



MULTILIN

INSTRUCTIONS

DLP1*KD0103**

DLP MODIFIED FOR 240 VOLT AC INPUT

Hardware Modification

The DLP relay chosen as the basis for this project is a standard DLP Rev D with rated nominal input of 120 V rms (phase to phase). The voltage transformers in the DLP have been redesigned so that the rated nominal input voltage is:

Rated Voltage: 240 V rms, phase to phase
(139 V rms, phase to ground)

Firmware Modifications (Version V802.540D)

The firmware of the DLP has been modified so that the DLP relay will report the secondary voltages on a 240 V base for Present Values, Fault Reports, Oscillography Data, and MW/MVAr calculations.

These instructions do not purport to cover all details or variations in equipment nor provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company. To the extent required the products described herein meet applicable ANSI, IEEE and NEMA standards; but no such assurance is given with respect to local codes and ordinances because they vary greatly.

Calculations of Settings

Normally, the DLP relay is similar to most other relays in that the settings are made based on the secondary currents and voltages from standard current and potential sources. The impedance ranges and settings in this variation of the DLP, however, are still based on a nominal input voltage of 120 V rms phase to phase even though the actual relay is designed for 240 V rms inputs. Thus, some modifications must be made to the Calculations of Settings Section in the DLP instruction book.

Potential Transformer Ratio, PTRATIO (Setting 1507)

The potential transformer ratio should be based on the VT secondary rating of 240 V. Thus, if the VT ratio is 345,000/230, the setting should be 1500. Note that the range of this setting remains 1 - 7000.

Positive Sequence Impedance, ZP (Setting 1403)

The impedance measurements in this version of the DLP relay are still calculated as if the input voltage was 120 V instead of the actual 240 V. Thus, if a secondary line impedance setting of 10 ohms, on a 240 V base, is desired, the ZP setting in the DLP must be 5 ohms.

Distance Function Reach Settings

The reaches of all distance functions in the DLP must be set to one half of the value calculated on the basis of a 240 V VT secondary

Relay Testing

Testing of the DLP over current functions will not be affected by this modification.

For all DLP testing that involves voltage, the voltage magnitude stated in the DLP instruction book must be doubled to produce the proper test value.