

APT 1000 Intelligent Barometric Pressure Transmitter



Key features

- Robust all welded weatherproof and submersible construction
- Stainless Steel or Titanium construction
- Dual Mode outputs of 4-20mA and RS485 Modbus
- 0.1% Performance
- Full thermal compensation over 0 to 70°C
- Marine Type Approved
- ATEX & IECEx I.S. Certified
- Choice of DIN Plug or Sealed cable connection

Designed and constructed for harsh marine and industrial environments

The APT1000 Barometer is a development of PSM's range of intelligent hydrostatic level transmitters which are globally used for tank gauging systems onboard all types of vessels.

It may be used either as part of a tank gauging system to provide a barometric compensation value for systems based on Absolute liquid level transmitters, or as a stand-alone instrument for Barometric pressure measurement for other applications.

With robust fully laser welded construction and offered in a choice of corrosion resistant materials, the instrument is offered as either a fully submersible construction with a bonded cable, or as a DIN plug connection for convenience where the installation site does not require the fully protection of submersible construction.

A standard 1/2" BSPP Male threaded front end may be used for mounting, alternatively a variety of alternative clamp mounts are available.

Measurement accuracy is 0.1% of nominal range with full thermal compensation over a temperature range of 0 to 70° C with operational limits of -20 to + 80°C.

The transmitters electronics are fully integrated within the body and incorporate a powerful micro-controller to precisely monitor and process the output of the pressure cell.

Digital and analogue operation

The APT 1000 is a dual mode transmitter providing an analogue 4-20 mA signal and a multi-drop RS485 Serial communication based on industry standard Modbus RTU protocol. Either or both outputs can be used in normal operation

Approvals

The transmitter is certified according to ATEX and IECEx regulations for installation in a hazardous area and Type Approved by DNV- GL and CCS as suitable for use in marine applications.

Complete solutions

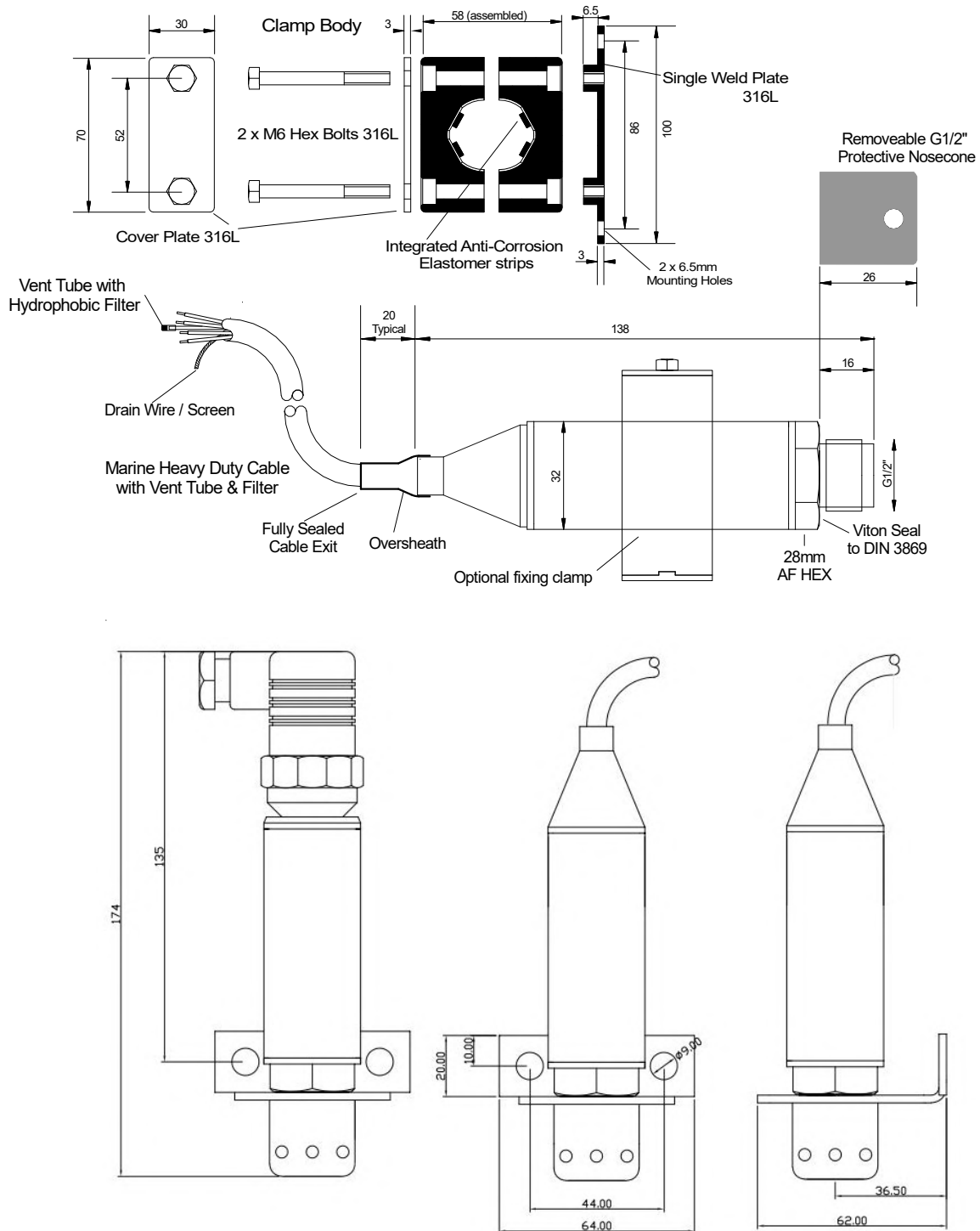
PSM can offer display options to provide a complete tank gauging solution.

The VPM4300 Series touch screen display provides a clear presentation of all tank data for smaller tank gauging systems, while our TankView PC based package provides comprehensive functionality for larger Vessels. Both systems provide full configuration capability for the APT1000 eliminating the need for specialist calibration equipment and both are capable of delivering tank level status via serial link to other onboard systems such as Load Computers or Alarm Monitoring Systems.

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Specifications		
Materials	Sensor body	316L Stainless Steel or Titanium. Hastelloy C276 option for Wetted parts for external (to tank) mounting.
	Diaphragm	316L or Titanium to match body material. Hastelloy C276 process ports use Tantalum diaphragm.
Standard Measurement Ranges (Bar)	800 to 1200mBar Absolute	
Measurement type	Absolute pressure	
Overload	2 x Nominal range with no effect	
Burst Pressure	15 x Nominal range	
Turndown	3:1 from Measurement range (relevant to 4-20mA scaling only)	
Temperature measurement span / accuracy	0 to +85°C +/- 1°C (reading only available in digital mode)	
Total Error Band (pressure monitoring)	+/- 0.1% of Nominal range including thermal effect	
Thermal compensation	No thermal effect within the range 0 to 70°C	
Long term stability	Error not exceeding +/- 0.1% Per Annum	
Max / Min process temperature	-20 to +85°C	
IP Rating	IP68 suitable for continuous immersion	
IECEX certification	IECEX ITS 19.00023X Ex ia IIC T4 Ga -35°C≤Ta≤+85°C	
ATEX certification	ITS19ATEX204962X Iss.0 Ex ia IIC T4 Ga -35°C≤Ta≤+85°C	
Signal Output / Power supply	4-20mA & RS485 Modbus RTU / 10 to 30V DC	
Maximum load	Supply dependant. Vs-10/0.02 = Load in Ohms	
Reverse polarity protection	Yes	
Weight	0.3Kg typical for body. Cable 0.1Kg / metre	

Dimensions



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