



Professional Weighing System

# CS19

Instruction Manual



# CS19

*"The new standard in tournament fishing weighing systems"*

---

## Total New Design

With two years of design, development and testing, the CS19 is the ultimate in tournament weighing systems. Housed in a newly designed waterproof enclosure, a large sunlight readable display and equipped with powerful computer electronics, this rugged system performs as awesome as it looks.

## Certified Legal for Trade

The CS19 meets required state certification requirements in all 50 states. Each CS19 is supplied with a certificate of compliance.

## Motion Filtering

Pro Tournament Scales is known for building professional weighing systems that are able to weigh active moving fish both quickly and accurately. The CS19 has the most advanced motion filtering algorithms we have ever developed. The CS19 is quick, accurate and repeatable.

## Advanced Wifi capabilities

The CS19 is equipped with a special designed Wifi system that does not require Internet connection to implement. The transmission range is increased over our previous systems and is equipped with frequency channel hopping technology that eliminates interference from other radio equipment. A cell phone or tablet can be used as a remote monitor to display the live weight reading while weighing.

## Designed to use with PTS WiFi remote LED displays

The CS19 weighing system is designed to work with our newly designed Gen II "WiFi" remote LED displays. These wireless displays can be easily configured at the tournament location to read out in different display modes. The ability to not display the weight until it is locked in is just one of the exciting new display modes available when paired with the CS19.

## Designed for use with PTS wireless printers

Weigh tickets can be easily printed from the CS19. The printers are wireless so there are no cables between the CS19 and the printer. The printer can be placed up to 100 feet from the scale. The system can be configured so that the weigh ticket is operated from the print button on the scale or can be configured to auto-print the weight ticket when the weight locks in.

---

# TABLE OF CONTENTS

---

Warranty .....	3
Connectors .....	5
Keypad Legend .....	6
Display Details .....	7
Battery Charger .....	8
Basic Operation .....	9
Weighing Procedure .....	10,11
WiFi Feature .....	12
Remote WiFi Display .....	13
Trouble Shooting .....	14,15
Wiring Connections .....	16
Pounds vs Pounds/oz explained .....	16
Wireless Remotes .....	17
Aux equipment.....	18

---

## WARRANTY

---

### 1-Year Warranty

The CS19 system is covered by a one year warranty against manufacturing defects.

---

# SPECIFICATIONS

---

**Certification:** Legal for Trade at 10,000 Divisions

**Display:** Large, sunlight readable LCD

**Units:** Pounds (lb), Kilograms (kg), Lbs-ozs (oz)

**Computer:** ARM Microprocessor

**Stand:** Heavy Duty Swivel Mounting Stand

**Enclosure:** Durable ABS NEMA 4x / IP67(waterproof case)

**Keypad:** Waterproof Capacitive Touch

**High Display Resolution:** Up to 100,000 external count

**Legacy Option:** Internal radio transmitter for older remote displays

**Battery:** Internal Li-ion 2200 mah battery pack

**Bright status indicator light**

**Built in WiFi:** Internal WIFI transmitter for transmitting weights to phones and tablets

**Printer Interface:** PTS Wifi printer interface standard on all units.

**Connectors:** Metal industrial rated "quick connect/release" connectors

---

## Connector panel



---

Connectors are push-pull connectors. Align the red dots on the connectors and push in until a "click" is felt, pull back on connector release ring to release. *Do not attempt to "twist" the connector.*

When cables are not connected, install dust caps to keep moisture and dirt from entering the connectors.

---

---

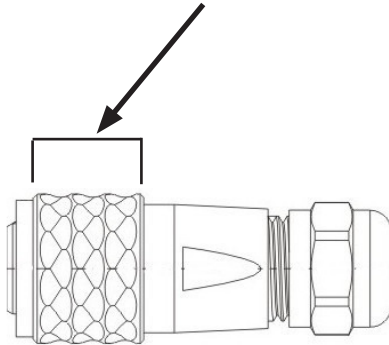
# CONNECTORS

---

The load cell and charger port are equipped with metal IP67 rated (waterproof) connectors. These connectors are industrial rated and are designed to be easily connected and disconnected. To connect, align the notch in the end of the cable connector with the notch in the scale indicator. Push the connector in until you feel a 'click'. Pull back on the textured ring to release the connection. The pins on these connectors are gold plated for optimum electrical connection. Do not scrape or sand the pins.

---

Pull straight back on this textured ring to release connector.



---

4-pin connector = Load Cell

2-pin connector = Charger/power

Take precautions to not let dirt or moisture get into the contacts of the connectors when they are disconnected. To keep dirt and moisture out of the CS19 connectors, keep the rubber sealing caps on connectors when the mating connector is not plugged in.

## Replacement connector kit part numbers

*(Wires will need to be soldered to connector pins when replacing)*

1000-8709      4-pin cable connector (load cell)

1000-8710      2-pin cable connector (charger)

# KEYPAD LEGEND

The capacitive touch keypad\* is composed of a total of five (5) function keys.



Legend	Keypad Functions
<b>UNITS</b>	Select lbs or lb/oz mode
<b>ZERO</b>	This key will reset the display to 0.00 The following conditions must be met to zero scale: 1. Indicator is in gross weight mode. 2. Weight is stable.
<b>NET/GROSS</b>	Toggles between NET and GROSS.
<b>SET &amp; ARROWS</b>	Used for navigating menus when setting factory parameters.
<b>TARE</b>	This key will establish a 'Tare Weight provided the following conditions are met: 1. The indicator is displaying a gross weight above zero. 2. The scale is not in motion. 3. The scale is not in overload condition.
<b>PRINT</b>	Send weight to PTS WiFi printer



\*Use bare hands to operate CS19 buttons The keys on the CS19 are capacitive touch keys. This design is 100% waterproof. The buttons sense touch from you hand much like a cell phone screen. You must use your bare hands or special gloves that are made to operate tablet and cell phone screens.

# DISPLAY DETAILS

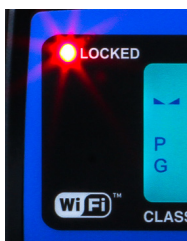
The CS19 utilizes a 7-digit reverse LCD (Liquid Crystal Display) with backlight. This display can be easily read in bright sunlight or in the dark.



SYMBOL	DESCRIPTION
→ 0 ←	Scale is at zero
N	Indicator is in NET mode
G	Indicator is in GROSS mode
T	Indicator has established a push button tare
P	Scale is in a MOTION LOCK condition
lb	Scale units is in POUND mode
kg	Scale units is in KILOGRAM mode
	Indicates when scale is stable.
	battery level remaining

## LOCKED Indicator

To the left of the display there is an indicator that will light when the scale is in a 'weight locked' condition. This light will be on anytime the weight is locked. To unlock the reading , at least 50% of the weight must be removed or added to the scale. The 'ZERO' button may be pressed to clear the lock (Pressing the ZERO button will re- zero the scale). Note: The scale must be in GROSS mode for the ZERO key to work. (If in NET mode press the TARE key to zero the scale.)



**NOTE:** When unit is powered on the LOCKED indicator LED will flash as a status indicator for different installed options.

---

# BATTERY CHARGER

---

The charger supplied with your system is a specially designed unit to charge the battery pack in your indicator. Do not connect other power sources to the scale as it “may possibly” cause damage.

## Rechargeable battery information

The CS19 contains a rechargeable Li-ion battery which is located inside the CS19. Before using the indicator for the first time, fully charge the battery. On the corner of the battery charger module there is an LED that will be red during charging and will show green when the battery is fully charged. If the battery flashes red when connected, this indicates a problem with the battery pack. The battery charger will not overcharge the battery. The CS19 battery will give over 10 hours of use on a charge. The battery will charge while the indicator is ON or OFF and the CS19 can be used while it is being charged. (The charge light will not show green if the scale is on, and will not overcharge the battery.)

## Storing the system for long periods

Charging the battery before storing is necessary to achieve maximum life from the battery pack. Storing the indicator in a uncharged state will decrease the life span of the Li-ion battery pack.

### Replacement parts

1000-8709	4-pin cable connector (load cell)
1000-8710	2-pin cable connector (charger)
1000-8099	Replacement 14.8 Volt Li-ion battery
1000-7350	Battery Charger



- 1- Power
- 2- Gnd



# BASIC OPERATION

---

## Turn on the scale:

Press the Power button located on the rear panel of the CS-19. The indicator will perform the following count down:

5.5.5.5.5.5

4.4.4.4.4.4

3.3.3.3.3.3

2.2.2.2.2.2

1.1.1.1.1.1

0.0.0.0.0.0

After the count down, the scale will zero out any weight on scale and is now ready to weigh.

## Turn off the scale:

Press the Power button located on the rear of the scale to turn the CS19 off.

## Unit of measure

The unit of measure can be changed by pressing the Units key. The display will toggle between lbs and lb-oz . The CS19 will remember the units mode selected when turned off.

## AZT

Auto Zero Tracking will automatically Zero the scale if the weight is .05 lbs or less. This is useful when water or fish residue is left on scale after weighing . The weigh-master does not need to continually zero the scale with this feature. (AZT feature is disabled when using TARE mode)

## Motion Lock

This feature filters out the motion of active fish and displays the locked value of the weight. The weight will remain 'locked' until 50% of the displayed weight is removed from the scale. An LED to the left of the display will be on when the scale is in a locked condition.

The minimum weight the scale will lock in on is 1lb.

## Over-Range

If the scale weight exceeds the capacity of the scale, the display will display "ooooo" to indicate over-range.

## Under-Range

If the scale goes into a negative weight range the display will display ' \_ \_ \_ \_ \_ '.

---

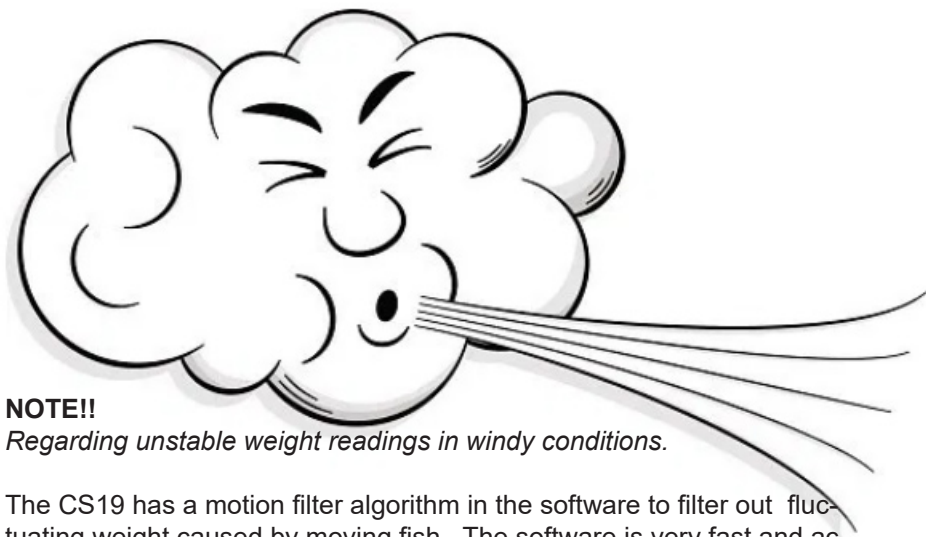
# WEIGHING PROCEDURE

---

## NON-TARE WEIGHING

(Preferred weighing method)

1. Place the weigh basket on scale and press the ZERO key.
2. Place fish in the basket.
3. When the red LOCKED light comes on, the weight is locked and will not change until 50% of the weight is removed or added to the scale.
4. Record the weight and remove the fish from basket. If using a PTS WiFi printer, press the PRINT button. If system is set for “auto print” the weigh ticket will automatically print when weight locks.
5. Remove weight and scale will return to ‘0.00’ reading. If scale does not return to zero, press ZERO button.
6. Go to step 2 and repeat the process.



### NOTE!!

*Regarding unstable weight readings in windy conditions.*

The CS19 has a motion filter algorithm in the software to filter out fluctuating weight caused by moving fish. The software is very fast and accurate in weighing active fish. The motion filter software cannot filter out motion caused by the wind blowing against the basket. The only solution for wind issues is to build a wind screen to block the wind from blowing against your weigh basket.

---

# WEIGHING PROCEDURE

---

*Below is a second method of weighing using the TARE feature. This method will give the same weight readings but will disable the AZT (Auto Zero Tracking) feature.*

## **Description of terms**

**Gross Weight** - total weight of the fish and the container.

**Net Weight** - refers to the weight of the fish alone, with the weight of the container subtracted.

**Tare Weight** - the weight of the container only.

---

**THE “NET-TARE METHOD” BELOW IS NOT PRO TOURNAMENT SCALES RECOMMENDED PROCEDURE TO WEIGH FISH.**

*See page 10 for recommended procedure*

---

## **NET-TARE WEIGHING**

1. Place the empty container onto the scale's weighing table.
2. After allowing the CS19 to stabilize, press the TARE key and the weight will go to zero weight. (If there is motion on the scale the TARE button will not work until there is no motion)
3. Place the object to be weighed on the scale and allow the weight indicator to LOCK. The reading shown is the weight of the fish.
4. Go to Step 2 and repeat.

## **NOTE!!!**

AZT (Auto Zero Tracking) will be turned off when using tare adjusted weighing method. See page 10 for the recommended weighing method.

---

# WIFI FEATURE

---



The CS19 is equipped with a WiFi radio that can transmit the weight reading to your cell phone or tablet. **This system does not require connection to the internet and does not require an app.** The CS19 WiFi will work with Apple, Android, and Windows devices.

This feature is useful for tournament trails that need to transmit the weight reading to the person recording weigh-in results.

---

## 6 easy steps required for WiFi setup

---

Described below are the six steps required to connect to the CS19 to your phone or tablet.

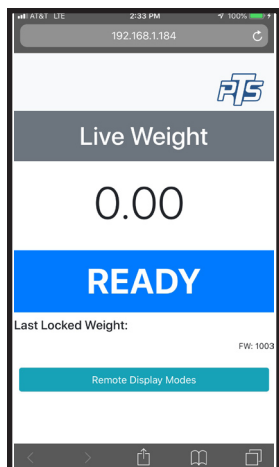
1. Go to the "Settings" screen of your device and select WiFi setup.
2. Turn on the CS19 and look for the network named **"ProTournamentScales"** on your device setup screen and select it.
3. A screen will then appear asking for a password.
4. Enter **'987654321'** as the password.
5. After you are connected, exit out of the Settings menu.
6. Open your browser (Safari, chrome, etc) and type in **192.168.1.184** in the address bar. (Some browsers have an address bar and search bar. If this is the case, be sure to use the address bar and not the search bar to enter the number.)

*The network name and password are also printed on the back panel of your CS19 for easy reference.*

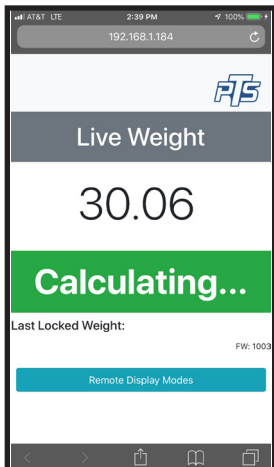
See the next page for examples of what the screens would look like on an iPhone with Safari browser.

# REMOTE WIFI DISPLAY

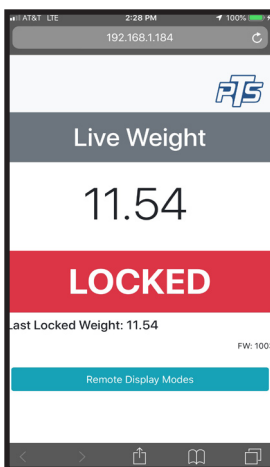
Below are the 3 stages of what the screens look like on a remote phone or tablet connected with WiFi to the CS19.



No weight applied

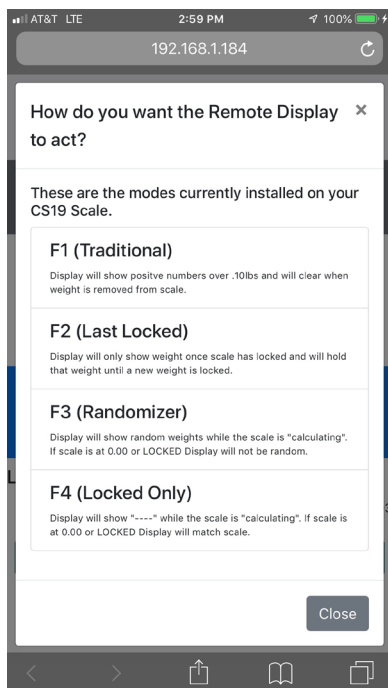


Calculating weight



Locked weight

## REMOTE LED DISPLAY MODES



If your system has the new 'WiFi' remote LED displays, the CS19 can control how the LED display reacts when displaying the weight from the scale.

The remote LED display must be on and connected to the CS19 that also must be on.

The mode is selected by pressing the push button switch located on the rear panel of the LED sign. (Page 17)

The display will cycle through the 'F1' to 'F4' option each time the button is pressed and released. See page 17 for more info on configuring the remote LED displays.

**NOTE:** This feature does not work on LED signs without the WiFi logo and the push-button located on the rear of sign.

# TROUBLESHOOTING

---

**Q.** ZERO button will not zero out weight

**A.** Scale must be in GROSS mode and have no motion. ( See motion indicator on page 7.)

**Q.** Scale takes a long time to lock the weight.

**A.** This is normally caused by wind blowing against the weight basket. Eliminate the wind effect by installing a wind deflector around the weigh basket.

**Q.** Weight reading is unstable and drifts.

**A.** Possible causes are:

1. Wind blowing against weigh basket
2. Moisture or dirt in 4-pin load cell connector.
3. Damaged cable or broken wires in connector
4. Defective load cell
5. Indicator failure

**Q.** Battery will not hold a charge.

**A.** Battery needs to be replaced, typical life of the battery pack is 3-5 years if taken care of properly. Storing the battery in an uncharged state, charging while cold, storing in extreme heat will all shorten the life of the battery.

**Q.** Weight reads out lower at one end of the weighing platform than the other end.

1. Check for any type of mechanical binding or restricted movement of scale.
2. Check underneath the scale for overload bolts that have loosened and are against the table. There are three overload adjustments
3. Verify that cable exits side of table with cutout (weigh table units only)

**Q.** Indicator displays seven small zeros.

1. Scale is overloaded or cable from scale is disconnected
2. Cut, damaged. pinched cable between indicator and platform or within platform (weigh table units only)
3. Load cell failure

# TROUBLESHOOTING

---

**Q.** Scale turns off and on.

**A.** Battery is fully discharged and must be charged.

**Q.** Display is erratic.

**A.** Check underneath the scale for any obstructions or foreign debris. Check that load cell connector on rear of scale is seated. Wind can also cause unstable reading. Construct a wind screen to prevent the wind from blowing against the basket.

**Q.** Phone or tablet will not show Pro Tournament Scales 'Remote Display' screen.

**A.** You must go to the WiFi setup screen on your device and select Pro Tournament Scales as your WiFi connection. (See page 12) There is a video on our web site that shows this procedure.

**Q.** CS19 will not communicate with remote display

1. Turn the remote and CS19 off for 10 seconds and then turn the scale on first and then the remote sign.
2. Sending the radio signal through the back of the sign weakens the signal. Try to transmit signal through the front of the remote sign.

**Q.** CS19 will not communicate with PTS WiFi printer

1. Turn the remote and CS19 off for 10 seconds and then turn the scale on first and then the remote sign.
2. The printer will print out a ticket indicating if the printer has a communication link to the printer. If it does not check that the printer has power and is turned on.
3. If the printer is sitting inside a metal weigh in trailer it is not possible for the radio signal to pass through metal.

---

## www.tournament scales.com

---

---

# WIRING CONNECTIONS

---



- 1- Power
- 2- Ground

## Warning!

Do not connect power to the CS19 with any device other than the Li-ion battery charger supplied with system. Damage to the indicator and battery pack are possible with other power sources.



- 1- Green E+
- 2- Red S-
- 3- White S+
- 4- Black E-

Color code for  
50lb x .01lb weigh table

---

## LBS VS LBS/OZ EXPLAINED

---

# 5.50 lb

**Lb mode** - This mode displays the weight to the right of the decimal as tenths and hundredths of a pound. In this mode a 5 1/2 lb fish would be displayed as 5.50 This would be read as:

**“Five point five zero pounds“**

---

# 5. 8.0 lb/oz

**Lb/Oz mode** - This mode displays the weight in lbs with the fractional pound in ounces. In this mode a 5 1/2 lb fish would be displayed as ‘5 8.0’ which would be read as:

**” Five pounds and eight point zero ounces “.**

The CS19 can be configured to read weight in either of the modes shown above.



---

# REMOTE LED DISPLAY

---

The WiFi enabled remote displays are identified by the WiFi logo on the front frame and are designed to be used only with the CS19 scales. The WiFi displays are not compatible with older non WiFi scale systems manufactured by Pro Tournament Scales. A “legacy” option can be added to your CS19 to make it compatible with older LED displays and radio hubs manufactured by Pro Tournament Scales.

## Rear Panel

The rear panel of the LED remote display has a connector to charge the internal battery, an On/Off switch and a push-button to select the display mode of the sign.

---



**Note: The modes can only be selected when the remote display is linked to the CS19.**

Pressing and releasing the “Mode Select” button will cycle through the LED sign’s different display functions. The current display function selected is displayed on the LED remote. A description of the different functions are described below. The Led sign will retain the selected display mode when turned off.

---

*At the time of the printing of this manual there are 4 display functions:*

**F 1(Traditional)** - Weight tracks the CS19 weight and shows the weight over .1lb shown on the CS19 as it increases and decreases. The remote LED display will not show negative weights.

**F 2 (Last Locked)** LED display only shows weight when locked and will continue to display locked weight until a new locked weight is received. This mode is excellent for taking photos.

**F 3 (Randomizer)** LED display will show random numbers until weight is locked.(CS19 display will not be random.)

**F 4 (Locked Only)** LED display will show “0.00” if weight is zero and show “-----” while weight is calculating. Locked weight will be displayed on LED sign when CS19 weight is locked.

---

---

# OPTIONAL EQUIPMENT

---

## **Legacy Mode Option**

This option installed at the factory allows the CS19 indicator to communicate with LED remote signs and radio hubs that were built previous to the CS19.

## **Printers**

The new printers for the CS19 are much faster than our previous printers and they come complete with a foam-lined, heavy duty storage case. Software is not needed to use PTS special WiFi printers. The CS19 will print directly to the printer through a wireless link. Our printers can also be used with several other software manufactures software that are compatible with our systems. Systems will require a USB cable between the printer and the computer when running 3rd party software.

## **Additional LED Remote Displays**

Additional WiFi LED remote (4 inch, 7 inch and 12 inch) can be added to your system so that everyone can see the weight live. The new remotes have a longer range and feature channel hopping technology to block interference from outside devices.

## **Heavy Duty Folding Weight Baskets**

Laundry baskets are great for holding clothes but not so good for weighing fish.

Pro Tournament Scales weigh baskets are built tough to last, fold flat to conserve space, have drain holes and are vented to minimize the effects of wind blowing against the weigh-in container.

## **WiFi Radio Hubs**

Pro Tournament Scales new WiFi radio hubs have increased distance and have channel hopping technology that allows the radio signal to automatically change to the best channel for uninterrupted signal transmission.

# OPTIONAL PRINTER

---

Print directly to our printers without using cables!

No Software needed, ticket layout can be programmed using your phone!

## Printers

The new printers for the CS19 are much faster than our previous printers and they come complete with a foam-lined, heavy duty storage case. Software is not needed to use PTS special WiFi printers. The CS19 will print directly to the printer through a wireless link. Our printers can also be used with several software manufactures software that are compatible with our systems.

**Note:** Printer will require a USB cable between the printer and the computer when running 3rd party software.



Pro Tournament Scales printers include a padded storage case to protect your investment.

Official Weighing System by:

***Pro* Tournament  
*Scales***

“Professional Systems for Professional Tournaments.”