



# Solartive®

MANUFACTURER OF

Solar Pump Sets | Solar Steel Structures | Solar Pump Controllers

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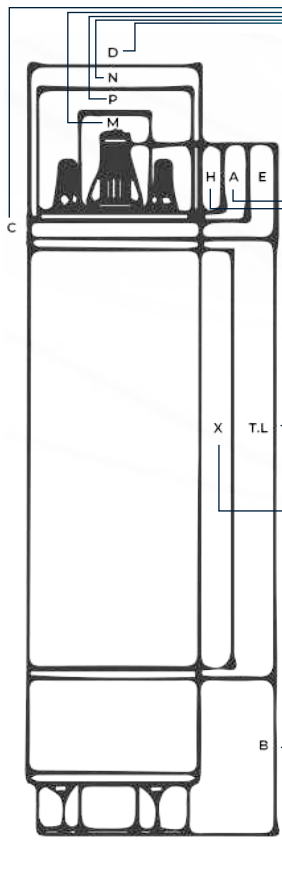


# Solartive Highly Efficient AC & DC Motors

Submersible Motor Details

| Motor Type | Cooling Type | Motor Rating | Voltage Rating | Thrust Capacity in kN |
|------------|--------------|--------------|----------------|-----------------------|
| AC-V4      | O/F          | 1HP          | 65             | 8.2                   |
| DC-V4      |              |              | 65             |                       |
| DC-V4      | W/F          | 1HP          | 65-72          |                       |
| DC-V4      |              | 2HP          | 90-135         |                       |
| DC-V4      |              | 3HP          | 165-220        |                       |
| DC-V4      |              | 5HP          | 255-350        |                       |
| DC-V4      |              | 7.5HP        | 300            |                       |
| AC-V4      | W/F          | 2HP          | 95-135         | 15                    |
|            |              | 3HP          | 160-205        |                       |
|            |              | 5HP          | 260-340        |                       |
| AC-V6      | W/F          | 5HP          | 340            |                       |
|            |              | 7.5HP        | 300            |                       |
|            |              | 10HP         | 320-340        |                       |
|            |              | 15HP         | 380            |                       |
| DC-V6      | W/F          | 7.5HP        | 300            |                       |
|            |              | 10HP         | 320-340        |                       |
|            |              | 15HP         | 380            |                       |



|  | MAKE | HP  | D    | N    | P  | C  | M     | H    | A    | E    | X   | TL  | B     |
|-------------------------------------------------------------------------------------|------|-----|------|------|----|----|-------|------|------|------|-----|-----|-------|
|                                                                                     | DC   | 1   | 96.5 | 87.2 | 40 | 10 | 15.75 | 38.1 | 42.8 | 52.8 | 238 | 247 | 87.75 |
|                                                                                     |      | 2   | 96.5 | 87.2 | 40 | 10 | 15.75 | 38.1 | 42.8 | 52.8 | 268 | 277 | 87.75 |
|                                                                                     |      | 3   | 96.5 | 87.2 | 40 | 10 | 15.75 | 38.1 | 42.8 | 52.8 | 298 | 307 | 87.75 |
|                                                                                     |      | 5   | 96.5 | 87.2 | 40 | 10 | 15.75 | 38.1 | 42.8 | 52.8 | 358 | 367 | 87.75 |
|                                                                                     | AC   | 2   | 96.5 | 87.2 | 40 | 10 | 15.75 | 38.1 | 42.8 | 52.8 | 440 | 449 | 87.75 |
|                                                                                     |      | 3   | 96.5 | 87.2 | 40 | 10 | 15.75 | 38.1 | 42.8 | 52.8 | 515 | 524 | 87.75 |
|                                                                                     |      | 5   | 96.5 | 87.2 | 40 | 10 | 15.75 | 38.1 | 42.8 | 52.8 | 640 | 649 | 87.75 |
|                                                                                     | AC   | 5   | 143  | 76.2 | 51 | 10 | 25    | 72.8 | 80.8 | 90.8 | 379 | 391 | 115.4 |
|                                                                                     |      | 7.5 | 143  | 76.2 | 51 | 10 | 25    | 72.8 | 80.8 | 90.8 | 429 | 441 | 115.4 |
|                                                                                     |      | 10  | 143  | 76.2 | 51 | 10 | 25    | 72.8 | 80.8 | 90.8 | 464 | 476 | 115.4 |
|                                                                                     |      | 15  | 143  | 76.2 | 51 | 10 | 25    | 72.8 | 80.8 | 90.8 | 539 | 551 | 115.4 |
|                                                                                     | DC   | 7.5 | 143  | 76.2 | 51 | 10 | 25    | 72.8 | 80.8 | 90.8 | 300 | 312 | 115.4 |
|                                                                                     |      | 10  | 143  | 76.2 | 51 | 10 | 25    | 72.8 | 80.8 | 90.8 | 320 | 332 | 115.4 |
|                                                                                     |      | 15  | 143  | 76.2 | 51 | 10 | 25    | 72.8 | 80.8 | 90.8 | 350 | 362 | 115.4 |

## Solartive Submersible Solar Pump Family

| Solartive Submersible DC Solar Pump Family |                |             |               |                    |
|--------------------------------------------|----------------|-------------|---------------|--------------------|
| S. No.                                     | MODEL NUMBER   | HEAD IN 'M' | POWER IN 'HP' | DISCHARGE IN "LPD" |
| 1                                          | 1 S DC S 30    | 30          | 1             | 45600              |
| 2                                          | 2 S DC S 30    | 30          | 2             | 68400              |
| 3                                          | 3 S DC S 30    | 30          | 3             | 114000             |
| 4                                          | 3 S DC S 50    | 50          | 3             | 69000              |
| 5                                          | 3 S DC S 70    | 70          | 3             | 45000              |
| 6                                          | 5 S DC S 50    | 50          | 5             | 110400             |
| 7                                          | 5 S DC S 70    | 70          | 5             | 72000              |
| 8                                          | 5 S DC S 100   | 100         | 5             | 50400              |
| 9                                          | 7.5 S DC S 50  | 50          | 7.5           | 155250             |
| 10                                         | 7.5 S DC S 70  | 70          | 7.5           | 101250             |
| 11                                         | 7.5 S DC S 100 | 100         | 7.5           | 70875              |
| 12                                         | 10 S DC S 50   | 50          | 10            | 207000             |
| 13                                         | 10 S DC S 70   | 70          | 10            | 135000             |
| 14                                         | 10 S DC S 100  | 100         | 10            | 94500              |
| 15                                         | 15 S DC S 70   | 70          | 15            | 202500             |
| 16                                         | 15 S DC S 100  | 100         | 15            | 141750             |
| 17                                         | 15 S DC S 120  | 120         | 15            | 128250             |
| 18                                         | 15 S DC S 150  | 150         | 15            | 101250             |

| Solartive Submersible AC Solar Pump Family |                |             |               |                    |
|--------------------------------------------|----------------|-------------|---------------|--------------------|
| S. No.                                     | MODEL NUMBER   | HEAD IN 'M' | POWER IN 'HP' | DISCHARGE IN "LPD" |
| 1                                          | 1 S AC S 30    | 30          | 1             | 42000              |
| 2                                          | 2 S AC S 30    | 30          | 2             | 63000              |
| 3                                          | 3 S AC S 30    | 30          | 3             | 105000             |
| 4                                          | 3 S AC S 50    | 50          | 3             | 63000              |
| 5                                          | 3 S AC S 70    | 70          | 3             | 42000              |
| 6                                          | 5 S AC S 50    | 50          | 5             | 100800             |
| 7                                          | 5 S AC S 70    | 70          | 5             | 67200              |
| 8                                          | 5 S AC S 100   | 100         | 5             | 43200              |
| 9                                          | 7.5 S AC S 50  | 50          | 7.5           | 141750             |
| 10                                         | 7.5 S AC S 70  | 70          | 7.5           | 94500              |
| 11                                         | 7.5 S AC S 100 | 100         | 7.5           | 60750              |
| 12                                         | 10 S AC S 50   | 50          | 10            | 189000             |
| 13                                         | 10 S AC S 70   | 70          | 10            | 126000             |
| 14                                         | 10 S AC S 100  | 100         | 10            | 81000              |
| 15                                         | 15 S AC S 70   | 70          | 15            | 189000             |
| 16                                         | 15 S AC S 100  | 100         | 15            | 121500             |
| 17                                         | 15 S AC S 120  | 120         | 15            | 114750             |
| 18                                         | 15 S AC S 150  | 150         | 15            | 90450              |

## Solar Submersible Pumping System

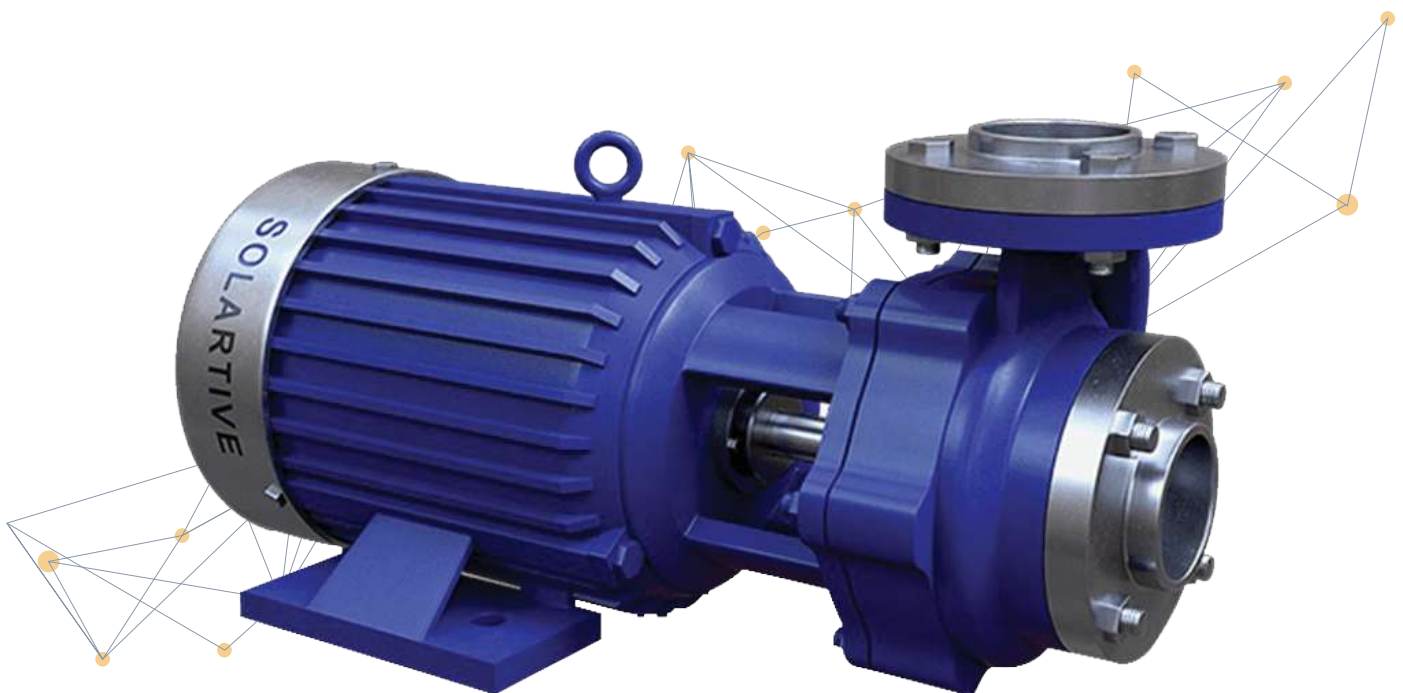
|                      | CONSTRUCTION TYPE   |
|----------------------|---------------------|
| Component            | Standard Water Well |
| Castings             | 304 SS Over Iron    |
| Stator Shell         | 304 SS              |
| Shaft Extension      | 304 SS              |
| Fasteners            | 304 SS or 302 SS    |
| Seal Cover           | 304 SS              |
| Seal                 | Nitrile Rubber Lip  |
| Diaphragm            | NBR                 |
| Slinger              | NBR                 |
| Lead Wire (or Cable) | XLPE                |
| Lead Potting         | Epoxy               |
| Lead Jam Nut         | 304 SS              |



## Solartive Surface Solar Pump Family

| Solartive DC Surface Solar Pump Family |               |             |               |                    |
|----------------------------------------|---------------|-------------|---------------|--------------------|
| S. No.                                 | MODEL NUMBER  | HEAD IN 'M' | POWER IN 'HP' | DISCHARGE IN "LPD" |
| 1                                      | 1 S DC M 10   | 10          | 1             | 99000              |
| 2                                      | 2 S DC M 10   | 10          | 2             | 198000             |
| 3                                      | 3 S DC M 10   | 10          | 3             | 297000             |
| 4                                      | 3 S DC M 20   | 20          | 3             | 148500             |
| 5                                      | 5 S DC M 10   | 10          | 5             | 528000             |
| 6                                      | 5 S DC M 20   | 20          | 5             | 264000             |
| 7                                      | 5 S DC M 30   | 30          | 5             | 182400             |
| 8                                      | 7.5 S DC M 10 | 10          | 7.5           | 742500             |
| 9                                      | 7.5 S DC M 20 | 20          | 7.5           | 371250             |
| 10                                     | 7.5 S DC M 30 | 30          | 7.5           | 256500             |
| 11                                     | 10 S DC M 10  | 10          | 10            | 990000             |
| 12                                     | 10 S DC M 20  | 20          | 10            | 495000             |
| 13                                     | 10 S DC M 30  | 30          | 10            | 342000             |
| 14                                     | 15 S DC M 20  | 20          | 15            | 742500             |
| 15                                     | 15 S DC M 30  | 30          | 15            | 513000             |
| 16                                     | 15 S DC M 50  | 50          | 15            | 310500             |
| 17                                     | 15 S DC M 70  | 70          | 15            | 202500             |

| Solartive AC Surface Solar Pump Family |               |             |               |                    |
|----------------------------------------|---------------|-------------|---------------|--------------------|
| S. No.                                 | MODEL NUMBER  | HEAD IN 'M' | POWER IN 'HP' | DISCHARGE IN "LPD" |
| 1                                      | 1 S AC M 10   | 10          | 1             | 89100              |
| 2                                      | 2 S AC M 10   | 10          | 2             | 178200             |
| 3                                      | 3 S AC M 10   | 10          | 3             | 267300             |
| 4                                      | 3 S AC M 20   | 20          | 3             | 132300             |
| 5                                      | 5 S AC M 10   | 10          | 5             | 475200             |
| 6                                      | 5 S AC M 20   | 20          | 5             | 235200             |
| 7                                      | 5 S AC M 30   | 30          | 5             | 168000             |
| 8                                      | 7.5 S AC M 10 | 10          | 7.5           | 668250             |
| 9                                      | 7.5 S AC M 20 | 20          | 7.5           | 330750             |
| 10                                     | 7.5 S AC M 30 | 30          | 7.5           | 236250             |
| 11                                     | 10 S AC M 10  | 10          | 10            | 891000             |
| 12                                     | 10 S AC M 20  | 20          | 10            | 441000             |
| 13                                     | 10 S AC M 30  | 30          | 10            | 315000             |
| 14                                     | 15S AC M 20   | 20          | 15            | 661500             |
| 15                                     | 15S AC M 30   | 30          | 15            | 472500             |
| 16                                     | 15S AC M 50   | 50          | 15            | 283500             |
| 17                                     | 15S AC M 70   | 70          | 15            | 189000             |





## Solartive Solar Pump Controller

### Features

- High-cost performance, pump more water with less cost.
- Perfect drive synchronous, asynchronous, BLDC, three phase.
- Small and exquisite, palm-sized, saving installation space, and transportation costs.
- Simple and stylish aesthetic appearance, integrating technology and art.
- Intelligent IoT, which integrates online, offline, and WiFi functions.
- MPPT, real-time output maximum power.
- Simple operation, easy wiring, no trouble.
- Multiple protection functions escort the water pump



### Powerful Software Function to Escort the Water Pump

- MPPT-99%: Adjust the output frequency according to the sunlight intensity, and get the maximum point in real time.
- Special protection functions for the photovoltaic pumps: sleep, low frequency, dry, overcurrent, minimum power, etc. to ensure safe and reliable operation of the pump.

### Smart IOT, Smart Irrigation

- It integrates online, offline, and WiFi functions and WiFi self-organizing networks can be used in areas without network.
- It supports a wide range of frequency bands and can be used in any area of the world.
- A powerful internet management platform can control water and fertilizer requirements anytime and anywhere



## Technical Specification

| Controller Models | Pump             |                   | Maximum Input power of Solar Panels (kW) | Maximum Input DC Voltage (V) | Total Voc range of Recommended Panels (V) | Rated Output Current (A) | Output Frequency Range (Hz) |
|-------------------|------------------|-------------------|------------------------------------------|------------------------------|-------------------------------------------|--------------------------|-----------------------------|
|                   | Rated Power (kW) | Rated Voltage (V) |                                          |                              |                                           |                          |                             |
| SLT 1.0           | 0.75             | 65-120            | 1.2                                      | 225                          | 130-150                                   | 8                        | 0-300                       |
| SLT 2.0           | 1.5              | 130-160           | 3.5                                      | 400                          | 264-440V                                  | 10                       | 0-300                       |
| SLT 3.0           | 2.2              | 200-230           | 3.5                                      | 400                          | 264-440V                                  | 10                       | 0-300                       |
| SLT 5.0           | 3.7              | 300-350           | 4.8                                      | 800                          | 660-748                                   | 10                       | 0-300                       |
| IBIS 1.0          | 0.75             | 50-65             | 1.2                                      | 200                          | 120-160                                   | 12                       | 0-300                       |
| IBIS 2.0          | 1.5              | 90                | 4.8                                      | 450                          | 160-205                                   | 15                       | 0-300                       |
| IBIS 3.0          | 2.2              | 145-165           | 4.8                                      | 450                          | 240-290                                   | 15                       | 0-300                       |
| IBIS 5.0          | 3.7              | 230-255           | 4.8                                      | 450                          | 365-415                                   | 15                       | 0-300                       |
| IBIS 7.5          | 5.5              | 300-360           | 10                                       | 900                          | 550-615                                   | 20                       | 0-300                       |
| IBIS 10           | 7.5              | 340-380           | 10                                       | 900                          | 700-740                                   | 20                       | 0-300                       |

## Technical Specifications of 500V, 15A Solar Powered Pump Controller Model

The Pump controller printed circuit board (PCB) is a subset of the Solartive Pump set for high-performance Permanent Magnet Synchronous Motor (PMSM) drive. With the proper selection of Solar array voltage/current/power, the PCB can be used to build 2/3/5 HP nominal rating pump controller suitable for Mono- Crystalline Solar PV Modules.

|                                                                                                                      |                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Controller Model                                                                                                     | IBIS 2.0/IBIS 3.0/IBIS 5.0                                                                                                                                                                                                              |
| Max.Output Current rating                                                                                            | 15.00A with 150% overload for one minute                                                                                                                                                                                                |
| Applicable Power                                                                                                     | 1.5kW/2.0HP,2.2kW/3.0HP & 3.70kW/5.00HP                                                                                                                                                                                                 |
| Maximum Three Phase Output Voltage                                                                                   | 270V RMS                                                                                                                                                                                                                                |
| Absolute Maximum DC Bus Voltage                                                                                      | 500V in all conditions                                                                                                                                                                                                                  |
| MPPT Voltage Range                                                                                                   | 150~450V DC                                                                                                                                                                                                                             |
| Recommended Solar PV wattage for Submersible or Surface (VOC should not be more than absolute maximum DCBus voltage) | 4 x 505~550Wp for 2HP<br>6 x 505~550Wp for 3HP<br>9 x 505~550Wp for 5HP                                                                                                                                                                 |
| Recommended Motor Voltage<br>(Output voltage can be set from 150 ~ 300V)                                             | 90V for 2HP, 145~165V for 3HP , 230~255V for 5HP                                                                                                                                                                                        |
| Max.Input DC Current                                                                                                 | 15A                                                                                                                                                                                                                                     |
| Input Surge protection rating                                                                                        | 8kA, 500V MOVs used, SPD                                                                                                                                                                                                                |
| Protections                                                                                                          | <ul style="list-style-type: none"> <li>• Output Short/open Circuit</li> <li>• Over Temperature</li> <li>• Over/Under Voltage</li> <li>• Unbalance</li> <li>• Thermal Overload</li> <li>• Dry Run</li> <li>• Reverse Polarity</li> </ul> |
| Communication                                                                                                        | Isolated RS485 signals for RMU<br>TTL serial TTL serial communication for proprietary display unit                                                                                                                                      |
| Enclosure                                                                                                            | IP 65                                                                                                                                                                                                                                   |
| Installation Site                                                                                                    | Indoor Altitude Less Than 1000M, Free Corrosive Gases and Direct Sunlight                                                                                                                                                               |
| Temperature Humidity                                                                                                 | (-10 to -60° C), 20% to 95% RH (No Condensation)                                                                                                                                                                                        |
| Vibration                                                                                                            | Less Than 0.5g When Frequency Less Than 20HZ                                                                                                                                                                                            |
| Storage Temperature                                                                                                  | -20-60° C                                                                                                                                                                                                                               |
| Installation Mode                                                                                                    | Hanging Machine                                                                                                                                                                                                                         |
| Cooling Method                                                                                                       | Natural Cooling/Forced Air Cooling                                                                                                                                                                                                      |
| Operation                                                                                                            | PV only                                                                                                                                                                                                                                 |
| Motor types that can be used                                                                                         | 3- $\phi$ Induction Motor/PMSM motor                                                                                                                                                                                                    |

- **Warranty:** 5 Years at 55 °C ambient.
- Dedicated functions can be made available based on customer demand.
- **Control:** for PMSM Sensor-less field- oriented motor control and for Induction
- **Communication:** RS485 is with MODBUS RTU protocol Motor OpenLoop V/F control

**Notes:** The selection of the Drive module should be based on the current rating. The Current rating should be equal to or more than the Motor's current rating. The details like Power, kVA, etc. are indicative only.

# RMS (Remote Monitoring System)

## Technical Specification

|                       |                                                                                                                                                                           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Usage/Application     | Solar Pump.                                                                                                                                                               |
| Brand                 | Solartive.                                                                                                                                                                |
| Origin                | Made in India.                                                                                                                                                            |
| Input Voltage         | 05 to 30V DC                                                                                                                                                              |
| Technology            | 2G (900/1800MHz)/ 4G GSM module(LTE-FDD B1/B3/B5/B8), LTE category 4 module optimized for M2M and IoT applications, Worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage. |
| GNSS                  | GPS Supported.                                                                                                                                                            |
| SIM Type and GNSS     | 3V and 1.8V - Micro SIM-Card and GPS Supported.                                                                                                                           |
| Antenna               | High dBi Flexible Sticker Antenna LTE + High dBi Flexible Sticker Antenna for GPS                                                                                         |
| Communication Channel | RS-485 with Transient Voltage Protection.                                                                                                                                 |
| Communication Type    | Modbus-Master- RTU.                                                                                                                                                       |
| Bluetooth             | BLE 4.2 Supported.                                                                                                                                                        |
| Digital Input         | 2 Channel 24v Potential Inputs.                                                                                                                                           |
| Analog Input          | 2 Channel - Current: 4 to 20mA..                                                                                                                                          |
| Display               | 2 Line x 16 Character Alpha Numeric Display.                                                                                                                              |
| Applications          | Web-Portal and Android Application for monitoring and handling the pump                                                                                                   |
| Memory                | Internal memory for Offline Storage in the RMS that can be retrieve through the SD card.                                                                                  |



# Solartive RMS Application

- Customers choose Solartive Solar Pumps because of the advanced system features that are available via Solartive Web and Android applications.
- All our partners and customers can now from our Web Portal and Android Applications that can easily be from Google Play Store.
- Our Solar Water Pumps are integrated with Remote Monitoring System, due to which they are easy to configure, provide rich information to technicians and customers plus they can be managed remotely.
- Solartive has in-house Solar Pump RMS solution (Web and Android Applications) with 2G and 4G communication as per MNRE (Ministry Of New and Renewable Energy) guidelines and all features covered as per PM - Kusum (Energy Efficiency Services Limited) which allows users and Government to monitor all data regarding Solar generation, consumption, pump run time, pump water supply in Lpm and if any fault it will instantly give an alert through SMS/Call and give data on the cloud of any analysis. This gateway can enhance your ability to monitor remotely. Interactive web portal represents previous and aggregated data, comparative analytical diagnosis, and a guided root cause for fault analysis. All data are logged and can be reviewed and analyzed at any time from any location of the pump. Users can also switch ON/OFF and schedule the timing if there is a limited water requirement on a specific location so that wastage can be avoided.



# Power Transmission and Distribution

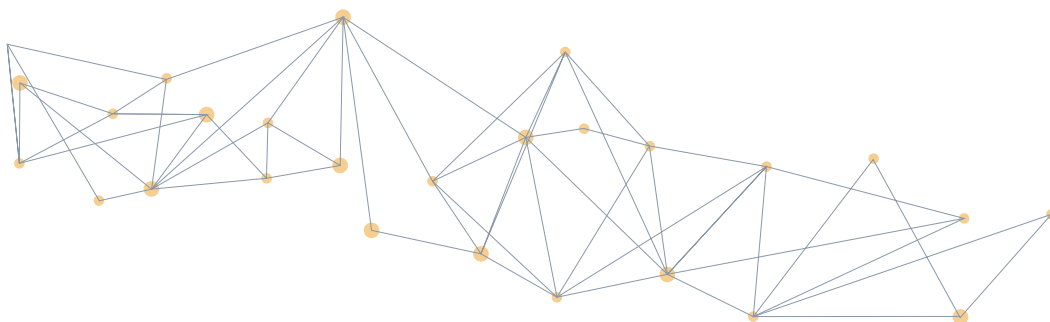
- At Solartive Techno Industries Pvt. Ltd., we are committed to powering progress through our robust solutions in power transmission and distribution. Our expertise extends beyond solar energy into the realm of electrical infrastructure, where we play a pivotal role in enhancing the efficiency and reliability of power systems across India.

## A Landmark Achievement

- Solartive is proud to have secured a prestigious tender from the Jharkhand Bijli Vitran Nigam Limited (JBVNL) to develop a transmission line under the Mukhyamantri Ujjawal Jharkhand Yojana. This project is a significant milestone in our journey, as it aims to electrify un-electrified habitations and households across rural and urban areas.

## Key Highlights:

- **Scope of Work:** The project involves the development of a state-of-the-art transmission line that will facilitate efficient power distribution to the remotest corners, ensuring that every household enjoys the benefits of reliable electricity.
- **Economic Impact:** By bolstering the state's power infrastructure, this project is set to drive economic growth, fostering industrial development, and improving the overall quality of life for millions of residents.
- **Technological Excellence:** The transmission line will be equipped with the latest technology to minimize transmission losses and maximize efficiency, thereby contributing to a sustainable and resilient power supply system.
- **Community Empowerment:** Access to electricity is a critical enabler of progress. This project will empower local communities by providing them with the energy needed to support education, healthcare, agriculture, and small businesses.



## Solartive's Commitment:

- With our extensive experience and dedication to green energy, Solartive is well-positioned to make a profound impact on nation's infrastructure. We are not just building a transmission line; we are building a brighter, more sustainable future for all. Our work is a testament to our commitment to excellence, innovation, and community empowerment.
- As we continue to expand our footprint in power transmission and distribution, projects like these underscore our role as a trusted partner in India's journey toward energy independence and sustainable development.

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