

Rod Pump Controller

Features and Benefits

Rockwell Automation® provides a comprehensive range of solutions for the oil and gas industry that can be integrated seamlessly into your existing system.

The OptiLift™ RPC helps achieve continuous operations and optimized production while maximizing your return on investment. This reliable rod pump controller from Rockwell Automation is easy to install, easy to configure and easy to use. OptiLift RPC features include:

- Maintain your OptiLift RPC remotely with the high performance controller (rDAC iXC2) web server and benefit from online firmware updates
- PanelView™ Plus 7 Performance configurable HMI with Quick-Start Guide
- Rapid ConnectedProduction™ Smartfield System integration via Asset Auto-Discovery
- Easily connects to well management software such as XSPOC, and to other third-party SCADA software
- Extensive beam and belt driven linear pumping unit database
- User programmable with any IEC 6-1131 standard programming language
- Hall Effect or Inclinator position sensing
- Oil, gas and water production calculations
- Fluid level estimation
- Pump intake pressure estimation (PIP)
- Inflow performance relationship (IPR)



Create an integrated solution to optimize well production operations with OptiLift RPC.

Maximize Your Investment While Improving Your Productivity

OptiLift RPC (rod pump controller) is an advanced design on-site control solution that provides the accurate and flexible dynamometer based pump-off control necessary for sucker rod pump optimization. Featuring an Allen-Bradley® PanelView™ Plus 7 Performance HMI, OptiLift RPC allows convenient on-site configuration of completion parameters such as well bore, mechanical unit and motor data, and provides extensive process visualization, alarming functions and diagnostics. The rDAC iXC2 high performance controller extends this data to your existing SCADA system or to the cloud via its embedded IoT gateway.

Based on conditions at the surface of the well, OptiLift RPC provides continuous true load and position monitoring for beam pumps and belt driven linear pumping units and pump-off control with across-the-line fixed speed or VFD variable speed power packages. The dynamic surface and downhole dynamometer card display allows the operator to visualize what is occurring with the process and the four fixed speed modes and three variable speed modes provide flexibility for the operator to choose the operating mode best suited for the present conditions.

OptiLift RPC includes a range of standard features that allow extensive end user connectivity and customization at no additional cost:

- IEC 61131 programmable with spare I/O (6AI, 1AO, 3DI, 4DO, 1 HSC)
- Native EtherNet/IP support for Allen-Bradley Flex I/O and PowerFlex 75X VFD
- WMP Wireless Gateway supports pressure/ temperature monitoring
- AGA 3, 7, 8, and 9 Gas Flow Measurement
- Modbus RTU and TCP master capability for 3rd party device monitoring

Integrated Power

In addition to interfacing with your existing power package, the rod pump controller can be supplied with an Allen-Bradley® fixed speed motor starter or Allen-Bradley® VFD.

When the OptiLift RPC is delivered with an Allen-Bradley® VFD, you receive sophisticated control technology with a powerful drive. PowerFlex® 753 and 755 AC drives provide users with built-in features to create an integrated solution that is ideal for speed control in rod pump applications. These drives can effectively apply power to the system to smoothly start up, maintain commanded speed, and stop operation, all while monitoring for key elements to help improve safe motor operation.

A variety of options are available when integrated with an Allen-Bradley® drive, such as:

- Drive sizes ranging from 25 to 125 hp
- Traditional dynamic braking
- Energy-efficient Active Front End (IEEE519)

In addition, the OptiLift RPC provides the ability to interface to, and configure 47 common drive parameters through the PanelView™ Plus 7 Performance touchscreen HMI.

The OptiLift RPC Product Specifications

General Specifications	
Cabinet	<ul style="list-style-type: none"> • 18" H x 20" W x 11.5" D
Certification	<ul style="list-style-type: none"> • UL508A
Local Operator Interface	<ul style="list-style-type: none"> • PanelView™ Plus 7 Performance 7" full-color touchscreen graphics terminal
Power	<ul style="list-style-type: none"> • 100-240 VAC, 50/60 Hz
Operating Environment	<ul style="list-style-type: none"> • NEMA3R • Humidity range 5% to 95%, noncondensing • Base temperature range is -20°C to +46°C (-4°F to +114°F) • Heating/cooling options extend temperature range from -40°C to +60°C (-40°F to +140°F)
System Hardware	
I/O Interface	<ul style="list-style-type: none"> • Two analog inputs (load cell, inclinometer) • Two digital inputs (Hall Effect position sensors) • One analog output (drive frequency control) • Four Digital Outputs (motor On/Off command, motor On pulse, motor Off pulse, start alert – user supplied annunciator) • Three digital inputs (motor status, two auxiliary fault inputs) • I/O expansion via EtherNet/IP, Modbus serial or Modbus TCP and WMP wireless gateway
Communication Ports	<ul style="list-style-type: none"> • Ethernet (*GracePort® termination) • 2 Ethernet Ports • Serial RS232/RS485 • Wireless Messaging Protocol (WMP) gateway
Communication Protocols	<ul style="list-style-type: none"> • Modbus TCP, Modbus serial, Ethernet/IP, MQTT • WMP wireless, supports up to ten Rockwell Automation® transmitters
Options	
Accessories	<ul style="list-style-type: none"> • Beam-mounted inclinometer or Hall Effect sensors • Load cell (30k lb and 50k lb ranges) • Coiled cable for load cell • Integrated Power (Allen-Bradley across the line motor starter, soft start or VFD) • Enclosure options such as sunshades, elevated platforms, door stays, and more

For more information or to contact your local sales office or distributor, visit www.rockwellautomation.com/distributor.

Allen-Bradley, PowerFlex®, and Rockwell Software® are trademarks of Rockwell Automation®, Inc. Trademarks not belonging to Rockwell Automation® are property of their respective companies. GracePort® is a registered trademark of Grace Engineered Products, Inc

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846