

## SOLLATEK AUTOMATIC VOLTAGE REGULATOR (AVR)

Three phase telecom static AVR with isolating transformer

### Model:

AVR3x33-22-TI  
Three phase: 22.5kVA

### Features:

**Designed for telecom applications.**  
**Designed for remote operation where a high degree of reliability is essential.**  
**Input delta/star isolating transformer.**

#### 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:

- Automatic bypass switch transferring the load to the utility grid.
- Low and high voltage protection
- Radio frequency interference filtering, surge and lightning protection

### 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
- Warranty of 2 years. Sollatek provides full back up support on all its products, with local support in over twenty countries worldwide



AVR 3x33-22-TI

## Specifications


### Input

Input voltage	230/400V, -30%, +22%.
Maximum Input Current	3x50 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 33 amps.
Maximum Output Power	22.5 kVA.
Correction time	20 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.

### General

Isolation Transformer	Connected at input. Delta primary plus earth, 4 wire. Star secondary plus earth, 5 wire. Inter-winding screen earthed at input.
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 adjustable re-connect delay, c/w five status LED indicators. Protects load from extreme supply voltage and AVR malfunction.
Output Alarm	Visual indicator and volt-free contacts if AVR output fails for any reason.
By-Pass	Automatic by-pass to run load direct from utility power if AVR needs to be taken out of service for any reason. Status indicators for each phase.
Technology	All solid state (static) switching.
Efficiency	AVR: >98%. Isolation transformer: >97% average, >95% 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. Class II protection, 20kV, 1.2/50us, 45kA max surge current. Response time <20ns. With status indicators.
RFI/EMI Filter	AVR is equipped with RFI/EMI filtering for proper operation of the unit.
Ambient Temperature Range	-5 to +35°C.
Relative Humidity	>95%, non condensing.
Environmental Protection	IP20.
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	AVR: 610 x 305 x 610 (W x D x H) mm. Isolation transformer: 650 x 320 x 1000 (W x D x H) mm.
Weight	AVR: 130kg. Isolation transformer: 280 kg.