

EcoWell

Wireless Loadcell Adapter



What's New

EcoWell Wireless Loadcell Adapter incorporates advanced circuit board power management and signal processing technologies designed to optimize power efficiency, signal stability, and wireless communication performance.

A dual-power system combining solar energy with lithium battery backup ensures continuous operation. This design provides reliable, uninterrupted performance in remote oilfield environments.

EcoWell Wireless Loadcell Adapter enables operators to convert existing wired loadcell into wireless system, while providing true position output for accurate control at the same time.

Featuring a modular architecture, the EcoWell Wireless Loadcell Adapter 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
- ✔ Convert wired loadcell to fully wireless system
- ✔ 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 position measurement capability
- ✔ Minimal-cost upgrade to enable rod rotation monitoring and alarm functions

Applications

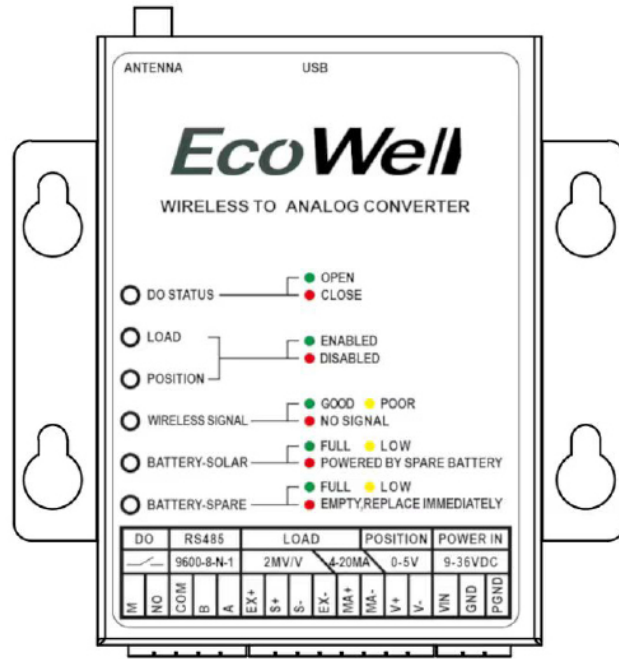
Convert wired loadcell to fully wireless loadcell, suitable for Linear, Hydraulic and Beam pumping units and other applications which require measuring load and/or positions.



Specifications

- ✓ **Dual Battery System**
Solar Panel Rechargeable Battery (Primary)
Lithium Battery (Backup)
- ✓ **Battery Life**
Primary: 120 months
Backup: 60 months
- ✓ **Load Capacity**
lbf - 30k & 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**
°F (°C) -67° ~ 140° (-55° to 60°)
- ✓ **Transmitting Power:** dBm 20
- ✓ **Telemetry Distance**
Ft (m) 164 -1640 (50 to 500)
- ✓ **Data Reading Rate**
ms 20
- ✓ **Resistance**
 $M\Omega \geq 2000$
- ✓ **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

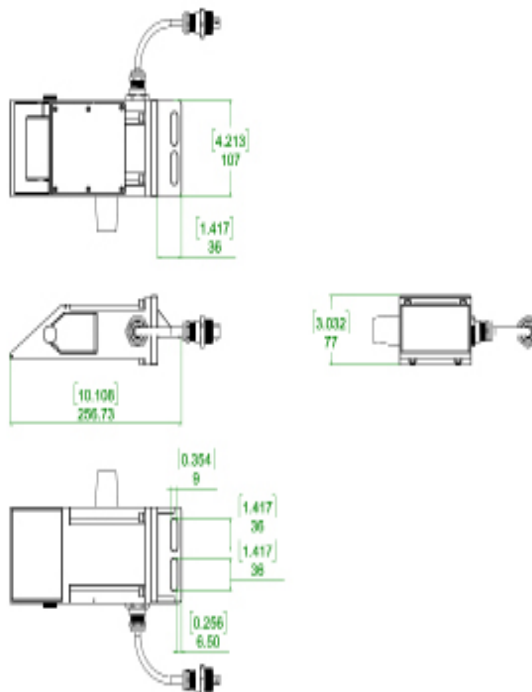


Terminal	Specification	Signal	Description	Function
POWER IN	9-36VDC	VIN	Power input +	Power input for receiver
		GND	Power input -	
		PGND	Connect to Earth Ground	
POSITION	0-5V	V+	Position voltage signal +	True Position signal output (Not Acceleration signal)
		V-	Position voltage signal -	
LOAD	4-20MA	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	

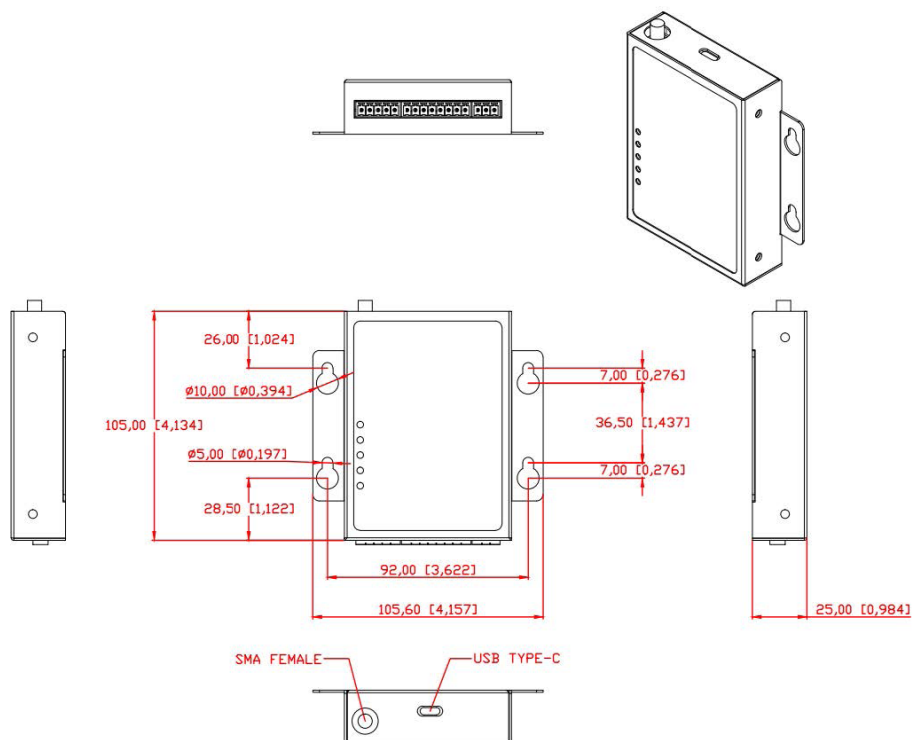
Overall Dimension

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WLA: Wireless Loadcell Adapter
in mm [inch]



RECEIVER: Wireless to Analog
Converter in mm [inch]

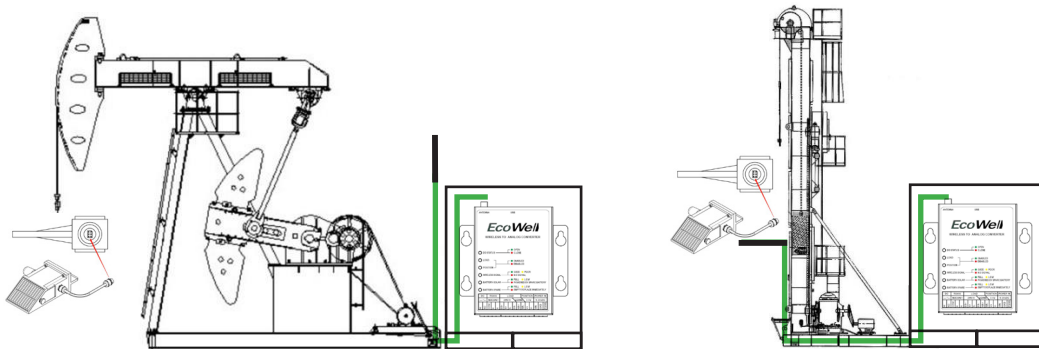


Receiver Installation Options

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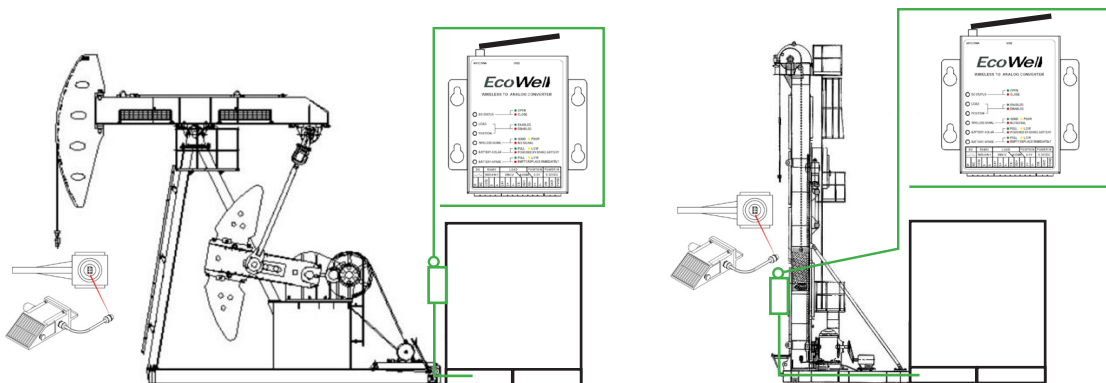
a.

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.

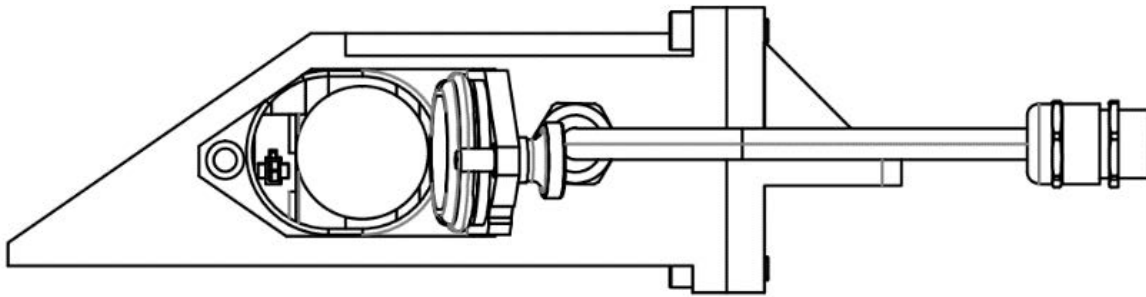


WLA Installation

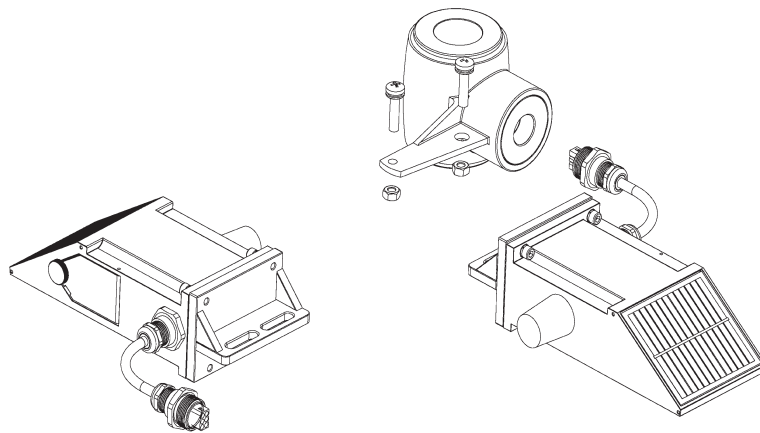
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Place the backup battery into the WLA unit, then connect the WLA to the wired loadcell.

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.



Fasten the WLA to the wired loadcell handle or beam hanger, then plug in the cable to the connector inside the wired loadcell. Secure in place by tightening the screw nut on the cable.



Enable the rod rotation monitoring. The newest WLA model allows easy enablement of rod rotation monitoring. Order part number WIP202 for an upgrading set contains an extendable wiper and install kit.

