

# Pressure Transducer PT358

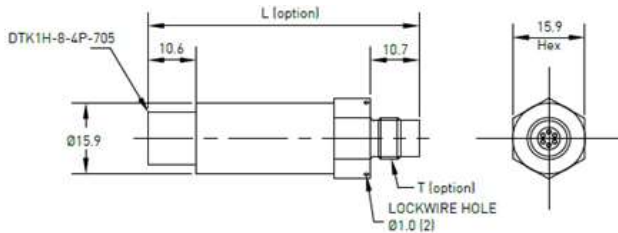


## Features

- 5 VDC Output
- Measuring ranges form 0 to 5,000PSI
- All welded structure
- CRES case
- Temperature compensated output
- Compact design
- MIL-STD-810 compatible



## Demensions



Ordering Number	L(mm)	T(Thread)	Mate	PIN	DESIGNATION
PT358-11	48.2	3/8-24UNJF-3A	MS33649-3	A	+INPUT
PT358-12	48.2	7/16-20UNJF-3A	MS33649-4	B	COMMON
PT358-21	60.2	3/8-24UNJF-3A	MS33649-3	C	OUTPUT
PT358-22	60.2	7/16-20UNJF-3A	MS33649-4	D	SPARE

## Performance Specifications

INPUT	Pressure Range	0 ~ 5,000 PSI (optional)			
	Operational Mode	Gage			
	Over Pressure	7,500 PSI			
	Burst Pressure	15,000 PSI			
	Pressure Media	Liquids compatible with 316/316L Stainless Steel			
	Rated Electrical Excitation	18~32 VDC			
OUTPUT	Full Scale Output	5 VDC ±3%			
	Combined Nonlinearity, Hysteresis, and Repeatability	±0.1%FSO B.F.S.L(typ.)			
	Bandwidth (-3dB)	DC to 2.6khz			
	Resolution	16bit ADC (640us/sampling)			
	Insulation Resistance	100 MΩ min. @ 50 VDC			
ENVIRONMENTAL	Compensated Temperature Range	-20 ~100 °C (optional)			
	Operating Temperature Range	-40 ~125 °C			
	Storage Temperature Range	-50 ~125 °C			
	Thermal Zero Shift	±1%FS/100 ° F(typ)			
	Thermal Sensitivity Shift	±1%/100 ° F(typ)			
	Vibration	axis	Frequency(Hz)	amplitude	Duration
		X, Y	5 ~ 25	±1 g	3 Hour
			25 ~ 36	0.762 mm D.A.	
			36 ~ 500	±2 g	
		Z	5 ~ 25	±1 g	
			25 ~ 40	0.762 mm D.A.	
	40 ~ 500		±2.5 g		
	Shock	Shock	30g, 11±1.1ms, half sine wave		
Gunfire Shock		100g, 1.5±0.15ms, half sine wave			
Humidity	95% Relative Humidity				
Leakage (immersion)	36 ±5 inches below the surface of the water				
PHYSICAL	Pressure Port	3/8-24UNJF-3A or 7/16-20UNJF-3A (option)			
	Electrical Connection	Mate with MS3116-8-4S			
	Weight	38 grams (Max.)			

# Potentiometer PO363

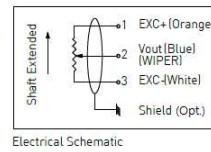
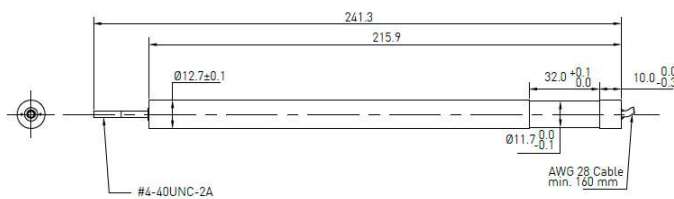


## Features

- 0.5 inches diameter
- Hard anodized aluminium housing
- Tight install groove
- Cres shaft
- Case shield(Optional)



## Dimensions



PIN	DESIGNATION
Orange	EXC+
Blue	Vout
White	EXC-
Shield	Case Shield

## Performance Specifications

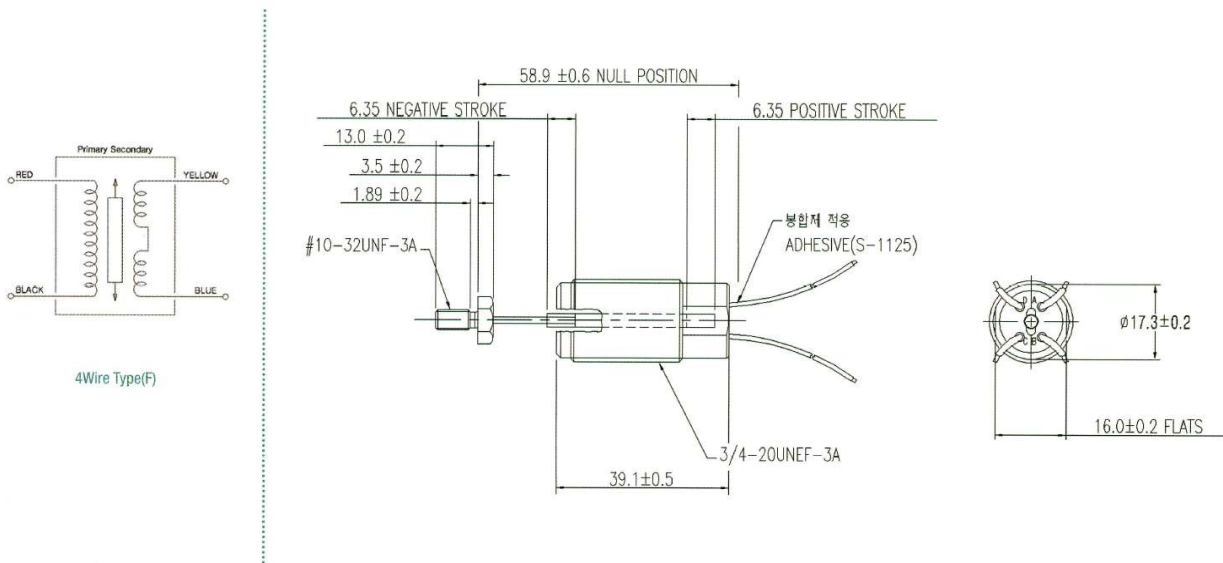
ELECTRICAL	Total Electronic Travel(TET)	7 Inches			
	Applied Voltage	10VDC (optional)			
	Independent Linearity	$\pm 0.1\%$ (max)			
	Total Resistance	$7k\Omega \pm 20\%$			
	Resolution	Infinite			
	Insulation Resistance	500 M $\Omega$ @ 500 $\pm 10$ VDC, 60 sec			
	Dielectric Strength	1,000 Vrms @ 60 sec			
	Operating Temperature	$-40\text{ }^{\circ}\text{C} \sim 80\text{ }^{\circ}\text{C}$			
Recommended Wiper Current	1 $\mu\text{A}$				
MECHANICAL	Total Mechanical Travel	7.05 Inches			
	Weight	65 g (max)			
	Starting Force	1 oz (max)			
	Backlash	0.0002 Inch (max)			
	Material	Case : Aluminum 6061 Profile Shaft : CRE (STS304)			
Size	DIA 1/2" x L 9.5"				
ENVIRONMENTAL	Shock	50g $\pm 10\%$ , 11ms, 3times/axis, along 3axies, half sine wave			
	Random Vibration	Frequency(Hz)	PSD	Tolerance	Duration & Direction 4 min along 3 axes
		20 ~ 60	+3dB/oct	PSD: $\pm 3\text{dB}$	
		60 ~ 1000	0.273 $\text{g}^2/\text{Hz}$		
		1000 ~ 2000	-6dB/oct		
		overall	20grms	RMS: $\pm 10\%$	
	Sinusoidal Vibration	Frequency(Hz)	0-peak value	Tolerance	Duration & Direction 2 oct/min along 3 axes
		5 ~ 17	Disp. 10 mm	Ampl: $\pm 10\%$ Freq: $\pm 2\%$	
17 ~ 60		Acc. 12g			
60 ~ 200		Acc. 22g			
	200 ~ 2000	Acc. 12g			

## Features

- Linear Variable Differential Transformer
- Environmental Proof
- Calibration Certificate Supplied
- Suitable for Operating Pressures Up to 300kgf/cm<sup>2</sup>
- Bulkhead Mounting
- IP68



## Dimensions



## Performance Specifications

Series	LV025
Strokes (Linear Range)	±0.25 inches(±6.5mm)
Null Voltage	Less than 20mVrms
Nonlinearity	Not Linear (Customized)
Excitation	26Vrms
Frequency Range	400Hz
Lead Wires	22 AWG, Stranded silver, Lead WiresTeflon insulated, Length : 300mm
Operating Temperature	-45 °C ~ +125 °C
Vibration	5 Hz ~ 500 Hz, 2g
Shock	Saw tooth wave, 30g, 11ms
Material(Housing)	Stainless Steels

# Potentiometer WP70

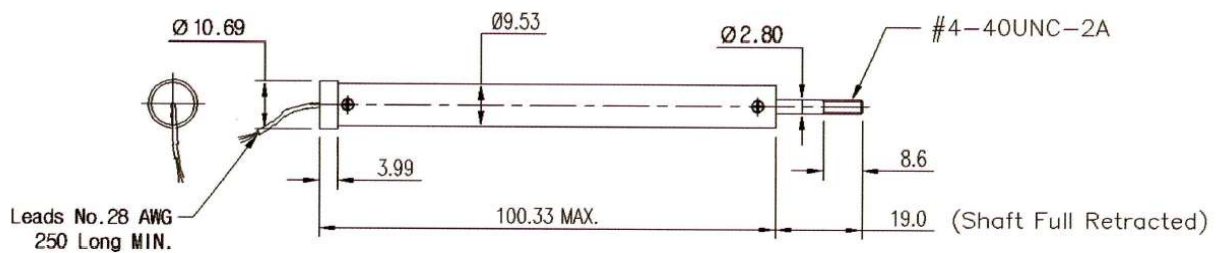


## Features

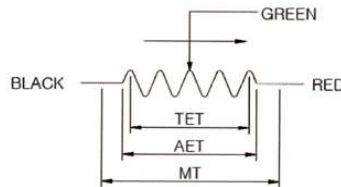
- Measurement Range from 70mm
- long Life cycle : Up to 3millions
- High Precision
- Calibration Certificate Supplied
- Military Applications



## Dimensions



< Electrical Connections >



## Performance Specifications

ELECTRICAL	Total Electronic Travel(TET)	70mm
	Actual electrical travel(AET)	AET=TET+1.12mm
	Independent Linearity	±0.2% FS
	Total Resistance	10kΩ ± 10%
	Resolution	Infinite
	Insulation Resistance	≤1,000 MΩ @ 500±10 VDC, 60 sec
	Dielectric Strength	750 Vrms 30 sec@leakage current 1mA
MECHANICAL	Total Mechanical Travel	≥ 73mm
	Weight	65 g (max)
	Material	Case : anodized aluminum
		Shaft : CRE (STS304)
	Starting Force	2 oz (max)
Termination	3 wires PTFE AWG28, length : 250mm	
MECHANICAL	Operating life	3 million cycles typical
	Operating Temperature	-55 °C ~ 125 °C
	Vibration on axes	1.5mm peak to peak or 15g, 10~2,000Hz
	Shocks on 3 axes	100g, 6ms, sawtooth wave

# Pressure Switch PE60

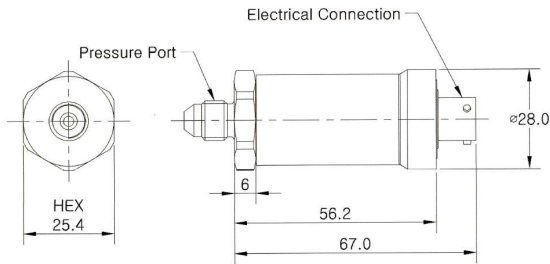


## Features

- Environmental Proof
- High Proof Pressure
- Aluminum Housing
- IP68



## Dimensions



PIN	DESIGNATION
A	N.O
B	COM
C	N.C

## Performance Specifications

Series	PS50
Pressure Range	0~300 kgf/cm <sup>2</sup>
Set Point	35 ~150 kgf/mm <sup>2</sup>
Proof Pressure	400 kgf/mm <sup>2</sup>
Hysteresis	7 ~35 kgf/mm <sup>2</sup>
Life	500,000 cycles
Electrical Rating	1.0A @ 28Vdc
Operating Temperature	-54℃ ~ +94℃
Mating Connector	MS3116-8-3S Standard
Number of Switches	SPDT Available
Vibrations	15 ~ 2kHz, 8.35g
Shock	Saw tooth wave, 20g, 11ms
Pressure Port	1/4" PF Standard, Other Options Available
Material (Pressure Port)	Aluminum Alloy

## Ordering Informations

Series Number	Pressure Port	Set Pressure Hold On	Set Point
PS50	1	R	060
	1 : 7/16-20UNF 2 : 1/4PT 3 : 1/4PF 4 : 3/8PT 5 : 3/8PF	R : Rising F : Falling	35 ~ 200 kgf/cm <sup>2</sup>

# Pressure Switch(Electrical) PE60

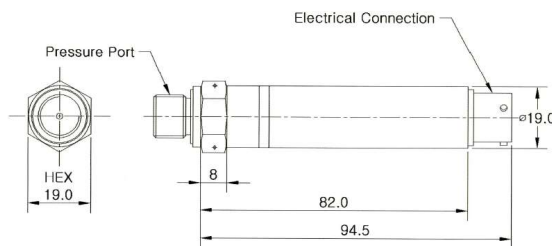


## Features

- Environmental Proof
- High Proof Pressure
- Slim Style Design
- Stainless Steel
- IP68



## Demensions



PIN	DESIGNATION
A	Vcc+
B	N.C
C	N.O
D	GND
E	-
F	-

## Performance Specifications

Series	PE60
Pressure Range	0~300 kgf/cm <sup>2</sup>
Set Point(Ordering)	35 ~200 kgf/mm <sup>2</sup>
Proof Pressure	400 kgf/mm <sup>2</sup>
Hysteresis	7 ~35 kgf/mm <sup>2</sup>
Life	500,000 cycles
Error Band(0 ~ 80℃)	2%F.S.
Supply Voltage	20 ~ 30Vdc
Electrical Rating	1.0A @ 28Vdc
Operating Temperature	-40℃ ~ +120℃
Mating Connector	MS3116-10-6S Standard
Number of Switches	SPDT Available
Vibrations	15 ~ 2kHz, 8.35g
Shock	Saw tooth wave, 20g, 11ms
Pressure Port	1/4" PF Standard, Other Options Availcble
Material (Pressure Port)	Aluminum Alloy

## Ordering Informations

Series Number	Pressure Port	Set Pressure Hold On	Set Point
PE60	1	R	060
	1 : 7/16-20UNF 2 : 1/4PT 3 : 1/4PF	R : Rising F : Falling	35 ~ 200 kgf/cm <sup>2</sup>

# Level Switch LS80

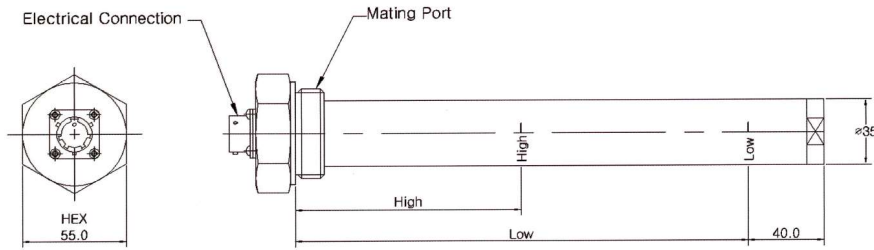


## Features

- Environmental Proof
- Aluminum Alloy
- Output option : SPDT / DPDT
- Finished : Hard Anodized
- Option Available



## Demensions



### Pin Configuration

	A	B	C	D	E	F	G	H	J	K
DPDT	Vcc+	HIGH_NO1	HIGH_NO1	HIGH_NO2	HIGH_NO2	LOW_NC1	LOW_NO1	LOW_NC2	LOW_NO2	GND
SPDT	Vcc+	HIGH_NO	HIGH_NC	LOW_NC	LOW_NO	GND				

## Performance Specifications

Series	LS80
Mating Port Type	1/2" PF(Bonded Seal TYPE) Other Options Available
Supply Voltage	20 ~ 30Vdc
Electrical Rating	Less then 1A @ 24Vdc
Number of Switches	SPDT / DPDT
Operating Temperature	-40℃ ~ +120℃
Mating Connector	MS3116-10-6S : SPDT MS3116-12-10S : DPDT Other Option Available
Vibrations	5 ~ 500Hz, 4.2g
Shock	Half sine wave, 30g, 11ms
Material (Pressure Port)	Aluminum Alloy

## Ordering Informations

Series Number	Number of Points	Number of Switches	Probe Length	Mating port Type
TS70	1	S	300	F
	2	D	120/70	F
	1 : Single Point 2 : Double Point	S : SPDT D : DPDT	ex) High Point 120mm / Low Point 70mm	F : 1/2PF U : 1-7/16-20UNF

# Temperature Switch TS70

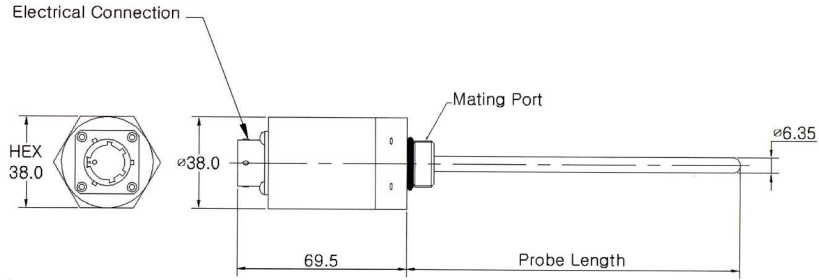


## Features

- Environmental Proof
- Stainless Steel
- Output option : SPDT / DPDT
- Option Available
- IP68



## Dimensions



### Pin Configuration

	A	B	C	D	E	F	G	H	J	K
DPDT	Vcc+	HIGH_NO1	HIGH_NO1	HIGH_NO2	HIGH_NO2	LOW_NC1	LOW_NO1	LOW_NC2	LOW_NO2	GND
SPDT	Vcc+	HIGH_NO	HIGH_NC	LOW_NC	LOW_NO	GND				

## Performance Specifications

Series	TS70
Temperature Set Point(Ordering)	-20℃ ~ +120℃
Operating Temperature	-40℃ ~ +125℃
Mating Port Type	1/2" PF Standard, Other Options Available
Supply Voltage	20 ~ 30Vdc
Electrical Rating	Less than 1A @ 24Vdc
Number of Switches	SPDT / DPDT
Mating Connector	MS3116-10-6S : SPDT MS3116-12-10S : DPDT Other Option Available
Vibrations	5 ~ 500Hz, 4.2g
Shock	Half sine wave, 30g, 11ms
Material (Housing)	Stainless Steel

## Ordering Informations

Series Number	Number of Switches	Set Point(5℃)	Probe Length	Mating port Type
TS70	S	N10	0500	F
	D	N10/P80	0500	F
	S : SPDT D : DPDT	N : - P : +	ex) 0500 → 500mm	F : 1/2PF P : 1/2PT N : 1/2NPT U : 3/4-16UNF

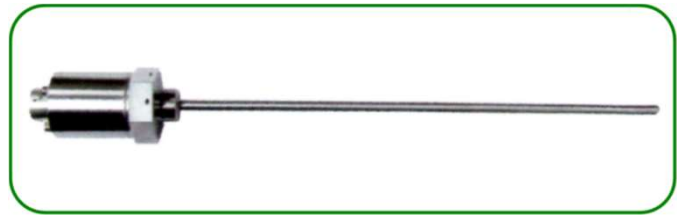


# Temperature Sensor TS71

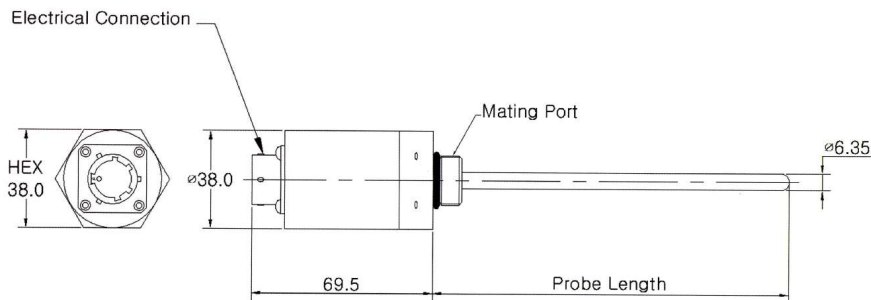


## Features

- Environmental Proof
- Stainless Steel
- Output option : SPDT / DPDT
- Option Available
- IP68



## Dimensions



PIN	DESIGNATION
A	Vcc+
B	Signal
C	GnD
C	-

## Performance Specifications

Series	TT71
Measuring Range	-40℃ ~ +120℃
Operating Temperature	55℃ ~ +125℃
Supply Voltage	20 ~ 30Vdc
Output	2 ~ 10Vdc(F.S.) Standard
Accuracy	Less then ±2℃
Hysteresis	Less then ±2.5%F.S.
Mating Connector	MS3116-8-4S Other Options Available
Mating Port Type	1/2" PF Standard, Other Options Available
Vibrations	5 ~ 500Hz, 4.2g
Shock	Half sine wave, 30g, 11ms
Material (Housing)	Stainless Steel

## Ordering Informations

Series Number	Output	Pressure Port	Probe Length
TT71	A	F	0500
	A : 4 ~ 20 mA B : 1 ~ 5Vdc C : 2 ~ 10Vdc	F : 1/2PF U : 3/4-16UNF P : 1/2PT N : 1/2NPT	ex) 0500 → 500mm

# Temperature Sensor TS72

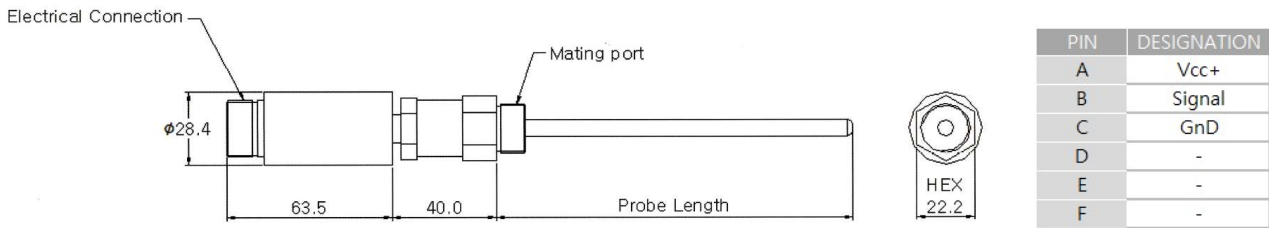


## Features

- Environmental Proof
- Stainless Steel
- Output option : SPDT / DPDT
- Option Available
- IP68



## Dimensions



## Performance Specifications

Series	TT72
Measuring Range	-40°C ~ +120°C
Operating Temperature	55°C ~ +125°C
Supply Voltage	20 ~ 30Vdc
Output	4 ~ 20 mA Standard
Accuracy	Less than ±2°C
Hysteresis	Less than ±2.5%F.S.
Mating Connector	MS3106-14-6S Other Options Available
Mating Port Type	1/2" PF Standard, Other Options Available
Vibrations	5 ~ 500Hz, 4.2g
Shock	Half sine wave, 30g, 11ms
Material (Housing)	Stainless Steel

## Ordering Informations

Series Number	Output	Pressure Port	Probe Length
TT72	A	F	500
	A : 4 ~ 20 mA	F : 1/2PF U : 3/4-16UNF P : 1/2PT N : 1/2NPT	ex) 500 → 500mm

# Pressure Sensor PT611

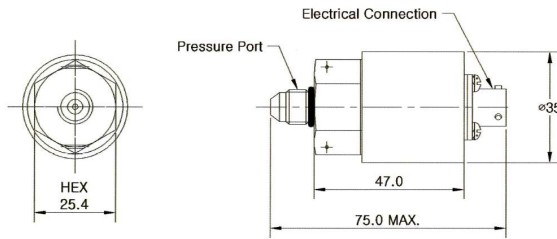


## Features

- Environmental Proof
- High Proof Pressure
- Port : Stainless Steel
- Option Available
- IP67



## Dimensions



PIN	DESIGNATION
A	Vcc+
B	Signal
C	GnD
C	-

## Performance Specifications

Series	PT611
Pressure Range	0~280 kgf/cm <sup>2</sup>
Proof Pressure	420 kgf/mm <sup>2</sup>
Life	1 million Cycles
Accuracy	Less then ±1%F.S.
Thermal Effect on Zero	Less then ±1%F.S.
Pressure Type	Gauge / Absolute Pressure
Supply Voltage	20 ~ 30Vdc
Output	0 ~ 10Vdc Standard
Operating Temperature	-20°C ~ +80°C
Mating Connector	MS3116-8-4S Standard, Other Options Available
Vibrations	5 ~ 500Hz, 4.2g
Shock	Half sine wave, 30g, 11ms
Pressure Port	1/4" PF Standard, Other Options Availcble
Material (Pressure Port)	Stainless Steel

## Ordering Informations

Series Number	Pressure Port	Measuring Range	Output
PT611	1	A	A
	1 : 7/16-20UNF	A : 20 kgf/cm <sup>2</sup>	A : 0 ~ 5Vdc
	2 : 1/4PT	B : 35 kgf/cm <sup>2</sup>	B : 0.5 ~ 5.5Vdc
	3 : 1/4PF	C : 70 kgf/cm <sup>2</sup>	C : 0 ~ 10Vdc
	4 : 3/8PT	D : 150 kgf/cm <sup>2</sup>	D : 2 ~ 10Vdc
	5 : 3/8PF	E : 250 kgf/cm <sup>2</sup>	

# Differential Pressure Sensor PD25

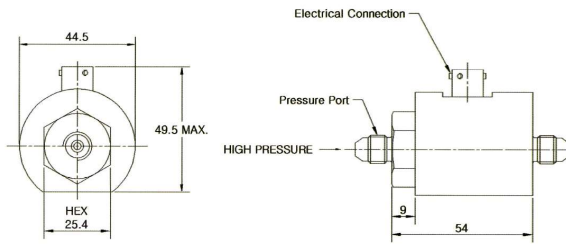


## Features

- Environmental Proof
- High Proof Pressure
- Port : Brass alloy
- Option Available
- IP67



## Dimensions



PIN	DESIGNATION
A	Vcc+
B	Signal
C	GnD
C	-

## Performance Specifications

Series	PT611
Pressure Range	0~2 kgf/cm <sup>2</sup>
Proof Pressure	5 kgf/mm <sup>2</sup>
Life	1 million Cycles
Accuracy	Less then ±1%F.S.
Thermal Effect on Zero	Less then ±1%F.S.
Pressure Type	Differential Pressure
Supply Voltage	12Vdc
Output	0 ~ 90mV
Operating Temperature	-40℃ ~ +80℃
Mating Connector	MS3116-8-4S Standard
Vibrations	5 ~ 500Hz, 4.2g
Shock	Half sine wave, 30g, 11ms
Pressure Port	1/4" PF Standard, Other Options Availcble
Material (Pressure Port)	Copper Alloy

## Ordering Informations

Series Number	Pressure Port Options
PD25	1
	1 : 7/16-20UNF
	2 : 1/4PT
	3 : 1/4PF
	4 : 3/8PT
	5 : 3/8PF

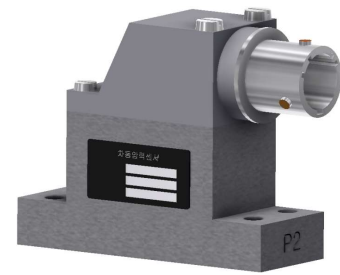
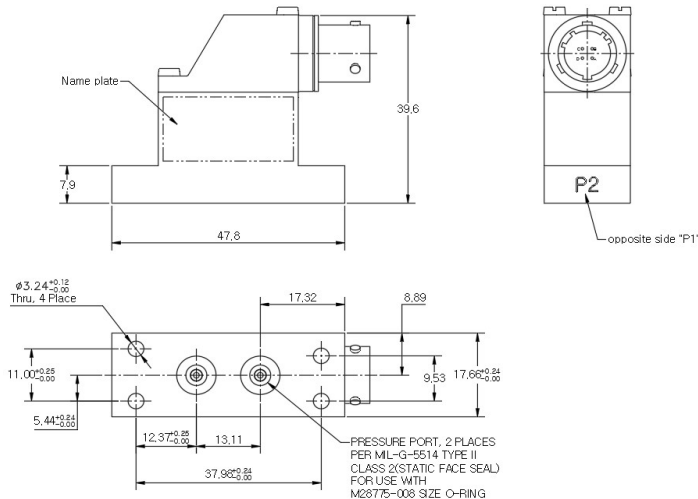
# Differential Pressure Sensor DS101



## Features

- Environmental Proof
- High Proof Pressure
- Port : Manifold mounting per MIL-G-5514, Type II, Class 2
- Option Available

## Dimensions



PIN	DESIGNATION
1	+ Excitation
2	+ Signal
3	- Signal
4	- Excitation

## Performance Specifications

		Excitation Voltage	10 Vdc (Max.)
ELECTRICAL	Full scale Sensitivity	P1=2.0 mV/V ± 20% , P2=P1±2.0% of P1	
	Output at Zero Differential Pressure	0 ± 5% FSO	
	Combined Nonlinearity, Hysteresis	±0.25% FSO B.F.S.L	
	Input Resistance	350 ± 70 Ω	
	Output Resistance	350 ± 35 Ω	
	Resolution	Infinite	
	Insulation Resistance	50 MΩ (Min.)@ 200 VDC	
	Dielectric Strength	leakage current 0.2 mA (Max.) @200 VAC, 5 sec	
	Operating Temperature	-50 °C ~ 120 °C	
MECHANICAL	Pressure Range	± 4,000 PSID	
	Proof Pressure	150% FS	
	Proof Pressure	250% FS(differential)	
	Material	Case : anodized aluminum(AI 7075)	
	Weight	Max. 90 g	
	Electrical Connector	4 pin, Mate with MS3116-8-4S	
ENVIRONMENTAL	High Temperature	MIL-STD-810H Method 501.7, Procedure II	
	Low Temperature	MIL-STD-810H Method 502.7, Procedure II	
	Vibration on 3 axes	MIL-STD-810H Method 514.2, Fig 514.2-V; AH Curve; 60 M on axes	
		MIL-STD-810H Method 514.8, Fig 514.8c-6; 120 M on axes	
	Shocks on 3 axes	MIL-STD-810H Method 516.8, Fig 516.8-3; 20g, 11ms, sawtooth wave	