TAMURA

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: 5µ Sec. Typ. (10µ for L08P Series) • Load Resister: 10kΩ 3mW minimum.

Fig. 1 — L01Z Series

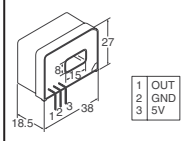


Fig. 2 — L03S Series

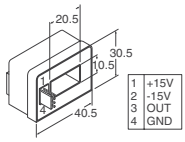


Fig. 3 — L07P Series

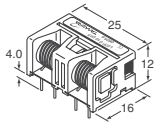


Fig. 4 — L08P Series

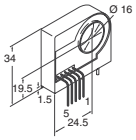


Fig. 5 — L18P Series

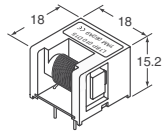
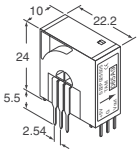


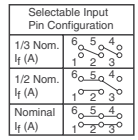
Fig.	Primary Nominal Current (A)	Supply Voltage (V)	Secondary Output Volt. (V)	Saturation Current (A)	Offset Temp. Coefficent (mV/°C)	Digi-Key Part No.	Price Each 1	10	25	50	Tamura Part No.
					L01Z Series						
1	±50	+5	4†	±62.5	≤±2	MT7173-ND◆	17.75	14.20	11.36	10.65	L01Z050S05
	±100	+5	4†	±125	≤±1	MT7174-ND◆	17.75	14.20	11.36	10.65	L01Z100S05
	±150	+5	4†	±187.5	≤±1	MT7175-ND	17.75	14.20	11.36	10.65	L01Z150S05
	±200	+5	4†	±250	≤±1	MT7176-ND◆	17.75	14.20	11.36	10.65	L01Z200S05
	±400	+5	4†	±500	≤±1	MT7178-ND◆	17.75	14.20	11.36	10.65	L01Z400S05
	±600	+5	4†	±750	≤±1	MT7180-ND	17.75	14.20	11.36	10.65	L01Z600S05
					L03S Series (Molex Mating Connector Required)						
2	±50	±15	±4	±150	≤±2	MT7181-ND◆	17.48	13.98	11.19	10.49	L03S050D15
	±200	±15	±4	±600	≤±1	MT7183-ND◆	17.48	13.98	11.19	10.49	L03S200D15
	±400	±15	±4	±700	≤±1	MT7185-ND◆	17.48	13.98	11.19	10.49	L03S400D15
	±500	±15	±4	±700	≤±1	MT7186-ND	17.48	13.98	11.19	10.49	L03S500D15
					L07P Series — RoHS Compliant						
3	±3	±15	±4	±9	≤±2	MT7297-ND	17.90	14.32	11.46	10.74	L07P003D15
	±5	±15	±4	±15	≤±2	MT7298-ND	17.90	14.32	11.46	10.74	L07P005D15
	±10	±15	±4	±30	≤±2	MT7299-ND	17.90	14.32	11.46	10.74	L07P010D15
	±15	±15	±4	±45	≤±2	MT7300-ND	17.90	14.32	11.46	10.74	L07P015D15
	±20	±15	±4	±60	≤±2	MT7301-ND	17.90	14.32	11.46	10.74	L07P020D15
	±25	±15	±4	±75	≤±2	MT7302-ND	17.90	14.32	11.46	10.74	L07P025D15
					L08P Series						
4	±50	±15	±4	±150	≤±2	MT7188-ND◆	16.20	12.96	10.37	9.72	L08P050D15
	±100	±15	±4	±300	≤±1	MT7189-ND◆	16.20	12.96	10.37	9.72	L08P100D15
	±150	±15	±4	±350	≤±1	MT7190-ND	16.20	12.96	10.37	9.72	L08P150D15
					L18P Series — RoHS Compliant						
5	±3	±15	±4	±9	≤±1.5	MT7311-ND	12.60	10.08	8.07	7.56	L18P003D15
	±5	±15	±4	±15	≤±1.5	MT7312-ND	12.60	10.08	8.07	7.56	L18P005D15
	±10	±15	±4	±30	≤±1.5	MT7313-ND	12.60	10.08	8.07	7.56	L18P010D15
	±15	±15	±4	±45	≤±1.5	MT7314-ND	12.60	10.08	8.07	7.56	L18P015D15
	±20	±15	±4	±60	≤±1.5	MT7315-ND	12.60	10.08	8.07	7.56	L18P020D15
	±25	±15	±4	±60	≤±1.5	MT7316-ND	12.60	10.08	8.07	7.56	L18P025D15
	±30	±15	±4	±90	≤±1.5	MT7317-ND	12.60	10.08	8.07	7.56	L18P030D15

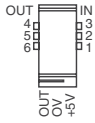
† + Vref = 2.5V at 0 Amps ◆ ***RoHS Compliant***

WM2022-ND	Waldom Molex, 4 Position Housing (2.50mm) KK Series.	**$.59**
WM2312-ND	Waldom Molex, Crimp Terminal - Wire Size: 22-30AWG; Insulation Dia.: .062" (1.57) Max; Finish: Selective Gold 15u"	**$2.58/10**
WM1129-ND	Waldom Molex, Crimp Terminal - Wire Size: 22-30AWG; Insulation Dia.: .062" (1.57) Max; Finish: Gold 15u"	**$8.32/10**
WM1114-ND	Waldom Molex, Crimp Terminal - Wire Size: 22-30AWG; Insulation Dia.: .062" (1.57) Max; Finish: Tin	**$1.19/10**
WM9999-ND	Waldom Molex, Universal Crimp Tool	**$50.75**
WM9927-ND	Waldom Molex, Extraction Tool	**$6.77**
WM9915-ND	Waldom Molex, Production Tool - Wire Size: 24-30AWG	**$228.96**

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. Coefficent (mV/°C)	Digi-Key Part No.	Price Each 1	10	25	50	Tamura Part No.
			S22P Series							
±6	+5	2.5±30mV	±18	1.25	MT7318-ND	15.18	12.14	9.72	9.11	S22P006S05
±15	+5	2.5±20mV	±45	1.25	MT7319-ND	15.18	12.14	9.72	9.11	S22P015S05
±25	+5	2.5±15mV	±75	1.25	MT7320-ND	15.18	12.14	9.72	9.11	S22P025S05

AMVECO TOROIDAL POWER PRODUCTS

Current Transformer Standard Accuracy Low-Cost 50/60 Hz

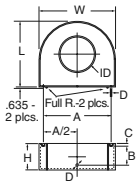
Applications:

• 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) 100	500	2K	5K	Digi-Key Part No.	Price Each 1	10	25	Amveco Part No.
A	5.0	1000:1	39	1.040	0.10	0.45	1.35	1.8	TE1005-ND◆	7.80	6.50	5.20	AC-1005
A	10.0	1000:1	39	1.035	0.10	0.45	1.00	1.3	TE1010-ND◆	7.80	6.50	5.20	AC-1010
A	15.0	1000:1	39	1.030	0.10	0.43	0.80	1.0	TE1015-ND◆	7.80	6.50	5.20	AC-1015
A	20.0	1000:1	39	1.030	0.10	0.42	0.70	0.8	TE1020-ND◆	6.39	5.33	4.26	AC-1020
B	25.0	1000:1	46	1.020	0.10	0.40	1.00	1.2	TE1025-ND◆	9.33	7.78	6.22	AC-1025
B	30.0	1000:1	46	1.020	0.10	0.40	0.85	1.1	TE1030-ND◆	9.36	7.80	6.24	AC-1030
C	40.0	1000:1	46	1.020	0.10	0.45	0.75	1.0	TE1040-ND◆	10.83	9.03	7.22	AC-1040
C	50.0	1000:1	46	1.020	0.10	0.44	0.70	0.8	TE1050-ND	11.76	9.80	7.84	AC-1050
D	60.0	1000:1	23	1.020	0.10	0.36	0.60	0.7	TE1060-ND◆	12.27	10.23	8.18	AC-1060
D	75.0	1000:1	23	1.015	0.10	0.35	0.50	0.6	TE1075-ND◆	12.33	10.28	8.22	AC-1075
E	100	1000:1	20	1.015	0.10	0.35	0.50	0.6	TE1100-ND◆	12.69	10.58	8.46	AC-1100
F	150	1000:1	10	1.010	0.10	0.32	0.55	0.6	TE1150-ND◆	16.80	14.00	11.20	AC-1150
F	200	1000:1	10	1.010	0.10	0.30	0.45	0.6	TE1200-ND◆	17.04	14.20	11.36	AC-1200

◆ ***RoHS Compliant***

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