HF116F-3 MINIATURE HIGH POWER RELAY

c UL us
File No.:E134517

File No.:R50154722

CQC
File No.:CQC09002031231(DC type)

Features

- 30A switching capability
- 4kV dielectric strength (between coil and contacts)
- Class F insulation available
- 3mm contact gap available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (50.5 x 34.5 x 51.0) mm

CONTACT DATA

Contact arrangement	1A	2A
Contact resistance	100mΩ (at 1A 24VDC)	
Contact material	$AgSnO_2$, AgCdO	
Contact rating (Res. load)	30A 240VAC 30A 277VAC	25A 240VAC 25A 277VAC
Max. switching voltage	277VAC	
Max. switching current	30A	25A
Max. switching power	8310VA	6925VA
Mechanical endurance	1×10^7 OPS	
Electrical endurance	1×10^5 OPS (See approval reports for more details)	

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	2000VAC 1min
Operate time (at nomi. volt.)		30ms max.(DC type)
Release time (at nomi. volt.)		30ms max.(DC type)
Shock resistance	Functional	$98m/s^2$
	Destructive	$980m/s^2$
Vibration resistance		10Hz to 55Hz 1.5mm DA
Ambient temperature		-55°C to 70°C
Humidity		98% RH, 40°C
Termination		PCB, QC, Screw
Unit weight		Approx.120g
Construction		Dust protected

Notes: 1) The data shown above are initial values.
2) Please find coil temperature curve in the characteristic curves below.

COIL

Coil power	DC type: 1.9W; AC type: 2.7VA

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
3	2.25	0.3	3.3	4.7 x (1±10%)
6	4.50	0.6	6.6	18.8 x (1±10%)
12	9.00	1.2	13.2	75 x (1±10%)
24	18.0	2.4	26.4	300 x (1±10%)
48	36.0	4.8	52.8	1200 x (1±10%)
100	75.0	10.0	110	5200 x (1±10%)
110	82.5	11.0	121	6300 x (1±10%)
200	150	20.0	220	21000 x (1±10%)

Nominal Voltage VAC	Pick-up Voltage VAC	Drop-out Voltage VAC	Max. Allowable Voltage VAC	Coil Resistance Ω
6	4.80	0.90	6.6	18.8 x (1±10%)
12	9.60	1.80	13.2	75 x (1±10%)
24	19.2	3.60	26.4	300 x (1±10%)
48	38.4	7.20	52.8	1200 x (1±10%)
120	96.0	18.0	132	5200 x (1±10%)
220/240	176	33.0	242	20800 x (1±10%)

SAFETY APPROVAL RATINGS

UL/CUL	$AgSnO_2$	30A 277VAC 1.5HP 120VAC, 3HP 240VAC 10A 120VAC Tungsten
	AgCdO	30A 277VAC 1.5HP 120VAC, 3HP 240VAC 10A 120VAC Tungsten TV-10 120VAC
TÜV		27A 240VAC COSØ =0.8 25A 240VAC COSØ =0.4 25A 240VAC COSØ =1

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

ORDERING INFORMATION

HF116F-3 / 018 D F -1H T F W C (XXX)

Type		
Coil voltage	**DC:** 3VDC to 200VDC **AC:** 6VAC to 240VAC	
Coil voltage form	**D:** DC	**A:** AC
Mouting	**A:** Mount	**F:** Flanged
Contact arrangement	**1H:** 1 Form A	**2H:** 2 Form A
Contact material [1]	**T:** $AgSnO_2$	**Nil:** AgCdO
Insulation standard	**F:** Class F	**Nil:** Class B
Contact Gap	**W:** 3.0mm	**Nil:** Standard
Capacitor	**C:** With Capacitor(Only for AC)	**Nil:** Without Capacitor
Customer special code		

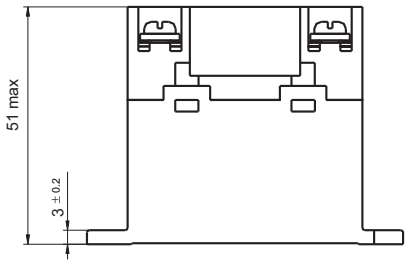
Notes: 1) For the applications of motor load, capacitive load and high inrush current, $AgSnO_2$ contact material is recommended. For the applications of resistive load or low inductive load, AgCdO contact material is recommened.

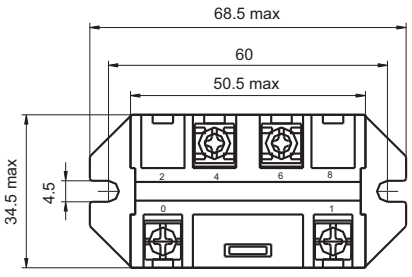
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

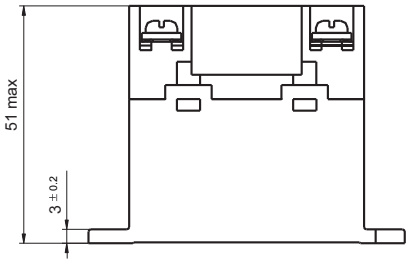
HF116F-3/□□□□ -F-1H

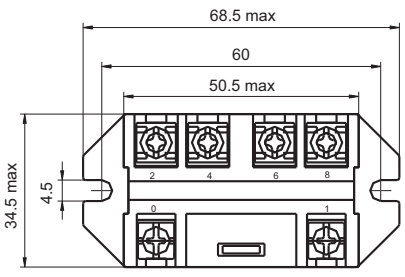




(Bottom view)

HF116F-3/□□□□ -F-2H





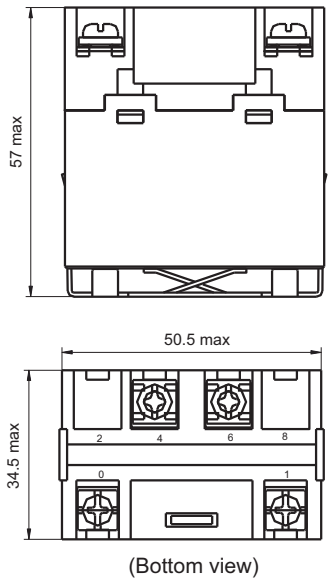
(Bottom view)

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

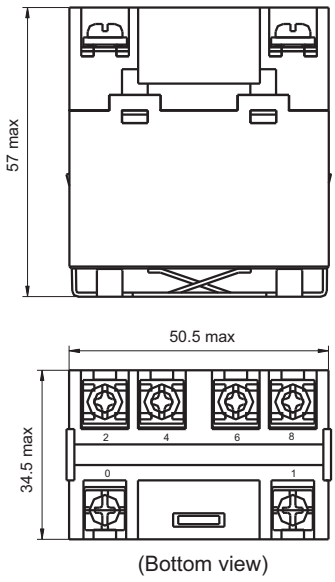
Outline Dimensions

HF116F-3/□□□□ -A-1H



(Bottom view)

HF116F-3/□□□□ -A-2H



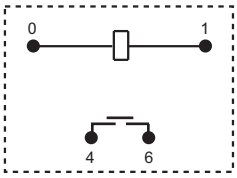
(Bottom view)

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.

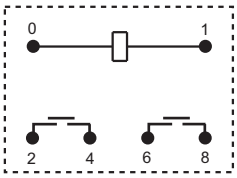
Wiring Diagram

(Bottom view)

1A

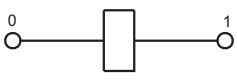


2A

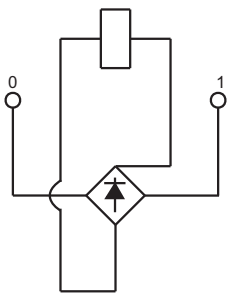


Coil Inner Circuit

DC operation coil

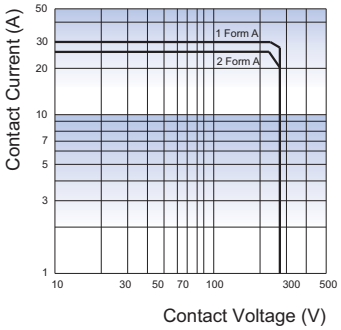


AC operation coil

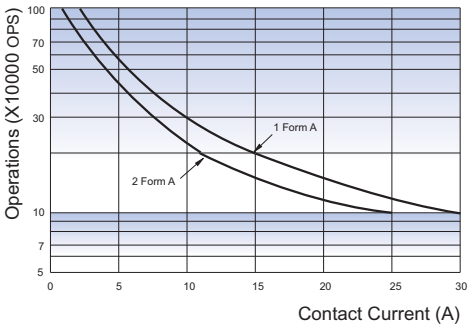


CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE