
Instruction Manual



Anderson Instrument Co. Inc.
156 Auriesville Road
Fultonville, NY 12072
1-800-833-0081
Fax 518-922-8997

Instrument Model Number _____

Instrument Serial Number _____

PULSE Remote Display Unit (RDU)

Installation/Operation Guide

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Section 1 Introduction

Note: The remainder of this publication will refer to the Pulse Remote Display unit as simply the "RDU."

The RDU provides the flexibility of remote readouts up to 500 feet, end to end, from any configured Pulse 400, 800 or 1600. The RDU will duplicate the displays shown on the main Pulse Monitor. As a result, readings for non-linear vessels and changing products will be accurately calculated by the Pulse. From that point, the readings will be displayed on the RDU with no need for additional calculations or scale factors to be performed by the operator.

1.1 SPECIFICATIONS

Enclosure:	304 stainless steel, splash proof design	
Dimensions:	14-11/16" Length x 7-5/8" Width x 4-1/4" Depth	
Mounting:	Wall or Panel (Must be ordered)	
Display:	0.3" high red LED's for Weight or Volume digits, with 1/8" LED's for Weight, Volume and Alarm status indicators	
Cable Entry:	2 pre-punched for power and network cable	
Power:	110 VAC 50/60 Hz	
Display Capability:	Pulse 400	Channels 1-4
	Pule 800	Channels 1-8
	Pulse 1600	Channels 1-8 or 9-16
Network Cable Length:	500 ft. maximum total length	

Section 2 Installation

2.1 General Installation

A. Mounting

Dimensions of the RDU are as follows:

Outside Dimensions: 14-11/16" Length x 7-5/8" Width x 4-1/4" Depth

The above dimensions are identical on both the wall mount, as well as the panel mount enclosures. A 1/2" flange is provided around the perimeter of the enclosure for panel mounting.

Recommended Panel Cutout: 15" Length x 7-15/16" Width

Brackets are provided to allow the unit to be secured to a suitable wall surface. These brackets may be reversed to secure the unit in a panel mount application.

B. Power

Note: It is recommended that the fuse be removed from the upright holder within the RDU, as well as the Pulse Monitor, while making the necessary system connections.

The RDU requires 110 VAC power for operation. A punched wire entry has been provided for cable routing. It is recommended that power wiring be channeled separately from network wiring, and that the power also be on a dedicated line. This will prevent interference from entering the system.

Looking inside the RDU, from the front, you will see the Power Supply / Interface board running horizontally across the bottom of the case. Wiring connections are provided near the upright fuse holder for the 110 VAC power. Connections are labeled L1, L2 and Ground.

CAUTION: Be sure to follow all local electrical codes pertaining to wire placement and sizing.

C. Transmission Cable

The recommended network cable is as follows:

Belden Cable: Part #9831

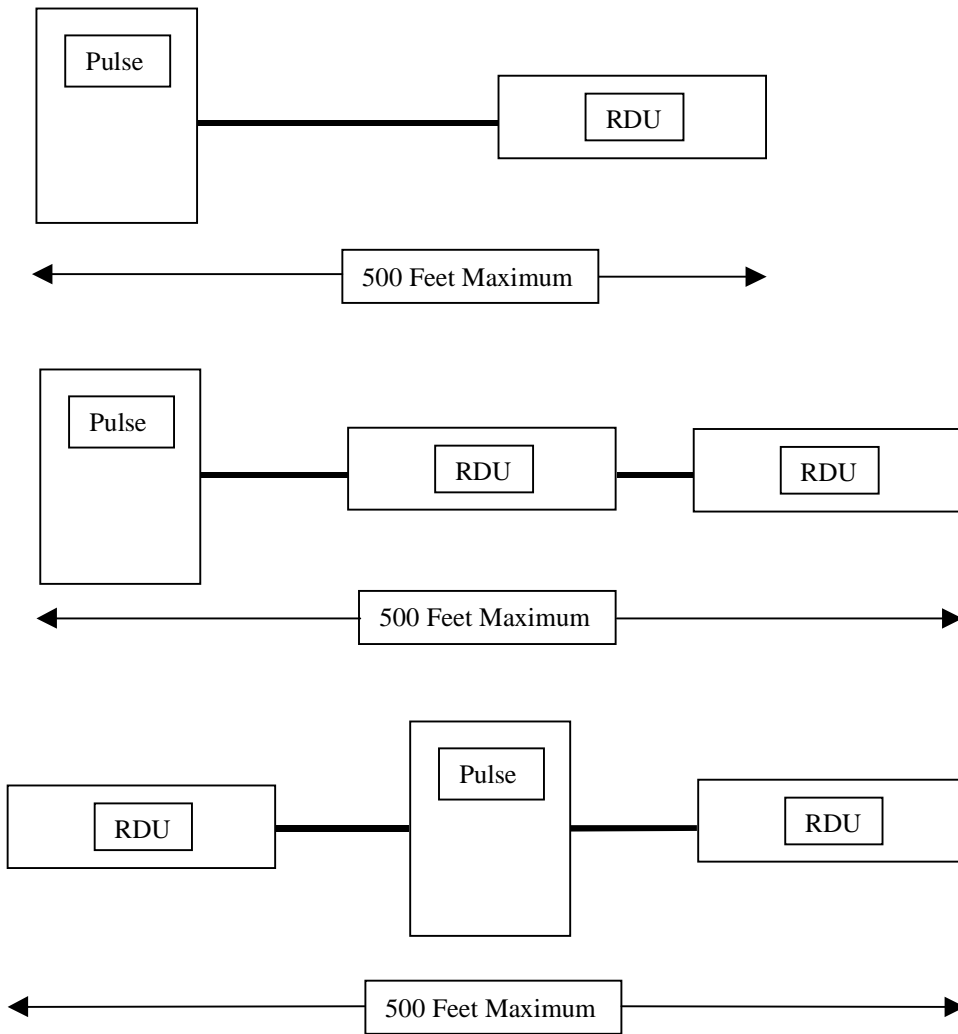
Carol Cable: Part #C0912

The cable is composed of four twisted pairs, shielded with continuous drain wire.

Note: One continuous length of cable must be run from either the Pulse to the RDU, or from and RDU to a second RDU. DO NOT splice cables or make connections in junction boxes. Moisture corrosion will effect signal transmission.

The maximum transmission length for the ENTIRE RDU network MUST NOT exceed 500 feet. The following diagrams show some typical applications.

Figure 1 - Typical Application Diagrams



2.2 Pulse RDU Retrofit and New Installation

The following procedure outlines the installation of the RDU transmission boards on a system retrofit, as well as final wiring connections for a new application.

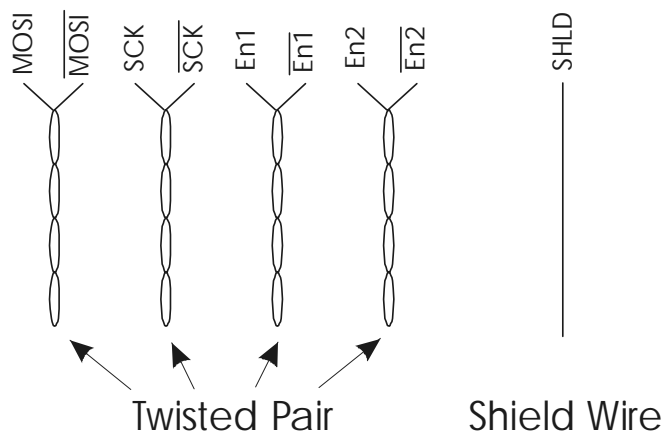
Prior to hookup, you should have the following complete:

- RDU mounted in panel, or proper wall mount
- Power fuses removed from RDU as well as Pulse
- Transmission cable installation complete

If your RDU came packaged with a replacement Pulse Back Plane Board, this is classified as a retrofit application. You should proceed to step "1" of the following procedure. If this is a new installation, start at step "4."

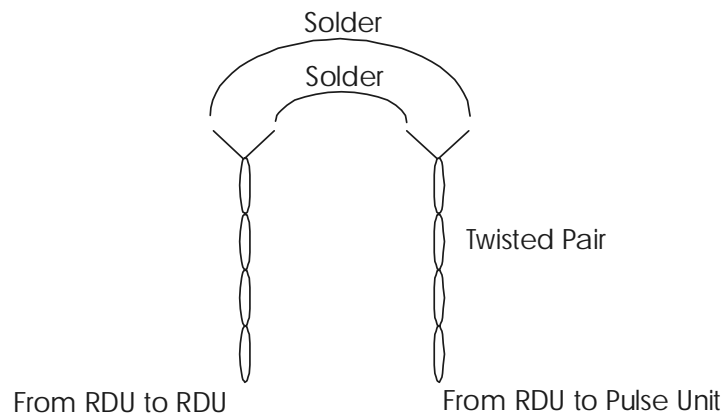
1. The first step for a retrofit application requires a swap of the Backplane (Motherboard). Be sure to label and document the position of all cable connections prior to removal.
2. Screw connections hold the motherboard in place. Remove and place in a safe location.
3. Install the new Motherboard into the Pulse, replace all mounting hardware and reconnect all cables. In a Pulse 400 upgrade, all relays, input / output cards and processor board should be moved from the old to the new board.
4. The RDU transmission board is located in the bottom right quarter of the motherboard (800/1600), and at the case bottom on a 400. Positions for 8 wire terminations are present, along with a connection for the cable shield ground wire. For proper signal transmission, it is recommended that all wire ends be properly cleaned and solder tinned.

Figure 2 - Single Unit Wiring Diagram



5. The transmission cable must be one continuous run from the Pulse to the first RDU. Wire entry points into the RDU case have been provided.
6. Connections in the RDU are made at the screw terminal block. The board is labeled in the same manner as the connections within the Pulse Monitor. Connections are made one to one. The Shield wire is NOT connected at the RDU. Be sure to cut back any wire for the shield so that it does not come in contact with anything within the RDU.
7. If an additional RDU is to be placed on the line, downstream from this unit, the transmission cable should be inserted into the same connections just completed above. All connections should be soldered for proper signal transmission. The shield for both cables should be soldered together, making one continuous run from the last RDU back to the Pulse. This wire attaches at the Ground in the Pulse only, no connections made in the RDU.

Figure 2 - Multiple Unit Wiring Diagram



8. At this time, verify the shunt jumpers to be sure the transmission line is terminated correctly. On the Pulse transmission board, the four shunts are labeled as block WB2. Location of the shunts on the RDU is at the left of the Power Supply / Interface board.

Configure as follows:

- 1 Pulse to 1 RDU – All shunts, positioned over both pins of the jumper, in both the Pulse and the RDU
- 1 Pulse to 2 RDU (In series) – All shunts positioned over both pins of the jumper in the Pulse, and also the furthest RDU in the line. All shunts removed from RDU unit in the middle.
- 1 Pulse to 2 RDU (Pulse located in middle) – All shunts positioned over both jumpers in both RDU's, and removed from all pins within the Pulse unit.

9. Secure the front cover back onto the RDU, and apply power.
10. Apply power to the Pulse unit. Once the Pulse completes power on initialization, data from the Pulse should now show on the RDU.

If the information on the RDU appears to be scrambled, or not active at all, depress the reset key within the Pulse – it is located on the Processor board of the Pulse unit.

Installation is now complete.

Section 3 Warranty and Returns

Warranty and Return Statement

These products are sold by The Anderson Instrument Company (Anderson) under the warranties set forth in the following paragraphs. Such warranties are extended only with respect to a purchase of these products, as new merchandise, directly from Anderson or from an Anderson distributor, representative or reseller, and are extended only to the first buyer thereof who purchases them other than for the purpose of resale.

Warranty

These products are warranted to be free from functional defects in materials and workmanship at the time the products leave the Anderson factory and to conform at that time to the specifications set forth in the relevant Anderson instruction manual or manuals, sheet or sheets, for such products for a period of one year.

THERE ARE NO EXPRESSED OR IMPLIED WARRANTIES WHICH EXTEND BEYOND THE WARRANTIES HEREIN AND ABOVE SET FORTH. ANDERSON MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE PRODUCTS.

Limitations

Anderson shall not be liable for any incidental damages, consequential damages, special damages, or any other damages, costs or expenses excepting only the cost or expense of repair or replacement as described above.

Products must be installed and maintained in accordance with Anderson instructions. Users are responsible for the suitability of the products to their application. There is no warranty against damage resulting from corrosion, misapplication, improper specifications or other operating condition beyond our control. Claims against carriers for damage in transit must be filed by the buyer.

This warranty is void if the purchaser uses non-factory approved replacement parts and supplies or if the purchaser attempts to repair the product themselves or through a third party without Anderson authorization.

Returns

Anderson's sole and exclusive obligation and buyer's sole and exclusive remedy under the above warranty is limited to repairing or replacing (at Anderson's option), free of charge, the products which are reported in writing to Anderson at its main office indicated below.

Anderson is to be advised of return requests during normal business hours and such returns are to include a statement of the observed deficiency. The buyer shall pre-pay shipping charges for products returned and Anderson or its representative shall pay for the return of the products to the buyer.

Approved returns should be sent to: ANDERSON INSTRUMENT COMPANY INC.
156 AURIESVILLE ROAD
FULTONVILLE, NY 12072 USA

ATT: REPAIR DEPARTMENT

