## INTELLIGENT ARTIFICIAL LIFT AUTOMATION



Advanced control technology, intelligently applied.<sup>™</sup>

#### **RAISING THE BAR** IN INTELLIGENT ARTIFICIAL LIFT CONTROL

Bright artificial lift control systems provide smart technology that is unequaled in the industry. Our systems are designed for reliable, high-performance control of pumping unit functions, from simple, timed off-on controls to the industry's only remote, automatic counterbalance adjustment system.

Unlike other control system companies, Bright brings an intense focus to the application of proprietary engineering technology to artificial lift operations. This commitment is evident in each and every product offered, from controllers to fully automated pump unit balancing systems.



Bright artificial lift control systems are proven reliable, with thousands successfully operating in the most extreme hot, cold, wet, and dusty environmental conditions.

#### BRIGHT ARTIFICIAL LIFT CONTROL PRODUCTS

From the simplest to the most sophisticated, artificial lift control systems from Bright Automation are engineered to meet a wide range of operator and industry needs. Easy to install, maintain, and operate, all Bright systems are designed to optimize production as well as reduce power consumption, manpower requirements, and equipment wear.

### BRIGHT STAND-ALONE INVERTER<sup>™</sup>

The Bright Stand Alone Inverter<sup>™</sup> offers operators a range of benefits, no matter how extreme the environment. This system features automatic speed adjustment with embedded DBR, allowing it to safely start and stop motors in response to working conditions.

When teamed with a Bright II<sup>™</sup> Rod Pump Controller (RPC) or existing RPC, the unit's remote monitoring and control function allows for download of all data to a computer when connected to a SCADA system. While the Bright Inverter is designed to adapt to a range of environmental conditions, it features an optional heater with automatic ambient temperature control, specifically available for cold climate applications.



# BRIGHT I

Proven in thousands of installations in some of the most challenging environments, the Bright I<sup>™</sup> Controller provides operators with reliable timed run, stop, and start controls. This easy-to-install control panel is equipped with auto-intermittent modes, failure diagnosis, and peak energy management capabilities, which serve to optimize operational efficiency and overall production.





## BRIGHTI<sup>™</sup> ROD PUMP CONTROLLER

The Bright II<sup>™</sup> Rod Pump Controller (RPC) offers an auto-intermittent feature designed to control intermittent pumping modes based on analysis of the surface dynamometer card. It can then adjust running and idle times to optimize production output, serving to reduce energy consumption.

The Bright II detects failures of the sensors and downhole pump while allowing the operator to view alarms either on site or remotely when communications are installed. The remote monitoring and control communications system allows the operator the ability to set custom parameters for pumping. The system will alert operators to conditions occurring outside of the specified parameters, and preemptively shutdown the pumping unit before any equipment is damaged.

#### **BRIGHT III**<sup>M</sup> VARIABLE SPEED DRIVE CONTROLLER

The Bright III<sup>™</sup> Variable Speed Drive (VSD) Controller sets a new standard for performance and efficiency.

This advanced system uses self-programming algorithms to automatically adjust between intermittent and continuous pumping modes based on the analysis of the surface dynamometer card. This feature virtually eliminates the need for operator involvement, other than input of basic parameters, while optimizing productivity, power usage, and equipment performance.

This VSD can also serve as a pump-off controller while in the intermittent mode when production or peak run times are met, eliminating the need for physical restarts. In continuous mode, the unit adjusts the speed, running, and idle times to achieve the highest possible pump fillage and production levels. The Bright III VSD detects failures through sensor output and allows the operator to view alarms either remotely or on site when communications

are installed. If the system fails, the controller automatically switches to bypass mode to ensure continued system utilization. The system's remote monitoring and control feature allows download of all data to a computer through a USB port or when connected to a SCADA system.

For optimal performance levels, the Bright III VSD can be used with a patented auxiliary counterweight. This optional auto-counterweight adjustment self-balances in response to changing well conditions.



### BRIGHT IV<sup>TM</sup> PUMP UNIT BALANCING SYSTEM

The Bright IV<sup>™</sup> Pump Unit Balancing System<sup>\*</sup>, including Bright III<sup>™</sup> VSD and automated counterweight adjustment, can add to the efficiency, safety, and productivity of any pumping unit. Able to automatically adjust an auxiliary counterbalance located on the pumping unit in response to changing pumping conditions, the Bright IV is designed to deliver optimized pumping performance. It can easily be retrofitted to existing pumping units, as well.

Utilizing sophisticated algorithms to process data from the pumping unit, the Bright IV's VSD controller automatically adjusts the beammounted, adjustable auxiliary counterweight to provide the industry's closest match to the "perfect balance" status. With the Bright IV providing for automatic adjustment of the auxiliary counterbalance, the frequency of calling on field crews to balance pump units can be significantly lowered, helping to reduce safety risk. With less time dedicated to balancing pumping units, the potential for safety events is dramatically reduced, as is downtime. This system's performance is proven: it has been demonstrated that a pumping unit that is continuously balanced by the Bright IV system consumes significantly less energy.

\* Patented

Bright II, III, and IV Artificial Lift Automation Systems These three advanced automation systems can each generate a wide range of data in order to alert you to potential failures and production declines. Bright systems can also produce surface cards, and allow download of all data to a computer via the Web or USB port when connected to a SCADA system.



#### BRIGHT WIRELESS INCLINOMETER™

The transmitting module of the Bright Wireless Inclinometer™ uses solar grids to generate power that is stored in a lithium battery, allowing the inclinometer to be fully solar powered. This inclinometer employs 2.4GHz wireless digital communication technology to produce a real-time wireless angle displacement signal transmission. The receiving module output is a standard horizontal 4v, 30m v/°RS232, enabling convenient replacement of traditional inclinometers.

Featuring a built-in magnet attached to the top of the walking beam, the Bright Wireless Inclinometer<sup>\*</sup> enables easy and safe installation and removal.

#### BRIGHT WIRELESS LOAD CELL<sup>M</sup>

Featuring the latest in solar cell power and wireless technology, the Bright Wireless Load Cell™ redefines load cell performance and convenience. The Wireless Load Cell\* transmits data via a 2.4GHz wireless digital communication protocol. Based on its unique wireless design, the Bright Load Cell provides easier, faster installation and reduces shutdowns associated with cable failure.

The receiving module output generates a standard 4-20mA or 0-10mV signal, making it useful as a replacement of conventional load cells. The load cell's lack of wires and u-shaped structure provides for easy installation, repair, and maintenance, while its durable outer shell allows it to withstand harsh environments.





\* Patent Pending

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Bright Automation is an energy industry leader in electronic monitoring and control products and systems, offering a broad range of intelligent artificial lift products, advanced drilling control technology, as well as industrial control products.

The Bright line of advanced products includes SCRs, top drive control systems, and auto-drilling systems in addition to an industry-leading line of lift control systems. By intelligently applying advanced control technology, Bright Automation is redefining the functions of monitoring and control in a variety of industries worldwide.



Advanced control technology, intelligently applied.™

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