

VLF CABLE TESTING – ALL THREE PHASES AT ONCE

VLF Withstand testing can be performed on all three phases of a cable system at the same time provided that the total combined capacitance of the three cables does not exceed the uF rating of the frequency setting of the VLF test set. Every VLF is rated by the load capacitance it can test at select output frequencies, with lower frequencies able to test longer lengths or more cables at one time.

For example: at the 0.10 Hz. output of a typical VLF model, the load test rating may be 1 uF. This load can be one phase of a 5000'/1.5 km 15 kV cable or can be all three phases connected together (in parallel) of a cable 1500'/.45 km long. If the cable length requires higher uF ratings from the VLF to test all three phases together, then a lower frequency setting on the VLF can be selected. At 0.05 Hz, compared to the 0.10 Hz. rating, twice the load, or cable length, can be tested. At 0.05 Hz. and 0.01 Hz. load rating selections, even longer cables can be tested.

How is the multiple cable connection made?

To test all three phases at once, all three conductors must be securely connected, or jumped, together with a suitable conductor. VLF sets are usually shipped with a jumper cable that allows for the connection of the other two phases to the phase connected to the VLF output. HVI ships a jumper cable set with most of its VLF products. This consists of insulated #10 test lead terminated with battery clamps. Since this testing situation requires high voltage but very low current, light gauge wire is acceptable.

Warning: all three phases should be physically supported and held in place by some means other than the wire jumper used to short the three conductors together. This should only be an electrical connection, not a physical or mechanical one.

Warning: the jumper cables used are not insulated for the test voltage supplied from the VLF. They must be suspended in free air away from any ground points to prevent arcing.

Caution: The insulation of this cable is **NOT** insulated for the test voltage supplied. It must be isolated from all ground points and personnel.

