

Ultrasonic transmitters and high sensitivity receivers designed for sending and receiving ultrasonic sound in the form of continuous or modulated waves through the air at 40kHz.

	10mm Dia. Open	16mm Dia. Open	18mm Dia. Enclosed
Sensitivity, transmitter	110dB	106dB	118dB
Sensitivity, receiver	-70dB	-65dB	-68dB
Resonant frequency	40 ± 1KHz	40 ± 1KHz	40 ± 1KHz
Typical operating distance	5m	5m	5m
Direction angle	30°	30°	30°
Input voltage (max.), transmitter	10V rms	20V rms	20V rms
Capacitance (typ.)	2000pF	1100pF	3000pF
Operating temperature	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C

SEN45

	Mfrs. List No.	Order Code	Price Each		
			1+	25+	100+
<b>10mm Dia. (Open)</b>					
Transmitter		<b>213-214</b>			
Receiver		<b>213-226</b>			
Housings (pair)		<b>213-238</b>			
<b>16mm Dia. (Open)</b>					
Transmitter		<b>143-736</b>			
Receiver		<b>143-737</b>			
<b>18mm Dia. (Enclosed)</b>					
Transmitter		<b>541-000</b>			
Receiver		<b>541-011</b>			

## Magnetic Sensors

### Digital Hall Effects Sensors

**Honeywell**



SS100 Series SS400 Series

- Surface mount versions (SS100 Series)
- Negative temperature coefficient for temperature stability
- High current capability to 50mA
- Quad Hall design to eliminate mechanical stress
- Operating temperature -40°C to +125°C (to +150°C for SS400)
- SS100 – SOT-89 Package; SS400 – TO92E Package

Description	Mag. Characteristic @ 25°C			Mfrs. List No.	Order Code
	Max. Op.	Min. Rel.	Min. Dif.		
Bi-Polar ±60 Gauss	60	-60	15	SS111A	311-1416
Bi-Polar ±60 Gauss	60	-60	15	SS411A	311-1465
Unipolar 115 Gauss @ 25°C	115	20	20	SS141A	311-1428
Unipolar 115 Gauss @ 25°C	115	20	20	SS441A	311-1477
Latching Bi-Polar ±115 Gauss	50	85	-85	SS161A	311-1430
Latching Bi-Polar ±115 Gauss	50	85	-85	SS461A	311-1489
Latching Bi-Polar ±180 Gauss	180	-180	200	SS166A	311-1441
Latching Bi-Polar ±180 Gauss	180	-180	200	SS466A	311-1490
Unipolar 180 Gauss @ 25°C	180	75	25	SS143A	311-1453
Unipolar 180 Gauss @ 25°C	180	75	25	SS443A	311-1507

SEN389

Description	Package	Order Code	Price Each		
			1+	25+	100+
Bi-Polar ±60 Gauss	SOT-89	<b>311-1416</b>			
Bi-Polar ±60 Gauss	TO92E	<b>311-1465</b>			
Unipolar 115 Gauss @ 25°C	SOT-89	<b>311-1428</b>			
Unipolar 115 Gauss @ 25°C	TO92E	<b>311-1477</b>			
Latching Bi-Polar ±115 Gauss	SOT-89	<b>311-1430</b>			
Latching Bi-Polar ±115 Gauss	TO92E	<b>311-1489</b>			
Latching Bi-Polar ±180 Gauss	SOT-89	<b>311-1441</b>			
Latching Bi-Polar ±180 Gauss	TO92E	<b>311-1490</b>			
Unipolar 180 Gauss @ 25°C	SOT-89	<b>311-1453</b>			
Unipolar 180 Gauss @ 25°C	TO92E	<b>311-1507</b>			

### Magneto-Resistive Digital Sensor

**Honeywell**



- Low gauss operation (typical op. 15 gauss)
- Digital current sinking
- Omni polar (N & S pole sensing)
- 0-100KHz
- Miniature package
- 3 pin in-line 0.1" centre
- Operating temperature -40°C to +125°C
- Supply voltage 6 to 24V dc

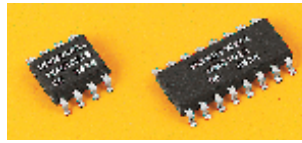
Magneto-resistive material integrated on silicone. Can achieve large sensing distances when used with conventional magnets.

SEN379

Mfrs. List No.	Order Code	Price Each		
		1+	10+	25+
2SS52M	<b>311-1519</b>			

### Single and Dual Axis Components – HMC

**Honeywell**



- Single and dual axis magnetic sensing in high precision applications
- Precise direction or position sensing
- Set/reset function nulls out effects of unwanted ambient magnetic fields

- Applications include currency detection, virtual reality headsets, compass heading electronics

Discrete magneto-resistive sensor components measure the strength and direction of magnetic field. Single and two axis sensing. Unamplified output. Surface mount and single-in-line packages.

Field range	± 6 gauss	Frequency response	0 to 10MHz
Full scale output	20mV	Operating temperature	-55°C to +200°C

SEN290

	Mfrs. List No.	Order Code	Price Each			
			1+	10+	25+	100+
Single axis, 8 pin SOIC	HMC1021S	<b>722-0091</b>				
Single axis, 8 pin SIP	HMC1021Z	<b>722-0108</b>				
Dual axis, 16 pin SOIC	HMC1022	<b>722-0110</b>				

### Magnetic Sensor Hybrid – HMC2003

**Honeywell**



- For use in high precision vehicle control, compass heading detection or medical instrument applications
- High resolution, temperature compensated and amplified voltage outputs
- Operates from single 6 to 15V supply
- Integrated offset coils allow closed loop operation

PCB = 27.9, Pin spacing = 2.54 15.24

Magnetic hybrid includes 3 magneto-resistive based sensors to sense x, y and z axes, and 3 instrumentation grade amplifiers. 20 pin DIP package.

Field range	± 2 gauss	Resolution	70 µgauss
Full scale output	4.5V		

SEN291

Mfrs. List No.	Order Code	Price Each			
		1+	5+	10+	25+
HMC2003	<b>722-0121</b>				

### Digital Magnetometer – HMR2300

**Honeywell**



- Card level products for industrial applications
- High resolution and direct digital interface
- Embedded microcontroller enables combined error (non-linearity, hysteresis, repeatability and temperature effects) band of 1% FSO over -55°C to +125°C range
- Selectable features include: sampling rate, baud rate and output
- Applications include avionics, marine compassing, process control, vehicle detection, security systems
- Magnetometer supplied with software
- Demo unit includes magnetometer card in enclosure, software, manual and power cable
- Field range ± 2 gauss

HMR2300:  
H = 22, W = 38, L = 101,  
4 Mounting holes F.C. = 25.4 92

3-axis magnetometer detects the strength and direction of a magnetic field and communicates the x, y and z outputs directly to a computer.

SEN292

	Mfrs. List No.	Order Code	Price Each	
			1+	3+
Demo kit, RS232 output	HMR-R232-DEMO	<b>722-0133</b>		
Demo kit, RS485 output	HMR-R485-DEMO	<b>722-0145</b>		
Magnetometer, RS232 output	HMR2300-D21-232	<b>722-0157</b>		
Magnetometer, RS485 output	HMR2300-D21-485	<b>722-0169</b>		
User's manual	ADS14053	<b>722-0170</b>		
Power cable	HMRPC-001	<b>722-0182</b>		

**Free Same Day Delivery**

For orders received before 12.30pm  
we provide free same day delivery.