How can Utilities ensure a reliable and continuous power supply within the substation, enabling uncompromised operation in all conditions? Power Voltage Transformers (PVT), also known as Station Service Voltage Transformers (SSVT) offer the ideal solution.

A PVT is a single-phase transformer, based on well-known and proven Instrument Transformer technologies. It is connected within the substation in the same method as Voltage Transformers without the need of additional protection. By reducing the High Voltage to a Low Voltage in a single step, a PVT provides a “plug and play” auxiliary power supply. This is the ideal solution compared to other alternatives, such as an interconnection with a Medium Voltage distribution grid, or supply from the tertiary of a Power Transformer, thus endangering its reliability.

APPLICATIONS OF POWER VOLTAGE TRANSFORMERS IN GIS SUBSTATIONS

A Power VT in GIS Substations can have several applications:

• Providing auxiliary power for GIS substations from high voltage to low voltage in one step.
• Power VT technology, being resilient and flexible, can help customers to get auxiliary power for multiple requirements in a GIS substation, such as lighting, heating, cooling, power supply for motors, protection and emergency systems, among others.

Like installations in AIS substations, Power VT’s in GIS substations can supply power to remote farms and villages or to zones where access to the distribution line may be extremely difficult. In such cases, the Power VT only needs access to the HV transmission line.

Since a parallel Power VT installation is possible in a 3-phase system, our customers can “build” their own configuration to achieve the required auxiliary power with all the advantages of a compact GIS system without maximum auxiliary power limitations.

A Power VT can be retrofitted to offer redundancy and/or to extend the power capability of the Substation with limited costs and efforts; even if a substation is already operating with another auxiliary power source.
With over a 100-year experience in the field of Instrument Transformers, and more than 20 years in Power VT manufacturing, we can offer our customers a vast portfolio with many attractive features:

- Same operation and interface as a standard Voltage Transformer
- Available from 72.5 kV up to 245 kV (Higher system voltage on request)
- Power capability up to 20 kVA per phase (Higher output powers are achievable by parallel and/or 3ph operation)
- After testing, the switchgear can be put into operation without mechanical work on the primary circuit
- Power supply via standard socket outlet (e.g., single-phase, 230 V, 16 A)
- Ease of transportation and handling due to light weight
- SF6 gas handling at site not required for test preparation
- Low investment in site-based testing facilities
- Our worldwide presence ensures customer proximity, allowing access to expert technical support at all times

For more resources on Power VT’s for AIS and GIS substations, please check out our website: https://www.trench-group.com/products/power-voltage-transformers
Contact us sales@trench-group.com