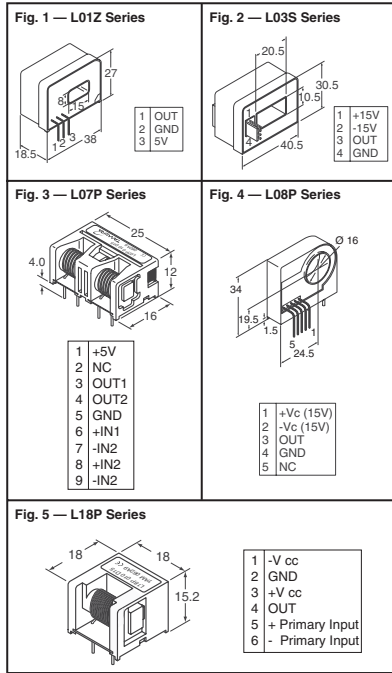




Open Loop Current Sensors Hall Effect Technology



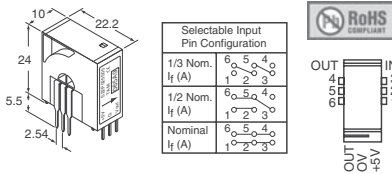
A hall effect current sensor measures the magnetic flux which is produced proportionally to the current without any contact with the primary circuit. This results in no voltage drop in the measured circuit which provide excellent galvanic isolation. **Features:** • Galvanic isolation between primary and measuring circuit, measures DC or AC (kHz) • Zero insertion loss • Quick response **Specifications** (measured at Input Voltage and @ 25°): • Frequency Band Width (-3dB): L01Z, L03S, L08P, L18P: DC-50kHz; L07P: DC-35kHz • Output Linearity: ±1% • Operating Temperature: -10°C - 80°C • Insulation Resistance @ 500VDC: ≥500MΩ - di/dt • Response Time: 5μs Sec. Typ. (10μ for L08P Series) • Load Resistor: 10kΩ 3mW minimum.

Fig.	Primary Nominal Current (A)	Supply Voltage (V)	Secondary Output Volt. (V)	Saturation Current (A)	Offset Temp. Coefficient (mV/°C)	Digi-Key Part No.	1	10	25	50	Tamura Part No.
L01Z Series											
1	±50	+5	4†	±62.5	≤±2	MT7173-ND◆	12.89	10.31	8.25	7.74	L01Z050S05
	±100	+5	4†	±125	≤±1	MT7174-ND◆	12.89	10.31	8.25	7.74	L01Z100S05
	±150	+5	4†	±187.5	≤±1	MT7175-ND◆	12.89	10.31	8.25	7.74	L01Z150S05
	±200	+5	4†	±250	≤±1	MT7176-ND◆	12.89	10.31	8.25	7.74	L01Z200S05
	±400	+5	4†	±500	≤±1	MT7178-ND◆	12.89	10.31	8.25	7.74	L01Z400S05
	±600	+5	4†	±750	≤±1	MT7180-ND◆	12.89	10.31	8.25	7.74	L01Z600S05
L03S Series (Molex Mating Connector Required)											
2	±50	±15	±4	±150	≤±2	MT7181-ND◆	12.69	10.15	8.12	7.62	L03S050D15
	±200	±15	±4	±600	≤±1	MT7183-ND◆	12.69	10.15	8.12	7.62	L03S200D15
	±400	±15	±4	±700	≤±1	MT7185-ND◆	12.69	10.15	8.12	7.62	L03S400D15
	±500	±15	±4	±700	≤±1	MT7186-ND◆	12.69	10.15	8.12	7.62	L03S500D15
L07P Series — RoHS Compliant											
3	±3	±15	±4	±9	≤±2	MT7297-ND	13.00	10.40	8.32	7.80	L07P003D15
	±5	±15	±4	±15	≤±2	MT7298-ND	13.00	10.40	8.32	7.80	L07P005D15
	±10	±15	±4	±30	≤±2	MT7299-ND	13.00	10.40	8.32	7.80	L07P010D15
	±15	±15	±4	±45	≤±2	MT7300-ND	13.00	10.40	8.32	7.80	L07P015D15
	±20	±15	±4	±60	≤±2	MT7301-ND	13.00	10.40	8.32	7.80	L07P020D15
	±25	±15	±4	±75	≤±2	MT7302-ND	13.00	10.40	8.32	7.80	L07P025D15
L08P Series											
4	±50	±15	±4	±150	≤±2	MT7188-ND◆	11.76	9.41	7.53	7.06	L08P050D15
	±100	±15	±4	±300	≤±1	MT7189-ND◆	11.76	9.41	7.53	7.06	L08P100D15
	±150	±15	±4	±350	≤±1	MT7190-ND◆	11.76	9.41	7.53	7.06	L08P150D15
L18P Series — RoHS Compliant											
5	±3	±15	±4	±9	≤±1.5	MT7311-ND	9.15	7.32	5.86	5.49	L18P003D15
	±5	±15	±4	±15	≤±1.5	MT7312-ND	9.15	7.32	5.86	5.49	L18P005D15
	±10	±15	±4	±30	≤±1.5	MT7313-ND	9.15	7.32	5.86	5.49	L18P010D15
	±15	±15	±4	±45	≤±1.5	MT7314-ND	9.15	7.32	5.86	5.49	L18P015D15
	±20	±15	±4	±60	≤±1.5	MT7315-ND	9.15	7.32	5.86	5.49	L18P020D15
	±25	±15	±4	±60	≤±1.5	MT7316-ND	9.15	7.32	5.86	5.49	L18P025D15
	±30	±15	±4	±90	≤±1.5	MT7317-ND	9.15	7.32	5.86	5.49	L18P030D15

† + Vref = 2.5V at 0 Amps ◆ RoHS Compliant

WM2022-ND	Waldom Molex, 4 Position Housing (2.50mm) KK Series	.....	26
WM2312-ND	Waldom Molex, Crimp Terminal - Wire Size: 22-30AWG; Insulation Dia.: .062" (1.57) Max; Finish: Selective Gold 15u"	.....	97/10
WM1129-ND	Waldom Molex, Crimp Terminal - Wire Size: 22-30AWG; Insulation Dia.: .062" (1.57) Max; Finish: Gold 15u"	.....	3.88/10
WM1114-ND	Waldom Molex, Crimp Terminal - Wire Size: 22-30AWG; Insulation Dia.: .062" (1.57) Max; Finish: Tin	.....	44/10
WM9999-ND	Waldom Molex, Universal Crimp Tool	.....	70.79
WM9927-ND	Waldom Molex, Extraction Tool	.....	10.02

Closed Loop Multi-range Current Sensors



Closed loop (compensated) current sensor provides an exact duplication of the primary current scaled by the number of turns in the secondary coil. Each multi-range sensor has a nominal sensing current but can be changed by configuring the primary pins. The sensing current can be scaled down by 1/2 or 1/3 the nominal output sensing current, which gives you the flexibility to sense 3 different current ranges with only one part.

Specifications (measured at input voltage and 25°C): • Frequency Bandwidth S22P(1dB): DC-200kHz (at higher frequencies derating is required to prevent core from overheating) • Output Linearity: ±0.25% • Operating Temperature: -10°C - 85°C • Insulation Resistance @ 500VDC: ≥ 500MΩ • Response Time: 1μSec. • Load Resistor 10kΩ 3mW Minimum

Primary Nominal Current (A)	Supply Voltage (V)	Secondary Output Volt. (V)±1%	Saturation Current (A)	Offset Temp. Coefficient (mV/°C)	Digi-Key Part No.	1	10	25	50	Tamura Part No.	
S22P Series											
±6	+5	2.5±30mV	±18	1.25	MT7318-ND	11.02	8.82	7.06	6.62	S22P006S05	
±15	+5	2.5±20mV	±45	1.25	MT7319-ND	11.02	8.82	7.06	6.62	S22P015S05	
±25	+5	2.5±15mV	±75	1.25	MT7320-ND	11.02	8.82	7.06	6.62	S22P025S05	



Current Transformer Standard Accuracy Low-Cost 50/60 Hz

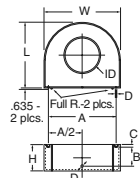
Applications:

- Sensing current overload
- Ground fault detection
- Metering

Notes:

- RCF: Ratio Correction Factor. Multiply current readings by this factor to compensate for transformer losses.
- Data is deemed reliable at the time of publication, but may be subject to change without notice.

Size Code	Dimensions - mm							
	W	L	H	A	B	C	D (Dia.)	ID
A	23.83	23.83	11.13	15.24	7.62	1.75	0.81	9.53
B	30.18	30.18	14.30	20.32	10.16	2.08	1.02	11.43
C	34.93	34.93	14.30	25.40	10.16	2.08	1.02	14.61
D	38.10	38.10	15.88	30.48	10.16	2.84	1.02	14.61
E	44.45	44.45	14.30	35.56	10.16	2.08	1.02	19.05
F	55.58	55.58	20.65	45.72	12.70	3.96	1.02	23.88



Size Code	Rated Ip Amps	Turns Ratio	Nominal DCR	RCF @ 10% (1)	Volts/Amp @ Rated Ip, for Various Loads (Ω)				Digi-Key Part No.	Price Each			Amveco Part No.
					100	500	2K	5K		1	10	25	
A	5.0	1000:1	39	1.040	0.10	0.45	1.35	1.8	TE1005-ND◆	6.69	5.58	4.46	AC-1005
A	10.0	1000:1	39	1.035	0.10	0.45	1.00	1.3	TE1010-ND◆	6.69	5.58	4.46	AC-1010
A	15.0	1000:1	39	1.030	0.10	0.43	0.80	1.0	TE1015-ND◆	6.69	5.58	4.46	AC-1015
A	20.0	1000:1	39	1.030	0.10	0.42	0.70	0.8	TE1020-ND◆	5.47	4.56	3.65	AC-1020
B	25.0	1000:1	46	1.020	0.10	0.40	1.00	1.2	TE1025-ND◆	7.99	6.67	5.33	AC-1025
B	30.0	1000:1	46	1.020	0.10	0.40	0.85	1.1	TE1030-ND◆	8.02	6.68	5.35	AC-1030
C	40.0	1000:1	46	1.020	0.10	0.45	0.75	1.0	TE1040-ND◆	9.28	7.74	6.19	AC-1040
C	50.0	1000:1	46	1.020	0.10	0.44	0.70	0.8	TE1050-ND◆	10.08	8.41	6.73	AC-1050
D	60.0	1000:1	23	1.020	0.10	0.36	0.60	0.7	TE1060-ND◆	10.52	8.77	7.02	AC-1060
D	75.0	1000:1	23	1.015	0.10	0.35	0.50	0.6	TE1075-ND◆	10.56	8.81	7.05	AC-1075
E	100	1000:1	20	1.015	0.10	0.35	0.50	0.6	TE1100-ND◆	10.87	9.06	7.25	AC-1100
F	150	1000:1	10	1.010	0.10	0.32	0.55	0.6	TE1150-ND◆	14.40	12.00	9.60	AC-1150
F	200	1000:1	10	1.010	0.10	0.30	0.45	0.6	TE1200-ND◆	14.59	12.17	9.73	AC-1200

◆ RoHS Compliant

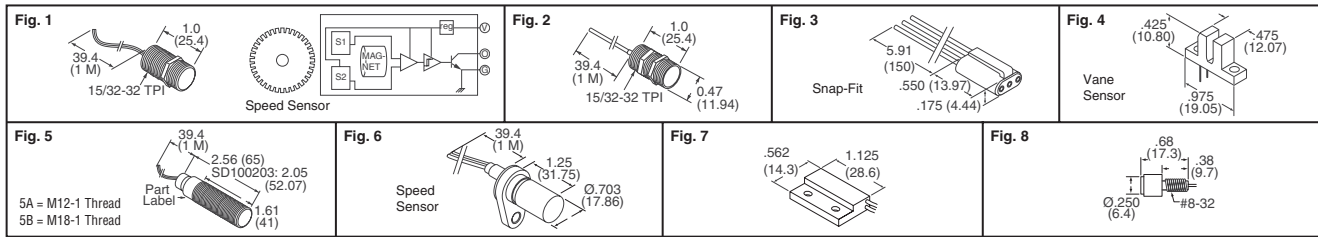
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CHERRY Solid State Magnetic Hall Effect Sensors



Cherry magnetic sensors are used to detect changes in magnetic field polarities and the motion of ferrous metals such as gear tooth movements. Used for such applications as speed and proximity sensing, magnetic polarity detection and current flow monitoring. Solid state design for unlimited life.

Features:

- MP100 Series:**
 - Aluminum threaded barrel sensor for speed and position sensing
 - The threaded barrel allows precise positioning and adjustment
- GS100 Series:**
 - Barrel sensors intended for gear tooth speed sensing
 - High speed capability, ideal for sensing power gears, conveyor speed and other rotating gears
 - Built-in magnet supplies its own bias field
 - GS101202 is plastic housing with steel bushing

Fig.	Supply Voltage	Output Current	Terminal Type	Polarity	Digi-Key Part No.	Price Each	Cherry Part No.
1	4.5-24VDC	25mA	20AWG Wires	Gear Teeth	CH398-ND†	22.62 20.11 16.76 15.50	GS100701
2	4.75-24VDC	25mA	20AWG Wires	South Pole	CH396-ND†	18.29 16.26 13.55 12.54	MP100701
3	4.75-24VDC	25mA	24AWG Wires	South Pole	CH399-ND	4.54 4.05 3.37 3.12	MP101301
4	4.5-24VDC	25mA	PC Mount 24AWG Wires	Ferrous Vane	CH401-ND◆ CH712-ND◆	5.00 4.45 3.71 3.43 5.47 4.87 4.06 3.75	VN101501 VN101503
5A	4.5-24VDC	25mA	20AWG Wires 22AWG Wires	Gear Teeth	CH416-ND† CH414-ND*	22.62 20.11 16.76 15.50 40.38 35.90 29.92 27.67	GS100502 GS100102
5A	4.75-24VDC	25mA	20AWG Wires	South Pole	CH708-ND†	18.29 16.26 13.55 12.54	MP100502
5B	4.5-24VDC	25mA	12mm Conn. 22AWG Wires	Gear Teeth	CH705-ND* CH415-ND* CH706-ND*	44.02 39.14 32.62 30.17 41.56 36.94 30.79 28.48 38.42 34.16 28.46 26.33	GS100201 GS100202 GS100203
6	5-24VDC	25mA	20AWG Wires	Gear Teeth	CH417-ND	— — — 12.53	GS101202
7	4.5-24VDC	25mA	24AWG Wires	North Pole	CH400-ND◆	5.37 4.78 3.98 3.69	MP102103
8	Threaded Actuator, South pole magnet, Aluminum Housed	—	—	—	CH700-ND◆	3.84 3.42 2.85 2.64	AS101001

* Industrial Grade-Stainless Steel † Commercial Grade Aluminum ◆ RoHS Compliant



Rugged Stainless Steel Pressure Transducers Featuring Microfused Technology

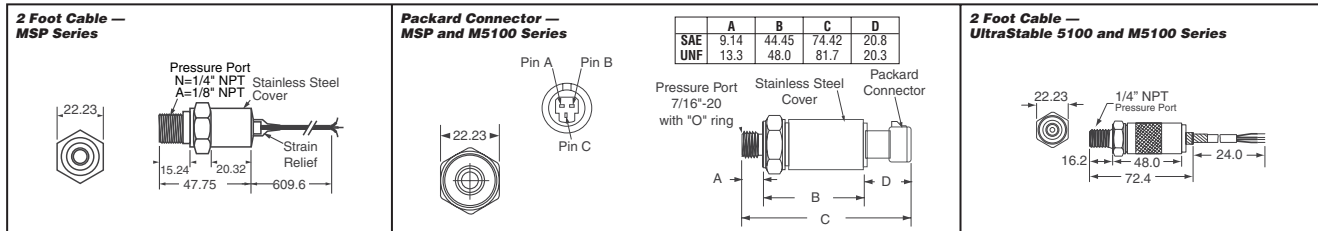
MSP Series:

The MSP pressure transducer is designed for high-volume, low-cost commercial, industrial and off road applications which require accurate measurement of gases or liquids. Operating ranges up to 10,000 psi is available with your choice of output signal in volts, millivolts, or milliamps. The MSP uses a micro machined silicon strain gauge inorganically bonded to a machined stainless steel diaphragm; no welds, no O-rings, no silicone oil. All wetted surfaces are stainless steel and all signal conditioning electronics

are housed in a stainless steel cover which provides protection from hostile environments. The housing is sealed and requires no maintenance. Each transducer is thoroughly tested and calibrated before shipment.

Applications:

- Pumps and Compressors
- Hydraulic / Pneumatic Systems
- Energy and Water Management
- Pressure Instrumentation
- Process Control, Off Road Refrigeration, HVAC.



	MSP-100	MSP-300	MSP-340	MSP-400	MSP-600	MSP-610	U5100	M5100
Pressure Range (PSIG)	0-100 - 500	0-100 - 10,000	0-100 - 1,000	1,000 - 5,000	0-25 - 5,000	0-100 - 500	0-15 - 500	0-25 - 10,000
Accuracy (combined linearity, hysteresis and repeatability)	±0.20% of FS	±1% of FS	±1% of FS	±0.50% of FS	±0.25% BSL	±0.25% of FS	±1% of FS	±0.25% of FS
Pressure Overload	1.5X	2X	2X	2X	2X	2X	3X	2X
Burst Pressure	3X		5x or 20,000 PSI whichever is less			4X	4X	5X
Outputs VDC or mA	0-100mV	0-100mV, 1-5V, 0.5-4.5V, 4-20mA	0-100mV, 0.5-4.5V	1-5V, 4-20mA	0.5-4.5V, 1-5V, 4-20mA	0.5-4.5V, 1-5V, 4-20mA	0.5-4.5V, 1-5V, 4-20mA	0.5-4.5V, 1-5V, 4-20mA
Zero Offset (millivolt output) (amplified output)	±2% of FS ±2% of FS	±3% of FS ±2% of FS	±3% of FS ±2% of FS	±2% of FS	—	—	—	—
Span Tolerance	±2% of FS	±2% of FS	±2% of FS	±2% of FS	—	—	—	—
Long-Term Stability, Typical (1 year)	±0.25%	±0.25%	±0.25%	±0.25%	±0.25%	±0.25%	±0.1%	±0.25%
Operating Temperature (°C)	0 - 55	-20 - 85	-20 - 85	-40 - 85	-40 - 125	-40 - 125	-40 - 125	-40 - 125
Compensated Range (°C)	0 - 55	0 - 55	0 - 55	0 - 70	-20 - 85	—	-20 - 85	-20 - 85
Thermo Zero Shift	<±2% of FS	<±2% of FS	<±2% of FS	<±1.5% of FS	—	—	—	—
Thermo Span Shift	<±2% of FS	<±2% of FS	<±2% of FS	<±1.5% of FS	—	—	—	—
Total Error Band	N/A	N/A	N/A	N/A	1.5% of FS	1.0% of FS	±0.75% of FS	1.0% of FS
EMI/RFI Protection, CE Mark	No	No	No	Yes	Yes	—	—	—
UL Listed	No	Yes	No	Yes	Yes	—	—	—

Operating Pressure Range PSIG	Voltage Supply (VDC)	Digi-Key Part No.	Price Each		Measurement Specialties Part No.
			1	10	
MSP-100 Series					
Calibrated 100mV Output — O-Ring Seal, 2 Foot Cable — RoHS Compliant					
100	5	MSP6900-ND	47.69	39.96	MS121-00000U-100PG
250		MSP6901-ND	47.69	39.96	MS121-00000U-250PG
500		MSP6902-ND	47.69	39.96	MS121-00000U-500PG
MSP-300 Series					
0mV - 100mV Output — 4 Wire Unamplified 1/4" NPT, 2 Foot Cable					
100	5	MSP3101P1-ND◆	58.76	49.24	2000130
250		MSP3251P1-ND◆	58.76	49.24	2000199

Operating Pressure Range PSIG	Voltage Supply (VDC)	Digi-Key Part No.	Price Each		Measurement Specialties Part No.
			1	10	
500	5	MSP3501P1-ND◆	58.76	49.24	2000255
1000		MSP3102P1-ND	58.76	49.24	2000045
2500		MSP3252P1-ND◆	58.76	49.24	2000222
5000		MSP3502P1-ND◆	58.76	49.24	2000096
10000		MSP3103P1-ND	58.76	49.24	2000157
0.5V - 4.5V Output — Ratiometric Output Voltage to Input Voltage 3 Wire Supply Current 10mA Maximum 1/4" NPT, 2 Foot Cable					
100	5	MSP3101P2-ND◆	75.55	63.30	2000131
250		MSP3251P2-ND◆	75.55	63.30	2000202

◆ RoHS Compliant

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