

Tech Bulletin: Power Input and Stratos Wiring

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Description: Power Inputs and Wiring Instructions

The Stratos “Smart ECM VFD” pump has various power inputs as a result of the ECM technology.

ECM or “Electronically Communicated Motor” refers to the permanent magnet rotor design. The electronics of the drive “communicates” with the rotating magnetic field of the rotor and controls the speed of the pump by varying the frequency to the three phase motor based on the differentiation between the rotating field of the rotor and motor stator (windings).

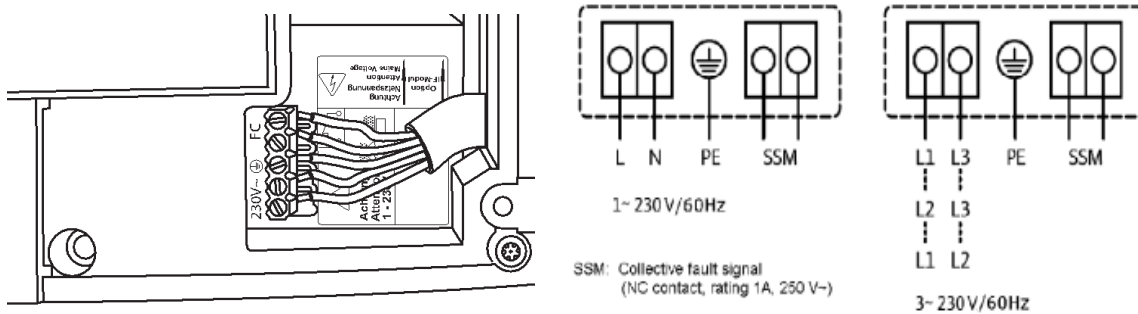
The Stratos requires a total of 230 volts AC power input (+/- 10%) across the power inputs shown below. The electronics convert the AC power to DC and re-convert to three phase AC power to drive the motor. As long as the total voltage across the power inputs is a total of 230 volt +/- 10% the pump will operate with no problem. As the pump is protected against over and under voltage (as well as dry run, locker rotor, over temperature and over amperage), if the voltage exceeds these limits the pump will first go into a warning mode and if the voltage variance increases a failure mode is activated (pump is off, red light on, diagnostic error code on the face of the LCD and the FC or fault contact is opened).

Voltage possibilities are as follows (all +/- 10%):

- Two 115/1 volt “hots”
- 230/1 volt and neutral (208 is within 10% and is OK)
- Two of three legs of three phase power (see wiring diagram) – total voltage 230 Vac

FC or “Fault Contact” terminals (shown on wiring diagram as SSM) are normally closed potential free, dry contacts that open in the event of any of the built in overloads (over/under voltage, dry run, over temperature of the electronics or motor, locked rotor or over current). Some errors are auto reset and some are manual (see Installation and Operation manual). Ratings of the Fault Contact are as follows (NOTE: The Fault Contact does NOT have to be used for the overload protection feature to operate).

- Potential Free
- Minimum contact load – 12 Vdc, 10 mA
- Maximum contact load – 250 Vac, 1 Amp



Please contact WILO customer service or the writer for additional information...

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