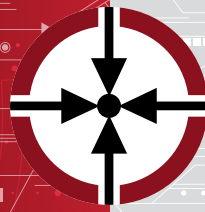


ESCP-MIS1

Medium Isolated
MEMS Capacitive Pressure Sensors



ES Systems has developed a series of medium isolated pressure sensors suitable for applications with harsh environmental conditions where resistance to corrosive fluids or gases is required. Each sensor integrates a MEMS capacitive pressure sensor die, and a CMOS ASIC for the signal conditioning. The MEMS pressure sensor dies are underpinned by ES Systems' innovative microfabrication process for silicon capacitive sensors.

The capacitive pressure sensor dies integrated into the medium isolated pressure systems provide state-of-the-art accuracy and resolution, excellent long-term stability combined with very good repeatability and hysteresis. The total overall error including thermal offsets is lower than $\pm 0.25\%$ FS.

The ESCP-MIS1 is a family of pressure sensors in the standard $\text{Ø}19$ stainless steel 316L capsule. In this type of sensors, the pressure is transferred hydrolically to the hermetically sealed sensing element through the oil used to fill the cavity between the sensing element and the stainless-steel diaphragm. The pressure capsule interface is either I²C, SPI or analog. The sensors are provided calibrated and compensated at various temperature and pressure ranges from 10 bara to 350 bara. Custom materials like Hastelloy or Titanium are available upon request.



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ESCP-MIS1

Medium Isolated
MEMS Capacitive Pressure Sensors



Specifications

Pressure Type	Absolute
Pressure Range	Up to 350 bar
Power Supply	3.1 to 5.5V
Current Consumption, full operation	< 2.3mA
Total Error	< ±0.25%FS
Operating Temperature	-40°C ... +125°C
Compensation Temperature	0°C ... +60°C, -20°C ... +85°C, -40°C ... +125°C
Digital Output	Calibrated Pressure & Temperature
Analog Output	Calibrated Pressure
Output	I ² C, SPI, Analog 0.5 to 2.5V
Overpressure Tolerance	Up to 100x
Media Compatibility	Gases, Liquids
Material Options	SS 316 L, Hastelloy, Titanium

Ordering Information

ESCP-MIS1 – N – NNNNN – NN – NN – NN – NN – NN – N – N

Pressure Type							Temperature Sensor		
1	Absolute						Y	Yes	
							N	No	
Pressure Range							Pressure Response Time		
Absolute	Full Scale						1	10Hz	
010BA	10 bar						2	1kHz	
012BA	12 bar								
013BA	13 bar								
014BA	14 bar								
018BA	18 bar								
020BA	20 bar								
028BA	28 bar								
030BA	30 bar								
035BA	35 bar								
070BA	70 bar								
100BA	100 bar								
200BA	200 bar								
350BA	350 bar								
		Material							
		01	SS 316 L						
		02	Hastelloy						
		03	Titanium						
		Filling Oil							
		01	Silicon						
		02	Food						
		03	Fluorinated						
		Sealing Type							
		01	O-ring FKM						
		02	O-ring EPDM						
		03	O-ring NBR						
		04	O-ring VMQ						
		05	O-ring HNBR						
		06	Laser Weld						
		Compensation Temperature							
		01	0°C to 60°C						
		02	-20°C to 85°C						
		03	-40°C to +125°C						
		Output Type							
		01	I ² C (address 0x28)	05	SPI				
		02	I ² C (address 0x29)	06	Analog				
		03	I ² C (address 0x2A)						
		04	I ² C (address 0x2B)						



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