

LOAD SENSE

WLS-LC series
Wireless Load
Transducer



WLS-LC Series Wireless Load Sensor

The wireless LoadSense Load Transducer is a strain gauge based stainless steel tension type sensor. It has the capability of wirelessly transmitting its data to one of our compatible readouts and displays or recording its data locally.

Its inbuilt 32 MBit memory can hold up to 149 hours of data which can then be downloaded to a PC via its USB cable. The Load Sensor transmits using the worldwide licence free frequency of 2.4 Ghz on two built in antennas.

The LoadSense Load Transducer is used with our HandHeld Receiver which can read several devices at the same time, (see data sheet WLS3626R for more details), and/or our stand alone Receiver Interface which is used to output the data via RS232/RS422, (see data sheet WLS3627R for more details)



Technology

The LoadSense Load Transducer works in the worldwide harmonized band of 2.4 GHz so does not require a licence to operate and uses advanced technologies to enable data to be sent and received error free, these include, forward error correcting and data whitening.

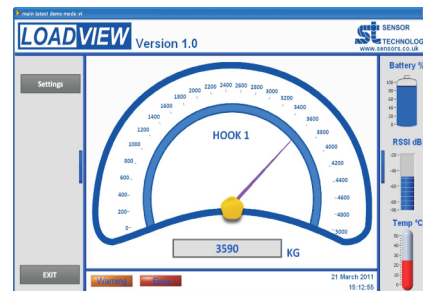
Software

LoadView is an easy to use advanced load monitoring software, available to assist data recording and instrumentation.

Features: 3 types of display. Text files compatible with Matlab and Excel. Real time chart plotting.

LabVIEW VIs are available for users to design their own process control applications.

DLLs are also available for users to write their own custom software.



Benefits

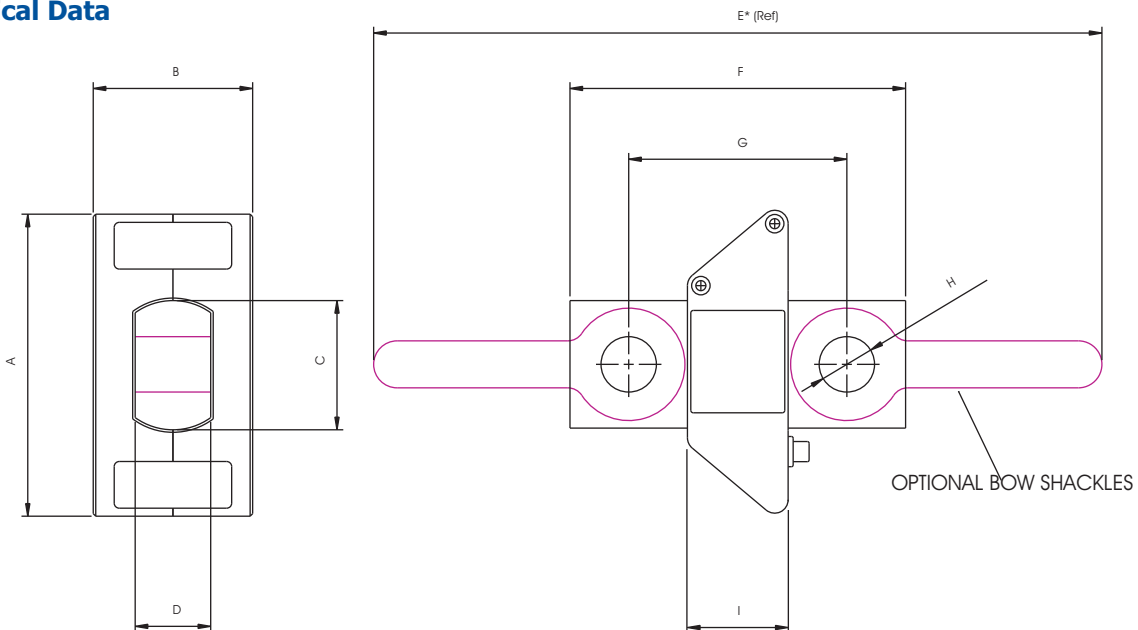
- Wireless, so easy to install and remove between installations
- Transmits data up to a distance of 30M
- Transmits data at up to 10 times a second
- Internal Memory for up to 150 hours of data
- USB or 5V to 28V external supply chargeable
- Connect to PC via USB
- PC software for customer settings
- Flexible automatic shutdown to conserve battery
- Dual ruggedised internal antennas

WLS-LC Series Load Transducers - Data Specification

Parameter	Variable	
Nominal Load	1, 3, 5, 10 Ton	
Accuracy	± 0.25%	
Max Overload	150%	
Breaking Load	> 300%	
Temp Coef of Zero	0.05% Deg C	
Temp Coef of Span	± 0.01% Deg C	
Environmental Protection	IP65	
Weight	5 Kg	
Materials	Stainless Steel / Aluminium	
Operating Temp Range	-10°C to + 50°C	
Storage Temp Range	-20°C to + 60°C	
Internal memory	32 Mbit	
RF		
Transmitter Output Power EIRP	+10 dBm	
Frequency Range	2425 - 2430 MHz 20 Channels 250kHz steps	
Modulation	MSK	
Data Rate	250Kbps	
Antenna	Dual patch antennas	
RFI / EMC	To EN301-489 1, FCC Part 15 pending	
Power Input - Battery		
Type	Li-Ion Varta LIC18650	
Voltage	3.7V 2200mAH	
Data transmit rate	Operating time at 20°C	
1 / Sec	1000 Hours +	
10 / Sec	120 Hours	
Power Input - Charge Facilities		
Connector	USB	External Power
Voltage	5V	5V - 28V
Charge time (from complete discharge)	33 hours	3 hours

Lead for USB charging, data transfer and external power input is provided.

Mechanical Data



FSD	A	B	C	D	F	G	H	I
1 Ton	180.00	95.00	76.00	45.00	200.00	130.00	33.00	60.00
3 Ton	180.00	95.00	76.00	45.00	200.00	130.00	33.00	60.00
5 Ton	180.00	95.00	76.00	45.00	200.00	130.00	33.00	60.00
10 Ton	180.00	95.00	76.00	45.00	200.00	130.00	33.00	60.00
15 Ton	186.00	104.00	82.00	54.00	250.00	156.00	42.50	60.00
20 Ton	186.00	104.00	82.00	54.00	250.00	156.00	42.50	60.00

E* Length is dependant on shackle used

Sensor Technology Ltd reserves the right to change specification and dimensions without notice.

WLS-HR Handheld Receiver

The wireless LoadSense HandHeld Receiver - Display is used in conjunction with the LoadSense wireless Load Sensor. It provides the user with an easy way to receive and view data from the Load Sensor.

Up to 9 LoadSense Load Sensors can be selected from the HandHeld Receiver and individually displayed. These Load Sensors can be named by plugging the Load Sensor into a PC via USB and using the Load Sensor software. They can then be easily distinguished on the display, which will show the name of the Load Sensor currently being read.

The display shows the name of the current Load Sensor, the load, battery status of readout and Load Sensor and signal strength. By using the menu tree on the readout the user can select which Load Sensor to read, what units to be displayed, tare the data, display peak value and many more functions.

A 9 way D connector is provided to output data via RS232/RS422 and a USB mini B to charge the battery and output data to PC.



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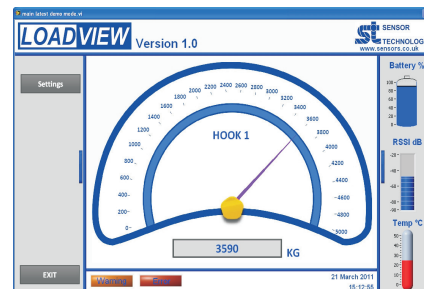
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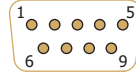
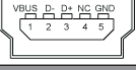
DLLs are also available for users to write their own custom software.



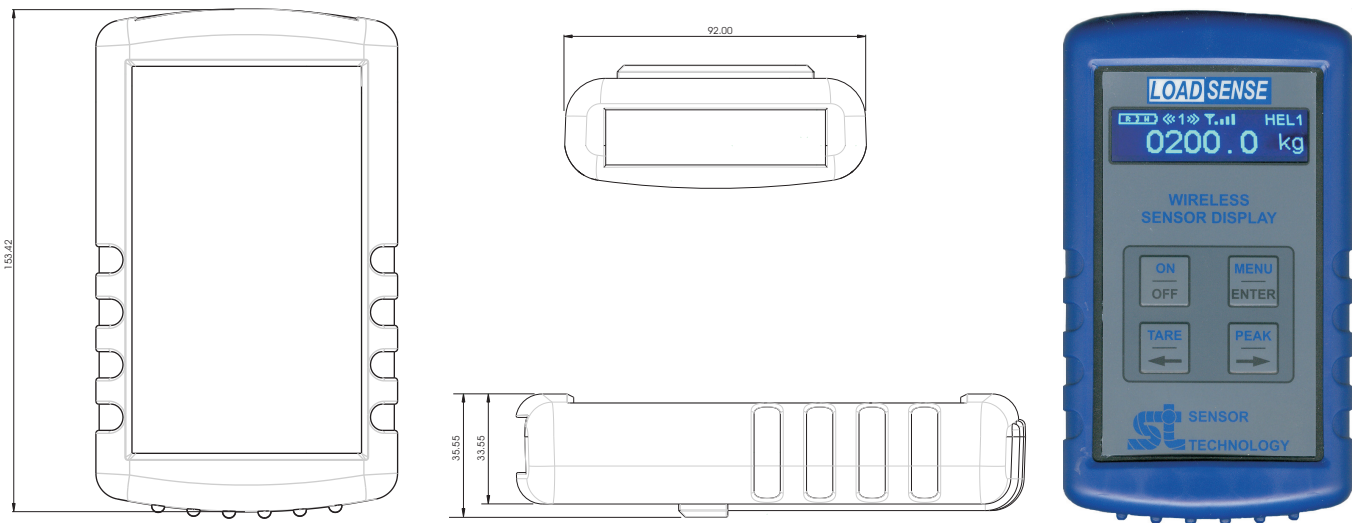
Benefits

- Reads multiple Load Sensors
- Receives data up to a distance of 30M
- Receives data at 10 times a second
- Connect to PC via USB for user setup
- Output data via RS232 / RS422 / USB
- Ruggedized rubber case with back stand
- Long life rechargeable battery powered

WLS-HR Handheld Receiver - Data Specification

Parameter		Value									
	Baud rate	Pin 1	2	3	4	5	6	7	8	9	Connector 
RS232	9600	nc	RXD	TXD	nc	GND	nc	nc	nc	nc	
RS422	9600	TX-	TX+	RX+	RX-	GND	nc	nc	nc	nc	
USB mini B		VBUS	D-	D+	NC	GND	N/A	N/A	N/A	N/A	
RF											
Receiver Sensitivity						-89 dBm					
Frequency Range						2425 - 2430 MHz 20 Channels 250kHz steps					
Connector						SMA					
Power Input - DC											
Connector						USB mini B					
Voltage						5 VDC					
Power Input - Battery											
Type						Li-Ion					
Voltage						3.7V 2200mAH					
Charge Time						TBC					
Technical Details											
Environmental Protection						IP54					
Weight						350 Gramms					
Materials						Plastic					
Operating Temp Range						-10°C to + 50°C					
Storage Temp Range						-20°C to + 60°C					
RFI / EMC						To EN301-489 1					

Mechanical Data

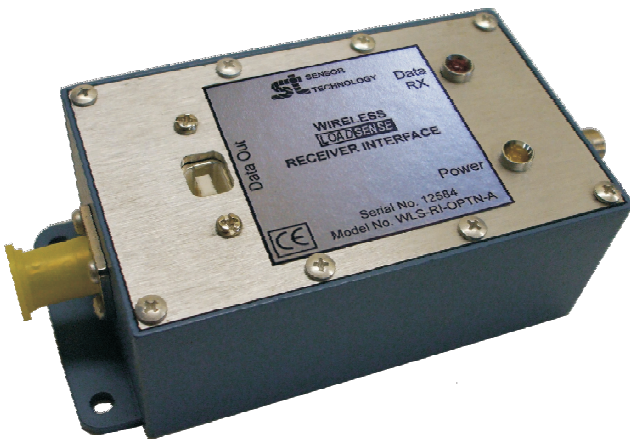


WLS-RI Receiver Interface

The wireless LoadSense receiver is used in conjunction with the LoadSense wireless Load Sensor. It provides the user with an easy way to receive and output data from the Load Sensor. Enclosed in a hardwearing aluminium box the receiver is suitable to be installed into environments where it may be subjected to harsh conditions.

The receiver is easy to install as it only requires DC power to be supplied to the unit. An SMA connector allows the use of an external antenna.

The receiver outputs a string of data from the Load Sensor which includes: Serial number, full scale, Load, Temperature, RSSI and battery voltage. The data is constantly outputted from the receiver straight from "power on" as long as the Load Sensor is in range. The output can be provided as either RS232, RS422, USB or Analog. This provides the functionality of being able to send the data over a longer distance if the receiver was to be in a remote location. The interface is suitable for applications where no user interaction is needed and data is fed into a data logger or remote display.



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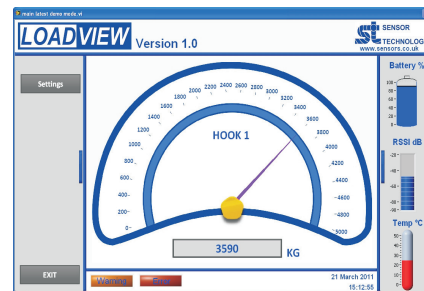
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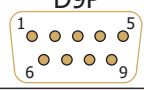


DLLs are also available for users to write their own custom software.



Benefits

- Small Footprint (133mm x 67mm x 43.5mm)
- Receives data up to a distance of 30M
- Receives data at 10 times a second
- Analog or digital data outputs
- Minimal startup time
- Very simple installation
- Operates on 2.4GHz licence free band

WLS-RI Receiver Interface - Data Specification

Parameter		Value									
	Baud rate	Pin 1	2	3	4	5	6	7	8	9	Connector D9P 
RS232	9600	nc	RXD	TXD	nc	GND	nc	nc	nc	nc	
RS422	9600	TX-	TX+	RX+	RX-	GND	nc	nc	nc	nc	
Analog Out	NA	OUT	GND	nc	nc	nc	nc	nc	nc	nc	
USB B		VBUS	D-	D+	GND	nc	nc	nc	nc	nc	
RF											
Receiver Sensitivity					-89 dBm						
Frequency Range					2425 - 2430 MHz 20 Channels 250kHz steps						
Connector					SMA						
Power Input											
	Current				1	2	3	Connector 			
18-35 VDC INPUT	60mA				INPUT	GND	SHIELD				
Socket Type		Binder 680 3 POL									
Technical Details											
Environmental Protection					IP54						
Weight					332 Gramms						
Materials					Aluminum						
Operating Temp Range					-20°C to + 55°C						
Storage Temp Range					-40°C to + 85°C						
RFI / EMC					To EN301-489 1						

Mechanical Data

