Connection to Incoming Supply

Voltage as a Service (VAAS)™ is an energy-saving service solution for regulating and optimising the voltage supplied to electrical equipment to the optimal level for efficient operation. The purpose of VAAS is to reduce energy consumption, lower electricity bills, and decrease carbon emissions by ensuring that electrical devices operate at their most efficient voltage level.

Connection of VAAS to Incoming Power Supply

Voltage as a Service (VAAS) systems are typically installed at the main incoming power supply point, between the incoming utility power supply and the main distribution board of the building.

Key Issue	Description	
Installation Point	The VAAS system is installed downstream of the main circuit breaker or incoming isolator, immediately after the point where the building's electrical supply is metered by the utility. This positioning ensures that all downstream electrical loads are optimized.	
Connection Type	The connection method varies depending on the kVA rating and the power supply characteristics (single-phase or three-phase)	
	Single-Phase VAAS systems	For smaller sites or premises with a single-phase supply (common in residential and small commercial settings), VAAS systems are connected to the single-phase incoming line (live and neutral).
	Three-Phase VAAS systems	For larger commercial and industrial sites with three-phase power supply, VAAS systems are connected across the three-phase lines (L1, L2, L3) and neutral. These systems balance the voltage across all three phases to ensure optimal voltage levels for all connected equipment.
Bypass Arrangement	Most VAAS systems come with an integrated bypass switch or are installed with an external bypass panel. This feature allows the electrical supply to bypass the VAAS system in case of maintenance or failure, ensuring continuous power supply to the facility.	
Control and Monitoring	Advanced VAAS systems are equipped with control panels that allow for real-time monitoring and adjustment of voltage levels. These systems may be configured to maintain a specific voltage reduction percentage (e.g., 5-10%) based on site requirements.	
Protection Considerations	Proper protection devices, such as fuses or circuit breakers, are integrated to safeguard the VAAS system and the electrical network from overloads, short circuits, or other electrical faults.	
Compliance and Testing	VAAS systems are installed following local electrical regulations and standards, and they undergo thorough testing and commissioning to ensure optimal performance and safety.	

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