HF115F-L MINIATURE HIGH POWER LATCHING RELAY

c UL us
File No.:E134517

DVE
File No.:116934

Features

- Latching relay
- Low height: 15.7 mm
- 20A switching capability
- 5kV dielectric strength (between coil and contacts)
- Creepage distance: 11mm-NO/10mm-CO version
- Meeting VDE 0700, 0631 reinforce insulation
- Product in accordance to IEC 60335-1 available
- UL insulation system: Class F
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 12.7 x 15.7) mm

CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	100mΩ max.(at 1A 6VDC)
Contact material	$AgSnO_2$
Contact rating (Res. load)	16A 250VAC
Typ. applicable load	Incandescent lamp:1500W 277VAC Standard ballast:8A 277VAC Electronic ballast: 5A 120VAC
Max. switching voltage	440VAC / 300VDC
Max. switching current	20A
Max. switching power	4000VA
Mechanical endurance	5 x 10^6OPS
Electrical endurance	5 x 10^4OPS (See approval reports for more details)

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1000VAC 1min
Surge voltage (between coil & contacts)		10kV (1.2 / 50μs)
Set time (at nomi. volt.)		10ms max.
Reset time (at nomi. volt.)		10ms max.
Shock resistance *	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance *		10Hz to 150Hz 10g/5g
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx. 13.5g
Construction		Plastic sealed, Flux proofed

Notes: 1) The data shown above are initial values.
2) * Index is not in relay length direction.

COIL

Coil power	1 coil latching: Approx. 400mW 2 coils latching: Approx. 600mW

COIL DATA at 23°C

1 coil latching

Nominal Voltage VDC	Set Voltage VDC max.	Pulse width (ms) min.	Reset Voltage VDC max.	Max. Allowable Voltage VDC	Coil Resistance x (1±10%)Ω
5	3.5	50	3.5	6	62
6	4.2	50	4.2	7.2	90
9	6.3	50	6.3	10.8	202.5
12	8.4	50	8.4	14.4	360
24	16.8	50	16.8	28.8	1440

2 coils latching

Nominal Voltage VDC	Set Voltage VDC max.	Pulse width (ms) min.	Reset Voltage VDC max.	Max. Allowable Voltage VDC	Coil Resistance x (1±10%)Ω
5	3.5	50	3.5	6	42
6	4.2	50	4.2	7.2	55
9	6.3	50	6.3	10.8	135
12	8.4	50	8.4	14.4	240
24	16.8	50	16.8	28.8	886

SAFETY APPROVAL RATINGS

UL/CUL	16A/20A 250VAC at 85°C 1HP 240VAC at 40°C TV-5 120VAC at 40°C(1 Form A) Tungsten 360W 125VAC at 40°C(1 Form A)
VDE	16A 250VAC at 85°C AC-15 250VAC at 85°C

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

ORDERING INFORMATION

HF115F-L /	12	-Z	S	3	L1	T	G	F	(XXX)

Type

Coil voltage 5, 6, 9, 12, 24VDC

Contact arrangement **H:** 1 Form A **Z:** 1 Form C

Construction[1] **S:** Plastic sealed **Nil:** Flux proofed

Version **3:** 5.0mm 1 pole 16A

Sort **L1:** 1 coil latching **L2:** 2 coils latching

Contact material **T:** $AgSnO_2$

Contact plating **G:** Gold plated **Nil:** No gold plated

Insulation standard **F:** Class F

Customer special code e.g. (335) stands for product in accordance to IEC 60335-1 (GWT)

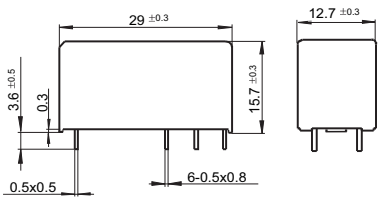
Notes: 1) Under the ambience with dangerous gas like H_2S, SO_2 or NO_2, plastic sealed type is recommended; Please test the relay in real applications.
If the ambience allows, flux proofed type is preferentially recommended.
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

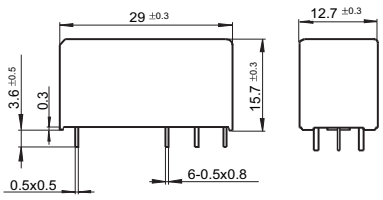
Unit: mm

Outline Dimensions

1 coil latching



2 coils latching



Wiring Diagram
(Bottom view)

1 coil latching(Reset Status)

1 Form A

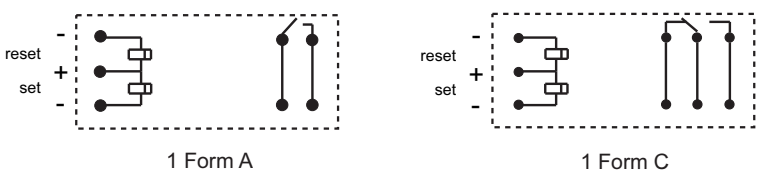
1 Form C

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

2 coils latching(Reset Status)

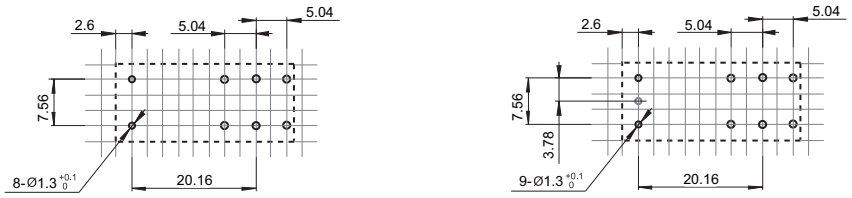
Wiring Diagram
(Bottom view)



1 Form A 1 Form C

1 coil latching 2 coils latching

PCB Layout
(Bottom view)



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.
3) The width of the gridding is 2.52mm.

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.
3. Keep the product away from strong magnetic field during transportation, storage and application, to avoid change of set/reset voltage.

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.