



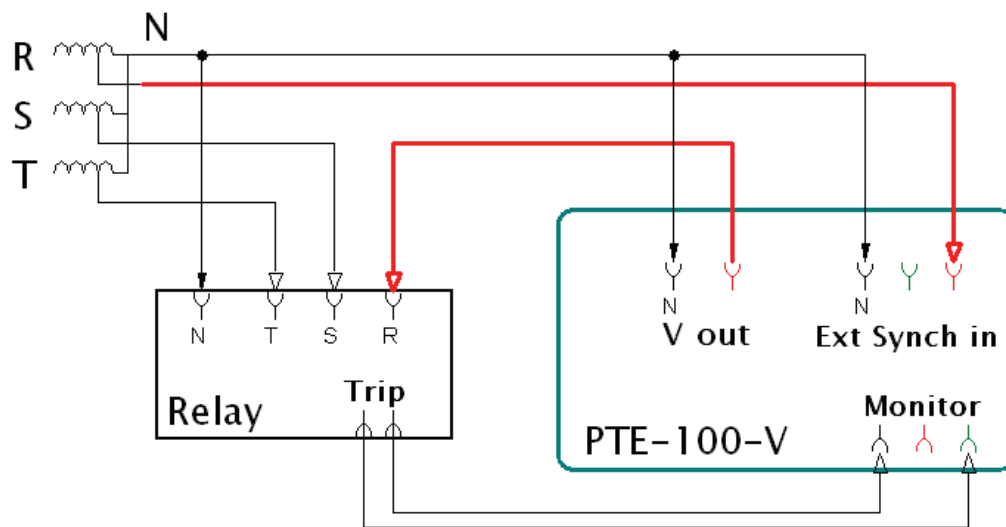
TESTING A THREE-PHASE FREQUENCY RELAY WITH THE PTE-100-V

TEST DESCRIPTION

Frequency will be changed at the test set to assess the relay's frequency setting at each phase. As the PTE-100-V can only supply test voltage for one phase, a three-phase variac can be used to adjust the voltage of the remaining two phases to the relay's input range. For a 110-V voltage between phases, adjust the variac outputs and the Vout in the PTE-100-V to 63.5 V.

The frequency at the tested phase will be generated by and adjusted from the test set in 'delta' mode, i.e. as a positive or negative increment of the reference frequency shared by the other two phases. To achieve this, the PTE-100-V must use the external synchronization input and the frequency generator must be set to 'delta' mode.

Therefore, the tested phase in the relay will receive a variable frequency test signal of the same amplitude as the other two phases. The phase angle must also be adjusted to the one that corresponds to the tested phase.



TESTING THE RELAY'S 'R' PHASE

1. Do the connections as shown in the diagram. The Trip – Monitor connections correspond to a dry contact at the relay's output.
2. Set the phase angle to 0° in the PTE-100-V
3. Activate the PTE-100-V's output and increment / decrement the frequency to identify the relay's trip/no trip regions

TESTING THE 'S' PHASE

1. Take the 'R' terminal from the variac to the relay's 'R' input.
2. Take the PTE-100-V's output to the relay's 'S' input
3. Take the 'S' terminal from the variac to the PTE-100-V's External Synchron input
4. Adjust the phase angle to 240°
5. Activate the PTE-100-V's output and increment / decrement the frequency to identify the relay's trip/no trip regions

TESTING THE 'T' PHASE

1. Take the 'S' terminal from the variac to the relay's 'S' input.
2. Take the PTE-100-V's output to the relay's 'T' input
3. Take the 'T' terminal from the variac to the PTE-100-V's External Synchron input
4. Adjust the phase angle to 120°
5. Activate the PTE-100-V's output and increment / decrement the frequency to identify the relay's trip/no trip regions