HF115F-L 1 pole MINIATURE HIGH POWER LATCHING RELAY

c UL us
File No.:E134517

VDE
File No.:116934

CQC
File No.: CQC17002176310



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	2 x 10^6OPS
Electrical endurance	5 x 10^4OPS (NO: 16A 250VAC, Resistive load, at 85˚C, 1s on 9s off)

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) Typical	Pulse Width (ms) Min.	Reset Voltage VDC max.	Max. Voltage VDC	Coil Resistance Ω
5	3.5	⩾50	30	3.5	6	62x (1±10%)
6	4.2	⩾50	30	4.2	7.2	90x (1±10%)
9	6.3	⩾50	30	6.3	10.8	202x (1±10%)
12	8.4	⩾50	30	8.4	14.4	360x (1±10%)
24	16.8	⩾50	30	16.8	28.8	1440x (1±10%)

2 coils latching

Nominal Voltage VDC	Set Voltage VDC max.	Pulse Width (ms) Typical	Pulse Width (ms) Min.	Reset Voltage VDC max.	Max. Voltage VDC	Coil Resistance Ω
5	3.5	⩾50	30	3.5	7.5	42x (1±10%)
6	4.2	⩾50	30	4.2	9	55x (1±10%)
9	6.3	⩾50	30	6.3	13.5	135x (1±10%)
12	8.4	⩾50	30	8.4	18	240x (1±10%)
24	16.8	⩾50	30	16.8	36	886x (1±10%)

SAFETY APPROVAL RATINGS

UL/CUL	16A/20A 250VAC at 85˚C 1HP 240VAC TV-12 120VAC(1 Form A) Tungsten 360W 125VAC(1 Form A) Tungsten 1920W 8A 240VAC at 40˚C Tungsten 12A 120VAC Standard ballast 16A 120VAC Standard ballast 8A 277VAC Standard ballast 5A 347VAC/480VAC Electronic ballast 5A 120VAC TV-8 240VAC
VDE	16A 250VAC at 85˚C AC-15 240VAC at 85˚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

	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) 2)]	**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 [3)]	**G:** Gold plated **Nil:** No gold plated									
Insulation standard	**F:** Class F									
Special code[4)]	**XXX:** Customer special requirement **Nil:** Standard									

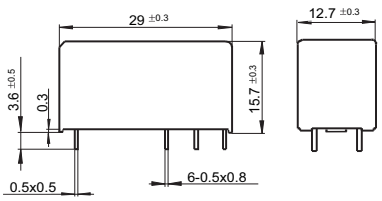
Notes: 1) We recommend flux proofed types for a clean environment (free from contaminations like H_2S, SO_2, NO_2, dust, etc.).
We suggest to choose plastic sealed types and validate it in real application for an unclean environment (with contaminations like H_2S, SO_2, NO_2, dust, etc).
2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.
3) For gold plated type, the min. switching current and min. switching voltage is 10mA 5VDC.
4) The customer special requirement express as special code after evaluating by Hongfa. e.g.(335) stands for product in accordance to IEC 60335-1 (GWT).

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

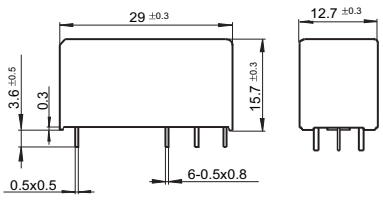
Unit: mm

Outline Dimensions

1 coil latching



2 coils latching

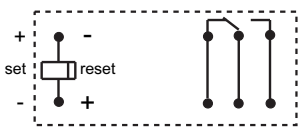


Wiring Diagram
(Bottom view)

1 coil latching(Reset Status)



1 Form A



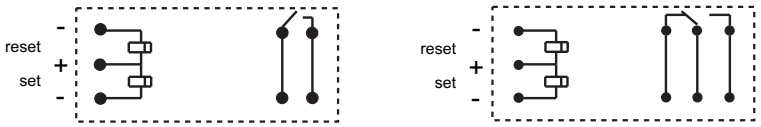
1 Form C

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

2 coils latching(Reset Status)

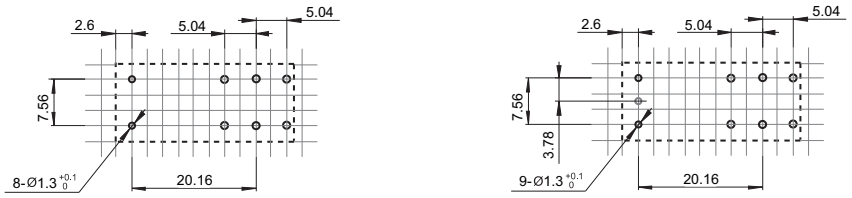
Wiring Diagram
(Bottom view)



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” status when being released from stock, with the consideration of shock risen from transit and relay mounting, relay would be changed to “set” 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. 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

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.

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