

3M[™] Sensored Cable Accessories (SCA) Series: QX-2.0

Power Quality: Volt/VAR Optimisation

3M[™] Sensored Cable Accessories (SCA) offer a broader dynamic range for voltage, current, phase angles and harmonics measurements to ensure a higher accuracy of power quality applications for effective Volt/VAR control and load planning/ balancing.

Power Quality through Volt/VAR Optimisation, or VVO, involves reducing the amount of reactive power on the grid to reduce the total current.

Reactive power is the result of the parasitic inductance and capacitance that the grid itself forms, with the addition of reactive loads. While the power delivered may be imaginary, the increased current, subsequent line losses and reduced throughput are real.

If an inductive load is present, the voltage will lead the current. Alternatively, if a capacitive load is present, the current will lead the voltage. Either one of these conditions leads to poor power factor and will require that additional current be present on the grid to provide the same amount of real power to the end users. Once measured accurately, inductive and capacitive loads can be compensated for by switching in a capacitor bank to cancel out reactive loads or a reactor to cancel out capacitive loads.

Determination of the phase angle requires concurrent measurements of voltage and current (enabled by the 3M Sensored Accessories) and a subsequent analysis of the time relationship between the two.







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