

1. MGFlex motor

Applications

The Grundfos solar surface pump system is designed for renewable energy supply. Powered by a solar panel, the system is especially suitable for supplying water in applications such as these:

- irrigation
- livestock
- pressure boosting
- floating pump
- swimming pool (OEM).

The MGFlex motor can be mounted on select Grundfos CR pump models.

Motor

The MGFlex motor is a new solar-powered motor. It is a 2-pole motor with integrated variable frequency drive (VFD).

The VFD enables the motor to run at high efficiency in a wide speed range:

- power input (P1) of 70 to 1250 W
- motor speed range of 1000 to 3400 rpm
- maximum input current of 5 A
- IP54.

The motor is suitable for both DC and AC voltage supply:

- 110-415 VDC, PE
- 1 x 220-240 V, -10 % / +6 %, 50/60 Hz, PE.

Features and benefits

Maximum Power Point Tracking (MPPT)

The motor continuously optimizes the speed according to the input power available when connected to DC supply.

Wide voltage range

The wide voltage range enables the motor to operate at any voltage from 110 to 415 VDC or 220 to 240 VAC. The motor will operate from 100 VAC with a derated power (at maximum input current 3 A_{rms}).

Overvoltage and undervoltage protection

Overvoltage and undervoltage may occur in case of unstable power supply or a faulty installation. The motor will be cut out if the voltage falls outside the permissible voltage range, and it will be cut in when the voltage is again within the permissible voltage range. No extra protection relay is required.

Overload protection

The motor is supplied with built-in thermal protection according to IEC60034-11, both steady overload and stalled condition. It will be stopped and restarted automatically.

The motor is to be connected to the power supply as shown in fig. 1.

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.