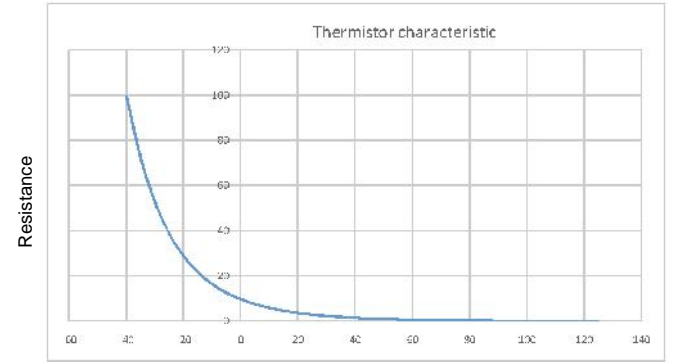
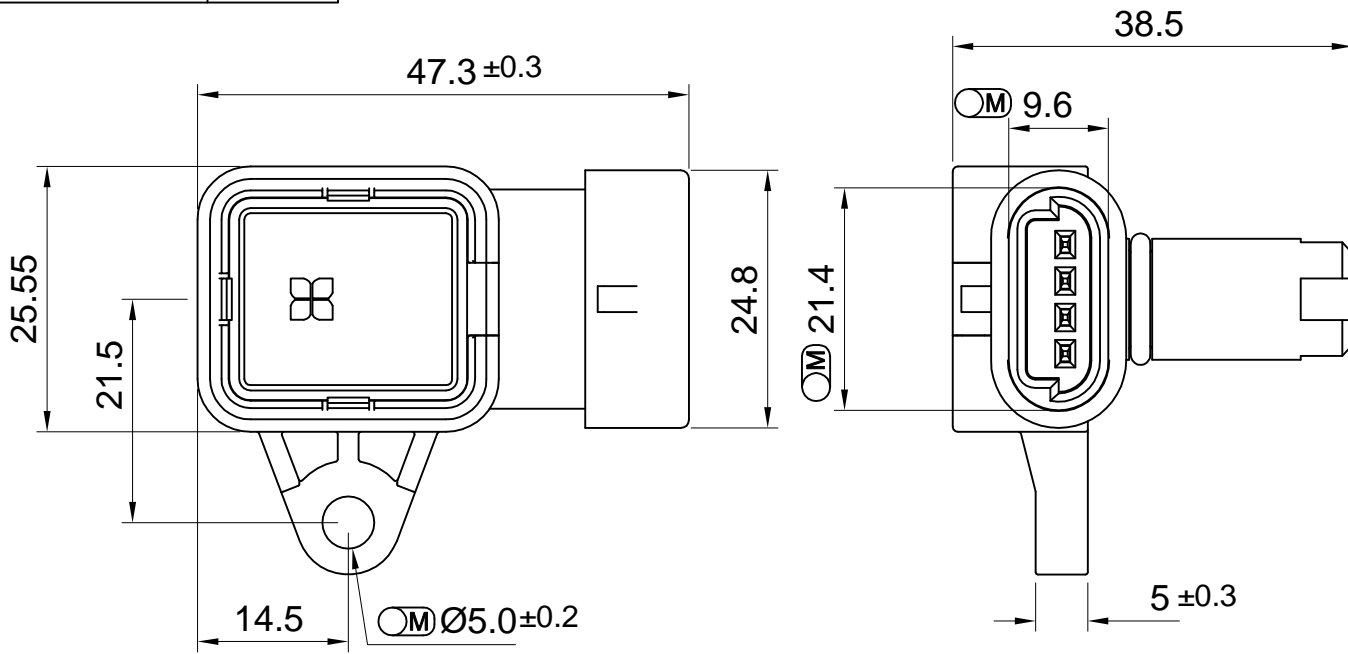
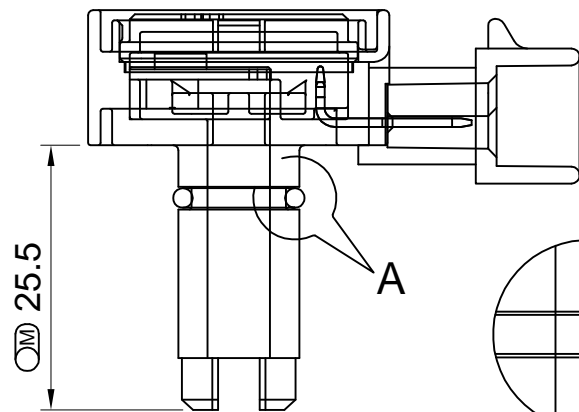


ALL DIMENSIONS ARE IN MM.



Temperature	Resistance	Temperature	Resistance
-40	99.63	45	1.312
-35	71.97	50	1.082
-30	52.56	55	0.8966
-25	38.79	60	0.747
-20	28.91	65	0.6253
-15	21.75	70	0.5259
-10	16.51	75	0.4443
-5	12.65	80	0.3769
0	9.766	85	0.3211
5	7.602	90	0.2746
10	5.962	95	0.2358
15	4.71	100	0.2032
20	3.746	105	0.1757
25	3	110	0.1525
30	2.418	115	0.1328
35	1.96	120	0.116
40	1.599	125	0.1016



"O"RING
 ID 8.9 X C/S 1.88

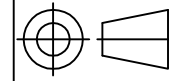
FRONT VIEW

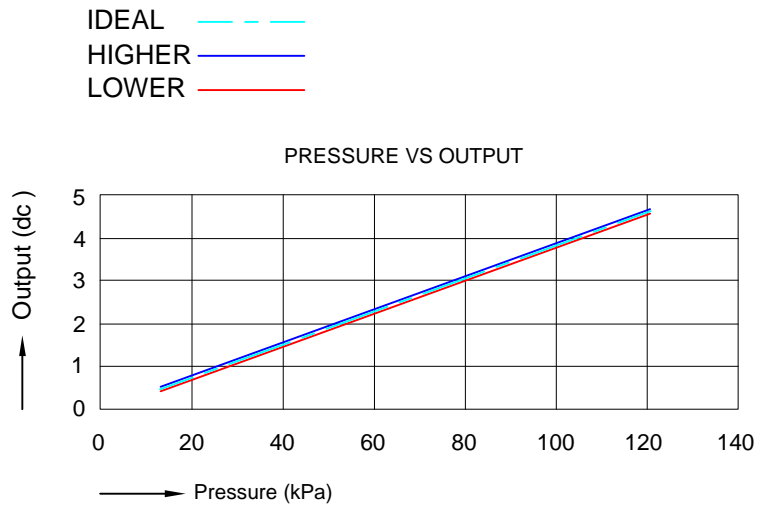
DETAIL A

SIDE VIEW

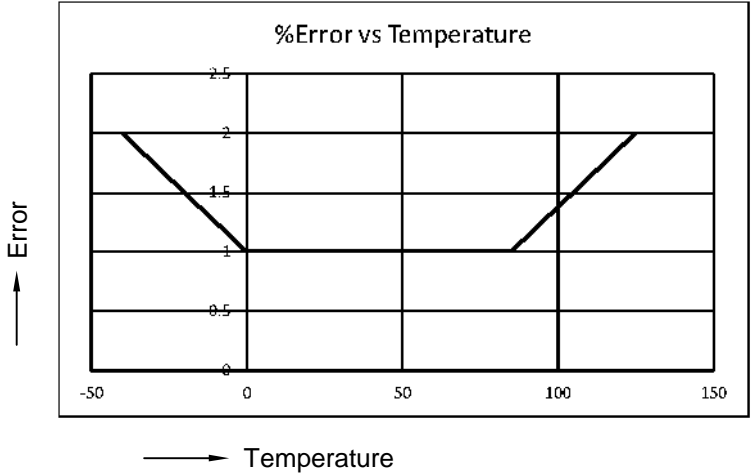
TOP VIEW

UNI-AUTOMATION (I) PVT LTD TEL/FAX:+91-(020)-24420890 www.uniautomation.com		TEMPERATURE MANIFOLD ABSOLUTE PRESSURE SENSOR	
DATE:- 29-11-2017		SCALE:-1:1	
TOLERANCES DIN-ISO 2768-1 (1991-06) (TOLERANCE CLASS-MEDIUM)		UAPL PART NO 199211	
CUSTOMER DRAWING REF NO NA		REV - 00	
CUSTOMER : STD		SHEET 1of3	





Ratiometric error (kPa)

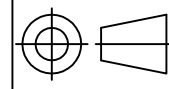


Note-

- 1) M4 screw with spring washer tightening torque 0.30 kg /m grade 8.8
- 2) Mating connector for TMAP sensor is:Delphi Metri-Pack 12162268

Sr. No.	Spec / Parameter	Value/Description
1	Housing & cap material	PA66 GF30% (Black)
2	PCB	FR4
3	Terminals	Brass tin plated
4	Protection Class	IP68
5	Tightening torque	TBD.0.30kg/m
6	Supply voltage	5 +/- 0.25 VDC
7	Max supply voltage	11 VDC
8	Output voltage range	0.5 +/- 0.04 to 4.6 +/- 0.04 VDC
9	Response time	1 ms
10	Compensated temp range	0 to 85 C
11	Accuracy	1% of FS (51 mV)
12	Power ON rise time and warm up time	10 ms
13	Offset stability	+/- 0.5% of 5.1 VDC (25 mV)
14	Operating pressure	
15	Overpressure	13.3 to 120 kPa
16	Operating temperature	-30 to 120°C
17	Storage temperature	-40 to 130°C
18	Supply current	10 to 15 mA
19	Sink current	0.2 mA
20	Source current	-0.1 mA
21	Field strength	150 V/m
22	Ratiometric error	a) +/- 2 kPa at 120°C b) +/- 2 kPa at -40°C c) +/- 1 kPa From 0 to +85°C

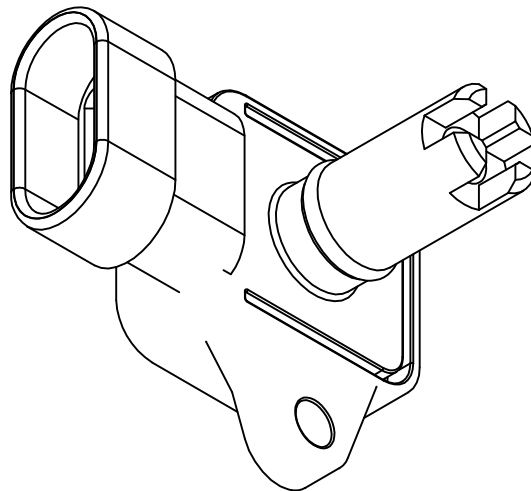
UNI-AUTOMATION (I) PVT LTD TEL/FAX:+91-(020)-24420890 www.uniautomation.com		TEMPERATURE MANIFOLD ABSOLUTE PRESSURE SENSOR	
DATE:- 29-11-2017	SCALE:-1:1	MODEL TMAP(211)	
TOLERANCES DIN-ISO 2768-1 (1991-06) (TOLERANCE CLASS-MEDIUM)	UAPL PART NO 199211	CUSTOMER DRAWING REF NO NA	REV - 00
		CUSTOMER : STD	SHEET 2of3



PROPOSED VALIDATION TESTING FOR MAP SENSOR

Sr.No.	TEST	UAPL SPECIFICATIONS
1	Vibration Resistance Test	1. 294 m/s ² , 30G, 50-500 Hz, 6 min linear sweep 2. 3 planes -- XYZ 3. 8 hours each
2	Thermal Shock Test	Pattern Cycles 30 Cycles
4	High Temperature Exposure Test	Temperature: 125 C Duration: 100 hours
5	Low Temperature Exposure Test	Temperature: -40 C Duration: 100 hours
6	High Humidity Test	Temperature: 60 C +/- 3C Humidity: 90 to 95% RH Duration: 200 hours
7	Water Resistance Test	Continuous spray of constant pressure of 1 bar from 500 mm distance for 50 hours with applied voltage of 5 VDC and output at fixed 2.5 VDC.

8	Drop Test	Method	Hold connector, drop freely on to concrete from 1m
		Number of Times	3
9	Over voltage Test	Method	Apply 24Vdc across terminal "A"(GND) and terminal "C" Pressure and "B" (+)Input
		Duration	1 Minute +10 Second -0 Second
10	Water Immersion Test	Water immersion of sensor and carburetor assembly: heat sensor to 110C for 2hours, then immerse in 25C water for 2 hours while measuring sensor output and noting readings.	
11	Insulation resistance	500 VDC applied between terminals and housing, 10MOhm expected value	
12	Pulse pressure (life test)	1 Million pressure cycles --- 1 cycle is 13.3 kPa to 120 kPa.	
13	Overpressure	1000 cycles --- 1 cycle is 13.3 kPa to 490 kPa	
14	Burst pressure	1 cycle --- 13.3 kPa to pressure until sensor fails (700 kPa max.) --- for 5 sensors	
15	Temperature variation vs/OP	1 cycle --- -40 to 120° C in steps of 20°C 10 cycles while measuring outputs	



ISOMETRIC VIEW

UNI-AUTOMATION (I) PVT LTD TEL/FAX:+91-(020)-24420890 www.uniautomation.com		TEMPERATURE MANIFOLD ABSOLUTE PRESSURE SENSOR	
DATE:- 29-11-2017	SCALE:-1:1	MODEL MAP(211)	
TOLERANCES DIN-ISO 2768-1 (1991-06) (TOLERANCE CLASS-MEDIUM)	UAPL PART NO 199211	CUSTOMER DRAWING REF NO NA	REV - 00
		CUSTOMER : STD	SHEET 3of3