Sollatek™

AVR cabinet next to an AUX cabinet

Actual unit may differ from shown depending on model and options fitted

AVR3ASxxx RANGE

THREE PHASE STATIC AUTOMATIC VOLTAGE REGULATOR

FEATURES

Designed for regions with voltage supply instability. Designed for remote operation where a high degree of reliability is essential.

Fully electronic with no moving parts for:

- High reliability
- Speed of operation
- Immunity to dust and other environmental conditions

SUITABLE FOR

- Satellite operators
- Infrastructure telecom companies
- Embassies worldwide for reliable electrification of their posts
- Medical systems for digital imaging, scanning and x-ray equipment
- Mobile phone operators
- Offices and factories
- Grid utility companies for voltage regulation to their sub-stations
- Wind Farms

Voltright™

SPECIAL FEATURES

- Input voltage range ±20%.
- High output protection accuracy ±3%
- High overload capability with up to 150% for 4 minutes
- Very wide losses and minimal heat dissipation due to an efficiency of over 98% at full load
- Enclosure made of galvanised steel construction with high anticorrosion paint finish
- Warranty of 2 years. Sollatek provides full backup support on all its products, with local support in over 20 countries

EQUIPPED WITH

- Class II surge protection
- Digital display: input and output voltage, output current
- Internal automatic bypass
- Modem for remote monitoring

OPTIONAL EXTRAS (ordered separately)

- Automatic Voltage Switcher (AVS) with HVD and LVD
- Input circuit breaker
- Output circuit breaker
- Manual bypass transferring the load to the utility grid
- Volt free contact alarms:
  - High Temp Alarm
  - Over-Temp Alarm
  - Internal Bypass Status
  - External Bypass Status
  - I/P Circuit Breaker Status
  - O/P Circuit Breaker Status
  - LVD Alarm
  - HVD Alarm
  - General Fault
- High-level lightning protection (Class I)
- Anti-condensation heaters

TECHNICAL SPECIFICATION

INPUT	
Input Voltage	230/400 V ±20%
Maximum Input Current	See model table below
Frequency Range	45 Hz to 75 Hz
Additional Voltage THD	<0.2% at input (tested at 100% linear load) (No PWM methods used)
Maximum Input THD	Can withstand >10% THD from the supply
OUTPUT	
Output Accuracy	230/400 V ±3% or ±4% (see model table below)
Maximum Output Current	See model table below
Maximum Output Power	See model table below
Speed of Correction	750 V/s
As the AVR powers up, the Load will receive raw mains (i.e. AVR in bypass mode) for a period of 3 seconds while the AVR initialises. If this is not desired, the AVS option (see below) can be used to delay the start-up until the AVR is initialised.	
Additional Voltage THD	<0.25% at output (tested at 100% linear load)(No PWM methods used)
Crest Factor	>1:3 permissible on load current (tested at 100% load)
Synchronisation	Output synchronised to input
Permissible Overload	1000% for 100 ms ; 150% for 4 mins ; 110% for 10 mins
Load Types	Designed to run lighting, motors, battery chargers, communications equipment, office equipment, SMPS, air- conditioners, compressors, industrial machines, medical equipment and others. Suitable for all domestic, commercial and industrial sites
GENERAL	
Technology	All solid state (static) switching
Efficiency	>98% (at 100% linear load)
Heat Dissipation	See model table below
Control	Microcontroller based control system provides self-checks, system integrity monitoring and diagnostic indicators
Control Protection	Internal surge arrestors and filters in control circuit protect against disturbances. Filtering algorithms and faulty tolerant software protect against disturbances and false measurements.
Power Connections	Supply phases, neutral and earth. Load phases, neutral and earth
Surge Protection	Heavy duty input and output surge arrestors to protect against extreme surges and lightning on the supply. Dual mode. 2880 Joules total. Class II, 8/20us, 80kA
Digital Meters	Accurate measurement of the AC RMS currents in three-phase systems Accuracy: 0.5% + 1 digit
Internal Bypass	If the AVR enters into bypass mode for whatever reason, the input voltage will be supplied to the load without stabilisation. Before returning to normal operation (stabilising the voltage), the AVR will monitor the voltage for 3 minutes to ensure the cause has subsided.
GSM Modem	To allow remote monitoring (activation required)
Ambient Temperature	-10°C to +55°C
Relative Humidity	>95%, non-condensing
Environmental Protection	IP21

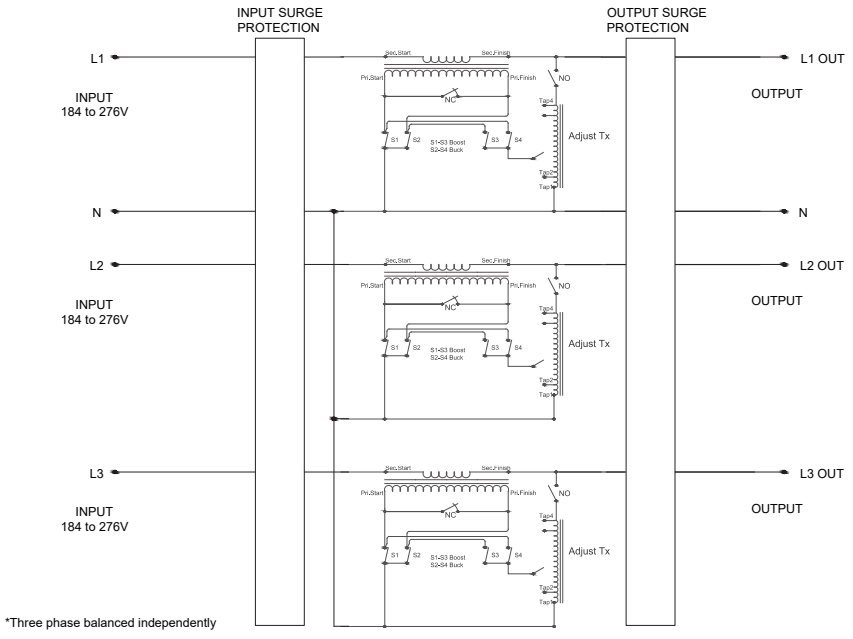
GENERAL (Cont.)	
Acoustic Noise	<45 dB (A), <65 dB with fans on
Expected Service Life	>25 years
Standards	Manufactured to comply with: ISO9001:2015, CE, EN 55022:2010, EN 61000-4-2:2009, EN 61000-4-3:2006, EN 61000-4-4:2012, EN 61000-4-5:2014, EN 61000-4-6:2014, EN 61000-4-11:2004. CE
Dimensions (WxDxH)	*See model table below*
Weight	*See model table below*
OPTIONS	
Automatic Voltage Switcher	Automatic Voltage Switcher (AVS) provides over and under-voltage protection and a reconnect delay (configurable). Protects the load from an extreme supply voltage where the AVR might not be able to stabilise the output voltage to its operating range
Input Circuit Breaker	Input circuit breaker to protect the AVR against overload and short circuits
Output Circuit Breaker	Output circuit breaker to protect against overload and short circuit
Manual By-Pass	By-pass to run load direct from utility power
DSP	Extra level of spike protection (Class I)
Volt free Contact Alarms	A general alarm interface using volt free contacts are available for connection to customer site monitoring equipment (SCADA)

MODEL TABLE

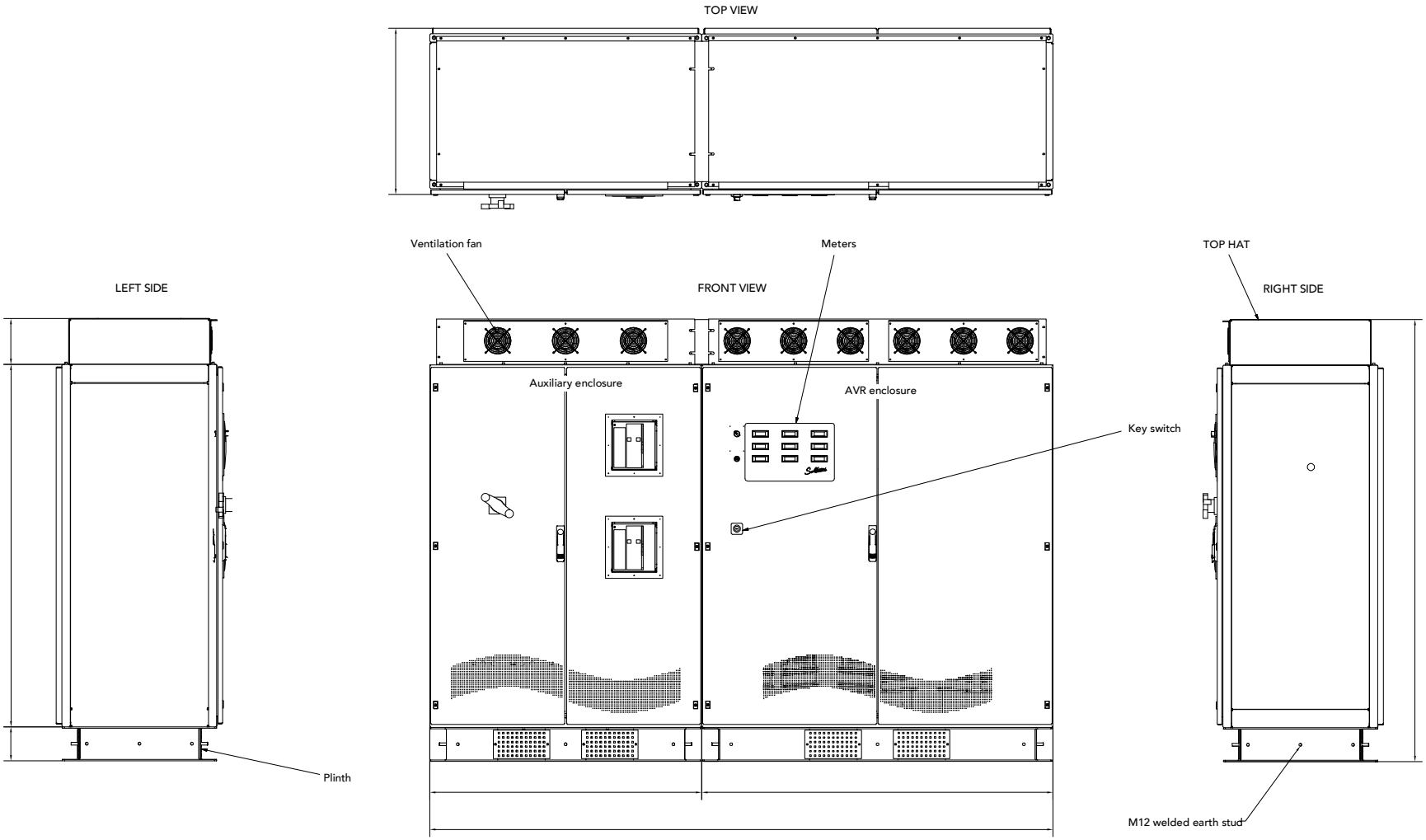
AVR Model	kVA	# Cabinets		AVR (each, if >1)		Max Input A	Output A	Max kVA at 230 V	Max VA at 24hr/45°C/ Max Boost	Heat Disspiation in kW	Imped. in mΩ	Short Circuit Cap. kA	Output Range
		AVR	AUX*	kg	cm (WxDxH)								
AVR3AS-230kVA 3x303/250A	230	1	1	910	143x74x157	303	250	230 kVA	172	3.5	7.2	5.6	4%
AVR3AS-275kVA 3x362/300A	275	1	1	940	143x74x157	362	299	275 kVA	206	4.1	6	6.7	4%
AVR3AS-370kVA 3x487/400A	370	1	1	1250	155x74x177	487	402	370 kVA	277	5.6	4.5	9	3%
AVR3AS-460kVA 3x606/500A	460	1	1	1650	160x74x177	606	500	460kVA	345	6.9	3.6	12	3%
AVR3AS-550kVA 3x725/600A	550	1	1	1877	160x74x177	725	598	550 kVA	412	8.3	2.7	15	3%
AVR3AS-700kVA 3x922/800A	700	1	1	2240	183x79x198	922	761	700 kVA	525	10.5	2.1	19	3%
AVR3AS-900kVA 3x1186/1000A	900	3	1	1040	110x74x177	1,186	978	900 kVA	675	13.5	1.5	24	3%
AVR3AS-1100kVA 3x1449/1200A	1100	3	1	1120	110x74x177	1,449	1196	1100	825	16.5	1.2	29	3%
AVR3AS-1650kVA 3x2174/1800A	1650	3	1	1680	138x79x200	2,174	1793	1650	1237	24.8	1.1	40	3%
AVR3AS-2000kVA 3x2635/2173A	2000	3	1	1740	138x79x200	2,635	2174	2000	1500	30	0.9	48	3%

Please note dimensions and weights are approximate, sizes can vary depending on size of the AVR and options fitted. Contact Sollatek for full details.

AVR CIRCUIT DIAGRAM



GENERAL ARRANGEMENT DRAWING



*Different models may vary depending on AVR size, options fitted and customer requirements

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