

EcoWell

Wireless U-Shape Loadcell



What's New

EcoWell Wireless U-Shape Loadcell is an advanced, all-in-one monitoring solution designed for rod pumping operations. It integrates cutting-edge power management and signal processing technologies to ensure high efficiency, stable performance, and reliable wireless communication.

Powered by a dual-energy system combining solar power with a lithium battery backup, EcoWell Wireless U-Shape Loadcell delivers continuous, uninterrupted operation—even in remote oilfield environments.

EcoWell Wireless U-Shape Loadcell innovative design eliminates the need for multiple wired sensors and complex cabling, providing accurate load and position measurements within a single unit for real-time dynacard control.

Built on a modular architecture, the EcoWell Wireless U-Shape Loadcell allows additional capabilities—such as rod rotation monitoring—to be easily integrated without replacing the base hardware.

EcoWell's innovative wireless technology delivers a reliable monitoring solution for rod pumping operations, while minimizing installation complexity and reducing maintenance requirements.

EcoWell - Accuracy, Reliability, and Ease of Use.

Features

- ✓ Solar rechargeable battery and backup battery dual-power system
- ✓ U-Shape structure for easy installation and replacement
- ✓ Analog load output available both in mV and mA
- ✓ True position signal at 1%FS accuracy
- ✓ Seamless integration with any POC controller
- ✓ Plug-in rod rotation monitoring function
- ✓ Suitable for very cold weather, up to -67°F
- ✓ Applicable for low light environment
- ✓ Wide telemetry distance up to 1600 ft

Benefits

- ✓ Minimal wiring requirement and faster deployment
- ✓ Reduced installation cost
- ✓ Minimal operational disruption
- ✓ Built-in load and position measurement
- ✓ Minimal-cost upgrade to enable rod rotation monitoring and alarm functions

Applications

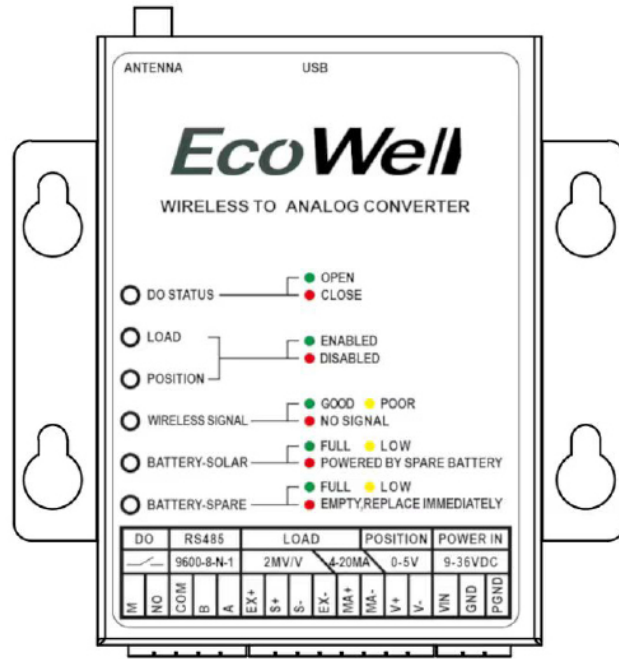
Suitable for Linear, Hydraulic and Beam pumping units and other applications which require measuring load and/or positions.



Specifications

- ✓ **Dual Battery System**
Solar Panel Rechargeable Battery (Primary)
Lithium Battery (Backup)
- ✓ **Battery Life**
Primary: 120 months
Backup: 60 months
- ✓ **Load Capacity**
lbf 50k
- ✓ **Load Analog Output**
mV 0-10 (5V DC Excitation)
mA 4-20
- ✓ **Position Analog Output:** V 0-5
- ✓ **Precision:** %FS ± 0.5
- ✓ **Operating Temperature**
 $^{\circ}\text{F}$ ($^{\circ}\text{C}$) $-67^{\circ} \sim 140^{\circ}$ (-55° to 60°)
- ✓ **Transmitting Power:** dBm 20
- ✓ **Telemetry Distance**
Ft (m) 164 -1640 (50 to 500)
- ✓ **Data Reading Rate**
ms 20
- ✓ **Resistance**
 $\text{M}\Omega \geq 2000$
- ✓ **Receiving unit power supply**
VDC 9 - 36
mA 100
- ✓ **Radio frequency:** GHz 2.400 – 2.525
- ✓ **Communication Connection:** RS485
- ✓ **Allowed Overload:** %FS 150
- ✓ **Protection:** IP67

Terminal & Function

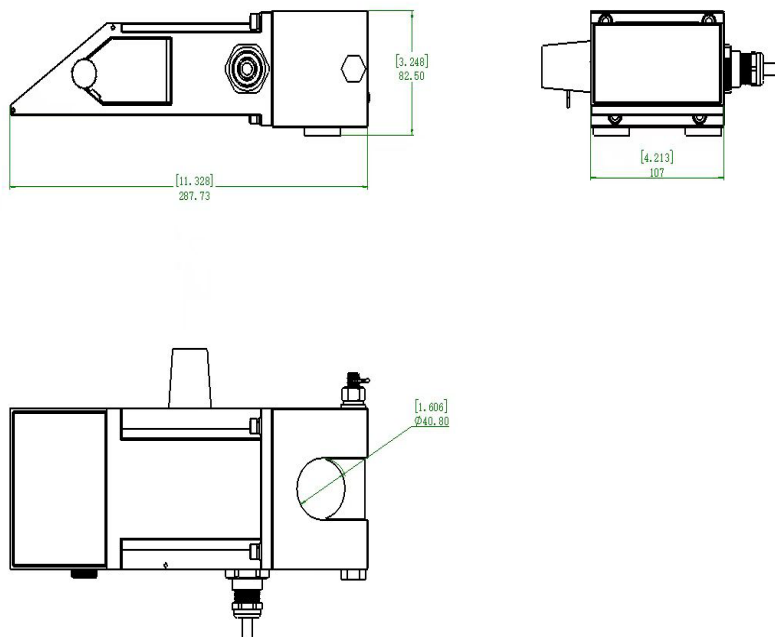


Terminal	Specification	Signal	Description	Function
POWER IN	9-36VDC	VIN	Power input +	Power input for receiver
		GND	Power input -	
		PGND	Connect to Earth Ground	
POSITION	0-5V	V+	Position voltage signal +	True Position signal output (Not Acceleration signal)
		V-	Position voltage signal -	
LOAD	4-20MA	MA+	Load mA signal +	Load mA signal output
		MA-	Load mA signal -	
	2MV/V	EX+	Excitation Voltage +	Load mV signal output EX=5V/8V/10V S=EX*2MV/V
		S+	Load mV signal +	
		S-	Load mV signal -	
		EX-	Excitation Voltage -	
RS485	9600-8-N-1	COM	Common terminal	RS485 communicate interface
		A	RXD/TXD +	
		B	RXD/TXD -	
DO	RELAY OUTPUT	M	Common terminal	Rotator operation status Open: Rotation Normal Close: Rotation Alarm
		NO	Normal Open	

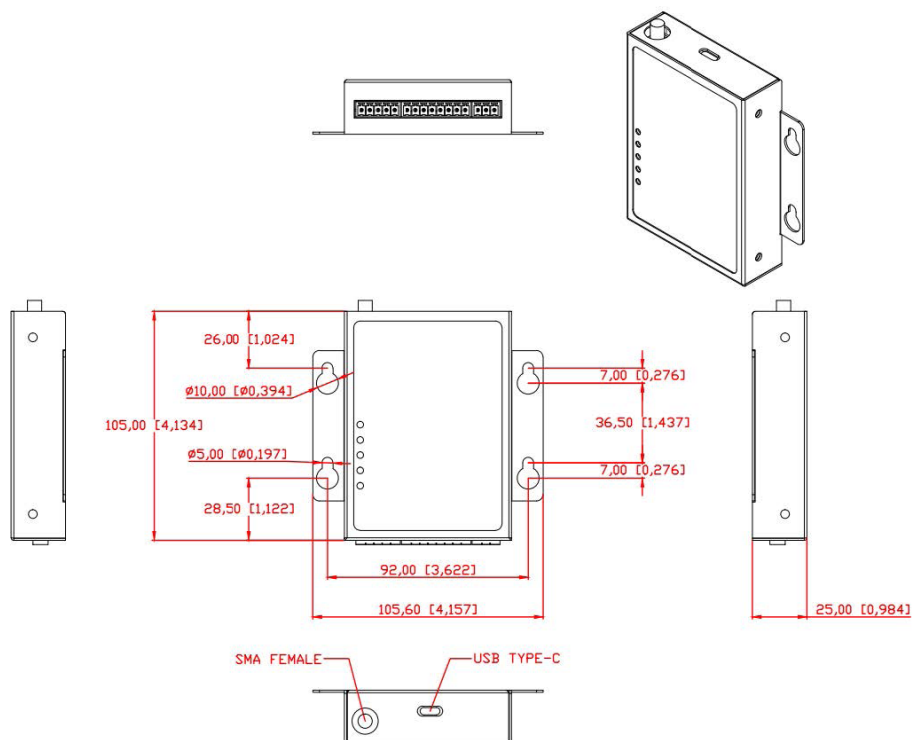
Overall Dimension

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WLCU: Wireless U-Shape Loadcell in mm [inch]



RECEIVER: Wireless to Analog Converter in mm [inch]

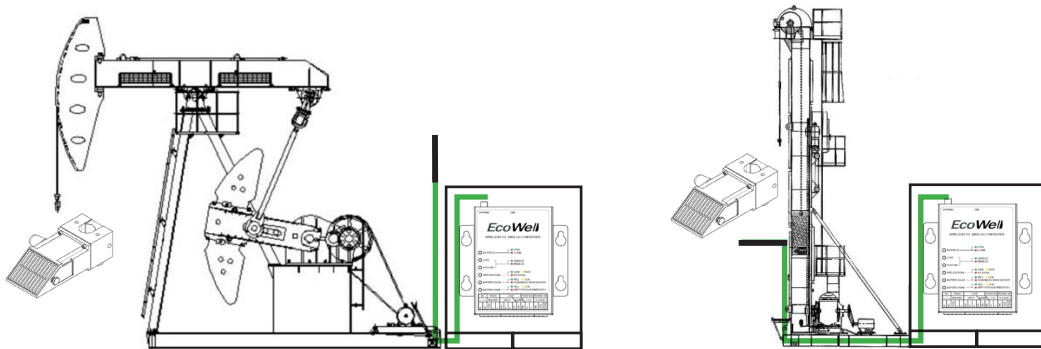


Receiver Installation Options

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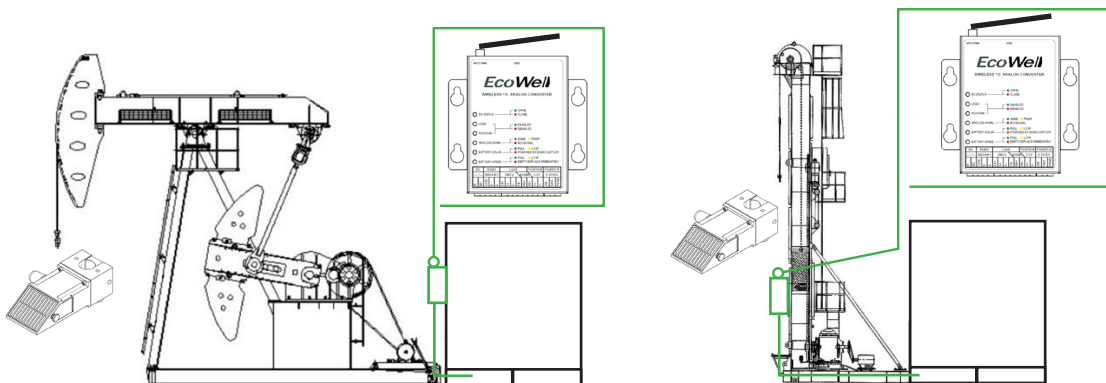
a.

The receiver is recommended to mount inside control cabinet and install the antenna outside with signal extension cable. A 10ft LMR240 male-female coaxial extension cable which included in the wireless loadcell kit is applicable to beam pumping units. Linear units might require longer extension cable to install the antenna near the front work platform of the unit. Order part number for 50ft extension LMR240 cable: 100C050.



b.

Or the receiver and antenna can be placed in a plastic waterproof case and mounted outside of the control cabinet if there is no space inside the control cabinet. Order part number for plastic waterproof case: WSB.

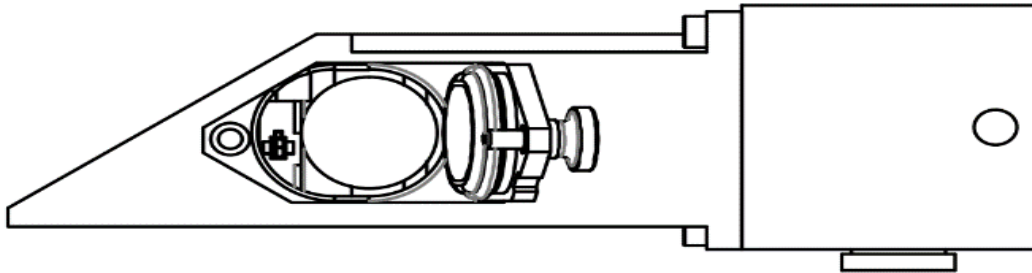


WLCU Installation

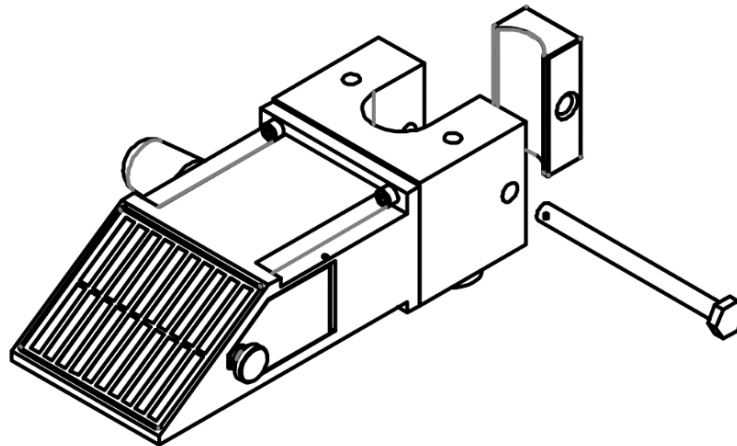
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Place the backup battery into the WLCU unit.

Unscrew the side door nut, plug in the backup battery connector, the red wire is on the top and the black wire is on the bottom, put the battery in, tighten the nut.



Install the arc-shaped block, and then insert the screw to avoid wear between the polished rod and the screw.



Enable the rod rotation monitoring. The newest WLCU model allows easy enablement of rod rotation monitoring. Order part number WIP201 for an upgrading set contains an extendable wiper and install kit.

