HFE46

MINIATURE HIGH POWER LATCHING RELAY

C **U** L **US**

File No.:E133481

CQC

File No.:CQC16002138347

Features

- Laching relay
- 16A switching capability
- Max. inrush current 320A/2ms
- Dielectric strength: more than 12kV (between coil and contacts)
- Insulation distance up to 15mm
- Manual switch function available

CONTACT DATA

Contact arrangement	1A, 1B
Contact resistance [1]	20mΩ max.(at 1A 24VDC)
Contact material	AgSnO2
Contact rating	Resistive: 16A/250VAC(cos=1) ,1 x10^5 ops Inductive: 6A/277VAC(cos=0.4) ,2 x10^4 ops Motor:1.5HP 250VAC, 6 x 10^3 ops Standard ballast: 6A/277VAC 6 x 10^3 ops Electronic ballast: 5A/277VAC 6 x 10^3 ops TV8 240VAC 2.5 x 10^4ops
Max. switching voltage	277VAC
Max. switching current	16A
Max. switching power	4000VA
Mechanical endurance	1 x 10^6OPS
Electrical endurance	See rated load

Notes: 1) The data shown above are initial values.

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	5000VAC (1 min)
	Between open contacts	1000VAC (50/60Hz 1 min)
Creepage distance		15mm
Operate time (at nomi. volt.)		10ms max.
Release time (at nomi. volt.)		10ms max.
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.5mm DA
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination	coil termination	PCB
	load termination	PCB
Unit weight		Approx.11g
Construction		Plastic sealed, Flux proofed

Notes: The data shown above are initial values.

COIL

Coil power	Single coil latching: Approx. 400mW Double coil latching: Approx. 800mW

COIL DATA

at 23°C

Nominal Voltage VDC	Set / Reset Voltage VDC [1] max.	Pulse Duration ms min.	Coil Resistance x (1±10%)Ω	
3	2.4	50	Single coil latching	22.5
5	4.0	50		62.5
6	4.8	50		90
9	7.2	50		202.5
12	9.6	50		360
24	19.2	50		1440
3	2.4	50	Double coils latching	11.25+11.25
5	4.0	50		31.25+31.25
6	4.8	50		45+45
9	7.2	50		101.25+101.25
12	9.6	50		180+180
24	19.2	50		720+720

Notes:1) The data shown above are initial values.
2) The above set voltage, reset voltage are the test value for relay without load. Please use 1~1.5 times of rated voltage to drive the relay for your application.

SAFETY APPROVAL RATINGS

UL/CUL	1A,1B	250VAC 16A 85°C
		250VAC 1.5HP 40°C
		240VAC TV8 40°C

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.

ORDERING INFORMATION

| HFE46 | -1 | /12 | -1H | S | T | -L1 | -R | (XXX) |

|	
Type	
Manual switch	**1:** With manual switch **Nil:** None
Coil voltage	3,5,6,9,12,24 VDC
Contact form	**1H: 1** Form A **1D: 1** Form B
Polarity	**Nil:** Flux proofed **S:** Plastic sealed(Only for without manual switch type)
Contact material	**T:** AgSnO$_2$
Sort	**L1:** Single coil latching **L2:** Double coils latching
Polarity	**R:** Negative polarity **Nil:** Positive polarity
Special code	**XXX:** Customer special requirement **Nil:** Standard

Notes: 1) 1H means that relay is on the "reset" status when delivery; 1D means that relay is on the "set" status when delivery.
 2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.

OUTLINE DIMENSIONS, WIRING DIAGRAM

Unit: mm
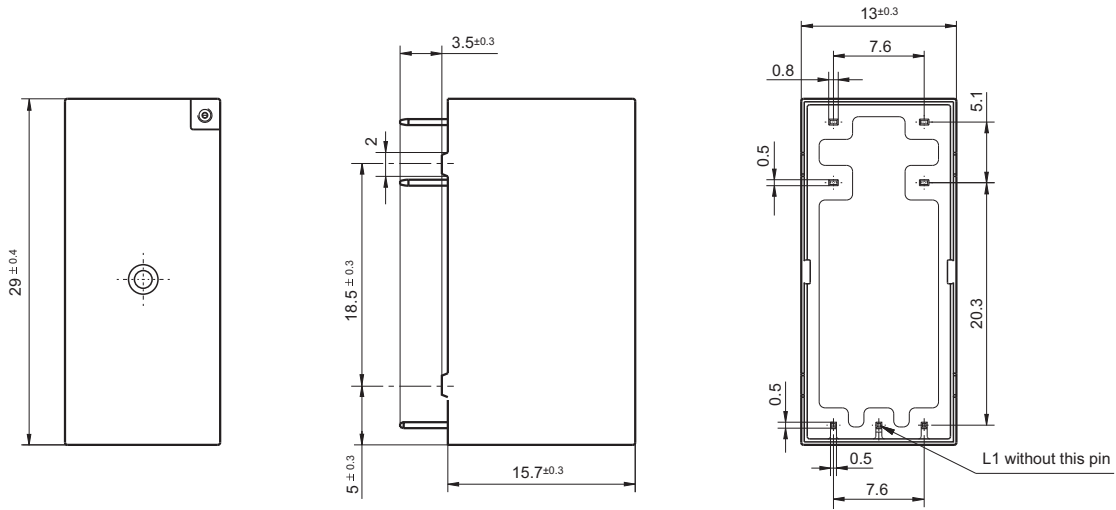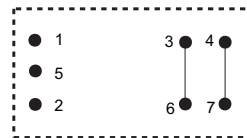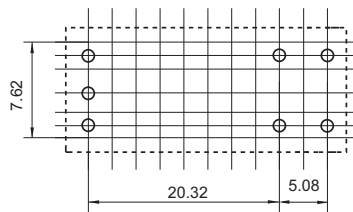
Outline Dimensions

HFE46-1
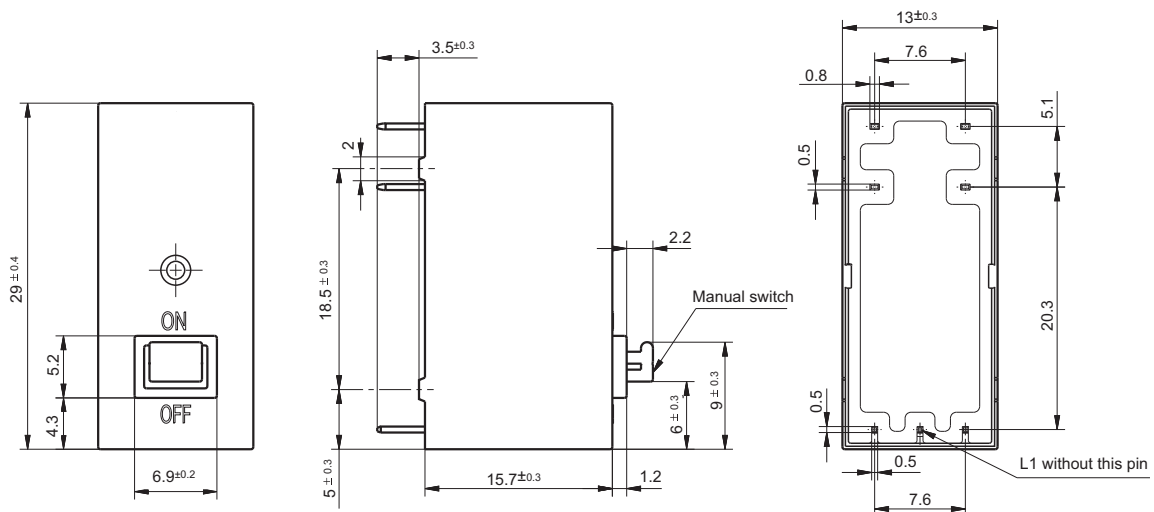
Remark: In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension ＞1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension ＞5mm, tolerance should be ±0.4mm.

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PCB Layout
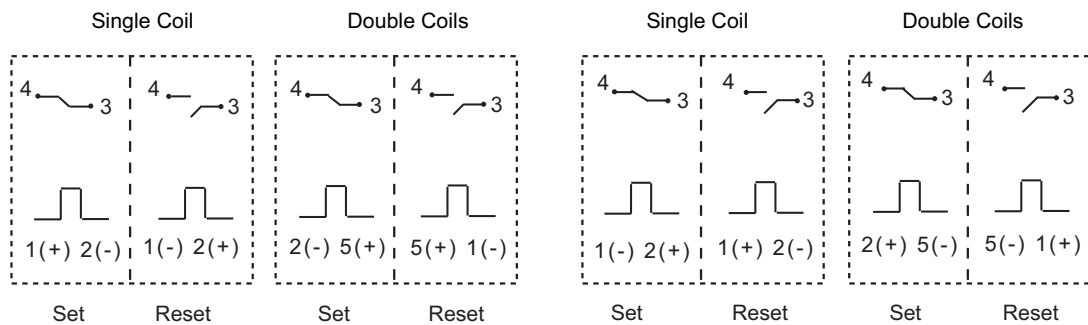

Wiring Diagram

Positive Polarity

Single Coil		Double Coils	
4 ⌐ 3	4 ⌐ 3	4 ⌐ 3	4 ⌐ 3
1(+) 2(-)	1(-) 2(+)	2(-) 5(+)	5(+) 1(-)
Set	Reset	Set	Reset

Negtive Polarity

Single Coil		Double Coils	
4 ⌐ 3	4 ⌐ 3	4 ⌐ 3	4 ⌐ 3
1(-) 2(+)	1(+) 2(-)	2(+) 5(-)	5(-) 1(+)
Set	Reset	Set	Reset

NOTICE

1. Relay is on the "reset" or "set" status when being released from stock, with the consideration of shock risen from transit and relay mounting, relay would be changed to "set" or "reset" status, therefore, when application (connecting the power supply), please reset the relay to "set" or "reset" status on request.
2. In order to maintain "set" or "reset" status, energized voltage to coil should reach the rated voltage, impulse width should be 5 times more than "set" or "reset" time. Do not energize voltage to "set" coil and "reset" coil simultaneously. And also long energized time (more than 1 min) should be avoided.

Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications 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.