

# AVC

## Active Voltage Conditioner

IGBT Type Automatic Voltage Regulator



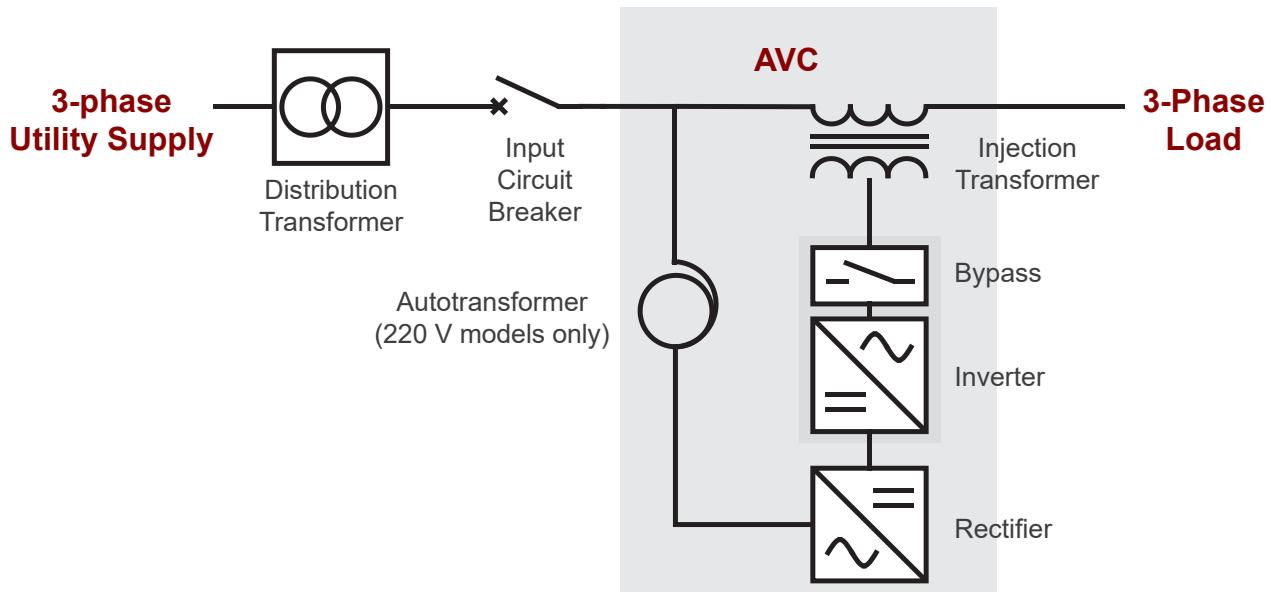
AVC is an inverter based system that protects sensitive industrial and commercial loads from voltage disturbances. Providing fast, accurate voltage sag and surge correction as well as continuous voltage regulation and load voltage compensation. AVC has been optimally designed to provide equipment immunity from power quality events on the supply network.

### • Working Principle

AVC Consists of two converters that are not on the current path between the load and the utility. Instead, the corrective voltage injection is achieved by means of a transformer winding between the utility and the sensitive load. This configuration results in a very efficient and effective method to provide voltage correction with reduced risk of negative impacts on the load.

AVC Requires no batteries as it draws the additional energy required during sag to make up the correction voltage from the utility supply. With no ongoing maintenance costs typically associated with batteries the cost of ownership for AVC systems is very small.

Furthermore, AVC contains a redundant internal bypass system that, in the event of overload or internal fault condition, ensures that the load is continued to be supplied from the utility.





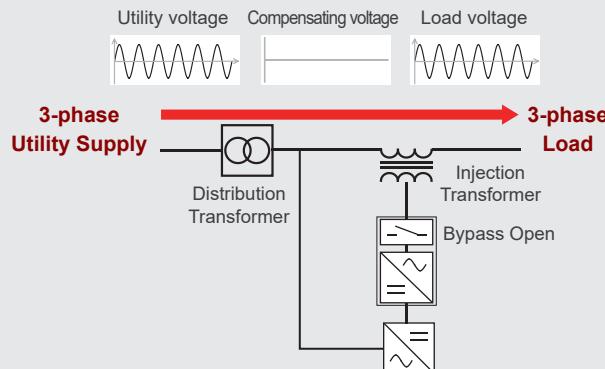
### • Technical Parameter

Item	Specification		
Capacity	Single Phase	15-50KVA	60KVA-1800KVA (RND)
	Three Phase	30KVA-500KVA	600KVA-3600KVA (RND)
Input	Power System	Three Phase 380V+N(3 Phase 4 Wire) Center ground referenced (TN-S)	
	<b>Range</b>	<b>220V-application range 176-264V 380V-application range 228-456V</b>	
Output	Max Supply Voltage	130%	
	Frequency	50Hz/60Hz ±5Hz	
	Outage-Control Ride Through	10ms	
	Harmonics	THDv<3%	
	Voltage	220V/380V	
	Regulation Mode	Contactless	
	Equivalent Impedance	< 4%(model specific)	
	Control model	independent control on each phase	
	Partial Correction Derating conditions	1.0 PF at 80% load,0.8 PF at 100% load	
	Power Factor	0 lagging to 0.9 leading	
Performance	Crest Factor	300%	
	Overload Capacity from 100% supply Voltage	150% for 21s,once every 500s	
	Efficiency	Typically > 95%	
	Sag Correction Response	Initial <250ps Complete <1/2 cycle	
	Voltage Regulation Accuracy	<+0.5% typical,±2% max	
	Sag Correction Accuracy	±4%	
	Continuous Regulation Range	±10%	
	Sag correction performance	60% to 100% for 30s	
	Three phase sags	50% to 90% for 10s	
	Single phase	40% to 100% for 10s	
Overload Protection	Partial correction derating conditions	1.0 PF at 80% load / 0.8 PF at 100% load	
	Bypass	Manual bypass, Automatic bypass	
	Capacity	100% of model rating (Kva)	
	Maximum Overload	120% for 60 s 150% for 15 s 1500% for 1s	
Injection Transformer	Transfer Time	To Bypass < 0.5 ms / To Bypass < 250 ms	
	Equivalent Series Impedance	Bypass < 2.5% typical	
	Transformer Type	Dry	
Protection	Insulation	IEC 60085 Thermal class 200	
	Frequency	50Hz / 60Hz	
	Vector Group	Diii (delta + 3 independent windings)	
Display	Input over/low voltage protection/output over/low voltage protection,input over current protection,TX over heat protection,overload protection	Internal	
Environment	7 inch Touch Screen	Parameter control, power info,display,fault log, history curve line, etc.	
	Operating Temperature Range	0°C to 50°C (32°F to 122°F)	
	Temperature Derating	Above 40°C, derate at 2% load per °C to a maximum of 50°C	
	Operating Altitude	< 1000 m without derating	
	Derating with Altitude	1% every 100m above 1500m. 2000m max	
	Inverter Cooling	Forced ventilation	
	Transformer Cooling	Natural convection	
	Humidity	<95%, non-condensing	
	Pollution Degree Rating	200%	
	Noise	<75dBA@1 m	
	Working Temperature	-25~+45°C	
	Storage Temperature	-30~+70°C	
	Protection Grade	IP54	

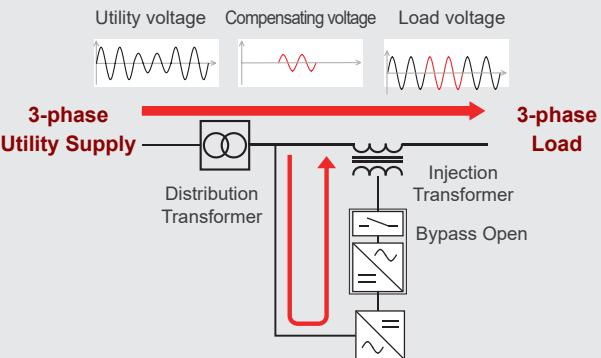


### • Operational Detail

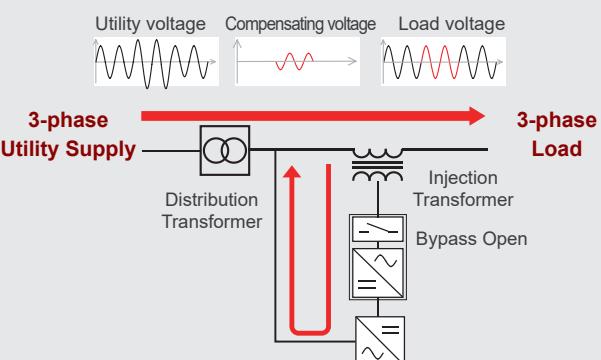
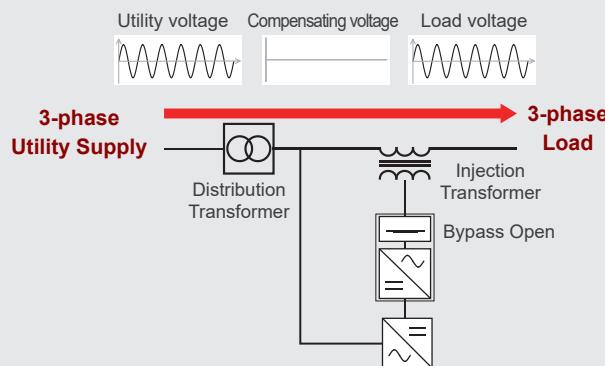
#### Utility Voltage Close to Nominal Level



#### Utility Disturbance Occurs



#### Internal Bypass Operation



### • Applications

#### • Electronics industry



#### • Continuous process



#### • Food and beverage



#### • Pharmaceutical



#### • Automotive



#### • Medical

