

Digital output micro differential pressure sensor

# MMR940 Series



### Outline

The MMR940 digitally outputs a micro differential pressure value which was corrected. The MMR940 corrects the differences of sensors and temperature characteristics and outputs the digital corrected value, so customers don't need correct. The speciality developed MEMS diaphragm structure with highly sensitive makes the output be low-noise required for measurement in low differential pressure range. Furthermore, noise reduction is possible by a built-in digital filter. Cutoff frequency of the digital filter is able to be changed. It does not require complicated sensor drive or control circuit, and devices with high performance can be made only with this module and an external microcontroller which will be the host.

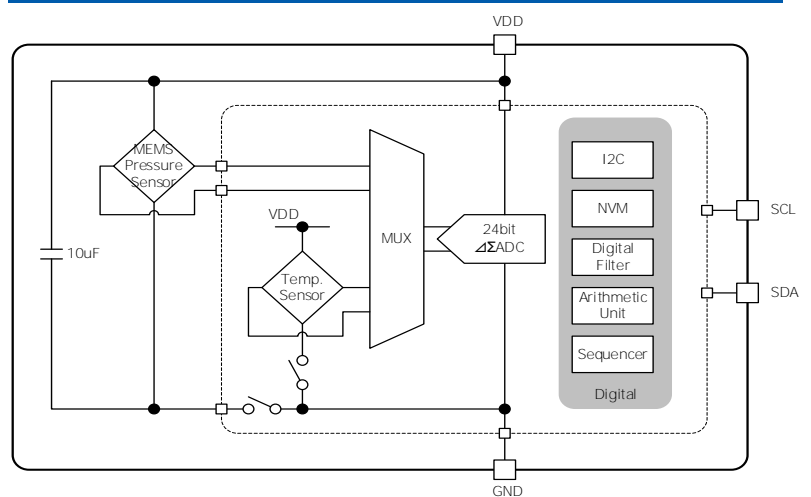
### Applications

Medical, HVAC systems for building,  
Devices using air pressure

### Features

- ① Dual nozzle package
- ② A high-accuracy pressure value can be output  
Pressure measurement error  
MMR940C02 :  $\pm 2.0\%FS(TBD)$   
MMR940C04/C07/C10 :  $\pm 1.0\%FS(TBD)$
- ③ It corrects the differences of sensors and temperature characteristics when shipped from our factory
- ④ It digitally outputs pressure value (SPI,I2C)
- ⑤ Noise reduction is possible by a built-in LowPassFilter.

### Block Diagram



### Specification

ITEM	SPECIFICATION			
	MMR940C02	MMR940C04	MMR940C07	MMR940C10
Model	MMR940C02	MMR940C04	MMR940C07	MMR940C10
Operating pressure range	$\pm 1.96kPa$ ( $\pm 20cmH2O$ )	$\pm 3.92kPa$ ( $\pm 40cmH2O$ )	$\pm 6.86kPa$ ( $\pm 70cmH2O$ )	$\pm 9.80kPa$ ( $\pm 100cmH2O$ )
Pressure type	Differential Pressure			
Pressure medium	Non-corrosive Gas (No Condensation)			
Operating temperature range	$-40 \sim 85^{\circ}C$			
Supply voltage range	$3.0 \sim 3.6V$ (3.3V typ.)			
Current consumption	0.8mA			
Conversion time	0.4 / 0.8 / 1.6 / 3.2ms			
Pressure measurement error	$\pm 2.0\%FS(TBD)$	$\pm 1.0\%FS(TBD)$		
Pressure span accuracy	$\pm 1.3\%FS$	$\pm 0.65\%FS$		
Pressure effective resolution	0.019 / 0.009 / 0.004 / 0.002 cmH2ORMS			
Interface	I2C			
Size	29(W)x18(D)x14.3(H)mm			

