HF14FW MINIATURE HIGH POWER RELAY

c UL us
File No.:E134517

File No.:R9659294

CQC
File No.:CQC02001001955

Features

- 20A switching capability
- 4kV dielectric strength (between coil and contacts)
- Sockets available
- Wash tight and flux proofed types available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 13.0 x 26.5) mm

CONTACT DATA

Contact arrangement	1A, 1B, 1C
Contact resistance	50mΩ (at 1A 24VDC)
Contact material	$AgSnO_2$, AgCdO
Contact rating	Resistive: 16A 277VAC/24VDC 1HP 240VAC TV-8 125VAC (NO only)
Max. switching voltage	277VAC / 30VDC
Max. switching current	20A
Max. switching power	5540VAC / 480W
Mechanical endurance	1 x 10^7 OPS
Electrical endurance	1 x 10^5OPS 1)

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	1000VAC 1min
Operate time (at nomi. volt.)		15ms max.
Release time (at nomi. volt.)		5ms max.
Ambient temperature		-40˚C to 85˚C
Humidity		98% RH, 40˚C
Shock resistance	Functional	98m/s^2
	Destructive	980m/s^2
Vibration resistance		10Hz to 55Hz 1.5mm DA
Termination		PCB
Unit weight		Approx. 18.5g
Construction		Wash tight, Flux proofed

Notes: 1) If more details about testing method are required, please contact us.
2) The data shown above are initial values.
3) Please find coil temperature curve in the characteristic curves below.

COIL

Coil power	Standard: Approx.720mW Sensitive: Approx.530mW

COIL DATA at 23˚C

Standard Type (720mW)

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
5	3.6	0.5	5.5	36 x (1±10%)
6	4.3	0.6	6.6	50 x (1±10%)
9	6.5	0.9	9.9	115 x (1±10%)
12	8.6	1.2	13.2	200 x (1±10%)
18	13.0	1.8	19.8	460 x (1±10%)
24	17.3	2.4	26.4	820 x (1±10%)
48	34.6	4.8	52.8	3300 x (1±10%)
60	43.2	6.0	66.0	5100 x (1±10%)

COIL DATA

at 23˚C

Sensitive Type (530mW)

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
5	3.60	0.5	7.0	47 x (1±10%)
6	4.30	0.6	8.4	68 x (1±10%)
9	6.50	0.9	12.6	160 x (1±10%)
12	8.60	1.2	16.8	275 x (1±10%)
18	13.0	1.8	25.2	620 x (1±10%)
24	17.3	2.4	33.6	1100 x (1±10%)
48	34.6	4.8	67.2	4170 x (1±10%)
60	43.2	6.0	84.0	7000 x (1±10%)

Notes: 1) When requiring pick-up voltage < 72% of nominal voltage, special order allowed.
2) Suggesting to use the sensitive type.

SAFETY APPROVAL RATINGS

UL&CUL	20A 24VDC 16A 277VAC 12A 277VAC 1HP 240VAC 20A 277VAC (NO only) TV-8 125VAC (NO only)
TÜV	16A 250VAC 16A 30VDC

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

ORDERING INFORMATION

HF14FW / 012 -H S P T F (XXX)

Type		
Coil voltage	5, 6, 9, 12, 18, 24, 48, 60VDC	
Contact arrangement	**H:** 1Form A **D:** 1 Form B **Z:** 1 Form C	
Construction 1)	**S:** Wash tight	**Nil:** Flux proofed
Coil power	**P:** Standard	**Nil:** Sensitive
Contact material	**T:** $AgSnO_2$	**Nil:** AgCdO
Insulation standard	**F:** Class F	**Nil:** Class B
Customer special code		

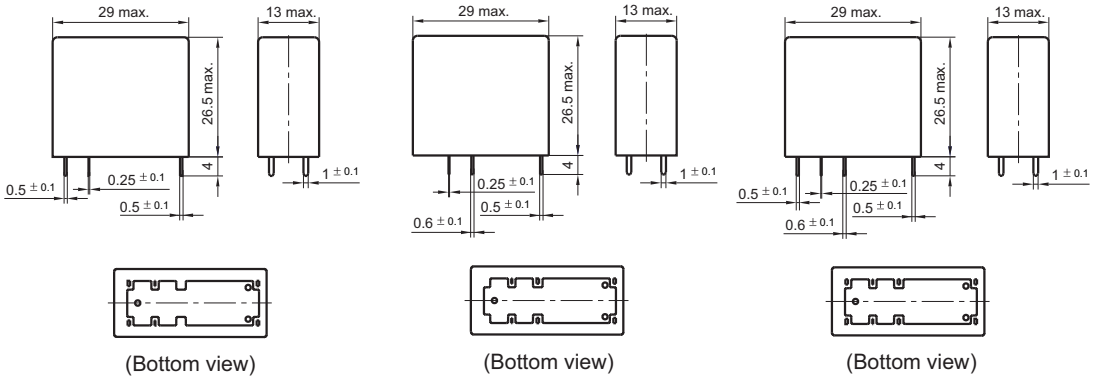
Notes: 1) Under the ambience with dangerous gas like H_2S, SO_2 or NO_2, wash tight type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.
2) Standard type is with black cover. Smoke dust cover is available.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

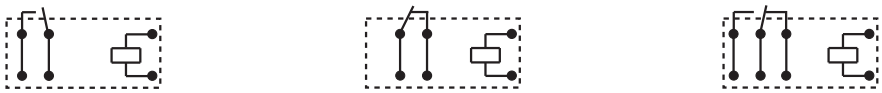
1 Form A | 1 Form B | 1 Form C

Outline Dimensions

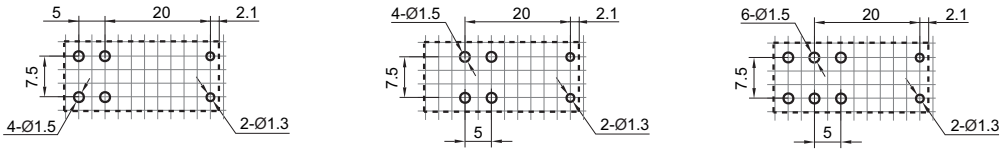


(Bottom view) (Bottom view) (Bottom view)

Wiring Diagram
(Bottom view)



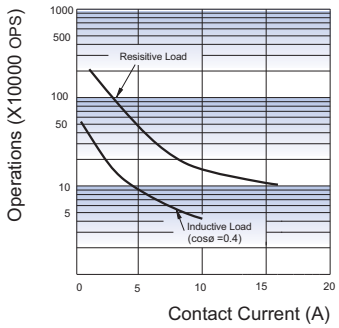
PCB Layout
(Bottom view)



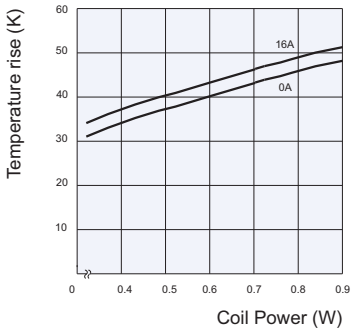
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.
3) The width of the gridding is 2.5mm.

CHARACTERISTIC CURVES

ENDURANCE CURVE



COIL TEMPERATURE RISE



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.

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