

Factor from 0.1 upwards. If at any time values below these are encountered, the calculation can be based on, say, ten times the current or Power Factor, and the Wattage indication then divided by ten.

Balanced 2 phase: The line/neutral voltage should be measured and the unity (1.0) power factor marked on the calculator set against the voltage value. The wattage *per phase* is then read against the *minimum* current, it being unnecessary to measure the power factor. The total wattage is twice the phase wattage.

Alternatively, the line/line voltage should be measured and the mark VL2 on the calculator set against this value. The total wattage is then read against the *minimum* current, there being no necessity to determine the power factor. *Note:* the voltage derived from line to line must not be applied to the Unit, but merely used to facilitate computation on the wattage calculator.

Balanced 3 phase: The line voltage should be measured and the mark VL3 on the calculator set against this value. The total wattage is then read against the *minimum* current, it being unnecessary to determine the power factor.

Unbalanced 2 or 3 phase: The power in each phase must be determined as a single phase test, the total power being the sum of the individual phases.

For "star connection" circuits the power in each phase is the product of the phase volts, the line current and the power factor.

For "delta connection" circuits the power in each phase is the product of the line volts, the phase current and power factor. This latter case can only be determined if phase currents can be measured.

Other applications for the device such as the determination of phase angle between two voltage sources may present themselves to the discerning engineer.

The Measurement of Reactive kVA with the Power Factor and Wattage Unit

Many supply authorities stipulate that a penalty will be imposed if the power factor of a connected load drops below a certain figure. In practice, therefore, it is not only desirable to know the power factor, but the amount of correction required to improve it to a given figure. This Unit will provide all the necessary information.