

#### PRINCIPLE OF OPERATION

The immersion probe / submersible probe consist of a measuring cell, two wire transmitters and a special cable with capillary. The probe is housed in stainless steel with a pressure sensitive diaphragm, protected with a plastic cap. The level signal is determined by the pressure difference between the water column over the probe and atmospheric pressure which is transferred to the probe through the capillary tube. This differential pressure is converted to a 4-20 mA analogue signal by the measuring cell and the electronics. HART communication is also provided

#### FEATURES

- 1) Submersible Transmitter: 2 Wire HART 7
- 2) Highly accurate and long-term stable sensor element
- 3) Compensated for Temperature and air pressure.
- 4) Compact and easy to install.
- 5) No site calibration required.
- 6) Reliable and Maintenance free.

#### APPLICATIONS

The 103-HPT is used for hydrostatic level measuring in wells, reservoirs, clarification plants and other vessels. Due to its small physical diameter, it is easy to install and is ideally suited for protecting submersible pumps.



#### SPECIFICATION

- 1) Measuring Range: Upto 100m water column.
- 2) Supply Voltage: 24VDC
- 3) Output Signal: 4-20mA Proportional to level (HART output optional)
- 4) Communication option: HART-7 (optional)
- 5) Maximum Load: 600Ω @ 24 VDC
- 6) Operating Temperature: 0° C to 70 ° C
- 7) Zero Pressure Offset (mA) : 4.0 ± 0.2mA
- 8) Full Scale Span (mA) : 16.0 ± 0.2mA
- 9) Accuracy: ± 0.5% of FS (standard) ±0.25% on request
- 10) Max. Permissible Pressure: 2 X rated Pressure.
- 11) Factory calibration range

#### \*ACCESSORIES

##### Standard Accessories:

- 1) ABS weatherproof junction box
- 2) PG11 cable gland
- 3) Mounting plate

##### Optional Accessories:

- 1) 176 Remote Indicator (with Inbuilt 24VDC Power Supply).

## ORDERING CODE

Type	Accuracy	Output	Range	Cable Length (m)	Diameter
<b>P</b> : Piezoresistive	<b>1</b> : ±0.5% of FS (standard) <b>2</b> : ±0.25% of FS	<b>1</b> : 2 Wire, 4-20mA, calibrated in mbar <b>2</b> : 2 Wire 4-20 mA + HART 7	<b>8100</b> : 100mbar <b>8250</b> : 250 mbar <b>8400</b> : 400 mbar <b>8600</b> : 600 mbar <b>81K0</b> : 1000 mbar <b>81K5</b> : 1500 mbar <b>81K6</b> : 1600 mbar <b>82K0</b> : 2000 mbar <b>82K5</b> : 2500 mbar <b>83K0</b> : 3000 mbar <b>83K2</b> : 3200 mbar <b>84K0</b> : 4000 mbar <b>85K0</b> : 5000 mbar <b>86K0</b> : 6000 mbar <b>86K5</b> : 6500 mbar <b>87K0</b> : 7000 mbar <b>87K5</b> : 7500 mbar <b>88K0</b> : 8000 mbar <b>89K0</b> : 9000 mbar <b>10K0</b> : 10000 mbar	<b>03</b> : for 100 mbar <b>05</b> : for 250 mbar <b>06</b> : for 400 mbar <b>08</b> : for 600 mbar <b>12</b> : for 1000 mbar <b>17</b> : for 1500 mbar <b>18</b> : for 1600 mbar <b>22</b> : for 2000 mbar <b>27</b> : for 2500 mbar <b>32</b> : for 3000 mbar <b>34</b> : for 3200 mbar <b>42</b> : for 4000 mbar <b>52</b> : for 5000 mbar <b>62</b> : for 6000 mbar <b>72</b> : for 7000 mbar <b>77</b> : for 7500 mbar <b>82</b> : for 8000 mbar <b>92</b> : for 9000 mbar <b>102</b> : for 10000 mbar	<b>26</b> : Ø26mm <b>17</b> : Ø17mm

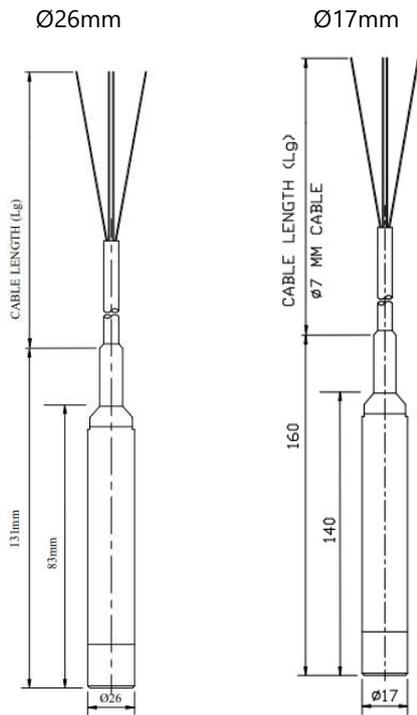
**Example of Model Code Selection:** 103- HPT P 1 1 8600 08 26

The above model code specifies that Hydrostatic Pressure Transmitter 103 - HPT works on piezoresistive principle. The output is ±0.5% of FS, 2 wire, 4-20mA, range is 600mbar (6.12 m of water column) & Cable length = 8 m, Ø26mm sensor

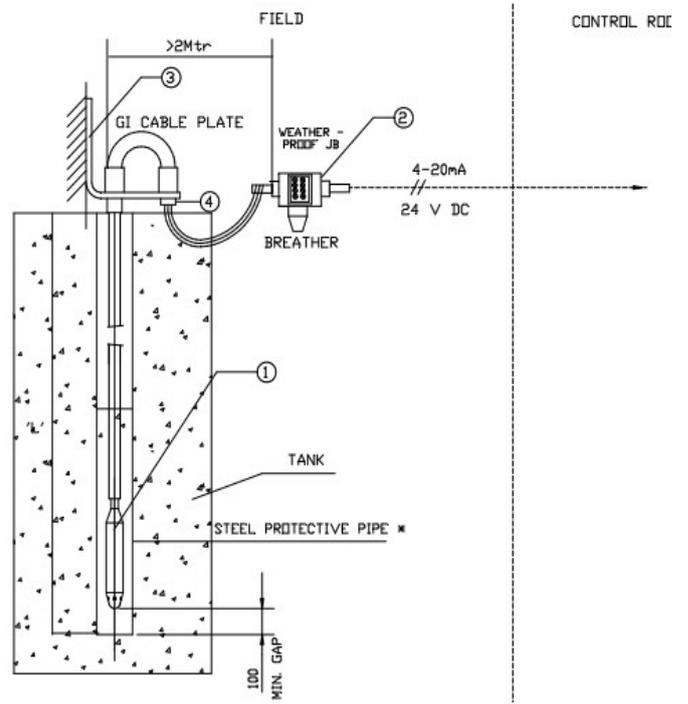
### Note:

- 1) The package is an all sealed housing. For proper function, the gauge port is vented to the atmosphere through the connecting cable.. Thus the vent tube of the cable end must have access to the atmospheric pressure.
- 2) Other than water service contact HO.
- 3) Cable Length supplied would be Range + 2m.Contact H.O for applications requiring longer lengths.  
1mbar = 1.02 cm of water column

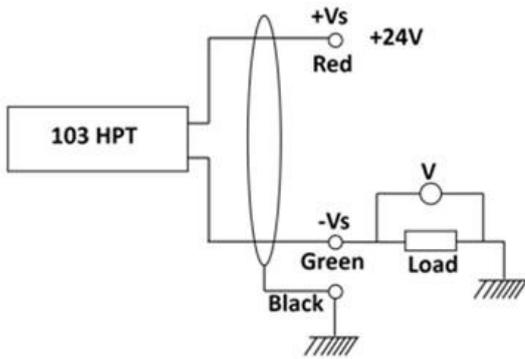
## MECHANICAL DIMENSIONS



## GENERAL ARRANGEMENT



## ELECTRICAL CONNECTIONS



1	- Vs (Green)
2	+ Vs (Red)
3	Shield (Black)
4	Transparent Vent Tube/ Breather

LF-103-0805-R03

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**50**  
YEARS OF  
EXCELLENCE

