



Ratiometric Analog Voltage

---

**ANALOG**

## Pressure Transducer PTA-40 Ratiometric Analog Voltage

- Piezoresistive MEMS-Sensing
- Modular Design
- Automotive Qualified for Engine Mounted Application
- RoHS Conform

### Description

The SMS-PTA-40 is a compact Pressure Transducer, designed for harsh automotive requirements. The sensor is available in different pressure ranges and can be supplied with a customer specific electrical connector and pressure port. The SMS-PTA-40 is a cost-effective product and due to its flexibility suitable for various low and high volume applications.

### Applications

- *Automotive*
  - Air conditioning systems
  - Brake systems
  - Fuel pressure
  - Oil pressure
- *HVAC, climate control*
- *Hydraulic systems*
- *Pneumatic*
- *Industrial process control*

### Features

- Pressure type: gage or absolute
- Output: ratiometric analog voltage
- Calibration and temperature compensation integrated
- Extended temperature range
- Automotive protection
- Compact size
- Light weight

## Technical Specification

<b>Pressure</b>		<b>Environment</b>	
<i>Operating Pressure</i> <sup>1)</sup>	1 - 40 bar (14.5 psia - 580 psia)	<i>Operational Temperature</i>	-40°C to +135°C
<i>Over Pressure</i>	60 bar	<i>Short Term Operating Temp.</i>	140°C (15min)
<i>Burst Pressure</i>	> 90 bar	<i>Storage Temperature</i>	-40°C to +150°C
		<i>Classification</i>	IP6K9K
<b>Accuracy</b>		<b>Durability</b>	
<i>Accuracy</i> <sup>4)</sup>	± 1.0% Vcc (25°C)	<i>Pressure Cycles</i>	> 12 million @ 135°C
<i>Linearity</i>	1.0% Vcc (-40°C to +135°C)		
<i>Total Error Band</i> <sup>4)</sup>	2% Vcc max @ -20°C to +100°C 3% Vcc max @ -40°C to +135°C		
<b>Electrical Parameters</b>		<b>Mechanical Parameters</b>	
<i>Supply</i>		<i>Housing Material</i>	Aluminum (stainless steel upon request)
Voltage (Vcc) <sup>2)</sup>	4.5 - 5.5 V	<i>Pressure Port</i> <sup>5)</sup>	Hex 14mm, M10 x 1.25
Current	7mA max.	<i>Electrical Connector</i> <sup>5)</sup>	Packard
<i>Output</i>		<i>Dimensions (L x W)</i>	48 x 23.4 mm
Signal Range <sup>2)</sup>	5 - 95% Vcc (ratiometric)	<i>Media Compatibility</i>	R134a, PAG-oil, motor oil, diesel, polluted air
Output Current	2.5 mA max.	<i>Weight</i>	15g (Aluminum Housing)
Output Ripple	0.2% Vcc		
<i>Protection</i>			
Overvoltage Protection	±18 V		
Reverse Polarity Protection	GND, Vcc		
Short Circuit	Continuous		
ESD Protection	HBM 8 kV		
<i>Response Time (90%)</i>	< 3 ms (depends on signal conditioning)		
<i>EMC</i> <sup>3)</sup>	Certified to automotive requirements		

- 1) Other pressure ranges upon request
- 2) Other signal ranges upon request
- 3) Customer specific alterations upon request
- 4) Includes nonlinearity, hysteresis, offset, repeatability, temperature effects
- 5) Other pressure ports and electrical connectors upon request