

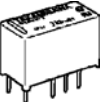
FTR-B3 Series Ultra Miniature Flat Signal Relay

This relay is most appropriate for compact and high density mounting. **Contact:** 2 Form C. **Contact Material:** Gold plated silver alloy. **Rating:** DC — 30 V-1 A, resistive load — 100,000 operations minimum; AC — 125 V-0.3 A, resistive load — 100,000 operations minimum. **Voltages:** 1.5-12 VDC. **Coil:** Operating — 79 mW; Nominal — 140 mW. **Dielectric Strength:** 1,500 VAC between coil and contact, 1,000 VAC between open contacts.



Stock No.	Mfr.'s Type	Coil Resistance (Ω)	Operate Voltage (VDC)	Release Voltage (VDC)	Nominal Power (mW)	EACH	
						1-99	100-499
791-1430	FTR-B3GA4.5Z	145	3.38	0.45	140	4.08	3.47
791-1432	FTR-B3GA12Z	1028	9.00	1.20	140	3.88	3.30

NA Subminiature PCB Relays



Single Winding Non-Latching
Contact Data. Arrangement: 2 form C (bifurcated contact). **Material:** Gold over silver alloy. **Rated:** 125 VAC 0.5 A, 30 VDC 1 A (resistive load). **Life Expectancy:** Mechanical — 100 million operations min.; Electrical — 600,000 operations min. at 30 VDC 1 A, 200,000 operations min. at 125 VAC 0.5 A. **Coil Data.** Voltages: 3 to 48 VDC. **Power (at 20°C):** 0.14 W (0.2 W for 24 V coil). **General Data.** **Dielectric Withstanding:** 1000 VAC 1 min. between open contacts; 1000 VAC 1 min. between adjacent contacts; 1500 VAC 1 min. between contacts and coil. **Temperature Range:** -40°C to +85°C. **Dimensions (L × W × H):** 0.590" × 0.295" × 0.385".

Stock No.	Mfr.'s Type	Nominal Coil Voltage (VDC)	Coil Resistance ±10% at 20°C (Ω)	Must Operate Voltage at 20°C (VDC)	Release or Reverse Operating Voltage at 20°C (VDC)	Nominal Coil Power at 20°C	EACH	
							1-49	50-99
791-1000	NA-5W-K	5	178	+3.75	+0.50	140	2.83	2.40
791-1001	NA-12W-K	12	1028	+9.00	+1.20	140	3.43	2.92
791-1002	NA-24W-K	24	2880	+18.00	+2.40	200	3.76	3.20

A Subminiature PCB Relays

Contact Data. Arrangement: 2 form C (DPDT). **Material:** Stationary — gold over silver palladium; Movable — silver palladium. **Rated:** 30 VDC 1 A or 125 VAC 0.5 A (resistive). **Life Expectancy:** Mechanical — 100 million operations min.; Electrical — 500,000 operations min. at 30 VDC 1 A, 200,000 operations min. at 125 VAC 0.5 A. **Coil Data.** Voltages: 4.5 to 48 VDC. **Power (at 20°C):** Operate — 0.07 W (0.11 W for 24 V coil); Nominal — 0.14 W (0.2 W for 24 V coil). **General Data.** **Dielectric Strength:** 1000 VAC between open contact, coil contact and adjacent contact. **Temperature Range:** -40°C to +85°C at nominal voltage. **Dimensions (L × W × H):** 0.551" × 0.354" × 0.197". **Enclosures:** PBT.



Single Winding Non-Latching

Stock No.	Mfr.'s Type	Nominal Coil Voltage (VDC)	Coil Resistance ±10% at 20°C (Ω)	Must Operate Voltage at 20°C (VDC)	Release or Reverse Operating Voltage at 20°C (VDC)	EACH	
						1-49	50-99
791-1003	A-5W-K	5	178	+3.50	+0.50	2.99	2.54
791-1004	A-12W-K	12	1028	+8.40	+1.20	3.06	2.60
791-1005	A-24W-K	24	2880	+16.80	+2.40	3.13	2.67

Double Winding Latching

791-1006	AL-D5W-K	5	125	+3.50*	+3.50†	3.50	2.98
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*Single winding coil only. †Double winding coil only.

RY Subminiature PCB Relays



Contact Data. Arrangement: 2 form C. **Material:** Gold overlay silver palladium. **Rated:** 24 VDC 1 A or 120 VAC 0.5 A (resistive). **Life Expectancy:** Mechanical — 20 million operations min.; Electrical — 500,000 operations min. at 24 VDC 1 A, 200,000 operations min. at 120 VAC 0.5 A. **Coil Data.** Voltages: 4.5 to 48 VDC. **Power (at 20°C):** Operate — 0.075 W (0.098 W for 24 V coil); Nominal — 0.15 W (0.2 W for 24 V coil). **General Data.** **Dielectric Strength:** 500 VAC between open contacts; 1000 VAC between all other conductors. **Temperature Range:** -40°C to +85°C. **Dimensions (L × W × H):** 0.795" × 0.386" × 0.472". **Enclosure:** PBT.

B-M Sensitive Type

Stock No.	Mfr.'s Type	Nominal Coil Voltage (VDC)	Coil Resistance ±10% at 20°C (Ω)	Must Operate Voltage at 20°C (VDC)	Maximum Continuous Voltage (V)	EACH	
						1-49	50-99
791-1021	RY-5W-K	5	167	+3.60	12.50	2.73	2.32
791-1022	RY-12W-K	12	960	+8.50	30.00	2.80	2.38
791-1023	RY-24W-K	24	2880	+16.80	51.60	2.87	2.45

B-M Standard Type

791-1024	RY-5WZ-K	5	45	+2.50	7.00	2.54	2.16
791-1025	RY-12WZ-K	12	280	+6.00	16.80	2.58	2.20
791-1026	RY-24WZ-K	24	1070	+12.00	33.60	2.62	2.23

SY Subminiature PCB Relays

Contact Data. Arrangement: 1 form C. **Material:** Gold overlay silver palladium. **Rated:** 24 VDC 1 A or 120 VAC 0.5 A (resistive) switched; 2.0 A carrying current. **Life Expectancy:** Mechanical — 5 million operations min.; Electrical — 150,000 operations min. at rated load. **Coil Data.** Voltages: 1.5 to 24 VDC. **Power (at 20°C):** Operate — 0.075 W; Nominal — 0.15 W. **General Data.** **Dielectric Strength:** 500 VAC (50, 60 Hz) between open contacts; 1000 VAC between contacts and coil. **Temperature Range:** -40°C to +90°C. **Dimensions (L × W × H):** 0.492" × 0.291" × 0.374". **Enclosure:** PBT.



Stock No.	Mfr.'s Type	Nominal Coil Voltage (VDC)	Coil Resistance ±10% at 20°C (Ω)	Must Operate Voltage at 20°C (VDC)	EACH	
					1-49	50-99
791-1018	SY-5-K	5	167	+3.50	2.32	1.98
791-1019	SY-12-K	12	960	+8.40	2.43	2.07
791-1020	SY-24-K	24	3290	+16.80	3.24	2.76



FTR-F3 Series Slim Type Power Relay

Contact Data. Arrangement: 1 form A (SPST-NO). **Material:** Silver alloy. **Rating:** 1/8 HP, 277 VAC; 1/10 HP, 125 V, 3 A, 30 VDC/277 VAC res. **Voltage:** 5 to 24 VDC. **Dielectric:** 750 VAC one minute between open contacts; 4,000 VAC 1 minute between coil and contacts. **Operating Temperature:** -40°C to +70°C. **Life Expectancy:** Mechanical — 5 × 10 operations minimum; Electrical — 200 × 10 operations minimum.

Stock No.	Mfr.'s Type	Nominal Voltage	Coil Resistance	Operate Voltage	Release Voltage	EACH	
						1-99	100-499
791-1400	FTR-F3AA005E	5 VDC	125	3.75 VDC	0.5 VDC	1.14	.97
791-1402	FTR-F3AA012E	12 VDC	720	9.00 VDC	1.2 VDC	1.14	.97
791-1404	FTR-F3AA024E	24 VDC	2880	18.00 VDC	2.4 VDC	1.29	1.10

*Note: All values in the table are measured at 20°C.

FTR-F1/FTR-H1 Series Miniature Power Relays

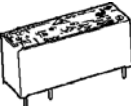
Contact Data. Arrangement: H1 — 1 form A or 1 form C 150/10 A; F1 — 2 form C 5 A. **Material:** Silver nickel. **Rated:** 4 10/15 A at 24 VDC or 240 VAC, 1/8 or 1/10 HP 120 VAC motor load. **Life Expectancy:** Mechanical — 5 million operations min.; Electrical — 100,000 operations min. at 5 or 10 A 24 VDC or 240 VAC; 200,000 operations min. at 5 or 10 A 120 VAC (resistive), 3.5 or 7 A 24 VDC or 240 VAC. **Coil Data.** Voltages: 3.0 to 48 VDC. **Power (at 20°C):** Operate — 0.26 W; Nominal — 0.53 W; Maximum 1.4 W. **General Data.** **Dielectric Strength:** 1000 VAC between open contacts; 5000 VAC between coil and contacts. **Temperature Range:** -40°C to +75°C. **Dimensions (L × W × H):** 1.150" × 0.508" × 0.650". **Enclosure:** PBT.



Stock No.	Mfr.'s Type	Nominal Coil Voltage (VDC)	Coil Resistance ±10% at 20°C (Ω)	Must Operate Voltage at 20°C (VDC)	EACH	
					1-99	100-499
791-1051	FTR-H1CA005V*	5	36.00	+3.50	1.88	1.60
791-1052	FTR-H1CA012V*	12	200.00	+8.40	1.88	1.60
791-1053	FTR-H1CA024V*	24	820.00	+16.80	2.03	1.73
791-1054	FTR-F1CA005V†	5	36.00	+3.50	2.29	1.94
791-1055	FTR-F1CA012V†	12	200.00	+8.40	2.29	1.94
791-1056	FTR-F1CA024V†	24	820.00	+16.80	2.43	2.07

*SPDT 10 A. †DPDT 5 A.

JS Miniature Power Relays



Contact Data. Arrangement: 1 form A or 1 form C. **Material:** Gold plated silver alloy. **Rated:** 24 VDC 8 A or 250 VAC (resistive). **Life Expectancy:** Mechanical — 5 million operations min.; Electrical — 100,000 operations min. at rated load. **Coil Data.** Voltages: 5.0 to 60 VDC. **Power (at 20°C):** Operate — 110-140 mA; Nominal — 220-280 mW. **General Data.** **Dielectric Strength:** 1000 VAC between open contacts; 5000 VAC between coil and contacts. **Temperature Range:** -40°C to +85°C. **Dimensions (L × W × H):** 1.142" × 0.394" × 0.492". **Enclosure:** PBT.

Standard

Stock No.	Mfr.'s Type	Nominal Coil Voltage (VDC)	Coil Resistance ±10% at 20°C (Ω)	Must Operate Voltage at 20°C (VDC)	Must Release Voltage at 20°C (VDC)	EACH	
						1-99	100-499
791-1048	JS-5F-K	5	112.00	+3.50	0.50	2.87	2.45
791-1049	JS-12E-K	12	660.00	+8.50	1.20	2.87	2.45
791-1050	JS-24E-K	24	2350.00	+16.80	2.40	2.95	2.51

JY Miniature Power Relays

Contact Data. Arrangement: 1 form A (SPST-NO). **Material:** Gold plated silver cadmium oxide alloy. **Rated:** 30 VDC 5 A or 250 VAC (resistive). **Life Expectancy:** Mechanical — 20 million operations min.; Electrical — 100,000 operations min. at rated load. **Coil Data.** Voltages: 4.5 to 24 VDC. **Power (at 20°C):** Operate — 0.098 W; Nominal — 0.2 W. **General Data.** **Dielectric Strength:** 750 VAC (50, 60 Hz) between open contacts. **Temperature Range:** -40°C to +80°C. **Dimensions (L × W × H):** 0.795" × 0.394" × 0.504". **Enclosure:** PBT.



Standard

Stock No.	Mfr.'s Type	Nominal Coil Voltage (VDC)	Coil Resistance ±10% at 20°C (Ω)	Must Operate Voltage at 20°C (VDC)	Maximum Continuous Voltage (V)	EACH	
						1-99	100-499
791-1045	JY-5-H-K	5	125.00	+3.50	11.50	2.91	2.48
791-1046	JY-12-H-K	12	720.00	+8.40	27.60	2.91	2.48
791-1047	JY-24-H-K	24	2880.00	+16.80	55.20	2.99	2.54

FBR160 Series Miniature Power Relays



Contact Data. Arrangement: 1 form C. **Material:** Silver tin oxide alloy. **Rated:** 120 VAC 10 A (NO); 120 VAC 7 A (NC). **Life Expectancy:** Mechanical — 10 million operations min.; Electrical — 100,000 operations min. at rated loads. **Coil Data.** Voltages: 5.0 to 24 VDC. **Power (at 20°C):** 0.36 W. **General Data.** **Dielectric Strength:** 1500 VAC 1 min. between coil and contacts; 500 VAC 1 min. between open contacts. **Temperature Range:** -30°C to +80°C. **Dimensions (L × W × H):** 0.85" × 0.64" × 0.64". **Enclosure:** PBT.

Standard

Stock No.	Mfr.'s Type	Nominal Coil Voltage (VDC)	Coil Resistance ±10% at 20°C (Ω)	Must Operate Voltage at 20°C (VDC)	Maximum Continuous Voltage (V)	EACH	
						1-99	100-499
791-1072	FBR161NED005UHB	5	70	4.0	8.5	1.29	1.10
791-1073	FBR161NED012UHB	12	400	9.6	20.4	1.29	1.10
791-1074	FBR161NED024UHB	24	1600	19.2	40.8	1.36	1.16