



Depth and Level Transmitter SDI-12

VersaLine VL3004 Series



- Total Accuracy: $\leq \pm 0.1\%$
- SDI-12 v1.3 Protocol
- Ranges: 0-20"WC to 0-700psi
- Level and Temperature output
- Lightning Protection
- Stainless Steel 316 construction

The PMC VersaLine VL3004 Series features the SDI-12 protocol. These submersible transmitters are specifically designed for depth and level measurements of groundwater, wastewater, and sea water. Typical applications are wells, dams, irrigation, sewage lift stations, rivers and oceanography. The stainless steel housing will satisfy many applications. Titanium is also ideal in brackish or sea water, or other chemical environments unsuitable for stainless steel. The standard polyurethane vented cable is molded to the transmitter providing the highest integrity waterproof assembly well proven in thousands of installations worldwide. Kevlar is used to avoid any cable elongation when longer lengths up to 5000 feet are required for deep wells. It should however be noted that when using SDI-12 protocol the cable length can be limited by the number of transmitters on the same line. For example the current SDI-12 specification states that - "the bus is capable of having at least 10 sensors present each with 200 feet of cable on each sensor". We can also confirm that when a single transmitter is used cable lengths of up to 500ft are acceptable. For really long lengths up to 5000ft PMC recommends the VL4500 series with 4-20mA output. FEP cable is available as an alternate for harsh environments. A feature of the VL3004 Series are full scale ranges as low as 20" WC.

The VersaLine VL4000 and MTM/N10 offer similar performance with 3/4" and 3/8" diameter housings respectively suitable for deeper or smaller well installations. **The VL2000** provides an open face construction avoiding clogging or sludge build up in wastewater and similar applications. PMC manufactures a wide range of other level transmitters including sanitary flush designs for use in water and wastewater management, food and beverage, pulp and paper, and pharmaceutical applications. Please refer to appropriate data sheets.

An extensive range of accessories is available including Sink Weights, Cable Hangers, and a unique method of avoiding water ingress through the breather tube for vented gauge transmitters. Also offered are Calibration Adaptors, Lightning Protection, and Cable Termination Boxes. Please see separate data sheet VLA 702 detailing these items.

Specifications

■ Full Scale Ranges (Zero Based)

0-20, 50, 100"WC
 0-1, 5, 10, 15, 30, 50, 100, 150, 300, 500, 700 psig
 0-30, 50, 100, 150, 300, 500, 700 psia
Other ranges and pressure units can be specified

■ Accuracy

Pressure: $\pm 0.06\%$ FS (BSL)
Combined non-linearity, hysteresis & repeatability
 Setting offsets - zero: $\pm 0.25\%$ FS, span: $\pm 0.06\%$ rdg.
 Temperature: $\pm 0.8^\circ\text{F}$ (Resolution: $\pm 0.02^\circ\text{F}$)

■ Overpressure

Full scale ranges up to 5 psi - $>3X$
 Full scale ranges above 5psi - $>2X$

■ Operating Temperature Range

-10° to $+140^\circ\text{F}$ (-20° to $+60^\circ\text{C}$) - non freezing

■ Compensated Temperature Range

30° to 115°F (-2 to $+45^\circ\text{C}$)

■ Temperature Effects (Compensated)

Total Thermal Error Band: $\pm 0.1\%$ FS

■ Electrical

3-wire
 Supply: 6-40 Vdc
 Current: $<250\mu\text{A}$ when idle, $<4\text{mA}$ when active
 Output: SDI-12 v1.3, <http://www.sdi-12.org/>

■ Electrical safety

Internal lightning protection
 Reverse polarity protection

■ Cable

Polyurethane molded vented with Kevlar, 4 conductors
 - up to 500ft, see <http://www.sdi-12.org/> for limitations
Contact factory for FEP cable, or longer lengths

■ Housing

316L Stainless Steel or Titanium
Note: 5-year corrosion warranty for Titanium housing.

■ Materials of construction

Stainless Steel 316L (or titanium), Delrin, Viton and Polyurethane (or FEP)

■ Weight

10.5 oz. (excluding cable)

PMC adopts a continuous development program which sometimes necessitates specification changes without notice

HEAD OFFICE



Process Measurement & Controls, Inc.

11 Old Sugar Hollow Road
 Danbury, CT 06810 U.S.A.
 Tel: 203-792-8686
 Fax: 203-743-2051
 Email: sales@pmc1.com
www.pmc1.com

Ordering Information

VersaLine VL3004 Series

Depth & Level 1" diameter SDI-12 sensor

When ordering please specify the following:

(1) Model number from the table below

MODEL – Construction	
3	Depth Cone 1"
Housing Material	
1	316L Stainless Steel
2	Titanium – 5 year warranty
Electrical Connection	
1	Polyurethane molded cable
2	FEP cable
Electrical Configuration	
4	SDI-12

(3) (1) (1) (4) Example Model Number

(2) Range, including engineering units

(3) Cable length

Example Ordering Format:

VL3114-15psi-15'

Options

HART Communication Protocol

1/2" NPT Conduit Style Cable Connection

Intrinsically Safe Approvals

PMC offers a range of accessories and variants for depth and level transmitters.

Please contact the factory for further information

