



**INSTALLATION DATA MANUAL**  
**Model 517, LP717, WW517 & 817**  
**Pressure Transmitters**

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## COMPANY BACKGROUND

Viatran is an ISO 9001:2000 company certified company committed to providing high quality pressure transducers and transmitters. Established more than 40 years ago, Viatran has built its reputation on providing durable, and accurate pressure sensing devices. Our products are often specifically specified by integrators and engineering firms for applications ranging from the offshore oil rigs to pump control to tank and well level measurement. Viatran is often called for custom modifications for applications where standard products are not available.

## TECHINCAL SUPPORT

Technical assistance is available Monday-Friday 8:00 AM to 5:00 PM (Eastern) from our knowledgeable factory personnel to answer any of your application or installation questions. Our toll free number is 1-800-688-0030. Questions or additional documentation can also be requested via e-mail at [solutions@viatran.com](mailto:solutions@viatran.com).

## CUSTOMER SERVICE

Orders for additional units or accessories can be place by calling customer service at 1-800-688-0030 or by fax at 1-716-693-9162. Orders can also be placed by contacting a local representative in your area. To find the nearest representative visit our web site at [www.viatran.com](http://www.viatran.com).

## PRODUCT OVERVIEW

### Manual Scope:

All information contained in this document is representative of a standard Model 517, 817, LP717 and WW517. If the product you ordered has special requirements or modifications, refer to the permanently marked information on the product and your purchase order for possible alteration to the product's configuration. Failure to verify product configuration before installation may cause permanent product damage and in most cases, void the manufacturer's product warranty. If you are unsure or have questions about your product, please contact our Application Engineers for assistance.

Remove and retain all instruction manuals and performance certificates that are shipped with the product. These documents provide important information on the product's calibration, operation, safety precautions, recommended maintenance, re-calibration requirements, repair service instructions and warranty information. These documents are updated from time to time as changes to the product occur and should be reviewed at receipt so that proper and safe installation can occur.

### Product Description and General Use:

Viatran's submersible series transmitters are piezoresistive sensing chips using an isolated sensing diaphragm to measure hydrostatic pressure. The output is model dependent. The model 817 has a 0-50 or 0-100 mV output signal (range dependent), the 517 and WW517 provides an amplified current output signal of 4-20mA and the LP717 has a standard 0-4 VDC output signal.

Viatran's submersible transmitters are designed to be lowered directly into the media being measured. Care should be given not to subject the sensing diaphragm to any sudden pressure shock from throwing the unit into the media. By lowering the unit slowly into the liquid, excessive pressure shocks can be avoided. The 517, LP717 and 817 are completely constructed of either 316 stainless steel or of optional titanium including sensor diaphragm. Our standard cable offerings are polyurethane or Tefzel. The Model WW517 is 316 stainless steel construction with Teflon coated sensing diaphragm. Ensure the media is compatible with the material your unit is constructed of.

### Special Features:

All of Viatran's submersible units with amplified output signals come with internal surge (lightning) suppression circuitry to prevent the unit from failing. Although no protection can prevent failure from a direct lightning strike this circuitry does provide protection from area surges. Additional protection of up to 10kA is available from Viatran in a DIN Rail mounted device that can be mounted in a panel box at the cable termination.

### Hazardous Location Approvals:

The model 517 and 817 can come with both CSA and FM intrinsically safe labeling for hazardous locations in the USA and Canada. The approved labeling must be called out by option code at the time of order. If intrinsic safety approvals are required please refer to the enclosed connection drawing for the correct barrier parameters.

### Basic Operation:

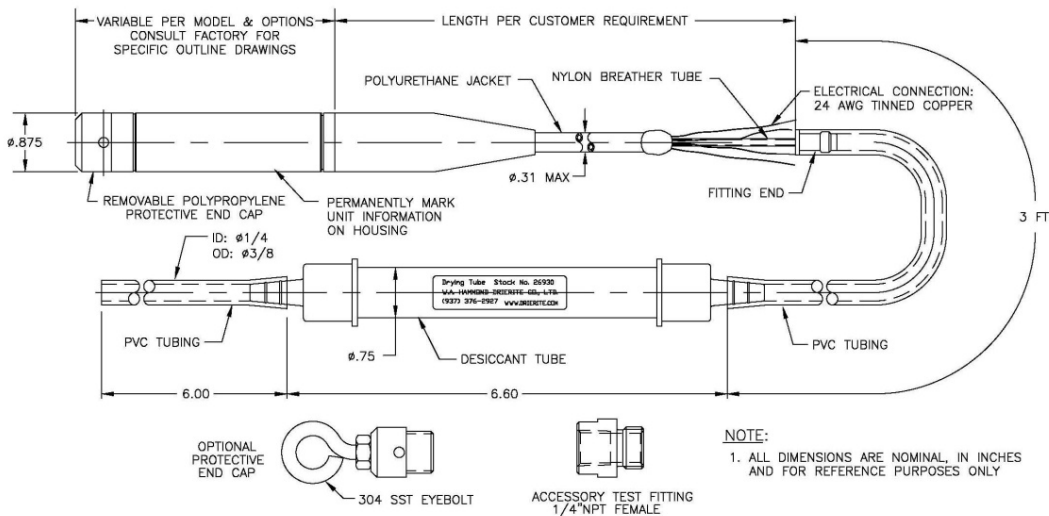
All of Viatran's submersible models are pre-set at the factory for the required output and is referenced to atmospheric pressure (zero PSIG). Once factory set, the product should perform as indicated by the performance certificate and product labeling. In all cases the zero and span cannot be externally adjusted, hence any deviation from the factory settings could indicate damage to the sensor, electronics (model dependent), or both. A deviation could also indicate a plugged desiccant tube, which can be easily replaced. All units are sent with a calibration card that contains unique calibration for your Viatran unit. Please retain this sheet; should the zero or span reading vary greatly from the calibration card it may indicated damage to the sensor or some form of obstruction in the cable breather tube.

**Handling Requirements and Cautions:**

1. All electrical & pressure connections should be compatible with the model specifications as outlined above.
2. The product's internal electrical circuitry is DC isolated from case ground. It is recommended that the case ground wire be connected to earth ground at the cable termination as this is an integral part of the internal surge protection and noise immunity features.
3. On some lower range models a breather opening, with breather filter, is used to allow for proper product function. At no time should the filter be removed in service. If any mist, vapor or fluid is permitted to enter this breather without the filter, total unit failure will occur.
4. At no time should an object be inserted into the pressure port or pressed against the sensing area to deflect the sensor (to test or simulate pressure), as on some models permanent damage to the sensing diaphragm may occur.
5. When shipped in quantities, units should be packaged individually to eliminate possible damage.

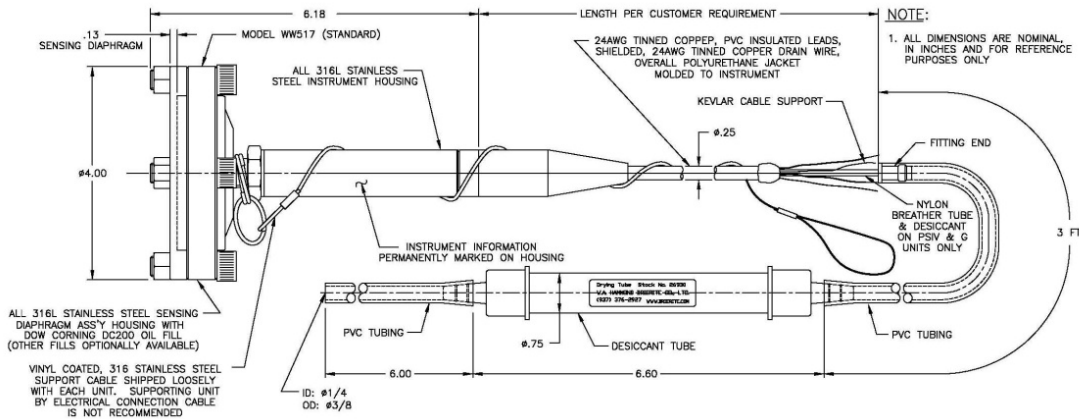
**DIMENSIONAL DRAWINGS - VIATRAN MODEL 517/LP717/817**

Note: The drawing below is for informational purposes only and is not to scale. All dimensions are nominal, in inches and for reference purposes only.



**DIMENSIONAL DRAWINGS - VIATRAN MODEL WW517**

Note: The drawing below is for informational purposes only and is not to scale. All dimensions are nominal, in inches and for reference purposes only.



**Standard Wiring:**

**Model 517/WW517**

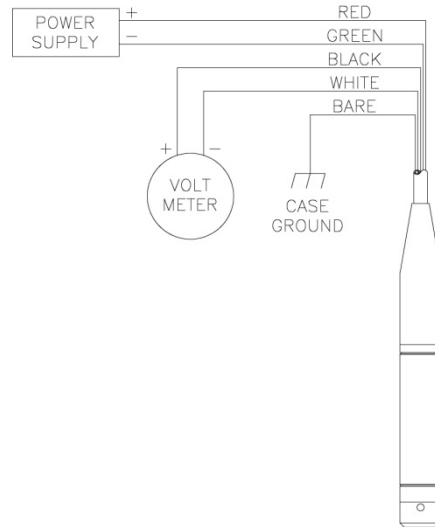
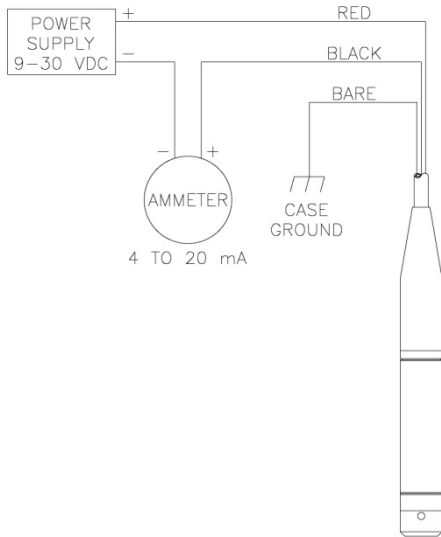
Wiring:

- Red: +Signal**
- Black: -Signal**
- Green: Case Ground**

**Model LP717/817**

Wiring:

- Red: + Power**
- Black: + Signal**
- Green: - Power**
- White: - Signal**



**Mechanical Installation:**

Models 517, LP717 and 817 are generally suspended directly into the media. An optional nose cone can be ordered to replace the standard cap for hanging weights on the unit to prevent movement. It is recommended that the weight be limited to a maximum of two pounds. Another method is to anchor the unit to a rigid fixture using the optional male conduit connection or by means of a bracket.

The Model WW517 is also generally suspended in the media however it comes equipped with an additional stainless steel wire capable of holding up to two hundred pounds. It is suggested that this wire be used for placing and retrieving the unit rather than the electrical cable. The end should be tied off at the termination end so prevent it from falling into the tank.

**Standard Wire Information:**

Specifications:	Standard Polyurethane Cable
Weight	0.04 lbs/ft.
OD	0.25"
Max Pulling Tension	30 lbs.
Conductors	4-24 AWG
Insulation:Conductors/Jacket	PVC/Polyurethane
Drain/Shield	32AWG
Vent Tube	0.085 OD Nylon
conductor Resistance	0.026 ohms/ft

## ACCESSORIES – OPTIONAL EQUIPMENT

Please contact Viatran for these and other available accessories.

Digital Meter  
Breather Tube Filter

Protective End Cap  
Accessory Test Fitting

Aneroid Bellows

## MAINTENANCE AND REPAIR

All Viatran transmitters have been designed to function free from routine or scheduled maintenance. Simple cleaning of the pressure cavity on an as needed basis will provide many years of satisfactory performance. Protecting the product from continued exposure to moisture or fluids at the electrical connection and breather area will eliminate premature internal failure of the product. Generally any time the product is removed from service, the pressure cavity should be flushed with a stainless steel compatible cleaner to prevent media buildup. During the cleaning process only a soft, lint-free cloth is recommended. Never use a coarse or stiff bristle brush to clean media from the diaphragm surface.

It is suggested that the calibration be verified on a usage dependent schedule. If the product is in continuous service 7 days a week, then calibration verification may be necessary every 6 to 8 months. If the product is in a lab test environment a more lenient verification schedule would be appropriate. In all instances the performance of the product will depend on the individual application or process in which it is installed. More continued usage would require a shorter period between calibration verification and product maintenance.

If a product is perceived to be exhibiting problems, it can be returned to Viatran for analysis and/or repair. It is suggested that only Viatran personnel attempt repair of the product. Any damage resulting from customer disassembly would result in a loss of coverage under the warranty policy. Older products returned for repair are updated to current specifications unless the repair cost would outweigh the cost of a new replacement model. Products returned for repair should include information on the person to contact for repair quote approval, the individual to contact if Viatran's technical staff requires additional information during analysis, and a brief description of the problem associated with the product's failure.

## REPAIR INSTRUCTIONS

Viatran's Transmitters are designed to be easily repaired and recalibrated if necessary. If a failure occurs, the transmitter should be returned to the factory for inspection and testing. Please contact the Customer Support Department at 1-800-688-0030, for a return tracking number and/or a repair cost estimate. A nominal inspection fee is charged on all units returned to the factory which are not subsequently repaired.

## WARRANTY

Viatran Corporation warrants that its products shall be free from defective workmanship and/or material for a period of twelve (12) months from the date of shipment, provided that Viatran's obligation hereunder shall be limited to correcting any defective workmanship and/or replacing any defective material f.o.b. factory. No allowance will be made for any expense incurred for correcting any defective workmanship and/or material without written consent by Viatran. This warranty is in lieu of all other warranties expressed or implied.

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