iDimension® LTL

Hanging Cable Mount System Installation

The iDimension Hanging Cable Mount System hardware suspend iDimension LTL and Flex dimensioners from the ceiling. The installation process and cable anchor locations vary with site requirements. Use the guidelines in this addendum to adapt the installation to the site constraints. Consult Rice Lake Weighing Systems for more information.

1.0 Parts List

The dimensioner is suspended using either the iDimension Hanging Hardware Kit (PN 188757) or the iDimension Seismic Hanging Hardware Kit (PN 229186).

PN 188757	PN 229186	Sub No.	Description	Sub Qty	Qty (188757)	Qty (229186)
169253	--	Clamp, Beam, 3/8-16 Flange Pressed Steel w/ Lock Nut, Plain			10	-
--	228982	Clamp, Beam, M12 Seismic rated w/ nut and long M12 bolt			-	10
169960		Turnbuckle, 5/16 x 9-1/4 Threaded 800 lb Clevis to Clevis ends			6	6
171821		Hanger Assembly			4	4
		14649	Nut, Jam 3/8-16NC Hex Steel Zinc Plated	1		
		165584	Hanger, Frame iDim	1		
		169960	Turnbuckle, 5/16 x 9-1/4 Threaded 800 lb Clevis to Clevis ends	1		
		188044	Bolt, Eye, 3/8 - 16 NC x 3 4-5/8 in Long, 1 in Eye, Steel, Zinc Plated	1		
		22072	Nut, Lock 3/8-16NC Hex Nylon Insert Steel Zinc Plated	1		
171822		Wire Hanging Assembly			10	-
		13720	Cable, Aircraft 1/8 7 x 19 Strand Core Steel Galvanized	35 ft		
		175655	Sleeve, Swage, Cable, 1/8 x 9/16, Hourglass, Aluminum or Tin Plated Copper	1		
		188044	Bolt, Eye, 3/8 - 16 NC x 3 4-5/8 in Long, 1 in Eye, Steel, Zinc Plated	1		
		58579	Strap, Tie 8 in Length	2		
172095	--	Clamp, Wire rope lock for 1/8 in Wire Rope, Galvanized			10	--
--	229236	Wire Rope Kit, iDim (includes 15 m wire rope, V-bracket and wire rope lock)			--	1
175655		Sleeve, Swage, Cable, 1/8 x 9/16, Hourglass, Aluminum or Tin Plated Copper			10	10
21938		Washer, Plain 3/8 Type a Series N steel Zinc Plated ID = .401-.421 OD - .805-.827 Thickness = .051-.080			48	48
22072		Nut, Lock 3/8-16NC Hex Nylon Insert Steel Zinc Plated			24	24
69987		Bolt, 3/8-16NC x 3 HEX Head partially threaded A307 Grade 2 Steel Clear Zinc Plated			24	24
--	229598	Hanger Bracket, Gen 2 LTL		--	10	10
--	229599	Hanger Plate, Gen 2 LTL		--	8	8

Table 1. Hanging Hardware Kits Replacement Parts

2.0 Basic Hanging Configuration

The Hanging Cable Mount System includes 10 cables and hardware to suspend dimensioner from building structure. Mounting point locations vary depending on site requirements.

Required parameters

- Dimensioner must be stable, level and secure.
- Dimensioner sensors must be mounted 11 ft (3.352 m) above the measurement site.
- All building paths must have headroom required by both building egress code and warehouse needs. Do not block pathways with cables.

Guidelines

- Distribute weight as evenly as possible over inner support cables.

- The inner support cables level the dimensioner. Inner support cables should be as vertical as possible.
- The outer stabilizing cables stabilize the dimensioner. Outer stabilizing cables should create opposing lateral forces on the unit.
- If possible, mount two of the inner support cables to one beam to align the dimensioner with the structure.

Safety

- The four inner cables support the largest LTL dimensioner with a static greater than 5:1 safety ratio. The additional six stabilizing (outer) cables provide supplementary security. If required by local regulations, the buyer is responsible for organizing an independent third party to evaluate and certify the installation is suitable and safe.

NOTE: Depending on the installation, more than one cable may be required for each outer mounting point. Use one or two outer cables per mounting point as necessary.

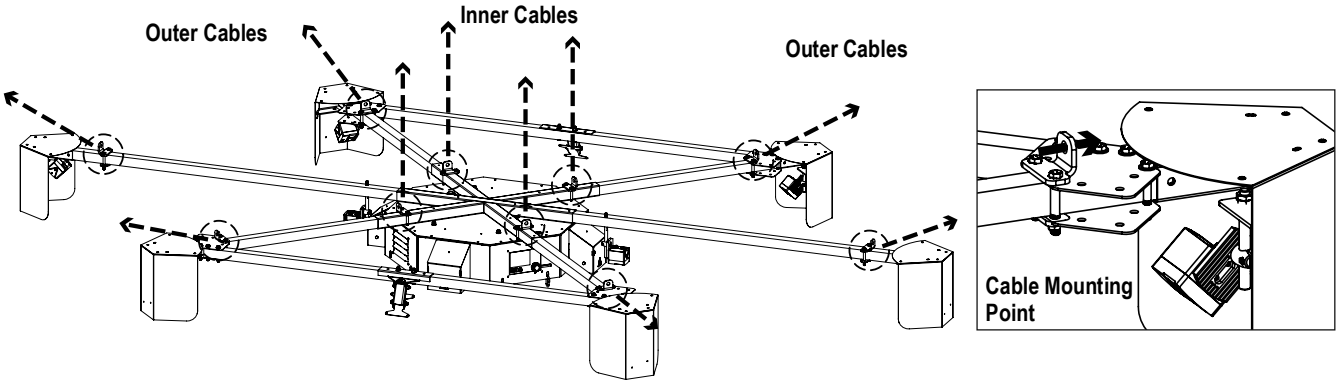

Figure 1. iDimension Mounting Points

The inner cables pull up on the dimensioner for support while the outer cables pull outward for stability (see Figure 2).

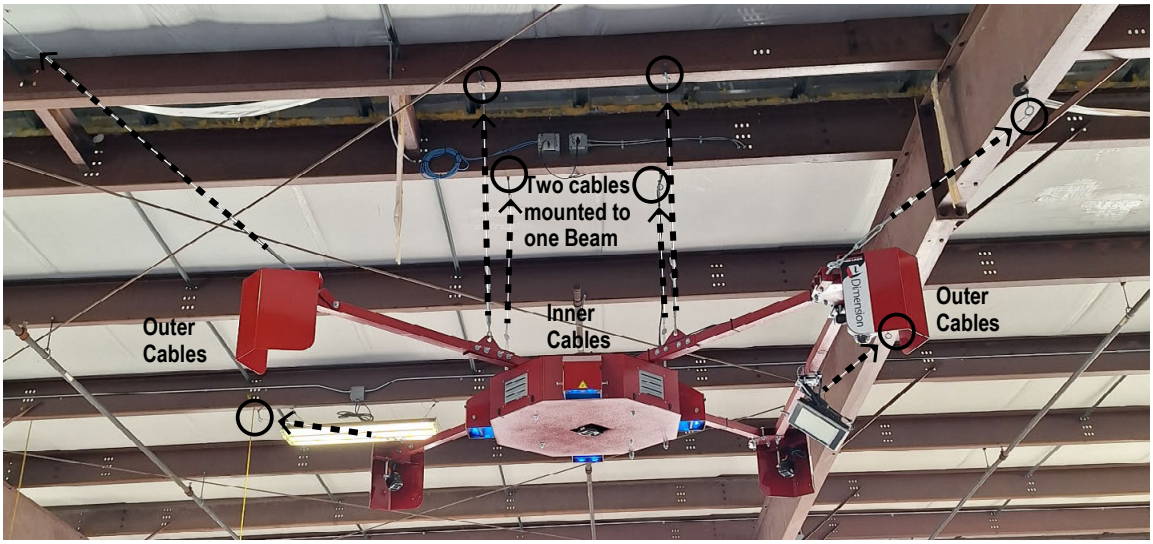

Figure 2. iDimension Cables

3.0 Basic Hanging Process

Use the beam clamps to attach the wire hanging assembly to the roof structure above each dimensioner inner support cable mounting point. Then, install the assembly beyond each outer stabilizing cable mounting point. Follow guidelines for inner cables in Section 2.0 on page 1 to select clamp positions. The hanging process varies by site. This process is a basic procedure:

1. Fully assemble the dimensioner.
2. Select mounting point.
3. If using the Hanging Hardware Kit (PN 188757):
   a. Screw the I-bolt into the clamp until the bolt is flush with the inside of the clamp and the eye aligns with the flat surface of the clamp.
   b. Tighten the square bolt into the clamp to grip clamp to the structure.
   c. Tighten the jam nut onto the square bolt to secure in place.

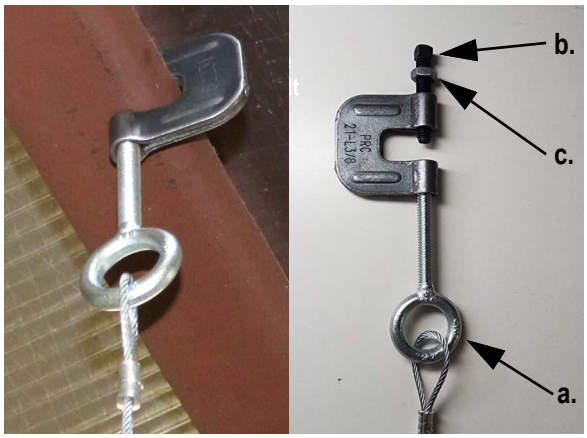

Figure 3. Beam Clamp to Roof Structure

4. If using the Seismic Hanging Hardware Kit (PN 229186):
   a. Unscrew and remove the bolt from the clamp.
   b. Run bolt through the V-bracket.
   c. Screw the bolt into the clamp, washer and jam nut.
   d. Place the clamp onto the structure.
   e. Tighten the bolt to secure the clamp to the structure.
   f. Tighten the nut to secure the V-bracket.

NOTE: The hex head twists off and is severed from the bolt when the proper torque is met.

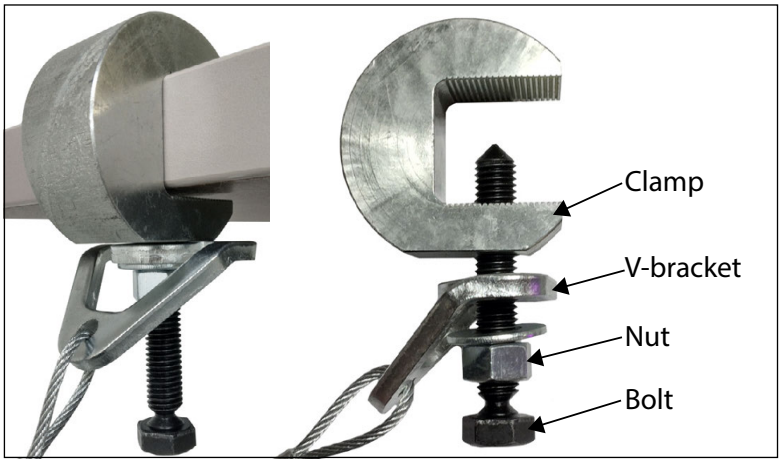

Figure 4. Seismic Beam Clamp to Roof Structure

5. Use a scissor lift to mount the dimensioner 131 to 132 in (3.327 to 3.352 m) above the measurement site.
6. Attach one turnbuckle (PN 169960) to each dimensioner inner cable mounting point (Figure 1 on page 2).
7. Extend each turnbuckle out until 1 in (25 mm) of thread remains on each side.

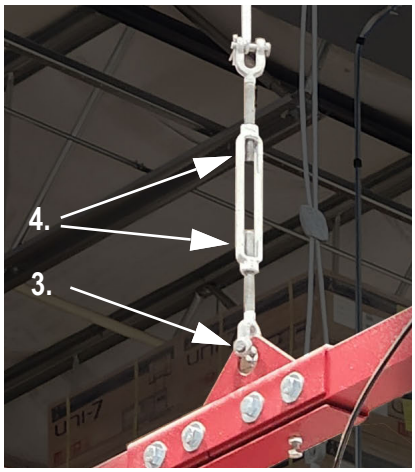

Figure 5. Turnbuckle Mounting

8. Secure the free end of each of the wire hanging assembly cables to a turnbuckle.
   a. Route cable through swage sleeve.
   b. Route cable through Gripple®.
   c. Route cable through turnbuckle.
   d. Route cable through Gripple.
   e. Route cable through the swage sleeve.
   f. Pull cable taut from roof and leave about 4 in (100 mm) between the turnbuckle and Gripple and between the Gripple and the end of the cable.
   g. Use the included tool to release clamp mechanism and adjust length and position of cables if needed.
   h. Crimp swage twice with 1/8 in swage crimper tool.
   i. Trim end of cable.

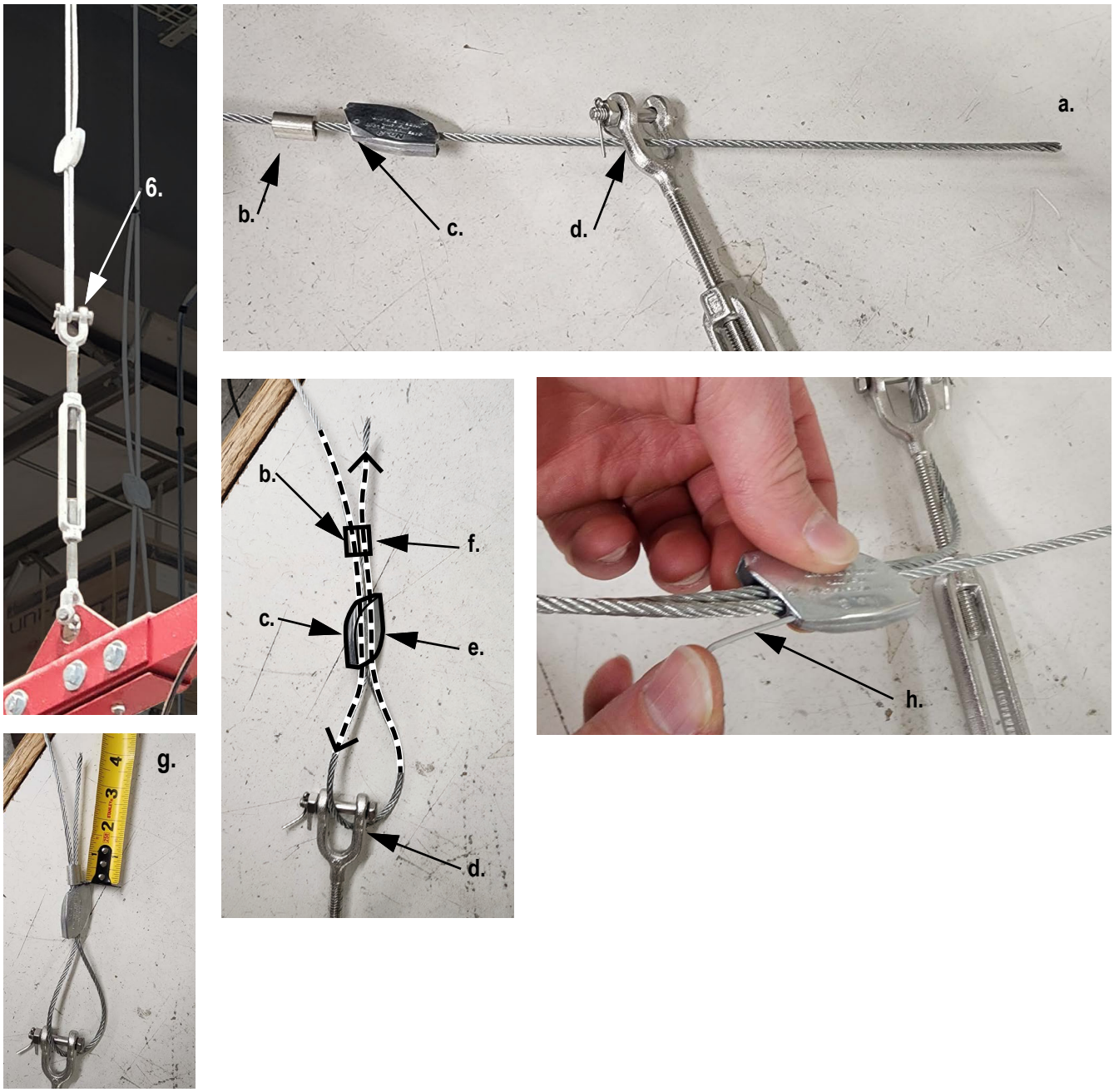

Figure 6. Free End to Turnbuckle

9. Adjust turnbuckles to remove slack and ensure an even tension to support the dimensioner in a level position.
10. Lower scissor lift to transfer full support of dimensioner to inner cables.
11. Attach hanger bracket/assembly to outer cable mounting point of opposing arms of the dimensioner. Follow guidelines for outer cables in Section 2.0 on page 1 to select position of hangers.

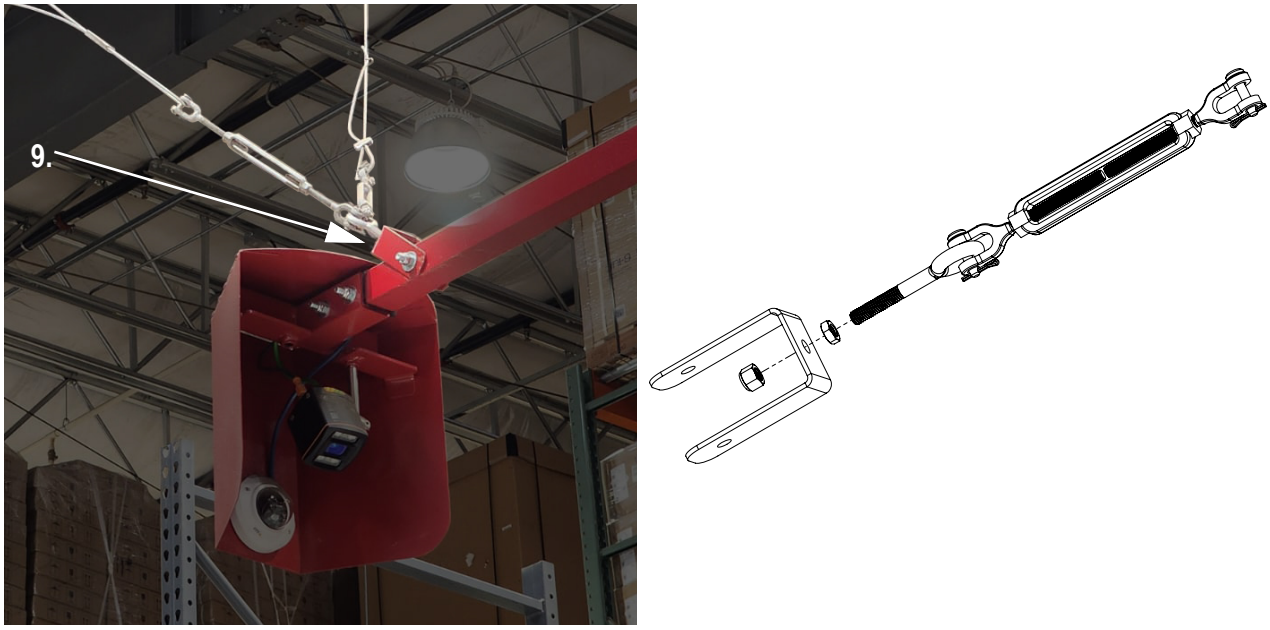

Figure 7. Turnbuckles to Hanger Assembly

12. Use I-bolt end of the wire hanging assembly (PN 171822) and beam clamps to attach wire hanging assembly to the roof structure beyond outer cable mounting points as in Section 3.0 on page 3. Follow guidelines for outer cables in Section 2.0 on page 1 to select position of clamps.
13. Secure the free end of each wire hanging assembly cable to a turnbuckles as in Step 8 on page 5.
14. Adjust turnbuckles to an even opposing tension to support the dimensioner as in Figure 2 on page 2. Outer cable will provide stability.
15. Re-tighten inner cables to evenly distribute weight between all cables, ensuring outer cables are taut.

RICE LAKE®
WEIGHING SYSTEMS

230 W. Coleman St. • Rice Lake, WI 54868 • USA USA: 800-472-6703 • International: +1-715-234-9171