iDimension® PWD

Static Dimensioning System

Assembly Manual





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Revision History

This section tracks and describes manual revisions for awareness of major updates.

Revision	Date	Description	
С	April 10, 2023	Revision History Established; Added 1280 information	

Table i. Revision Letter History



Technical training seminars are available through Rice Lake Weighing Systems. Course descriptions and dates can be viewed at **www.ricelake.com/training** or obtained by calling 715-234-9171 and asking for the training department.

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Rice Lake continually offers web-based video training on a growing selection of product-related topics at no cost. Visit www.ricelake.com/webinars

1.0 Introduction

This manual provides an overview of the iDimension PWD assembly instructions.

When interfacing this device to a third party program, please reference the software manufacturer's documentation for setup and configuration parameters as necessary.



Manuals and additional resources are available from Rice Lake Weighing Systems at www.ricelake.com/manuals Warranty information is available at www.ricelake.com/warranties

1.1 Additional Resources

iDimension PWD Operation Manual

The iDimension PWD Operation Manual (PN 198811) provides a detailed overview of the installation requirements, operation of the iDimension PWD and configuration parameters to change in the QubeVu Manager to alter the performance of the unit. The iDimension PWD Operation Manual is provided with each unit.

iDimension PWD Setup Manual

The iDimension PWD Setup Manual (PN 199543) provides an overview on how to setup QubeVu Manager for the iDimension PWD.

iDimension PWD Manager Guide

The iDimension PWD Managers Guide (PN 198680) provides an overview of the installation requirements, operation of the iDimension PWD and configuration parameters to change in the QubeVu Manager to alter the performance of the unit. The iDimension PWD Managers Manual is provided with each unit.

880 Performance™ Series Controller and Indicator Technical Manual

The 880 Performance Series Controller and Indicator Technical Manual (PN 158387) provides a detailed overview of the 880 indicator installation, configuration and operation procedures.

1280 Enterprise™ Series Color Touchscreen Programmable Indicator Technical Manual

The 1280 Enterprise Series Color Touchscreen Programmable Indicator Technical Manual (PN 167659) provides a detailed overview of the 1280 indicator installation, configuration and operation procedures.

SUMMIT® 3000 Installation Manual

The SUMMIT 3000 Installation Manual (PN 76012) provides an overview of the SUMMIT 3000 installation procedure.

1.2 Regulatory Information

This product is a Class 1 Laser Product according to IEC 60825-1:2007 Ed. 2.0 and complies with 21 CFR 1040.1 pursuant to Laser Notice No. 50. A laser source with a diffraction optical element is embedded in the product, which produces a maximum output power of 1.1 mW at the aperture with a maximum wavelength of 825 nm.

1.3 FCC Compliance

United States

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescites dans le Règlement sur le brouillage radioélectrique edicté par le ministère des Communications du Canada.

1.4 Safety

Safety Definitions:



DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.



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



CAUTION: Indicates a potentially hazardous situation that, if not avoided, could 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 this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.



WARNING

Failure to heed could result in serious injury or death.

Electric shock hazard!

There are no user serviceable parts. Refer to qualified service personnel for service.

The unit has no power switch, to completely remove power from the unit, disconnect the power source at the AC outlet.

For pluggable equipment the socket outlet must be installed near the equipment and must be easily accessible.

When cycling power, use the in-line power cord at a power outlet.

Always disconnect from main power before performing any work on the device.

Do not allow minors (children) or inexperienced persons to operate this unit.

Do not place fingers into slots or possible pinch points.

Do not use this product if any of the components are cracked.

Do not make alterations or modifications to the unit.

Do not remove or obscure warning labels.

Do not use near water, avoid contact with excessive moisture.

Keep the unit dry.

Retain packaging. When transporting the unit, always disassemble and pack it in its original packaging.

Operate between 41-104° F (5-40° C).

Never modify or attempt to repair the unit. Service must be performed by Rice Lake Weighing Systems only.

Handle cables and cable connectors with care. Never use damaged power cords or plugs or loose electrical sockets. Never touch the power cord with wet hands.

Ensure that the base plate, pole assembly and head unit are all securely attached before attempting to move the unit.

Ensure that both sections of the pole assembly and the base plate are supported.

Mount on a flat surface.

Follow OSHA regulations for installation and use of equipment.



1.5 Dimensions

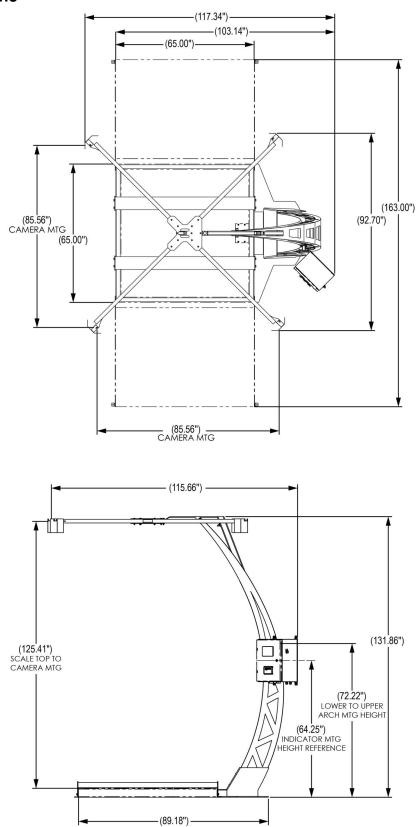


Figure 1-1. iDimension PWD Dimensions

2.0 Replacement Parts

This section provides an overview of the replacement parts for the iDimension PWD.

2.1 iDimension PWD

Immediately after unpacking the iDimension PWD, visually inspect the contents to ensure all components are included and undamaged. If any parts were damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately.

The iDimension PWD is packaged with the following parts (Table 2-1 on page 9):

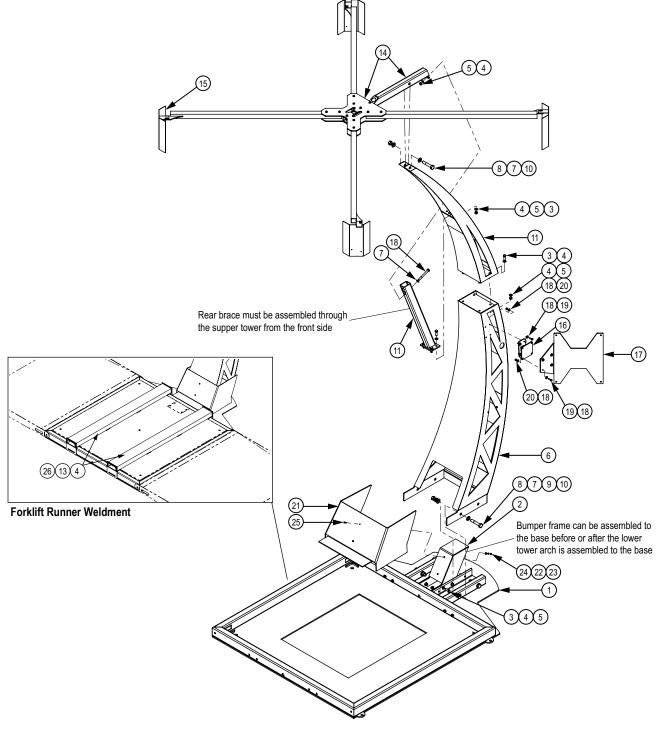


Figure 2-1. iDimension PWD Parts

Item No.	Part No.	. Description	
1	199583	Scale Base Weldment	1
2	199618	Bumper Frame Assembly	
3	15059	Screw, Cap 1/2-13NC x 1-1/2 Hex	
4	15173	Washer, Plain 1/2 Type B Series N Steel Zinc Plated	
5	14672	Nut, 1/2-13NC Hex Steel Clear Zinc Plated	13
6	199589	Lower Tower Assembly	1
7	15179	Washer, Plain 3/4 Type A Series N Zinc Plated	10
8	15099	Screw, Cap 3/4-10NC x 3-3/4 Hex	
9	15181	Washer, Split Lock 3/4 Steel Zinc Plated	4
3	15059	Bolt, 3/4-10NC x 3-3/4	4
10	159939	Nut, 3/4-10NC Hex Grade 5 Zinc Plated	5
11	199596	Upper Tower Assembly	1
12	199602	Back Brace Assembly	1
13	68342	Screw, Cap 1/2-13NC x 4-1/2 Hex Steel Zinc Plated	
14	199617	Spider Mount Assembly	
15	199619	Sensor Shroud	
16	199582	Kiosk Box Mount Assembly	1
17	199612	Kiosk Box Mount Plate, X Design	1
18	21939 Washer, Plain 5/16 Type A Series N Steel Zinc Plated		16
19	14998	Screw, Cap 5/16-18NC x 1 Hex Head	8
20	14647	Nut, 5/16-18NC Hex Steel Zinc Plated	8
21	199692	Bumper Mount Cover	
22	15145	Washer, Plain 1/4 Type A Series N Steel Zinc Plated	
23	15147	Washer, Split Lock 1/4 Steel Zinc Plated	
24	14641	Nut, 1/4-20NC Hex Steel Clear Zinc Plated	
25	14969	Screw, Cap 1/4-20NC x 1 Hex	
26	199639	9639 Lift Bracket	

Table 2-1. iDimension PWD Parts List (PN 199318)



2.1.1 Available Kits

Calibration Kit

See the iDimension PWD Setup Manual (PN 199543) for calibration instructions.

Part No.	Description	Qty.
187091	Calibration Object 7x 8 Squares	1

Table 2-2. Calibration Kit Parts List (PN 189498)

Remote IFM Sensor Kit

See Figure 3-10 on page 18 for installation instructions.

Part No.	Description	Qty.
186370	Heat Sink	1
187199	Mounting Bracket	4
194731	Screw, M5 x .8 x 80	
195405	Remote IFM Sensor L1	1
195406	Remote IFM Sensor L2	1
195407	Remote IFM Sensor L3	1
195408	Remote IFM Sensor L4	1

Table 2-3. Remote IFM Sensor Kit Parts List (PN 200164)

Optional Pallet Jack Ramp Kit

See Section 3.2.1 on page 29 for installation instructions.

Part No.	Description	Qty.
14752	Bolt, 1/2-13 NC x 1-1/4 HEX	2
199623	Pallet Jack Ramp	1

Table 2-4. Optional Pallet Jack Ramp Kit Parts List (PN 199665)

Optional IP Camera Kit

See Section 3.2.2 on page 31 for installation instructions.

Part No.	Description	Qty.
14635	Nut, Lock 1/4-20 NC Hex	2
14916	Screw, Cap 6-32 NC x 1 Hex	2
15145	Washer, Plain 1/4 Type A	2
15631	Cable Tie, 3" Nylon	2
15650	Mount, Cable Tie 3/4" Nylon	2
188334	IP Camera	1
200178	Cable, Ethernet 20'	1
200829	Camera Bracket	1
200830	Camera Plate	1
58248	Nut, Lock 6-32 NC Hex Nylon	2
79989	Cable Tie, Black Nylon	3

Table 2-5. Optional IP Camera Kit Parts List (PN 189498)

Optional Remote IFM Sensor Kit

See Section 3.2.3 on page 32 for installation instructions.

Part No.	Description	
186371	Mount Rod	1
187199	Mounting Bracket	1
188190	Cable, 4-wire Patch M12 Male/RJ 45 Ethernet Crossover Cable Straight Connectors	1
188191	Corset, 5-wire Micro DC Straight Connector	1
195409	Remote IFM Sensor	1

Table 2-6. Optional Remote IFM Sensor Kit Parts List (PN 199666)

2.1.2 880 Performance Series Controller and Indicator

For information about the 880 Panel Mount Indicator (PN 177976), see the 880 Performance Series Controller and Indicator Technical Manual (PN 158387).

880 Sealing Kit

Refer to the 880 Performance Series Technical Manual (158387) for installation instructions.

Part No.	Description	Qty.
153660	Kit, Sealing Metrological	1

Table 2-7. 880 Sealing Kit

2.1.3 1280 Enterprise Series Color Touchscreen Programmable Indicator

For information about the sealing the 1280 Panel Mount Indicator, see the 1280 Enterprise Series Color Touchscreen Programmable Indicator Technical Manual (PN 167659).



2.1.4 SUMMIT 3000

For additional information, see the SUMMIT 3000 Installation Manual (PN 76012).

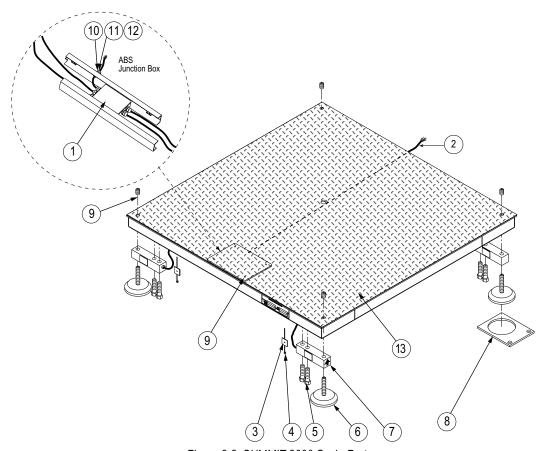


Figure 2-2. SUMMIT 3000 Scale Parts

SUMMIT 3000 Scale Parts

Item No.	Part No.	Description	
1	73428	Junction Box,	1
		ABS Plastic - 4 Channel, Signal Trim	
2	76015	Cable, 6-wire, Deck to Indicator	1
3	15658	Cable Tie Mount, 1" Square	4
4	15631	Cable Tie, 3"	4
5	15071	Load Cell Screw	8
6	73801	Foot Assembly	4
7	189154	Load Cell, SEB RL32018 2500 lb 20" 3 mv/v	4
8	75819	Mounting Plate (Set of Two Plates)	
9	14960	Junction Box Cover Screw	4
10	66454	Cord Grip (Snap-in) (3 x 3 and 4 x 4 Models)	1
11	15628	Cord grip, Black 1/2"	1
		4 x 4 Models and 5 x 5 Models	
12	15630	Nut, Cord Grip 1/2"	
13	200268	Platform Scale WLDT,	
		5" x 5" x 2-3/16 Steel Deck	
_	82763	Hardware Kit, Summit	

Table 2-8. SUMMIT 3000 Scale Parts List (PN 192274)

SUMMIT Scale Hardware Kit

Part No.	Description	Qty.
15071	Screw, Cap 1/2 – 20NF x 1.939	8
15631	Cable Tie, 3" Nylon	4
15658	Mount, Cable Tie 1"	4
53640	Cable, Assembly, Mini Conx M	1
66454	Cord Grip, Snap in Straight	1
69602	Tape, Wire Marker No. 1	2
69603	Tape, Wire Marker No. 2	2
69604	Tape, Wire Marker No. 3	2
69605	Tape, Wire Marker No. 4	4
73801	Foot, Floor Scale Rigid	1

Table 2-9. SUMMIT Scale Package Parts List (PN 82763)



Assembly 3.0

This section provides an overview of iDimension PWD assembly procedure.



IMPORTANT: Prior to assembly of the iDimension PWD, refer to the indicator and scale manuals in Section 1.1 on page 5 for proper installation and operation procedures.

Unit Assembly 3.1

To assemble the iDimension PWD, follow the procedures below:

3.1.1 **Scale Base**

- 1. Remove the scale base from the carton using the lift brackets.
- 2. Place the scale base on a level surface.
- 3. Uninstall the hardware securing the lift brackets.
- 4. Remove the lift bracket from the scale base.



NOTE: Set aside the lift brackets and hardware for future use.

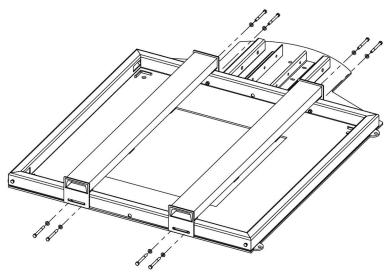


Figure 3-1. Lift Bracket Removal

5. Slide four neoprene pads under each foot and one neoprene pad under the back of the scale base.

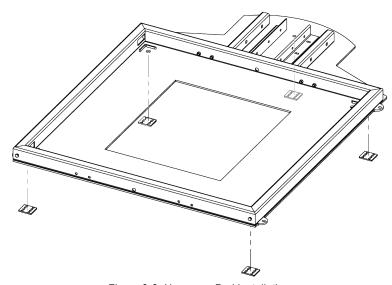


Figure 3-2. Neoprene Pad Installation

6. Anchor the scale base by using the mounting points as guides.



- Drill pilot holes into the floor for suitable anchor bolts.
- Secure scale base to the floor using 1/2" anchor bolts (not included).

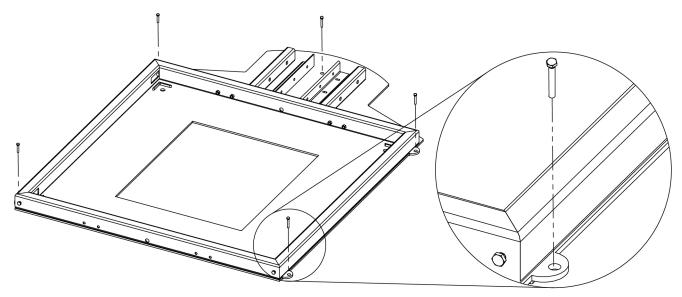


Figure 3-3. Anchor Bolt Locations

Bumper Mount 3.1.2

Secure the scale bumper mount onto the frame rails of the scale base.

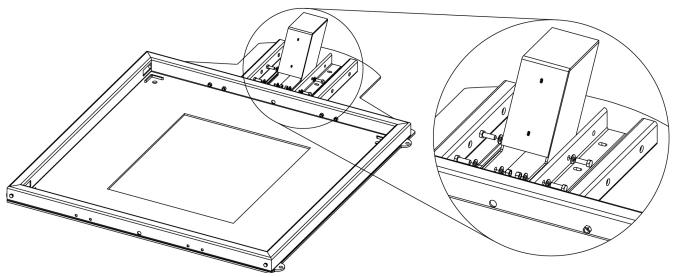


Figure 3-4. Bumper Mount Assembly

NOTE: If the scale bumper mount is already installed, see Section 3.1.3 on page 14.

3.1.3 Tower Assembly

- 1. Secure the lower tower assembly onto the scale base.
- 2. Repeat hardware installation for both sides of the assembly.

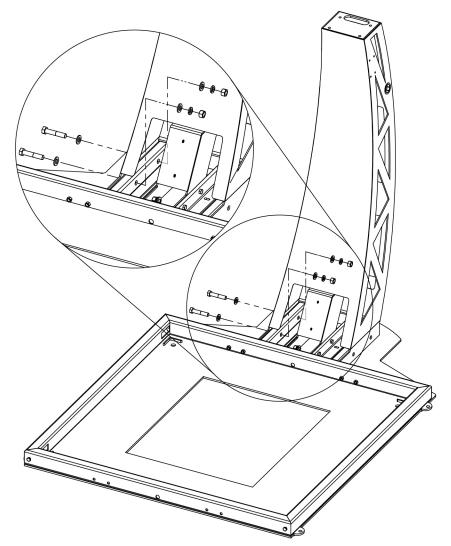
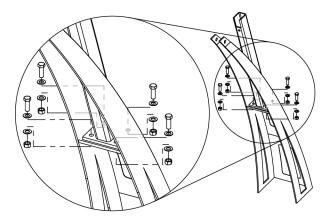


Figure 3-5. Lower Tower Assembly

3. Secure the back brace onto the upper tower assembly.



Parts of the assembly are hidden

Figure 3-6. Back Brace

4. Secure the upper tower assembly onto the lower tower assembly.

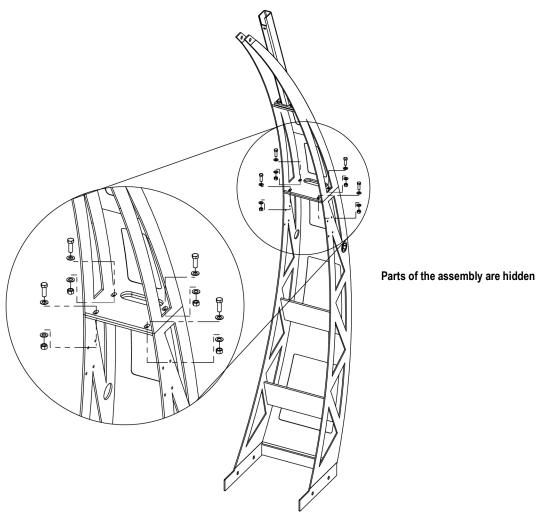


Figure 3-7. Tower Assembly

3.1.4 **Spider Mount Assembly**

1. Extend the spider mount arms in position.



NOTE: The spider mount arms may be extended into position after mounting to the back brace (Figure 3-6 on page 15).

- 2. Secure the spider mount arms once extended into place.
- 3. Lift the spider mount assembly to the upper tower assembly.
- 4. Secure the spider mount assembly to the upper tower assembly back brace.

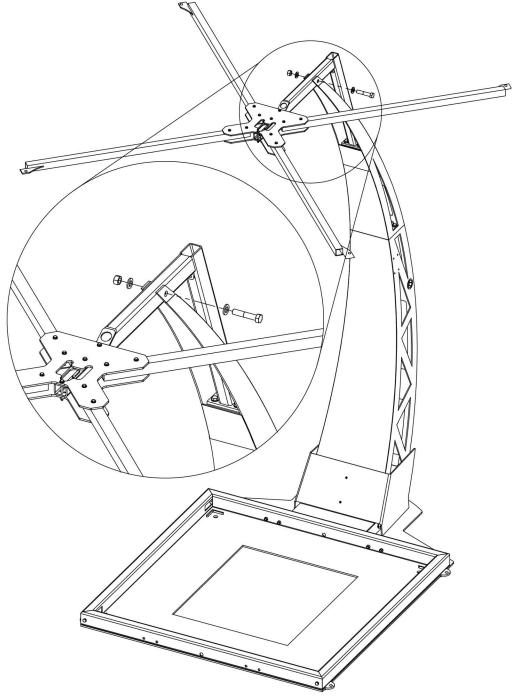


Figure 3-8. Spider Tower Assembly Attachment

5. Attach the leveling bolt to the back brace and the spider assembly support. The bolt is fed through the back brace to the front brace.

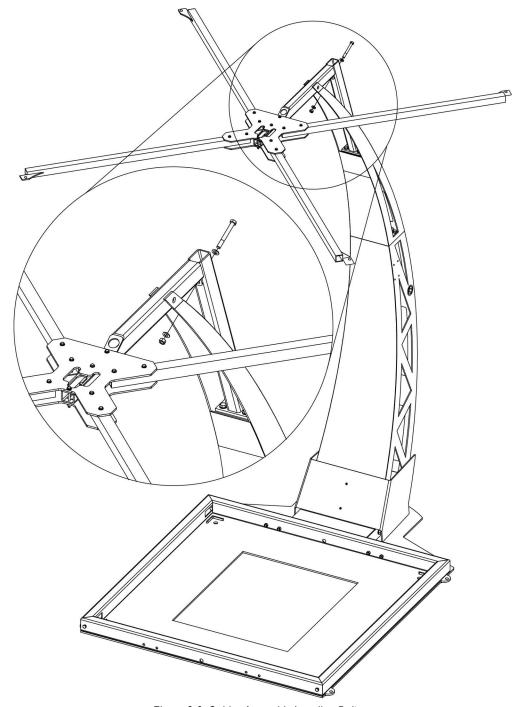


Figure 3-9. Spider Assembly Leveling Bolt

- 6. Feed the spider assembly cables through the back brace of the upper tower assembly.
- 7. Secure the sensor mounting bracket to the sensor by following the remote IFM sensor instructions, provided with the unit.
- 8. Place the two halves of the rod mount into the bracket.

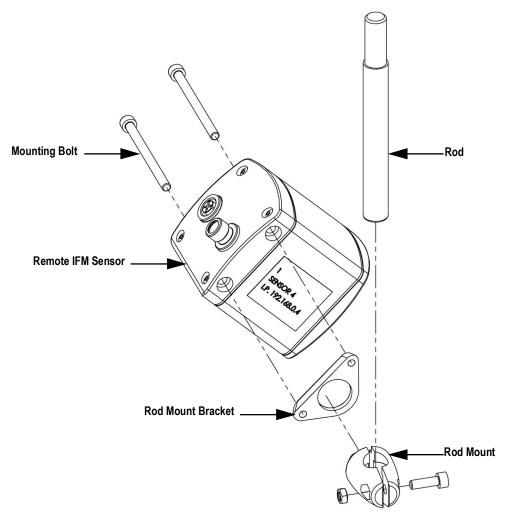


Figure 3-10. Remote IFM Sensor Assembly

9. Secure the rod of the remote IFM sensor assembly to the shield mount through the slotted plates found on both the shield mount and at the end of each spider assembly arm.



NOTE: The sensor shield is secured by the remote IFM sensor assembly.

Orient the sensor downwards with the power connector pointing towards the assembly.

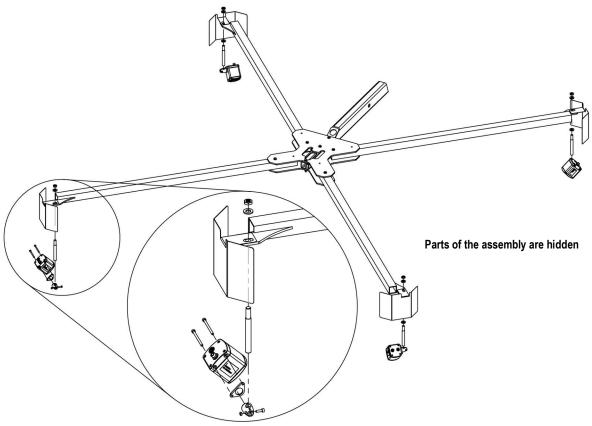


Figure 3-11. Remote IFM Sensor Assembly Attachment

- 10. Repeat the previous steps for each sensor.
- 11. Connect the power and ethernet cables to each sensor.

3.1.5 Kiosk Mount Installation

Use the following procedure to mount the kiosk:

1. Attach the mount bracket to the lower tower assembly.

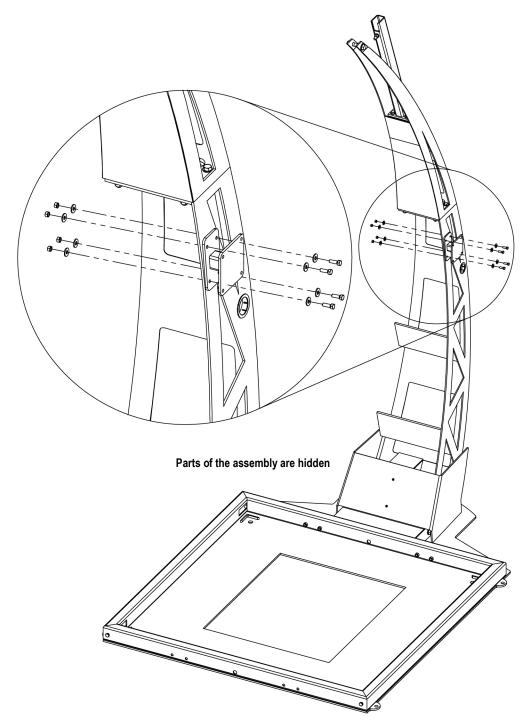


Figure 3-12. Kiosk Mount Bracket

NOTE: The kiosk mount may be installed on either side of the lower tower assembly. If the kiosk mount is installed on the opposite side of the assembly shown in Figure 3-12, the kiosk mount must be rotated 180°.

2. Attach the kiosk mount to the mount bracket.

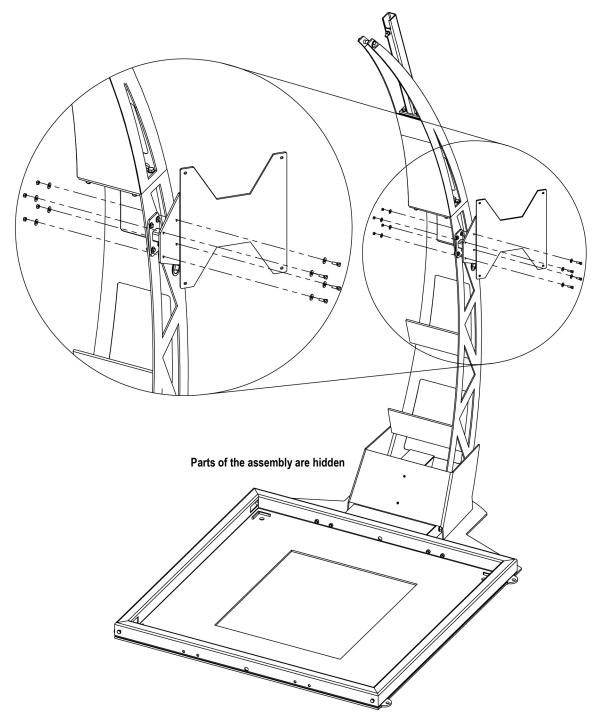


Figure 3-13. Kiosk Mount

3. Attach the kiosk to the kiosk mount.

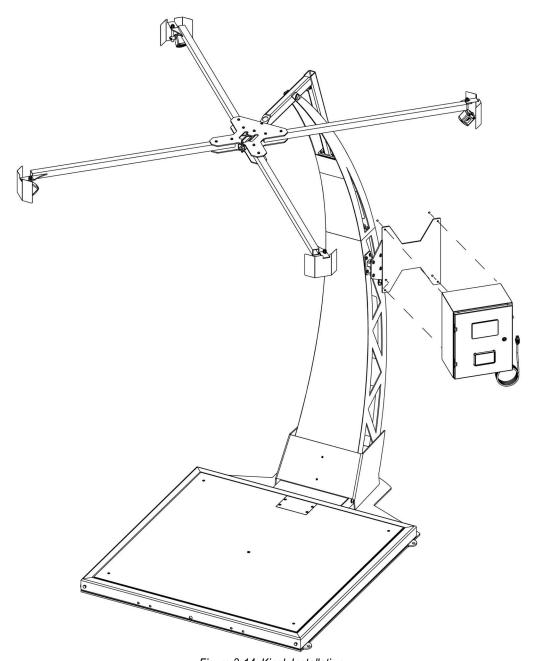


Figure 3-14. Kiosk Installation

NOTE: Kiosk installation may require two people. One person should lift the kiosk to the kiosk mount bracket while the other person should secure the kiosk to the kiosk mount bracket.

3.1.6 SUMMIT 3000 Scale

- 1. Secure the 1/2-20NF eye bolt (not provided) to the SUMMIT 3000 scale.
- 2. Attach one end of the single chain lift (not provided) to the 1/2-20NF eye bolt and the other end of the single chain lift to a lift bar (not provided).
- (!)

IMPORTANT: Lift the SUMMIT 3000 scale with a proper lift bar. Lifting force must be vertical to avoid bending the 1/2-20NF eye bolt.



WARNING: The 1/2-20NF eye bolt must be inserted in the top of the SUMMIT 3000 scale. Lifting should always occur with the top plate facing up and the eye bolts securely attached through the nuts welded to the bottom of the top plate. Lifting from the bottom of the plate could cause nuts to break loose and the SUMMIT 3000 scale to fall.

3. Remove the SUMMIT 3000 scale from the carton.

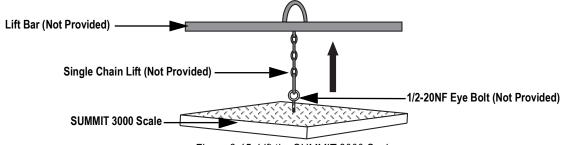


Figure 3-15. Lift the SUMMIT 3000 Scale

- 4. Screw each foot into each load cell and turn until each foot touches either the load cell or the underside of the deck.
- 5. Loosen each foot with three complete turns.
- 6. Loosen each jam nut located on the top of each foot to allow the SUMMIT 3000 scale to be leveled (Step 13 on page 24).
- 7. Lower the SUMMIT 3000 scale into the scale base while feeding the 20' of 6-wire homerun cable through the scale base cable port.

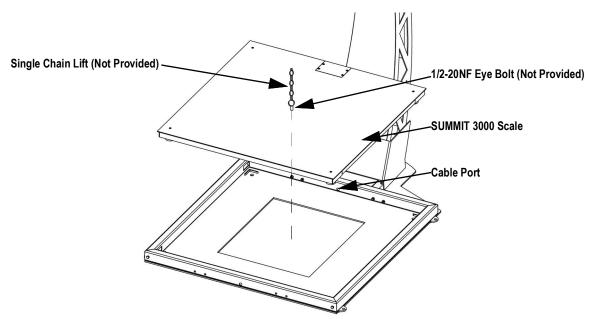
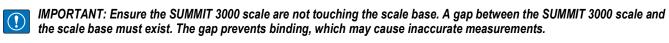


Figure 3-16. Lower the SUMMIT 3000 Scale

8. Ensure the SUMMIT 3000 scale is centered within the scale base.



- 9. Uninstall the single chain lift from the 1/2-20NF eye bolt.
- 10. Uninstall the 1/2-20NF eye bolt from the SUMMIT 3000 scale.



- 11. Place a spirit level on the top of the SUMMIT 3000 scale and check the level.
- 12. Insert a flathead screwdriver into the access hole on the corner of the scale.



NOTE: If the jam nuts on each foot are not loosened prior to setting the SUMMIT 3000 scale in the scale base, the SUMMIT 3000 scale cannot be leveled.

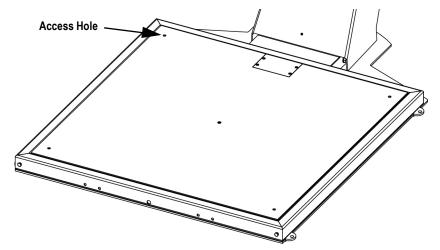


Figure 3-17. SUMMIT 3000 Scale Foot Adjustment Access Hole

13. Adjust each SUMMIT 3000 scale foot until each foot contacts the scale base and the scale is level.



NOTE: Recheck the SUMMIT 3000 scale with the spirit level to ensure the scale is within 1/4" of level.

3.1.7 Forklift Wheel Stop Plate

- 1. Remove the forklift wheel stop plate from the carton.
- 2. Install the forklift wheel stop plate 7" from the front of the scale base.
- 3. Secure the forklift wheel stop plate to the floor using 1/2" anchor bolts (not included).

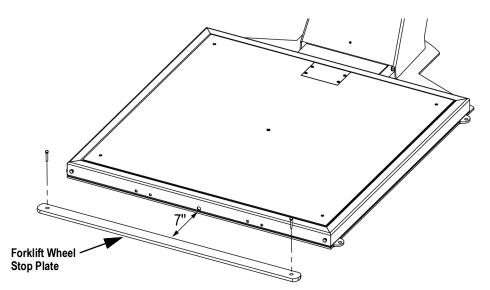


Figure 3-18. Forklift Wheel Stop Plate

3.1.8 Kiosk Wiring

- 1. Run cables from the snap-in grommet hole located on the same side of the lower tower assembly the kiosk is installed.
- 2. Remove the entire lcotek cable gland block.
- 3. Feed all ethernet cables through single hole cable glands.
- 4. Feed all remote IFM sensor power cables and scale cables through multi-hole cable gland.



NOTE: Punch a hole into each required cable gland, to allow wiring to be fed through the indicator.

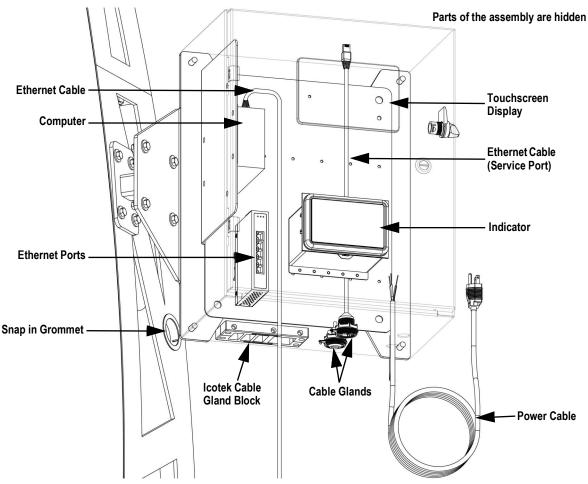
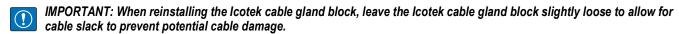
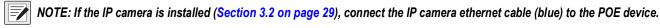


Figure 3-19. Kiosk Assembly

5. Reinstall Icotek cable gland block.



6. Connect remote IFM sensor ethernet cables (green) to the ethernet ports.



7. Strip and wire the remote IFM sensor power cables to the kiosk.

8. Strip and wire the SUMMIT 3000 scale homerun cable to the indicator (Figure 3-20 for 880 Indicator and Figure 3-21 on page 27 for 1280 Indicator).

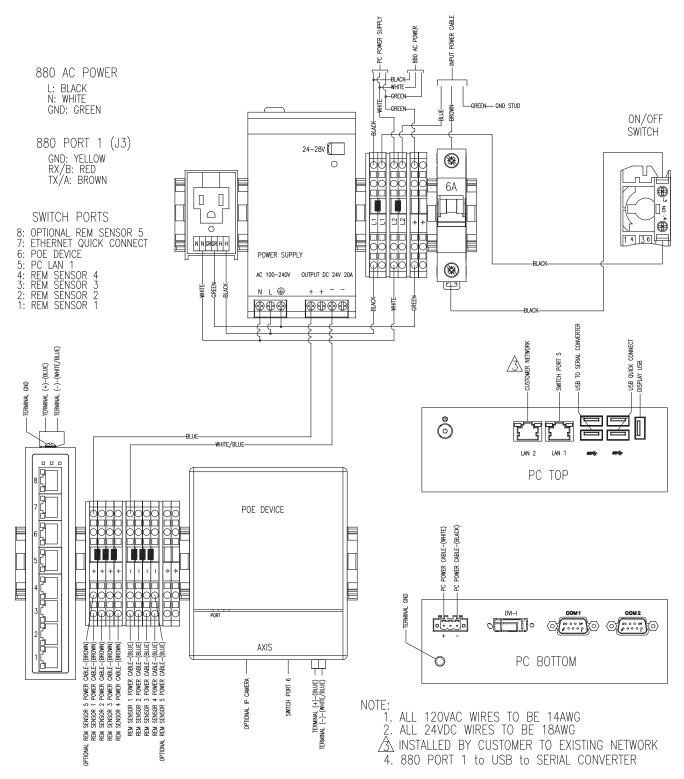


Figure 3-20. 880 Wiring Diagram

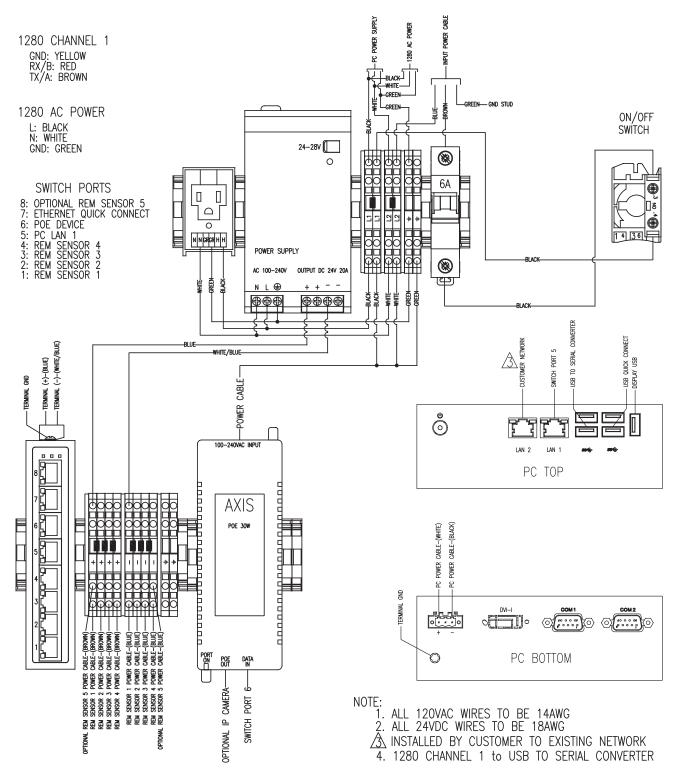


Figure 3-21. 1280 Wiring Diagram

9. Secure the bumper shield to the bumper mount (Section 3.1.2 on page 13).



NOTE: The bumper shield may hinder cable installation.

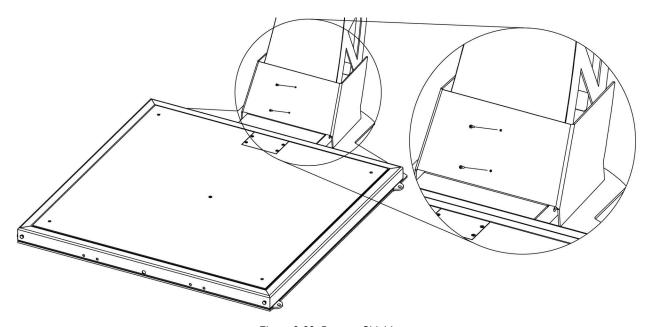


Figure 3-22. Bumper Shield

3.2 Options

Additional hardware options are available for the iDimension PWD. See the following information for details:

3.2.1 Optional Pallet Jack Ramps (PN 199665)

Optional pallet jack ramps are available for the iDimension PWD to assist in dimensioning. Consult Rice Lake Weighing Systems for more information.

- 1. Guide the pallet jack ramps onto the scale base.
- 2. Secure pallet jack ramps using proper hardware provided with the Optional Pallet Jack Ramp Kit (Table 2-4 on page 10).

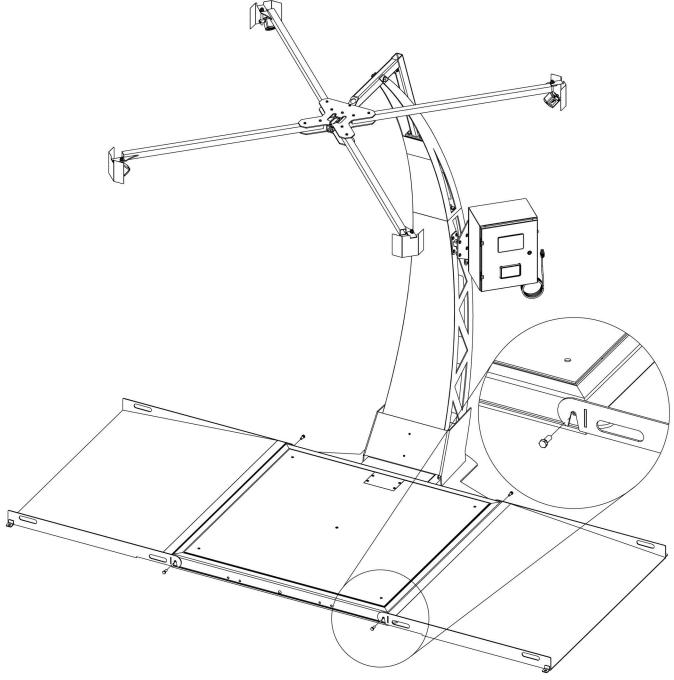


Figure 3-23. Optional Pallet Jack Ramp Installation





WARNING: Traveling on the pallet jack ramps without securing to the unit may cause damage or injury to the operator.

- 3. Drill pilot holes into the floor for suitable anchor bolts.
- 4. Secure the pallet jack ramps to the floor using 1/2" anchor bolts (not included).

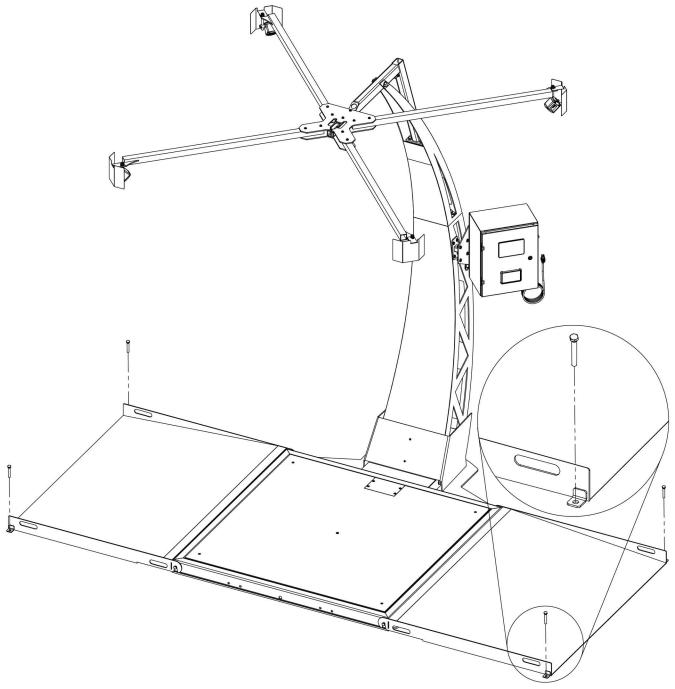


Figure 3-24. Optional Pallet Jack Ramp Mounting

Optional IP Camera (PN 189498) 3.2.2

An optional IP camera is available to document dimensioned materials. Consult Rice Lake Weighing Systems for information.

1. Install the IP camera to a spider mount assembly arm. Use hardware provided in the Optional IP Camera Kit (Table 2-5 on page 10).



NOTE: It is recommended to install the IP camera at the center of the spider mount assembly arm. Do not install near any remote IFM sensor to avoid causing interference.

2. Wire the IP camera through the same spider mount assembly arm it is installed on.

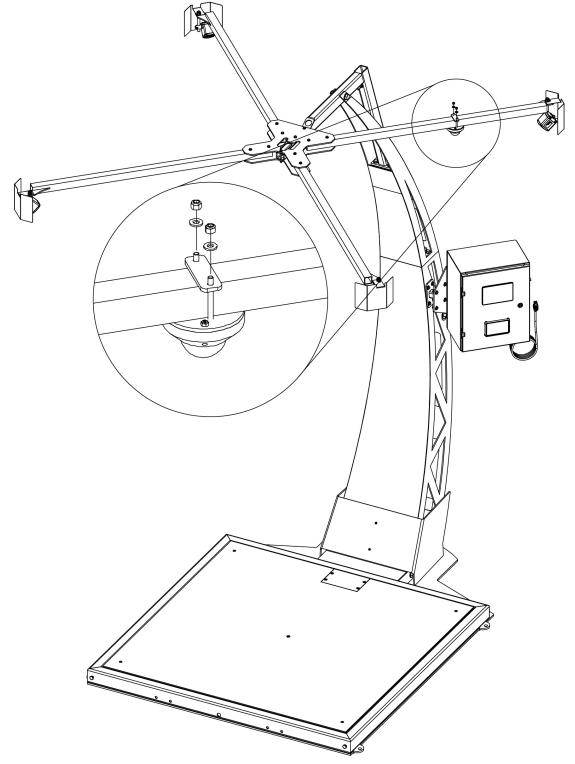


Figure 3-25. Optional IP Camera



3.2.3 Optional Remote IFM Sensor (PN 199666)

An optional remote IFM sensor is available to improve dimensioning accuracy for high glare objects and taller objects. Consult Rice Lake Weighing Systems for information.

- 1. See Section 3.1.4 on page 16 for remote IFM sensor assembly and installation instructions.
- 2. Install the remote IFM sensor to the central base of the spider mount assembly. Use hardware provided in the Optional Remote IFM Sensor Kit (Table 2-6 on page 10).

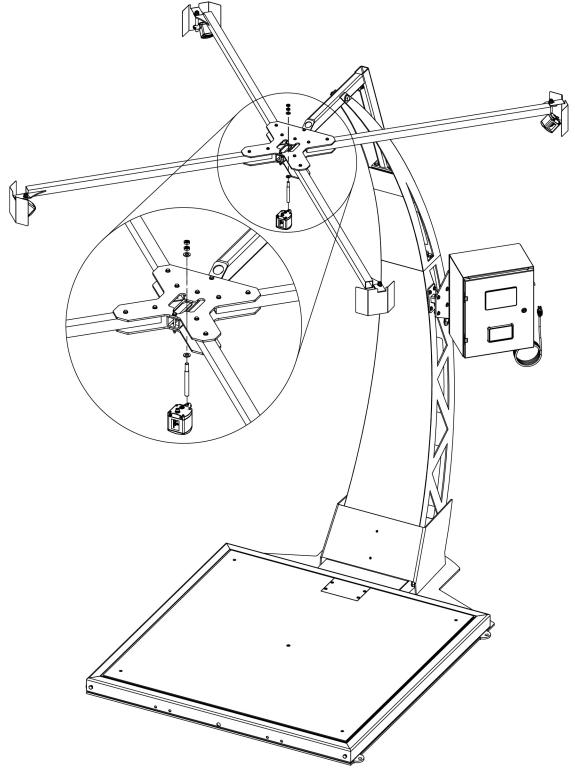


Figure 3-26. Optional Remote IFM Sensor



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