

# 882IS Digital Weight Indicator

## Fiber Optics to RS-232 Converter

The fiber optics to RS-232 converter (PN 196769) takes fiber optic light and turns it into a signal for RS-232 communications. The converter is located in an external FRP enclosure that is remotely powered.



**NOTE:** The converter can be used in applications up to 500 ft with the blue 882IS CPU board (PN 221062) or RS-232 Fiber-Optics board (PN 77788).



Manuals are available from Rice Lake Weighing Systems at [www.ricelake.com/manuals](http://www.ricelake.com/manuals)

Warranty information is available at [www.ricelake.com/warranties](http://www.ricelake.com/warranties)



**IMPORTANT:** Use anti-static protection for grounding and to protect components from electrostatic discharge (ESD) when working inside the enclosure.



**WARNING:** Disconnect the enclosure from power source before opening.

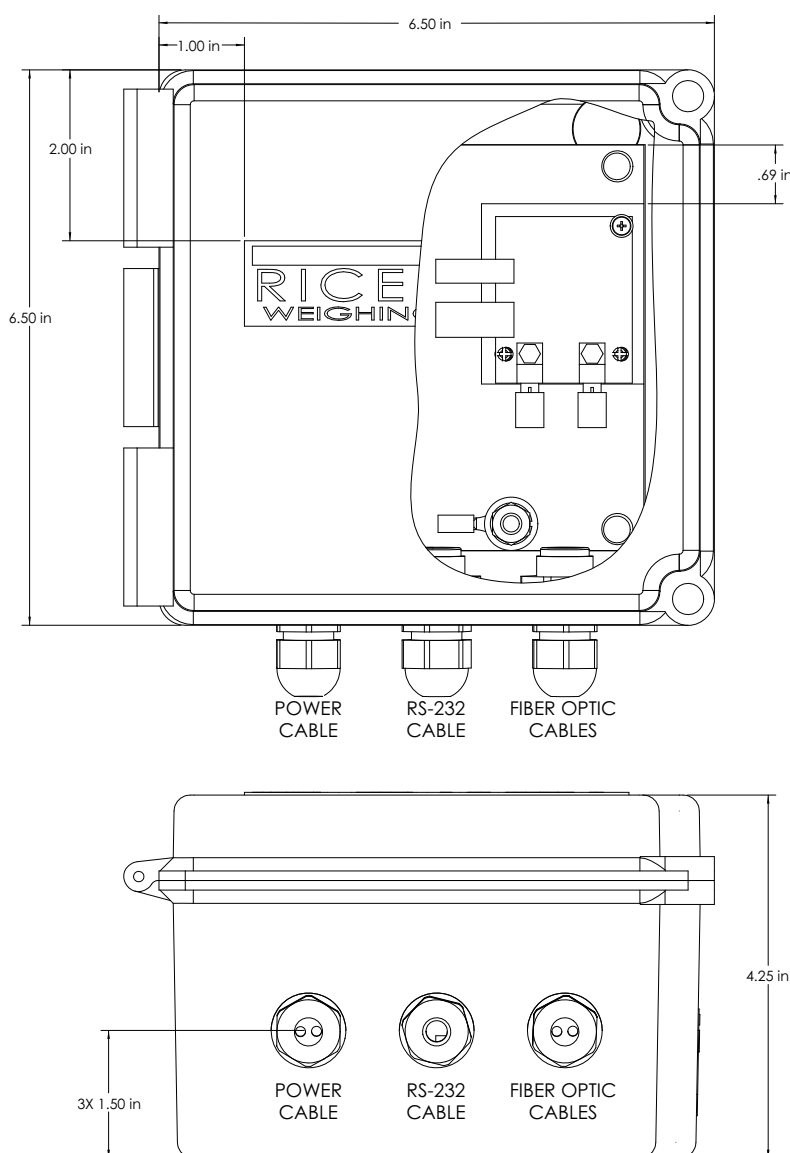


Figure 1. Fiber Optics to RS-232 Converter FRP Enclosure

## Fiber Optics Assembly

The fiber optics to RS-232 converter is equipped with a duplex fiber-optic port for communicating with an 882IS or 882IS Plus located in the safe area. It provides electrical isolation and eliminates the use of I/O barriers commonly used in intrinsically safe systems. The optical fibers are plastic and the terminated ends must be properly polished prior to installation. Refer to POF Polishing Kit (PN 197384), for complete instructions on polishing the fiber-optic ends. See [Figure 1 on page 1](#) for the location of the duplex fiber-optic port in the fiber optics to RS-232 converter.



**WARNING:** Disconnect all power before opening the units being updated.



**IMPORTANT:** The fiber-optic connections between the 882IS and 882IS Plus indicator and the RS-232 converter needs to be cross-linked. The optical output of the 882IS indicator should be attached to the input of the RS-232 converter, and the indicator input to the module output.

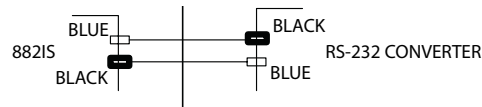


Figure 2. Fiber-Optic Cross Connection

Use the following steps for assembling the fiber-optic connectors of the fiber-optic to RS-232 converter:

1. Cut off the ends of the fiber-optic cable (500 ft length maximum), with a proper cutting tool such as a fiber-optic hot knife (PN 85548) or cutting block (PN 80892), ensuring no bends 90° or greater are in the cable.



**NOTE:** The cut end of the fiber-optic cable must be cut flush so that the core and outside insulation are equal. Core exposure can lead to failure.

2. Polish the fiber ends per the fiber polishing kit.
3. Insert the fiber-optic cable through the locking nut and into the connector until the core tip seats against the internal micro-lens; then back it out 1/16 in (1 mm).
4. Screw the connector locking nut down to a snug fit, locking the fiber-optic cable in place.

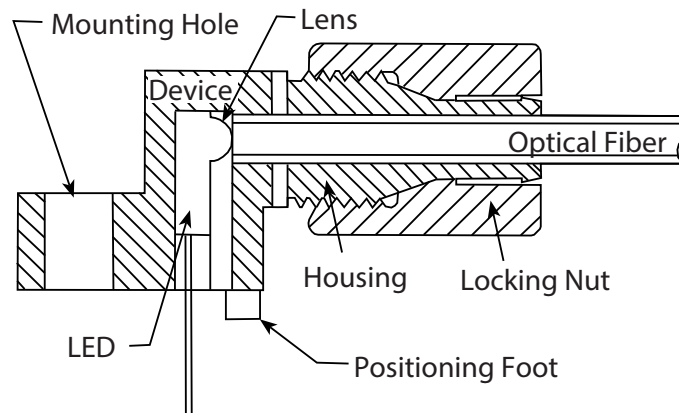


Figure 3. Fiber Optics Connector

## Remote Power Source for Fiber Optics to RS-232 Converter



**NOTE:** If source indicator has a digital input/output, it will provide 5V which can be used to power the card.

Connector J4 provides connections for power.

| Pin | Description   |
|-----|---------------|
| 1   | V+ (6 V–24 V) |
| 2   | V- (GND)      |

Table 1. J4 Power Connections

Connector J3 provides connections for the RS-232.

| Pin | Description |
|-----|-------------|
| 1   | TX          |
| 2   | RX          |
| 3   | GND         |

Table 2. J3 RS-232 Connections

Connector J5 provides a high and low power mode for fibers of varying materials and lengths.

| Power Mode | Pin     | Fiber Material/Length                               |
|------------|---------|-----------------------------------------------------|
| High       | 1 and 2 | Any length glass fiber;<br>200-500 ft plastic fiber |
| Low        | 2 and 3 | 1-200 ft plastic fiber                              |

Table 3. J5 Power Modes

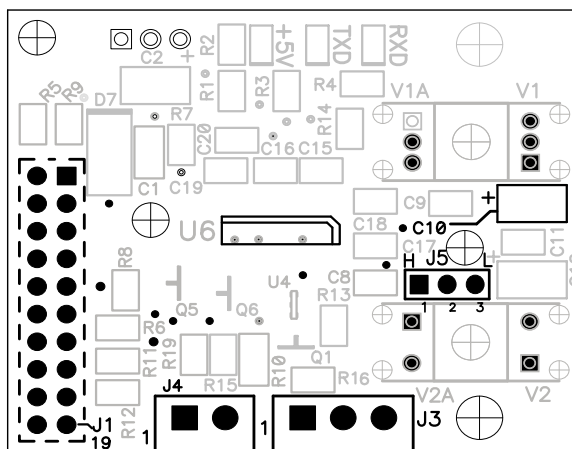


Figure 4. RS-232 Serial Fiber Optic Board

## Replacement Parts

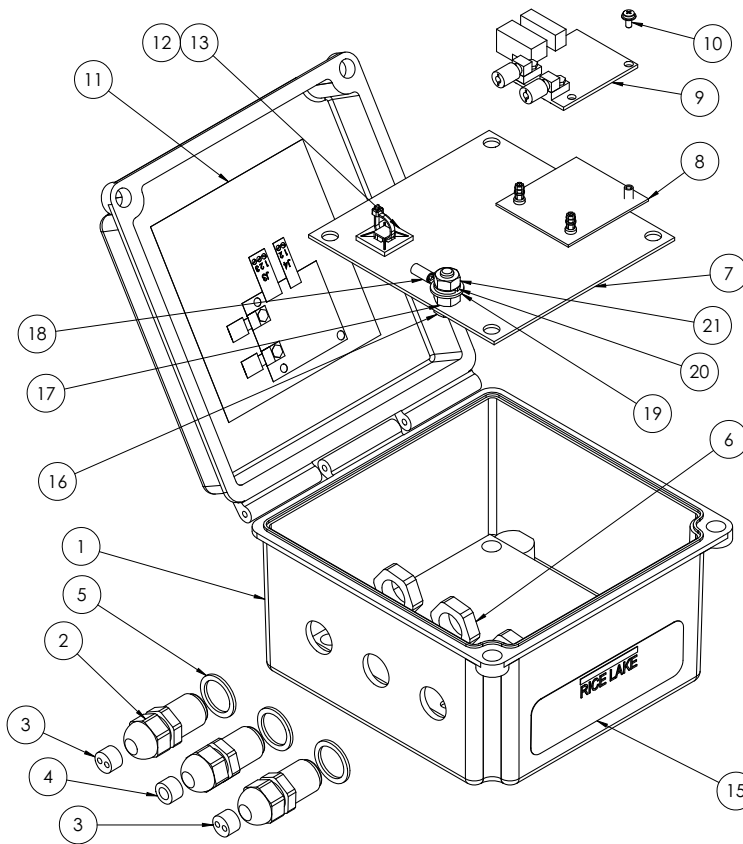


Figure 5. Replacement Parts

| Item No. | Part No. | Description                                                                          | Qty. |
|----------|----------|--------------------------------------------------------------------------------------|------|
| 1        | 197028   | Enclosure, Machined FRP                                                              | 1    |
| 2        | 15655    | Cord Grip, 3/8 NPT                                                                   | 3    |
| 3        | 73997    | Bushing, Multiple Cable Gland 9 mm - 3/8 NPT                                         | 2    |
| 4        | 15664    | Reducing Gland, 9 mm - 3/8 NPT                                                       | 1    |
| 5        | 178464   | Seal Ring, 3/8 NPT Nylon                                                             | 3    |
| 6        | 15656    | Locknut, 3/8 NPT                                                                     | 3    |
| 7        | 85308    | Backplate, FRP                                                                       | 1    |
| 8        | 78908    | Plate Assembly, RS-232/Fiber Optics Board Mount                                      | 1    |
| 9        | 77788    | Fiber Optics Board, RX/TX Option                                                     | 1    |
| 10       | 14822    | Machine Screw, 4-40NC x 1/4 Phillips Pan Head Internal Tooth Lock, Steel Zinc Plated | 1    |
| 11       | 198337   | Label, Wiring, Fiber Optics to RS-232 Converter Option                               | 1    |
| 12       | 15631    | Cable Tie, 3 in Nylon                                                                | 6    |
| 13       | 15650    | Mount, Cable Tie, 3/4 in                                                             | 3    |
| 14       | 197846   | Power Supply, 15 W 12 VDC Universal Input, 100-240VAC (not shown)                    | 1    |
| 15       | 52342    | Label, 4.00 x 1.25 VOID Matte                                                        | 1    |
| 16       | 14729    | Bolt, 1/4-NC x 3/4 Hex Head, Bronze                                                  | 1    |
| 17       | 14637    | Nut, 1/4-20NC Hex, Bronze Width Across Flats                                         | 1    |
| 18       | 33188    | Connector, Ring Terminal 1/4 in Stud Size 22-16 AWG                                  | 1    |
| 19       | 15149    | Washer, Plain STD 1/4 SST                                                            | 1    |
| 20       | 15148    | Lock Washer, 1/4 Regular Helical Spring SST                                          | 1    |
| 21       | 14642    | Nut, 1/4-20NC Hex SST Width Across Flats                                             | 1    |

Table 4. Replacement Parts List





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