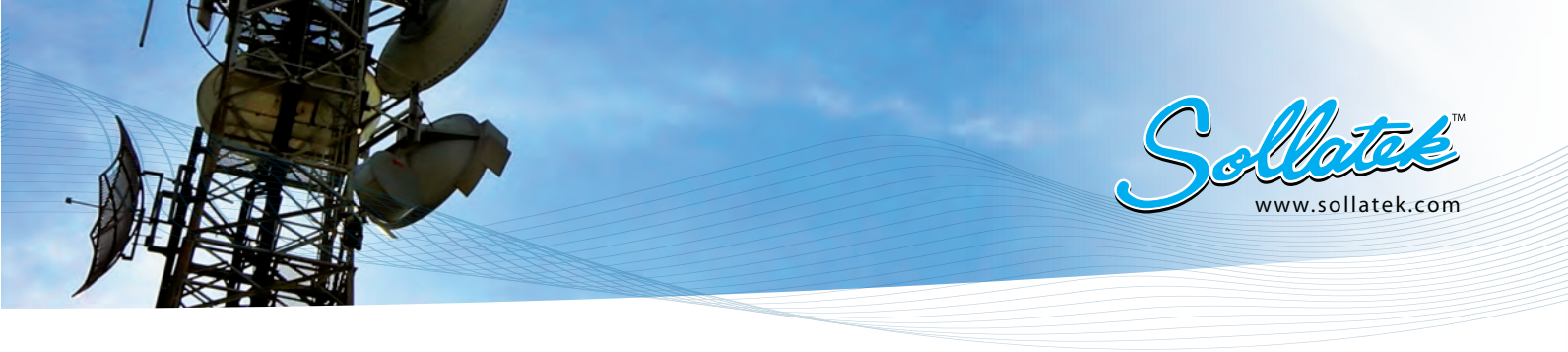


www.sollatek.com

Telecom Power Manager (TPM)

Voltage Stabilisation with Phase Selection and AC distribution

Model:

TPM-3XXX-22
XXX = kVA from 10kVA to 100kVA

Introduction:

Sollatek's Telecoms Power Manager (TPM) is the most modern electrical interface and control unit currently available for a GSM / telecom installation. The system is intended to be used as a replacement for automatic voltage regulator (AVR), control and monitoring panel, isolation transformer, AC distribution panel, lightning and surge arresters at a BTS site.

With solid state technology throughout, the TPM is able to correct the wide input voltage range at 1250V/s, allowing the user to utilise the mains even under extremely low voltage conditions. By using an isolating transformer, the TPM provides a clean neutral and 10:1 attenuation ensuring that any output noise is significantly reduced relative to the input.

Built as a modular system and designed to organise the rigorous needs of telecom applications, the TPM is critical where power backup, dependability, and system flexibility in configuration are key factors. The TPM is built around a compact cabinet enclosure with provision for configuring standard voltage regulation, phase selection and AC distribution.

Though the single cabinet is rated to support loads up to 100kVA, as the BTS site demands increase, the TPM can easily be expandable by the addition of extra units with minimal disruption.

Features:

- Designed for telecom applications.
- Designed for remote operation where a high degree of reliability is essential.
- For areas where excessively low voltage is a major concern.
- Where loss of phase(s) is an issue.
- Fully electronic with no moving parts for:
  - High reliability
  - Speed of operation
- Immunity to dust and other environmental conditions

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.
- Provides a complete all in one solution for AC power to a site.
- Warranty of 2 years. Sollatek provides full back up support on all its products, with local support in over twenty countries worldwide

The TPM is equipped with:

Isolating Transformer

As the Sollatek TPM 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.

Phase Selector

The input to the TPM is three phase. The three phase voltages are constantly monitored by the phase selector and the two best available phases are selected to supply the AVR. In the case of a loss of 1 or 2 phases the TPM will remain operational, allowing the site to continue to function as normal. This ensures that the site mains supply is able to be used to the maximum, thereby minimising generator use.

Automatic Voltage Switching

HVD/LVD facility with Timesave. Using its own microprocessor, the AVS will monitor the time. If the unit has been disconnected for more than 1 minute then the AVS will reconnect within 10 seconds.

Output Circuit Breakers

Circuit breakers protect the load and the TPM from the harmful effects of any over current.

Digital Meters

These meters indicate the state of the input voltage to compare it with the output voltage. Current meters are useful to ensure that the load does not exceed the rating of the TPM.

Change-Over Switch

Manual switch that will by-pass the incoming mains from the TPM directly to the load. The TPM will remain powered on. To take the TPM off-line for maintenance, the system will need to be powered down first.

Optional:

Surge Protection (SPD)

This provides a high level of protection (up to 100kVA) from lightning induced voltage and other voltage surges on the mains supply.

Asset Management System (AMS)

Sollatek's Asset Management System is a remote monitoring and data logging system which allows near real time monitoring of all remote BTS sites for customers, regardless of where they are. It gives a constant indication of the status of all sites at a glance and highlights any warnings or problems as soon as they are detected.

Advantages:

- Solid state technology - no moving parts
- Options offer more features and functionality
- Extremely high overload/inrush rating
- Very low cost of ownership due to efficiency and virtually maintenancefree operation
- Troublefree operation with no moving parts
- High output correction accuracy (+/-4%) exceeds EC standards
- Very fast correction speed (1250V/s)
- Redundant, manual regulation control
- Unaffected by load power factor
- Easy, front panel access for service/installation
- No waveform distortion - no harmonics added
- Small footprint (W 600mm x D 800mm x H 2000mm)
- Able to withstand the continuous vibration of mobile applications

Technical Data

General

Capacity	10 – 100kVA
Technology	All solid state (static) switching

AVR Module

Input

Input Voltage	220/380V, -30%, +22%
Frequency Range	45Hz to 75Hz (i.e. 50Hz –10%, +50% or 60Hz +/-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	220V +/-4%
Correction Time	100msec (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)
Synchronisation Output	Synchronised to input

Control Module

Control	Micro-controller based control system provides self-checks, system integrity monitoring and diagnostic indicators
Time	Real time and date programmable
Event Logs	Last 500 events
RS232 Port	For Sollatek interface to adjust critical data and alarms
Data Transfer	The optional AMS unit allows the TPM to transmit data remotely to a central web-based database

AC Distribution Module

Mains MCCB, DG MCCB	Of suitable ratings as per product capacity
Load Distribution	Of suitable ratings as per product capacity
Aviation Light (-48V)	6A

Protection

Input/Output Isolation	6kV
Permissible Overload	1000% for 100ms 150% for 4 minutes 110% for 10 minutes
Ambient Temperature Range	0° to +55°C
Environmental Protection	IP55 (outdoor)
Relative Humidity	<95%, non-condensing
Acoustic Noise	<45dB (A)

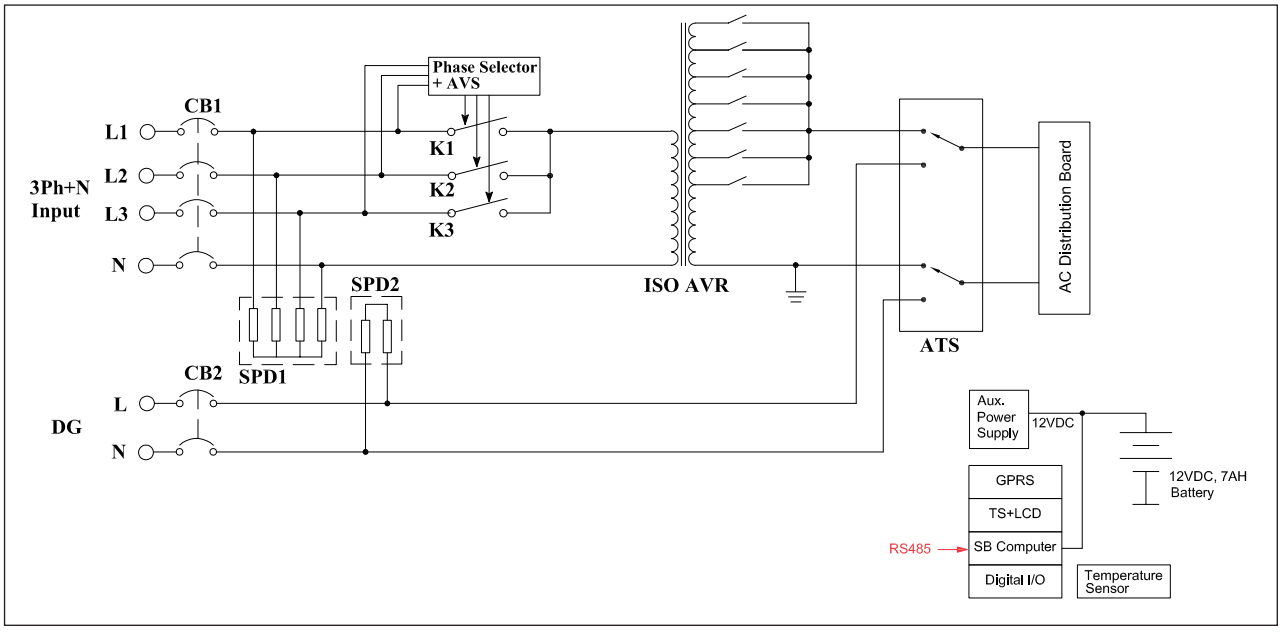
Monitoring & Control Parameters

Smoke Detector	Photoelectric type
Temperature Alarm	User programmable
DG Set Measureable	Mains/DG status, DG accumulated hours, DG voltage, DG energy measurements (DG kWh)
Mains Measurement	Input voltage, output voltage for AVR module, mains measurement
Battery Measurement	Battery running hours
LED Indicators	Phase selected, No alarm, Input too low, Input too high, Over temperature, Frequency fault, Diesel generator on, Diesel generator fault

Technical Data *(continued)*

Other Properties

Phase Selector	Continuously monitors all incoming phases to select to best plus neutral
Isolation Transformer	Connected at input
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 AVR and load from extreme supply voltage.
Change Over Switch	Manual switch that will by pass the incoming mains from the AVR directly to the load.
Efficiency	>97%
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 phase, neutral and earth
Response time	<20ms
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. CE



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