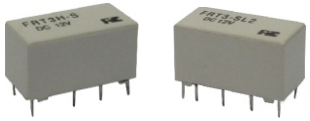
BAILEY PRODUCTS INC.

Signal Relays
FRT3 Series

Features



Subminiature & latching dip relay
2 Form C contact
High switching capacity 125VA/90W
High sensitivity - 150mW (single side stable) & 75mW (latching)
Wash tight type construction

Ordering information

FRT3 H - S L1 DC12V
1 2 3 4 5

1 Relay model
2 Power consumption: NIL: 0.20W - single side stable
0.10W - 1 coil latching (for L1)
0.20W - 2 coils latching (for L2)
H : 0.15W - single side stable
0.075W - 1 coil latching (for L1)
0.15W - 2 coils latching (for L2)

3 Construction: S: Wash tight type
4 Sort: NIL: Single side stable; L1: 1 coil latching;
L2 : 2 coils latching
5 Rated voltage
Note: RoHS : RoHS compliant relay
RoHS-I : AgNi contact

Coil rating

Single side stable: FRT3-S (Standard 200mW) / FRT3H-S (Sensitive 150mW)

Rated voltage (V DC)	Coil resistance Ω+/-10%		Must operate voltage (V DC) Max.		Must dropout voltage (V DC) Min.		Maximum allow voltage (V DC)		Operate time (ms)	Release time (ms)
	FRT3-S	FRT3H-S	FRT3-S	FRT3H-S	FRT3-S	FRT3H-S	FRT3-S	FRT3H-S		
3	45	60	2.3	2.4	0.3	0.3	6	7		
5	125	167	3.75	4	0.5	0.5	10	11.5		
6	180	240	4.5	4.8	0.6	0.6	12	13.8		
9	405	540	6.75	7.2	0.9	0.9	18	20.8		
12	720	960	9	9.6	1.2	1.2	24	27.7	<4	<3
15	1125	1500	11.25	12	1.5	1.5	30	34.6		
24	2880	3840	18	19.2	2.4	2.4	48	55.4		
48	11520	–	36	–	4.8	4.8	96	–		

1 coil latching: FRT3-SL1 (Standard 100mW) / FRT3H-SL1 (Sensitive 75mW)

Rated voltage (V DC)	Coil resistance Ω+/-10%		Set, reset voltage (V DC) Max.		Maximum allow voltage (V DC)		Set time (ms)	Reset time (ms)
	FRT3-SL1	FRT3H-SL1	FRT3-SL1	FRT3H-SL1	FRT3-SL1	FRT3H-SL1		
3	90	120	2.25	2.4	8.4	6.9		
5	250	330	3.75	4	14	16		
6	360	480	4.5	4.8	17	19		
9	810	1080	6.75	7.2	25	29	<3	<3
12	1440	1920	9	9.6	34	39		
15	2220	3000	11.25	12	42	43		
24	4000	7680	18	19.2	56	78		

2 coils latching: FRT3-SL2 (Standard 200mW) / FRT3H-SL2 (Sensitive 150mW)

Rated voltage (V DC)	Coil resistance Ω+/-10%		Set, reset voltage (V DC) Max.		Maximum allow voltage (V DC)		Set time (ms)	Reset time (ms)
	FRT3-SL2	FRT3H-SL2	FRT3-SL2	FRT3H-SL2	FRT3-SL2	FRT3H-SL2		
3	45	60	2.25	2.4	6	6.9		
5	125	167	3.75	4	10	11.5		
6	180	240	4.5	4.8	12	13.8		
9	405	540	6.75	7.2	18	20.8	<3	<3
12	720	960	9	9.6	24	27.7		
15	1125	1500	11.25	12	30	34.6		
24	2040	3840	18	19.2	48	55.4		

CAUTION: 1. The use of any coil voltage less than the rated coil voltage will compromise the operation of the relay.
2. Pickup and release voltage are for test purposes only and are not to be used as design criteria.

Characteristics

Contact arrangement		DPDT (2 Form C)
Contact material		Silver alloy (gold clad)
Contact resistance		50mΩ Max. (at 0.1A 6VDC)
Contact rating (resistive)		1A 125VAC / 3A 30VDC
Switching current		3A Max.
Switching power		125VA / 90W Max.
Switching voltage		AC 250V / DC 220V Max.
Coil nominal power		Single side stable / 1 coil latching / 2 coils latching
	Standard	200mw / 100mw / 200mw
	Sensitive	100mw / 75mw / 150mw
Bounce time		1.5ms
Capacitance		Contact to contact : 2.0pF Contact set to contact: 1.5pF Contact to coil : 5.0pF
Insulation resistance		1,000MΩ Min. (500VDC)
Dielectric strength		1,000VAC (50Hz/min) Between contacts 1 coil : 1,500VAC (50Hz/min) Between coil and contact 2 coils: 1,000VAC (50Hz/min) Between coil and contact
Shock resistance		Functional : 490m/s² (50g) Destructive: 980m/s² (100g)
Vibration resistance		1.5mm Double amplitude 10-55Hz
Ambient temperature		-40°C to +85°C
Humidity		98% RH, +40°C
Operation life	Mechanical	10^8
	Electrical	5 x 10^5 (1A 30VDC); 10 (2A 30VDC); 5 x 10 (3A 30VDC)
Weight		4.5g Approx.

(Specifications are subject to change without notices.)

c us: E141516

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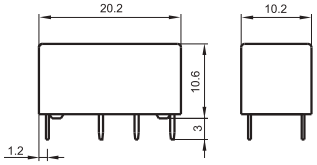
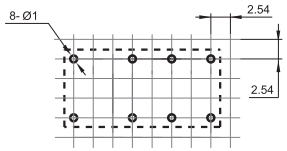
Dimensions mm

Single side stable or
1 coil latching

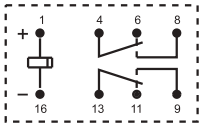


Mounting holes



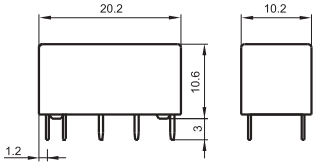
Matching 16pin IC socket

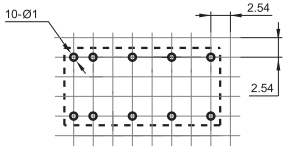
Wiring diagram
(Bottom view)



For latching, diagram shows the “Reset” position
Energize terminals 1 and 16 to “Set”
Reverse energize terminals 1 and 16 to “Reset”

2 coils latching





Matching 16pin IC socket

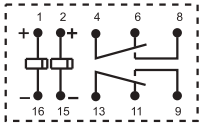
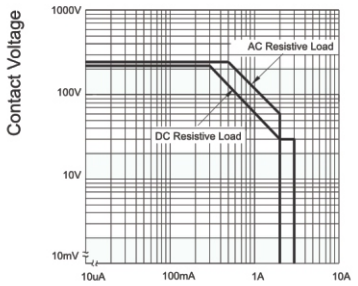


Diagram shows the “Reset” position
Energize terminals 1 and 16 to “Set”
Energize terminals 2 and 15 to “Reset”

Reference data

MAXIMUM SWITCHING POWER



COIL TEMPERATURE RISE