DUAL Power Wireless Loadcell Adapter



What's New

The WellTec Wireless Loadcell adopts the most advanced circuit board management technology and integrates the use of green solar power and lithium battery power to bring a comprehensive wireless solution to the market with minimal maintenance requirement. WellTec's solar rechargeable battery serves as the primary power supply in the dual power system. The lithium battery is built in as standby power to instantaneously replace the solar rechargeable battery in the event special conditions arise. WellTec wireless loadcell is adaptable to low working environment temperature (-67°F) outperforming competitive wireless loadcell solutions currently in the market. The enhancements made to the solar panel have significantly improved its capability to continuously work in low light working environments. WellTec has engineered an advanced signal communication range for the wireless load cell providing the customer a much larger and wider working coverage area due to its upgraded signal transmitting strength.

WellTec provides a variety of products for the market including wireless loadcell kits, wireless loadcell adapters, and wireless load and position integrated kits to meet the specific needs of customers. Load signal outputs are available both in mV and mA, and true position signal output in mV. WellTec wireless loadcell products seamlessly integrate with all major automation controller products. Accuracy, reliability, and ease of use, WellTec.

Features

Primary Solar Powered with standby D cell battery

Wireless digital communication

Convert wired loadcell to fully wireless loadcell

Analog load output available both in mV and mA

True position signal within 1% accuracy

Seamless integration with existing controller

Receiving unit and remote unit can be replaced individually

Benefits

- ✓ **Suitable for very cold weather, up to -67°F**
- ✓ **Appliable for low light environment**
- ✓ **Wide telemetry distance up to 1600 ft**
- ✓ **Minimal wiring requirement and easy installation**
- ✓ **More than 60 months continuously operation guaranteed**
- ✓ **Battery status monitoring**

Applications

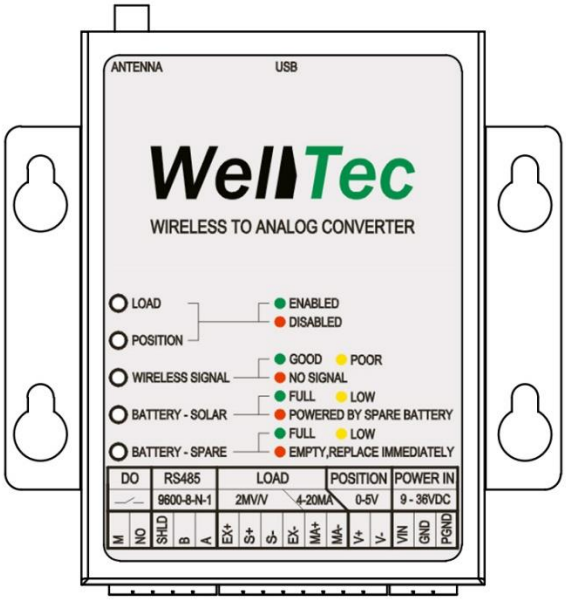
Convert wired loadcell to fully wireless loadcell, suitable for Linear, Hydraulic and Beam pumping units and other applications which require measuring load and/or positions.



Specifications

Dual Battery System		Solar Panel Rechargeable Battery (Primary) Lithium Battery (Standby)
Battery Life		Primary: 120 months Standby: 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	MΩ	≥ 2000
Receiving unit power supply	VDC	9 - 36
	mA	100
Radio frequency	GHz	2.400 – 2.525
Communication Connection		RS485, modbus-RTU,9600-8-N-1
Allowed Overload	%FS	150
Protection		IP67

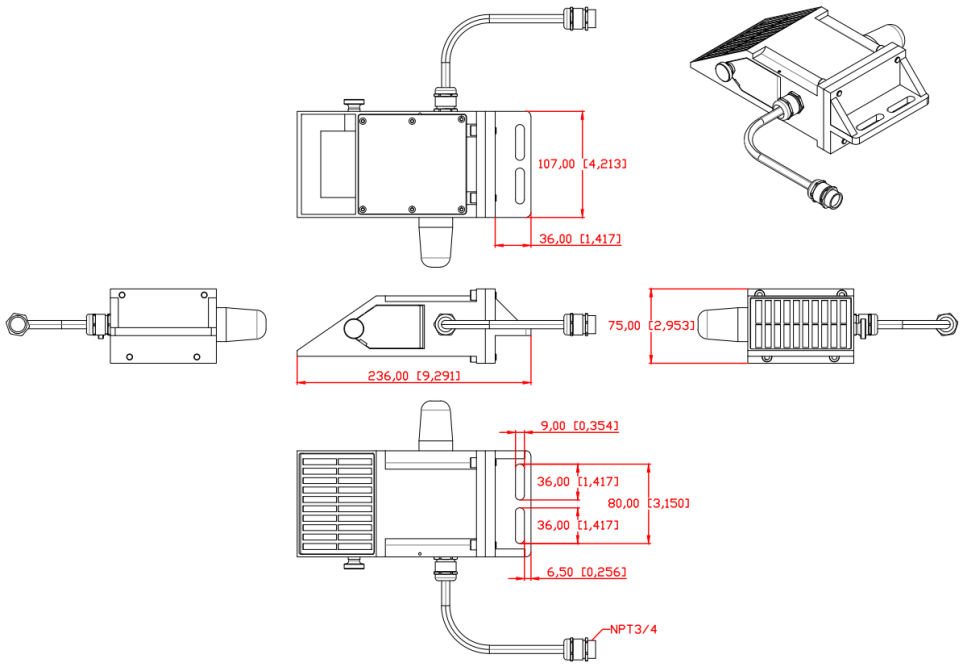
Terminal and Function



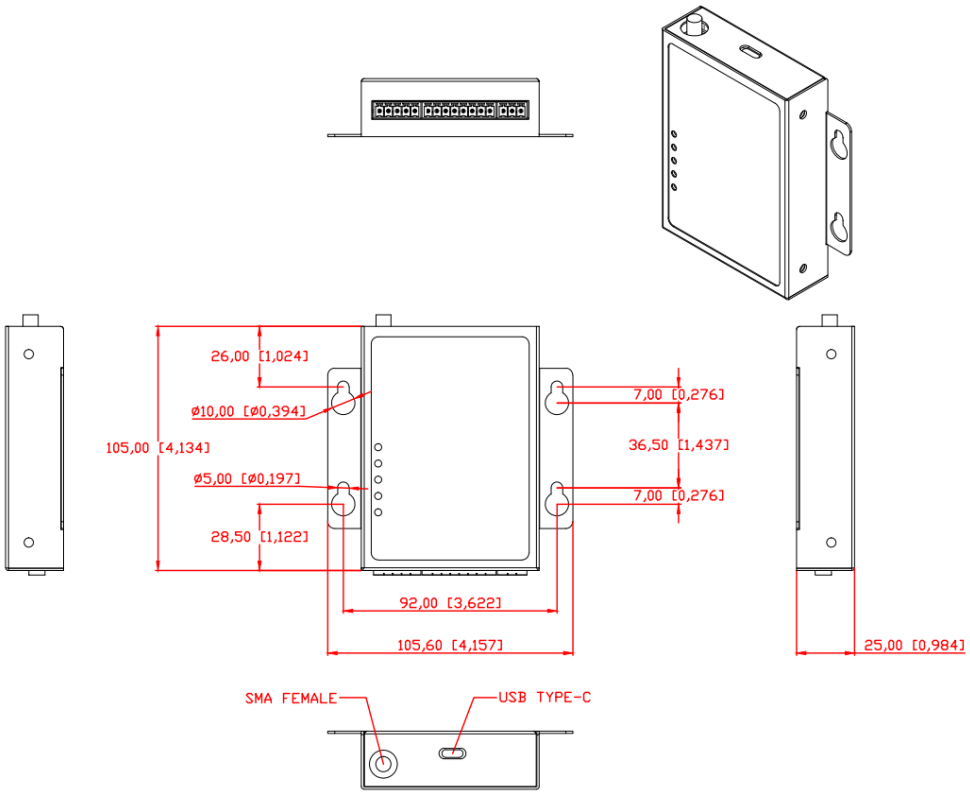
Terminal	Specification	Signal	Description	Function
POWER IN	9-36VDC	VIN	Power input +	Power input for WAC unit
		GND	Power input -	
		PGND	Connect to Earth Ground	
POSITION	0-5V	V+	Position voltage signal +	True Position signal output （Not Acceleration signal）
		V-	Position voltage signal -	
LOAD	4-20MA	MA+	Load mA signal +	Load mA signal output
		MA-	Load mA signal -	
	2MV/V	EX+	Excitation Voltage +	Load mV signal output EX=5V/10V S=EX*2MV/V
		S+	Load mV signal +	
		S-	Load mV signal -	
		EX-	Excitation Voltage -	
RS485	9600-8-N-1	SHLD	Shield wire terminal	RS485 communicate interface
		B	RS485B	
		A	RS485A	
DO	RELAY OUTPUT	M	Common terminal	Spare Battery status indicate Open： Battery FULL or LOW Close： Battery EMPTY
		NO	Normal Open	

Overall Dimension

WS: Wireless Sensor in mm[inch]

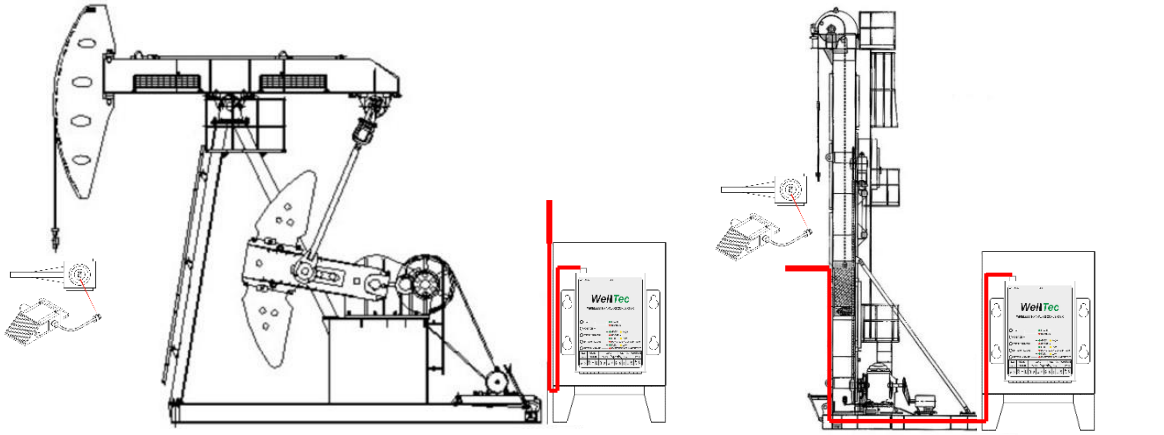


WAC: Wireless to Analog Converter in mm[inch]

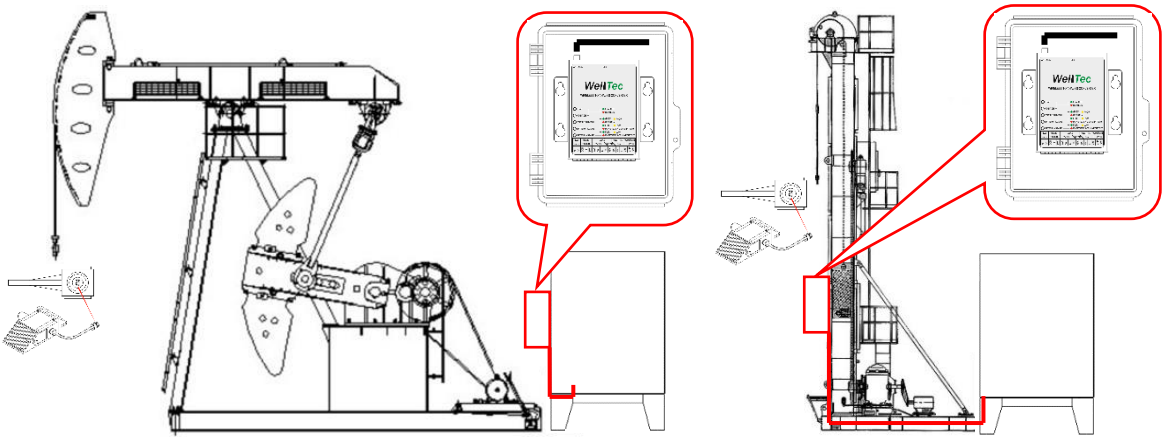


WAC unit Installation Options

a. The WAC unit is recommended to mount inside control cabinet and install the antenna outside with signal extension cable. A 10ft RG174 male-female coaxial extension cable which included in the wireless loadcell kit is appliable to beam pumping units. Linear units might require longer extension cable to install the antenna near the front work flatform of the unit.



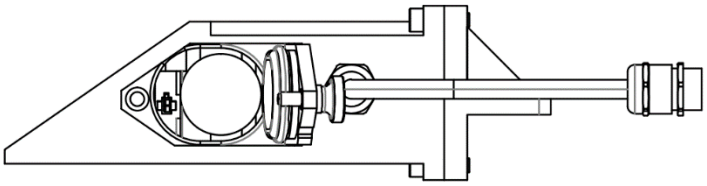
b. Or the WAC unit and antenna can be placed in a plastic waterproof case and mounted outside of the control cabinet if there is no space inside the control cabinet. Order number for plastic waterproof case: 21210377.



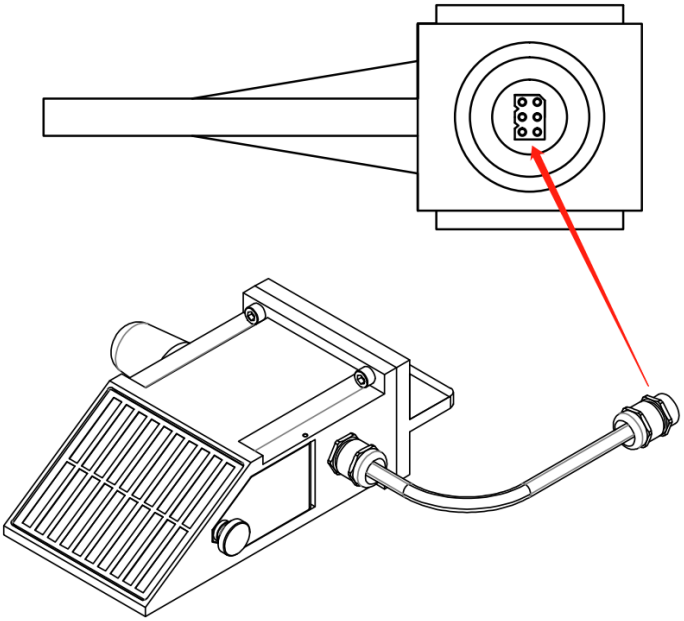
WS unit Installation

Place the spare battery into the WS unit, then mount the WS unit to polish rod.

Unscrew the side door nut, plug in the spare 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 WS unit 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.



WS unit Wakeup

The product is in standby mode before use, and there are two ways to start/wake up the product as below:

Apply 12/24VDC to power on the WAC unit;

Then apply at least 5klbf load to the WS sensor; Alternatively connect the spare battery to the WS unit;

The WellTec Wireless Loadcell Sensor will start to work automatically;