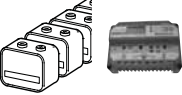


System overview

The SQFlex system can be used in a number of combinations as shown in the table below.

System	System components							
	Pump	Solar panels★	Wind turbine	Generator/battery	Charge controller	Switch box or breaker box	Control unit	Optional extras
SQFlex Solar See page 10.						 IO 50		
SQFlex Solar with CU 200 and level switch See page 11.							 CU 200	 (★★)
SQFlex Solar with backup generator See page 12.						 IO 101		
SQFlex Solar with CU 200 and backup generator See page 13.						 IO 101	 CU 200	 (★★)
SQFlex Solar with backup batteries See page 14.						 IO 50 or IO 101 (★★)	 CU 200	 Pressure tank  Pressure switch
SQFlex Wind See page 15.						 IO 102		
SQFlex Wind with CU 200 and level switch See page 16.						 IO 102	 CU 200	 (★★)
SQFlex Combi See page 17.						 IO 102		
SQFlex Combi with CU 200 and level switch See page 18.						 IO 102	 CU 200	 (★★)
SQFlex system with generator as power supply See page 19.						 IO 101		

★ For number of solar panels required, please consult the sizing tool in Grundfos WebCAPS or WinCAPS.

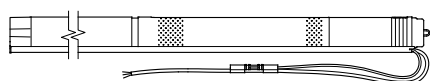
★★ Optional.

4. System components

SQF submersible pump

The SQF pump is available as a complete unit only. The complete SQF pump consists of these components:

- motor
- 2.0 m cable with water-level electrode and socket
- cable guard.

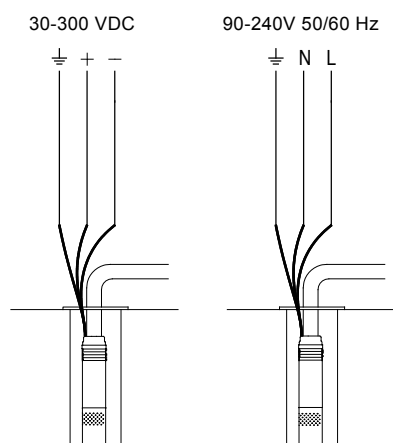


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Fig. 16 SQF pump

The MSF motor is to be connected to the power supply as shown in fig. 17.

As the integrated electronic unit enables the motor to handle both DC and AC supply voltages, it makes no difference how the wires "+" and "-" or "N" and "L" are connected.



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Fig. 17 Wiring diagram

CU 200 SQFlex control unit

The CU 200 is a combined status, control and communication unit especially developed for the SQFlex system. The CU 200 also enables connection of a level switch.

The CU 200 incorporates cable entries for these connections:

- power supply (pos. 6)
- pump (pos. 7)
- earth (pos. 8)
- level switch (pos. 9).

The position numbers in brackets refer to fig. 18.

Communication between the CU 200 and the pump takes place via the pump power supply cable. This is called mains-borne signalling (or power line communication), and this principle means that no extra cables between the CU 200 and the pump are required.

It is possible to start, stop and reset the pump with the on/off button (pos. 1).

The CU 200 offers system monitoring and alarm indication.

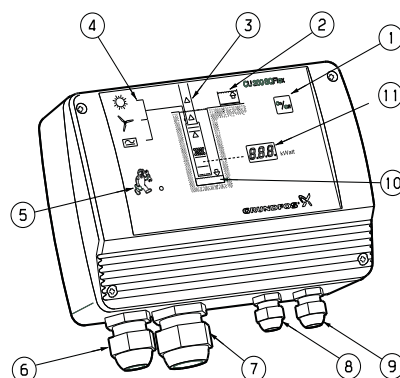
The following indications allow the operation of the pump to be monitored:

- Water reservoir is full (level switch) (pos. 2).
- Pump is running (pos. 3).
- Input power (pos. 11).

The CU 200 offers the following alarm indications:

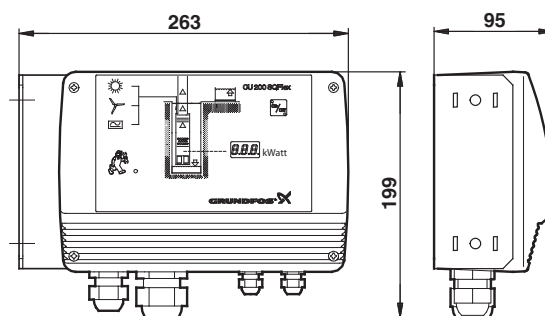
- dry running (pos. 10)
- service needed (pos. 5):
 - no contact to pump
 - overvoltage
 - overtemperature
 - overload.

In addition, the CU 200 shows the symbols of the energy supply options (pos. 4).



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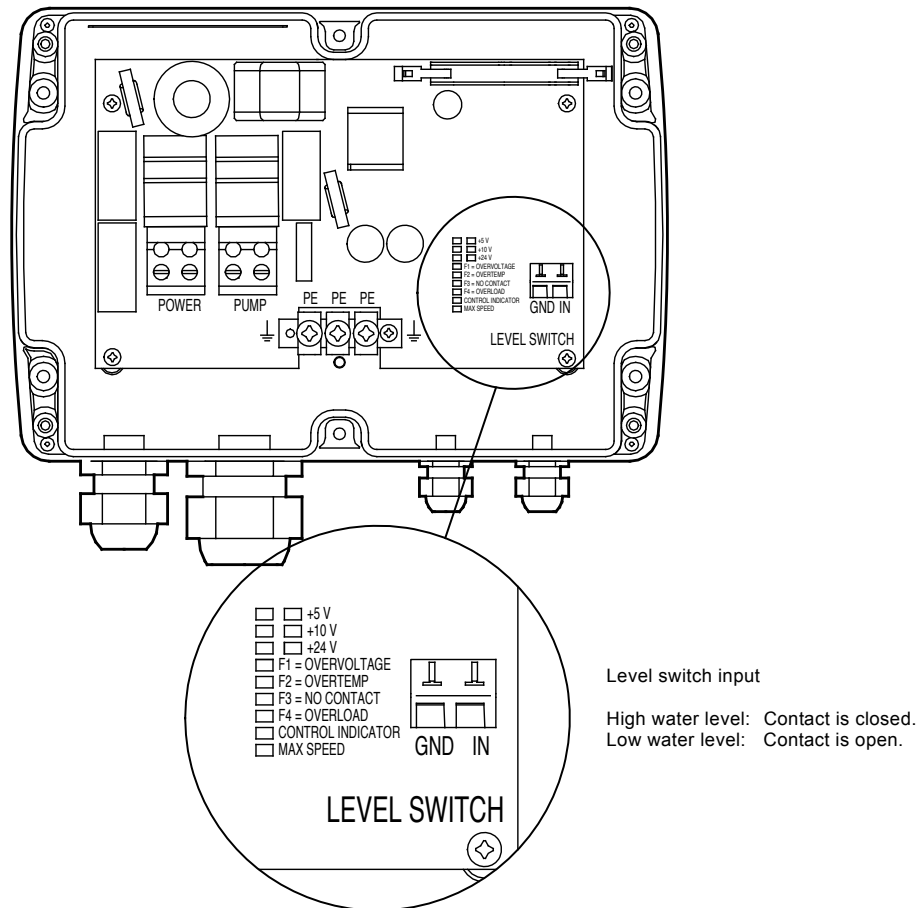
Fig. 18 CU 200 elements



Dimensions stated in mm.

Fig. 19 Dimensions, CU 200

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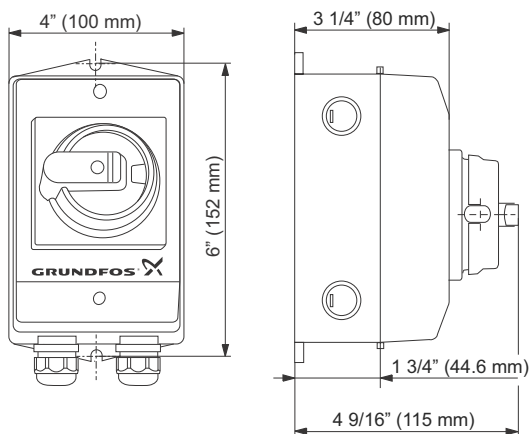
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Fig. 20 Electrical connections, CU 200

IO 50 SQFlex switch box

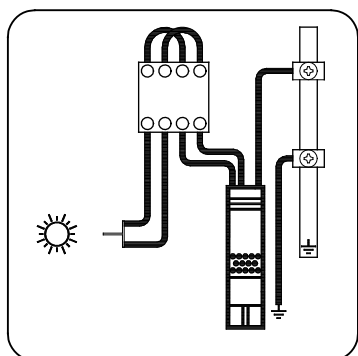
The IO 50 is designed specifically for solar-powered SQFlex systems.

The IO 50 enables manual starting and stopping of the pump in an SQFlex Solar system and functions as a connection box joining all necessary cables.



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Fig. 23 Dimensions, IO 50



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Fig. 24 Wiring diagram, IO 50

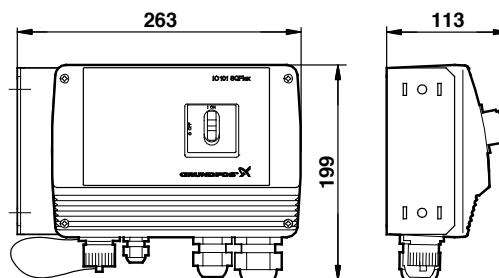
IO 101 SQFlex switch box

The IO 101 is designed specifically for solar-powered SQFlex systems.

The IO 101 enables the connection of a backup generator in case of insufficient solar energy. The switching between solar power and generator must be made manually.

In case the generator is stopped manually or runs out of fuel, the IO 101 will automatically change over to the solar panels.

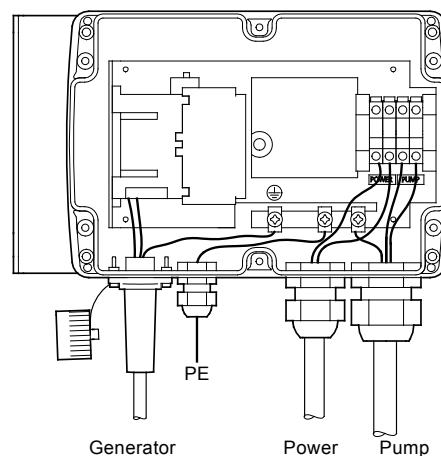
The IO 101 functions as a connection box joining all necessary cables.



Dimensions stated in mm.

Fig. 25 Dimensions, IO 101

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Fig. 26 Electrical connections, IO 101