



Fig. 1 Dip Reed Relays

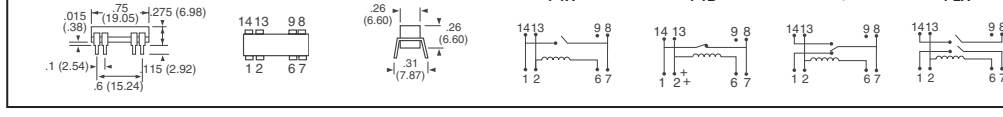


Fig. 2 Series 10 Reed Relays

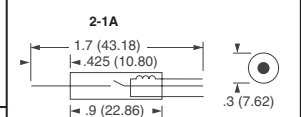


Fig. Form	Coil Volt. (VDC)	Coil Res. (Ω)	Pickup/ Dropout (VDC)	Max. Volt. (VDC)	Cur. Rtg. (A)	Cont. Res. (Ω)	Oper./Release /Bounce Time (msec.)	Power Rtg. (W)	Ins. Res. (Ω)	Digi-Key Part No.	1	10	50	100	US Relays Part No.
Dip Reed Relays															
1-1A	5	500	4.0/0.5	100	.50	.20	.5/.5/.5	10	10 ¹⁰	Z660-ND	4.29	3.63	3.04	2.48	D1A05A
	12	1000	9.6/1.2	100	.50	.20	.5/.5/.5	10	10 ¹⁰	Z661-ND	4.29	3.63	3.04	2.48	D1A12A
	24	2200	19.2/2.4	100	.50	.20	.5/.5/.5	10	10 ¹⁰	Z612-ND	4.42	3.74	3.13	2.55	D1A24A
1-2A	5	150	4.0/0.5	100	.50	.20	.5/.5/.5	10	10 ¹⁰	Z662-ND	6.34	5.37	4.49	3.66	D2A05A
	12	500	9.6/1.2	100	.50	.20	.5/.5/.5	10	10 ¹⁰	Z614-ND	6.34	5.37	4.49	3.66	D2A12A
	24	1750	19.2/2.4	100	.50	.20	.5/.5/.5	10	10 ¹⁰	Z615-ND	6.66	5.64	4.72	3.85	D2A24A
1-1B	5	450	4.0/0.5	100	.50	.20	.35/.5/.5	10	10 ¹⁰	Z616-ND	6.34	5.37	4.49	3.66	D1B05A
	12	450	9.6/1.2	100	.50	.20	.35/.5/.5	10	10 ¹⁰	Z617-ND	6.66	5.64	4.72	3.85	D1B12A
1-1C	5	200	4.0/0.5	28	.25	.20	.5/.5/NO = .5, NC = 1.5	3	10 ⁹	Z663-ND	7.74	6.55	5.48	4.47	D1C05C
	12	500	4.0/0.5	28	.25	.20	.5/.5/NO = .5, NC = 1.5	3	10 ⁹	Z664-ND	7.74	6.55	5.48	4.47	D1C12C
	24	1750	19.2/2.4	28	.25	.20	.5/.5/NO = .5, NC = 1.5	3	10 ⁹	Z621-ND	7.87	6.66	5.57	4.54	D1C24C
Series 10 Reed Relays															
2-1A	3	250	2.25/0.3	200	.5	.10	.5/.25/—	5	10 ¹⁰	Z622-ND	6.11	5.17	4.33	3.53	R1A3AHH
	5	700	3.75/0.5	200	.5	.10	.5/.25/—	5	10 ¹⁰	Z623-ND	6.34	5.37	4.49	3.66	R1A5AHH
	12	2000	9.0/1.2	200	.5	.10	.5/.25/—	5	10 ¹⁰	Z624-ND	7.31	6.19	5.18	4.22	R1A12AHH
	24	4000	18.0/2.4	200	.5	.10	.5/.25/—	5	10 ¹⁰	Z625-ND	10.08	8.53	7.13	5.82	R1A24AHH
	3	30	2.25/0.3	300	2	.10	.5/.25/—	50	10 ¹⁰	Z626-ND	5.20	4.40	3.68	3.00	P1A3A
	5	100	3.75/0.5	300	2	.10	.5/.25/—	50	10 ¹⁰	Z627-ND	5.20	4.40	3.68	3.00	P1A5A
3-1A	5	500	3.8/0.5	200	.5	.20	0.4/0.1/0.3	10	10 ⁹	Z530-ND	4.29	3.63	3.04	2.48	SD1A05A
	24	2000	16.0/2.0	200	.5	.20	0.4/0.1/0.3	10	10 ⁹	Z532-ND	4.42	3.74	3.13	2.55	SD1A24A
	5	500	3.8/0.5	250	1	.20	0.5/0.3/0.3	50	10 ⁹	Z533-ND	4.88	4.13	3.45	2.82	SD1A05D
	12	500	8.0/1.0	250	1	.20	0.5/0.3/0.3	50	10 ⁹	Z534-ND	4.88	4.13	3.45	2.82	SD1A12D
	24	2000	16.0/2.0	250	1	.20	0.5/0.3/0.3	50	10 ⁹	Z535-ND	5.04	4.27	3.57	2.91	SD1A24D
	Open-Line Reed Relays														
4-1A	5	500	3.8/0.5	250	1	.10	0.4/0.2/0.25	20	10 ¹⁰	Z638-ND	9.26	7.84	6.56	5.35	20-1051-10
4-2A	12	440	8.0/1.0	250	1	.10	0.5/0.2/0.25	20	10 ¹⁰	Z642-ND	10.89	9.22	7.71	6.29	20-2121-10
4-1B	5	500	3.8/0.5	200	.5	.10	0.5/0.4/1.5	10	10 ¹⁰	Z644-ND	10.01	8.67	7.44	6.36	20-1051-30
4-2B	5	200	3.8/0.5	200	.5	.10	0.6/0.4/1.5	10	10 ¹⁰	Z647-ND	13.26	11.48	9.85	8.42	20-2051-30
	24	1250	16.0/2.0	200	.5	.10	0.6/0.4/1.5	10	10 ¹⁰	Z649-ND	13.91	12.04	10.33	8.83	20-2241-30

Fig. 3 Series 30 Sip Reed Relays

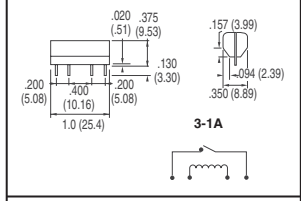
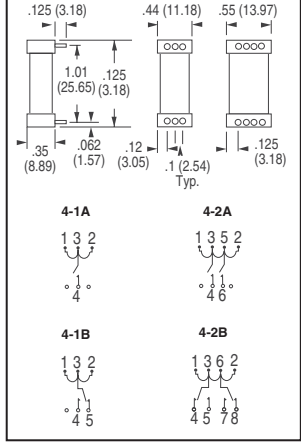


Fig. 4 Open-Line Reed Relays



Surface Mount Reed Relays

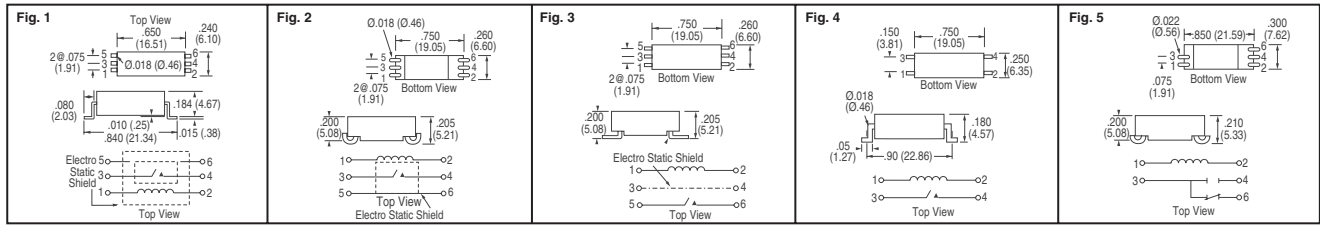
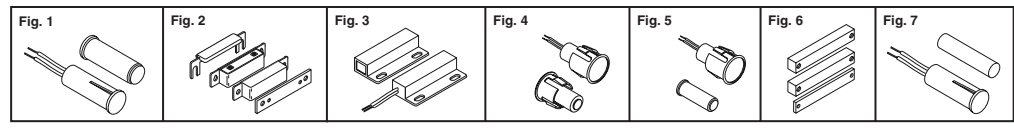


Fig.	Coil Voltage (VDC)	Coil Resistance (Ω)	Pickup/ Dropout (VDC)	Maximum Voltage (VDC)	Current Rating mA	Cont. Resistance (Ω)	Operate Time (msec.)	Ins. Resistance (Ω)	Digi-Key Part No.	1	10	50	100	US Relays Part No.
1	4.5	150	3.5/0.5	250	500	.1	.35	7x10 ¹²	Z650-ND	11.96	10.35	8.88		SMRR1-5-150C
2	5	150	3.75/0.4	200	500	.150	.35	7x10 ¹²	Z651-ND	12.74	11.03	9.46		SMRR2-5-150C
3	5	150	3.8/0.5	250	500	.150	.35	7x10 ¹²	Z653-ND	13.52	11.70	10.04		SMRR2-5-150F
4	5	250	3.75/0.4	200	500	.150	.35	7x10 ¹²	Z654-ND	11.05	9.35	7.82		SMRR2-5-250
5	5	150	3.8/0.5	28	250	.2	.5	7x10 ¹²	Z655-ND	12.43	10.76	9.23		SMRR3-5-150

C&K
Magnetic Sensors



MPS Series Magnetic Proximity Sensors operate when a magnetic field approaches two magnetic reed blades. The magnetic field overcomes the spring tension of the blades and brings the contacts together. When the magnetic actuator is removed, the reeds separate by their own spring tension. Comes complete with reed switch and matching actuator. **FEATURES:** • Long Life Expectancy — 10 million operations • Housing made of rugged impact resistant ABS plastic that meets or exceeds UL requirements for fire retardation • Sealed Contacts allowing the reed to operate in damp and dusty environments • Wide gap performance makes magnet and switch alignment less critical. **SPECIFICATIONS:** • Contact Ratings: 30VDC or 30VAC maximum @ 0.3 Amp Maximum; 1.0 Amp Maximum Carry Current • Operating Temperature: -40°C - 100°C • Mechanical & Electrical Life: 10 Million Operations **MATERIALS:** • Housing/Spacer/Current: ABS Plastic (UL94V-0), white • Wire Leads: UL1061, 22 AWG; stranded, made of copper or aluminum; Length: 12" (30.48cm) with ends stripped; Color: white • Magnets: Alnico V and Ceramic Ferrite 8 (MPS80WG model only)

NOTE: Wide gap contacts are polarity sensitive. Use alignment dots for proper installation of surface mount contacts.

Fig.	Make Gap (mm)	Release Gap (mm)	Digi-Key Part No.	1	10	50	250	C&K Part No.
1	31.75	40.64	CKN6002-ND	5.84	5.05	4.25	3.85	MPS9WG
2	31.75	31.75	CKN6003-ND	7.21	6.23	5.25	4.76	MPS20WG
3	25.40	33.02	CKN6004-ND	6.18	5.34	4.50	4.08	MPS45WG
4	31.75	40.64	CKN6005-ND	6.87	5.93	5.00	4.53	MPS70WG
5	31.75	40.64	CKN6006-ND	6.87	5.93	5.00	4.53	MPS73WG
6	50.80	50.80	CKN6007-ND	7.00	6.05	5.10	4.62	MPS80WG
7	31.75	40.64	CKN6008-ND	5.84	5.05	4.25	3.85	MPS95WG

HAMLIN

Magnetic Reed Switches



Reed Switches consists of two ferromagnetic reeds that when introduced to a magnetic field, attract toward each other to close. Once the magnetic field is removed, the contacts again spring open. Reed switches are ideal in auto, marine and moist environments including water, fuels, and dust-laden atmospheres. The smaller Ampere Turns number, the more sensitive the reed switch to magnetic fields.

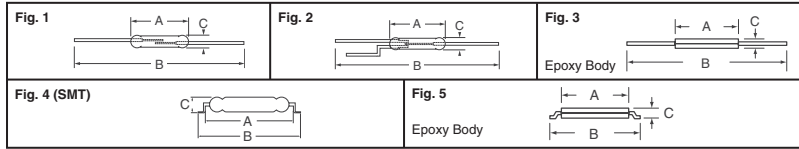
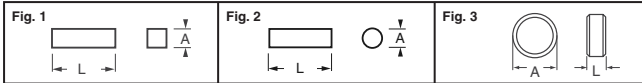


Fig.	Circuit	Ampere Turns	Maximum DC Contact Rating		Switching Current (Amp)	Carry Current (Amp)	Operate/Release (ms)			Dimensions (mm)			Digi-Key Part No.	Price Each			Hamlin Part No.
			Watts	Volts			A	B	C	1	10	50					
Axial Lead Reed Switches																	
1	SPST	6-12	10	170	0.5	0.5	45/2	7.00	46.00	1.80	HE516-ND	1.37	1.16	.97	MITI-3V1 6-12.5		
		22-28	20	200	1.0	1.5	8/25	19.05	56.64	2.66	HE545-ND	1.37	1.16	.97	MLRR-2 22-28		
		27-33	20	200	1.0	1.5	8/25	19.05	56.64	2.66	HE536-ND	1.37	1.16	.97	MLRR-2 27-33		
		32-38	20	200	1.0	1.5	8/25	19.05	56.64	2.66	HE537-ND	1.37	1.16	.97	MLRR-2 32-38		
		17-23	20	200	1.0	1.2	7/2	15.24	56.64	2.66	HE133-ND	.81	.69	.58	MLRR-3 17-23		
		22-28	20	200	1.0	1.2	7/2	15.24	56.64	2.66	HE538-ND	.81	.69	.58	MLRR-3 22-28		
		32-38	20	200	1.0	1.2	7/2	15.24	56.64	2.66	HE539-ND	.81	.69	.58	MLRR-3 32-38		
		17-23	20	200	1.0	1.0	6/2	15.24	40.38	2.66	HE540-ND	.85	.72	.60	MLRR-4 17-23		
		22-28	20	200	1.0	1.0	6/2	15.24	40.38	2.66	HE541-ND	.85	.72	.60	MLRR-4 22-28		
		10-20	10	200	0.5	0.8	6/2	12.70	40.39	1.83	HE500-ND	.81	.69	.58	MDSR-7 10-20		
		20-25	10	200	0.5	0.8	6/2	12.70	40.39	1.80	HE535-ND	.81	.69	.58	MDSR-7 20-25		
		17-28	10	300	0.5	1.5	6/2	15.24	40.38	2.28	HE501-ND	1.04	.88	.74	MDSR-7 17-28		
		27-33	10	200	0.5	1.5	6/2	15.24	40.38	2.28	HE530-ND	1.04	.88	.74	MDSR-7 27-33		
		37-43	10	200	0.5	1.5	6/2	15.24	40.38	2.28	HE531-ND	1.04	.88	.74	MDSR-7 37-43		
		12-23	10	200	0.5	1.2	6/2	15.24	40.39	2.29	HE502-ND	.62	.53	.44	MDSR-4 12-23		
		27-33	10	200	0.5	1.2	6/2	15.24	40.39	2.29	HE533-ND	.62	.53	.44	MDSR-4 27-33		
		32-38	10	200	0.5	1.2	6/2	15.24	40.39	2.29	HE534-ND	.62	.53	.44	MDSR-4 32-38		
		12-33	10	200	0.5	1.2	6/2	15.24	40.39	2.29	HE503-ND	.72	.61	.51	MDCG-4 12-33		
		17-23	10	200	0.75	1.5	75/3	19.687	56.77	2.66	HE135-ND	.98	.83	.69	MARR-2 17-23		
		22-28	10	200	0.75	1.5	75/3	19.05	56.64	2.66	HE136-ND	.98	.83	.69	MARR-2 22-28		
		27-33	10	200	0.75	1.5	75/3	19.05	56.64	2.66	HE527-ND	.98	.83	.69	MARR-2 27-33		
		32-38	10	200	0.75	1.5	75/3	19.05	56.64	2.66	HE528-ND	.98	.83	.69	MARR-2 32-38		
		17-23	10	1000	0.5	1.3	75/3	19.05	56.77	2.66	HE544-ND	2.34	1.98	1.66	MARR-5 17-23		
		22-33	10	1000	0.5	1.3	75/3	19.69	56.77	2.66	HE504-ND	2.34	1.98	1.66	MARR-5 22-33		
32-38	10	1000	0.5	1.3	75/3	19.69	56.77	2.66	HE529-ND	2.34	1.98	1.66	MARR-5 32-38				
27-33	50	200	1.5	3.0	75/3	19.69	56.64	2.84	HE546-ND	1.04	.88	.74	MRPR-3 27-33				
32-38	50	200	1.5	3.0	75/3	19.69	56.64	2.84	HE547-ND	1.04	.88	.74	MRPR-3 32-38				
37-43	50	200	1.5	3.0	75/3	19.69	56.64	2.84	HE542-ND	1.04	.88	.74	MRPR-3 37-43				
17-23	50	250	1.0	2.5	75/3	20.32	56.64	2.84	HE543-ND	1.30	1.10	.92	MRPR-8 17-23				
22-38	50	250	1.0	2.5	75/3	20.32	56.64	2.84	HE505-ND	1.30	1.10	.92	MRPR-8 22-38				
2	SPDT	15-25	5	175	0.25	1.5	.7/1	14.73	51.66	2.54	HE506-ND	2.96	2.51	2.10	MDRR-DT 15-25 F		
		30-35	5	175	0.25	1.5	.7/1	14.73	51.66	2.54	HE532-ND	2.93	2.48	2.07	MDRR-DT 30-35 U		
		50-65	50	500	1.5	2.0	5/8	39.37	85.73	5.33	HE508-ND	15.63	13.23	11.07	DRT-DTH 50-65		
		70-75	50	500	1.5	2.0	5/8	38.10	85.73	5.33	HE525-ND	15.63	13.23	11.07	DRT-DTH 70-75		
		80-85	50	500	1.5	2.0	5/8	38.10	85.73	5.33	HE526-ND	15.63	13.23	11.07	DRT-DTH 80-85		
		75-80	30	500	0.5	3.0	4.5/7.0	38.10	85.73	5.33	HE134-ND	11.41	9.66	8.08	DRR-DTH 75-80		
		40-45	30	500	0.5	3.0	4.5/7	38.10	85.73	5.33	HE521-ND	11.41	9.66	8.08	DRR-DTH 40-45		
		45-50	30	500	0.5	3.0	4.5/7	38.10	85.73	5.33	HE522-ND	11.41	9.66	8.08	DRR-DTH 45-50		
		65-70	30	500	0.5	3.0	4.5/7	38.10	85.73	5.33	HE523-ND	11.41	9.66	8.08	DRR-DTH 65-70		
		85-90	30	500	0.5	3.0	4.5/7	38.10	85.73	5.33	HE524-ND	11.41	9.66	8.08	DRR-DTH 85-90		
		1	SPST	42-48	100	400	3.0	6.0	4.5/2.5	50.80	82.55	5.25	HE517-ND	3.38	2.86	2.40	DRR-129 42-48
				47-68	100	400	3.0	6.0	4.5/2.5	50.80	82.55	5.25	HE509-ND	3.38	2.86	2.40	DRR-129 47-68
67-73	100			400	3.0	6.0	4.5/2.5	50.80	82.55	5.25	HE518-ND	3.38	2.86	2.40	DRR-129 67-73		
77-83	100			400	3.0	6.0	4.5/2.5	50.80	82.55	5.25	HE519-ND	3.38	2.86	2.40	DRR-129 77-83		
87-93	100			400	3.0	6.0	4.5/2.5	50.80	82.55	5.25	HE520-ND	3.38	2.86	2.40	DRR-129 87-93		
3	SPST	10-15	10	200	0.5	0.8	1.0/0.5	11.43	40.39	0.43	HE548-ND	1.11	.94	.79	59170-1-S-00-A		
		15-20	10	200	0.5	0.8	1.0/0.5	11.43	40.39	0.43	HE550-ND	1.11	.94	.79	59170-1-T-00-A		
		20-25	10	200	0.5	0.8	1.0/0.5	11.43	40.39	0.43	HE552-ND	1.11	.94	.79	59170-1-U-00-A		

Fig.	Circuit	Operate Time (ms)	Release Time (ms)	Switching Volt. (max.)	Switching Current	Carry Current	Dimensions (mm)			Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		Hamlin Part No.				
							A	B	C		1	10	50		Qty.	Pricing					
SMT Reed Switches																					
4	SPST	0.6	0.2	200VDC	0.5	1.2	17.52	19.30	2.84	HE151CT-ND	.84	.72	.60	HE151TR-ND	3,000	300.00/M	MDSM-4R 12-18				
							16.64	21.03	1.27	HE152CT-ND	1.26	1.08	.90					MDSM-7R 10-15			
5	SPST	1.0	0.5	200VDC	0.5	0.8	11.43	16.25	1.52	HE549CT-ND	1.44	1.23	1.03	HE549TR-ND	2,000	554.00/M	59170-1-S-00-D				
							11.43	16.25	1.52	HE551CT-ND	1.44	1.23	1.03					HE551TR-ND	2,000	554.00/M	59170-1-T-00-D
							11.43	16.25	1.52	HE553CT-ND	1.44	1.23	1.03					HE553TR-ND	2,000	554.00/M	59170-1-U-00-D

Magnets

A permanent magnet is the most common source for operating the magnetic reed switch. The method used to position the magnet depends upon the switching requirement but can be used in one of four basic techniques; perpendicular or parallel motion (up and down, side to side) rotation (revolving magnet or switch), shielding (passing a ferromagnetic material between the switch and magnet) or biasing which is using one magnet of opposite polarity to cancel another magnet's lines of force.



CHERRY

Magnetic Reed Position Sensors

- Features:
- Operating Temperature: -40°C - 105°C
 - Leads: 24 AWG PVC, Pre-tinned, 12" long

Fig.	Description	Dim. (Inch)		Digi-Key Part No.	Price Each			Cherry Part No.
		A	B		1	10	50	
1	Magnetic Position Sensor, 10W, SPST-NO, .5A	1.00	0.243	CH402-ND	3.16	2.81	2.34	MP201701
	Magnetic Position Sensor, 3W, SPST-NC, .2A	1.00	0.243	CH403-ND	4.75	4.23	3.52	MP201702
	Smooth Barrel Actuator	1.00	0.243	CH411-ND	2.97	2.64	2.20	AS201701
2	Mini Flange Mount Proximity Sensors, 10W, SPST-NO, .5A	.906	.550	CH405-ND	3.46	3.08	2.56	MP201801
	Mini Flange Mount Proximity Sensors, 3W, SPST-NC, .2A	.906	.550	CH406-ND	5.32	4.73	3.94	MP201802
	Mini Flange Mount Actuator	.906	.550	CH412-ND	3.11	2.76	2.30	AS201801
	Flange Mount Proximity Sensors, 10W, SPST-NO, .5A	1.125	.750	CH407-ND	3.59	3.20	2.66	MP201901
3	Flange Mount Proximity Sensors, 3W, SPDT-CO, .2A	1.125	.750	CH409-ND	5.94	5.28	4.40	MP201903
	Flange Mount Actuator	1.125	.750	CH413-ND	3.38	3.00	2.50	AS201901
	Magnetic Position Sensor Aluminum 10W, SPST-NO, .5A	1.00	—	CH410-ND	10.13	9.00	7.50	MP200701
	Magnetic Position Sensor Aluminum 3W, SPST-NC, .2A	1.00	—	CH709-ND	12.56	11.16	9.30	MP200702
4	Magnetic Position Sensor Aluminum 3W, SPDT-CO, .2A	1.00	—	CH710-ND	13.10	11.64	9.70	MP200703
	Threaded Actuator, South pole magnet	1.00	—	CH397-ND	14.01	12.46	10.38	HE610400

† Wire leads extend from opposite side of switch ♦ RoHS Compliant

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