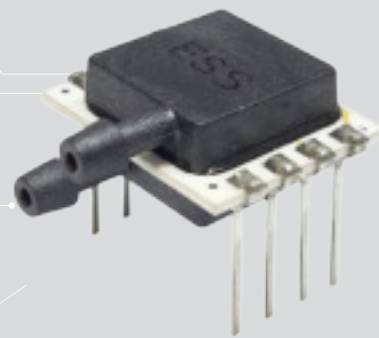
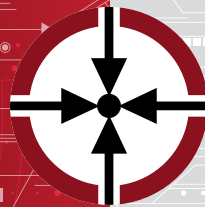


ESCP-BMS1

Board Mountable
MEMS Capacitive Pressure Sensors



ES Systems has developed a series of board mountable pressure sensors targeting a variety of markets requiring high resolution and accuracy for absolute, gauge or differential pressure measurements. The ESCP-BMS1 is a MEMS capacitive pressure sensor with state-of-the-art performance. The MEMS pressure sensor die is underpinned by ES Systems' innovative SOI-surface micromachining technology.

ESCP-BMS1 is an absolute, gauge or differential pressure sensor of ultra-high resolution with analog (0-3,3V), PWM, SPI or I²C interface. The output is fully calibrated, and temperature compensated based on the internal temperature sensor and the factory calibration coefficients which are stored in the embedded memory. The sensor is ready to be installed directly to the end system without further processing. The total error including repeatability, hysteresis, non-linearity, thermal offset and calibration error between 0°C and 60°C is better than 0.25% FS.

Different power modes are available enabling low power operation, while the output rate and thus the conversion speed is programmable allowing the end user to customize/optimize performance. The sensor can be configured to provide both high accuracy 32-bit pressure and temperature outputs.

ESCP-BMS1 is a silicon capacitive pressure sensor with excellent long-term stability. The sensor is incorporated in a standard 8-pin DIP package with a single or two pneumatic ports. The top port is the high side and the bottom port is the low side.



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Specifications

Pressure Type	Absolute, Gauge, Differential
Pressure Range, Absolute	50mbara... 10bara
Pressure Range, Gauge	0barg... 11barg
Pressure Range, Differential	±10mbar ... ±1bar
Power Supply	3,3V
Current Consumption, full operation	< 1 mA
Accuracy	0.1% 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
Overpressure Tolerance	Up to 100x
Media Compatibility	Gases, liquids

Ordering Information

ESCP-BMS1 – N – NNNNNNN – NN – NN – NN – N

Media			Temperature Sensor			Compensation Temperature		Pressure Port		Output Type			
G	Dry glass only		Y	Yes		01	0°C to 50°C	11		01	I ² C (address 0x28)	05	SPI
L	Liquid media		N	No		02	-20°C to 85°C	02		02	I ² C (address 0x29)	06	PWM
						03	-40°C to 125°C			03	I ² C (address 0x2A)	07	Analog
										04	I ² C (address 0x2B)		
Pressure Range													
Absolute	Gauge	Differential											
00100MA	00000MG	00010MD											
00200MA	00100MG	00050MD											
00500MA	00160MG	00100MD											
01000MA	00250MG	00150MD											
01250MA	00400MG	00200MD											
02000MA	00600MG	00250MD											
05000MA	01500MG	00500MD											
10000MA	04500MG	00750MD											
15000MA	07000MG	01000MD											
21000MA	11000MG	00001KD											
00010KA	00006KG	00005KD											
00020KA	00010KG	00010KD											
00050KA	00016KG	00015KD											
00100KA	00025KG	00025KD											
00200KA	00060KG	00050KD											
000500KA	00150KG	00075KD											
01000KA	00450KG	00100KD											
01500KA	00700KG	00001PD											
02100KA	01100KG	00002PD											
00002PA	00001PG	00003PD											
00005PA	00002PG	00004PD											
00010PA	00003PG	00005PD											
00015PA	00005PG	00007PD											
00030PA	00010PG	00010PD											
00075PA	00020PG	00015PD											
00145PA	00065PG												
00220PA	00100PG												
00300PA	00160PG												



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