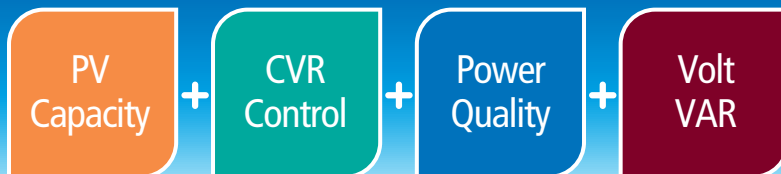


What if one device could solve...



A Powerful New Tool

Featuring continuous control of reactive current, these power electronic compensators can be used to solve dynamic response limitations and costly mechanical wear issues associated with conventional switched cap banks and tap changing regulators. System benefits include increased feeder hosting capacity of distributed generation and reduction of voltage flicker and harmonics in distribution circuits.

15 kV Dynamic Volt/VAR Compensator

Over the last several years, there has been a rapid rise in Distributed Energy Resources (DER), in particular distributed generation from PV in forms of residential rooftop, small utility scale and commercial solar installations. Because renewable energy is dynamic and intermittently variable in nature, distribution grids must now enhance their network's capabilities to accommodate this new resource, while maintaining efficiency and superior power quality for their customers. D-VAR VVO® solutions offer precise and fast reactive power control to maintain utility standards while enabling exponentially growing interest in distributed generation.

Features:

Built and designed upon proven experience

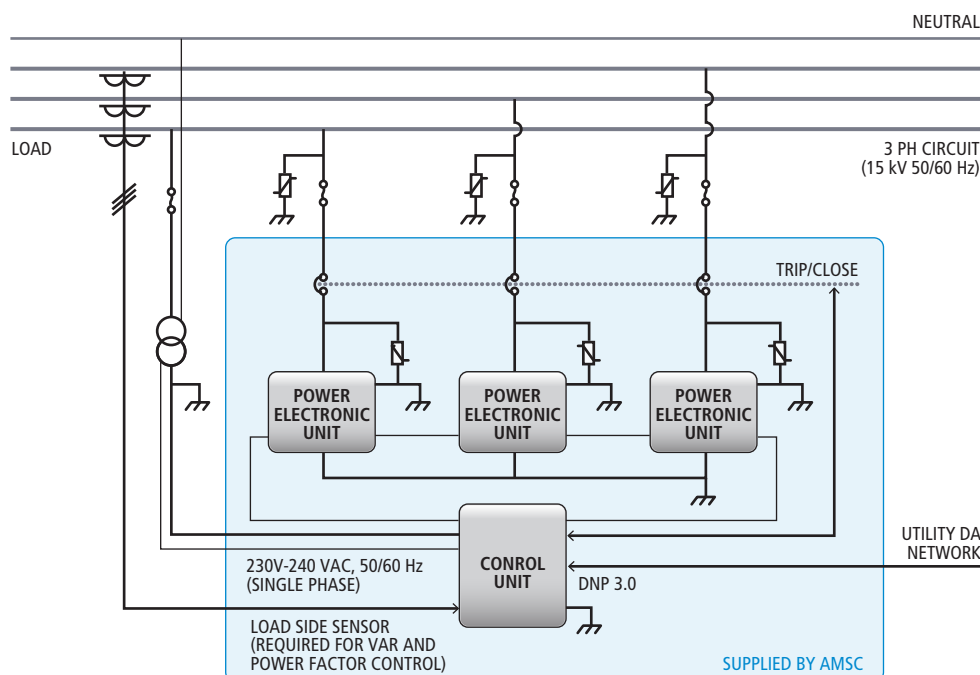
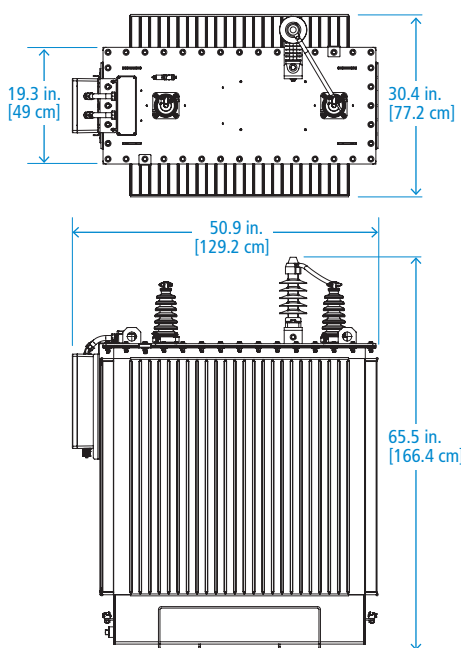
- 15 kV distribution class shunt compensation solution
- Operates by injecting a controlled amount of reactive current (inductive or capacitive)
- Autonomous or dispatched control modes
- Three phase or single phase operation

Easy to Install

- Installation requirements similar to overhead transformers
- No routine maintenance
- Can be installed along feeders or in substations

D-VAR VVO®

Single Phase Power Electronic Unit



ELECTRICAL

Connections	Three phase floating wye, three phase grounded wye, single phase line to neutral
Installation locations	Along feeder or in substation
Connection voltage	Up to 13.8 kV direct connection (no transformer required)
Operating range (voltage)	0.5 pu - 1.2 pu (@ 12.47 kV Line-Line)
Fault Withstand	12.5 kA Symmetrical
System frequency	50/60 Hz
Nominal kVAR Rating (+/-)	1 MVAR 3ph (@ 12.47 kV Line-Line) 333 kVAR 1ph (@ 7.2 kV Line-Neutral)
Overload Rating (temporary)	1.3x for 1 minute
Harmonics	< 3.5% THD (IEEE-519 compliant)
Rated losses	1.3% of output, typical
Standby losses	< 400 W

EQUIPMENT

Temperature range (1)	-40 to +122 °F [-40 to +50 °C]
Altitude	1000 m (3,280 ft) with no derating, 2000 m (6,500 ft) derate to +113 °F [+45 °C]
BIL Rating	95 KV
Enclosure	Sealed tank, corrosion resistant ANSI C57.12.28
Approx. Dimensions (single pole mount module)	65.5 x 30.4 x 50.9 in. [166.37 x 77.21 x 129.29 cm] H x W x D includes bushings & radiators
Approximate weight (pole mount module)	< 2600 Lbs. [1180 kg]
Pad mount module	Contact factory

(1) applies for outdoor environment

CONTROL

Autonomous	Volt/VAR, Feeder VAR, Feeder Power Factor, or Active Flicker Control
Dispatchable set points	Voltage, Feeder VARs, Feeder Power Factor set point
Disconnect	External vacuum switch (included)
SCADA Connection	DNP 3.0 over Ethernet
Wireless remote monitoring	DIN rail slot for cell modem
Other controls	Independent phase control

CUSTOMER I/O

Control Supply	230-240 VAC input, single phase (50/60 Hz), replaceable inline fuse
Control Power Transformer	3 kVA (min), 10 kVA (max)
Dry Contact Outputs	2 contacts, Up to 230 Vac, 6 Arms (also rated for 48 VDC)
Digital Inputs	2 inputs (wetted by AMSC control, 12-48 VDC)
CT Inputs	600A: 10V (gland cable entry)
Grounding Stud	Screw terminal, supports 2/0 to 8 AWG
Other	AMSC control connector kit specified separately
SCADA Protocol	DNP 3.0 (AMSC to provide points database)
SCADA Physical Layer	RJ45, Ethernet, 10/100
SCADA Connection	DNP 3.0 over Ethernet, Configurable for TCP/IP or UDP
Wireless Radio Supply	12 VDC, 1A (other options available)
Wireless Radio Interface	see SCADA physical layers