UNIVERSAL SCALE MOUNTS
for
1 DB, 1-7/8 DB, 2-1/8 DB &
2-1/8 DB-Neck Down

Instructions
And
Repair Parts

Digi-Star
Ft. Atkinson, Wisconsin  USA

Digi-Star Europe
Panningen, The Netherlands
www.digi-star.com
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INTRODUCTION

Universal mounts provide for simple and effective implementation of Digi-Star scales in custom applications. Universal mounts simply bolt into position and provide for all structural and accuracy requirements.

For information on ordering repair parts, refer to the Service Parts section at the back of this manual.

You are urged to study this manual and follow instructions carefully. Your efforts will be repaid in better operation and service as well as savings in time and repair expense: if you do not understand instructions in the manual, contact your Dealer or Digi-Star in Fort Atkinson, WI 53538.

This supersedes all previous published instructions.
OPERATION

See Indicator Owner's Manual enclosed with Electronics Pack

MAINTENANCE

Refer to Electronic Owner's Manual for guidance when trouble shooting the indicator, load cells and junction box components. Typical mechanical load cell trouble shooting procedures follow.

TROUBLE SHOOTING

<table>
<thead>
<tr>
<th>TROUBLE</th>
<th>PROBABLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit weighs too low.</td>
<td>Debris collected around mounts or under scale structure.</td>
<td>Clean mounts and scale under structure.</td>
</tr>
<tr>
<td>Corners of scale do not read the same weight within 1 count increment</td>
<td>Debris collected under mounts or under scale structure.</td>
<td>Clean mounts and scale under structure.</td>
</tr>
<tr>
<td>±1/2%tolerance; whichever is greater.</td>
<td>Corners of scale are not level.</td>
<td>Adjust corners of scale with leveling pins built into the 1 DB mounts or by shimming 1-7/8 &amp; 2-1/8 DB mounts. Each mount must equally share the load.</td>
</tr>
</tbody>
</table>
STATIONARY BIN SITE WORK AND PLANNING

Universal scale mounts must be installed on a flat, level, well drained surface. Concrete is preferred. Be sure to provide footing matched to the application. Figure 1 shows a typical stationary bin application.

The junction box must be located and cables routed so as to protect them from physical damage. Cables can be routed through conduit if necessary. Careful planning is required so that cables can be routed so that the purchased lengths will reach (16 ft is typical).

⚠️ Important!

CHARGING BATTERY AND WELDING

Disconnect all cables from the weighing indicator before charging the battery or welding on the machine. If cables are left connected, the weighing indicator and connected load cells could be damaged.

Important: Do not weld near indicator, load cells or cables; remove from area to be welded. Place ground close to area to be welded to prevent current from passing through electronic parts.

IMPORTANT GUIDELINES:

- DO NOT SPLICE OR CUT weigh beam or junction box cables.
- Do not overload the mounts. Refer to specifications (page 14) for load capacity of each mount.
- Charging battery and welding with the weigh beam installed may cause damage to it. Do not allow welding current to pass through the weigh beam.
- Do not exceed the eight load cells per indicator.
DO NOT allow ladders, conveyors, etc. to interfere with weighing by contact with ground or by attachment to other structure.

Concrete pad or surface:
Important: Scale must be installed on a flat, level (+/- 1/8”), well-drained surface. Surface must have sufficient strength to bear the load without distortion.

Load Direction

Load decal MUST point downward

Bin Support Leg

Universal Scale Mount

These surfaces must be parallel

Shim the corners, if required, in order to make the platform level +/- 1/8”

Figure 1
Typical Installation
In addition to the typical bin-weighing installation, universal mounts may also be mounted in an overhead load application (see Figure 2).

**Figure 2. Typical Overhead Load Installation**

**IMPORTANT:** Position load cell in mounts, so that the load decal points downward.
INSTALLATION

1 DB MOUNT

1. Attach the Lower Mount base to the foundation with 3/8 cement anchor bolts (not included). Attach the Top Level Pad to the structure. Holes are provided for attaching the Top Mount to the structure. Field drill to suit. If the Top Level Pad will be welded to the structure, do so before installing the Load Cell in the Mount to avoid damage to the Load Cell.

2. Assemble a Load Cell to each Mount using 3/8 x 1 1/2 Hex Head Cap screws (tighten to 35 ft-lbs).

3. Be careful to install the Load Cell properly. A load decal is affixed to the Load Cell. Use this decal to install Load Cell in such a manner that the Arrow on the decal points the same direction the Load Cell will be deflected when under load. For most universal mount applications this arrow will point "downward" when properly installed. Reference Figure 1 and Figure 2.

4. Screw the Leveling Pin into the nut welded on each Top Leveling Pad. Screw in equally on each Mount.

5. Install the Leveling Pin into the clearance hole on the Load Cell and secure with "E"-Rings.

6. Level each corner using the wrench flats provided on each Leveling Pin. When the Scale is empty each Mount must equally share the load.

Figure 3. 1 DB Assembly
The following steps are general steps for mounting scales underneath a stationary bin application (see Figure 1):

1. Lubricate the long end of the load cell and Lower mount tube with grease or the provided Never-Seize. Insert the long end of the load cell into the lower mounting tube and secure with 3/4" clevis pin & hair pin. **IMPORTANT:** The arrow on the load decal should be point downward. The load decal arrow should point in the same direction that the load cell will deflect under load. For most universal scale mount applications, this arrow will point "downward" when properly installed. (For more detail see Figure 1 and Figure 2.)

2. Connect the Top mount to the load cell with 3/4" clevis pin & hair pin.

3. Route the cable through one of the lower mount 1.5" side holes.

4. Lift the structure and slide the universal mount assembly into place and secure the top mount to the structure with 1/2 bolts supplied by others. **IMPORTANT:** If welding is required to secure the top mount, then disassemble the top mount from the load cell. This is required to avoid damaging the load cells.

5. Once the structure is supported by universal DB scale mounts. Secure the lower base mount to the foundation with 5/8 Red Head cement anchors. There should be enough room to drill and install the cement anchors with a full assembled mount.

6. Level each corner by shimming between the top mount and the structure. When the scale is empty each mount must equally hare the load.

Figure 4. 1-7/8 & 2-1/8 DB Assembly
Figure 5. 2-1/8 DB Neck Down Assembly

1. Lubricate the long end of the load cell and lower mount tube with grease or Never-Seize. Insert the long end of the load cell into the lower mounting tube and secure with 3/8" X 4.0" clevis pin & hair pin. **IMPORTANT:** The arrow on the load decal should point downward. The load decal arrow should point in the same direction that the load cell will deflect under load. For most universal scale mount applications, this arrow will point "downward" when properly installed. (For more detail see Figure 1 and Figure 2.)

2. Slide the top mount on the 1.75" diameter load cell end and secure with 3/8" x 2.5" clevis pin & hair pin.

3. Lift the structure and slide the universal mount assembly into place and secure the top mount to the structure with 5/8" bolts supplied by others. **IMPORTANT:** If welding is required to secure the top mount, then disassemble the top mount from the load cell. This is required to avoid damaging the load cells.

4. Once the structure is supported by universal DB-neck-down mounts, mark the location of the lower mount mounting holes. It will be necessary to remove the load cell and base from the top mount to gain access to drill the holes to the foundation or support structure. Reassemble the mount and secure the lower mount.

**NOTE:** The lower mount has side slots in the formed channel for wrench access area.
Option 1 [Lever-Nut Version]

**IMPORTANT:** Do Not weld to load cells with load cell cables connected to the indicator. If you must weld with load cells connected, locate welder ground so that current will not flow through the load cell.

The Junction Box is water resistant, not water proof. It should be mounted to avoid submersion during wet weather and to avoid physical abuse (examples; at least 12’ high on nearby post, on a grain bin leg, or nearby wall).
Option 2 [Terminal Block Version]

Tighten nuts

J-Box Cable (Connect to indicator bottom panel)

LOAD CELL CABLE (See decal above for wiring instruction)

DECAL - J-BOX TERMINAL BLOCK WIRING INSTRUCTION
CONNECT ELECTRICAL CABLES

1. Attach each Load Cell Cable to the J-Box (Junction Box). There are two types of J-Boxes. Option #1 is lever-nut version as shown in page 10. Option #2 is terminal block version. Use labels on printed circuit board as a guide.

2. Care should be taken to insure that all Cables are loosely routed between Scale and Junction Box.

3. Install J-Box cable and route to the bottom of the indicator. The Power Cord is connected to a 12VDC source and the Indicator. The red wire is the +12VDC and the white wire is the ground. Refer to the Indicator manual for the purpose and connection of other power cord wires.

4. See the Electronics Manual for detailed instructions for all electronics components.
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>Figure</th>
<th>Cable Length</th>
<th>Mount Load Capacity (lbs)</th>
<th>Mount Load Capacity (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Static</td>
<td>Mobile</td>
<td>Static</td>
</tr>
<tr>
<td>1 DB Mount</td>
<td>6</td>
<td>16'</td>
<td>1,500</td>
<td>1,000</td>
</tr>
<tr>
<td>1-7/8 DB Mount 7</td>
<td>7</td>
<td>16' with cable guard</td>
<td>6,250</td>
<td>4,500</td>
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<tr>
<td>2-1/8 DB Mount</td>
<td>7</td>
<td>16'</td>
<td>12,500</td>
<td>6,000</td>
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<tr>
<td>2-1/8 DB Neck Down 8</td>
<td>8</td>
<td>21'</td>
<td>10,000</td>
<td>6,000</td>
</tr>
</tbody>
</table>

**NOTE:** Mount capacity is valid only for the load cell and mount combinations listed in Figure 6, Figure 7 and Figure 8.

### Approximate Dimensions

![Approximate Dimensions Diagram]

**Figure 6. Dimensions for 1 DB Universal Mount**
Figure 7. Dimensions – for 1-7/8 & 2-1/8 Diameter Mount
Figure 8. Dimensions – for 2-1/8 Neck Down Mount
## REPAIR PARTS

P/N 141630 Pack – 1 DB Universal Mount

<table>
<thead>
<tr>
<th>Key</th>
<th>Qty.</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>406401</td>
<td>SCR - 3/8-16 X 1.5 HHCS ZP GRD 5</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>141629</td>
<td>RING - RETAINING .5” E-TYPE</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>840699</td>
<td>PIN - LEVELING</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>140775</td>
<td>WELD - UNIV MOUNT 1DB</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>141631</td>
<td>WELD-PAD LEVELING</td>
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</tbody>
</table>

824322 - Cell-1 DB-16’ Ref
(Reference Only - Load Cells not included)
**Repair Parts**

**P/N 143980 Pack-25K – 1-7/8 DB Universal Mount**  
**P/N 141806 Pack-50K – 2-1/8 DB Universal Mount**

<table>
<thead>
<tr>
<th>Key</th>
<th>1-7/8 DB Qty.</th>
<th>2-1/8 DB Qty.</th>
<th>Part No.</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>-</td>
<td>143982</td>
<td>WELD-DB MOUNT 1-7/8</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>1</td>
<td>141807</td>
<td>WELD-DB MOUNT 2-1/8</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>-</td>
<td>143981</td>
<td>BRACKET-TOP MOUNT</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>1</td>
<td>141243</td>
<td>BRACKET-TOP MOUNT</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>2</td>
<td>406148</td>
<td>PIN-CLEVIS 3/4 X 4.0 ZP</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>2</td>
<td>405094</td>
<td>PIN-HAIR CLIP 3/32 X 2-1/2</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2</td>
<td>405654</td>
<td>SEALANT-ANTI SEIZE (REG) 1 GRAM</td>
</tr>
</tbody>
</table>

407058 - Cell-1.875 DB-16’  
140708 - Cell-2.125 DB-16’  
(Reference Only - Load Cells not included)
P/N 408140 Pack – 2-1/8 DB Neck Down Universal Mount

<table>
<thead>
<tr>
<th>Key</th>
<th>Qty.</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>408128</td>
<td>WELD-LOWER MNT 2.125 DBND</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>408132</td>
<td>WELD-TOP MNT 1.75</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>405861</td>
<td>PIN-CLEVIS 3/8 X 2.5 ZP</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>408214</td>
<td>PIN-CLEVIS 3/8 X 4.0 ZP</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>407293</td>
<td>PIN-HAIR CLIP .080 X 1.188 ZP</td>
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