



## SOLLATEK AUTOMATIC VOLTAGE REGULATOR (AVR)

### THREE PHASE STATIC AVR



#### Model:

AVR3x1200-22-BCDMYZ  
Three phase: 828kVA

#### 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

#### The AVR is specified and used by a number of large organisations including:

- 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
- Grid utility companies for voltage regulation to their sub-stations
- Various United Nations divisions including WHO, UNICEF and WFP

*Actual unit may differ from shown*

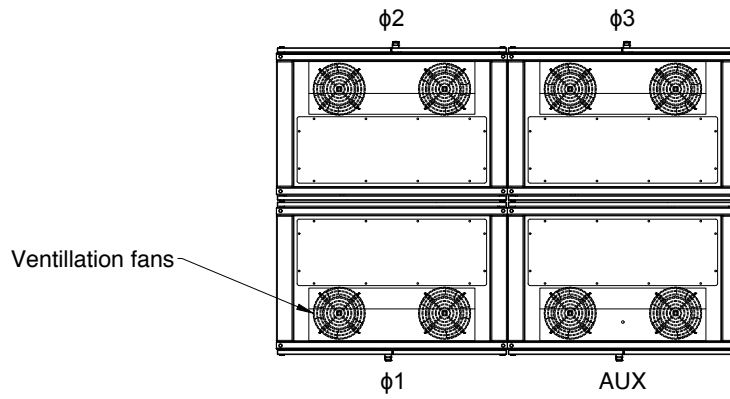
#### Equipped with:

- Digital display: input and output voltage, output current
- Manual bypass switch transferring the load to the utility grid
- Input circuit breaker
- Output circuit breaker
- DSP class I and II (optional)

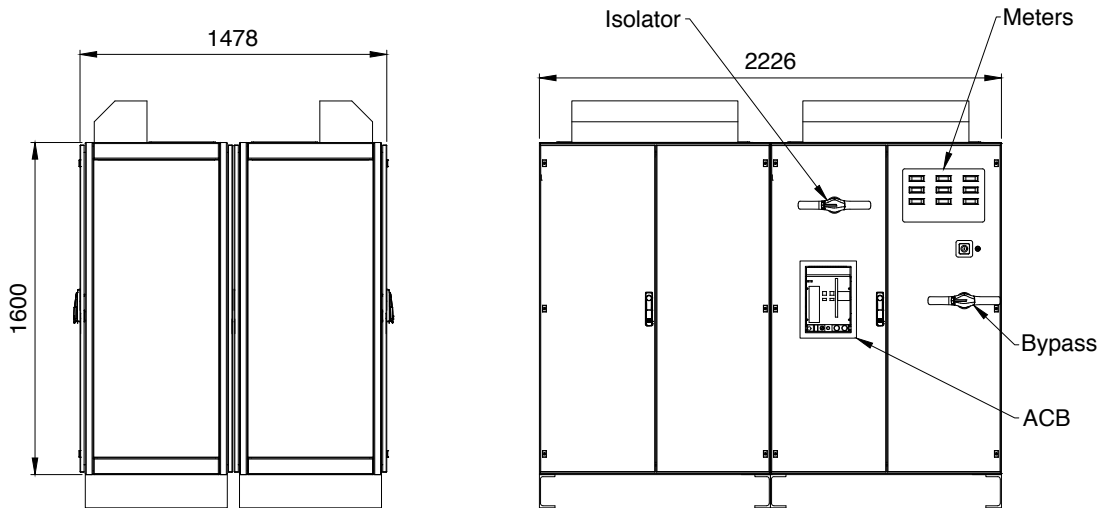
#### Special features include:

- Wide input frequency tolerance between 45 to 75 Hz allowing unit to function properly in areas of severe voltage disturbances
- High overload capability with up to 150% for 4 minutes
- Very low losses and minimal heat dissipation due to an efficiency of over 96% at full load
- Internal automatic bypass
- All cables made into LSZH compliant materials (low smoke zero halogen)
- Galvanised steel construction with high anti-corrosion paint finish
- Warranty of 2 years. Sollatek provides full back up support on all its products, with local support in over twenty countries worldwide

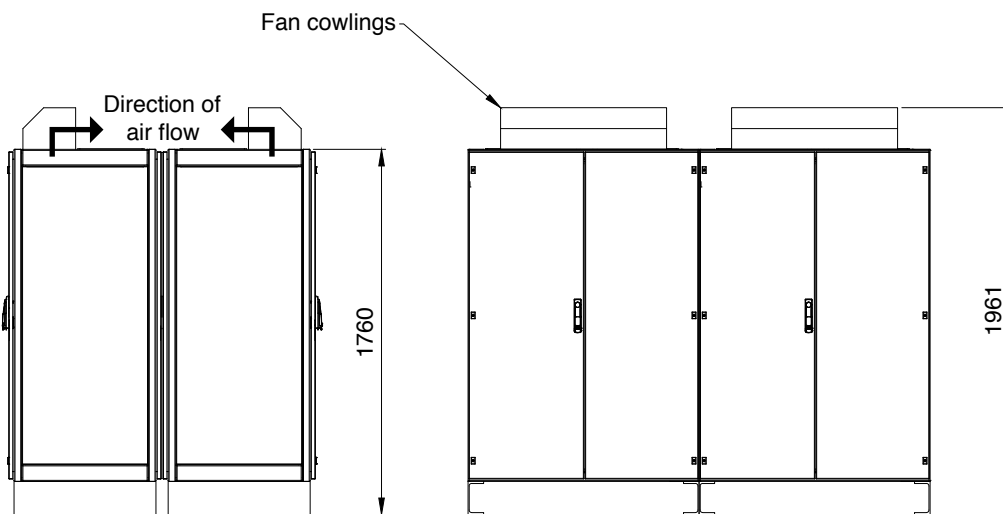
### General arrangement diagram



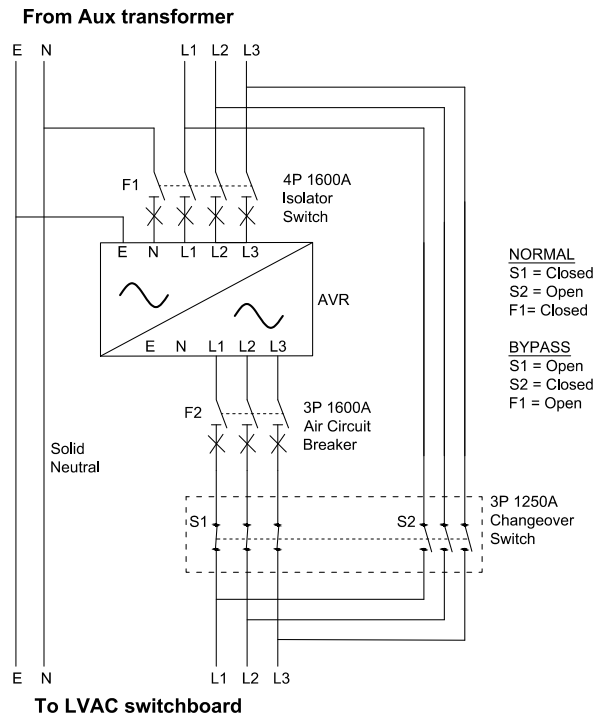
### Front view



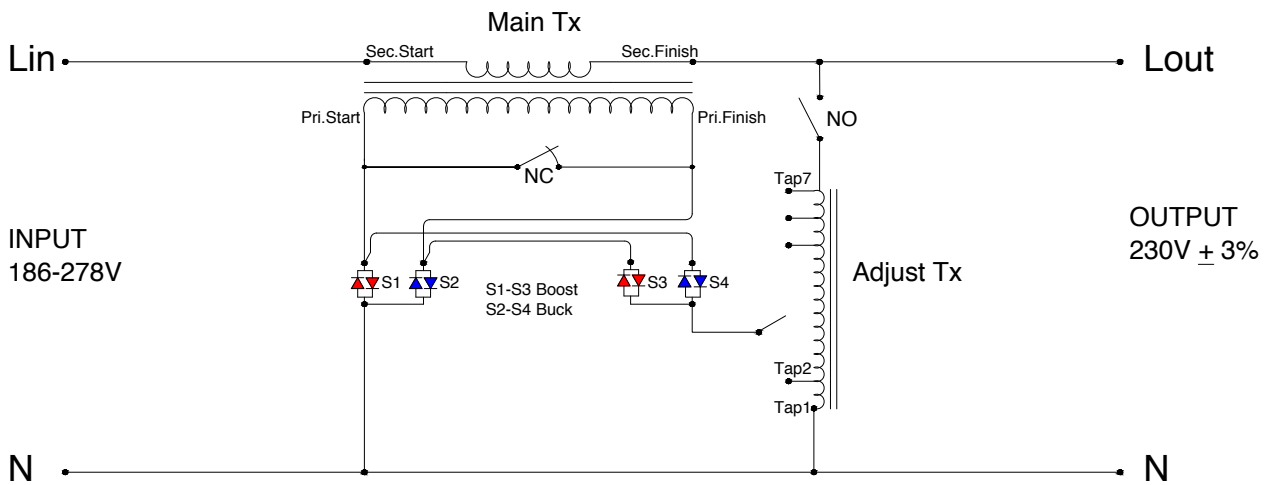
### Rear view



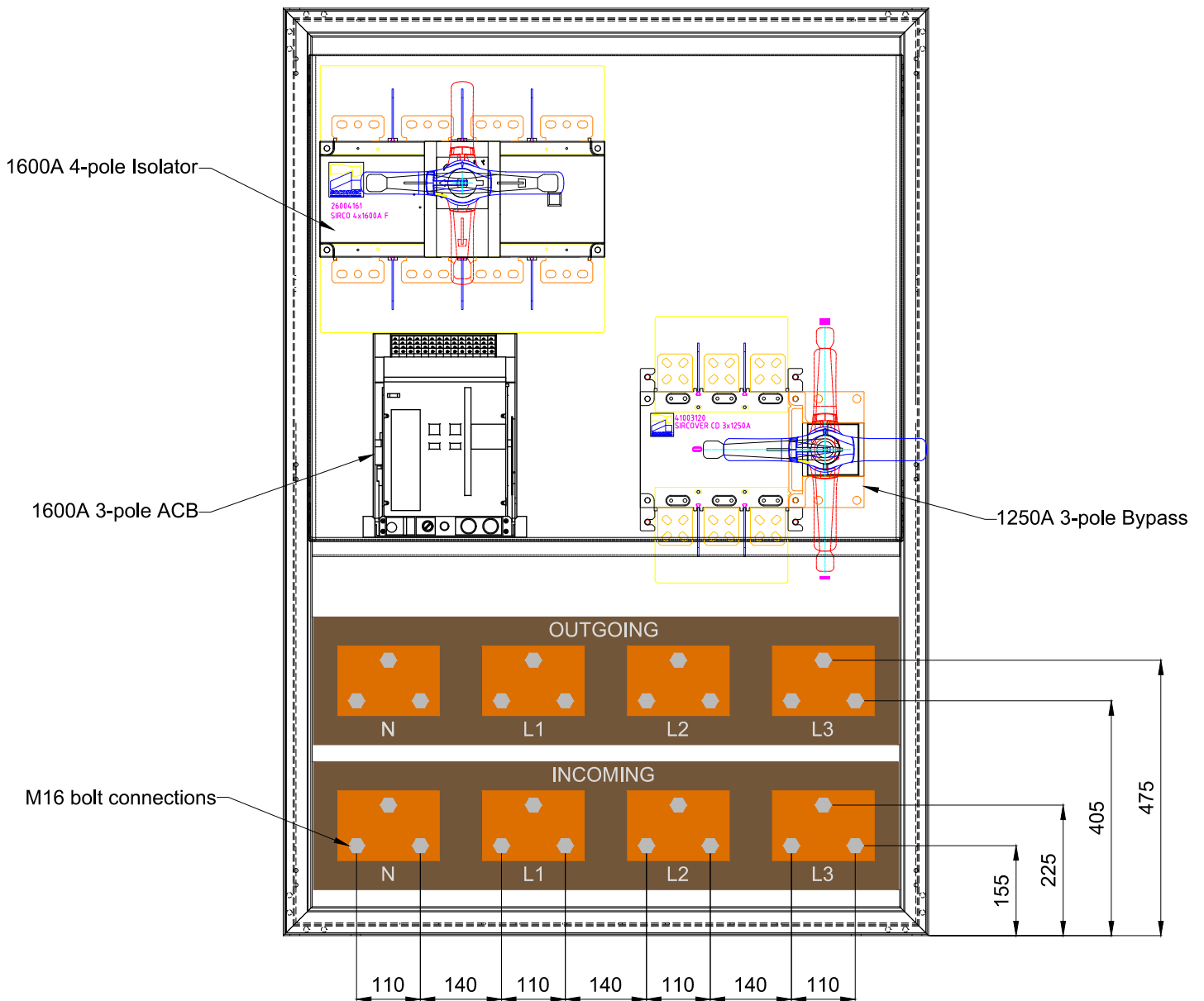
## Aux cabinet configuration



## System schematics



**AVR3 x 1200 Aux cabinet**  
**Front view (doors omitted)**



## Specifications

### Input

Input voltage	230/400V, +/-20%. (wider input range optional).
Maximum Input Current	3 x 1455 amps (at 100% load and maximum boost).
Frequency range	45Hz to 75Hz (i.e 50Hz –10%, +50%. or 60Hz –25%, +25%).
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 voltage	230/400V, +/-4%.
Maximum Output Current	3 x 1200 amps.
Maximum Output Power	828kVA.
Correction time	40 m sec (0 to 100% load).
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).
Synchronization	Output synchronized to input.
Permissible Overload	1000% for 100ms, 150% for 4 minutes, 110% for 10 minutes.
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.

### Control Aux Unit CAU *(N.B. The following items are mounted in a single separate wall box from the AVR for convenient operation)* CAU3-150-2.

(Optional) Circuit Breakers	Input and output circuit breakers to protect against overload and short circuit to both the AVR and the load.
Voltage Protection	AVS Automatic over and under voltage protection and re-connect delay, c/w five status LED indicators. Protects load from extreme supply voltage and AVR malfunction.
Output Alarm	Visual indicator, audible alarm and volt-free contacts if AVR output fails for any reason. Mute button provided for audible alarm.
By-Pass Switch	By-pass switch to run load direct from utility power if AVR needs to be taken out of service for any reason.

### General

Technology	All solid state (static) switching.
Efficiency	>96% (at 100% linear load).
Heat Dissipation	18kW @ 830kVA at regulation extremes (+20% or -20%).
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 fault 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. 9600 joules total.
Displays	Digital display, per phase for input voltage, output voltage, output current and frequency.
Ambient Temperature Range	0 to +55°C.
Relative Humidity	>95%, non condensing.
Environmental Protection	IP21.
Acoustic Noise	< 45 dB (A).
Expected Service Life	> 25 years.
Standards	Manufactured to comply with :- ISO9001:2000, CE, EN 50081-1:1992, EN 50082-1:1998, EN 55022:1998, EN 61000-4-2:1995/1998, EN 61000-4-3:1996, EN 61000-4-4:1995, EN 61000-4-5:1995, EN 61000-4-6:1996, EN 61000-4-11:1994, DD ENV 50204. 
Dimensions	1478(D) x 2226(W) x 1600(H) mm.
Weight	3650kg.
Despatch	Unit despatched in 4 separate cabinets for inter-connecting on site.

For more information on the Sollatek product range visit [www.sollatek.com](http://www.sollatek.com)

