VOLTAGE OPTIMISATION

Technical Data Sheet | Industrial & Manufacturing Facilities

TYPICAL SYSTEM CONFIGURATION & DESIGN PARAMETERS

PARAMETER	DESIGN / TECHNICAL CONSIDERATION
System purpose	Controlled adjustment of supply voltage to compatible downstream electrical loads; savings are site and load dependent.
Typical installation	Three-phase LV installation at a suitable point in the site distribution network, subject to design.
Rated supply / frequency	Match the actual site supply, voltage range, phases and frequency; verify manufacturer rating.
Current / kVA rating	Size for measured maximum demand, diversity, starting/inrush currents and future capacity.
Voltage adjustment	Fixed-step or automatic regulation depending on equipment and required output tolerance.
Bypass / isolation	Maintenance and fault bypass strategy, safe isolation and switching arrangements established by design.
Short-circuit withstand	Prospective fault current, upstream protection and equipment withstand ratings coordinated.
Protection / earthing	Overcurrent, fault protection, protective conductor arrangements and bonding to suit installation.
Location / enclosure	Ventilation, heat dissipation, access, noise, ingress protection and ambient environment considered.

SITE ASSESSMENT & PERFORMANCE

PARAMETER	DESIGN / TECHNICAL CONSIDERATION
Pre-installation monitoring	Record voltage profile, current, kW, kWh, power factor and representative load patterns.
Load compatibility	Assess motors, contactors, VSDs, electronic supplies, control circuits and equipment voltage limits.
Power quality	Review harmonics, imbalance, voltage dips, transients and operational sensitivities where relevant.
Energy savings assessment	Use measured baseline and suitable load analysis; do not assume a fixed percentage saving.
Post-installation verification	Compare like-for-like operating periods, production levels and energy data after commissioning.
Maintenance	Manufacturer inspection, ventilation, connections, indicators and bypass operation as applicable.

STANDARDS, TESTING & HANDOVER

PARAMETER	DESIGN / TECHNICAL CONSIDERATION
Applicable requirements	Electricity at Work Regulations 1989; BS 7671 (current applicable edition); relevant equipment/product standards and manufacturer instructions.
Commissioning	Visual inspection, electrical verification, phase sequence, input/output voltage, protection and bypass function checks.
Documentation	Single-line diagram, equipment settings, monitoring baseline, test records, operating instructions and O&M; information.

QUEST ELECTRICAL | Industrial LV distribution, site surveys, voltage monitoring, electrical installation and commissioning.

Technical note: This is a general data sheet, not a manufacturer specification or guaranteed savings statement. Final equipment selection, ratings, protection, settings and predicted performance require a site-specific engineering assessment.