**Overview**

Power produced by Solar PV panels will be delivered to VFD based controller, which converts the DC power to AC power to operate water pump. The Solar water pump controller automatically regulates output frequency and speed of motor according to solar radiation intensity with built in MPPT tracking function. It is compatible with both linear and non-linear loads.

In case of DC motor pumps, power from solar array is regulated by the DC charge cum controller to drive the DC water pump with built in MPPT tracking function.

**Features**

* IP 54 rated enclosure for Solar VFD to withstand harsh environments and field locations, keeping in view the long life time operation of the panels and motor
* Monitoring software for real time status display and control
* Adopting the dynamic maximum power point tracking (MPPT) control method, with fast response and reliable operation
* Remote Monitoring SMS and GPRS based features for controlling along with Remote Firmware upgradation using GPRS technology (Providing a feature rich option at a very cost effective rate)
* VFD (variable frequency driver), greatly improves efficiency and operating time
* Easy to Install (plug and play type), avoiding of setting in the field during installation
* Modular construction & Low heat dissipation, assuring long time operation
* Stream lined design and rugged construction avoiding the use of Fan for cooling
* Proven reliability and low maintenance
* Optimized Energy Harvest & Unparalleled Performance

**Protections**

* Under/Over voltage for Input, Output
* Output overload & short circuit protection
* IGBT over current protection
* Over temperature protection
* Surge Protection at Input array
* Dry Run Protection
* DC Isolator/MCB for PV isolation

**Applications**

* Agriculture and Rural water supply schemes.
* Applications where grid power is intermittently present or not avalible at all.

**Available Models**

* 3HP
* 5HP
* 7.5HP

**Technical Specifications for 3 HP Water Pump Controller**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Processor | CPU | 32 bit micro Controller |
| Speed | 60MHz |
| C:\Users\Aamani\Downloads\3-Memory.png | Memory | RAM | 10KB |
| Flash | 64KB |
| C:\Users\Aamani\Downloads\4-CommunicationPort.png | Communication Ports | Ports | RS 232 |
| C:\Users\Aamani\Downloads\7-DisplayKeypad.png | Display & Keypad | Display type & size | 2x16 LCD display |
| C:\Users\Aamani\Downloads\Input.png | VFD Input (From Array) | Open Circuit Voltage (VoC) | 500V |
| PV Voltage Range | 300 – 500V |
| MPPT Voltage Range | 320 - 500V |
| Max. Input Current | 10A |
| Suggested Solar Panel | 300W, 72 cells, Vmp:36V, VoC:43.2V |
| No. of solar panels in series/No. of strings | 10 / 01 |
| Min. /Max. solar array power | 3.0 to 3.3 Kwp |
| C:\Users\Aamani\Downloads\Output.png | VFD Output | Output Phase | 3 Phase, 3 Wire |
| Output Voltage | 0V to 240VAC |
| Output Frequency | 0 to 50Hz |
| Output Current | 8.5 Amp |
| C:\Users\Aamani\Downloads\8-Optional.png | Other Specifications | Recommended motor rating | 3PH/3HP/230V |
| Mechanical Endurance | Designed to meet IP 54 standards, Natural air cooling, Input & output through KUT-16 terminals |
| Certification | IEC 61683 & IEC 60068-2- (1,2,14 and 30) |
| C:\Users\Aamani\Downloads\9-Dimensions.png | Dimensions | L x W x D in mm | 500 x 350 x 150 |
| Weight | 15 kgs |
| C:\Users\Aamani\Downloads\10-Operating.png | Environment | Location | Outdoor (free from corrosive gases & conductive dust) |
| Operating Temperature | -10°C to +55°C |
| Relative Humidity @25°C | 5 to 95% (Non-condensing) |
| Max. altitude above sea level without de-rating | 1000m |

**Technical Specifications for 5 HP Water Pump Controller**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Processor | CPU | 32 bit micro Controller |
| Speed | 60MHz |
| C:\Users\Aamani\Downloads\3-Memory.png | Memory | RAM | 10KB |
| Flash | 64KB |
| C:\Users\Aamani\Downloads\4-CommunicationPort.png | Communication Ports | Ports | RS 232 |
| C:\Users\Aamani\Downloads\7-DisplayKeypad.png | Display & Keypad | Display type & size | 2x16 LCD display |
| C:\Users\Aamani\Downloads\Input.png | VFD Input (From Array) | Open Circuit Voltage (VoC) | 790V |
| PV Voltage Range | 430 – 790V |
| MPPT Voltage Range | 500 - 700V |
| Max. Input Current | 10A |
| Suggested Solar Panel | 300W, 72 cells, Vmp:36V, VoC:43.2V |
| No. of solar panels in series/No. of strings | 16 / 01 |
| Min. /Max. solar array power | 4.8 to 5.3 Kwp |
| C:\Users\Aamani\Downloads\Output.png | VFD Output | Output Phase | 3 Phase, 3 Wire |
| Output Voltage | 0V to 440VAC |
| Output Frequency | 0 to 50Hz |
| Output Current | 9 Amp |
| C:\Users\Aamani\Downloads\8-Optional.png | Other Specifications | Recommended motor rating | 3PH/5HP/415V |
| Mechanical Endurance | Designed to meet IP 54 standards, Natural air cooling, Input & output through KUT-16 terminals |
| Certification | IEC 61683 & IEC 60068-2- (1,2,14 and 30) |
| C:\Users\Aamani\Downloads\9-Dimensions.png | Dimensions | L x W x D in mm | 500 x 350 x 150 |
| Weight | 15 kgs |
| C:\Users\Aamani\Downloads\10-Operating.png | Environment | Location | Outdoor (free from corrosive gases & conductive dust) |
| Operating Temperature | -10°C to +55°C |
| Relative Humidity @25°C | 5 to 95% (Non-condensing) |
| Max. altitude above sea level without de-rating | 1000m |

**Technical Specifications for 7.5 HP Water Pump Controller**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Processor | CPU | 32 bit micro Controller |
| Speed | 60MHz |
| C:\Users\Aamani\Downloads\3-Memory.png | Memory | RAM | 10KB |
| Flash | 64KB |
| C:\Users\Aamani\Downloads\4-CommunicationPort.png | Communication Ports | Ports | RS 232 |
| C:\Users\Aamani\Downloads\7-DisplayKeypad.png | Display & Keypad | Display type & size | 2x16 LCD display |
| C:\Users\Aamani\Downloads\Input.png | VFD Input (From Array) | Open Circuit Voltage (VoC) | 580V |
| PV Voltage Range | 320 – 580V |
| MPPT Voltage Range | 420 - 570V |
| Max. Input Current | 19A |
| Suggested Solar Panel | 300W, 72 cells, Vmp:36V, VoC:43.2V |
| No. of solar panels in series/No. of strings | 12 / 02 |
| Min. /Max. solar array power | 7.5 to 8.25 Kwp |
| C:\Users\Aamani\Downloads\Output.png | VFD Output | Output Phase | 3 Phase, 3 Wire |
| Output Voltage | 0V to 340VAC |
| Output Frequency | 0 to 50Hz |
| Output Current | 17.5 Amp |
| C:\Users\Aamani\Downloads\8-Optional.png | Other Specifications | Recommended motor rating | 3PH/7.5HP/320V |
| Mechanical Endurance | Designed to meet IP 54 standards, Fan cooling, Input & output through KUT-16 terminals |
| Certification | IEC 61683 & IEC 60068-2- (1,2,14 and 30) |
| C:\Users\Aamani\Downloads\9-Dimensions.png | Dimensions | L x W x D in mm | 500 x 350 x 150 |
| Weight | 15 kgs |
| C:\Users\Aamani\Downloads\10-Operating.png | Environment | Location | Outdoor (free from corrosive gases & conductive dust) |
| Operating Temperature | -10°C to +55°C |
| Relative Humidity @25°C | 5 to 95% (Non-condensing) |
| Max. altitude above sea level without de-rating | 1000m |