

HFE11

MINIATURE HIGH POWER LATCHING RELAY



File No.: E133481



Features

- Latching relay
- 90A switching capability
- Accord with IEC62055: UC2
(Contact:2500A; Bearable load: 4500A load-current)
- Switching power up to 22.5kVA
- 4kV dielectric strength (between coil and contacts)
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (38.0 x 30.0 x 16.9) mm

CONTACT DATA

Contact arrangement	1A
Contact resistance	50mΩ (at 1A 24VDC)
Contact material	AgSnO ₂
Contact rating (Res. load)	80A 250VAC
Max. switching voltage	250VAC
Max. switching current	90A
Max. switching power	22500VA
Mechanical endurance	1 x 10 ⁶ OPS
Electrical endurance	1 x 10 ⁴ OPS (at 80A 250VAC) 6000OPS (at 90A 250VAC)

CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1500VAC 1min
Creepage distance	8mm	
Operate time (at nomi. volt.)	20ms max.	
Release time (at nomi. volt.)	20ms max.	
Shock resistance	Functional	294m/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Humidity	98% RH, 40°C	
Ambient temperature	-40°C to 70°C	
Termination	PCB & QC	
Unit weight	Approx. 45g	
Construction	Dust protected	

Notes: The data shown above are initial values.

COIL

Coil power	Single Coil Sensitive: 1.0W, standard: 1.5W
	Double Coil Sensitive: 2.0W, standard: 3.0W

COIL DATA

1 coil latching, Sensitive (1.0W)

Nominal Voltage VDC	Pick-up Voltage VDC	Pulse Duration ms	Coil Resistance Ω
5	3.75	≥100	24 x (1±10%)
6	4.5	≥100	35 x (1±10%)
9	6.75	≥100	80 x (1±10%)
12	9	≥100	145 x (1±10%)
24	18	≥100	575 x (1±10%)
48	36	≥100	2270 x (1±10%)

1 coil latching, standard (1.5W)

Nominal Voltage VDC	Pick-up Voltage VDC	Pulse Duration ms	Coil Resistance Ω
5	3.5	≥100	16.7 x (1±10%)
6	4.2	≥100	24 x (1±10%)
9	6.3	≥100	54 x (1±10%)
12	8.4	≥100	96 x (1±10%)
24	16.8	≥100	384 x (1±10%)
48	33.6	≥100	1536 x (1±10%)

SAFETY APPROVAL RATINGS

UL&CUL	80A 250VAC at 70°C
	90A 250VAC at 25°C

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



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2009 Rev. 1.00

COIL DATA

2 coil latching, Sensitive (2.0W)

Nominal Voltage VDC	Pick-up Voltage VDC	Pulse Duration ms	Coil Resistance Ω
5	3.75	≥ 100	$(12+12) \times (1\pm 10\%)$
6	4.5	≥ 100	$(17.5+17.5) \times (1\pm 10\%)$
9	6.75	≥ 100	$(40+40) \times (1\pm 10\%)$
12	9	≥ 100	$(72+72) \times (1\pm 10\%)$
24	18	≥ 100	$(285+285) \times (1\pm 10\%)$
48	36	≥ 100	$(1135+1135) \times (1\pm 10\%)$

2 coil latching, standard (3.0W)

Nominal Voltage VDC	Pick-up Voltage VDC	Pulse Duration ms	Coil Resistance Ω
5	3.5	≥ 100	$(8.3+8.3) \times (1\pm 10\%)$
6	4.2	≥ 100	$(12+12) \times (1\pm 10\%)$
9	6.3	≥ 100	$(27+27) \times (1\pm 10\%)$
12	8.4	≥ 100	$(48+48) \times (1\pm 10\%)$
24	16.8	≥ 100	$(192+192) \times (1\pm 10\%)$
48	36.6	≥ 100	$(768+768) \times (1\pm 10\%)$

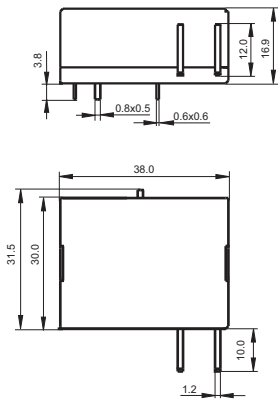
Notes: When requiring other nominal voltage, special order allowed.

ORDERING INFORMATION

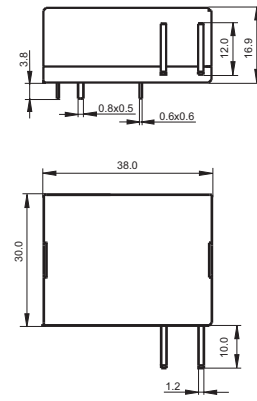
Type	HFE11			-1/	12	-H	L	T	-R	(XXX)
Version	<p>1: With manual switch Single Coil type1 PCB terminals 2: With manual switch Single Coil type2 PCB terminals 3: With manual switch double Coil type3 PCB terminals 4: NO manual switch Single Coil type1 PCB terminals 5: NO manual switch Single Coil type2 PCB terminals 6: NO manual switch double Coil type3 PCB terminals</p>									
Coil voltage	5, 6, 9, 12, 24, 48VDC									
Contact form	H: 1 Form A									
Coil power	L: Sensitive Nil: Standard									
Contact material	T: AgSnO ₂									
Polarity	R: Negative polarity Nil: Positive polarity									
Customer special code										

Outline Dimensions

With manual switch type

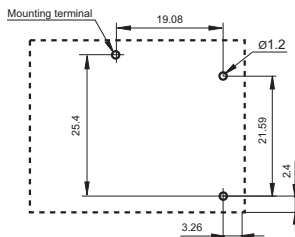


NO manual switch type

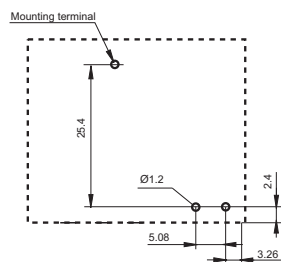


PCB Layout (Bottom view)

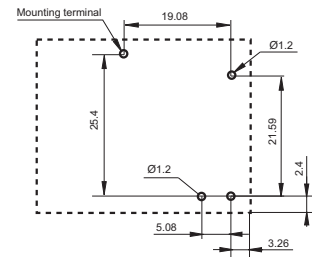
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HFE11-2/5



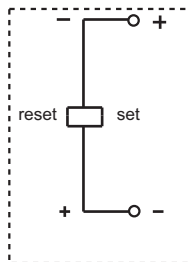
HFE11-3/6



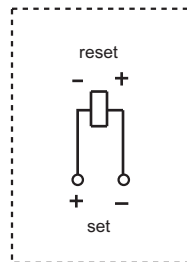
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.2 mm; outline dimension > 1 mm and ≤ 5 mm, tolerance should be ± 0.3 mm; outline dimension > 5 mm, tolerance should be ± 0.4 mm.
 2) The tolerance without indicating for PCB layout is always ± 0.1 mm.

Coil Wiring Diagram

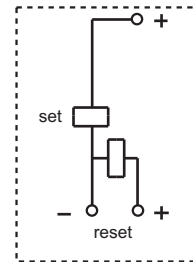
HFE11-1/4



HFE11-2/5



HFE11-3/6



Remark: The coil polarity of Reverse polarity and Standard polarity is opposite.

Disclaimer

This datasheet is for the customers' reference. All the specifications are subject to change without notice. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.