HF18FF MINIATURE INTERMEDIATE POWER RELAY

File No.:E133481

File No.:R50147087

File No.:CQC09002030026 (DC type)
CQC09002030027 (AC type)

Features

- 7A switching capability (2C, 3C type)
- 1.5kV dielectric strength (between coil and contacts)
- Gold plated contact available
- Conform to the CE low voltage directive
- Sockets available
- 2 to 4 pole configurations
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (28.0 x 21.5 x 35.0) mm

CONTACT DATA

Contact arrangement	2C, 3C	4C
Contact resistance	100mΩ (at 1A 6VDC)	
Contact material	See ordering info.	
Contact rating (Res. load)	7A 250VAC/30VDC	5A 250VAC/30VDC
Max. switching voltage	250VAC / 30VDC	
Max. switching current	7A	5A
Max. switching power	210W 1750VA	150W 1250VA
Mechanical endurance	2×10^7 OPS	
Electrical endurance	1×10^5 OPS (See approval reports for more details)	

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VAC)
Dielectric strength	Between coil & contacts	1500VAC 1min
	Between open contacts	1000VAC 1min
	Between contact sets	1500VAC 1min
Operate time (at nomi. volt.)		25ms max.
Release time (at nomi. volt.)		25ms max.
Temperature rise (no-load, at nomi.volt.)		60K max.
Shock resistance	Functional	98m/s^2
	Destructive	980m/s^2
Vibration resistance		10Hz to 55Hz 1mm DA
Humidity		98% RH, 40°C
Ambient temperature		-40°C to 70°C
Termination		PCB, Plug-in
Unit weight		Approx. 37g
Construction		Dust protected

Notes: The data shown above are initial values.

COIL

Coil power	DC type: 0.9 to 1.1W; AC type: 1.2 to 1.8VA

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
5	4.0	0.50	5.5	27.5 x (1±10%)
6	4.8	0.60	6.6	40 x (1±10%)
12	9.6	1.20	13.2	160 x (1±10%)
24	19.2	2.40	26.4	650 x (1±10%)
48	38.4	4.80	52.8	2600 x (1±15%)
110	88.0	11.0	121	11000 x (1±15%)

Nominal Voltage VAC	Pick-up Voltage VAC	Drop-out Voltage VAC	Max. Allowable Voltage VAC	Coil Resistance Ω
6	4.80	1.80	6.6	11.5 x (1±10%)
12	9.60	3.60	13.2	46 x (1±10%)
24	19.2	7.20	26.4	184 x (1±10%)
48	38.4	14.4	52.8	735 x (1±10%)
120	96.0	36.0	132	4550 x (1±15%)
220/240	176.0	72.0	264	14400 x (1±15%)

SAFETY APPROVAL RATINGS

UL/CUL	AgCe	2Z	7A 250VAC/30VDC
		3Z 4Z	5A 250VAC/30VDC
TÜV	AgCe	2Z 3Z	7A 250VAC/30VDC
		4Z	5A 250VAC/30VDC

Notes: Only some typical ratings are listed above. If more details are required, please contact us.

ORDERING INFORMATION

	HF18FF /	A	012	-2Z	1	G	D	(XXX)
Type								
Coil voltage form	**A:** AC **Nil:** DC							
Coil voltage	**DC:** 5 to 110VDC **AC:** 6 to 240VAC							
Contact arrangement	**2Z:** 2 Form C **3Z:** 3 Form C **4Z:** 4 Form C							
Mounting Termination (See the following)	**1:** Socket **2:** PCB **5:** Flange-Mounting							
Contact material	**Nil:** AgCe **G:** AgCe + Au plated **T:** $AgSnO_2$ **TG:** $AgSnO_2$ + Au plated							
LED	**D:** With LED **Nil:** Without LED							
Customer special code								

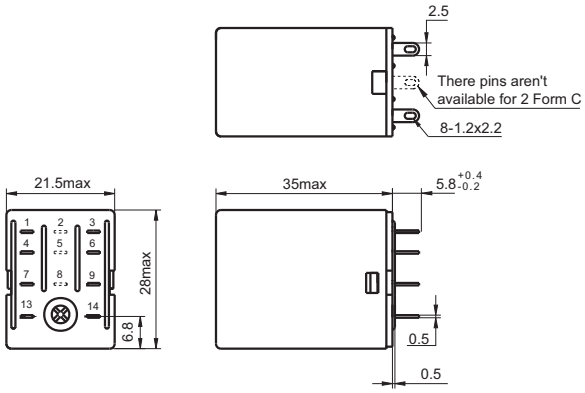
Notes: 1) We also can supply the special type with terminals numbered 1,4,5,8,9,12,13,14 for 2 poles.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

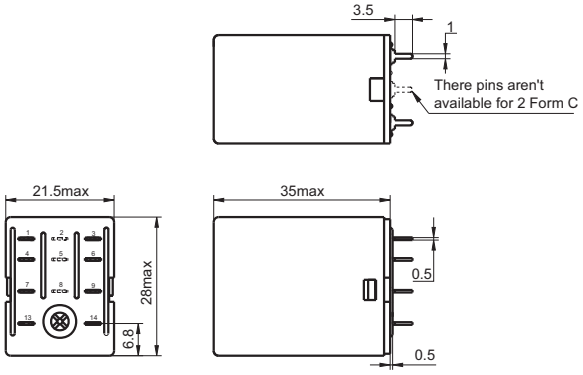
Unit: mm

Outline Dimensions

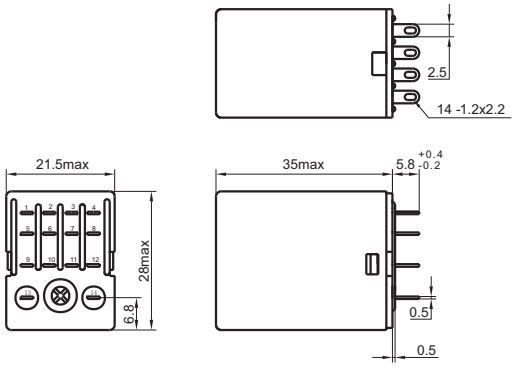
HF18FF/ □□□□ -2Z1□□ / 3Z1□□□



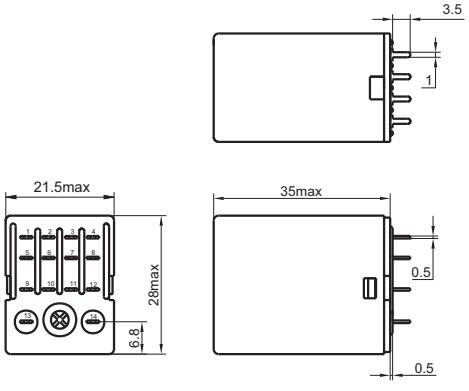
HF18FF/ □□□□ -2Z2□□ / 3Z2□□□



HF18FF/ □□□□ - 4Z1□□□



HF18FF/ □□□□ - 4Z2□□□

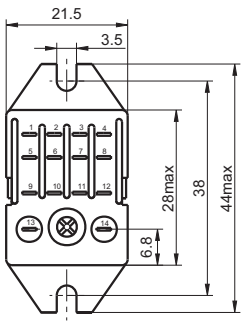


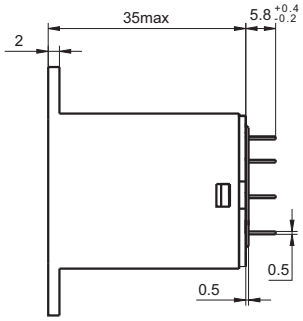
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

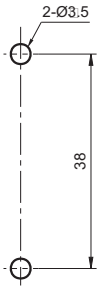
HF18FF/ □□□□ - 4Z5□□□

Outline Dimensions





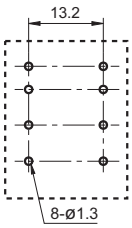
Mounting Holes



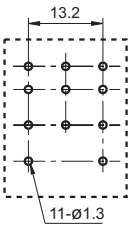
PCB Layout

(Bottom view)

2 From C



3 From C



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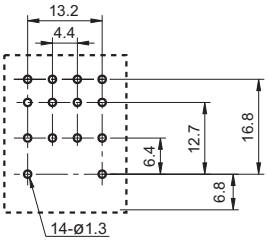
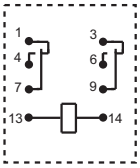


Wiring Diagram

(Bottom view)

2 From C



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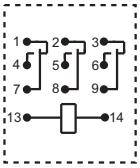

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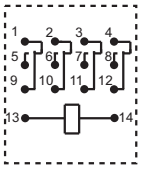
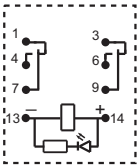
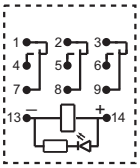


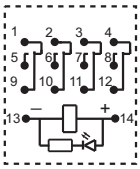
2 From C (With LED)



3 From C (With LED)

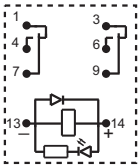


4 From C (With LED)

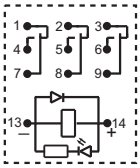


Remark: For AC parts with diode, the positive and negative pole markings on wiring diagram are not applicable.

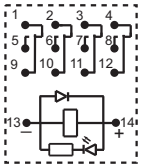
2 From C
(DC, With fly-wheel diode)



3 From C
(DC, With fly-wheel diode)



4 From C
(DC, With fly-wheel diode)

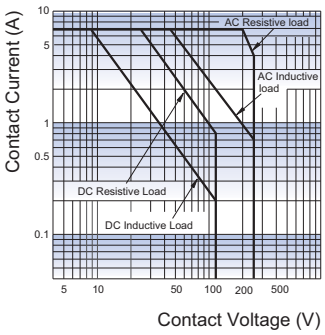


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

2) The tolerance without indicating for PCB layout is always ±0.1mm.

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER
(2, 3 Form C)



MAXIMUM SWITCHING POWER
(4 Form C)