



# Sensor Product Selector Guide

Freescale is a global semiconductor company enabling the Internet of Tomorrow. We develop solutions to provide secure efficient connections, safer and greener automobiles, and add intelligence to everyday items. As a leader in processing and sensing solutions, we are driving a more innovative and connected world for the future. Expanding on its more than 35-year heritage of sensor innovation, Freescale has an extensive portfolio of acceleration, magnetic, pressure, touch sensors and gyroscopes enabling complete embedded system solutions.

## Motion Sensors

Part Number	Description	Interface	Other	Package
<b>Low g Accelerometers</b>				
FXLS8471QR1	3-axis 2g/4g/8g 14 bit	I <sup>2</sup> C/SPI	smart embedded functions, 2 interrupt pins	QFN 3x3 mm
MMA8653FCR1	3-axis 2g/4g/8g 10 bit	I <sup>2</sup> C	smart embedded functions, 2 interrupt pins	QFN 2x2 mm
MMA8652FCR1	3-axis 2g/4g/8g 12 bit	I <sup>2</sup> C	smart embedded functions, 2 interrupt pins	QFN 2x2 mm
MMA8453QR1	3-axis 2g/4g/8g 10 bit	I <sup>2</sup> C	smart embedded functions, 2 interrupt pins	QFN 3x3 mm
MMA8452QR1	3-axis 2g/4g/8g 12 bit	I <sup>2</sup> C	smart embedded functions, 2 interrupt pins	QFN 3x3 mm
MMA8451QR1	3-axis 2g/4g/8g 14 bit	I <sup>2</sup> C	smart embedded functions, 2 interrupt pins	QFN 3x3 mm
FXLN8361QR1	3-axis, 2g/8g analog	analog	high bandwidth 1.7 kHz	QFN 3x3 mm
FXLN8362QR1	3-axis, 8g/16g analog	analog	high bandwidth 1.7 kHz	QFN 3x3 mm
FXLN8371QR1	3-axis, 2g/8g analog	analog	very high bandwidth 4.9 kHz	QFN 3x3 mm
FXLN8372QR1	3-axis, 8g/16g analog	analog	very high bandwidth 4.9 kHz	QFN 3x3 mm
MMA8491Q	3-axis, 2g/4g/8g 3 logic outputs	logic outputs	ultra low power	QFN 3x3 mm
MMA690xx	2-axis, XY, 3.5g/5g 11 bit	SPI	auto qual, -40°C;+105°C,	QFN 6x6 mm
<b>High g Accelerometers</b>				
MMA65xxKWR2	2-axis, XY, 80g, 105g, 120g , 12 bit	SPI	auto qual, -40°C;+125°C,	QFN 6x6 mm
MMA655xKWR2	1-axis, X, 80g, 105g, 120g , 12 bit	SPI	auto qual, -40°C;+125°C,	QFN 6x6 mm
MMA68xxKWR2	2-axis, XY, 80g or 105g or 120g , 10 bit	SPI	auto qual, -40°C;+125°C,	QFN 6x6 mm
MMA685xKWR2	1-axis, X or Z, 25g, 50g, 60g, 120g	SPI	auto qual, -40°C;+125°C,	QFN 6x6 mm
MMA51xxKWR2	1-axis, X , 60g, 120g, 240g, 480g, 10 bit	PSI 5	auto qual, -40°C;+125°C,	QFN 6x6 mm
MMA52xxKWR2	1-axis, Y , 60g, 120g, 240g, 480g, 10 bit	PSI 5	auto qual, -40°C;+125°C,	QFN 6x6 mm
MMA26xxKWR2	1-axis, X, 25g, 50g, 62.5g, 125g, 187g, 312g	DSI2.5	auto qual, -40°C;+125°C,	QFN 6x6 mm
MMA16xxKWR2	1-axis, Z, 25g, 50g, 62.5g, 125g, 187g, 312g	DSI2.5	auto qual, -40°C;+125°C,	QFN 6x6 mm
MMA1725WR2	1-axis, Z, 250g, 10 bits	DSI3	auto qual, -40°C;+125°C,	QFN 6x6 mm
MMA27xxWR2	1-axis, X, 125g, 187g, 250g, 375g , 10 bit	DSI3	auto qual, -40°C;+125°C,	XX
<b>Smart Sensor Hub</b>				
MMA955x	3-axis 2g/4g/8g 16 bit , Coldfire V1 CPU, 16Kflash, 2k Ram	SPI/I <sup>2</sup> C master - slave	open , infrastructure or pedometer firmware	QFN 3x3 mm
FXLC9500OCL	3-axis 2g/4g/8g 16 bit , Coldfire V1 CPU, 128Kflash, 16k Ram	SPI/I <sup>2</sup> C master - slave	MQX, Intelligent Sensor Framework	QFN 3x5 mm
<b>Magnetometers and Gyros</b>				
MAG3110	3 axis, 10 Gauss, 16 bits	I <sup>2</sup> C		QFN 2x2 mm
FXOS8700CQ	6 axis, 12 Gauss, 2g/4g/8g, 14bit acc, 16 bit magneto	I <sup>2</sup> C/SPI	embedded hard iron calibration	QFN 3x3 mm
FXAS21002CQ	3 axis, 2000 dps, < 2.6mA, < 50 ms turn on time	I <sup>2</sup> C/SPI	pin compatible with FXAS21000	QFN 4x4 mm

## Pressure Sensors

Part Number	Description	Interface	Other	Package
<b>Barometric Pressure Sensors</b>				
MPL3115A2	20-115 kPa, 1.5 kPa or 25 cm resolution,	I <sup>2</sup> C	2 interrupts on Pressure, Altitude, temperature	LGA 3X5mm
MPXH6101Axx	15 kPa to 105 kPa	analog 0.2V to 5V	1.72% accuracy, auto qual	SSOP & ported SSOP
MPXHZ6116A6	20 kPa to 115 kPa	analog 0.4V to 4.65V	1.43% accuracy, auto qual, Z = medial resistant gel	SSOP
MPXHZ6130Axx	15 kPa to 130 kPa	analog 0.2V to 4.8V	1.5% accuracy , auto qual, Z = medial resistant gel	SSOP & ported SSOP
MPXy(Z)6115Axx	15 kPa to 115 kPa	analog 0.2V to 4.7V	1.5% accuracy , auto qual, Z = media resistant gel	y=A SOP & ported SOP // y=H SSOP & Ported SOP
MP3H6115AC6	15 kPa to 115 kPa	analog 0.12V to 2.8V	1.5% accuracy, auto qual	ported SSOP
<b>Absolute Pressure Sensors</b>				
MPXH(Z)6250Axx	20 kPa to 250 kPa	analog 0.3V to 4.9V	1.5% accuracy, auto qual	SSOP & ported SSOP
MPXH6300Axx	20 kPa to 304 kPa	analog 0.3V to 4.9V	1.5% accuracy, auto qual	SSOP & ported SSOP
MPXy(Z)6400Axx	20 kPa to 400 kPa	analog 0.2V to 4.8V	1.5% accuracy , auto qual, Z = media resistant gel	y=A SOP & ported SOP // y=H SSOP & Ported SOP
MPX5700A	15 kPa to 700 kPa	analog 0.2V to 4.7V	2.5% accuracy	Unibody packages
<b>Vacuum Pressure Sensors</b>				
MPXH6115V	-115 kPa to 0 kPa	analog 0.2V to 4.6V output	1.5% accuracy, auto qual	SOP & SOP ported
MPXV5007	-7 kPa to 7 kPa	analog 0.5V to 4.5V	5% accuracy	SOP ported, SOP dual port
MPXV7025	-25 kPa to 25 kPa	analog 0.2V to 4.7V	5% accuracy	SOP ported, SOP dual port
MPXV5050VC6U	-50 kPa to 0 kPa	analog 0.1V to 4.6V	2.5% accuracy	SOP ported
MP3V5050	-50 kPa to 0 kPa	analog 0.06V to 2.82V	2 % accuracy	SOP ported, SOP dual port
MPXV7002	-2 kPa to 2 kPa	analog 0.5V to 4.5V	2.5% accuracy	SOP ported & dual port
<b>Differential/Gauge Pressure Sensors &lt; 10 kPa</b>				
MPXV10GCxx	0 kPa to 10 kPa	analog 35 mV	uncompensated	SOP & ported SOP
MPXV12xx	0 kPa to 10 kPa	analog 55 mV	uncompensated	SOP, SOP dual port, Mpak, SOP ported
MPXV(Z)4006	0 kPa to 6 kPa	analog 0.2V to 4.8V	2.5% accuracy	SOP, SOP dual port, SOP ported
MPXV(Z)5004	0 kPa to 3.92 kPa	analog 1.0V to 4.9V	1.5% accuracy	SOP, SOP dual port, SOP ported
MP3V5004	0 kPa to 3.92 kPa	analog 0.6V to 3V	1.5% accuracy	SOP, SOP dual port, SOP ported
MPXV5010	0 kPa to 10 kPa	analog 0.2V to 4.7V	5% accuracy	SOP, SOP dual port, SOP ported
MPV5010	0 kPa to 10 kPa	analog 0.2V to 4.7V	5% accuracy	SOP, SOP dual port, SOP ported
MP3V5010	0 kPa to 10 kPa	analog 0.1V to 3.1V	5% accuracy	SOP, SOP dual port, SOP ported
<b>Differential/Gauge Pressure Sensors up to 115 kPa</b>				
MPX2300DT1	0 kPa to 40 kPa	analog	disposable bio compatible system	ChipPak package
MPXV5100	0 kPa to 100 kPa	analog 0.2V to 4.7V	2.5% accuracy	SOP ported & dual port
MPXM2051G	0 kPa to 50 kPa	analog 40 mV	compensated & calibrated	MPAK
MPXx2053	0 kPa to 50 kPa	analog 40 mV	compensated & calibrated	x=V SOP & ported SOP, x=M MPAK
MPXx2102	0 kPa to 100 kPa	analog 40 mV	compensated & calibrated	x=V SOP & ported SOP, x=M MPAK
MPXV5050	0 kPa to 50 kPa	analog 0.2V to 4.7V	2.5% accuracy	SOP ported & dual port
MPVZ5050	0 kPa to 50 kPa	analog 0.2V to 4.7V	2.5% accuracy, media resistant gel	SOP ported
<b>Differential/Gauge Pressure Sensors up to 1000 kPa</b>				
MPXx2202	0 kPa to 200 kPa	analog 40 mV	compensated	x=V SOP & ported SOP, x=M MPAK
MPX5500	0 kPa to 500 kPa	analog 0.2V to 4.7V	2.5% accuracy	Unibody packages
MPX5700	0 kPa to 700 kPa	analog 0.2V to 4.7V	2.5% accuracy	Unibody packages
MPX5999	0 kPa to 1000 kPa	analog 0.2V to 4.7V		Unibody packages
<b>Wireless Sensor / Tire Pressure Monitoring</b>				
FXTH87xx	100 kPa to 1500 kPa, X or XZ , SO8, 16K flash, 512 k Ram, 315/434 Mhz transceiver, 125 kHz LF receiver	GPIO, RF, LF	Battery voltage monitoring, auto qual	QFN 7x7mm

For more information visit [freescale.com/Sensors](http://freescale.com/Sensors)

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