

# DEPTH & LEVEL TRANSMITTER SDI-12 VERSALINE VL3004 SERIES

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

## TECHNICAL SPECIFICATIONS

<b>Full Scale Ranges (Zero Based)</b>	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 <i>Other ranges and pressure units can be specified.</i>
<b>Accuracy</b>	Pressure: <math>\pm 0.06\%</math> FS (BSL) <i>Combined non-linearity, hysteresis &amp; repeatability</i> Setting offsets - zero: <math>\pm 0.25\%</math>FS, span: <math>\pm 0.06\%</math> rdg. Temperature: <math>\pm 0.8^{\circ}</math>F (Resolution: <math>\pm 0.02^{\circ}</math>F)
<b>Overpressure</b>	Full scale ranges up to 5 psi - >3X Full scale ranges above 5psi - >2X
<b>Operating Temperature Range</b>	-10° to +140°F (-20° to +60°C) - non freezing
<b>Compensated Temperature Range</b>	30° to 115°F (-2° to +45°C)
<b>Temperature Effects (Compensated)</b>	Total Thermal Error Band: <math>\pm 0.1\%</math> FS
<b>Electrical</b>	3-wire Supply: 6-40 VDC Current: <math>< 250\mu A</math> when idle, <math>< 4mA</math> when active Output: SDI-12 v1.3, <a href="http://www.sdi-12.org/">http://www.sdi-12.org/</a>
<b>Electrical safety</b>	Internal lightning protection. Reverse polarity protection.
<b>Cable</b>	Polyurethane molded, vented with Kevlar, 4 conductors - up to 500ft, see <a href="http://www.sdi-12.org/">http://www.sdi-12.org/</a> for limitations <i>Contact factory for FEP cable, or longer lengths</i>
<b>Housing</b>	316L Stainless Steel or Titanium with 5 year corrosion warranty
<b>Weight (excluding cable)</b>	10.5 oz. (excluding cable )

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

## Process Measure Control

### Features

- SDI-12 v1.3 Protocol
- <math>\pm 0.1\%</math> Total accuracy
- 0-20" WC to 0-700 psi
- Level & Temp. output
- Lightning Protection
- CE

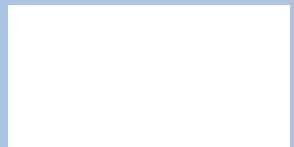
### Applications

- Small Bore Holes
- Water Level
- Waste Water
- Oceanography
- Ground Water

### Contact

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Represented by:



Your depth and level specialists for Ground, Surface, Sea and Waste Water

## PMC Configurator

VL	x	x	x	x
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<b>Model Construction</b>	1" Depth Cone	3	
<b>Housing Material</b>	316L Stainless Steel (refer to PMC)	1	
	Titanium-5 year warranty	2	
<b>Electrical Connection</b>	Polyurethane molded cable	1	
	FEP cable	2	
Cable length must be specified at the time of ordering.			
<b>Electrical Configuration</b>	SDI-12		4

**Example Ordering Format: VL3114 - 15psi - 50' cable**

## RELATED PRODUCTS

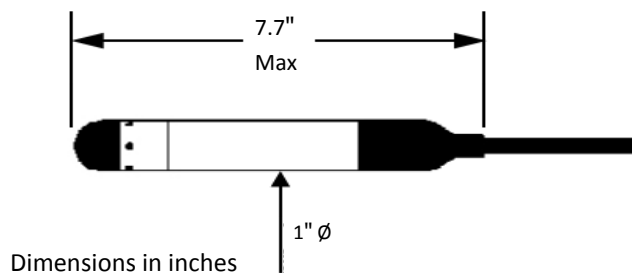
The VersaLine **VL4000** and **MTM3000** offer similar performance with 3/4" and 3/8" diameter housings respectively suitable for deeper or smaller well installations. The **VL2000** provides an open face construction avoiding clogging or sludge build up in wastewater and similar applications. PMC manufactures 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.

## FOR ZERO MAINTENANCE



In order to reduce on site maintenance PMC has developed the MP 11 Moisture Protection Reference Volume. For vented gauge transmitters this provides a total isolation to the atmosphere by using a custom bladder while maintaining the high performance of the transmitter. This changes volume with Barometric pressure. Totally maintenance free. Please specify MP 11.

## MECHANICAL DETAILS



## ELECTRICAL DETAILS

Configuration	+Ve Supply	0V Supply	Output
SDI-12	Red	Black	Yellow

## Process Measure Control

### Sensors for

- Pressure
- Level
- Vacuum
- Humidity
- Temperature
- Force
- Position

### Accessories

PMC offers a range of Accessories and variants for depth and level transmitters. Reference sheet VLA502

- Termination Enclosure
- Cable Hanger
- Moisture Protection
- Calibration Adaptor
- Sink Weights
- Level Meters

### PMC is

- Engineering Driven
- Confidential
- Experienced
- Responsive
- Dynamic
- Friendly

**Your depth and level specialists for Ground, Surface, Sea and Waste Water**