



Specialists in Liquid Level Indication

**LUMASTAR™ EPL-100  
INSTALLATION, OPERATING &  
MAINTENANCE  
INSTRUCTIONS**

Section:	<b>J500</b>
Bulletin:	<b>J500.32</b>
Date:	<b>01-09-12</b>
Supersedes:	<b>07-12-06</b>

STORAGE and HANDLING

The Jerguson LED Explosion Proof Illuminator meets or exceeds all applicable specifications when shipped from the factory.

All units should be inspected upon receipt to ensure that no damage has been incurred during transit. If there has been damage, a claim should be filed with the carrier immediately. Unit should be stored in an area protected from the elements and corrosive fumes, in a secure manner where they can neither fall, nor be struck by other objects. Care should be taken to protect the window and the end connections from damage. Avoid placing any objects directly on the light at any time.

COMPONENTS

There are three main components that make up the LED illuminator: the light strip, the power supply, and the cable connecting these two main pieces. The cable may have more than one piece depending on the required distance between the illuminator and the power supply. Questions regarding acceptable applications should be directed to The Clark-Reliance Corporation.

INSTALLATION

**CAUTION:** All lights are tagged with the service conditions for that particular unit. These specifications are located on the Jerguson tag on the power supply housing, and are contained in the “Specifications” section of this manual. Do not use or refer to specifications listed on red label on the power supply housing. They are specifications for generic use. Review the ratings prior to installation and again prior to start-up, to ensure proper operation in the installed environment. Should there be any doubt as to the applicability of a unit for the installed environment, consult the factory before placing the unit into service.

**Note:** All installation steps should be performed by a qualified technician and should be executed in accordance with all applicable national and local codes.

The light and power supply should be checked to ensure that they contain no foreign matter, and that the end connections are clean, undamaged, and in line with existing conduit.

Step by step instructions:

- 1) Refer to Appendix J500.32.A1 for bracket mounting instructions.

**CAUTION:** Before working with power supply, verify that the area is free of flammables and AC power circuit is off.

- 2) Open the cover of the power supply housing. Insert the AC Line wires into the housing and connect to the “AC IN” terminal block. A ground screw is located inside the enclosure if required. **CAUTION:** The DC output is pre-wired. If this connection is removed during installation, reconnect the “AC IN” and “DC OUT” to the proper positions. Failure to do so will result in permanent damage to the power supply.
- 3) **IMPORTANT:** The customer must have a “sealing fitting” in the conduit supplying power to the light’s power supply within 18” of the power supply.
- 4) If the cable will not reach the power supply, contact your local representative for the required extension cable.
- 5) Replace the cover on the power supply housing.
- 6) Switch “ON” the power supply making sure the Illuminator is functioning properly, with all LED’s illuminated.
- 7) If the LED’s do not illuminate, remove the cover on the power supply once the power as



been turned on. An LED will be lit if it is wired correctly. See Figure 1, Detail "A"

- 8) If the LED in the power supply is not lit, check the power source and the connection before continuing.

Any additional components must be installed prior to the customer's sealing fitting.

### FUSE REPLACEMENT

This power supply is fused for AC protection. In the event of a large voltage surge, the fuse may release, causing no output voltage. Replace the fuse with Clark-Reliance P/N E-F-DIN-F400MA only.

- 1) Loosen cover locking screw and open the cover of the power supply housing.
- 2) Remove and replace bad fuse. Refer to Figure 1 for fuse location.

### REPLACING POWER SUPPLY

- 1) Loosen cover locking screw and open the cover of the power supply housing. Disconnect AC power in and remove AC wires from enclosure.
- 2) Remove assembly from gage and relocate to desired work area.
- 3) Disconnect power cable between power supply and light bar assembly.
- 4) Trim gasket material at top end cap to match slot opening and slide out bracket and mounting hardware.
- 5) Loosen power supply screws and slide power supply off light bar assembly.
- 6) Slide new power supply onto light bar assembly.
- 7) Insert bracket and mounting hardware for top bracket back into slot.
- 8) Securely tighten the power supply screws and the top bracket screw.
- 9) Install power cord between power supply and light strip making sure connectors are fully connected.

### OPERATION

The LED illuminator can run continuously. The operating life of LED lights exceeds 100,000 hours under normal conditions.

### ROUTINE MAINTENANCE

Keep window on the front of the light clean using commercial glass cleaners, such as Windex<sup>®</sup> or similar. Never use harsh abrasives, wire brushes, metal scrapers, or any material that could scratch the window. The window may be cleaned while the unit is in operation.

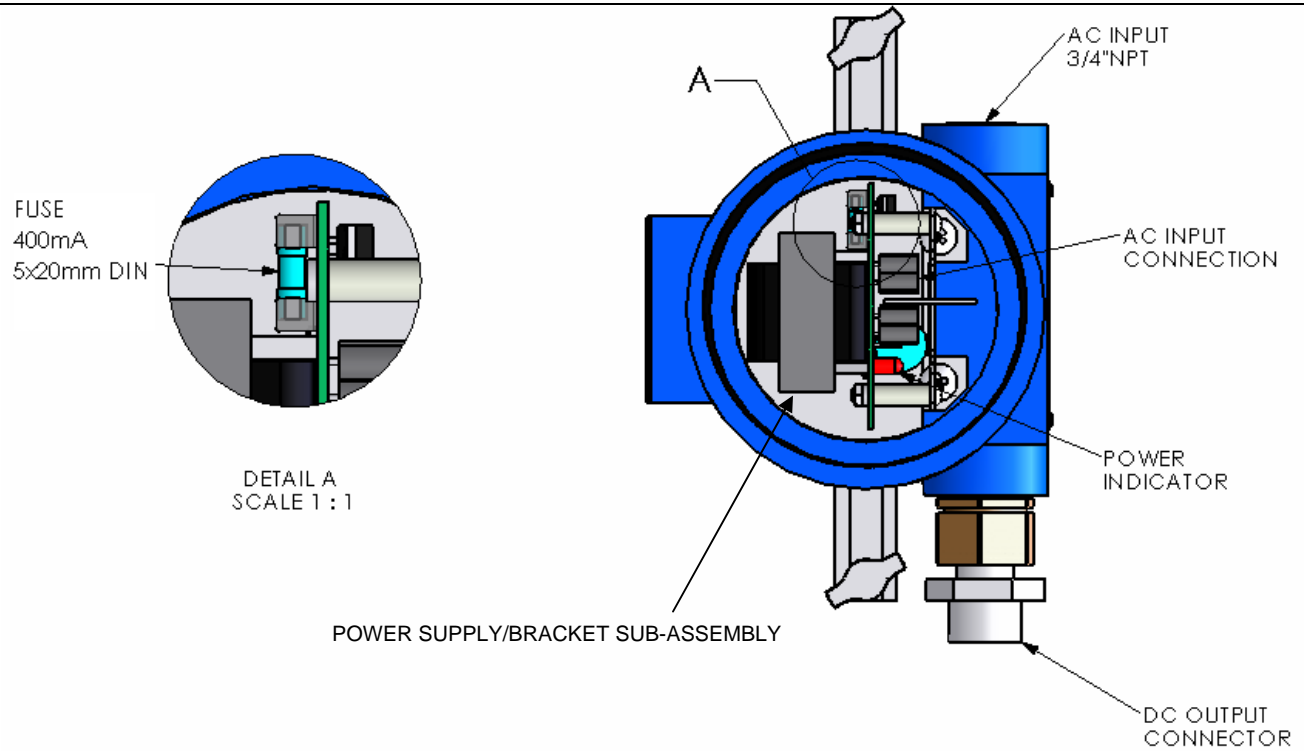
The light may be removed while the unit is in operation during inspection or maintenance of the customer's gage glass. The Illuminator may also be disconnected from the power supply, if desired. Disconnect the cord at the supplied screw connector adjacent to the power supply. The plant power going to the power supply does not need to be disconnected.

### SPECIFICATIONS

Power Supply:	120 or 240 VAC @ 50-60 Hz
Power Consumption:	< 750 mA @ 120 VAC < 375 mA @ 240 VAC
Est. Life:	100,000 Hours (continuous)
Agency Approvals:	FM Approved, CSA Class I, Div. I Grps. B, C, & D Class II, Div I, Grps. E, F, & G
Wire Size:	Min 18 AWG / Max 12 AWG
Max dist. from power supply to light:	72 feet (22M)
Ambient Temperature:	-40 F (-40 C) to 170 F (77 C)
Electrical Connection:	¾" FNPT



Figure 1: Wiring Instruction



Associated Equipment [Exia]

## Spare Parts

Item	Part Number	Description
1	S23293	120 VAC Power Supply Board/Bracket Sub-Assembly (See Note Above)
2	S23294	240 VAC Power Supply Board/Bracket Sub-Assembly (See Note Above)
3	S23213	120 VAC Power Supply with Explosion Proof Enclosure (Includes All Items Illustrated Above)
4	S23295	240 VAC Power Supply with Explosion Proof Enclosure (Includes All Items Illustrated Above)
5	E F DIN F400MA	Fuse
6	V20569	6.5 Ft (2.5 M) Extension Power Cord, For Remote Mounting
7	S23174 4	LED Array Circuit Board, 4"
8	S23174 6	LED Array Circuit Board, 6"
9	S23174 8	LED Array Circuit Board, 8"
10	S23174 10	LED Array Circuit Board, 10"
11	S23174 12	LED Array Circuit Board, 12"





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# LUMASTAR™ EPL-100 INSTALLATION, OPERATING & MAINTENANCE INSTRUCTIONS

Section:	<b>J500</b>
Bulletin:	<b>J500.32.A2</b>
Date:	<b>08-28-12</b>
Supersedes:	<b>NEW</b>

\*NOTE: Identify your bracket type. Confirm the bracket style matches that in the below pictures.

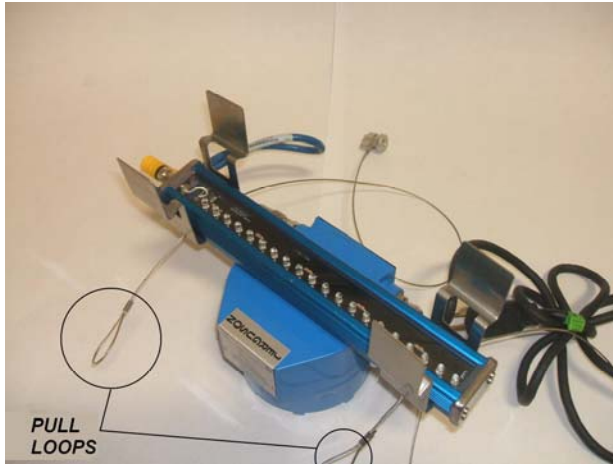


Figure 1

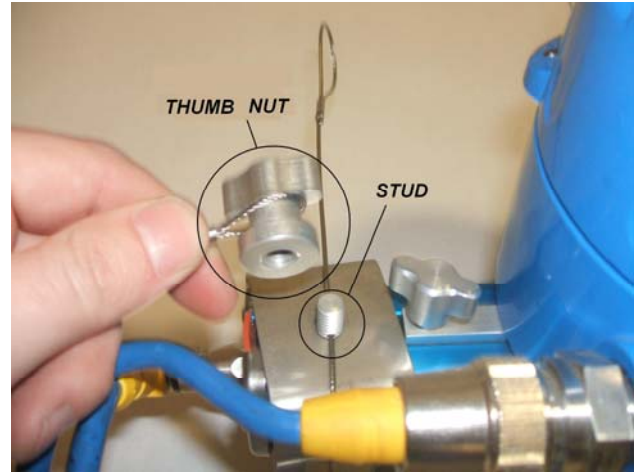


Figure 2

**Step 1:** Check to make sure brackets are properly assembled on the illuminator. The cable should be fed through the stud protruding from behind the illuminator, locking in the bracket as shown above in Figure 2. One end of the cable should be crimped into an oval for pulling leverage and the other should be crimped securely around a thumb nut.

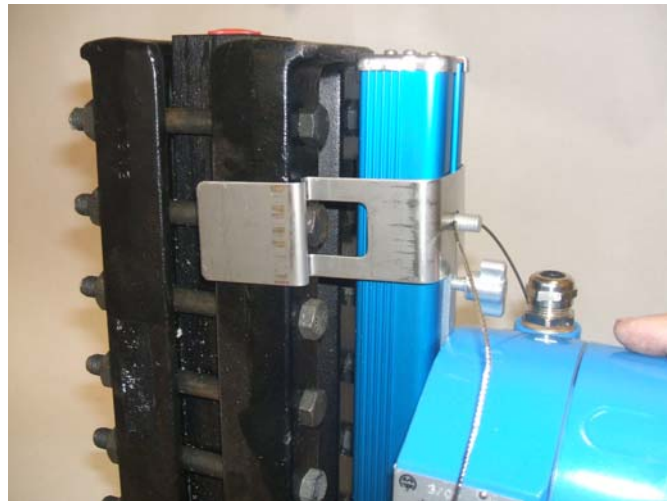


Figure 3

**Step 2:** Press LumaStar assembly against rear of gauge as shown in Figure 3, aligning the bracket cutouts over the gauge bolt heads as shown. Align the brackets with the 2<sup>nd</sup> set of bolts in from each end of the gauge, when possible.

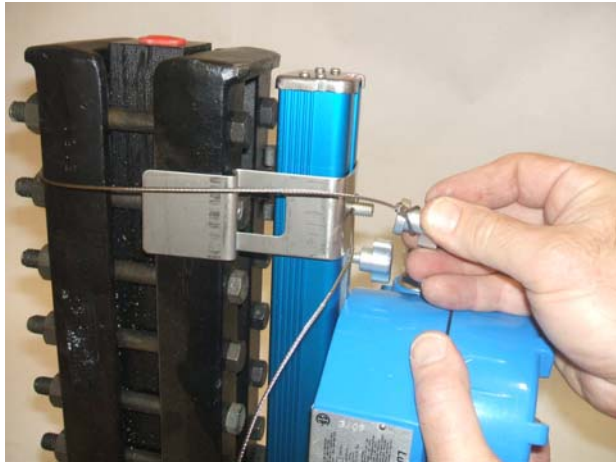


Figure 4

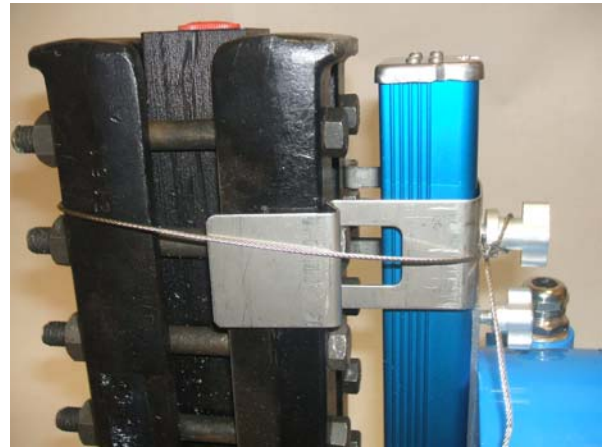


Figure 5

**Step 3:** While holding the top bracket in place, grab the thumb nut end of the cable, wrap around entire gauge and thread onto the stud until the bracket is secure. When wrapping the cable around the gauge, make sure to feed the cable above the bolt as shown above in Figure 5. Snug the cable and secure the thumb nut, but do not fully tighten the thumb nut at this time



Figure 6

**Step 4:** Align bottom bracket, using the 2<sup>nd</sup> bolt if possible. Wrap thumb nut end of the cable around the entire gauge and begin to thread. Pull the cable loop as tight as possible and fully tighten the thumb nut down as shown in Figure 6. The lower bracket should now be tight and secure.

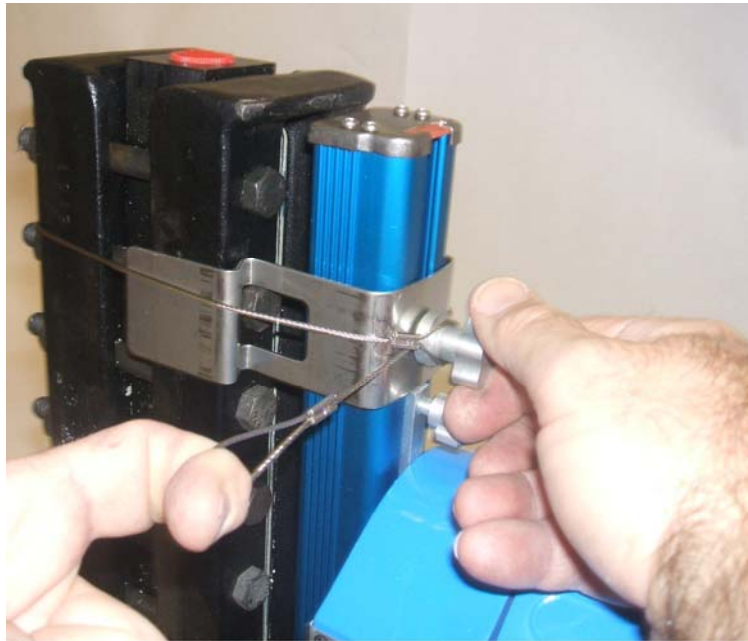


Figure 7

**Step 5:** After the lower bracket has been tightened, go back to the top bracket and loosen the thumb nut enough to allow the cable to slide through freely. Pull cable as tight as possible, and fully tighten thumb nut as shown in Figure 7.



Figure 8

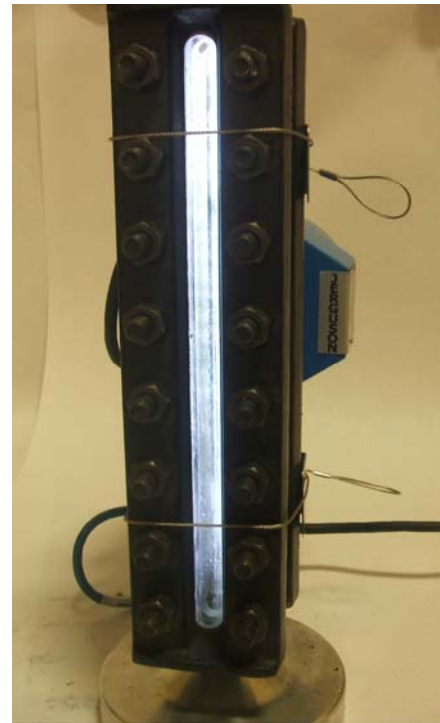


Figure 9

**Step 6:** The LumaStar is now properly installed. Feel free to tuck any excess cable inside itself or allow it to hang freely. This adjustable assembly is appropriate for any gauge with a cover width not exceeding 4.375 inches (111 mm).

\*NOTE: Identify your bracket type. Confirm the bracket style matches that in the below pictures.

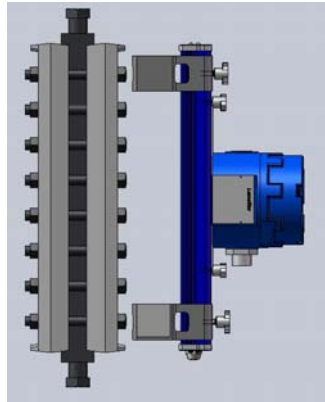


Figure 1

- 1) Align Lumastar assembly with rear (side with bolt heads) of gauge. Loosen bracket thumb nuts and adjust the position of the brackets to line up with their respective bolts on the gauge as shown in Figure 1. Tighten the thumb nuts to secure in place. When possible, use the 2<sup>nd</sup> set of bolts from the edge of the cover plate.

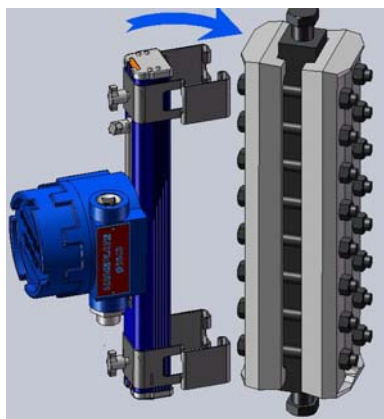


Figure 2

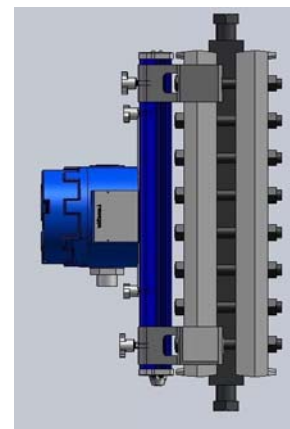


Figure 3

- 2) Align one side of the brackets as shown in Figure 2, so that the clip of the brackets are gripping around the side of the gauge. Roll the entire assembly over until it is flush with the rear flat of the gauge and press until the bracket clips have locked into place as shown in Figure 3.