SNR-PP
Level Transmitter

■ Features

- Exterior Constructed of 316L Stainless Steel, Polyamide and Fluorocarbon.
- Very Accurate (±0.1% Total Error Band), Reliable, and Economical.
- Available in any length of vented Polyethylene cable, with a conduit shield option.
- Temperature Compensation over -10 to 80°C.
- 0 to 2.5 V output or 4-20 mA options available.
- 8 to 28 VDC Power supply range.
- Environmental monitoring applications.
- Lightning protection on 4-20 mA transmitters with proper grounding.

■ Operational Description

This durable weather instrument for monitoring streams, reservoirs, surface water, or tank levels can reliably and accurately provide you with consistent readings in a variety of operating conditions. This level transmitter was designed to provide a low-cost, reliable, industrial, submersible probe. Its simple design ensures trouble-free operation, yet provides very accurate readings when used with an Optimum Instruments Data Dolphin Series Data Logger. It has a stainless steel diaphragm with the option for titanium. 90 kg pull strength Polyethylene shield vented cable can be ordered to desired length, with the sensor including 25 feet standard. As an extra precaution to provide protection to the cable, aluminum flex conduit can also be added as an option to your cable.

The level transmitter can be used with any of the Optimum Instruments Data Loggers and will include the proper cable termination to connect. The pressure range can be calibrated to be from 0 to 15 PSI or anywhere in between. A calibration certificate is included and can be generated from our website in the User Section, providing 24/7 access to your Data Dolphins input settings to match your transmitter.

■ Applications

- Submersible level monitoring applications such as surface water, streams, and reservoirs.
- Combined with Optimum Instruments Data Loggers for accurate and precise measuring.

■ Usage and Care

Things to avoid are:
• Sharp impact against hard surfaces.
• Contact with chemicals known to be corrosive to the materials of construction.
• Probing of pressure sensing membrane directly with anything.

Cleaning
Regarding media-isolated products, should the pressure input to the sensor, transducer or transmitter become fouled, it may be cleaned in the following manner. The device should be slowly lowered membrane-first into a solution of warm, soapy water. Agitate the solution with the device and the fouling should disperse after a time. Continue agitating until the input to the device is clear. Should the fouling be of a nature that it cannot be dissolved with soapy water, use of a solvent is recommended, but only after compatibility with any o-ring seals in the SNR-PP product is determined. Follow the solvent manufacturer's recommendations for safe handling.

■ Installation

The following is important installation and general maintenance information for submersible transmitters.

1. Transmitter Anchoring: It is recommended that the submersible transmitters be installed in a stilling well or attached to rigid conduit via a conduit fitting integral to the transmitter, in order to prevent damage to the transmitter from impact with immovable objects. It is not advisable to tie the transmitter to a pump or to piping, as any problem with the transmitter could require that the pump be pulled from the installation. Some applications require the transmitter to be suspended without a protective stilling well or conduit attachment. In all installations, care should be taken to prevent damage to the submersible cable.

2. Transmitter Submersion: Damage to submersible cable can lead to failure of the transmitter. Optimum employs a rugged, Hytrel® cable jacket to minimize the risk of cuts and abrasion. Still, take care when lowering your transmitter into the well, making sure the cable does not drag over sharp edges. Avoid dropping the transmitter from the surface. Optional conduit covering can also be ordered to provide additional protection.

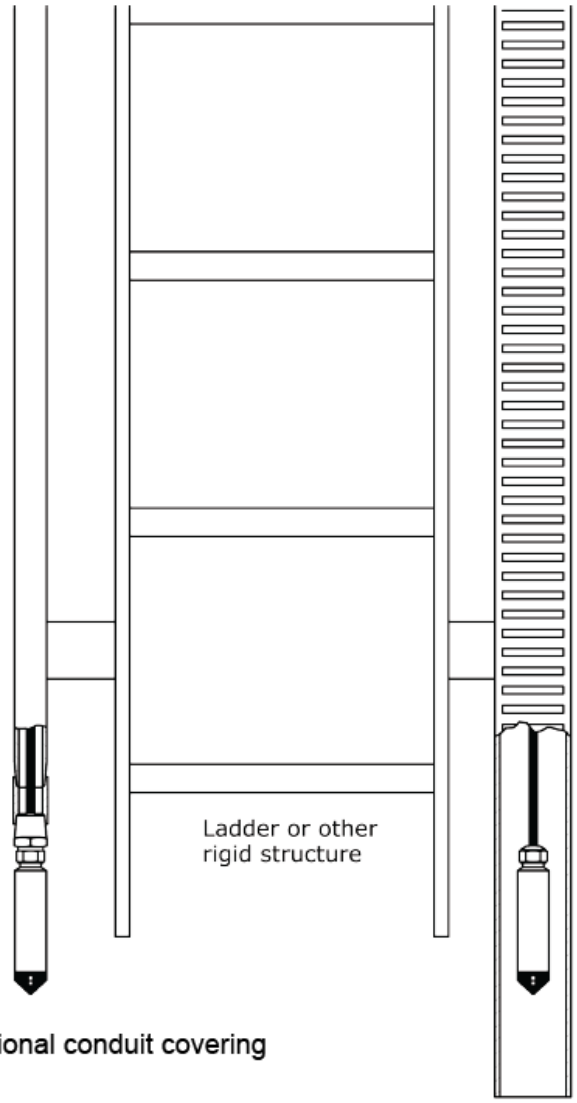
3. Condensation protection: The size of the cable vent has been optimized to minimize the occurrence of water vapour incursion. In areas of high humidity, it may be desirable to use a Desiccant Tube to prevent water vapour from entering the vent tube.

4. Bending of Cable: The Hytrel-jacketed cable is quite flexible. However, care must be taken to ensure the vent tube integral to the cable is not crimped when bending the cable to suit your installation. It is recommended that the cable **not** be bent to a radius **smaller** than **1 inch**.

5. Cable Compression: Many users employ a compression fitting to secure the cable as it enters a junction box. Care must be taken that the fitting is not over tightened, causing damage to the cable and/or crimping the vent tube.

6. Position Sensitivity: The transmitter should be installed in a vertical position; otherwise it may exhibit an offset. If the transmitter must be installed in any position other than vertical, measure the output with no pressure applied prior to connection and use the measured value to tare the readings.

■ *Typical Installation Mounting Example*



SNR-PP with optional conduit covering

SNR-PP installed in customer supplied stilling well.

■ *Wiring (Without Optimum Instruments DD-400 Pigtail)*

Output	*White*	*Black*	*Red*	*Blue*	*Yellow*
2-wire 4-20mA	*OUT/GND*	*+Vcc*	*N/A*	*RS485A*	*RS485B*
3-wire 2.5VDC	*GND*	*+Vcc*	*+OUT*	*RS485A*	*RS485B*

■ *Wiring (With Optimum Instruments DD-400 Pigtail)*

Output	*White*	*Black*	*Red*
3-wire 2.5VDC	*Signal Output*	*Ground*	*+12VDC*

Optimum Instruments Inc.
Innovations in Data Collection

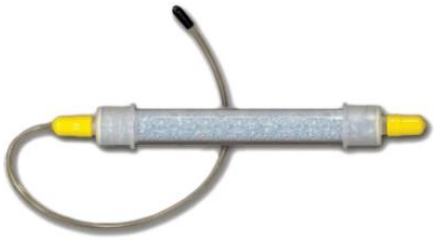
Level Transmitter Specification
SNR-PP

■ Technical Specifications

Characteristics	
• Pressure Range	Between 0-900 ft W.C Customer specified
• Accuracy	±0.1% T.E.B. or better*
• Compensated Temp. Range	-10 to 80 °C
• Voltage Supply:	
4-20 mA out model	11 to 28 VDC
0-2.5 V out model	8 to 28 VDC
• Load Resistance Ω (mA Out)	mA: < (Supply - 8V)/0.02A
• Load Resistance Ω (volt Out)	VDC: >4K Ω
Environmental	
• Standard	-10 to 80°C (14 to 176°F)
Physical	
• Materials	Standard 316L S.S (opt. titanium), Polyamide, Fluorocarbon. Vented and shielded Polyethylene cable, with optional Aluminum conduit jacket

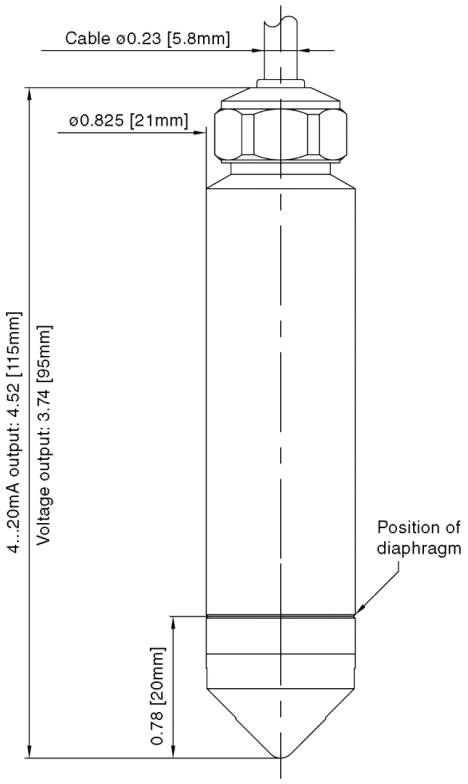
Specifications are subject to change without notice.
*Actual Max accuracy typically surpasses 0.1% Full Scale.

Level Transmitter comes standard with 25 feet of cable terminated to match your Data Dolphin data logger.



Includes desiccant filled tube with vent hose.

■ Physical Dimensions



■ Ordering Information

Model Number	Description
Transmitter:	
SNR-PP-ACCULEVEL	High Accuracy Level Transmitter 0-2.5V Out
SNR-PP-ACCULEVEL-4-20	High Accuracy Level Transmitter 4-20mA Out
Cable Options:	
CBL-PP-ACCULEVEL-1	Self-Sealing Polyurethane Jacketed and Shielded Cable with Atmospheric Vent Tube
MSC-ALM-3/8	3/8" Aluminum Flex Conduit Cable Shield
Desiccant:	
MSC-DSC-TUBE	Desiccant Tube Filter
MSC-DSC-REFILL	Desiccant Tube Filter Refill

Optimum Instruments Inc.
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Tel: 1/866/865-97780 • Fax: 1/780/440-2515
www.datadolphin.com
E-mail: optimum@optinst.com