

## IO 113



TM05 4166 2112

Fig. 1 IO 113

### Type key

Code	Description	IO	1	1	3
IO	Input/output unit				
11	Controller series				
3	Model number				

### General description

IO 113 is an input/output interface between controllers and wastewater pumps equipped with sensors or a sensor board. The most important information is shown on the front panel.

### Technical data

General installation data of IO 113	
Supply voltage	24 VAC/VDC +/- 10 %
Supply current	Min. 2.4 A; max. 8 A
Power consumption	5 W
Ambient temperature	-25 to +65 °C
Humidity	Max. 95 %
Enclosure class, IO 113	IP20
Enclosure class, protective cabinet	IP54

### Application

IO 113 can do the following as standard:

- Protect pump against overheating
- Monitor moisture in pump, motor winding temperature, leakage (water-in-oil / water-in-air)
- Stop pump in case of alarm
- Measure stator insulation resistance
- Remotely monitor pump via RS-485 communication (Modbus or GENIbus)
- Control pump via frequency converter.

## SM 113



TM05 3408 1312

Fig. 2 SM 113

### Type key

Code	Description	SM	1	1	3
SM	Sensor board				
11	Controller series				
3	Model number				

### General description

SM 113 is used for the collection and transfer of sensor data. SM 113 must be combined with an IO 113.

### Technical data

General installation data of SM 113	
Supply voltage	14 VDC +/- 1 VDC
Supply current	210 mA rms
Power consumption	5 W
Ambient temperature	-25 to +65 °C
Humidity	Max. 95 %
Enclosure class, SM 113	IP22
Enclosure class, protective cabinet	IP54

### Application

When IO 113 is combined with an SM 113, it is also possible to monitor the following:

- Bearing temperature
- Vibration in pump
- Leakage (water-in-oil / water-in-air)\*.

\* If SM 113 is installed, connection of the leakage sensor should be done via the SM 113.

Interface and dimensions

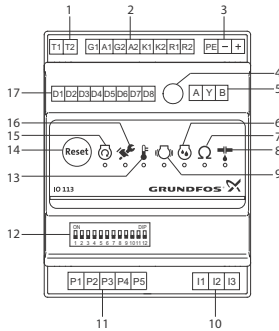


Fig. 3 Interface of IO 113

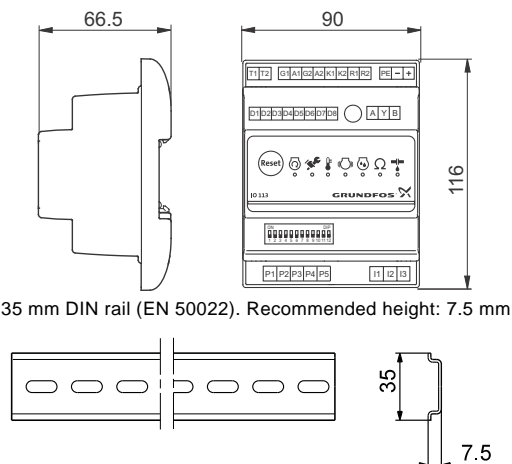


Fig. 4 Dimensions and installation of IO 113

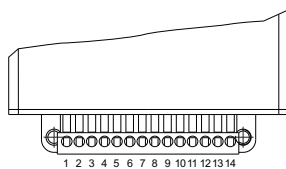


Fig. 5 Interface of SM 113

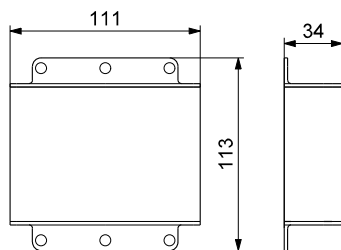


Fig. 6 Dimensions of SM 113

Interface description of IO 113

Pos.	Interface description
1	Terminals for alarm relay
2	Terminals for analog and digital inputs and outputs
3	Terminals for supply voltage
4	Potentiometer for setting the warning limit of stator insulation resistance
5	Terminals for RS-485 for GENibus or Modbus
6	Indicator light for measurement of moisture
7	Indicator light for stator insulation resistance
8	Indicator light for leakage (WIO/WIA)
9	Indicator light for vibration in pump
10	Terminals for measurement of stator insulation resistance
11	Terminals for connection of pump sensors
12	DIP switch for configuration
13	Indicator light to show motor temperature
14	Button for resetting alarm
15	Indicator light for pump running
16	Indicator light for service
17	Terminals for digital outputs

Interface description of SM 113

Pin	Type	Description
1	4-20 mA	Vibration sensor
2	4-20 mA	Additional input
3	13.5 VDC	Supply output for 4-20 mA sensors
4	4-20 mA	Water-in-oil / water-in-air sensor
5	GND	Common ground for sensors
6	P5	Communication signal for IO 113
7	PE	Protective earth
8	P4	Supply input for sensor board from IO 113
9	TBD	-
10	Pt1000	Stator temperature
11	Speed	Reserved
12	Pt100/Pt1000	Main bearing temperature
13	Pt100/Pt1000	Support bearing temperature
14	Pt100/Pt1000	Stator temperature

Variants

The IO 113 is available in two variants:

- 98097391 = standard variant
- 98097390 = variant with communication module.

The product number 98149751 of SM113 can also be found in the nameplate.

98162061 0912  
ECM: 1099962

Subject to alterations.

TM05 1881 3811

TM03 0934 5004 - TM05 1994 4111

TM03 4085 1606

TM03 9914 4607