

APT 500 Series
Analogue Level Transmitter for Marine and Industrial applications



- Fully submersible construction may be installed internal or external to tank with a variety of mounting options from PSM
- Choice of construction materials depending on application
 - Stainless Steel - Service and Oils
 - Titanium - Ballast & Draught
 - Hastelloy/Tantalum - Ballast & Draught, Chemicals
- Robust construction with high overload tolerance
- Nominal measurement ranges from 0.2 to 60 bar - factory calibration allows 2:1 turndown
- Vented Gauge / Absolute versions
- Accuracy of +/-0.2% of full range
- Temperature compensated output over 0 to 70°C
- IECEx and ATEX certified for use in hazardous Areas (Zone 0)
- Marine Type Approved

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)	0.2, 0.5, 1.0, 2.5, 4.0, 10, 25, 40. (Other ranges to special order)	
Measurement type	Vented Gauge or Absolute – refer to PSM for availability of ranges	
Overload	2 x Nominal range with no effect	
Span setting accuracy	0.2% within compensated range	
Zero setting accuracy	0.2% within compensated range	
Total Error Band	+/- 0.2% of Nominal range at reference conditions of 25°C	
Thermal effect	Max +/- 0.0075% of Nominal range for Zero & Span /°C from reference	
Long term stability	Error not exceeding +/- 0.1% Per Annum	
Max / Min process temperature	-30 to +85°C	
IP Rating	IP68 suitable for continuous immersion	
IECEX certification	IECEX ITS180012X.0 Ex ia IIC T4 Ga -30°C ≤ Ta ≤ +85°C	
ATEX certification	ITS18ATEX203153X Issue 0 Ex ia IIC T4 Ga -30°C ≤ Ta ≤ +85°C	
Signal Output / Power supply	4-20mA / 18 to 30V DC (2 wire)	
Reverse Polarity Protection	Yes	
Maximum load	Supply dependant. Vs-18/0.02 = Load in Ohms	
Weight	0.3Kg typical for body. Cable 0.1Kg / metre	

The APT500 is part of a family of tank level transmitters and associated instrumentation from PSM.

It is designed to provide robust, reliable and accurate service for all Shipboard applications where its 4-20mA 2 wire signal is connected directly to the ships tank level and pressure monitoring systems. A choice of materials ensure compatibility with all shipboard duties.

PSM's range includes alternative APT1000 transmitters providing 0.1% accuracy and full digital communication. Please contact us to discuss the optimum solution for your application.

PSM is part of the Scanjet Group. Scanjet provide a complete range of tank management instrumentation and systems for both Marine and Industrial applications supported by a global sales and service network

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APT500 Series Level Transmitter							
550S APT 550 4-20mA 2 Wire Transmitter - Submersible construction with cable							
Certification							
S	Hazardous Area Approval NOT APPLICABLE						
I	Certified Intrinsically Safe to ATEX - Hazardous Area Approved						
X	Certified Intrinsically Safe to IECEx - Hazardous Area Approved						
IX	Dual Certification ATEX / IECEx - Hazardous Area Approved						
Measurement Type							
A	Absolute						
G	Gauge						
Nominal Range							
Absolute				Gauge			
	TI	SS	HT		TI	SS	HT
A	N/A	N/A	N/A	A	N/A	0.2 Bar	N/A
B	N/A	N/A	N/A	B	0.5 Bar	0.5 Bar	0.5 Bar
C	N/A	N/A	N/A	C	1.0 Bar	1.0 Bar	1.0 Bar
D	2.5 Bar	2.5 Bar	2.5 Bar	D	2.5 Bar	2.5 Bar	2.5 Bar
E	4.0 Bar	4.0 Bar	4.0 Bar	E	4.0 Bar	4.0 Bar	4.0 Bar
F	10 Bar	10 Bar	10 Bar	F	10 Bar	10 Bar	10 Bar
H	25 Bar	25 Bar	25 Bar	H	25 Bar	25 Bar	25 Bar
I	40 Bar	40 Bar	40 Bar	I	40 Bar	40 Bar	40 Bar
J	60 Bar	60 Bar	60 Bar	J	60 Bar	60 Bar	60 Bar
Process Connections & Fitting Options (options marked ** are not available for TI versions)							
1	1/2" BSP Male (Standard connection). Material is as specified for the main body						
3	G1" Male Adapter in 316 Stainless Steel						
6	G1/2" to DIN EN837 in Stainless Steel (Special order, refer for delivery time)						
7	Pole Adapter Threaded G 1/2" Female Adapter in 316 Stainless Steel**						
8	Pole Adapter Threaded G 3/4" Female Adapter in 316 Stainless Steel**						
11	St. Steel Sensor with Drain wire adapter - Specify drain wire length in Metres						
14	Titanium Sensor with Drain wire adapter - Specify drain wire length in Metres						
15	1 " ANSI 150 lb St. Steel Flange (Supplied loose)						
17	Stilling Pipe Flexible Stainless Steel Cage pipe Installation. Suitable for Stilling Pipe I.D. of 2" to 3" (applicable for all sensor materials).						
18	Pole Adapter Threaded G1/2" Female- Replacement for ICT transmitter						
22	G1/2" male with Flexible Protection Compound - no Diaphragm Guard						
23	Pole Adaptor Threaded G1/2" Male						
Cable Length mtrs (only applicable to APT 1000 versions)							
**	Heavy Duty Vented Cable - 3 Metres included as standard						
Q**	As above but cable outer jacket PTFE coated (Subject to Availability)						
R**	As above but cable outer jacket Flame Retardant (Subject to Availability)						
S**	As above but cable outer jacket FEP Coated (Subject to Availability)						
Z**	Custom cable (refer to discuss requirements)						
Transmitter Body Material							
TI	Titanium (Body & Diaphragm)						
SS	Stainless Steel (Body & Diaphragm)						
HT	Hastelloy / Tantalum wetted parts (St. Stl. Body)						
Transmitter Orientation							
H	Horizontal						
V	Vertical - Diaphragm facing down						
U	Vertical - Diaphragm facing up						

Example: 550S S A E 1 3 TI H

Written as: 550S/SA/E/1/3/TI/H

Note: Transmitter will be calibrated for 4-20 mA over Nominal range as standard. Where a specific calibration range is required this must be advised separately.

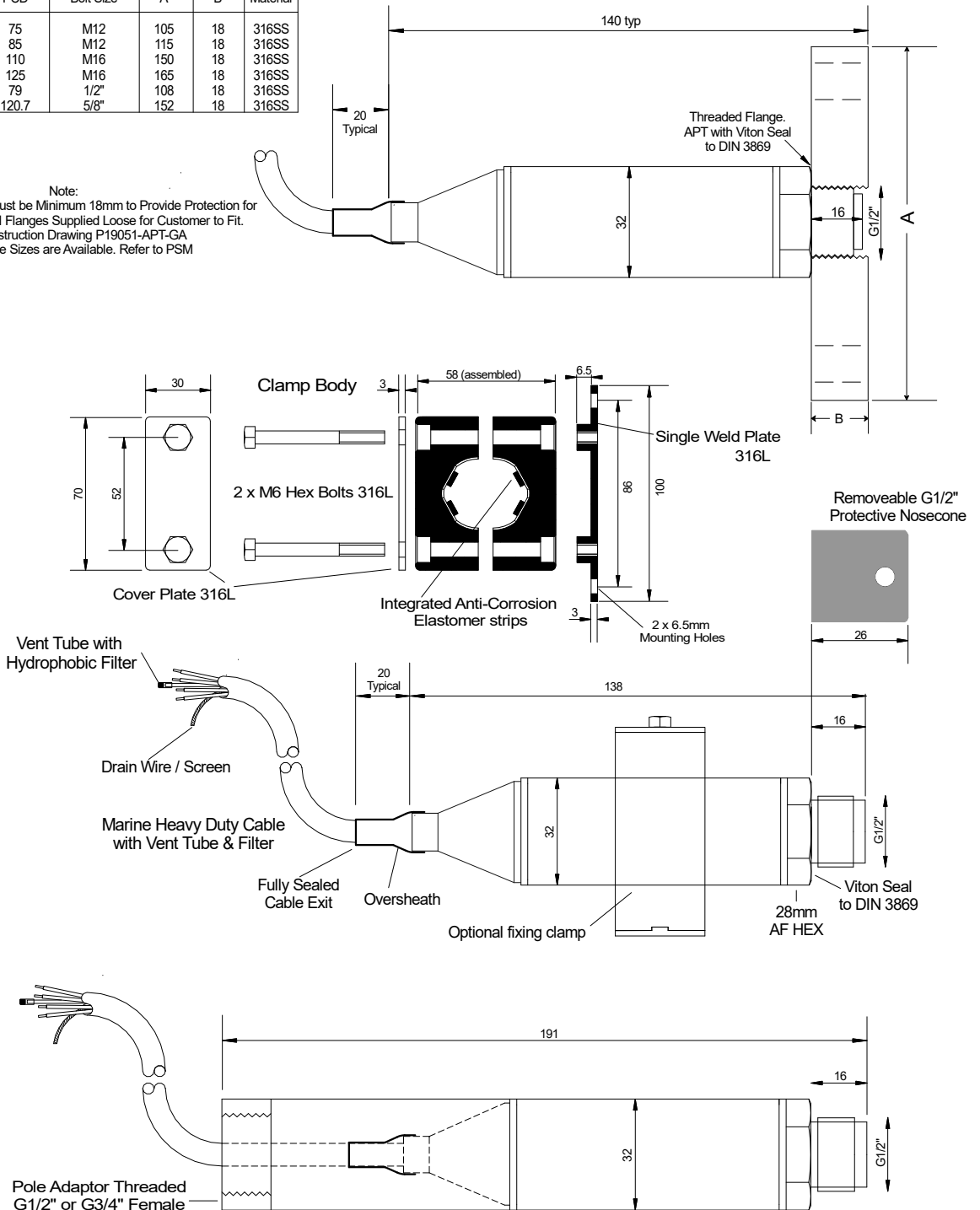
Actual calibration can be a maximum of 2:1 turndown from Nominal range.

Optional Extras	
APT Internal Fixing Clamp Assembly	Supplied Loose
Process Connection DN20 PN16 SS Flange with G1/2" Female Threaded Centre	Supplied Loose
Process Connection DN25 PN16 SS Flange with G1/2" Female Threaded Centre	Supplied Loose
Process Connection DN40 PN16 SS Flange with G1/2" Female Threaded Centre	Supplied Loose
Process Connection DN50 PN16 SS Flange with G1/2" Female Threaded Centre	Supplied Loose
Process Connection 1" ANSI 150lb SS Flange with G1/2" Female Threaded Centre	Supplied Loose
Process Connection 2" ANSI 150lb SS Flange with G1/2" Female Threaded Centre	Supplied Loose
APT Demountable Pole Assembly with Top Flange (SS ONLY) - Flange Size to be Confirmed by Customer	Max Length 2000mm
Assembled Length From Underside of Top Flange to End of Sensor TBC	Assembly Supplied Loose

Dimensions

Flange	Holes	PCD	Bolt Size	A	B	Material
DN20 PN16	4	75	M12	105	18	316SS
DN25 PN16	4	85	M12	115	18	316SS
DN40 PN16	4	110	M16	150	18	316SS
DN50 PN16	4	125	M16	165	18	316SS
1" ANSI 150lb	4	79	1/2"	108	18	316SS
2" ANSI 150lb	4	120.7	5/8"	152	18	316SS

Note:
Flange Thickness (B) Must be Minimum 18mm to Provide Protection for Sensor Diaphragm. All Flanges Supplied Loose for Customer to Fit. Refer to Instruction Drawing P19051-APT-GA. Other Flange Sizes are Available. Refer to PSM



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