

WELCOME

Product Presentation

NINE ENERGY ELECTRONIC SYSTEMS LLP

Upcoming Product Details



- High Capacity Inverter (1kva-10kva)
- PWM High Capacity Inverter/PCU (1Kva-10kva)
- Off-Grid MPPT Inverter/PCU (1kva-10kva)
- Battery Less PCU(1kva-10kva)
- EV Charger (1K watt to 5K watt)

CURVE SERIES HB HUPS

PENERGY Think Future

- Micro controller based compact design supported by microchip
- Develops gravity faster among its pears
- Zero volt battery pickup
- Resettable CKT Breaker peace of mind
- Intellicharge management
- Noiseless operation



CURVE HB HUPS SERIES



| Parameter | | | | Technical | Specification | | | | | |
|----------------------------------|----------------|-----------------|--------------|--------------|--------------------------------|-----------------|--------------|--------------|--|--|
| Model | | HB700 | HB800 | HB900 | HB1000 | HB1100 | HB1200 | HB1400 | | |
| Rating | | 600VA | 700VA | 800VA | 900VA | 950VA | 1050VA | 1200VA | | |
| Input Voltage | INV Mode | | | | 90-295V AC±10V | | | | | |
| | UPS Mode | 180-265V AC±10V | | | | | | | | |
| Output Voltage on Mains mode | | | | | Same as Input | | | | | |
| Output Voltage on UPS mode | | | | | 220V±12% | | | | | |
| Output frequency on UPS mode | | | | | 50 Hz±0.1 Hz | | | | | |
| Changeover | | Automatic | | | | | | | | |
| Battery Charging Current | NC | | | | 12A ± 3A | | | | | |
| | HC | | | | 15A ± 3A | | | | | |
| Battery Charging Cut off Voltage | TUB/STD(Boost) | | | 14.5 | V ± 0.3V/14.2V ± 0.3 | SV. | | | | |
| | TUB/STD(Float) | | | 14.1 | $V \pm 0.3 V / 13.8 V \pm 0.3$ | 3V/13.8V ± 0.3V | | | | |
| Charger Topology | | | CCCV | | | | | | | |
| Running Load | | 40A ± 2A | $46A \pm 2A$ | 52A ± 2A | 58A ± 2A | 62A ± 2A | 67A ± 2A | $76A \pm 2A$ | | |
| Overload | | 44A ± 2A | $50A \pm 2A$ | $56A \pm 2A$ | $62A \pm 2A$ | $66A \pm 2A$ | $70A \pm 2A$ | $80A \pm 2A$ | | |
| Battery Low Alarm | | | | | 10.8V ± 0.2V DC | | | | | |
| Battery Low Shutdown | | | | | 10.5V ±0.2V DC | | | | | |
| Efficiency | | | | | >80% | | | | | |
| Technology | | | | High End | Micro Controller base | ed design | | | | |
| UPS transfer time | | | | | <15ms | | | | | |
| Auto Reset Feature | | | | | Available | | | | | |
| Display | | | | | Available | | | | | |
| Temperature Protection | | | | | Available | | | | | |
| Operating Temperature | | | | | -10°C to 45°C | | | | | |

LI-ELECTROGEN HUPS SERIES



- Compact design supported by Microchip ensures high reliability
- LiFepo4 Battery bank inside
- Usain Bolt charging
- Develops gravity faster among its pears
- Zero Volt Battery Pickup
- Resettable CKT Breaker peace of mind
- Noiseless operation
- Pollution free/Environment friendly
- >2000 life cycle with complete charge & Discharge
- Ready to fit portable model with handle



Inbuilt Lithium Battery



Why Lithium Ion



- Compared with traditional battery technology, lithium ion batteries charge faster, last longer and have a higher power density for more battery life in a lighter package. When you know a little about how they work, they can work that much better for you.
- It charges fast for convenience and slow for longevity.
- It makes charging easier.
- Low Self Discharge
- Low Maintenance



| Li 700 | The second secon | | | | | | | |
|--|--|--|----------------------------|---------|--------------------|------------|-----------------|--|
| Capacity | Parameter | | | | Specification | | | |
| INV Mode | Model | | LI 700 | | LI900 | LI1100 | LI1300 | |
| UPS Mode 180-265V AC ± 10V Output Voltage on Mains mode Nominal DC Voltage Output Voltage on UPS mode Output frequency on UPS mode Output waveform on mains mode Output waveform on UPS mode Battery Capacity Battery Charging Current Battery Charging Cut off Voltage Charger Topology Running Load (Bulb) Battery Low Alarm Efficiency Fifficiency Fifficiency Available Available Temperature Protection | Capacity | | 600VA | | 800VA | 950VA | 1150VA | |
| Output Voltage on Mains mode Nominal DC Voltage Output Voltage on UPS mode Output frequency on UPS mode Output frequency on UPS mode Output waveform on mains mode Output waveform on UPS mode Same as Input Automatic Output waveform on mains mode Output waveform on UPS mode Battery Capacity Battery Charging Current Battery Charging Cut off Voltage CCCV Running Load(Bulb) Same as Input Modified Square wave 550WH/775WH/1KWH/1.3KWH 775WH/1KWH/1.3KWH | Input Voltage | INV Mode | | 90 | -295V AC ± 10V | | | |
| Nominal DC Voltage Output Voltage on UPS mode Output frequency on UPS mode Changeover Output waveform on mains mode Output waveform on UPS mode Same as Input Modified Square wave Battery Capacity S50WH/775WH/1KWH/1.3KWH 775WH/1KWH/1.3KWH 775WH/1KWH/ | | UPS Mode | UPS Mode 180-265V AC ± 10V | | | | | |
| Output Voltage on UPS mode Output frequency on UPS mode Changeover Output waveform on mains mode Output waveform on UPS mode Battery Capacity S550WH/775WH/1KWH/1.3KWH T75WH/1KWH/1.3KWH T75WH/1KWH | Output Voltage on Mains mode | Same as Input | | | | | | |
| Output frequency on UPS mode Changeover Output waveform on mains mode Output waveform on UPS mode Battery Capacity Battery Charging Current Battery Charging Cut off Voltage Charger Topology CCCV Running Load(Bulb) Battery Low Alarm Battery Low Shutdown Battery | Nominal DC Voltage | 12.8VDC(LFP) | | | | | | |
| Changeover Output waveform on mains mode Output waveform on UPS mode Battery Capacity Battery Charging Current Battery Charging Cut off Voltage Changer Topology Running Load(Bulb) Battery Low Alarm Battery Low Shutdown Efficiency Technology High End Micro Controller based design UPS transfer time Available Display Temperature Protection Audodified Square wave Modified Square wave Modified Square wave Modified Square wave Modified Square wave Foswer Foswer Foswer Foswer Foswer Foswer Foswer Automatic Same as Input Modified Square wave Foswer Fos | Output Voltage on UPS mode | 220V ± 12% | | | | | | |
| Output waveform on mains mode Output waveform on UPS mode Battery Capacity Battery Charging Current Battery Charging Cut off Voltage Charger Topology Charger Topology Battery Low Alarm Battery Low Shutdown Battery Charging Cut off Voltage Batt | Output frequency on UPS mode | 50 Hz ± 0.1 Hz | | | | | | |
| Output waveform on UPS mode Battery Capacity Battery Charging Current Battery Charging Current Battery Charging Cut off Voltage CCCV Running Load(Bulb) Battery Low Alarm Battery Low Shutdown Technology High End Micro Controller based design Available Available Temperature Protection Modified Square wave Modified Square wave 775W 945W 775WH/1KWH/1.3KWH 10.8 | Changeover | Automatic | | | | | | |
| Battery Capacity Battery Charging Current Battery Charging Current 15A ± 3A Battery Charging Cut off Voltage 14.6V ± 0.2V Charger Topology Running Load(Bulb) Battery Low Alarm 11.2V ± 0.2V DC Battery Low Shutdown 10.8V ± 0.2V DC Efficiency Technology High End Micro Controller based design VPS transfer time Auto Reset Feature Display Temperature Protection 550WH/775WH/1KWH/1.3KWH 775WH/1KWH/1.3KWH 15A ± 3A WHATHER THE | Output waveform on mains mode | Same as Input | | | | | | |
| Battery Charging Current Battery Charging Cut off Voltage 14.6V ± 0.2V Charger Topology CCCV Running Load(Bulb) Battery Low Alarm 11.2V ± 0.2V DC Battery Low Shutdown 10.8V ± 0.2V DC Efficiency >80% Technology High End Micro Controller based design UPS transfer time Auto Reset Feature Display Temperature Protection 15A ± 3A 14.6V ± 0.2V 665W 775W 945W 945W 945W 945W Available | Output waveform on UPS mode | Modified Square wave | | | | | | |
| Battery Charging Cut off Voltage Charger Topology Running Load(Bulb) Battery Low Alarm Battery Low Shutdown Battery Low Shutdown CECV 775W 945W 945W 11.2V ± 0.2V DC 10.8V ± 0.2V DC Fificiency Fechnology High End Micro Controller based design UPS transfer time Available Display Available Temperature Protection Available | Battery Capacity | 550WH/775WH/1KWH/1.3KWH 775WH/1KWH/1.3KWH 775WH/1KWH/1.3KWH 775WH/1KWH/1 | | | | | 5WH/1KWH/1.3KWH | |
| Charger Topology Running Load(Bulb) Battery Low Alarm 11.2V ± 0.2V DC Battery Low Shutdown 10.8V ± 0.2V DC Efficiency >80% Technology High End Micro Controller based design UPS transfer time Available Display Temperature Protection CCCV 665W 775W 945W 945W H11.2V ± 0.2V DC >80% Available | Battery Charging Current | | | | 15A ± 3A | | | |
| Running Load(Bulb) Battery Low Alarm 11.2V ± 0.2V DC Battery Low Shutdown 10.8V ± 0.2V DC Efficiency 780% High End Micro Controller based design VPS transfer time Auto Reset Feature Display Temperature Protection 510W 665W 775W 945W 945W 11.2V ± 0.2V DC 10.8V ± 0.2V DC 40.2V D | Battery Charging Cut off Voltage | | | | 14.6V ± 0.2V | | | |
| Battery Low Alarm 11.2V ± 0.2V DC Battery Low Shutdown 10.8V ± 0.2V DC >80% Technology High End Micro Controller based design <15ms Auto Reset Feature Available Display Temperature Protection 11.2V ± 0.2V DC 10.8V ± 0.2V DC >80% Available Available | Charger Topology | | | | CCCV | | | |
| Battery Low Shutdown Efficiency Technology UPS transfer time Auto Reset Feature Display Temperature Protection 10.8V ± 0.2V DC >80% High End Micro Controller based design < 15ms Available Available Available Available | Running Load(Bulb) | | 510W | | 665W | 775W | 945W | |
| Sefficiency Second | Battery Low Alarm | | | 11 | 1.2V ± 0.2V DC | | | |
| Technology High End Micro Controller based design VAID Stransfer time Auto Reset Feature Available Display Temperature Protection High End Micro Controller based design Allow Controller based design Available Available | Battery Low Shutdown | | | 10 | 0.8V ± 0.2V DC | | | |
| VPS transfer time Auto Reset Feature Display Temperature Protection Available Available Available | Efficiency | | | | >80% | | | |
| Auto Reset Feature Display Available Temperature Protection Available Available | Technology | | High E | End Mic | cro Controller bas | sed design | | |
| Display Available Temperature Protection Available | UPS transfer time | | | | <15ms | | | |
| Temperature Protection Available | Auto Reset Feature | | | | Available | | | |
| | Display | | | | Available | | | |
| | Temperature Protection | | | | Available | | | |
| Operating Temperature -10° C to 45° C | Operating Temperature | | | - | -10° C to 45° C | | | |

Advantages of Lithium Battery over Lead Acid Battery





High Energy Density



Long Storage Life



Fast Charging Application



No Maintenance Required



Wide Operating Temperature



Customizable Shape & Size



No Money Effect



Efficient battery with True Capacity



Environment Friendly



Light Weight & Small in Size

Applications







NINE ENERGY ELECTRONIC SYSTEMS LLP



| | | Сара | city Test 100 AH | | |
|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|
| CHARACTERISTICS | Flooded Lead Acid | VRLA | Tubular/ Gel Tubular | 9 Energy LiFePO4 | Benefits of LiFePO4 |
| Voltage | 12V (2V Per Cell) | 12V (2V Per Cell) | 12V (2V Per Cell) | 12.8V (3.2V Per Cell) | More Power |
| Avg. Life Cycle @ 80% DOD | 500 | 400 | 1000 | 3000 | Long Avg. Life 7-10 Years |
| Avg. Life Cycle @ 50% DOD | 900 | 800 | 1400 | 5000 >10 Years | 6-10 Times More Life |
| Capacity Test @ C1 (27°C Temp.) | 72AH | 62AH | 70AH | 100AH | Constant Power and Energy at any Rate of Discharge |
| Capacity Test @ 0°C Temp. | 50% | 68% | 68% | 90% | Superior cold temp. performance |
| Charge Time | 6-12Hrs | 6-12Hrs | 6-12Hrs | 1-3Hrs | 4-6 Times Faster |
| Fast Charge Ability | NO | NO | NO | Good | Outstanding overcharge tolerance and safer performance |
| Recharge Method | Boost / Float Charge | Boost / Float Charge | Boost / Float Charge | CC/CV, Float Charge | CC/CV Charging mode is effective way to charge |
| Intelligence Inbuilt Protection | None | None | None | BMS | Keeps Battery Healthy & Increase Life & Performance |
| Regular Maintenance | High | Low | Low | None | No Maintenance |
| Assembly Flexibility | Standard Blocks | Standard Blocks | Standard Blocks | Any Shape | Customize to any Shapes according to the needs |
| Weight (Estimated) | 30Kg | 32.7Kg | 35Kg | 13.5Kg | ≤ 1/2 Weight |
| Installation Direction | Top need to be Upside | Top need to be Upside | Top need to be Upside | Any Direction | Keep on Any Position or Layout |
| Energy Density | 80 Wh/Kg | - | | 130Wh/Kg | High energy density - compact and lightweight |
| Self Discharge @ 20°C in a month | 10% To 15% | 8% to 10% | 8% to 10% | 0.5% to 2% | Extremely Low Self Discharge |

PWM PCU HUPS



- Micro controller based compact design supported by microchip
- Develops gravity faster among its pears
- Zero volt battery pickup
- Resettable CKT Breaker peace of mind
- Intellicharge management
- Noiseless operation
- PWM Solar Charge controller inside
- PCU Features Enabled





| | | | CURVE PWM F | IB HUPS SERIES | | | | | |
|----------------------------------|----------------|-----------|-----------------|----------------|-----------------------|------------|------------|------------|--|
| Parameter | | | | | Specification | | | | |
| Model | PWM | PWM HB700 | PWM HB800 | PWM HB900 | PWM HB1000 | PWM HB1100 | PWM HB1200 | PWM HB1400 | |
| Rating | | 600VA | 700VA | 800VA | 900VA | 950VA | 1050VA | 1200VA | |
| Input Voltage | INV Mode | | | 90 | 0-295V AC±10V | | • | | |
| | UPS Mode | | | 18 | 0-265V AC±10V | | | | |
| Output Voltage on Mains mode | | | | , | Same as Input | | | | |
| Output Voltage on UPS mode | | | | | 220V±12% | | | | |
| Output frequency on UPS mode | | | | | 50 Hz±0.1 Hz | | | | |
| Changeover | | | Automatic | | | | | | |
| Solar Charger controller | | | PWM BASED | | | | | | |
| Solar Charge Controller Capacity | | 20AMP | 20AMP | 20AMP | 20AMP | 30AMP | 30AMP | 30AMP | |
| Solar panel Voltage(VOC) | | | MAX UPTO 22V DC | | | | | | |
| Battery Charging Current | NC | | | | 12A ± 3A | | | | |
| | HC | | | | 15A ± 3A | | | | |
| Battery Charging Cut off Voltage | TUB/STD(Boost) | | | 14.5V | ± 0.3V/14.2V ± 0.3V | | | | |
| | TUB/STD(Float) | | | 14.1V | ± 0.3V/13.8V ± 0.3V | | | | |
| Charger Topology | | | | | CCCV | | | | |
| Running Load | | 40A ± 2A | 46A ± 2A | 52A ± 2A | 58A ± 2A | 62A ± 2A | 67A ± 2A | 76A ± 2A | |
| Overload | | 44A ± 2A | 50A ± 2A | 56A ± 2A | 62A ± 2A | 66A ± 2A | 70A ± 2A | 80A ± 2A | |
| Battery Low Alarm | | | | 1 | 0.8V ± 0.2V DC | | | | |
| Battery Low Shutdown | | | | 1 | 0.5V ±0.2V DC | | | | |
| Efficiency | | | | | >80% | | | | |
| Technology | | | | High End Mic | ro Controller based o | design | | | |
| UPS transfer time | | | | | <15ms | | | | |
| Auto Reset Feature | | | | | Available | | | | |
| Display | | | | | Available | | | | |
| Temperature Protection | | | | | Available | | | | |
| Operating Temperature | | | -10°C to 45°C | | | | | | |



| | | | CURVE MPPT H | IB HUPS SERIES | | | | | |
|----------------------------------|----------------|------------|----------------|----------------|-----------------------|-------------|-------------|-------------|--|
| Parameter | | | | 5 | pecification | | | | |
| Model | MPPT | МРРТ НВ700 | МРРТ НВ800 | МРРТ НВ900 | MPPT HB1000 | MPPT HB1100 | MPPT HB1200 | MPPT HB1400 | |
| Rating | | 600VA | 700VA | 800VA | 900VA | 950VA | 1050VA | 1200VA | |
| Input Voltage | INV Mode | | 90-295V AC±10V | | | | | | |
| | UPS Mode | | | 180 | -265V AC±10V | | | | |
| Output Voltage on Mains mode | | | | S | ame as Input | | | | |
| Output Voltage on UPS mode | | | | | 220V±12% | | | | |
| Output frequency on UPS mode | | | | 5 | 0 Hz±0.1 Hz | | | | |
| Changeover | | | Automatic | | | | | | |
| Solar Charger controller | | | MPPT BASED | | | | | | |
| MPPT Capacity | | 20AMP | 20AMP | 20AMP | 20AMP | 30AMP | 30AMP | 30AMP | |
| Solar panel Voltage(VOC) | | | | MA | X UPTO 22V DC | | | | |
| Battery Charging Current | NC | | | | 12A ± 3A | | | | |
| | HC | | | | 15A ± 3A | | | | |
| Battery Charging Cut off Voltage | TUB/STD(Boost) | | | 14.5V ± | $0.3V/14.2V \pm 0.3V$ | | | | |
| | TUB/STD(Float) | | | 14.1V ± | $0.3V/13.8V \pm 0.3V$ | | | | |
| Charger Topology | | | | | CCCV | | | | |
| Running Load | | 40A ± 2A | 46A ± 2A | 52A ± 2A | 58A ± 2A | 62A ± 2A | 67A ± 2A | 76A ± 2A | |
| Overload | | 44A ± 2A | 50A ± 2A | 56A ± 2A | 62A ± 2A | 66A ± 2A | 70A ± 2A | 80A ± 2A | |
| Battery Low Alarm | | | | 10 | .8V ± 0.2V DC | | | | |
| Battery Low Shutdown | | | | 10 | 0.5V ±0.2V DC | | | | |
| Efficiency | | | | | >80% | | | | |
| Technology | | | | High End Micr | o Controller based d | lesign | | | |
| UPS transfer time | | | | | <15ms | | | | |
| Auto Reset Feature | | | | | Available | | | | |
| Display | | | | | Available | | | | |
| Temperature Protection | | | | | Available | | | | |
| Operating Temperature | | | | - | 10°C to 45°C | | | | |



| | | LI-ELECTROGEN PV | VM HUPS SERIES | | | | |
|----------------------------------|-------------------------|-------------------|--------------------------------|-------------------|-------------------|--|--|
| Parameter | | | Specification | | | | |
| Model | PWM | PWM LI700 | PWM LI900 | PWM LI1100 | PWM LI1300 | | |
| Capacity | | 600VA | 800VA | 950VA | 1150VA | | |
| Input Voltage | INV Mode | | 90-295V AC±10V | | | | |
| | UPS Mode | 180-265V AC±10V | | | | | |
| Output Voltage on Mains mode | | | Same as Input | | | | |
| Nominal DC Voltage | | | 12.8VDC(LFP) | | | | |
| Output Voltage on UPS mode | | | 220V±12% | | | | |
| Output frequency on UPS mode | | | 50 Hz±0.1 Hz | | | | |
| Changeover | | | Automatic | | | | |
| Solar Charger controller | | PWM BASED | | | | | |
| Solar Charge Controller Capacity | As Per Battery Capacity | 20AMP | 20AMP | 20AMP/30AMP | 20AMP/30AMP | | |
| Solar panel Voltage(VOC) | | MAX UPTO 22V DC | | | | | |
| Output waveform on mains mode | | Same as Input | | | | | |
| Output waveform on UPS mode | | | Modified Square wave | | | | |
| Battery Capacity | | 775WH/1KWH/1.3KWH | 775WH/1KWH/1.3KWH | 775WH/1KWH/1.3KWH | 775WH/1KWH/1.3KWH | | |
| Battery Charging Current | | | 15A ± 3A | | | | |
| Battery Charging Cut off Voltage | | | 14.6V ± 0.2V | | | | |
| Charger Topology | | | cccv | | | | |
| Running Load (Bulb) | | 510W | 665W | 775W | 945W | | |
| Battery Low Alarm | | | 11.2V ± 0.2V | | | | |
| Battery Low Shutdown | | | 10.8V ±0.2V | | | | |
| Efficiency | | | >80% | | | | |
| Technology | | | High End Micro Controller base | ed design | | | |
| UPS transfer time | | | <15ms | | | | |
| Auto Reset Feature | | | Available | | | | |
| Display | | | Available | | | | |
| Temperature Protection | | | Available | | | | |
| Operating Temperature | | | -10°C to 45°C | | | | |



| | | LI-ELECTROGEN MP | PPT HUPS SERIES | | | | |
|----------------------------------|-------------------------|------------------|--------------------------------|-------------------|-------------------|--|--|
| Parameter | | | Specification | | | | |
| Model | МРРТ | MPPT LI700 | MPPT LI900 | MPPT LI1100 | MPPT LI1300 | | |
| Rating | | 600VA | 800VA | 950VA | 1150VA | | |
| Input Voltage | INV Mode | | 90-295V AC±10V | | | | |
| | UPS Mode | | 180-265V AC±10V | | | | |
| Output Voltage on Mains mode | | | Same as Input | | | | |
| Nominal DC Voltage | | | 12.8VDC(LFP) | | | | |
| Output Voltage on UPS mode | | | 220V±12% | | | | |
| Output frequency on UPS mode | | | 50 Hz±0.1 Hz | | | | |
| Changeover | | | Automatic | | | | |
| Solar Charger controller | | MPPT BASED | | | | | |
| MPPT Capacity | As Per Battery Capacity | 20AMP | 20AMP | 20AMP/30AMP | 20AMP/30AMP | | |
| Solar panel Voltage(VOC) | | MAX UPTO 22V DC | | | | | |
| Output waveform on mains mode | | | Same as Input | | | | |
| Output waveform on UPS mode | | | Modified Square wave | • | | | |
| Battery Capacity | | 775WH/1KWH/1.3KW | 775WH/1KWH/1.3KWH | 775WH/1KWH/1.3KWH | 775WH/1KWH/1.3KWH | | |
| Battery Charging Current | | | 15A ± 3A | | | | |
| Battery Charging Cut off Voltage | | | 14.6V ± 0.2V | | | | |
| Charger Topology | | | CCCV | | | | |
| Running Load (Bulb) | | 510W | 665W | 775W | 945W | | |
| Battery Low Alarm | | | 11.2V ± 0.2V | | | | |
| Battery Low Shutdown | | | 10.5V ±0.2V | | | | |
| Efficiency | | | >80% | | | | |
| Technology | | | High End Micro Controller base | ed design | | | |
| UPS transfer time | | | <15ms | | | | |
| Auto Reset Feature | | | Available | | | | |
| Display | | | Available | | | | |
| Temperature Protection | | | Available | | | | |
| Operating Temperature | | | -10°C to 45°C | | | | |

Comparison Of PWM Charge Controller & MPPT Charge Controller



PWM Charge Controller

- PWM type is cheaper, and hence, commonly used for off-grid solar solutions in households and commercial applications. A 12V solar panel can charge a 12V battery. Two 12V panels wired in series, or a single 24V panel, is needed for a 24V battery bank, and so on.
- PWM requires you to match the voltage of the panel array to that of the battery bank. Otherwise, there will be a loss of charging power. And the greater the mismatch, the greater will be the loss of power. So, PWM is cheaper but comes with less flexibility and efficiency.

MPPT Charge Controller

- The MPPT controller allows a panel array to be of higher voltage than the battery bank. This is relevant for areas with low irradiation or during winter with fewer hours of sunlight.
- They provide an <u>increase in charging</u> <u>efficiency</u> up to 30% compared to PWM
- Greater flexibility for system growth. This is relevant for commercial establishments.
- They typically come with higher warranty periods than the PWM type

EV Charger Running Models



Lead Acid Battery Charger

- 9E LA-1248
- ▶ 9E LA-1648
- ▶ 9E LA-2148
- 9E LA-1260
- 9E LA-1660

Lithium Battery Charger

- ▶ 9E LI-1248
- ▶ 9E LI-1648
- ▶ 9E LI-2148
- ▶ 9E LI-1260
- ▶ 9E LI-1660



LNC Battery Charger

- 9E LNC-1648
- 9E LNC-2048

E-Rickshaw Charger

PENERGY Think Future

- Micro-controller based design using latest state-of-the-art Technology for Optimum Performance and Higher Reliability.
- Input Power Factor Corrector (PFC) having as high as 0.96.
- Wide AC input range 90V-300V makes it suitable to withstand the adverse Indian power conditions.
- Revive Deep Discharged Battery as Low as 6.25V per battery.
- Over-temperature Shutdown with auto recovery.
- Compact, Light-weight & Portable.
- On-board EMI/RFI fitter.
- In-built over voltage protection.
- Protection against Input Surge & Inrush Current.
- Smart status LED indication (Power On/Fault/Charging level).
- Smart status Display indication (Warning/Fault/Charging level/Charging current/Battery voltage etc.)
- Maximum charging time limit of 8 and a half hour provided.



Technical Specification- Lead acid E-Rickshaw charger



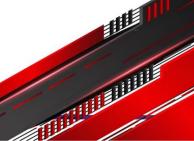
| | - | | | | | | |
|----------------------------------|----------------------------------|--|--------------------|---------------|------------|--|--|
| Model | 9E LA-1248 | 9E LA-1648 | 9E LA-2148 | 9E LA-1260 | 9E LA-1660 | | |
| | | AC | INPUT | | | | |
| AC INPUT VOLTAGE- RANGE | | 90V A | C - 300 AC | | | | |
| AC INPUT POWER FACTOR | | | >0.95 | | | | |
| INPUT CURRENT PROTECTION | | FUSE AS | PER RATING | | | | |
| FREQUENCY RANGE | | 401 | HZ-70HZ | | | | |
| INPUT CURRENT(MAX) | 6.5A | 7.5A | 9A | 7.5A | 9A | | |
| CONNECTOR TYPE | | 1.5 MTR ,3 CORE MAIN LEAD,3-PIN PLUG TOP | | | | | |
| | | DC | ОИТРИТ | | | | |
| DC OUTPUT VOLTAGE-CONSTANT | 63.5VDC±0.5VDC 79.5VDC±0.5VDC | | | | | | |
| DC OUTPUT VOLTAGE-FLOAT | | 58.5VDC±0.5VDC | | 73VDC±0.5VDC | | | |
| DC OUTPUT CURRENT | 12A±0.5A | 16A±0.5A | 21A±0.5A | 12A±0.5A | 16A±0.5A | | |
| DC OUTPUT CURRENT-DERATING | CURRENT DERATIN | NG 135V±10V ,CURREN | IT DERATING RECOV | ERY 145V ±10V | | | |
| DC RIPPLES | | | <2% | | | | |
| EFFICIENCEY | | >90%(T | YPICAL 93%) | | | | |
| DC OUTPUT LINE & LOAD REGULATION | | TOLE | RANCE±2% | | | | |
| CONNECTOR TYPE | ANDERS | SON CONNECTOR,2 CO | RE BATTERY WIRE,1. | 5MTR LENGTH | | | |
| | | PRO | TECTION | | | | |
| OUTPUT OVERVOLTAGE | | AVAILABLE,S | OFTWARE LIMITED | | | | |
| OUTPUT OVERCURRENT | | AVAILABLE,CON | ITROLLED BY CIRCUI | Т | | | |
| OVER TEMPERATURE SHUTDOWN | | 115℃ @- | 45°C AMBIENT | | | | |
| OVER TEMPERATURE RECOVERY | | 75℃ @4 | 5°C AMBIENT | | | | |
| RUN TIME BATTERY DISCONNECT | AVAILABLE ,CONTROLLED BY CIRCUIT | | | | | | |
| SHORTCIRCUIT | | AVAILABLE,CON | ITROLLED BY CIRCUI | Т | | | |
| REVERSE BATTERY | | AVAILABLE,CON | ITROLLED BY CIRCUI | Т | | | |
| DEEP DISCHARGED BATTERY PICKUP | | 6, AVAILABLE | .25V PER BATTERY | | | | |
| | | | | | | | |

LED Display & Indication



| CONDITIONS | LED 25% | LED 50% | LED 75% | LED 95% | FAULT LED | DISPLAY |
|-----------------------------------|---|--|---|--|--|--|
| BATTERY CAPACITY < 25% | BLINK | OFF | OFF | BLINK | OFF | L25 |
| BATTERY CAPACITY < 50% BUT > 25% | ON | BLINK | OFF | OFF | OFF | 25P |
| BATTERY CAPACITY <75% BUT > 50% | ON | ON | BLINK | OFF | OFF | 50P |
| BATTERY CAPACITY < 95% BUT > 75% | ON | ON | ON | BLINK SLOW | OFF | 75P |
| ABSORBTION MODE | ON | ON | ON | BLINK FAST | OFF | bcd |
| BATTERY CAPACITY 100%(ie. >95%) | ON | ON | ON | ON | OFF | bcd |
| BATTERY CHARGED | ON | ON | ON | ON | OFF | bcd |
| OVER TEMPERATURE | OFF | OFF | OFF | BLINK | BLINK | OtP |
| LOW BATTERY OR LOOSE BATTERY WIRE | BLINK | OFF | OFF | OFF | BLINK | Lob |
| LOW CUT (MAINS) | OFF | OFF | OFF | OFF | ON | iPL |
| HIGH CUT (MAINS) | OFF | OFF | OFF | OFF | ON | iPH |
| | BATTERY CAPACITY < 25% BATTERY CAPACITY < 50% BUT > 25% BATTERY CAPACITY < 75% BUT > 50% BATTERY CAPACITY < 95% BUT > 75% ABSORBTION MODE BATTERY CAPACITY 100%(ie. >95%) BATTERY CHARGED OVER TEMPERATURE LOW BATTERY OR LOOSE BATTERY WIRE LOW CUT (MAINS) | BATTERY CAPACITY < 25% BATTERY CAPACITY < 50% BUT > 25% ON BATTERY CAPACITY < 75% BUT > 50% BATTERY CAPACITY < 95% BUT > 75% ON ABSORBTION MODE ON BATTERY CAPACITY 100%(ie. >95%) ON BATTERY CHARGED ON OVER TEMPERATURE LOW BATTERY OR LOOSE BATTERY WIRE BLINK LOW CUT (MAINS) OFF | BATTERY CAPACITY < 25% BATTERY CAPACITY < 50% BUT > 25% ON BATTERY CAPACITY < 75% BUT > 50% ON ON BATTERY CAPACITY < 95% BUT > 75% ON ON ABSORBTION MODE ON ON BATTERY CAPACITY 100%(ie. >95%) ON ON ON ON OVER TEMPERATURE OFF LOW CUT (MAINS) ON OFF OFF | BATTERY CAPACITY < 25% BLINK OFF BATTERY CAPACITY < 50% BUT > 25% ON BLINK OFF BATTERY CAPACITY < 75% BUT > 50% ON ON ON ON ABSORBTION MODE ON ON ON BATTERY CAPACITY 100%(ie. >95%) ON ON ON ON ON ON ON ON ON O | BATTERY CAPACITY < 25% BLINK BATTERY CAPACITY < 50% BUT > 25% ON BLINK OFF OFF BATTERY CAPACITY < 75% BUT > 50% ON ON ON BLINK OFF BATTERY CAPACITY < 95% BUT > 75% ON ON ON ON BLINK SLOW ABSORBTION MODE ON ON ON BATTERY CAPACITY 100%(ie. >95%) ON ON ON ON ON ON ON ON ON O | BATTERY CAPACITY < 25% BUT > 25% ON BLINK OFF OFF OFF OFF BATTERY CAPACITY < 50% BUT > 25% ON ON BLINK OFF OFF OFF BATTERY CAPACITY < 75% BUT > 50% ON ON ON BLINK OFF OFF BATTERY CAPACITY < 95% BUT > 75% ON ON ON BLINK SLOW OFF ABSORBTION MODE ON ON ON BLINK FAST OFF BATTERY CAPACITY 100% (ie. > 95%) ON ON ON ON ON OFF BATTERY CHARGED ON ON ON ON ON ON OFF OVER TEMPERATURE OFF OFF OFF BLINK BLINK LOW BATTERY OR LOOSE BATTERY WIRE BLINK OFF OFF OFF OFF ON |

Note: Mains LED will only be their in LED Model not available in 7 segment display model



Lithium Battery



| Lithium Battery for Solar & Energy Sto | rage Application | | | | | | |
|--|-------------------|-------------------|------------------|------------------|------------------|------------------|------------------|
| Model Name | 12.8V 12AH | 12.8V 30AH | 12.8V 40AH | 12.8V 80AH | 12.8V 100AH | 25.6V 80AH | 48V80AH |
| Configuration | Cylindial (4S 2P) | Cylindial (4S 5P) | Prismatic (4S1P) | Prismatic (4S1P) | Prismatic (4S1P) | Prismatic (8S1P) | Prismatic(15S1P) |
| Cell Chemistry | LiFePo4(LFP) | LiFePo4(LFP) | LiFePo4(LFP) | LiFePo4(LFP) | LiFePo4(LFP) | LiFePo4 | LiFePo4 |
| Nominal Voltage | 12.8V | 12.8V | 12.8V | 12.8V | 12.8V | 25.6V | 48V |
| Nominal Capacity | 12Ah | 30Ah | 40Ah | 80Ah | 100Ah | 80Ah | 80Ah |
| Cycle Life (Do D 80%) | `>2000Cycles | `>2000Cycles | `>2000Cycles | `>2000Cycles | `>2000Cycles | `>2000Cycles | `>2000Cycles |
| Energy Capacity | 153.6Wh | 384Wh | 512Wh | 1024Wh | 1280Wh | 2048Wh | 3840Wh |
| Recommended Charging Voltage | 14.5 + 0.1V | 14.5 ± 0.1V | 14.5 ± 0.1V | 14.5 ± 0.1V | 14.5 ± 0.1V | 29.0 ± 0.2V | 58.0 ± 0.4V |
| Recommended Charging Current | 0.5C | 0.5C | 0.5C | 0.5C | 0.5C | 0.5C | 0.5C |
| Recommended Discharging Current | 0.5C | 0.5C | 0.5C | 0.5C | 0.5C | 0.5C | 0.5C |
| Peak Discharge Current (3Sec) | 3C | 3C | 3C | 3C | 3C | 3C | 3C |
| Operating Temperature | 0°C to 45°C | 0°C to 45°C | 0°C to 45°C | 0°C to 45°C | 0°C to 45°C | 0°C to 45°C | 0°C to 45°C |
| Storage Temperature Range | -20°C to 65°C | -20°C to 65°C | -20°C to 65°C | -20°C to 65°C | -20°C to 65°C | -20°C to 65°C | -20°C to 65°C |

Lithium Ion Phosphate Battery







LFP Vs Other Batteries



| Battery | LiFePo4(LFP) | Licoo2(LCO) | LiMn204(LMO) | Li(NiCo)o2 |
|--------------------------|----------------------------------|------------------------------|---------------------------------------|------------------------------|
| Safety | Safest | Not stable | Acceptable | Not stable |
| Environmental Concern | Most Environmental Fiendly | Dangerous | Acceptable | Dangerous |
| Cycle Life | Excellent | Acceptable | Acceptable | Acceptable |
| Power/Weight Density | Best | Good | Acceptable | Best |
| Long Term cost | Most Econonomic | High | Acceptable | High |
| Temperature Range | Excellent (-20 to 70°C) | Decay beyond - 20 to 55°C | Decay Extremely fast after 50°C | Decay beyond - 20 to 55°C |
| | | | | |

E-Rickshaw Battery



CUSTOMER BENEFITS

- Nine Energy Tubular & Flat Plate E-Rickshaw Battery provide a steady performance with affordable cost to the customer
- Product available in different warranty ranging from 6 months & 12 months
- Highly reliable compared to other flat plate batteries available in the market.
- Low Maintenance Very low water topping up required in comparison to other brands
- Lowest per km cost, ensure more saving





E-RICKSHAW BATTERY

- Higher Run time/charge in comparison to other brands in Tubular & Flat Plate Technology segment
- Higher cycle life with advanced tubular technology under deep cycle application Vibration Resistant container and lid
- Each single cell is connected by a wall welding and battery has good consistency. Positive and negative active material are formulated with high efficiency active substances, which significantly increase the specific energy of the battery.
- Advanced plate curing and chemical conversion processes are used to increase the bonding force between the active material the grid to extend battery life
- The battery case and cover are made of PP material and the cover is heat-sealed to avoid leakage during battery use

| Model No. | Capacity @C20 | Nominal Voltage | Gross Weight +-3% (Kg.) | Warranty |
|-----------|------------------|--------------------|----------------------------|----------|
| NE 140006 | 120 AH | 12V | 31.5 | 6 Months |





Nine Energy Battery Features

- 99.97% 99.99% Pure lead
- Full capacity/True AH output
- 100% factory charged battery
- Hi-efficency grid design mode of Selenium/low Antimony alloy with grain refiners for low water loss, least corrosion long life
- Low self discharge
- Heavy duty terminals
- Ceramic water level management system with micro porous vent plugs for least environmental pollution & less topping up
- Rugged anti-corrasive addictive for longer battery life
- Computerised formation for uniform quality and peak performance
- Container made of PP Co-polymer for strength & robustness
- More ribs on container for better strength
- Paper less warranty





Lead Acid Battery



Tubular Plates Features

- Tubular technology Deep cycle design suitable for longer power cuts
- Calcium alloy/ultra low maintenance and less topping-up
- PE separator low electrical resistance, minimal self discharging & high porosity
- Cell partition welded with short electrical path for low internal resistance



Technical Features



| Battery Model 12V | Capacity at C20 (Ah) @27°C | Overall Dimensions (mm) ±5 | | | Charging | Weight | Warranty |
|----------------------|----------------------------------|----------------------------|-------|--------|-------------|-------------------|-------------------|
| | | Length | Width | Height | Current (A) | with Acid (kg) | (month) + Prodata |
| Virtual NE 16018 | 160 | 500 | 220 | 290 | 10 | 52 | 18+12 |
| Virtual NE 18024 | 180 | 500 | 220 | 290 | 10 | 56 | 24+06 |
| Legendary 18030 | 180 | 500 | 185 | 420 | 10 | 60 | 30+30 |
| Legendary 18036 | 180 | 500 | 185 | 420 | 10 | 61 | 36+24 |
| Legendary 20030 | 200 | 500 | 185 | 420 | 10 | 61 | 30+30 |
| Generic 15024 | 150 | 500 | 185 | 420 | 10 | 55 | 24+24 |
| Generic 16536 | 165 | 500 | 185 | 420 | 10 | 60 | 36+24 |
| Venture 20036 | 200 | 500 | 185 | 420 | 11 | 68 | 36+24 |
| Venture 23036 | 230 | 500 | 185 | 420 | 11 | 67 | 36+12 |
| Venture 26036 | 260 | 500 | 185 | 420 | 11 | 68 | 36+24 |
| Solaire 15036 | 150 | 500 | 185 | 420 | 10 | 60 | 36+24 |
| Solaire 20036 | 200 | 500 | 185 | 420 | 11 | 65 | 36+24 |
| Solaire 15060 | 150 | 500 | 185 | 420 | 10 | 62 | 60+00 |
| Solaire 20060 | 200 | 500 | 185 | 420 | 11 | 68 | 60+00 |



Thanks for your Attention

Feel free to raise your hand anytime incase of enquiry

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