



**Model SST Slimline
Submersible Pressure Transmitter
Installation and Operation Manual**





Model SST Slim-Line Submersible Level Transmitter

DESCRIPTION

The Model SST Submersible Level Transmitter provides the same high quality level measurement capability as our other level products, but in a smaller package. The 0.69 inch diameter housing allows the unit to fit into small bore applications. The simple design and rugged construction of this solid state instrument provide long lasting service with virtually no maintenance.

The Model SST Transmitter indicates the level of liquid by continuously measuring hydrostatic pressure via its sensing element, an ion implanted silicon semiconductor chip with an integral Wheatstone Bridge. Once the sensor measures the pressure, the data is transmitted by a 4 to 20 mA two wire output signal. This design provides for excellent linearity and repeatability, low hysteresis and long term stability.

The Model SST is easy to install, too. Simply lower the transmitter into a vessel or well. It's that easy. All the electronics are mounted in a submersible 316 stainless steel housing.

The transmitter is available calibrated for any span needed, from 0 to 6 psi or 0 to .4 bar (0 to 13.8 feet or 0 to 4.2 meters of water) to 0 to 150 psi or 0 to 10 bar (0 to 345 feet or 0 to 105 meters of water).

APPLICATIONS

- Small bore applications, pitless adaptors
- Tanks
- Ponds
- Rivers
- Lakes
- Water wells
- Landfills
- Flood channels

FEATURES

- 0.69 inch diameter to fit in small bore systems
- Solid state semiconductor sensor for accuracy and reliability
- Rugged 316 stainless steel diaphragm and housing with excellent environmental protection
- Easy to install and use
- Removable, non clogging snubnose end protects sensing elements
- 2 wire 4 to 20 mA output
- Silicone potted internally and at cable end for moisture protection
- Reverse polarity, surge, and lightning protection
- Anti-sag feature for easy probe removal

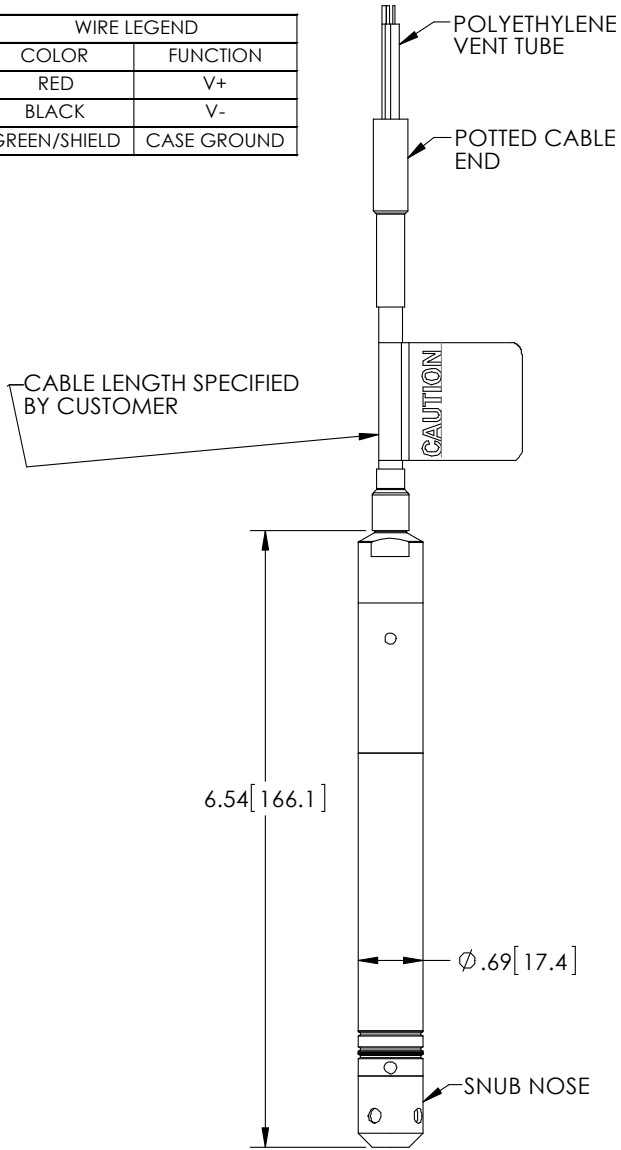


*Model SST
Slim-Line
Transmitter*

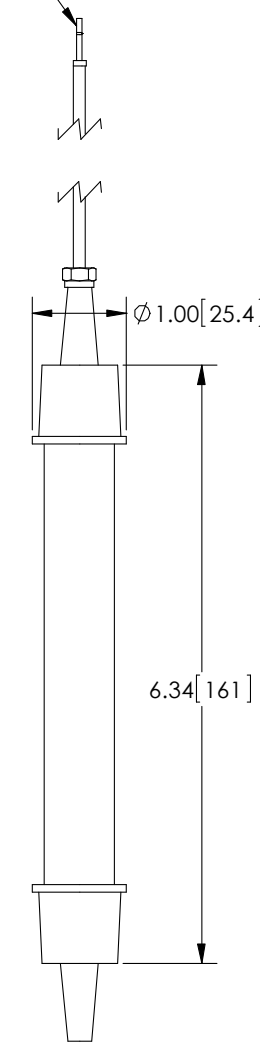
**silicone potted
for moisture
protection**



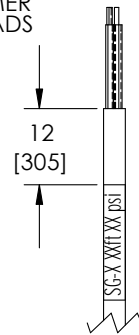
WIRE LEGEND	
COLOR	FUNCTION
RED	V+
BLACK	V-
GREEN/SHIELD	CASE GROUND



BARB PLUGS INTO VENT TUBE ON CABLE



CUSTOMER LEADS



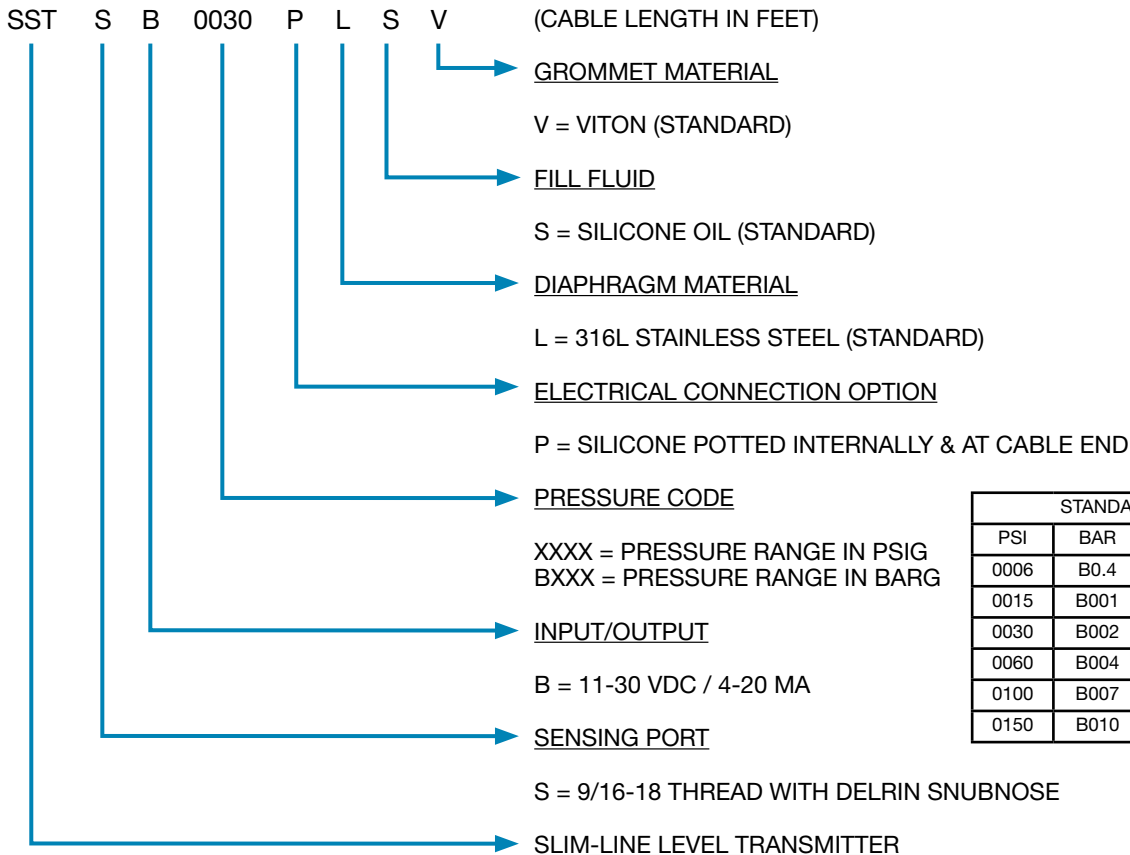
IDENTIFICATION LABEL WITH TAG NO., PRESSURE, & CABLE LENGTH

IN-LINE DESICCANT

PRESSURE RANGES	6 PSI UP TO 150 PSI (350 FT/105 METERS OF WATER) ALTERNATE PRESSURE RANGES AVAILABLE UPON REQUEST
ACCURACY AT 25°C (INCLUDING LINEARITY (BFSL), HYSTERESIS & REPEATABILITY)	± 0.2% FS TYP, ± 0.3% FS MAX (MODEL X334 = ± 0.1% FS MAX)
OUTPUT	4-20MA
INPUT SUPPLY VOLTAGE (SEE NOTE 2)	11-30VDC
1 YR. STABILITY	< 0.25% FS
LOAD LIMITATION	900 OHM MAX
OPERATING TEMPERATURE	-15 TO 75 °C (5 TO 167 °F) (LIQUIDS ONLY- MEDIA MUST NOT FREEZE)
COMPENSATED TEMPERATURE	0 TO 50 °C (32 TO 122 °F)
TOTAL ERROR BAND (INCLUDES TEMPERATURE EFFECTS ZERO & SPAN)	± 1% FS
BURST PRESSURE	1 ½ X FS
EMI	DESIGNED FOR 3V/M
SURGE PROTECTION	INCLUDED, PROPER GROUNDING REQUIRED
PROCESS DIAPHRAGM	316L STAINLESS STEEL
ELECTRICAL CONNECTION	CABLE, 3 COND., SHIELDED WITH VENT TU BE, 22 AWG, POLYURETHANE JACKET. (MODEL X334 = 3 COND, 20 AWG, POLYURETHANE JACKET)
SIZE	.69" (17.5MM) DIAMETER X 7" (178MM) LONG;
WEIGHT	8 OZ. (227 G) MAX
CABLE LENGTH	SPECIFY AS SEPARATE LINE ITEM IN FEET



Model Number And Ordering Information



STANDARD PRESSURE RANGES*			
PSI	BAR	Reference Equivalents	
0006	B0.4	0-13.8 ft water	0-4.2 m water
0015	B001	0-34.6 ft water	0-10.5 m water
0030	B002	0-69.2 ft water	0-21.1 m water
0060	B004	0-138 ft water	0-42.2 m water
0100	B007	0-230 ft water	0-70.3 m water
0150	B010	0-345 ft water	0-105.4 m water

* Decimal points for non-standard ranges may be used. Decimal point requires one position in model code limited to 4 positions. For example 10.5 (psi) or B6.3 (bar)

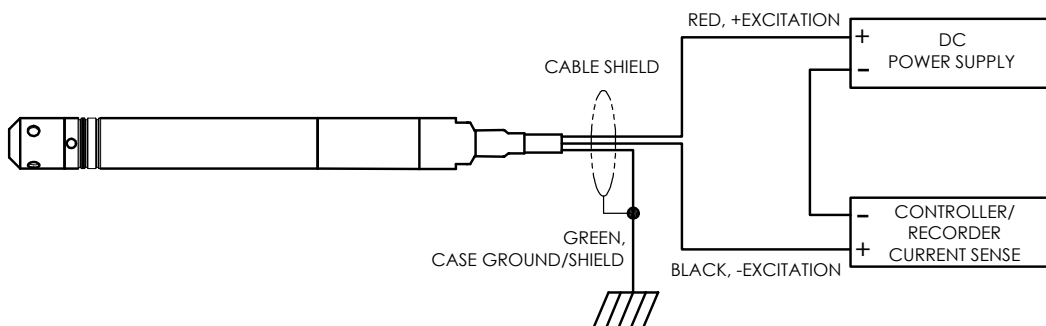
EXAMPLE:

To specify model SST slimeline submersible with 11-30VDC input and 4-20mA output, having to measure 15psi (34Ft water), with a standard nut with cable electrical connection, 316L stainless steel diaphragm, silicone oil fill, viton grommet and 100 feet of cable.

Order: SSTS0015PLSV (100ft cable)

NOTE:

- 1) Cable vent should be terminated to a dry, temperature stable environment. To prevent moisture from entering the cable, do not cut the potted cable end.
- 2) A fused or current limited dc power source is recommended to prevent damage during fault conditions.





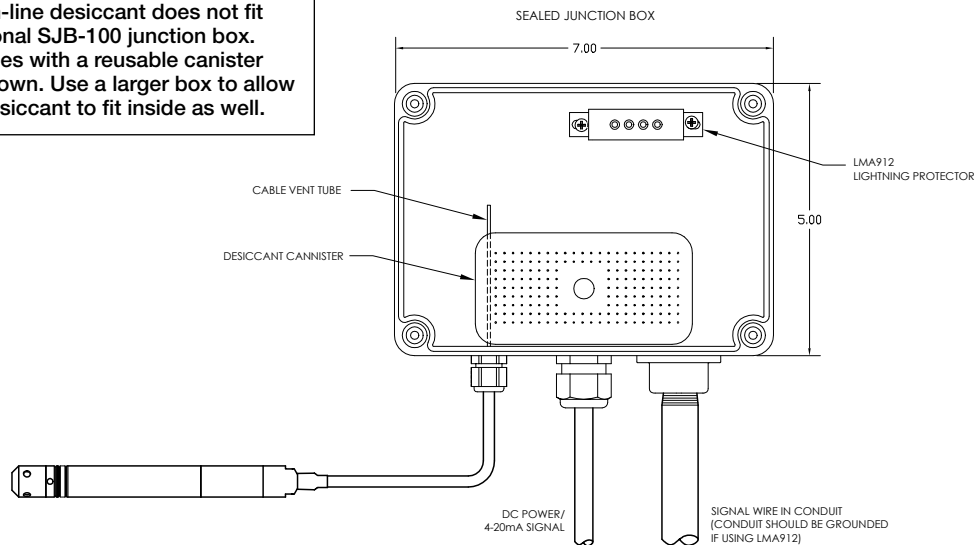
Model SST Transmitter Installation

CAUTION: Remove power before installing or servicing. To install the Model SST Transmitter, connect the surface end of the cable to the Ametek Model DDMC Meter Controller or other power source and indicator. Suspend the transmitter into a well or tank supported only by its attached shielded electronic cable. Insure that the opening in the well or tank cover is large enough for possible future removal of the transmitter.

Caution - Waterproof cable should not be kinked or nicked, this would allow water into the electronics housing. Permanent damage will result. (Never cut or splice the waterproof cable). The surface end of the cable is used as the system's atmospheric reference, this end should not be sealed. Vent to dry temperature stable environment. Use of a desiccant canister is recommended as the cable contains an integrated vent tube.

MODEL SST WITH OPTIONAL SJB-100
(JUNCTION BOX OR EQUIVALENT IS RECOMMENDED)

NOTE: The in-line desiccant does not fit into the optional SJB-100 junction box. The box comes with a reusable canister desiccant shown. Use a larger box to allow the in-line desiccant to fit inside as well.



SURGE OR LIGHTNING PROTECTION

External surge or lightning protectors are available as optional items and are strongly recommended for increased protection from secondary surges or lightning strikes. The units are easy to install, are maintenance-free and respond in less than one nanosecond. Install in accordance with the instructions:

1. Lightning protection devices should be placed as close to the instrument as possible and wired in accordance with National Electric Code in an approved watertight enclosure.
2. If the distance between the meter and transmitter, or the meter and recorder is less than 100 feet, only 1 protector per line may be used.
3. Use No. 10 AWG ground wire or better from protector to earth ground.
4. Provide a separate ground for each run of shielded cable or metal conduit.

5. Keep the ground wire less than 1 foot long and tie to a suitable ground rod or metal frame ground. Surge capability is only as good as the grounding method. All ground connections must be installed.
6. Install all protectors in weathertight enclosures.
7. Run signal lines shielded and away from power lines.
8. Wire according to the Electrical Code.
9. When used for an intrinsically safe installation, only one LMA912 should be installed in the hazardous location. Do not substitute protector types.

Caution - This or any installation cannot protect against a direct lightning strike, or secondary strikes of sufficient magnitude. Ametek cannot accept liability for damage due to lightning or secondary surges.



Service & Accessories

FACTORY SERVICE

Factory service is available by contacting the Customer Service Department. Supply the following information:

1. Instrument Model Number and Serial Number as shown on the Instrument Data Tag.
2. Description of problem being experienced.
3. Description and location of the installation.

For service:

Phone: 215-355-6900

Fax: 215-354-1804

PARTS / ORDERING

When ordering replacement transmitters, supply the following information:

1. Part description and model number
2. Quantity of each transmitter required.
3. Shipping instructions and address.
4. P.O. number and address, or phone in your credit card information

Mail, Telephone, Fax or Email orders to:

AMETEK US GAUGE, PMT PRODUCTS
820 Pennsylvania Blvd.
Feasterville, PA 19053

Phone: 215-355-6900

Fax: 215-354-1801 or 1802

Email: mctpmt.sales@ametek.com

ACCESSORIES

<u>Part No.</u>	<u>Description</u>
LMA 912	30 VDC SURGE/LIGHTNING PROTECTOR Protects the excitation and signal lines between an Ametek Model DDMC Meter Controller, or other power source and indicator, and the Model SST 4-20mA output transmitter (can be mounted in SJB-100).
SJB-100	Termination Junction Box with Desiccant and Seal Fittings (LMA 912 optional)
DDMC	Meter/Controller/Power Supply (120VAC/240VAC) Consult Factory

WARRANTY POLICY

AMETEK ["Seller"] warrants for a period of one year from the date of shipment and that all products manufactured by the seller are free from defects of material and workmanship when used within the service, range, and purpose for which they were manufactured.

Seller will, at its option, repair, replace, or refund the purchase price of parts found by Seller to be defective in material or workmanship provided that written notice of such defect requesting instructions for repair, replacement, or refund is received by Seller at the address below within the warranty period and provided that any instructions thereafter given by Seller are complied with.

This warranty shall not apply (i) to the performance of any system of which Seller's products are a component part, (ii) to deterioration by corrosion or any cause of failure other than defect of material or workmanship, or (iii) to any of Seller's products or parts thereof which have been tampered with or altered or repaired by anyone except Seller or someone authorized by Seller, or subjected to misuse, neglect, abuse or improper use or misapplication such as breakage by negligence, accident, vandalism, the elements, shock, vibration, or exposure to any other service, range, or environment of greater severity than that for which the products were designed.

SELLER MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF FITNESS OR OF MERCHANTABILITY WITH RESPECT TO ITS PRODUCTS, OR ANY PART THEREOF, OTHER THAN AS EXPRESSLY SET FORTH ABOVE. NOR SHALL SELLER HAVE INCURRED ANY OTHER OBLIGATIONS OR LIABILITIES OR BE LIABLE FOR ANY ANTICIPATED OR LOST PROFITS, INCIDENTAL DAMAGES, CONSEQUENTIAL DAMAGES, TIME CHARGES, OR ANY OTHER LOSSES INCURRED IN CONNECTION WITH THE PURCHASE, INSTALLATION, REPAIR, OR OPERATION OF ITS PRODUCTS (INCLUDING ANY PARTS REPAIRED OR REPLACED).

This warranty does not extend to anyone other than the original Buyer from Seller.