

EcoWell

Wireless Rod Rotator Sensor



What's New

EcoWell WRRS 2.0 Wireless Rod Rotator Sensor is an advanced monitoring solution designed to provide real-time rotational performance monitoring for rod rotators used in beam pumping systems. The system consists of a wireless transmitter and receiver pair that continuously measures polished rod rotation and transmits operational data directly to the pump-off controller POC.

By eliminating complex wiring and enabling wireless communication, WRRS 2.0 simplifies installation while providing reliable rotation monitoring, efficiency alarms, and predictive data for rod rotator performance. This system is compatible with all rod rotators and pump-off controller systems, enabling seamless integration into existing rod pump automation platforms.

Benefits

- ✓ No wiring required
- ✓ Rapid installation on pumping units
- ✓ Compatible with all rod rotators
- ✓ Minimum maintenance requirements

Key Features

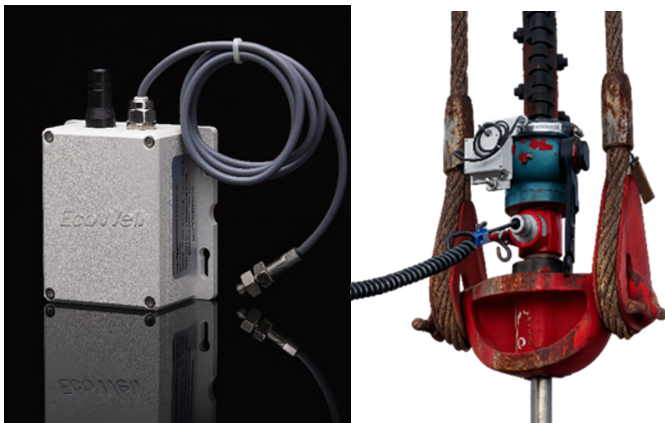
- ✓ Real-time polished rod rotation monitoring
- ✓ Direct alarm signal when rotation efficiency falls below a configurable threshold
- ✓ Smart alarm logic avoids false positives such as idle wells, intermittent operations
- ✓ Rotation speed accessible via Modbus register for predictive measure
- ✓ Long-life lithium battery with up to 5 years operating life
- ✓ High-sensitivity wireless communication
- ✓ Broad operational temperature range
- ✓ Reliable and stable performance
- ✓ Quick and simple installation
- ✓ Rugged design for harsh oilfield environments
- ✓ Compatible with all rod rotators
- ✓ Compatible with all POCs

WRRS 2.0 provides with three distinct types of rotation signals:

1. **Sensor State Monitoring**
Real time synchronization of sensor status provides continuous feedback on rod rotation and sensor activity.
2. **Efficiency Alarm Output**
A direct alarm output when rod rotation efficiency falls below a customized threshold, alerting potential rotator malfunction
3. **Rotation Angle Data**
Rotation angle is available through Modbus registers, enabling:
 - Performance trending
 - Predictive maintenance
 - Rod rotator diagnostics

Applications

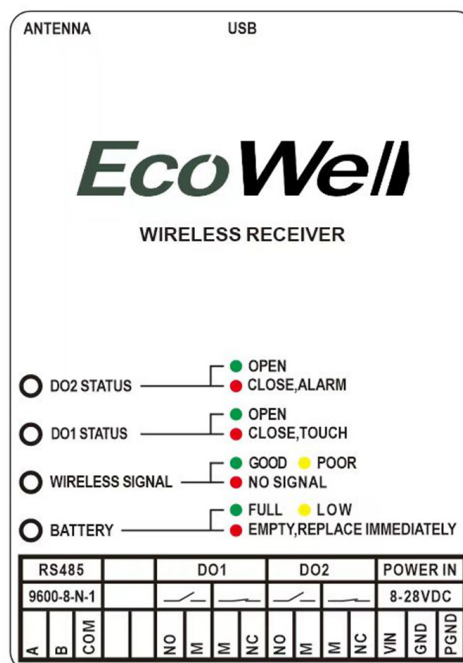
For oil and gas rod lift application, particularly for monitoring the polished rod of the pumping unit.



Specifications

- **Battery System**
3.6 V 19AH Lithium-ion Battery
- **Battery Life**
60 months
- **Digital Output**
Relay output
- **Operating Temperature**
°F -40° ~ 140°
- **Transmitting Power:** dBm +12
- **RF Receiving Sensitivity**
dBm -130
- **Telemetry Distance**
Ft 490
- **Data Reading Interval**
s 100 ~ 300
- **Receiving unit power supply**
VDC 5-28
mA <100
- **Radio frequency:**
GHz 2.400 – 2.525
- **Radio Channel:**
100
- **Communication Connection:**
RS485
- **Allowed Overload:** %FS 150
- **Protection:** IP67

Terminal & Function



Terminal	Specification	Signal	Description	Function
POWER IN	5-28VDC	VIN	Power input +	Power input for Receiver
		GND	Power input -	
		PGND	Connect to Earth Ground	
DO2	RELAY OUTPUT	NO	Normal Open	Alarm status Open: 0 Close: 1
		M	Common terminal	Alarm status Open: 1 Close: 0
		M	Common terminal	
		NC	Normal Close	
DO1	RELAY OUTPUT	NO	Normal Open	Synchronize to sensor status Open: 0 Close: 1
		M	Common terminal	Synchronize to sensor status Open: 1 Close: 0
		M	Common terminal	
		NC	Normal Close	
RS485	9600-8-N-1	A	RXD/TXD +	RS485 communicate interface
		B	RXD/TXD -	
		COM	Common port Connect to signal ground	

EcoWell

[illegible]

Technical drawing of the EcoWell Wireless Receiver, showing front, side, and top views with dimensions in mm and inches.

Front View Dimensions:

- Overall Width: 105,60 [4,157]
- Overall Height: 105,00 [4,134]
- Mounting Hole Spacing (Center-to-Center): 92,00 [3,622]
- Top Mounting Hole to Top Edge: 26,00 [1,024]
- Top Mounting Hole Diameter: Ø10,00 [Ø0,394]
- Bottom Mounting Hole to Bottom Edge: 28,50 [1,122]
- Mounting Hole Spacing (Left to Right): 7,00 [0,276]
- Mounting Hole Spacing (Top to Bottom): 36,50 [1,437]

Side View Dimensions:

- Overall Depth: 25,00 [0,984]

Top View Dimensions:

- Overall Width: 105,60 [4,157]
- Overall Height: 105,00 [4,134]

Front View Details:

- Model: ARDMS 100
- Brand: EcoWell
- Type: WIRELESS RECEIVER
- Features:
 - INCRIMENTS: 1000 Hz (1000 Hz)
 - DC OFFSET: 0 Hz (0 Hz)
 - AMPLITUDE SCALE: 100 dB (100 dB)
 - SW TEST: 1000 Hz (1000 Hz)
 - STATUS: 1000 Hz (1000 Hz)
 - EMIT/RECEIVE: 1000 Hz (1000 Hz)
- Buttons:
 - POWER
 - MODE
 - ENTER
 - EXIT
 - UP
 - DOWN
 - LEFT
 - RIGHT
 - STOP
 - RESET
 - TEST
 - STATUS
 - EMIT/RECEIVE
- Labels:
 - INCRIMENTS
 - DC OFFSET
 - AMPLITUDE SCALE
 - SW TEST
 - STATUS
 - EMIT/RECEIVE

Labels:

- SMA FEMALE
- USB TYPE-C

Installation WRRS wireless transmitter to a rod rotator

Stop and secure the rod safely according to the appropriate locking procedure.

Step 1. Position the U-bolts horizontally at the tail end of the casting, situated between the rotating arm and the main body.

Step 2. Insert the U-bolts through both the upper and lower holes of the mount bracket.

Step 3. Place the nylon spacer ring above the upper and lower holes of the mount bracket.

Step 4: Horizontally align the wireless transmitter between the U-bolts, ensuring that the antenna is directed towards the rotating arm.

Step 5: Place the flat washer above the nylon spacer ring.

Step 6: Use the fastening bolts to fasten the wireless transmitter to the mount bracket.

Step 7: Secure the whole set with the hexagonal lock nuts.

Step 8: Position the magnet assembly on the top cover and tighten it securely.

Step 9: Insert the sensor probe through the bracket hole, securing it with a locking nut on the back side of the bracket. Note that the distance between the magnet and the sensor does not require precise positioning.



