



CARDINAL®



LSP Series

Portable Livestock Scales

Owner's Manual

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FCC Compliance Statement

This equipment generates uses, can radiate radio frequency, and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been designed within the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC rules to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference in which case the user will be responsible to take whatever measures necessary to correct the interference.

You may find the booklet "How to Identify and Resolve Radio TV Interference Problems" prepared by the Federal Communications Commission helpful. It is available from the U.S. Government Printing Office, Washington, D.C. 20402. Request stock No. 001-000-00315-4.

Serial Number _____
Date of Purchase _____
Purchased Form _____

RETAIN THIS INFORMATION FOR FUTURE USE

<h3>PRECAUTIONS</h3> <p>Before using this scale, read this manual and pay special attention to all "NOTIFICATION" symbols:</p>  <p>DANGER! WARNING! CAUTION!</p>
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INTRODUCTION

Thank you for selecting and purchasing Cardinal Scale's Weight Wrangler Portable Livestock Scale. Your scale was built with quality and reliability and incorporates the latest technology and innovative features for the weighing industry to meet your weighing needs for years to come.

The purpose of this manual is to provide you with a guide through setup and operation of your Weight Wrangler Portable Livestock Scale. Please read it thoroughly before attempting to use your scale and keep it handy for future reference

Overview

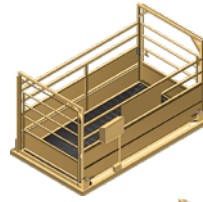
The Weight Wrangler Portable Livestock Scales provide a self-contained NTEP legal-for-trade weighing system that can be used on any firm surface with up to a 5% grade (maximum allowed by NTEP). The hoof-gripping rubberized component deck and steel cattle pen enclosure with dual swing gates are all suspended at four points within a portable base frame. The Weight Wrangler can weigh groups of cattle up to 15-20 head at a time (20,000 lb x 5 lb capacity). The scale includes a weight indicator, USB port to store transactions, and ticket printer. The mobile weighing center cabinet feature toolbox latches to properly secure the lids and doors.



Specifications

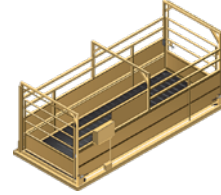
LSP1513-MWC225P

- Capacity: 15,000 lb x 5 lb
- Overall Dimensions: 13 ft. L x 7 ft. 4 in. W x 8 ft. 2 in. H



LSP2018-MWC225P

- Capacity: 20,000 lb x 5 lb
- Overall Dimensions: 18 ft. 5 in. L x 7 ft. 4 in. W x 8 ft. 2 in. H



Includes:	225 weight indicator, and CTP-1 ticket printer
Indicator Display:	240 x 64 pixel (5 in W x 1.33 in H / 127 mm W x 34 mm H) monochrome graphics LCD with white LED backlight and visible in direct sunlight
Keypad:	60 key color-coded keypad with QWERTY keys plus four soft keys and 13 function keys
Printer:	Cardinal Scale model CTP-1 dot matrix ticket printer included in mobile weigh center for NTEP legal-for-trade ticket printing of transactions. NOTE: The printer Operating Temperature Range is 41°F to 104°F.
Inclinometer:	Included with scale and detects scale angle to determine if angle is out of acceptable tolerance for weighing (blanks out if out of NTEP tolerance – up to 5% tilt angle)
Tilt Angle:	Up to 5% in any direction (maximum allowed by NTEP)
Paint:	UV-protected, baked-on tan powder paint
Flooring:	High-quality rubberized non-slip composite flooring with predefined floor plank seams in the scale deck help prevent debris from piling up inside and to help with cleaning
Country of Origin:	USA
NTEP Certificate of Conformance:	Certificate number 16-042 (legal for trade)
Accuracy Class:	III / IIIL
Power Requirements:	Customer supplied power (12V DC @ 7.5A minimum) or purchased battery box with battery option
Deck Height:	6 inches when in weigh mode for easy step-in
Load Cells:	NTEP stainless steel model ZX-10000 tension load cells
Gates:	Two swing gates included with customer's choice of gate opening hinge pin locations, specified at time of order.
Shipping Weights:	LSP2018-MWC225P: 5,027 lb; LSP1513-MWC225P: 4,188 lb

Standard Features

Weight Wrangler

- Durable steel cattle pens with UV-protected, baked-on tan powder paint
- Scale includes two standard gates with your choice of gate opening hinge pin locations
- Weatherproof mobile weighing center (indicator and printer) is mounted to the exterior of the livestock pen
- Cattle blind so the operator doesn't upset livestock while operating the scale during the weight transaction
- Extra storage shelf in indicator/printer cabinet for spare ticket rolls or EDI reader wand
- Weight indicator cabinet feature toolbox latches to properly secure the lids and doors
- Predefined floor plank seams in the scale deck help prevent debris from piling up inside the scale and allow the debris to fall through to the underside to help with cleaning
- USA-made stainless-steel load cells easily accessible via side access panel

Mobile Weighing Center

Cardinal Scale's USA-made legal-for-trade 225 digital weight indicator, USB drive port, and CTP-1 ticket printer combine in the weatherproof, outdoor enclosure of the Weight Wrangler's mobile weighing center. Livestock weighing transaction results are all displayed on the easy-to-read, Transflective LCD screen that remains highly visible, even in direct sunlight.

Cardinal Scale's USA-made 225 weight indicator features StableSENSE® digital filtering that filters the weight signal to produce a stable weight display in spite of motion on the scale platform due to animal movement.

- Calculates shrink loss for livestock group
- Displays current head count, gross weight, and average weight
- Also displays previous and total head count, gross weight, and average weight
- Display transaction number and transaction shrinkage
- Printable report summarizing above information per transaction
- Inclinometer detects scale angle to determine if angle is out of tolerance for making weight
- Weight indicator displays current tilt angle (blanks out if out of NTEP tolerance)
- Comes with USB port to store transactions on portable USB drive
- Transactions stored on USB drive may be summarized for printing

Options/Accessories

- Collector Panel Mount Bow (qty. 1)
- Horse Risers
- Dual Latch Gate
- Battery Box with Battery

SAFETY

Safety Symbol Definitions



DANGER! Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.



WARNING! Indicates a potentially hazardous situation that, if not avoided could result in serious injury or death, and includes hazards that are exposed when guards are removed.



CAUTION! Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

IMPORTANT! Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

GENERAL SAFETY

Do not operate or work on this equipment unless you have read and understood the instructions and warnings in this manual. Failure to follow the instructions or observe the warnings could result in injury or death. Contact Cardinal Scale Tech Support for replacement manuals. Proper care is your responsibility.



WARNING! Failure to follow instructions or observe warnings may result in serious injury or death.

- Do not allow children or inexperienced persons to operate this scale.
- Do not operate without all shields and guards in place.
- Do not use for purposes other than weighing.
- Do not place fingers into slots or possible pinch points.
- Do not place hands, feet, or any body part underneath the scale at any time. The scale could be lowered, crushing body parts.
- Do not use this product if any of the components are cracked.
- Do not exceed the rated load limit of the unit.
- Do not make alterations or modifications to the unit.
- Do not remove or obscure warning labels.
- Keep hands, feet, and loose clothing away from moving parts.
- Always be certain when lowering scale, that everyone is clear of scale and any moving parts.
- Use two hands when gripping the lift handle to raise or lower the scale.
- Be sure the gates are latched before transporting the scale.
- Ensure all suspension stops are in the transport position before moving the scale.
- The weighing platform **must be empty** when the scale is being transported.



WARNING! The Cardinal Portable Livestock Scale is not intended for the transportation or storage of any goods. The weighing platform must be empty when the scale is transported. Failure to observe this warning may result in serious injury and/or premature component failure and will void the warranty.



Animal Safety

Animal safety is a very serious issue and must be observed when handling any type of animal. The scale surface may become slippery during use; a build-up of manure on the scale may reduce traction. It is recommended that you take any necessary precautions to maintain an acceptable level of animal footing.

Calibration

This scale has been designed to be calibrated with single block weights spread evenly throughout the floor of the scale. Shift tests should not be done with more than 4,000 lb or 1,815 kg in a 4' x 4' area. Failure to comply with this warning will result in damage to the scale and void the warranty.

SLINGING THE SCALE

The Cardinal Portable Livestock Scale can be slung using four straps connected from the lifting lugs to a single point in the center. To obtain a lifting point closer to the center of gravity, straps should be one to two feet longer on the rear of the scale.

- LSP1513-MWC225P minimum strap length = 6 ft.
- LSP2018-MWC225P minimum strap length = 9 ft.

Lifting the Scale

IMPORTANT! Ensure the scale is in the transport mode when loading and transporting.

1. Lift the scale only using the lifting fixtures installed in the designated locations.
2. The scale may be lifted using four straps by a crane or loader.
3. The scale can now be placed on a relatively flat location.



Removing the Lifting Fixture

After the scale has been placed in position, remove the lifting fixture from the inside of the scale cage to prevent injury to livestock.

1. On the outside of the scale cage frame, remove the locknut from the bolt installed for shipping.
2. Remove the lifting fixture and bolt from inside the scale cage.
3. Using the holes that run parallel to scale cage frame (90 degrees from where the bolt was just removed), install the lifting fixture on the outside of the frame, securing it with the bolt and locknut.

WEIGH MODE SETUP

Use the following instructions to convert the scale from Transport mode to Weigh mode.

1. Place the scale on the most level location available. Ensure there are no obstructions or debris under the scale that would affect weighing accuracy.

NOTE: The scale will weigh properly on up to a 5% tilt angle.

2. Turn the power switch, located in the weigh center, to the ON position.
3. If the scale is not level, the indicator will display dashes and **NO WEIGHT** along with the out-of-tolerance angle measurements (Pitch and Roll) as a percentage. Pitch refers to the scale's rotation front to back, and Roll refers to the scale's motion side to side (front to back from indicator's perspective). Using shims may level the scale. If the out-of-tolerance angle is too great, the scale will need to be moved to a more level location.
4. Inspect all four corners of the scale. Although the scale will weigh properly up to five degrees off level, individual corners of the scale should not be allowed to teeter. If any of the corners are not contacting the ground, either move the scale to a more level location or install shims.
5. Place shims under the base frame, *directly* under the load cell stands to level the scale.



- Using both hands, securely grip the cam handle and rotate it in towards the center of the scale to raise the platform and enable the scale. Repeat for each corner of the scale.

NOTE: The Cam levers point OUT away from the center of scale (and each other) in the Transport mode and IN towards the center of scale (and each other) in the Weigh mode. Refer to the decals on each load cell tower cover for direction of levers in each mode.



WARNING! The lift mechanism is an over center cam-style lift and lock. Always grip lift handle with two hands *securely* when raising and lowering the scale.



- Ensure the MWC225P indicator is showing zero weight.

INSTALLING GATHERING PANELS

1. On the corner of the scale frame, locate the opening for the gathering panel.
2. Insert the tube from the gathering panel into the frame opening.
3. Position the gathering panel at the desired angle away from the scale.



Note that the gate will only open slightly past 90 degrees from the cage. Position the gathering panel on the gate side so that it is close but not touching the gate to avoid a gap large enough for livestock to get trapped between the gathering panel and the gate.

IMPORTANT! When installing the gathering panels, make sure the gathering panels DO NOT touch the scale cage. Touching the scale cage will cause inaccurate weigh readings.





CAUTION! The Gathering Panels must be removed from the scale during transport. Do not store the gathering panels in the scale during transport. The weighing platform must be empty when the scale is transported. Failure to observe this warning may result in serious injury and/or premature component failure and will void the warranty.



MWC225P MOBILE WEIGH CENTER



IMPORTANT! The power required to operate the MWC225P Mobile Weigh Center (12 VDC @ 7.5A minimum), is supplied by the customer or the purchased battery box with battery option. See SCALE WIRING DIAGRAM for power connection details.

This section is a guide to the setup and operation of the MWC225P Mobile Weigh Center special application for the LSP Series scales. It should be used in addition to the 225 WEIGHT INDICATOR Installation and Technical Manual, 8200-M698-O1. That manual should be consulted for information concerning installation, operation, and service of the 225 Weight Indicator.

The MWC225P is for use with the LSP Series portable livestock scale. It collects head count, total weight, average weight per head, shrinkage and stores transactions to a thumb drive. An inclinometer measures scale tilt to ensure it is within the appropriate range and, if not, stops weighing until tilt is brought back in tolerance. This is to ensure all weighments are accurate.

Setup

Hold down the **SHIFT** key and then press the Navigation **ENTER** key (red square key in center of Navigation arrows, to the right of the weight display).

If a password has been entered (*Refer to the 225 WEIGHT INDICATOR Installation and Technical Manual, 8200-M698-O1*), then at the **PASSWORD=** prompt, key in the password and press the **ENTER** key.

Calibrating Inclinometer (On level surface, using mechanical level on scale frame)

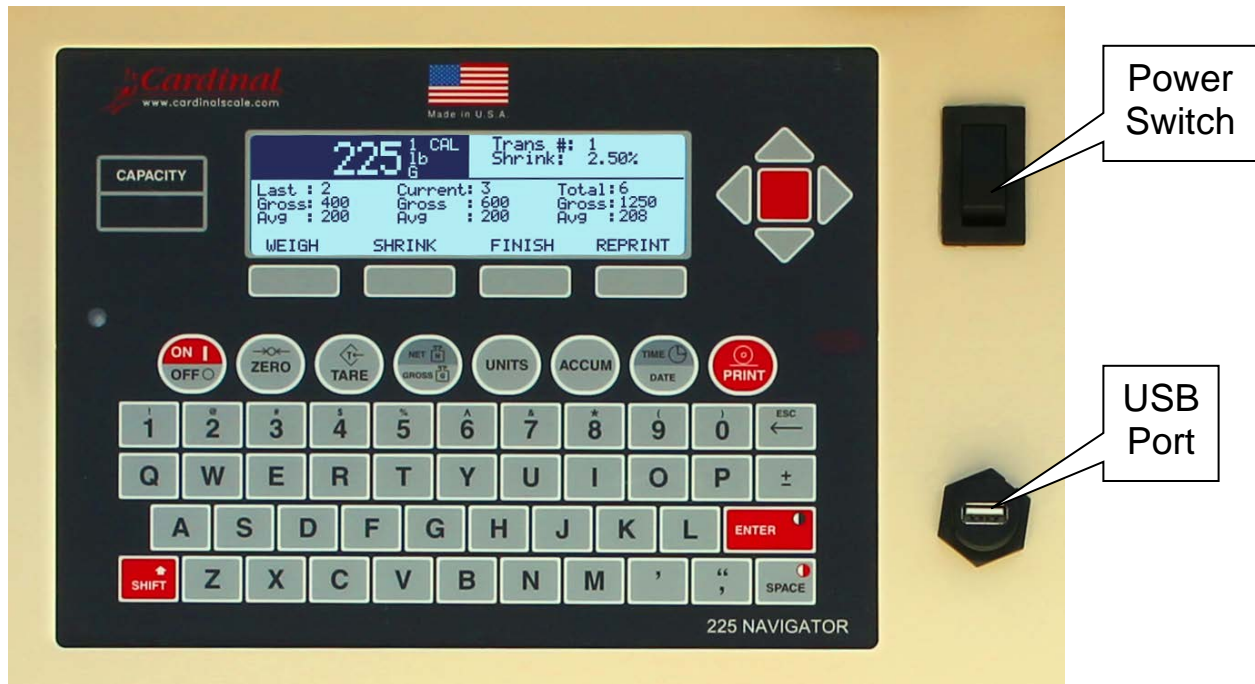
1. Navigate to SETUP MENU #3.
2. Press **8** – **ENTER** to enter the **CAL ANGLE** menu.
3. Press **1** – **ENTER** to modify the pitch angle (front to back of scale, left to right of 225)
 - a. 225 will display **Enter current angle (in degrees) = 0.0**.
 - b. To set current angle to 0 simply press **ENTER**.
 - c. To set current angle to some externally measured angle enter the new angle and press **ENTER**.
 - d. Calibration takes several seconds. If the calibration was successful, the 225 will display **—SUCCESS—**. If the calibration fails, the 225 will display **ERROR**.
4. Press **2** – **ENTER** to modify the roll angle (sideways roll of scale, front to back of 225)
 - a. 225 will display **Enter current angle (in degrees) = 0.0**.
 - b. To set current angle to 0 simply press **ENTER**.
 - c. To set current angle to some externally measured angle, enter the new angle and press **ENTER**.
 - d. Calibration takes several seconds. If the calibration was successful, the 225 will display **—SUCCESS—**. If the calibration fails, the 225 will display **ERROR**.

To DEFAULT angle calibration press **3** – **ENTER** to select **Default Angle Cal**.

MWC225P Indicator



The MWC225P will only display weight when the scale is on a level plane within tolerance. If the scale is tilted out of tolerance the indicator will display dashes and **NO WEIGHT** along with the out-of-tolerance angle measurements (Pitch and Roll) as a percentage. Pitch refers to the scale's rotation front to back, and Roll refers to the scale's motion side to side (front to back from indicator's perspective).



Soft Keys

WEIGH

Press to begin weighing animals. Prompts for head count, and then starts printing a ticket with current animals on scale. The head count, current count along with the Gross weight and Average weight per head, will be displayed and added to running transaction totals.

SHRINK

Allows user to view and/or modify the shrink value when weighing animals. This value can be modified at any time before the **FINISH** key is pressed. This is the percentage removed from the total gross weight as shrinkage.

FINISH

Press to complete current batch of animals and print the transaction totals.

REPRINT

Reprints the last ticket any time *prior* to starting the next batch.

MWC225P Indicator Operations

Power the Scale

Press the power switch to turn the indicator ON.

Enter the Shrink Value

The shrink value is the percentage removed from the total gross weight as shrinkage. It is limited to a range from 0.00 to 100.00 percent.

Press the **SHRINK** key at any time to view and/or modify the shrink percentage.

Enter the Number of Animals

1. Insert a ticket into the printer. Press **FORWARD** on the printer to secure the ticket.
2. Verify the scale is level and within tolerance. If scale is tilted out of tolerance the indicator will display dashes and **NO WEIGHT**, along with the out-of-tolerance angle measurements (Pitch and Roll) as a percentage.
3. Press **ZERO** key to re-zero scale if needed.
4. Load animals onto scale.
5. Press **WEIGH** key.
6. The indicator will prompt **ENTER HEAD COUNT**. Using keypad, enter the number of animals and press **ENTER** key. The head count, current count along with the Gross weight and Average weight per head will be displayed and a ticket will begin to print and advance.
Each time **WEIGH** key is pressed, the weighment will display the head count in the center column (as Current count), along with the Gross weight and Avg (average) weight per head. The left column is the previous weighment. The right column is the running total.
7. Unload animals from scale.
8. Follow steps 4 through 7 until all animals from the current batch have been weighed.
9. Press **FINISH** key to complete current batch of animals.

The shrinkage percentage will be applied and the transaction totals will be printed (before they are reset). Pressing this key terminates the transaction, resets all the counts to zero and increments the transaction number.

10. Press **REPRINT** key at any time *prior* to starting the next batch to reprint the last ticket.

NOTE:

The transaction number can be modified (before a transaction) by pressing the **TIME/DATE** key. Press the **ENTER** key twice to skip the Time and Date prompts, and then the 225 will prompt **Trans Num: XXXXX**. Using the numeric keys, enter the new transaction number and then press the **ENTER** key.

Printing

The following is an example ticket:

22:15 11/02/2016
Trans #: 3

Head	Weight	Avg Wt
8	6515 lb	814
10	7245 lb	724
7	5745 lb	820
25	19505 lb	780 Gross
	19114 lb	764 Net
		2.00% shrink

On the first animal/group weighment, time, date, transaction number, and column headers are printed along with the first weighment.

Each subsequent weighment prints only the head, weight, and avg.

Terminating a transaction by pressing the FINISH soft key totals all the numbers, applies shrinkage and prints the total gross, total net, and shrink percentage where:

$$\text{Net} = \text{Gross} * (1 - \text{shrink_percentage})$$



IMPORTANT! The printer Operating Temperature Range is 41°F to 104°F.

USB Thumb Drive

A transaction will also be stored on a thumb drive if one is installed (upon pressing the FINISH key). Data stored is in a comma delimited format as follows:

TRANS #, DATE, TIME, TOTAL HEAD CNT, TOTAL GROSS, SHRINK<CR><LF>

Summary information from all transactions stored on the thumb drive may be printed by pressing SHIFT + TOT_PRINT soft key.

TRANSPORT MODE SETUP

Use the following instructions to convert the scale from Weigh mode to Transport mode.

1. Turn off the power switch located in the weigh center. Close and latch the weigh center cover.
2. On each corner of the scale, using both hands, securely grip the cam handle and rotate it away from the center of the scale to lower the platform and disengage the scale.

NOTE: The Cam levers point OUT away from the center of scale (and each other) in the Transport mode and IN towards the center of scale (and each other) in the Weigh mode. Refer to the decals on each load cell tower cover for direction of levers in each mode.



WARNING! The lift mechanism is an over center cam-style lift and lock. Always grip lift handle with two hands *securely* when raising and lowering the scale.



Install the Lifting Fixture

After the scale has been placed in the Transport Mode, remove the lifting fixture from the outside of the scale cage, and re-install inside the scale cage.

1. Remove the bolt, locknut, and lifting fixture from the outside of the scale cage.
2. Using the holes that run through the scale cage frame (90 degrees from where the bolt was just removed), install the lifting fixture on the inside of the scale cage securing it with the bolt and locknut.

Lifting the Scale



WARNING! Do not move the scale until it is in transport mode. The scale is not intended for the transportation or storage of any goods. The weighing platform must be empty when the scale is transported. Failure to observe this warning may result in serious injury and/or premature component failure and will void the warranty.

- Lift the scale only by the lifting fixtures installed in the designated locations.
- The scale may be lifted using four straps by a crane or loader.



TROUBLESHOOTING

Symptom	Probable Cause	Action
The scale indicator will not power up.	Voltage is less than 11 volts.	Repair faulty electrical system. The scale indicator panel requires at least 11 volts to operate properly.
Indicator turns off or resets in the middle of a transaction.	Low voltage to control panel.	Check other electrical equipment that may be operating. Check for corrosion or damaged wiring. Measure voltage.
The weight reading on the indicator is unstable.	The circuit board in the control panel may be wet or the junction box for the load cells may have moisture.	Dry any areas that are contaminated with moisture. Check for leaks and reseal.
	A load cell cable may be pinched or damaged.	Contact Cardinal Tech Support or a qualified dealer for support. Cutting the load cell cable will void the warranty. Special repair techniques are required.
The scale has a positive error when loading or a negative error when unloading.	Mechanical binding problem on scale	Check for debris around or under the scale. Check each load cell location for foreign material. Check all items that run from on the scale to off the scale. Check all gates or gathering panels for contact.
The scale has a negative error when loading or a positive error when unloading.	Moisture is present somewhere in the electrical system.	Dry any areas that are contaminated with moisture. Check for leaks and reseal.
Scale will not ZERO.	Weight on scale larger than the allowable ZERO amount.	Clean the scale deck of debris, and then Zero the scale.

TROUBLESHOOTING, CONT.

Symptom	Probable Cause	Action
Printer is not functioning – nothing is being printed.	Is the release light on the printer flashing? This could indicate a low voltage to the printer	The scale system requires at least 11 volts to operate properly.
	The print head may be jammed with paper	Remove the print head cover and ribbon, and check for bits of paper stuck in the paper feed mechanism.
	The print head may be packed with dirt from operating in dusty conditions	Remove the print head cover and ribbon, and blow out with air. If the printer is very dirty, it may require service by a qualified technician.
The printer is printing unrecognizable characters.	The power supply is excessively noisy.	Contact Cardinal Tech Support or a qualified dealer.
The printing on the ticket is faint or hard to read.	The printer's ink ribbon may need to be replaced.	Replace ribbon.
	The printer head may be damaged.	Requires service by a qualified technician.

STATEMENT OF LIMITED WARRANTY

WARRANTY TERMS

Cardinal Scale Manufacturing Company warrants the equipment we manufacture against defects in material and workmanship. The length and terms and conditions of these warranties vary with the type of product and are summarized below:

PRODUCT TYPE	TERM	MATERIAL AND WORKMANSHIP	LIGHTNING DAMAGE See note 9	WATER DAMAGE See note 7	CORROSION See note 4	ON-SITE LABOR	LIMITATIONS AND REQUIREMENTS
WEIGHT INDICATORS	90 DAY REPLACEMENT ----- 1 YEAR PARTS	YES	YES	YES	YES	NO	1, 2, 3, 5, 6 A, B, C, D
LOAD CELLS (Excluding Hydraulic)	1 YEAR	YES	YES	YES	YES	NO	1, 2, 3, 5, 6 A, B, C, D
HYDRAULIC LOAD CELLS (When purchased with Guardian Vehicle Scale)	LIFETIME	YES	YES	YES	YES	90 DAYS	1, 5, 6, 8 A, B, C, D
HYDRAULIC LOAD CELLS (When purchased separately)	10 YEARS	YES	YES	YES	YES	NO	1, 5, 6, 8, 9 A, B, C, D
VEHICLE SCALE (Deck and Below Excl. PSC Series)	5 YEARS	YES	YES	YES	YES	90 DAYS	1, 2, 3, 5, 6 A, B, C, D, E
LSC SCALE (Deck and Below)	3 YEARS	YES	YES	YES	YES	90 DAYS	1, 2, 3, 5, 6, 11 A, B, C, D
GUARDIAN FLOOR SCALES	10 YEARS	YES	YES	YES	YES	NO	1, 2, 3, 5, 6, 9, 10 A, B, C, D
ALL OTHER CARDINAL PRODUCTS	1 YEAR	YES	YES	YES	YES	NO	1, 2, 5, 6 A, B, C, D, E
REPLACEMENT PARTS	90 DAYS	YES	YES	YES	YES	NO	1, 2, 4, 5, 6 A, B, C, D
SWIM AND 760 SERIES VEHICLE SCALES	1 YEAR	YES	YES	YES	YES	90 DAYS	1, 2, 5, 6 A, B, C, D
SOFTWARE	90 DAYS	YES	N/A	N/A	N/A	NO	1, 6 B, C, D
CONVEYOR BELT SCALES (including Belt-Way)	1 YEAR	YES	YES	YES	YES	NO	1, 2, 3, 5, 6 A, B, C, D, E, F



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APPLICABLE LIMITATIONS AND REQUIREMENTS

1. This warranty applies only to the original purchaser. The warranty does not apply to equipment that has been tampered with, defaced, damaged, or had repairs or modifications not authorized by Cardinal or has had the serial number altered, defaced or removed.
2. This warranty is not applicable to equipment that has not been grounded in accordance with Cardinal's recommendations.
3. This equipment must be installed and continuously maintained by an authorized Cardinal / Belt-Way dealer.
4. Applies only to components constructed from stainless steel.
5. This warranty does not apply to equipment damaged in transit. Claims for such damage must be made with the responsible freight carrier in accordance with freight carrier regulations.
6. Warranty term begins with date of shipment from Cardinal.
7. Only if device is rated NEMA 4 or better or IP equivalent.
8. Lifetime warranty applies to damages resulting from water, lightning, and voltage transients and applies only to the hydraulic load cell structure itself (does not include pressure transducers, rubber seals, o-rings, and associated wiring).
9. 10-Year prorated warranty on hydraulic load cells.
10. 1-Year warranty for scale structure.
11. PSC models' warranty coverage applies only to agricultural installations on farms up to 3,000 acres (LSC models not limited in this manner).
12. Load cell kits MUST be installed in accordance with Cardinal Scale instructions. Failure to follow these instructions will void the warranty.

EXCLUSIONS

- A.) This warranty does not include replacement of consumable or expendable parts. The warranty does not apply to any item that has been damaged due to unusual wear, abuse, improper line voltage, overloading, theft, fire, water, prolonged storage or exposure while in purchaser's possession or acts of God unless otherwise stated herein.
- B.) This warranty does not apply to peripheral equipment not manufactured by Cardinal. This equipment will normally be covered by the equipment manufacturer's warranty.
- C.) This warranty sets forth the extent of our liability for breach of any warranty or deficiency in connection with the sale or use of our product. Cardinal will not be liable for consequential damages of any nature, including but not limited to loss of profit, delays or expenses, whether based on tort or contract. Cardinal reserves the right to incorporate improvements in material and design without notice and is not obligated to incorporate said improvements in equipment previously manufactured.
- D.) This warranty is in lieu of all other warranties expressed or implied including any warranty that extends beyond the description of the product including any warranty of merchantability or fitness for a particular purpose. This warranty covers only those Cardinal products installed in the forty-eight contiguous United States and Canada.
- E.) This warranty does not cover paint coatings due to the variety of environmental conditions.
- F.) Do not cut load cell cables on load cells returned for credit or warranty replacement. Cutting the cable will void the warranty.
- G.) Software is warranted only for performance of the functions listed in the software manual and/or the Cardinal proposal.
- H.) The software warranty does not cover hardware. Warranties on hardware are provided from the hardware vendor only.
- I.) The software warranty does not cover interfacing issues to non-Cardinal supplied hardware.
- J.) The software warranty does not include automatic software upgrades unless purchased separately.



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