

CHERRY Hall Effect Speed and Proximity Sensors



CHERRY DS SERIES SOLID STATE HALL EFFECT SENSORS

Features:

- Fits mounting dimensions of popular snap-action switches
- Tested to over 110 million operations
- High ratio and standard ratio actuator position
- Available with lever, roller and simulated roller actuators
- Solid state sinking output using Hall effect technology
- UL Recognized

Specifications:

- Supply current: 15A
- Output type: Sink
- Output current: 20mA max.
- Operating temperature: -40°C to 85°C
- Storage temperature: -40°C to 150°C

Applications:

- Pedal position sensing
- Door/lid interlock
- Joystick position sensing
- End-of-travel sensing



For quantities of 100 and up, call for quote.

MOUSER STOCK NO.	Cherry Part No.	Fig.	Pretravel (Max.)	Operating Force (Max.)	Oper. Point In. (mm)	Overtravel (Min.)	Actuator Type	Price Each			
								1	50	100	250
540-DS1101AA	DS1101AA	A	.06 in.	84 g	.58 (14.7)	.04 in.	Pin Plunger	5.40	4.32		
540-DS1101KA	DS1101KA	A	.14 in.	53 g	.60 (15.2)	.07 in.	Straight Lever 1.04"	5.90	4.72		
540-DS1101JJ	DS1101JJ	A	.32 in.	23 g	.60 (15.2)	.16 in.	Straight Lever 2.34"	6.00	4.80		
540-DS1101SC	DS1101SC	A	.15 in.	48 g	.73 (18.5)	.07 in.	Simulated Roller Lever 1.29"	5.90	4.72		
571-1022411	102241-1						AMP connector for DS series sensors	.37	.301		

CHERRY SOLID STATE MAGNETIC PROXIMITY SENSORS

Packaged Hall Effect magnetic proximity sensors are ready to use, requiring only an external pull-up resistor. All are three-wire devices with sinking output compatible with any logic family. These sensors are operated by approaching magnet. These solid state devices have virtually unlimited life and are resistant to dirt, moisture, etc.

Specifications:

- Operating Temperature Range: -40°C to +85°C

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Cherry Part No.	Fig.	Description	Supply Voltage	Supply Current Max.	Output Voltage Max.	Price Each			
							1	50	100	250
540-MP100701	MP100701	B	Threaded barrel magnetic proximity	4.75-24 VDC	16 mA	0.7 VDC	22.63	18.10	14.93	13.58
540-MP101301	MP101301	C	Molded snap-fit magnetic proximity	4.75-24 VDC	9 mA	0.4 VDC	5.63	4.50	3.71	3.38
540-MP102103	MP102103	D	Flange mount magnetic proximity	4.50-24 VDC	12 mA	0.5 VDC	6.65	5.32	4.39	3.99

CHERRY MAGNETIC PROXIMITY SENSORS

The Cherry reed sensor is an omnipolar, magnetically activated switch. These sensors consume zero power and are hermetically sealed for resistance against moisture and dirt. All sensors include 12" PVC-insulated flying leads.

Specifications:

- Operating Temperature Range: -40°C to +105°C

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Cherry Part No.	Fig.	Description	Switching Voltage Max.	Switching Current Max.	Price Each			
						1	50	100	250
540-MP201701	MP201701	E	SPST-N/O smooth barrel	100 VDC	0.5 A	2.93	2.34	1.93	1.76
540-MP201702	MP201702	E	SPST-N/C smooth barrel	30 VDC	0.2 A	4.88	3.90	3.22	2.93
540-MP201703	MP201703	E	SPDT-C/O smooth barrel	30 VDC	0.2 A	5.48	4.38	3.61	3.29
540-MP201801	MP201801	F	SPST-N/O miniature flange mount	100 VDC	0.5 A	3.20	2.56	2.11	1.92
540-MP201802	MP201802	F	SPST-N/C miniature flange mount	30 VDC	0.2 A	4.93	3.94	3.25	2.96
540-MP201901	MP201901	G	SPST-N/O flange mount	100 VDC	0.5 A	3.33	2.66	2.19	2.00
540-MP201902	MP201902	G	SPST-N/C flange mount	30 VDC	0.2 A	4.98	3.98	3.28	2.99
540-MP201903	MP201903	G	SPDT-C/O flange mount	30 VDC	0.2 A	5.50	4.40	3.63	3.30
540-MP200701	MP200701	H	SPST-N/O threaded barrel	100 VDC	0.5 A	9.38	7.50	6.19	5.63

Actuator Magnets

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Cherry Part No.	Fig.	Description	Price Each			
				1	50	100	250
540-AS101001	AS101001	I	Magnet Stud-South Pole	4.75	3.80	3.14	2.85
540-AS201701	AS201701	J	Magnet Actuates Sensor MP2017 at .150"	2.75	2.20	1.82	1.65
540-AS201801	AS201801	K	Magnet Actuates Sensor MP2018 at .250"	2.88	2.30	1.90	1.73
540-AS201901	AS201901	L	Magnet Actuates Sensor MP2019 at .400"	3.13	2.50	2.06	1.88

CHERRY SOLID STATE SPEED SENSORS

These magnetically-biased Hall Effect devices sense the rotation of a ferrous target, such as a gear tooth, or sprocket. They offer high speed and near-zero speed sensing capability. All have current sinking output. All but GS100701 provide additional circuit protection for immunity against electrical interference. M12 Integral connector meets IEC60947-5-2

Specifications:

- Operating Temperature Range: -40°C to +105°C

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Cherry Part No.	Fig.	Description	Supply Voltage	Supply Current Max.	Output Voltage Max.	Price Each			
							1	50	100	250
540-GS100502	GS100502	M	M12-1 aluminum barrel	4.5-24 VDC	6 mA	0.4 VDC	28.55	22.84	18.84	17.13
540-GS100701	GS100701	B	15/32" aluminum barrel	4.5-24 VDC	6 mA	0.4 VDC	28.00	22.40	18.48	16.80
540-GS101202	GS101202	N	Flange mount plastic barrel	5.0-24 VDC	6 mA	0.4 VDC	29.90	23.92	19.73	17.94

CHERRY VANE SENSORS

Magnetically-activated digital vane switch in a rugged, overmolded plastic housing with three pins or 3 individual wires. Immune from moisture and dust, they are reliable and repeatable, with no mechanical contacts to wear out. Compatible with all logic families.

Specifications:

- Operating Temperature Range: -40°C to +85°C

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Cherry Part No.	Fig.	Description	Supply Voltage	Supply Current Max.	Output Voltage Max.	1	50	100	250
540-VN101501	VN101501	O	Molded vane sensor	4.50-24 VDC	6 mA	0.4 VDC	6.18	4.94	4.08	3.71
540-VN101503	VN101503	O	Vane sensor with 5.9" flying leads	4.50-24 VDC	6 mA	0.4 VDC	6.75	5.40	4.46	4.05

CHERRY INTRINSICALLY LINEAR ANGULAR POSITION SENSOR

The Intrinsic Linear Angular Position Sensor (ILAPS™) uses Cherry's patent-pending non-contact design to achieve linear output from 5° to 90° of rotation. With no contacts to wear out, it is not vulnerable to dither, and life is tested to over 10 million operations.

Specifications:

- Operating Temperature Range: -40°C to +85°C

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Cherry Part No.	Fig.	Description	Input Voltage	Input Current Max.	Output Linearity	Price Each			
							1	50	100	250
540-AN101101	AN101101	P	Angular Position Sensor	5.0vdc ±10%	10mA @5vdc	±2.0%	31.88	25.50	21.04	19.13

CHERRY AN8 SERIES THIN ANGULAR POSITION SENSORS

Programmable, non-contact magnetic position sensors capable of continuous rotation

Specifications:

- Absolute angular position sensor with single output
- Provides non-contact angular position sensing to full 360° rotation
- No mechanical interface means no parts to wear out
- Sealed design exceeds IEC529 IP67 standard for immersion

- 5 VDC ratiometric device
- Resilient to mechanical misalignment
- Maximum operating temperature of 125°C

Applications:

- Replacement for smart bearings
- PRNLD switch for harsh environments
- Steer wheel position for drive by wire systems

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	Cherry Part No.	Fig.	Description	Input Voltage	Sensing Range	Output Linearity	Price Each			
							1	50	100	250
540-CU103601	CU103601	Q	Sensor (AN820001) w/ Magnet	5.0 VDC ±10%	180°	±2.0% Full Scale	32.08	28.72	26.95	25.67
540-CU103602	CU103602	Q	Sensor (AN820002) w/ Magnet	5.0 VDC ±10%	360°	±2.0% Full Scale	35.55	32.71	30.08	28.28
540-CU103603	CU103603	Q	Sensor (AN820003) w/ Magnet	5.0 VDC ±10%	45°	±2.0% Full Scale	32.08	28.72	26.95	25.67

DIMENSIONS: in.

A Straight Lever illustrated: Dimensions include .626, 1.09, .406, 1.00, and 39.0. Part: 15/32-32 TPI.

B Dimensions: 1.00, 39.0, 15/32-32 TPI.

C Dimensions: 5.50, .305, 5.91, .175.

D Dimensions: .750, .375, 1.125, 6.0.

E Dimensions: 12.00, 1.00, ø.243.

F Dimensions: .55, .236, .906, 12.0.

G Dimensions: 1.125, .750, .250.

H Dimensions: 1.00, 12.0, 15/32-32 TPI.

I Dimensions: .68, #8-32.

J Dimensions: 1.00, ø.243.

K Dimensions: .55, .906, .236.

L Dimensions: 1.125, .750, .250.

M Dimensions: 2.56, 39.4.

N Dimensions: 1.62, ø.703, 1.49.

O Dimensions: .425, .975, .250.

P Dimensions: 1.85, 2.01.

Q Dimensions: 2.25, 1.90, .866. RoHS Compliant.

Cherry Proximity Sensors

