VOLTAGE SAG COMPENSATION SYSTEM

AVC SET DVR 400, 800 and 1200 kVA 30%

Voltage sag compensation systems to assure the continuity of industrial processes

Description



AVC SET DVR is an innovating system designed to mitigate and eliminate the effect of electrical disturbances on critical industrial processes through the elimination of sags and transitory overvoltages. Power generation, transport and distribution systems are limited and their problems can affect production processes as well as to produce economic consequences.

AVC SET DVR guarantees the quality of the network, meeting the demands of industrial production processes, keeping stable & constant the output voltage regardless of input voltage variations.

AVC SET DVR is a flexible voltage compensator capable of correcting variations of input voltage, to offer a highly stable voltage (± 0,5%) with immediate response (<3msec).

It consists of a transformer, a reversible rectifier unit, plus an inverter. The aim of the AVC SET DVR is to offset disturbances, voltage imbalances, and to regulate them in case of possible fluctuations and overvoltages.

The system also supervises controls and logs all events.

The output voltage stabilisation is assured both for balanced (all three phases) and unbalanced (some of the phases) voltage variations.



AVC SET DVR 400 kVA 30%

Features of AVC SET DVR series

- > Mitigate three-phase voltage sags up to 70% of depth
- > Continuous operation to offer high stabilization (± 0.5%)
- > High efficiency supply system >98.5%
- > From 30 to 900 kVA (other on demand)
- > Minimises the required investment
- > It does not require battery or other energy storage components
- > Compensation of voltage sags even for long times (up to 30 sec)
- > Swell compensation up to +20%
- > Compensation irrespective of phase
- > Compensation of balanced and unbalanced voltage drops
- > Automatic bypass
- > Withstand 150% overload for 1 sec
- > Less than 3ms response
- > Energy flow in both directions
- > Improved response in time
- > Reduction of operating costs
- > Guarantees maximum sturdiness of the system
- > Never interrupts service
- > Modular design which facilitates maintenance and repairs
- > Easy for connecting in parallel up to 3 equipments
- > Turnkey project: tailor-made design for special needs



System Master Master + 1 slave Master + 2 slaves	GENERAL SPECIFICATIONS				
Nominal voltage (1)(2)(3)(3)	Model	AVC SET DVR 400 kVA 30%	AVC SET DVR 800 kVA 30%	AVC SET DVR 1200 kVA 30%	
Nominal voltage (1920) 208/380/400/415/480 Vac Admissible voltage range (1970) ± 20% - 30% Admissible voltage range (1970) ± 20% - 30% Admissible requency 50/60 Hz ±10% Power 400 kW/kVA 800 kW/kVA 1200 kW/kVA Voltage (1978) 208/380/400/415/480 Vac ±0.5% 1200 kW/kVA Frequency 50/60 Hz programmable Response time < 3 msec Frequency 50/60 Hz programmable Response time < 3 msec Transfer time to bypass 0.5 msec Overload 110% during 30 seconds, 150% during 1 second Transfer time to bypass Overload 110% during 30 seconds, 150% during 1 second Transfer time to bypass Overload 110% during 30 seconds, 150% during 1 second Transfer time to bypass Transfer time to bypass Transfer time to by during 1 second Transfer time to bypass Transfer time to by during 1 second Tra	System	Master	Master + 1 slave	Master + 2 slaves	
Admissible voltage range (4)	INPUT				
Admissible frequency	Nominal voltage (1) (2) (3)		208/380/400/415/480 Vac		
OUTPUT 400 kW/kVA 800 kW/kVA 1200 kW/kVA Power 400 kW/kVA 800 kW/kVA 1200 kW/kVA Voltage (***)*********************************	Admissible voltage range (4)		+ 20% - 30%		
Power 400 kW/kVA 800 kW/kVA 1200 kW/kVA Voltage (**) (**) (**) (**) (**) (**) (**) (**	Admissible frequency		50/60 Hz ±10%		
Voltage (**) (20) (20) 208/380/400/415/480 Vac ±0.5% Frequency 50/60 Hz programmable Response time < 3 msec Transfer time to bypass < 0,5 msec Overload 110% during 30 seconds, 150% during 1 second THREE-PHASE CORRECTION CAPABILITY (**) Range for continuous regulation + 20% - 15% V _{nom} Maximum sag without voltage alteration 30% V _{nom} , up to 30 seconds in duration Maximum sag without switching to bypass 70% V _{nom} , up to 5 seconds in duration OTHERS Waximum efficiency 98,5% Dielectric rigidity 2,5 kV − 1 minute Communications Standard: Web HTTP, SNMP, ModBus; Optional: modem or router Control panel Touch screen Protections Short-circuits, current limitation, overload, RFI filter, required disconnections Maintenance switch Only Master system: optional; Parallel system: Yes Protection IP 21 Cooling Forced ventilation Noise <65 dB Working temperature 0 -40°C Altitude <1000m Relative Humidity	OUTPUT				
Frequency 50/60 Hz programmable Response time to bypass < 3 msec		400 kW/kVA	800 kW/kVA	1200 kW/kVA	
Frequency 50/60 Hz programmable Response time to bypass < 3 msec	Voltage (1) (2) (3)		208/380/400/415/480 Vac ±0.5%		
Transfer time to bypass			50/60 Hz programmable		
New House	Response time		< 3 msec		
Range for continuous regulation	Transfer time to bypass		< 0,5 msec		
Range for continuous regulation + 20% - 15% V _{nom} Maximum sag without voltage alteration 30% V _{nom} , up to 30 seconds in duration (5) Maximum sag without switching to bypass 70% V _{nom} , up to 5 seconds in duration (5) OTHERS Waximum efficiency 98,5% Dilectric rigidity 2,5 kV − 1 minute Communications Standard: Web HTTP, SNMP, ModBus; Optional: modem or router Control panel Touch screen Protections Short-circuits, current limitation, overload, RFI filter, required disconnections Maintenance switch Only Master system: Parallel system: Yes Protection IP 21 Cooling Forced ventilation Noise < 65 dB Working temperature 0 -40°C Altitude < 1000m Relative Humidity 0 -95% STANDARDS Certifications CE Directives UNE-EN 50178 (98), EN 61000-6-2, EN 61000-6-3 <th co<="" td=""><td>Overload</td><td colspan="3">110% during 30 seconds, 150% during 1 second</td></th>	<td>Overload</td> <td colspan="3">110% during 30 seconds, 150% during 1 second</td>	Overload	110% during 30 seconds, 150% during 1 second		
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Maximum sag without switching to bypass 70% V _{nom} , up to 5 seconds in duration (5) OTHERS Maximum efficiency 98,5% Dielectric rigidity 2,5 kV – 1 minute Communications Standard: Web HTTP, SNMP, ModBus; Optional: modem or router Control panel Touch screen Protections Short-circuits, current limitation, overload, RFI filter, required disconnections Maintenance switch Only Master system: optional; Parallel system: Yes Protection IP 21 Cooling Forced ventilation Noise <65 dB Working temperature 0-40°C Altitude < 1000m Relative Humidity 0-95% STANDARDS Certifications CE Directives UNE-EN 50178 (98), EN 61000-6-2, EN 61000-6-3 DIMMENSIONS AND WEIGHTS (2) UNE-EN 50178 (98), EN 61000-6-2, EN 61000-6-3 Dimensions (high x wide x depth) 2145x1215x665 mm 2145x3270x665 mm 2145x4915x665 mm Weight 1050 kg 2400 kg 3550 kg MANUAL BYPASS CABINET (4) Optional Included Inc	Range for continuous regulation		+ 20% - 15% V _{nom}		
OTHERS Maximum efficiency 98,5% Dielectric rigidity 2,5 kV − 1 minute Communications Standard: Web HTTP, SNMP, ModBus; Optional: modem or router Control panel Touch screen Protections Short-circuits, current limitation, overload, RFI filter, required disconnections Maintenance switch Only Master system: optional; Parallel system: Yes Protection IP 21 Cooling Forced ventilation Noise <65 dB	Maximum sag without voltage alteration	30	30% V _{nom} , up to 30 seconds in duration		
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Dielectric rigidity 2,5 kV − 1 minute Communications Standard: Web HTTP, SNMP, ModBus; Optional: modem or router Control panel Touch screen Protections Short-circuits, current limitation, overload, RFI filter, required disconnections Maintenance switch Only Master system: optional; Parallel system: Yes Protection IP 21 Cooling Forced ventilation Noise <65 dB Working temperature 0~40°C Altitude < 1000m Relative Humidity 0-95% STANDARDS CE Directives UNE-EN 50178 (98), EN 61000-6-2, EN 61000-6-3 DIMMENSIONS AND WEIGHTS (2) UNE-EN 50178 (98), EN 61000-6-2, EN 61000-6-3 Dimensions (high x wide x depth) 2145x1215x665 mm 2145x3270x665 mm 2145x4915x665 mm Weight 1050 kg 2400 kg 3550 kg MANUAL BYPASS CABINET (2) Optional Included Included	OTHERS				
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Control panel Touch screen Protections Short-circuits, current limitation, overload, RFI filter, required disconnections Maintenance switch Only Master system: optional; Parallel system: Yes Protection IP 21 Cooling Forced ventilation Noise <65 dB Working temperature 0~40°C Altitude < 1000m Relative Humidity 0.95% STANDARDS Certifications CE Directives UNE-EN 50178 (98), EN 61000-6-2, EN 61000-6-3 DIMMENSIONS AND WEIGHTS ⁽²⁾ Dimensions (high x wide x depth) 2145x1215x665 mm 2145x3270x665 mm 2145x4915x665 mm Weight 1050 kg 2400 kg 3550 kg MANUAL BYPASS CABINET ⁽²⁾ Optional Included Included	Dielectric rigidity		2,5 kV – 1 minute		
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Maintenance switch Only Master system: optional; Parallel system: Yes Protection IP 21 Cooling Forced ventilation Noise <65 dB	Control panel		Touch screen		
Protection IP 21 Cooling Forced ventilation Noise <65 dB Working temperature 0~40°C Altitude < 1000m Relative Humidity 0-95% STANDARDS Certifications CE Directives UNE-EN 50178 (98), EN 61000-6-2, EN 61000-6-3 DIMMENSIONS AND WEIGHTS (2) Dimensions (high x wide x depth) 2145x1215x665 mm 2145x3270x665 mm 2145x4915x665 mm Weight 1050 kg 2400 kg 3550 kg MANUAL BYPASS CABINET (2) Availability Optional Included Included	Protections	Short-circuits, curren	•		
Cooling Forced ventilation Noise <65 dB	Maintenance switch	Only Master system: optional ; Parallel system: Yes			
Noise <65 dB Working temperature 0~40°C Altitude < 1000m	Protection		IP 21		
Working temperature 0~40°C Altitude < 1000m	Cooling		Forced ventilation		
Altitude < 1000m Relative Humidity 0-95% STANDARDS Certifications CE Directives UNE-EN 50178 (98), EN 61000-6-2, EN 61000-6-3 DIMMENSIONS AND WEIGHTS (2) Dimensions (high x wide x depth) 2145x1215x665 mm 2145x3270x665 mm 2145x4915x665 mm Weight 1050 kg 2400 kg 3550 kg MANUAL BYPASS CABINET (2) Optional Included Included	Noise		<65 dB		
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Availability Optional Included Included		1050 kg	2400 kg	3550 kg	
Availability Optional Included Included	MANUAL BYPASS CABINET (2)	-			
		Optional	Included	Included	
		2145x616x665 mm	-	-	

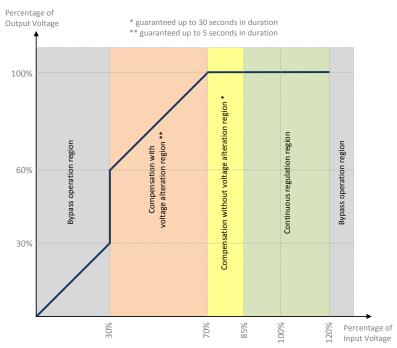
250 kg

(1) Other voltages on demand

Weight

- (2) If voltage is not 380/400/415V, an input transformer will be necessary. Consult dimensions and weights
- (3) In case of 415V and without input transformer, the upper limit of admissible voltage is +15%
- (4) Other dynamic response to voltage sags, on demand
- (5) Depending on AC input breaker protection and AC network impedance

Specifications may be changed without notice.



Three-phase correction capability curve of AVC SET DVR 400/800/1200 kVA 30%

