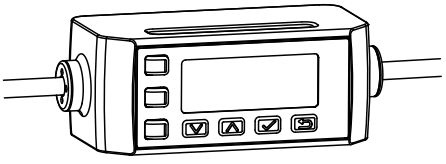
RSD1 Remote Display

Quick Start Guide

Remote Display and Configuration Tool

To view or download the latest technical information about this product, including specifications, dimensions, accessories, and wiring, see *www.bannerengineering.com*. Search 199621 to view the Instruction Manual. To check RSD1 compatibility with a sensor, reference the sensor specific literature.



- Allows for configuration of remote sensor heads
- Easy to set up and use with a 2-line, 8-character display
- Ability to display live distance measurement
- Ability to save up to 6 unique configurations
- Not required for continuous operation of configured sensor(s)

Models

Model	Output A and B	Connection
RSD1QP	Configurable	Integral 150 mm (6 in) PVC cable with 5-pin M12/Euro-style quick disconnect

Overview

The RSD1 remote display is designed to provide easy sensor configuration and monitoring with the ability to copy settings between sensors.

Features and Indicators

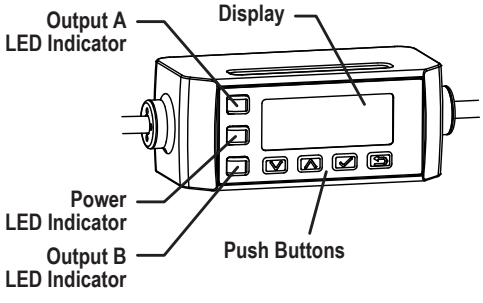


Figure 1. RSD1 Display Features

Three LED indicators on the RSD1 provide ongoing indication of the connected sensor status.

Output A LED Indicator
Solid Amber = Output A On
Off = Output A Off

Power LED Indicator
Solid Green = Normal Operation, Power On

Output B LED Indicator
Solid Amber = Output B On
Off = Output B Off

RSD1 Buttons

Use the RSD1 buttons **Down**, **Up**, **Enter**, and **Escape** to view or change RSD1 settings and information and to program a connected sensor.

Down and Up Buttons

Press **Down** and **Up** to:

- Navigate the menu systems
- Change programming settings

When navigating the menu systems, the menu items loop.

Press **Down** and **Up** to change setting values. Press and hold the buttons to cycle through numeric values. After changing a setting value, the value slowly flashes until the change is saved using the **Enter** button.

Original Document
199622 Rev. B

4 September 2018

199622

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Enter Button

Press **Enter** to:

- Confirm selection
- Save changes

In the RSD1 Menu, a check mark in the lower right corner of the display indicates that pressing **Enter** accesses a submenu.

Press **Enter** to save changes. New values flash rapidly, and the sensor returns to the parent menu.

Escape Button

Press and hold **Escape** for 4 seconds to:

- Access the RSD1 Menu while in Run mode

Press **Escape** to:

- Leave the current menu and return to the parent menu

Important: Pressing **Escape** discards any unsaved programming changes.

In the RSD1 Menu, a return arrow in the upper left corner of the display indicates that pressing **Escape** returns to the parent menu.

Press and hold **Escape** for 2 seconds to return to Run mode from the RSD1 Menu.

Programming a Sensor with the RSD1

When connected to a sensor and in Run Mode, the RSD1 mirrors the connected sensor's display. Program a sensor using the buttons on the RSD1.

For sensor programming information, reference the literature specific to the connected sensor.

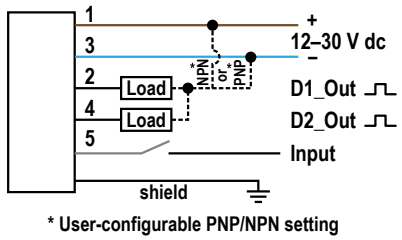
For more information on the options available in each RSD1 menu, reference the Instruction Manual (199621).

In addition to programming a connected sensor, the RSD1 buttons can be disabled to prevent unauthorized or accidental programming changes. See the Instruction Manual for more information.

Wiring Diagrams

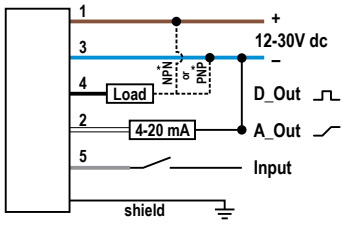
The following wiring diagrams are examples of different RSD1 outputs. Wiring is dependent on the sensor connected to the RSD1.

Dual Discrete



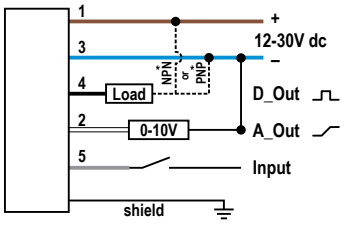
* User-configurable PNP/NPN setting

Discrete Analog (Current)



* User-configurable PNP/NPN setting

Discrete Analog (Voltage)



* User-configurable PNP/NPN setting

Note: When connecting a 5-pin sensors to the RSD1, a double-ended 5-pin to 5-pin cordset is optional. When connecting a 4-pin sensor to the RSD1, a double-ended 4-pin to 5-pin adapter cordset is required.

Display Menu Full Map

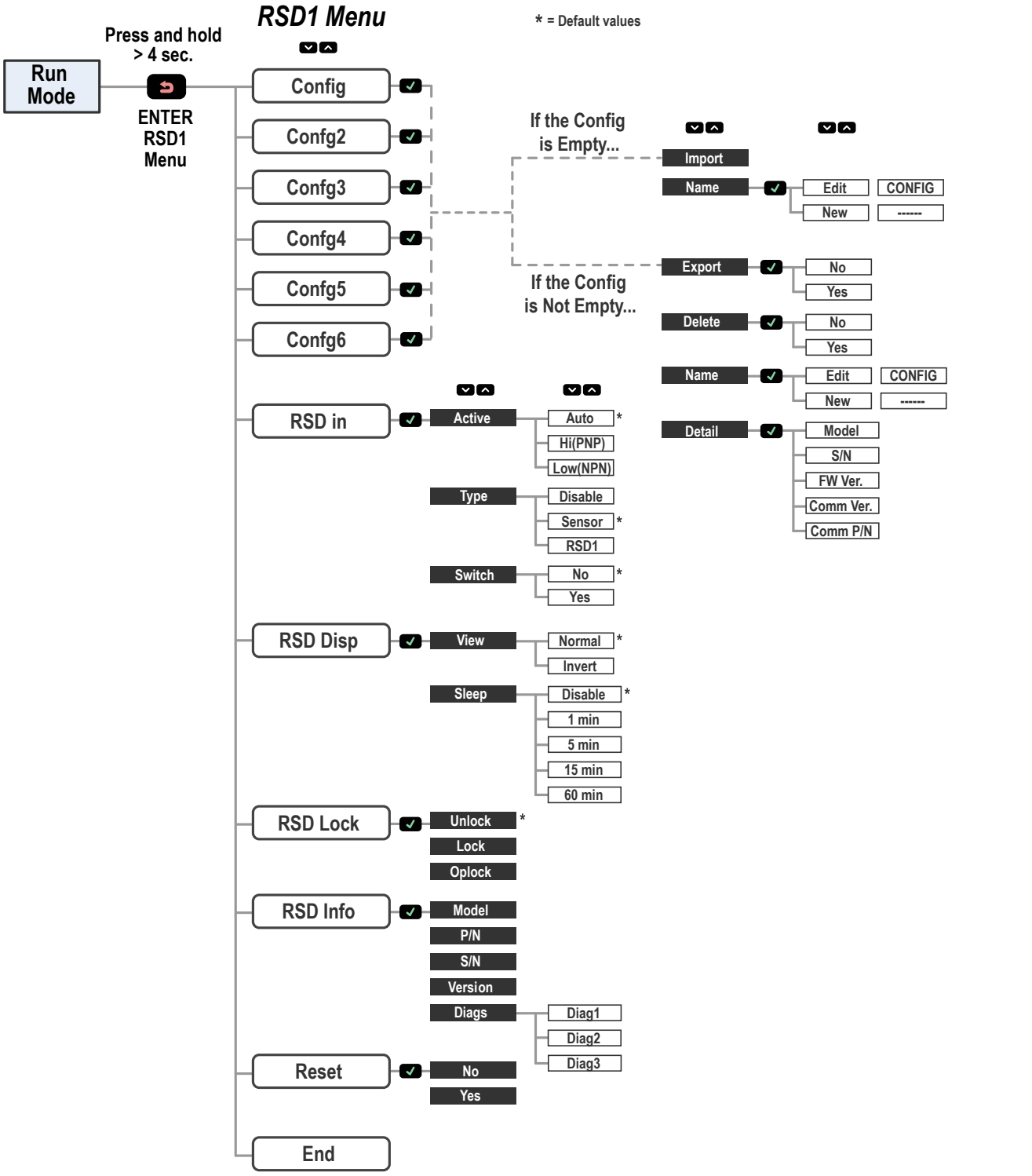


Figure 2. RSD1 Full Menu Map

Specifications

Supply Voltage

Use only with suitable Class 2 power supply
12 V dc to 30 V dc:

- Max. load of 330 Ω for analog current (4 mA to 20 mA)

15 V dc to 30 V dc:

- Max. load of 500 Ω for analog current (4 mA to 20 mA)

Power and Current Consumption

Maximum Power Consumption: < 3.6 W (At 30 V dc, 119 mA) with 2 discrete outputs at 50 mA load each
Power Consumption, Normal Run Mode with No Load: < 0.6 W (At 30 V dc, 19 mA)

Supply Protection Circuitry

Protected against reverse polarity and transient overvoltages

Output Configuration

Analog output: 4 to 20 mA or 0 to 10 V, depending on sensor
Discrete output rating: Discrete NPN/PNP, depending on sensor

Note: 2 ms output delay with white wire

Output Ratings

Discrete Output: 50 mA maximum (protected against continuous overload and short circuit)
OFF-state leakage current–PNP: < 10 µA at 30 V
OFF-state leakage current–NPN: < 200 µA at 30 V
Output saturation voltage–PNP outputs: < 3 V at 50 mA
Output saturation voltage–NPN outputs: < 2 V at 50 mA
Analog current output: 330 kΩ max. at 24 V; max. load resistance = [(Vcc-4.5)/0.02 Ω]
Analog voltage output: 2.5 kΩ min. load resistance

Connection

Integral 150 mm (6 in) PVC cable with 5-pin M12/Euro-style quick disconnect

Construction

Housing: Polycarbonate

Environmental Rating

IEC IP65

Operating Temperature

–10 °C to +50 °C (+14 °F to +122 °F)

Storage Temperature

–40 °C to +70 °C (–40 °F to +158 °F)

Vibration and Mechanical Shock

All models meet MIL-STD-202G, Method 201A requirements. Also meets IEC 60947-5-2. Vibration: 10 Hz to 60 Hz maximum, 0.06 inch (1.52 mm) double amplitude, 10G maximum acceleration per IEC 60947-5-2. MIL-STD-202G, Method 213B, Condition I (100G 6x along X, Y and Z axes, 18 shocks), with sensor operating. Also meets IEC 947-5-2 requirements: 30G 11 ms duration, half sine wave.

Certifications

Banner Engineering Corp. Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: *www.bannerengineering.com*.

© Banner Engineering Corp. All rights reserved