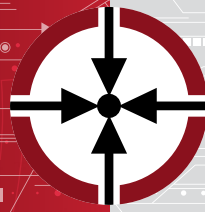


ESCP-MIS1

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 $\varnothing 19$ 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	1 Absolute										Temperature Sensor
											Y Yes
											N No
Pressure Range	Absolute Full Scale										
010BA	10 bar										
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									Pressure Response Time
		01 SS 316 L									1 10Hz
		02 Hastelloy									2 1kHz
		03 Titanium									
		Filling Oil									
		01 Silicon									
		02 Food									
		03 Fluorinated									
		Sealing Type									Output Type
		01 O-ring FKM									01 I ² C (address 0x28)
		02 O-ring EPDM									05 SPI
		03 O-ring NBR									02 I ² C (address 0x29)
		04 O-ring VMQ									06 Analog
		05 O-ring HNBR									03 I ² C (address 0x2A)
		06 Laser Weld									04 I ² C (address 0x2B)
											Compensation Temperature
											01 0°C to 60°C
											02 -20°C to 85°C
											03 -40°C to +125°C



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