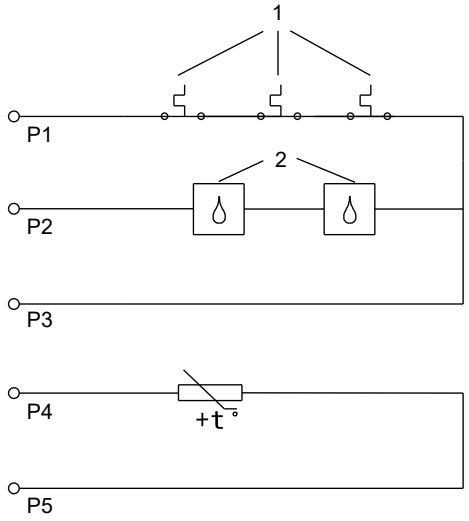


Standard and Standard Ex, single cable

Pos.	Description
1	Thermal switches / Thermistor
2	Moisture/Level switch

3) Level switch parameters: U_i = 18,5V; I_i = 1012mA; P_i = 10W

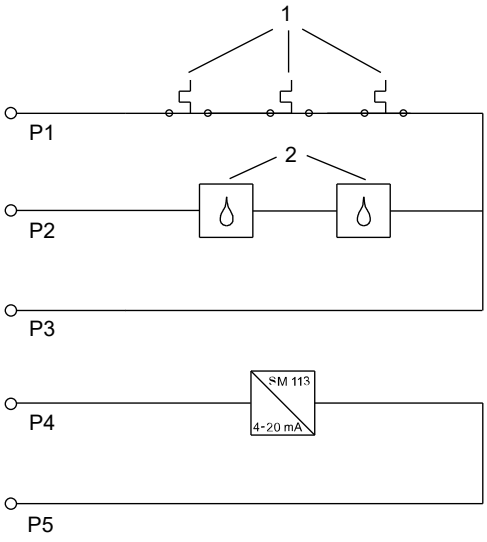
Sensor version 1, single cable



Sensor version 1 and Sensor version 1 Ex, single cable

Pos.	Description
1	Thermal switches / Thermistor
2	Moisture/Level switch

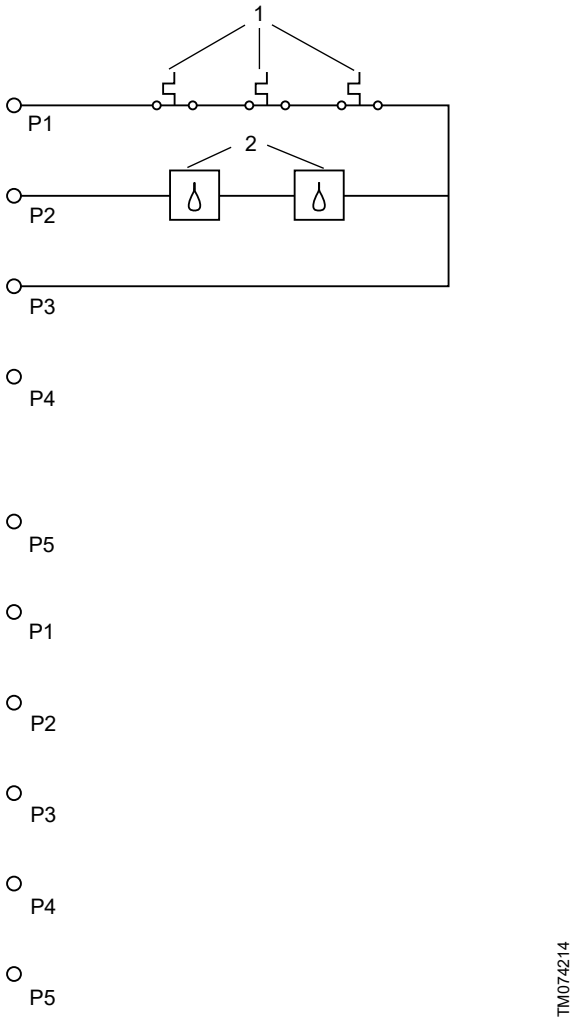
Sensor version 2, single cable



Sensor version 2 and Sensor version 2 Ex, single cable

Pos.	Description
1	Thermal switches / Thermistor
2	Moisture/Level switch

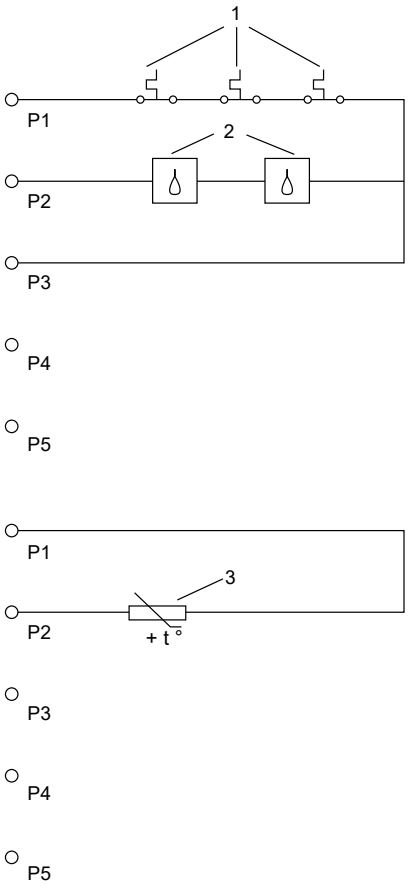
Standard, double cable



Standard and Standard Ex, double cable

Pos.	Description
1	Thermal switches / Thermistor
2	Moisture/Level switch

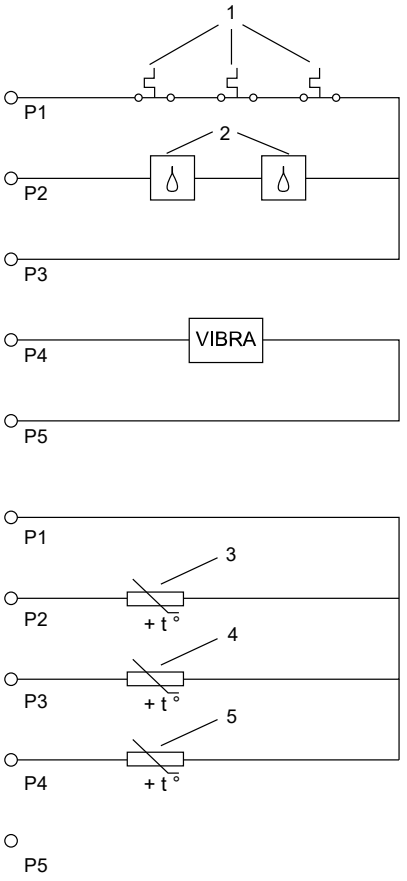
Sensor 1, double cable



Sensor 1 and Sensor 1 Ex, double cable

Pos.	Description
1	Thermal switches / Thermistor
2	Moisture/Level switch
3	Pt1000 stator

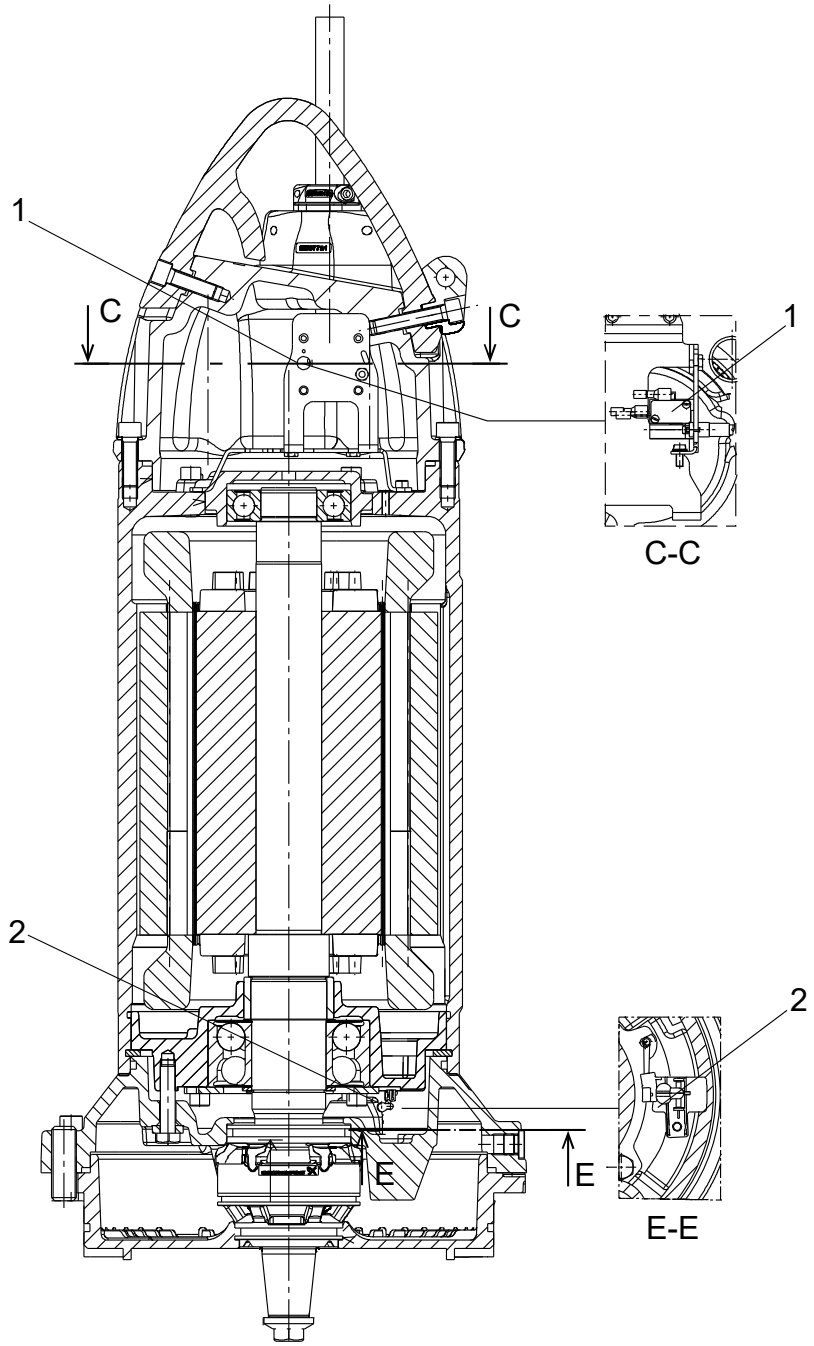
Sensor 2, double cable



Sensor 2 and Sensor 2 Ex, double cable

Pos.	Description
1	Thermal switches / Thermistor
2	Moisture/Level switch
VIBRA	Vibration sensor
3	Pt1000 stator
4	Pt1000 upper bearing
5	Pt1000 lower bearing

Switch and sensor positions



Pos.	View	Description
1	C-C	Moisture switch
2	E-E	Level switch in leakage chamber for standard and Ex motors