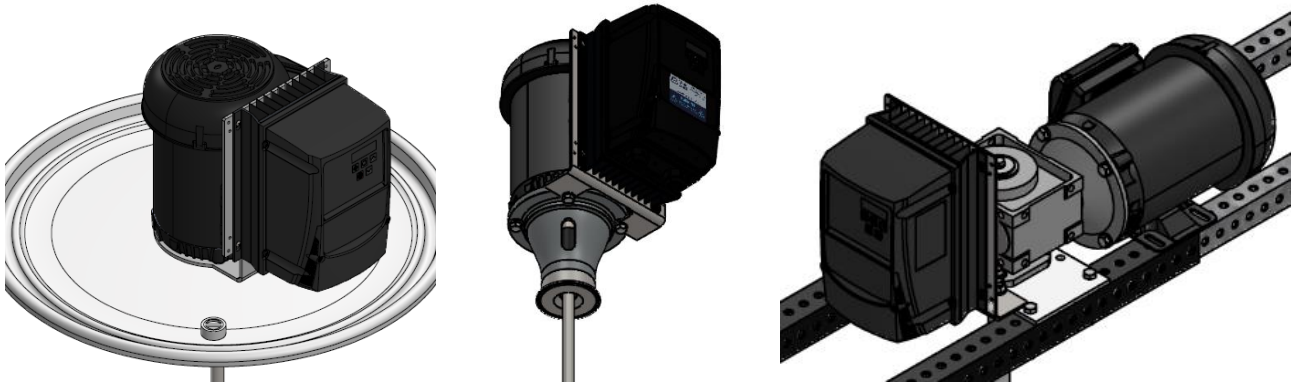


Portable Mixer VFD Add-On Package Installation, Wiring and Programming



Installation:

The Portable Mixer VFD Add-On package should come with everything required for mounting and wiring the VFD to your portable mixer. Mounting plates and hardware will vary depending on the type of portable mixer but typically mounts to the motor face hardware. Contact MXD Process for mounting assistance if required.

Alternatively, the VFD may be mounted remotely to a wall, mixer stand, etc. if desired. In these cases, it is the installer's responsibility to ensure that the VFD is appropriately secured.

Wiring:

Your VFD add-on package should include all parts required to wire the VFD to your portable mixer, including a short section of wiring which should be sufficient for most on-mixer mounting applications. It is recommended that a qualified electrician perform the wiring installation.

Power:

- Except for 120V input applications, no input power cord/wiring is provided, and it is the installer's responsibility to wire input power in accordance with all applicable local electrical codes. See Section 4 of the VFD user guide(s) for more information on power wiring.

Motor

- Typical 230/460v 3PH motors use a 9-wire configuration in the terminal box, and a wiring diagram for connection to low or high (230v or 460v) voltage is provided on the motor nameplate or in/near the motor terminal box. Wire connections to the motor should be made using suitable wire termination techniques. MXD Process recommends the use of Wago compact splice connectors (provided) instead of twist-on wire nuts for most applications due to the ease of use and secure connection. On motors

equipped with a terminal block instead of wire leads, appropriate ring terminals should be used. See Section 4 of the VFD user guide(s) for more information on power wiring.

Programming:

As shipped, your VFD add-on package should have base programming to allow immediate usage once properly mounted and wired. However, once the unit is installed, additional application-specific programming should be set for best performance and longevity. See the table below for standard minimum recommended programming. Full programming options can be found in the VFD manual(s). Altering the programming outside this document may void your mixer warranty, contact MXD Process before making any changes.

Optidrive E3	Optidrive P2	Description	Standard Value
P-07	P1-07	Motor Rated Voltage	Per Motor Nameplate
P-08	P1-08	Motor Rated Current	Per Motor Nameplate
P-09	P1-09	Motor Rated Frequency	Per Motor Nameplate
P-10	P1-10	Motor Rated Speed	Per Motor Nameplate
P-12	P1-12	Primary Command Source	See Note 1
P-02	P1-02	Minimum Speed	See Note 2

Programming Notes:

1. For most mixer applications, parameter 12 should be set to “2”, for forward & reverse operation from the keypad. On some applications where running the mixer in reverse could cause damage or impose a safety hazard – such as on applications using a single bolt to secure the impeller to the shaft – parameter 12 should be set to “1” for forward only operation.
 - a. If the forward and/or reverse directions are backwards, disconnect power from the drive and then reverse any two of the wires from the motor to the VFD (U,V,W)
2. Unless specified otherwise by MXD Process, minimum speed should be a function of the motors constant torque (CT) rating. The motor rated speed should be divided by the CT rating of the motor to get the minimum speed. For a typical 1750 RPM motor with a 10:1 CT rating, $1750/10 = 175$ rpm minimum speed. If the CT rating can't be found, 5:1 is a safe value for general applications.

Additional resources:



Optidrive E3 Documentation



Optidrive P2 Documentation