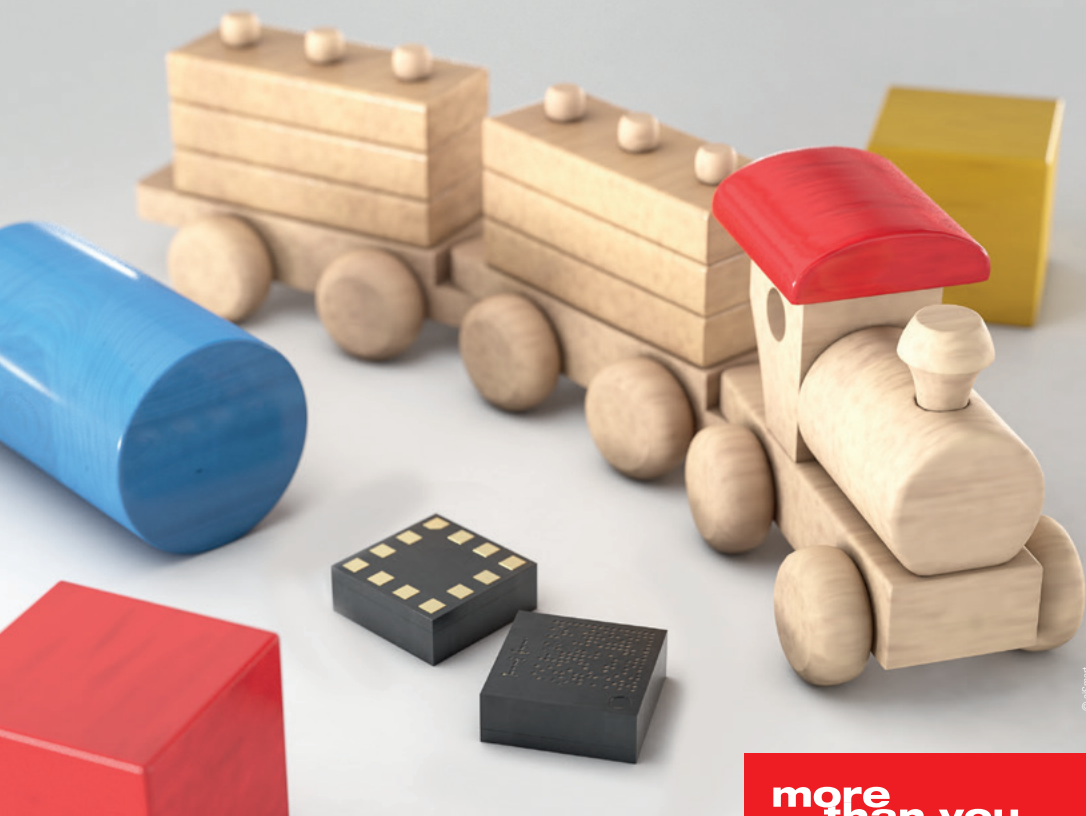


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- On-chip interrupt functions
- Implemented algorithms
- SPI & I<sup>2</sup>C digital interfaces



3 Axis Acceleration  
WSEN-TDS



Temperature Sensor IC  
WSEN-TIDS



Absolute Pressure  
WSEN-PADS



Differential Pressure  
WSEN-PDUS



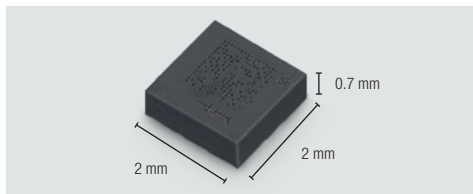
Humidity  
WSEN-HIDS

#SensewithMEMS

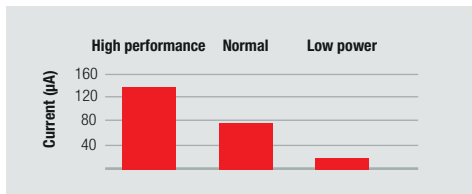
# Sensors



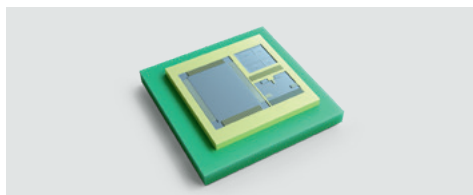
## 3-Axis Acceleration Sensor – WSEN-ITDS



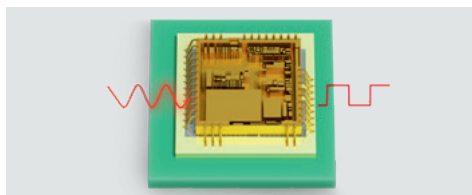
Ultra compact



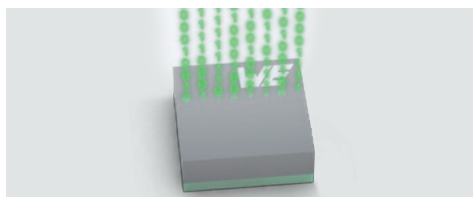
Optimized current consumption with 3 different modes



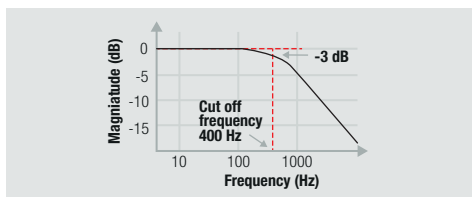
MEMS capacitive sensing principle



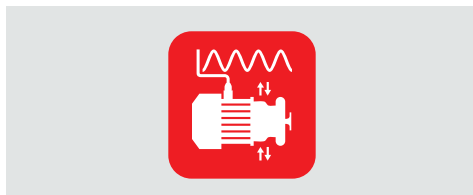
ASIC converts the analog to digital signal



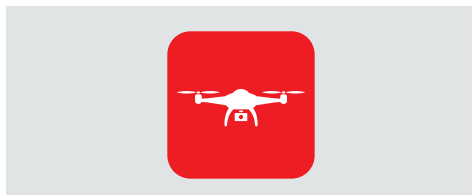
The FiFo buffer stores output values



Bandwidth up to 400 Hz



Low vibration monitoring



Motion detection

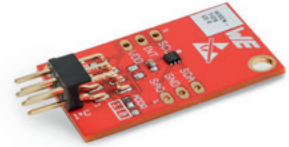
Application Note about MEMS Sensor  
PCB Design and Soldering Guideline:  
[www.we-online.com/ANM001](http://www.we-online.com/ANM001)





## Temperature Sensor IC – WSEN-TIDS

- -40 °C to +125 °C measurement range
- Digital I<sup>2</sup>C communication interface
- 16 bits temperature output resolution
- Selectable output data rate up to 200 Hz



## Humidity Sensor – WSEN-HIDS

- 0 to 100 % rH measurement range with an integrated temperature sensor
- I<sup>2</sup>C and SPI communication interface
- 16 bit humidity and temperature output resolution
- Selectable output data rate up to 12.5 Hz
- Calibrated humidity and temperature output values



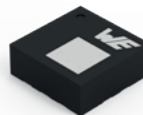
## Differential Pressure Sensor – WSEN-PDUS

- Wide measurement range from  $\pm 0.1$  kPa to 1 MPa
- I<sup>2</sup>C and analog communication interface
- Amplified, calibrated and temperature compensated output signal
- 15 bit digital and 11 bit analog pressure output resolution
- Evaluation board including mounted adapter



## Absolute Pressure Sensor – WSEN-PADS

- 26 to 126 kPa pressure range with integrated temperature sensor
- I<sup>2</sup>C and SPI communication interface
- 24 bit pressure output resolution
- Selectable output data rate up to 200 Hz
- 128 level FIFO buffer

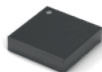


# Sensors

## Product Overview



3-Axis Acceleration Sensor – WSEN-ITDS						
Order Code	Measurement Range	Resolution (bits)	Accuracy	Output Data Rate (Hz)	Current Consumption ( $\mu$ A)	Evaluation Board Order Code
2533020201601	$\pm 2/ \pm 4/ \pm 8/ \pm 16$ g	14	$\pm 3\%$	1600	16	2533203301691



Temperature Sensor IC – WSEN-TIDS						
Order Code	Measurement Range	Resolution (bits)	Accuracy	Output Data Rate (Hz)	Current Consumption ( $\mu$ A)	Evaluation Board Order Code
2521020222501	-40 °C to +125 °C	16	$\pm 0.25$ °C	200	1.75	2521020222591



Humidity Sensor – WSEN-HIDS						
Order Code	Measurement Range	Resolution (bits)	Accuracy	Output Data Rate (Hz)	Current Consumption ( $\mu$ A)	Evaluation Board Order Code
2525020210001	0 to 100 rH%	16	$\pm 3.5\%$	12.5	8.9	2525020210091



Differential Pressure Sensor – WSEN-PDUS						
Order Code	Measurement Range	Resolution (bits)	Total Accuracy	Output Data Rate (Hz)	Current Consumption (mA)	Evaluation Board Order Code
2513130810001	-0.1 to +0.1 kPa	15	$\pm 2.5\%$ FSS	450	4	2513254510091
2513130810101	-1 to +1 kPa	15	$\pm 0.75$ FSS	450	4	2513254510191
2513130810201	-10 to +10 kPa	15	$\pm 0.75$ FSS	450	4	2513254510291
2513130810301	0 to 100 kPa	15	$\pm 0.25$ FSS	450	4	2513254510391
2513130810401	-100 to +1000 kPa	15	$\pm 0.25$ FSS	450	4	2513254510491



Absolute Pressure Sensor – WSEN-PADS						
Order Code	Measurement Range	Resolution (bits)	Accuracy	Output Data Rate (Hz)	Current Consumption ( $\mu$ A)	Evaluation Board Order Code
2511020213301	26 to 126 kPa	24	$\pm 100$ Pa	200	4	2533203301691

Application Note about Human Fall Detection with 3-axis MEMS Acceleration Sensor:  
[www.we-online.com/ANM002](http://www.we-online.com/ANM002)



Application Note about Pressure Altimeter using Absolute Pressure Sensor WSEN-PADS:  
[www.we-online.com/ANM003](http://www.we-online.com/ANM003)

