GLOW POWER

## GLOW POWER TECHNOLOGIES

**Glow Power Technologies** is one of the largest O.E.M manufacturers of Solar Off Grid Inverters, Online UPS Systems, Servo Voltage Stabilizers, D.G Cranking Systems for Generators, Charge Controllers, DC & AC Junction Boxes and also we are E.P.C Contractors.

**OFF GRID SOLAR PWM INVERTERS**

**OFF GRID SOLAR MPPT HKVA INVERTER SINGLE PHASE**

**OFF GRID SOLAR MPPT HKVA INVERTER THREE PHASE**

**Micro Controlled Voltage Stabilizer 3 Phase Air Cooled**

**Online UPS Systems**

**Website:glowpowertechnologies.com**

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# Company Strategy

**Vision** :

To provide quality products in Solar/Power back up & Power Conditioning equipment that exceeds the expectations of our esteemed customers.

**Mission statement** :

To build long term relationships with our customers and clients and provide exceptional products by pursuing business through innovation and advanced technology.

**Goals**:

Regional expansion in the field of Power Electronics and develop a strong base of key customers. Increase the R&D of the company to support the development of Products. To build good reputation in the field of Power Electronics and Renewable Energy and become a key player in the industry.

**Purpose**

To be a leader in the Solar Inverters and Charge Controllers, Online UPS systems, Servo Stabilizers, power electronics industry by providing quality Products, enhanced services, relationship and profitability.

**Core values**

We believe in treating our customers with respect and faith • We grow through creativity, invention and innovation.• We integrate honesty, integrity and business ethics into all aspects of our business functioning.

## Key Process

**L**atest technology and manufacturing equipment and quality work force has improved the quality of products. Even the PCBs are being made fine with advanced equipment.

**M**anufacturing of all systems starts with the selection & procurement of raw material, inward quality inspection, PCB assembly, PCB level testing, Mechanical Assembly, Wiring, In process QA, Pretest QA, Unit Level Testing, High Power Testing, Final Heat Run & Pre Dispatch Inspection.

## Glow Power Quality Initiatives

- **QUALITY PLAN**
  Detailed document that sets forth practices and sequence of activities
- **SUPPLIER AUDITS**
  To ensure that supplier is following the processes and procedures that agreed during the selection processes
- **IQC INSPECTION**
  To ensure that all the raw materials are meeting the require specifications
- **LINE AUDITS**
  To ensure that the products being manufactured are complying with specifications/requirements
- **FG AUDITS**
  To ensure that the final products manufactured are complying with specifications/requirements

## General Business Activities •

- GPT is group company of ELMAS MAGNETICS PVT LTD (ELMAS) .
- GPT has been and is reliable supplier for many OEMs in the Solar Industry, GPT client list includes names like Tata, HBL, Havells, SELCO, Kirloskar, Gilbarco Veedor Root, IOCL,BPCL,HPCL and other oil companies along with PAN India Distributors
- GPT provide solutions from design to manufacturing which includes design verification & validations along with customers in process of sample, pilot lot manufacturing & finally mass production manufacturing.

## Why GPT ?

- Established cost efficient quality manufacturer
- Proven track record of supplies to major customers
- In house R&D with more than 30 years of experienced core design team
- Competent technical team for engineering, production and meeting deliverables
- Having established vendor base
- Customer Focused
- Based customer requirement & demand GPT will provide customized power products.
- Proven capability in designing product as per customer specification or bespoke products
- Maintaining NDA of customers product design and product.

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# SOLAR OFFGRID INVERTER WITH PWM SOLAR CHARGER

## TECHNICAL SPECIFICATION

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CAPACITY/ VA | | | 850 | 1050 | 800/1000/1400/2000 | 2500 | 4000 | 5000 |
| CAPACITY/ WATTS | | | 630 | 750 | 600/800/1100/1600 | 2000 | 3000 | 4000 |
| Battery VDC | | | 12 | 12 | 24 | 48 | 48 | 48 |
| Voc | | | 23 | 23 | 45 | 90 | 90 | 90 |
| SOLAR CHARGE CONTROLLER - PWM | | | 30A | 30A | 30A | 30A | 50A | 50A |
| Nominal Output Voltage | | | 220 V AC Nominal (230/240 V AC Selectable) | | | | | |
| User Selection Mode | | | UPS Mode | | INVERTER Mode | | | |
| Input | Voltage Range | Acceptable Voltage Range | 175 -270Vac | | 100 - 300Vac | | | |
| | | Low Voltage Cutoff | 180±5Vac | | 110±10Vac | | | |
| | | Low Voltage Recovery | 190±5Vac | | 120±10Vac | | | |
| | | High Voltage Cutoff | 265±5Vac | | 290±10Vac | | | |
| | | High Voltage Recovery | 255±5Vac | | 275±10Vac | | | |
| | | Frequency | 50Hz Nominal (47-53Hz Range) | | | | | |
| Output | Voltage Regulation On Mains | | Same as Mains input | | | | | |
| | Voltage Regulation in Battery mode | | 220V AC Nominal +/-2% (230/240 V AC Selectable) | | | | | |
| | Freq.Reg | Mains Mode | Same as Mains input | | | | | |
| | | Battery Mode | 50Hz ±0.1HZ | | | | | |
| | Wave Form | | Pure Sine Wave | | | | | |
| | Efficiency | | ≥82%(12VDC);≥85%(24/48VDC) | | | | | |
| Protections | Over Load | | For 100% Load - Buzzer Indication, 101% above Load Trips and Retry for | | | | | |
| | Output Short Circuit | | Circuit Breaker On Mains, Shutdown on Inverter | | | | | |
| | Battery Reverse Protection | | Fuse / MCB | | | | | |
| | Low Battery | | Load Disconnection | | | | | |
| | Thermal Shutdown | | Below 0°C and Above 90°C | | | | | |
| | Lightening/Surge | | Protected upto 4KV Surge | | | | | |
| | Solar Reverse | | Blocking Diode is provided to Prevent reverse flow of current | | | | | |
| Shared Charging | | | On priority it will charge from solar only as long as it is giving sufficient current. When Solar Current drops to below set point, then shared charging is activated and to balance current it will charge from Grid. | | | | | |
| Priority | Grid Priority | | In this Mode it will charge the battery form Solar + Grid in Sharing | | | | | |
| | | | Grid charging starts only when Solar Current is less than set value | | | | | |
| | | | It will shift to battery mode if battery is full from solar(i.e14.4VDC for 12V system ) | | | | | |
| | Solar Priority | | In this mode it will charge the Battery only from Solar | | | | | |
| | | | When Battery is completely discharged, Solar is not available then only it will connect to Grid and Shared charging is activated till the Battery is Full. | | | | | |
| Environmental | Operating Temperature | | 0-45°C | | | | | |
| | Relative Humidity | | 0-95% | | | | | |
| Change Over time | | | < 20ms | | | | | |
| LED Display | | | Mains ON(RED);Charging On Mains(RED),Charging On Solar(GREEN), Dual(YELLOW); Inverter(GREEN); Battery low(YELLOW/RED);Overload/Short Circuit(YELLOW/GREEN) | | | | | |
| LCD Display | | | Battery Voltage; I/P Voltage; I/P Frequency; O/P Voltage; Grid Charging Current; Solar Voltage; Solar Charging Current; Solar Units Saved KWH(up to 999.9Units); Grid Priority/Solar Priority; Load %; Over Load; Battery Low; UPS/INV Mode | | | | | |

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# SOLAR OFFGRID INVERTER WITH MPPT SOLAR CHARGER (SINGLE PHASE)

## TECHNICAL SPECIFICATION

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CAPACITY | KVA | | 5 | 6 | 7.5 | 7.5 | 10 | 10 | 12.5 | 15 | 20 |
| CAPACITY | KW | | 4 | 5 | 6 | 6 | 8 | 8 | 10 | 12.5 | 16 |
| Battery | Vdc | | 96 | 96 | 96 | 120 | 120 | 240 | 240 | 240 | 240 |
| | Voc | | 450 | | | | | | | | |
| Switching By | | | IGBT | | | | | | | | |
| Nominal Output Voltage | | | 220/230/240V AC | | | | | | | | |
| User Selection Mode | | | INVERTER Mode | | | | | | | | |
| Input | Voltage Range | Acceptable Voltage Range | 110-290Vac | | | | | | | | |
| | | Low Voltage Cutoff | 110±10Vac | | | | | | | | |
| | | Low Voltage Recovery | 120±10Vac | | | | | | | | |
| | | High Voltage Cutoff | 290±10Vac | | | | | | | | |
| | | High Voltage Recovery | 275±10Vac | | | | | | | | |
| | | Frequency | Same as Mains input(47-53Hz) | | | | | | | | |
| Output | Voltage Regulation On Mains | | Same as Mains input | | | | | | | | |
| | Voltage Regulation in Battery mode | | 220V AC Nominal +/-2%(Range 210-240V selectable) | | | | | | | | |
| | Freq.Reg | Mains Mode | Same as Mains input | | | | | | | | |
| | | Battery Mode | 50Hz ±0.1HZ | | | | | | | | |
| | Wave Form | | Pure Sine Wave | | | | | | | | |
| | Power Factor | | 0.8 | | | | | | | | |
| | THD | | ≤3% | | | | | | | | |
| | Efficiency | | ≥85% | | | | | | | | |
| Protections | Over Load | | For 100% Load Buzzer Indication, 101% above Load Trips and Retry for 4times then Inverter shutsdown | | | | | | | | |
| | Output Short Circuit | | Circuit Breaker On Mains, Shutdown on Inverter | | | | | | | | |
| | Battery Reverse Protection | | Fuse | | | | | | | | |
| | Low Battery | | Load Disconnection | | | | | | | | |
| | Thermal Shutdown | | Unit inside Temperature at 90°C | | | | | | | | |
| | Lightening/Surge | | Protected upto 4KV Surge | | | | | | | | |
| | Solar Reverse | | Blocking Diode is provided to Prevent reverse flow of current | | | | | | | | |
| | Current Limiting for battery Charging | | Available | | | | | | | | |
| Solar Charge Controller Type / Capacity | | | MPPT Charger / 50A | | | | | | | | |
| Battery Charging Current | | | Optional Battery current limit during low load on solar panel | | | | | | | | |
| Charging | Charging switch OFF | | It will charge form solar | | | | | | | | |
| | Charging switch ON | | It will charge from grid when solar charging current is Low | | | | | | | | |
| Environmental | Operating Ambient Temperature | | C to 50°C | | | | | | | | |
| | Relative Humidity | | 0-95% | | | | | | | | |
| Change Over time | | | < 20ms | | | | | | | | |
| LED Display | | | Mains,Charger,Output,Fault | | | | | | | | |
| LCD Display | | | Batter Voltage; I/P Voltage;I/P Frequency;O/P Voltage; Grid Charging Current; Solar Voltage; Solar Charging Current; Solar Units Saved KWH(up to 999.9Units); Load %; Over Load; Battery Low; UPS/INV Mode | | | | | | | | |
| RMS : | | | All MPPT Single Phase Inverters above 2KW have the compatibility for Remote Monitoring System (RMS). | | | | | | | | |


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# SOLAR OFFGRID INVERTER WITH MPPT SOLAR CHARGER - 3Ph I/P-3Ph O/P

## TECHNICAL SPECIFICATION

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| RATING KVA | | | 12.5 | 15 | 20 | 25 | 30 | 40 |
| O/P Capacity KW | | | 10 | 12 | 16 | 20 | 24 | 32 |
| Solar Panels Max Supported KW | | | 10 | 12 | 16 | 20 | 24 | 32 |
| Solar MPPT Charger Output Rating | | | 50/60Amps | | | | | |
| Battery VDC | | | 240 Vdc | | | | | |
| Voc | | | 450V/600V(optional) | | | | | |
| Switching By | | | IGBT | | | | | |
| Nominal Output Voltage | | | L-L 400 V AC +/- 2% /230 V AC L-N | | | | | |
| | | | | | | | | |
| Mains Input | Voltage Range | Acceptable Voltage Range | 170-280Vac Per Phase L-N | | | | | |
| | | Frequency | Same as Mains input ( 50HZ +/- 5% ) | | | | | |
| | | Input/Output Vector | Star/Star 4Wire/4Wire System | | | | | |
| | | Charging Current | 3A - 15A +/- 10% | | | | | |
| | Max Mains to Inverter Change Over Time | | ≤ 3 Sec | | | | | |
| | Max Inverter to Mains Change Over Time | | ≤ 1 Sec | | | | | |
| Output | Voltage Regulation On Mains | | Same as Mains input | | | | | |
| | Voltage Regulation in Battery mode | | 230V AC Nominal +/-2%(Range 210-240V selectable) Per Phase L-N | | | | | |
| | Freq.Reg | Mains Mode | Same as Mains input | | | | | |
| | | Battery Mode | 50Hz ±0.1HZ ( +/- 3Hz ) | | | | | |
| | Wave Form | | Pure Sine Wave | | | | | |
| | Power Factor | | 0.8 | | | | | |
| | THD V | | at linear load <5% | | | | | |
| | Efficiency | | ≥85% { peak efficiency of inverter ≥90%} | | | | | |
| | Crest Factor | | 3:1 | | | | | |
| Protections | Over Load | | For 100% Load Buzzer Indication, 101% above Load Trips and Retry for 4times then Inverter shutsdown {> 110% -<150% for 5 Minutes to 16 Sec, ≥ 150% - <200% For 15 Sec to 5 Sec, ≥ 200% <300% For 4Sec to 2 Sec, >300% for 1 Second} | | | | | |
| | | | (Inverter Over Voltage, Inverter OverLoad, Inverter Temperature, PV Under / Over Voltage Cutt - OFF, Battery Reverse Polarity Protection, Mains Under/Over Frequency, Mains Under/Over Voltage, Battery Under Voltage, Short circuit Protection, Surge protection. | | | | | |
| | Output Short Circuit | | Circuit Breaker On Mains, Shutdown on Inverter | | | | | |
| | Battery Reverse Protection | | Circuit Breaker | | | | | |
| | Low Battery | | Load Disconnection | | | | | |
| | Thermal Shutdown | | Unit inside Temperature at 90°C | | | | | |
| | Lightening/Surge | | Protected upto 4KV Surge | | | | | |
| | Solar Reverse | | Blocking Diode is provided to Prevent reverse flow of current | | | | | |
| | Current Limiting for battery Charging | | Available 10A-50A | | | | | |
| Battery Charging Current | | | Optional Battery current limit during low load on solar panel | | | | | |
| BATTERY PARAMETERS | | | NOMINAL DC VOLTAGE 240Vdc | | | | | |
| | | | DC LOW BATTERY VOLTAGE cut 220+/-2V | | | | | |
| | | | DC Low Voltage Warning 230+/-2V | | | | | |
| | | | DC BOOST VOLTAGE 292 +/-2V | | | | | |
| | | | DC VOLTAGE HIGH CUT 320+/-2V | | | | | |
| Priority | Solar Priority | | It will charge form solar . | | | | | |
| | Grid Priority | | It will charge from grid also when solar charging current is Low | | | | | |
| Environmental | Operating Ambient Temperature | | -10°C to 50°C {0°C TO 45°C} | | | | | |
| | Relative Humidity | | 0-95% { 0 TO 95% - Non Condensing} | | | | | |
| LED Display | | | Input Mains RYB ,Charging On GRID,Charging On Solar,Output MAINS RYB,Overload,Low Battery (Mains ON,Alarm ON, Buzzer Mute) | | | | | |
| LCD Display | | | Battery Voltage; I/P Voltage;I/P Frequency;O/P Voltage; Grid Charging Current; Solar Voltage; Solar Charging Current; Solar Units Saved KWH(up to 999.9Units); Load %; Over Load; Battery Low; UPS/INV Mode (SCROLLING) {20x4 line lcd} | | | | | |
| Acoustic Noise (At one meter) | | | ≤65db | | | | | |
| Weight with out Packing +/-20Kg | | | | 100Kg | 120Kg | | 140Kg | 150Kg | | 160Kg |
| Operating Temperature | | | (-10 Deg C to 50 Deg C) | | | | | |
| Features | | | (Three Stage battery charging for better battery Life, Battery current Limiting, Temp Compensation | | | | | |
| | | | for VRLA Type Battery, Battery Type Supported - Lead Acid tubular, VRLA | | | | | |
| | | | Inbuit Data Logging, GPRS Mounting of all Parameters(OPTIONAL) | | | | | |
| Circuit Breaker | | | (Solar Input, Battery Input, Grid Input and Load) | | | | | |

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# Online UPS Systems

Range upto 50KVA

## TECHNICAL SPECIFICATION

| Model | GPU1K | GPU2K | GPU3K | GPU6K | GPU010K |
|---|---|---|---|---|---|
| **PHASE** | Single Phase with Ground | | | | |
| **CAPACITY** | 1000 VA / 800 W | 2000 VA / 1600 W | 3000 VA / 2400 W | 6000 VA / 4800 W | 10000 VA / 8000 W |
| **INPUT** | | | | | |
| Nominal Voltage | 200/208/220/230/240VAC | | | 208/220/230/240VAC | |
| Input Voltage Range | 110-300 VAC (Based on load at 50%)<br>160-280VAC (Based on load at 100%) | | | 110-300 VAC (Based on load at 50%)<br>176-300 VAC (Based on load at 100%) | |
| Frequency Range | 40Hz ~ 70 Hz | | | 46~54 Hz or 56~64 Hz | |
| Power Factor | ≥ 0.99 @ Nominal Voltage (100% load) | | | | |
| **OUTPUT** | | | | | |
| Output Voltage | 200/208/220/230/240VAC | | | 208/220/230/240VAC | |
| Voltage Regulation | ± 1% | | | | |
| Frequency Range (Synchronized Range) | 47~ 53 Hz or 57 ~ 63 Hz | | | 46~54 Hz or 56~64 Hz | |
| Frequency Range (Batt. Mode) | 50 Hz ± 0.25 Hz or 60Hz ± 0.3 Hz | | | 50 Hz or 60Hz ± 0.1 Hz | |
| Crest Factor | 3:1 | | | | |
| Harmonic Distortion | ≤ 3% THD (Linear Load)<br>≤ 6% THD (Non-linear Load) | | | ≤ 3% THD (Linear Load)<br>≤ 5% THD (Non-linear Load) | |
| **TRANSFER TIME** | | | | | |
| AC Mode to Battery Mode | Zero | | | | |
| Inverter to Bypass | 4 ms (Typical) | | | Zero | |
| Waveform | Pure Sinewave | | | | |
| **EFFICIENCY** | | | | | |
| Overall Efficiency | >90% | | | >92% | |
| **BATTERY** | | | | | |
| Number of batteries | 3 | 6/8 | | 16/20 | |
| Charging Current (max.) | 1A/2A/4A/6A (Adjustable) | | | 1A/2A/4A/6A (Adjustable,<br>6A is only available for 16pcs batteries) | |
| **INDICATORS** | | | | | |
| LCD Panel | Load level, Battery level, AC mode, Battery mode, Bypass mode, and Fault indicators | | | | |
| **ALARM** | | | | | |
| Battery Mode | Sounding every 4 seconds | | | | |
| Low Battery | Sounding every second | | | | |
| Overload | Sounding twice every second | | | | |
| Fault | Continuously sounding | | | | |
| **PHYSICAL** | | | | | |
| Dimension, D X W X H (mm) | 282 x 145 x 220 | 397 x 145 x 220 | | 369 x 190 x 318 | 442 x 190 x 318 |
| Net Weight (kgs) | 4.1 | 6.8 | 7.4 | 12 | 16 |
| **ENVIRONMENT** | | | | | |
| Operation Humidity | 20-90 % RH @ 0- 40°C (non-condensing) | | | 0-95% RH @ 0-50°C (non-condensing) | 0-95% RH @ 0-40°C (non-condensing) |
| Noise Level | Less than 50dBA @ 1 Meter | | | Less than 55dBA @ 1 Meter | Less than 58dBA @ 1 Meter |
| **MANAGEMENT** | | | | | |
| Smart RS-232/USB | Supports Windows® 2000/2003/XP/Vista/2008/7/8, Linux, Unix, and MAC | | | | |
| Optional SNMP | Power management from SNMP manager and web browser | | | | |
| **STANDARDS** | IP20, IEC62040-3, EN62040-1,2 . COMPLIANCE : CE / ROHS | | | | |

### Sailent Features

- True online double convension
- Microprocessor control optimizes reliability
- Active Power Factor Correction
- Wide Input Range (110V-300V)
- Selectable Output Voltage 1200/208/220/230/240 VAC)
- ECO Mode Operation for Energy Saving
- Emergency Power off Function (available only in 6 & 10 KVA)
- 0.9 Power Factor
- Comprehensive LCD Display & LED Indicator
- Supports USB / RS 232
- Standalone & Hot Standby Operation
- Optional : In-Built Isolation transformer
- Optional : In-Built battery model (1 - 3 KVA Only)

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# Servo Stabilizer (Single Phase)

Capacity Range upto 25KVA, 1Ph


## Protections

- High voltage protection
- Low Voltage Protection

} with Relay / Contactor

- Overload protection
- Short circuit protection

} with MCB

## 1 PH SCVS Dimensions (mm)

| Capacity | Width | Depth | Height | Weight/kgs |
|---|---|---|---|---|
| 1 KVA | 280 | 310 | 300 | 16 |
| 2 KVA | 280 | 310 | 300 | 18 |
| 3 KVA | 300 | 430 | 300 | 28 |
| 5 KVA | 300 | 430 | 300 | 33 |
| 7.5 KVA | 360 | 470 | 310 | 55 |
| 10 KVA | 360 | 470 | 310 | 60 |
| 15 KVA | 440 | 470 | 800 | 100 |

## Input Connection

• 1 & 2 KVA - Power Card with Plug Top • 3 KVA to10 KVA with Connectors • Above 10 KVA nut & bolt termination

## Technical Specifications

| | | |
|---|---|---|
| Input Voltage Range | : | 170-270V AC, 50 Hz |
| Output Voltage | : | 230V AC 50 Hz 1Phase |
| Operating Frequency | : | 47 to 53 Hz |
| Output regulation | : | ± 1% |
| Correction Speed | : | 35V/sec |
| Line regulation | : | ± 1% |
| Load regulation | : | ± 1% |
| Wave-form distortion | : | Nil |
| Power factor effect | : | Nil |
| Output wave -form | : | True reproduction of Input |
| Type of cooling | : | Natural Air-cooled |
| System Construction | : | As per IS:9815 |
| Efficiency | : | 98.5% |
| Response Time | : | 10 milli sec. |
| Servo Motor Drive | : | rugged ac step synchronous |
| motor | | |
| Enclosure | : | IP32 |

## Indication on Front Panel

- Input ON
- Output ON
- Output CUT-OFF
- Input LOW
- Input HIGH
- 0-300 V 72 Sq. mm analog meter to read output voltage

## Output Connection

- 1 & 2 KVA - Sockets
- 3 KVA to10 KVA with Connectors
- Above 10 KVA nut & bolt termination

# Static Voltage Stabilizer

Capacity Range upto 150 KVA 3Ph

With Very High Speed of Correction provides perfectly stable output even under severe conditions of unbalanced voltage conditions. Ideal to protect the electrical and electronic equipments from high and low voltage.


## Salient Features

- IGBT PWM AC to AC Switching control
- Individual Phase control
- Quick response time <10 milli sec (half a cycle)
- Very high efficiency above 98%
- Excellent regulation as high as +/- 0.5%
- Wide input range of operations
- **Very high speed of correction 3000V per Second**

## Protections

- Input Short Circuit Protection with MCB
- Input Over Load Protection with MCB
- Output Low Voltage Protection
- Output High Voltage Protection
- Single Phase preventer
- Output Electronic Over Load Protection

## Metering

- 3ph Input volt meter to read ph to ph and ph to Neutral Voltages at Input & Output with selector switch
- 3ph Ammeter to read Output Current on each ph

## Indications

Mains on Indication on each phase 3 LEDs

2 Phase Output on Indiacation

| | | |
|---|---|---|
| Input Voltage Range | : | 300 - 460V / 340 - 480V / 360 - 460V AC 3 Ph |
| Output Voltage (3 Ph) | : | 415V AC |
| Operating Freequency | : | 47 - 53 Hz |

# Micro Controlled Voltage Stabilizer 3 Phase Air Cooled

Capacity Range upto 250 KVA

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Provides perfectly stable output even under severe conditions of unbalanced voltage conditions. Ideal to protect the electrical and electronic equipments from high and low voltages.

## Technical Specifications

| | | |
|---|---|---|
| Input Voltage Range | : | 300 - 460V / 340 - 480V / 360 - 460V AC 3 Ph |
| Output Voltage (3 Ph) | : | 415V AC |
| System | : | Unbalanced 4 wire: R Y B N |
| Connections | : | Star |
| Operating Frequency | : | 47 to 53 Hz |
| Output Voltage Regulation | : | ± 1% (No |
| Load) Output Voltage Regulation | : | ± 1% |
| (Full Load) Overload Capacity | : | 120% |
| Correction Rate | : | 60 / 30 / 25V per Sec-3 Phase |
| Waveform Distortion | : | Nil |
| Output Waveform | : | True Reproduction of Input |
| Insulation | : | Class F |
| Short Circuit period & Percentage | : | 300% for 250 Milli Sec. |
| Normal Operation Temperature | : | $0^0$ C to $45^0$ C |
| Climate Conditions | : | 90% Rh Max. Non Condensing at $35^0$C |
| Type of Cooling | : | Natural air cooled up to 600 KVA |
| Mode of system | : | Fully Automatic |
| System Construction | : | As per IS : 9815 – 1994 |

## Protections

- Single Phasing Prevention
- Input Short Circuit Protection with MCB / MCCB
- Input Over Load Protection with MCB / MCCB
- Output Low Voltage Protection
- Output High Voltage Protection

## Indications

- Mains Input on 3 LED Indications,
- 3ph output on indication

## Indications in LCD Display

- Input High and Input low
- Output on indication
- Output high Cutoff and Output Low Cutoff

## Programmable Parameters

- Output voltage set ( 210-245V)
- Output Low Voltage Cutoff
- Output High Voltage Cutoff
- Input Low on LCD Display
- Input High on LCD Display
- Sensitivity / Regulation
- Over Load Cutoff
- CT full scale

## Salient Features

- Quick response time 10 milli sec (half a cycle)
- Very high efficiency above 98%
- Excellent regulation as high as +/- 0.5%
- "Micro controller" controlled system
- Wide input range of operations & high speed of correction

## Metering On LCD Display

- 3ph Input voltage ph to ph and ph to Neutral
- 3ph Output voltage ph to ph and ph to Neutral
- System Frequency
- Output Current on each phase

## Programmable Control Timings

- Over load Cutoff Time
- Auto Restart Time
- On & Off Delay Time

# Micro Controlled Voltage Stabilizer 3 Phase Oil Cooled

Capacity Range upto 1000 KVA 3 Ph

GLOW POWER TECHNOLOGIES

Provides perfectly stable output even under severe conditions of unbalanced voltage conditions. Ideal to protect the electrical and electronic equipments from high and low voltage.


## Technical Specifications

| | | |
|---|---|---|
| Input Voltage Range | : | 300 - 460V / 340 - 480V / 360 - 460V AC 3 Ph |
| Output Voltage (3 Ph) | : | 415V AC |
| System | : | Unbalanced 4 wire: R Y B N |
| Connections | : | Star |
| Operating Frequency | : | 47 to 53 Hz |
| Output Voltage Adjustable | : | 380 to 415V AC in 3 Ph |
| Output Voltage Regulation | : | ± 1% (No Load) |
| Output Voltage Regulation | : | ± 1% (Full Load) |
| Overload Capacity | : | 120% |
| Correction Rate | : | 60 / 25 / 15V per Sec-3 Phase |
| Waveform Distortion | : | Nil |
| Output Waveform | : | True Reproduction of Input |
| Insulation | : | Class B |
| Short Circuit period & Percentage | : | 300% for 250 Milli Sec. |
| Normal Operation Temperature | : | $0^{0}$ C to $45^{0}$ C |
| Climate Conditions | : | 90% Rh Max. Non Condensing at $35^{0}$C |
| Type of Cooling | : | Natural Oil cooled up to 5000 KVA |
| Mode of system | : | Fully Automatic |
| System Construction | : | As per IS : 9815 – 1994 |

## Protections

- Single Phasing Prevention
- Output Electronic Over Load Protection
- Phase Reversal Protection
- Input Short Circuit Protection with MCB
- Input Over Load Protection with MCB
- Output Low Voltage Protection
- Output High Voltage Protection
- Audio Alarm for Protections

## Indications

- Mains Input on 3 LED Indications,
- 3ph output on indication
- Phase Reversal indication
- over Load indication

## Indications in LCD Display

- Input High and Input low
- Output on indication
- Output high Cutoff and Output Low Cutoff

## Programmable Parameters

- Output voltage set ( 210-245V)
- Output Low Voltage Cutoff
- Output High Voltage Cutoff
- Input Low on LCD Display
- Input High on LCD Display
- Sensitivity / Regulation
- Over Load Cutoff
- CT full scale

## Programmable Control Timings

- Over load Cutoff Time
- Auto Restart Time
- On & Off Delay Time

## Salient Features

- Quick response time 10 milli sec (half a cycle)
- Very high efficiency above 98%
- Excellent regulation as high as +/- 0.5%
- “Micro controller” controlled system
- Wide input range of operations & high speed of correction

## Metering On LCD Display

- 3ph Input voltage ph to ph and ph to Neutral
- 3ph Output voltage ph to ph and ph to Neutral
- System Frequency
- Output Current on each ph

## Programmable Controls

- Display Scrolling - Auto / Manual
- Start / Stop Buttons

## Menu / Start / Stop / Reset / Log Button

## Very Important For CSD Analysis Problems

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# DG Cranking Systems


**D.G. Cranking System"** or as they are so often referred to Electro-Chemical Capacitors (Ecs) Super Capacitors, have become increasingly interesting for Internal Combustion (IC) Engine Starting Diesel Generator, and automotive applications.

**D.G.Cranking System product highlights :**

- Less weight than battery.
- Prectically maintenance free.
- Long service life and less degradation over thousands of cycles.
- Super capacitor oprating temperature range 0'c to 50'c
- Low maintenance and eliminates the periodic running of Gen-Set
- Safe environment and Low toxicity.
- Charging method isolated constant current.
- Input source from 40V-60V DC or 230V AC optional.
- In-built charger ensure that super capacitor is always full charged.
- Very less charging time compared to battery & very low discharge rate, high cranking amps.

## Capacitor Unit:

| No. | PARAMETER | SPECIFICATION |
|---|---|---|
| 1 | Capacitor Voltage | 15.5 V |
| 2 | Capacitance | 120 F |
| 3 | DG Cranking Current Sustainability | Approx. 500A |
| 4 | Triggering Cycles (Full Charge Condition) | Approx 2-3 (upto 40KVA generator & depends on condition of generator & Cranking current) |
| 5 | Enclosure dimensions | Width 130mm, Length 270mm & Height 140mm |
| 6 | Ingress Protection class | IP 20, Powder coated |
| 7 | RoHS Compliance | Yes |
| 8 | Safety | Capacitors are approved as per UL810A |


## In Built Charger / Power Supply Unit :

| No. | PARAMETER | DC to DC Charger ESCU 12015-DC | AC to DC Charger ESCU12015-AC |
|---|---|---|---|
| 1 | Charger input voltage | 40V-60V | 180V-270V |
| 2 | Charger output voltage | 15.5V | 15.5V |
| 3 | Charging Current | 10A | 5A |
| 4 | Recharge Time from OV DC | 4 mins (Approx) | 10 mins (Approx) |
| 5 | Recharge Time from 11V DC | 30 sec (Approx) | 60 sec (Approx) |
| 6 | Charging Method | Constant Current | Constant Current |
| 7 | Protections | Output Short Circuit Over Load. Over Voltage. | Output Short Circuit Over Load. Over Voltage. |

## DG Cranking System Models

| S.No. | DG Generator rating | load watts | Battery voltage | Battrey Ah | Capacitor Bank | GPT model AC (Input : AC 230V) | GPT model DC (Input : 40 to 60V DC) | Warranty |
|---|---|---|---|---|---|---|---|---|
| 1 | 25KVA | 20KW | 12V | 88Ah | 120F | ESCU12615-AC | ESCU12615-DC | 1 Year |
| 2 | 25KVA | 20KW | 12V | 88Ah | 190F | ESCU19015-AC | ESCU19015-DC | |
| 3 | 40KVA | 32KW | 12V | 100Ah | | | | |
| 4 | 45KVA | 36KW | 12V | 100Ah | 253F | ESCU25315-AC | ESCU25315-DC | |
| 5 | 62.5(63)KVA | 50KW | 12V | 120Ah | | | | |
| 6 | 69KVA | 55KW | 12V | 120Ah | | | | |
| 7 | 75KVA | 60KW | 12V | 120Ah | 380F | ESCU38015-AC | ESCU38015-DC | |
| 8 | 100KVA | 80KW | 12V | 120Ah/130Ah | | | | |
| 9 | 100KVA | 80KW | 12V | 120Ah/130Ah | | | | |

## Certifications & Ratings

STQC
Government of India
Ministry of Electronics & Information Technology
**Standardisation Testing and Quality Certification Directorate**

TUV NABCB QM 002

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IS 16221 (PART 2) : 2015 / IEC 62109-2 : 2011
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