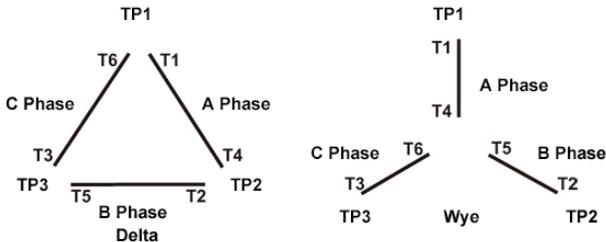


Connections For Multiple Lead Motors for MCA™ Testing

For MCA trending and analysis of three phase electric motors, three motor leads are connected to the MCA instrument. When new motors are tested the technician may encounter motors with multiple motor leads. This allows for the motors to be used in multiple applications. Normally the connection diagrams are provided by the Original Equipment Manufacturer (OEM). This guide is provided if the manufacturers diagram is unavailable. These guidelines do not supersede the OEM connections. Generally, the coils all use standard numbering schemes so connecting them for MCA testing is straight forward. It is assumed that the technician has basic electrical skills and access to the proper wire connections materials such as wire nuts, split bolts, lugs, assorted machine screws or bolts, and insulating materials that may be needed to make temporary or permanent connections to the motors under test.

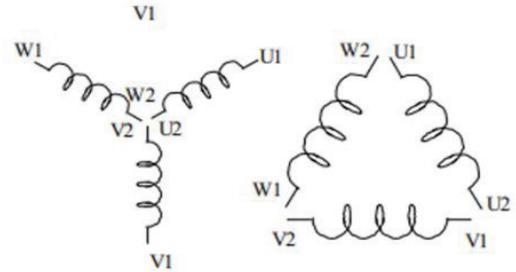
Three phase motor winding each have a start to the phase and the end to the phase. These phases are then connected in a DELTA or WYE configuration. Any unbalance in test results will show up regardless of the connected configuration. If the test result is to be used as baseline data, any subsequent testing should be done in the same configuration for trending and comparative purposes. A note about the test configuration can be entered into the relevant computer analysis software test data file. Example- MCA PRO™ computer software.

Six Lead Motors

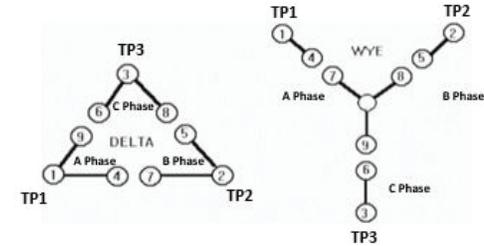


To test the motor in the DELTA configuration the start of each phase is connected the end of another, and the motor leads T1, T2 & T3 are connected to this junction of the phase leads. Firmly connect leads T1 to T6, T4 to T2, and T5 to T3 and use these connections as the test points 1, 2, and 3. To connect the motor in the WYE configuration, firmly connect the end of the phases together to form a “wye” connection and insulate leads T4, T5, and T6 and then use the start of the phases as the test points 1, 2, and 3 as phase connections.

Six Leads IEC Motor Diagram



Nine Leads IEC Motor



Nine lead motors will come from the OEM or repair facilities with some of connections internally connected in either a DELTA, or WYE configuration. To complete the connections, connect motor leads T4 to T7, T5 to T8, and T6 to T9 with wire nuts or other suitable means and use motor test points 1, 2, and 3 as phases connections. **Nine Leads IEC Motor Diagram Below.**

