



26 2923 – Variable Frequency Drives

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Last Update: May 12, 2017

Integral Disconnects:

In general, we use an integral disconnect switch on each VFD.

Power Wiring:

All power wiring shall be routed by itself in metallic conduit.

Control Wiring:

All control wiring shall be routed in a separate metallic conduit apart from the power wiring. This includes wiring to Electrical Interlock contacts referenced below.

Electrical Interlocks:

All safety disconnects located on the load side of the VFD will be equipped with a set of normally open electrical interlock contacts connected in series with the VFD control circuit. Specify the electrical interlock contacts to break before and make after the primary contacts of the disconnect. The wiring to the electrical interlock will be in metallic conduit and routed separately from the power conductors.

Isolation Transformers:

Use isolation transformers for voltage matching only, or when the VFD manufacturer specifically recommends that they be used for their drive. When input power transformers are required, it should be stipulated that they not be located directly below the VFD in order to avoid raising the ambient temperature around the drive. The contract drawings should clearly illustrate the location of the drive isolation transformer away from the VFD.

VFD Installation:

The VFD specification should indicate that the wiring methods and installation of the drive be per the manufacturers' recommendations.

NOTE: Coordinate VFD and motor to prevent premature bearing failure.

Diagrams:

The drawings need sufficient wiring diagrams, illustrations, and notes for the E.C. to terminate all wiring for the VFD and it's associated systems, i.e. fire alarm etc. The VFD specification should indicate that the wiring methods and installation of the drive be per the manufacturers' recommendations. This would include items such as the routing of all conductors in metallic conduit as well as the routing of control conductors in separate metallic conduits from the power conductors.

VFD Location:

The designing A & E firm shall locate the VFD where the ambient temperature is within the specifications as designated by the approved VFD manufacturers.

Approved Manufacturers:

ABB, Allen-Bradley, Eaton

Coordination:

VFD's shall be supplied by the equipment supplier whose equipment is served by the VFD. Do not specify "by MC", "by EC" or "by TCC".