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Microelectronics & Precision Sensors

Formerly SSEC. Providing best value specialized semiconductor and sensor solutions since 1965

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Magnetic Sensors Products

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If your navigation system needs magnetic sensors or compassing solutions, go with a trusted leader for sensors that are superior in performance and feature the smallest package sizes in the world.

The advantages of Honeywell's magnetic sensor components are their small size, high accuracy and solid-state design. Honeywell's magnetic sensors are designed to accurately detect the direction and magnitude of external magnetic fields for compassing and magnetometry applications. From discrete sensors for OEM applications, to high performance solid-state compasses and [magnetometers](#), Honeywell magnetic sensor products operate on nearly any platform.

Below choose from our [magnetic sensor components](#), [systems/modules](#) and [dead reckoning modules](#).

Components

HMC1001 Linear Sensor



Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
1	850	8	SIP	3.2 mV/V/Oe	+/- 2 OE

The Features, Pictures, Package, Pinout, and Specs can all be found on the
[DATASHEET \(PDF\)](#) or [Buy Online](#).

HMC1002 Linear Sensor



Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
2	850	20	SOIC	3.2 mV/V/OE	+/- 2 OE

The Features, Pictures, Package, Pinout, and Specs can all be found on the
[DATASHEET \(PDF\)](#) or [Buy Online](#).

HMC1021S Linear Sensor



Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
1	1100	8	SOIC	1.0 mV/V/OE	+/- 6 OE

The Features, Pictures, Package, Pinout, and Specs can all be found on the
[DATASHEET \(PDF\)](#) or [Buy Online](#).

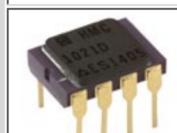
HMC1021Z Linear Sensor



Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
1	1100	8	SIP	1.0 mV/V/OE	+/- 6 OE

The Features, Pictures, Package, Pinout, and Specs can all be found on the
[DATASHEET \(PDF\)](#) or [Buy Online](#).

HMC1021D Linear Sensor / High Temp



Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
1	1100	8	DIP	1.0 mV/V/OE	+/- 6 OE

The Features, Pictures, Package, Pinout, and Specs can all be found on the
[DATASHEET \(PDF\)](#) or [Buy Online](#).

HMC1022 Linear Sensor



Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
2	1100	16	SOIC	1.0 mV/V/OE	+/- 6 OE

The Features, Pictures, Package, Pinout, and Specs can all be found on the
[DATASHEET \(PDF\)](#) or [Buy Online](#).

HMC1041Z Z-Axis Magnetic Sensor

	Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
	1	1100	8	LPCC	1.0 mV/V/OE	+/- 6 OE
The Features , Pictures, Package, Pinout, and Specs can all be found on the DATASHEET (PDF) or Buy Online .						

HMC1042L 2-Axis Magnetic Sensor

	Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
	2	1000	16	LCC16	1.0mV/V/OE	+/- 6 OE
The Features, Pictures, Package, Pinout, and Specs can all be found on the DATASHEET (PDF) or Buy Online .						
	This demonstration board for the 2-axis HMC1042L and 1-axis HMC1041Z provides the sensors to create 3-axis magnetic sensing prototype with support analog circuitry for earth's magnetic field detection. Along with the magnetoresistive sensors, three difference amplifier circuits, and a MOSFET-based set/reset strap driver circuit are included on a 1" by 1" printed circuit board with two rows of 0.1" spaced pins for solderless prototyping usage. The difference amplifiers are set up for high gains with a +/-1 gauss dynamic range. The magnetic XYZ vector outputs are analog voltages with respect to rail-splitter voltage reference. The set/reset input is 3 volt CMOS logic levels. Included with this demo are 5 HMC1041Z & 5 HMC1042L samples. Buy Online .					

HMC1043 3-Axis Magnetic Sensor

	Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
	3	1000	16	LCC16	1.0mV/V/OE	+/- 6 OE
The Features, Pictures, Package, Pinout, and Specs can all be found on the DATASHEET (PDF) or Buy Online .						
	This demonstration board for the 3-axis HMC1043 provides the sensors to create 3-axis magnetic sensing prototypes with support analog circuitry for earth's magnetic field detection. Along with the magnetoresistive sensors, three difference amplifier circuits, and a MOSFET-based set/reset strap driver circuit are included on a 1" by 1" printed circuit board with two rows of 0.1" spaced pins for solderless prototyping usage. The difference amplifiers are set up for high gains with a +/-1 gauss dynamic range. The magnetic XYZ vector outputs are analog voltages with respect to rail-splitter voltage reference. The set/reset input is 3 volt CMOS logic levels. Included: 5 HMC1043 samples. Buy Online .					

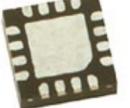
HMC1051Z Linear Sensor

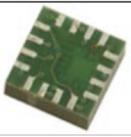
	Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
	1	1000	8	SIP	1.0mV/V/OE	+/- 6 OE
The Features, Pictures, Package, Pinout, and Specs can all be found on the DATASHEET (PDF) or Buy Online .						

HMC1051ZL Linear Sensor

	Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
	1	1000	8	IN-LINE LCC8	1.0mV/V/OE	+/- 6 OE
The Features, Pictures, Package, Pinout, and Specs can all be found on the DATASHEET (PDF) or Buy Online .						

HMC1052L 2-Axis Magnetic Sensor

	Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
	2	1000	16	LCC16	1.0mV/V/OE	+/- 6 OE
The Features, Pictures, Package, Pinout, and Specs can all be found on the DATASHEET (PDF) or Buy Online .						

HMC1053 3-Axis Magnetic Sensor						
	Number Axis	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
	3	1000	16	LCC16	1.0mV/V/OE	+/- 6 OE
The Features, Pictures, Package, Pinout, and Specs can all be found on the DATASHEET (PDF) or Buy Online .						

HMC1501 Displacement Sensor



Output P-P	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
120 mV	5000	8	SOIC	2.1 mV/Deg	+/- 45 Deg

The Features, Pictures, Package, Pinout, and Specs can all be found on the
[DATASHEET \(PDF\)](#) or [Buy Online](#).

HMC1512 Displacement Sensor



Output PP	Bridge Ohms	Number Pins	Package Type	Sensitivity	Range
120 mV	2100	8	SOIC	2.1 mV/Deg	+/- 90 Deg

The Features, Pictures, Package, Pinout, and Specs can all be found on the
[DATASHEET \(PDF\)](#) or [Buy Online](#).

New! HMC5843 Three-Axis Compass IC



The HMC5843 3-Axis Electronic Compass improves accuracy of location readings in mobile phones, personal navigation devices, portable auto navigation systems and game controllers. Featuring I²C serial bus interface for high volume applications, this new 3-axis compass IC will increase functionality in consumer electronics by providing expanded direction awareness when overlaid on GPS enabled maps, utilizing magnetic sensors to add compassing, pointing and heading. The HMC5843 offers a precision 3-axis magnetic sensor trio coupled to a 12-bit ADC with an I²C output in a miniature surface mount package.

The product description, features, package, pinout, and spec sheet can be found on the [DATASHEET \(PDF\)](#) or [Buy Online](#).

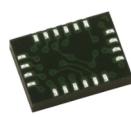


The HMC5843 evaluation board for the Compass IC contains the HMC5843 atop a 0.8" by 0.8" plug-board with wide-DIP spaced (0.6") pins for solderless breadboard compatibility. The evaluation board also contains the two capacitors and I²C pullup resistors needed for typical function for the retrieval of the XYZ magnetic field information. Both single and dual supply configurations of the HMC5843 are supported. [Buy Online](#).



The demonstration board for the 3-axis Compass IC provides the HMC5843 plus serial bus conversion circuits to convert the I²C data to USB interfacing for personal computers. Includes a 6-foot USB cable, software, user manual & 5 samples of the HMC5843. [Buy Online](#).

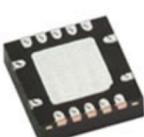
HMC6042 Magnetic Sensor Circuit



The Honeywell HMC6042 is a surface mount multi-chip module which includes our state of the art HMC1042 series magneto-resistive sensors plus a precision mixed signal ASIC containing three sensor amplifiers and a compatible set/reset strap driver circuit. The ASIC plus sensors are surface mount packaged in a 3.6 by 5.0 by 1.0mm LCC that can be used stand alone for very low cost 2-axis compasses, or with the HMC1041Z to complete the magnetic sensor portion of a 3-axis, tilt compensated compass. Applications include Consumer Electronic Compassing and Magnetometry.

The product description, features, package, pinout, and spec sheet can be found on the [DATASHEET \(PDF\)](#) or [Buy Online](#).

HMC6052 Integrated Compass Sensor



The Honeywell HMC6052 is a 2-axis Magneto-Resistive sensor plus amplifiers and analog support features essential for compassing and low magnetic field sensing. The product is offered in a 14-pin surface mount 3.5mm by 3.5mm LCC package. Two channels of amplified sensor signals with a set switch function allow compass system designers to have a compact, easy to implement solution. Applications for the HMC6052 include electronic compassing, and magnetometry.

The product description, features, package, pinout, and spec sheet can be found on the [DATASHEET \(PDF\)](#) or [Buy Online](#).

HMC6343 Three-Axis Compass with Algorithms

<p>The product description, features, package, pinout, and spec sheet can be found on the DATASHEET (PDF) or Buy Online.</p>	
HMC6343-eval 	The HMC6343 evaluation board for the tilt-compensated digital compass IC contains the HMC6343 mounted on the 0.8" by 0.8" plug-board with wide-DIP spaced (0.6") pins for solderless breadboard compatibility. The board also contains the external capacitor and I2C pullup resistors for typical function of the compass. The board contains the four connections (VDD, GND, SCL, SDA) plus other breakouts. Buy Online .
HMC6343-demo 	The demonstration board provides the HMC6343 part plus serial bus conversion circuits to convert the I2C data to USB interfacing to personal computers. This small printed circuit board comes with a 6-foot USB cable and Windows demonstration software to provide a user friendly way of viewing compass heading, pitch and roll data numerically and on aviation-type displays. Communication can still be enabled with the HMC6343, even without the provided demonstration software, as long as the developer creates a program to emulate the I2C data packets. This demonstration board uses the USB power supply from the host computer (~+5 volts) and a green LED indicates power presence. Buy Online .
<h3>HMC6352 Two-Axis Compass with Algorithms</h3>	
	The HMC6352 2-Axis Digital Integrated Compass On-A-Chip Solution combines a two-axis Magnetoresistive magnetic field sensor from Honeywell, with the required analog and digital support circuits for heading computation. This product provides an electronic compass function using two-axis magnetic field sensing. Typical applications include; wireless phones with compassing, GPS/compass personal navigation, vehicle telematics, and dish antenna positioning.
<p>The product description, features, package, pinout, and spec sheet can be found on the DATASHEET (PDF) or Buy Online.</p>	

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Systems / Modules

<h3>HMC2003 Magnetic Hybrid</h3>	
	The HMC2003 is a Three-Axis Magnetometer with analog output in a 20-pin hybrid DIP package. Uses HMC1001 and HMC1002 sensors and precision instrumentation grade amplifiers. Field range is +/- 2 gauss with a resolution of 40 microgauss.
<p>The product description, features, package, pinout, and specs can be found on the DATASHEET (pdf) or Buy Online.</p>	
<h3>HMR2300 Smart Digital Magnetometer</h3>	
	The HMR2300 Three-Axis Smart Digital Magnetometer detects the strength and direction of a magnetic field and communicates the x, y and z components directly to a computer via RS232/485. Field range is +/- 2 gauss with a resolution of 67 microgauss.
<p>The product description, features, package, pinout, and specs can be found on the DATASHEET (pdf) or Buy Online.</p>	
<h3>HMR2300r Three-Axis Strapdown Magnetometer</h3>	
	The HMR2300r is a 2.83" round version of the HMR2300 designed to replace bulky fluxvalve magnetic sensors used in aviation systems. Additional features include 55 bytes of EEPROM locations available for data storage and an RS422/485 output.
<p>The product description, features, package, pinout, and specs can be found on the DATASHEET (pdf) or Buy Online.</p>	
<h3>HMR3000 Digital Compass Module</h3>	

<p>The product description, features, package, pinout, and specs can be found on the DATASHEET (pdf) or Buy Online.</p>	
<h3>HMR3200 Digital Two-Axis Compass</h3>	
	<p>The HMR3200/HMR3300 are electronic compassing solutions for use in navigation and guidance systems. The HMR3200 is a two-axis compass, and can be used in either vertical or horizontal orientations. Heading accuracy is 1 degree with 0.1 degree resolution and 0.5 degree repeatability. Compensation for Hard Iron Distortions, Ferrous Objects, and Stray Fields.</p>
<p>The product description, features, package, pinout, and specs can be found on the DATASHEET (pdf) or Buy Online.</p>	
<h3>HMR3300 Digital Three-Axis Tilt Compensated Compass</h3>	
	<p>The HMR3300 is a three-axis, tilt compensated compass that uses a two-axis accelerometer for enhanced performance up to a 60° tilt range. Heading accuracy is 1 degree with 0.1 degree resolution and 0.5 degree repeatability. Tilt range (Pitch and Roll) is $\pm 60^\circ$. Compensation for Hard Iron Distortions, Ferrous Objects, and Stray Fields.</p>
<p>The product description, features, package, pinout, and specs can be found on the DATASHEET (pdf) or Buy Online.</p>	
<h3>HMR3400 Digital Three-Axis Tilt Compensated Compass</h3>	
	<p>The HMR3400 is a three-axis, tilt compensated electronic compass offering lower power consumption and increased miniaturization in a 0.6" x 1.5" PCB.</p>
<p>The product description, features, package, pinout, and specs can be found on the DATASHEET (pdf) or Buy Online.</p>	
<h3>HMR3500 TruePoint™ Compass Module</h3>	
	<p>The HMR3500 TruePoint™ electronic compass is a 3 axis digital compass module that can be mounted and used in any orientation. Azimuth accuracy is 1 degree with 0.1 degree resolution and 0.5 degree repeatability.</p>
<p>The product description, features, package, and specs can be found on the DATASHEET (pdf) or Buy Online.</p>	
<h3>HMR3600 µPOINT® Compass Module</h3>	
	<p>The HMR3600 µPOINT® (micropoint) digital magnetic compass is a new generation azimuth sensor that combines the latest in gyro technology with advanced digital magnetic compass hardware and software. Azimuth accuracy is 0.5 degree with 0.1 degree resolution. Inclination range is $\pm 80^\circ$. The gyro compensates for short term transient magnetic disturbances, keeping the heading output accurate, even in the presence of these unexpected magnetic fields. HMR3600 is export controlled under International Traffic in Arms Regulations (ITAR).</p>
<p>The product description, features, package, and specs can be found on the DATASHEET (pdf).</p>	

Dead Reckoning Modules

DRM®4000 Dead Reckoning Module



The DRM®4000 Dead Reckoning Module provides accurate position information for first responders and other people on foot in places that the global positioning system (GPS) is unable to reach. The small, easy-to-integrate unit contains ten sensors including three gyros, accelerometers and magnetometers as well a barometric altimeter to accurately deliver position location. The DRM®4000 uses patented motion classification algorithms to analyze walking motion and compensate for unique user kinematics. The DRM®4000 contains an internal Kalman filter for integrating onboard sensors and external GPS data. It nominally provides position data that is accurate to within 2% of the actual distance traveled by a user in environments without GPS. The unit can be directly interfaced to many GPS receivers and man-pack computers and includes capabilities for accurate field calibration.

The product description, features, package, and specs can be found on the [DATASHEET \(pdf\)](#) or [Buy Online](#).

Customer Service: 1-800-323-8295

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