

Sollatek Outdoor Isolating AVR

Three Phase AVR with Isolating Transformer

Model:

AVR3xAAA-22 - ACPIO
AAA=Amps from 12 Amps to 150 Amps per phase

Introduction:

The Sollatek isolating AVR is a version of the standard Sollatek AVR. Designed specifically to deal with the high level of protection required for telecommunication applications and for equipment that require a higher level of surge, spike, & noise protection. Using an isolating transformer, the AVR provides a clean neutral and 10:1 attenuation ratio ensuring that noise on the output is significantly reduced relative to the input.

As the Sollatek isolating AVR requires no incoming neutral it is protected against 'loss of neutral' problems. These can occur when the neutral connection is lost, either by damage or through the neutral cable being stolen and can result in voltage imbalance and damage in non-isolating regulators.

These models as standard include various additional features that are normally provided as optional extras. These include a higher IP rating of 44 to allow outdoor installation. The standard inclusion of output circuit breaker, manual by pass and automatic voltage switcher function all make this unit the preferred choice for mission critical applications.

Features:

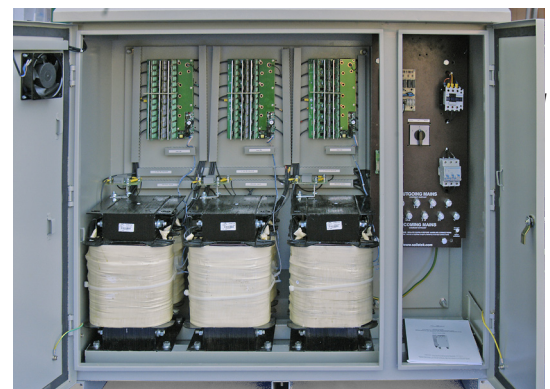
- **Designed for telecom applications.**
- **Designed for remote operation where a high degree of reliability is essential.**
- **Input delta/star isolating transformer.**
- **Weather-proof enclosure.**
- **Fully electronic with no moving parts for:**
 - High reliability
 - Speed of operation
 - Immunity 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

Equipped with:

- Bypass switch transferring the load to the utility grid
- Low and high voltage protection
- Surge and lightning protection
- Output circuit breaker



Internal view of an Outdoor Isolating AVR

Special features include:

- Wide input frequency tolerance between 45 to 75 Hz allowing unit to function correctly 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 high efficiency design
- Easy access cabinet with lockable doors.
- Warranty of 2 years. Sollatek provides full back up support on all its products, with local support in over twenty countries worldwide

Specifications

Input

Input voltage	230/400V, -30%, +19%.
Maximum Input Current	See table below.
Frequency Range	45Hz to 75Hz (i.e 50Hz –10%, +50Hz. 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	See table below.
Maximum Output Power	See table below.
Correction time	100 msec (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.

General

Isolation Transformer	Connected at input. Delta primary plus earth, 4 wire. Star secondary plus earth, 5 wire.
Circuit Breaker	Output circuit breaker to protect against overload and short circuit
Voltage Protection	AVS Automatic over and under voltage protection and adjustable re-connect delay, c/w five status LED indicators. Protects load from extreme supply voltage and AVR malfunction.
By-Pass	By-pass to run load direct from utility power.
Technology	All solid state (static) switching.
Efficiency	>97% average, >97% worst case
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 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. 2880J. Response time <20ns.
Ambient Temperature Range	-5 to +45°C.
Relative Humidity	>95%, non condensing.
Environmental Protection	IP44 (outdoor)
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.



AVR dimensions and weights

Model	Dimensions (DxWxH) mm	Weight kg
Isolating AVR - OUTDOOR (-IO)		
AVR3x12-22-IO	1100 x 450 x 1100	180
AVR3x20-22-IO	1100 x 520 x 1200	230
AVR3x30-22-IO	1100 x 520 x 1200	325
AVR3x50-22-IO	1100 x 520 x 1200	375
AVR3x75-22-IO	1100 x 520 x 1200	475
AVR3x100-22-IO	1250 x 700 x 1300	620
AVR3x150-22-IO	1250 x 700 x 1300	950

Key

Standard features:

A = AVS
C = Circuit breaker
P = Manual By-Pass
I = Isolating Transformer
O = Outdoor enclosure

Additional Options:

M = Digital Meter
B = Input Circuit Breaker.
D = DSP -Extra level of spike protection.
R = RFI Filter : Radio Frequency Interference Filter
T = Line reactor - To filter voltage harmonics from the supply