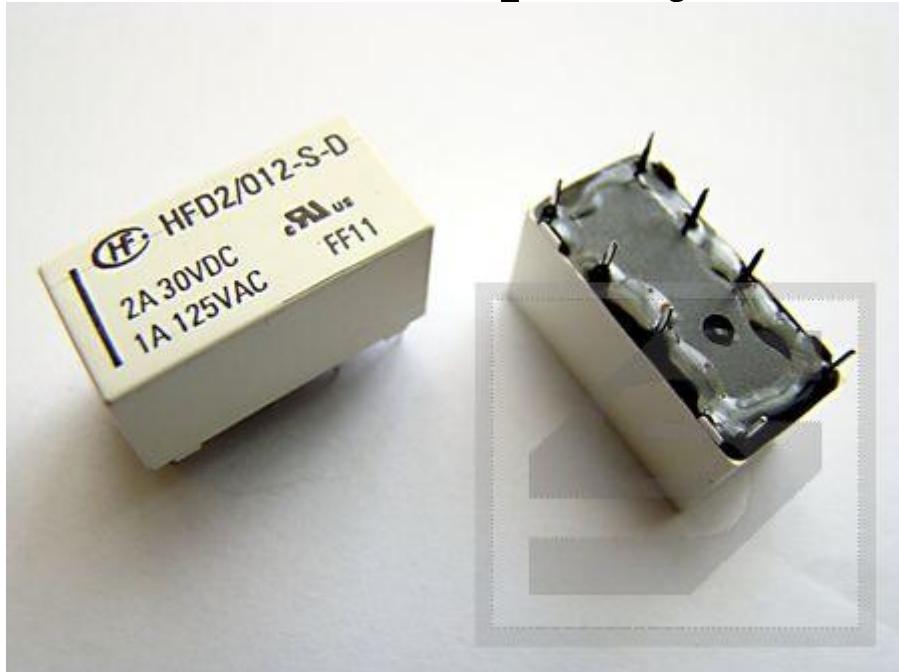




ROBERT STĘPIEŃ  
HURTOWNIA CZĘŚCI ELEKTRONICZNYCH  
podzespoly-elektroniczne.pl

# Przekaźnik HFD2-012-S-D HONGFA TELEKOM.;2st.przełączne;2A;12VDC



## Dane techniczne:

Nazwa: HFD2-012-S-D

Konfiguracja styków: 2 styki przełączne

Napięcie sterujące: 12V

Znamionowy prąd styków: 2A

Producent: HONGFA

[www.podzespoly-elektroniczne.pl](http://www.podzespoly-elektroniczne.pl)

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File No.:E133481

### Features

- High sensitive: 150mW
- Matching standard 16 pin IC socket
- High switching capacity: 125VA / 90W
- Bifurcated contacts
- Epoxy sealed for automatic wave soldering and cleaning
- Single side stable and latching type available
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (20.2 x 10.0 x 10.6) mm

### CONTACT DATA

Contact arrangement	2C
Contact resistance	50mΩ (at 0.1A 6VDC)
Contact material	see ordering info.
Contact rating (Res. load)	1A 125VAC, 2A 30VDC 3A 30VDC
Max. switching voltage	250VAC / 220VDC
Max. switching current	3A
Min. applicable load	125VA / 90W
Max. switching power	10mV 10μA
Mechanical endurance	1 x 10 <sup>8</sup> OPS
Electrical endurance	5 x 10 <sup>5</sup> OPS (at 1A 30VDC) 1 x 10 <sup>5</sup> OPS (at 2A 30VDC) 5 x 10 <sup>4</sup> OPS (at 3A 30VDC)

### COIL

		Sensitive	Standard
Coil power	Single side stable	150mW	200mW
	1 coil latching	75mW	100mW
	2 coils latching	150mW	200mW
Temperature rise	65K max.		

### COIL DATA

at 23°C

#### Single side stable Standard (200mW)

Order Number	Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Coil Resistance x(1±10%) Ω	Max. Allowable Voltage VDC
003-M	3	2.30	0.3	45	6
005-M	5	3.75	0.5	125	10
006-M	6	4.50	0.6	180	12
009-M	9	6.75	0.9	405	18
012-M	12	9.00	1.2	720	24
015-M	15	11.25	1.5	1125	30
024-M	24	18.0	2.4	2880	48
048-M	48	36.0	4.8	11520	96

#### Single side stable Sensitive (150mW)

Order Number	Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Coil Resistance x(1±10%) Ω	Max. Allowable Voltage VDC
003-S	3	2.4	0.3	60	7.0
005-S	5	4.0	0.5	167	11.5
006-S	6	4.8	0.6	240	13.8
009-S	9	7.2	0.9	540	20.8
012-S	12	9.6	1.2	960	27.7
015-S	15	12.0	1.5	1500	34.6
024-S	24	19.2	2.4	3840	55.4

Notes: The data shown above are initial values.



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2008 Rev. 1.00

## COIL DATA

at 23°C

### 1 coil latching Standard (100mW)

Order Number	Nominal Voltage VDC	Set / Reset Voltage VDC	Coil Resistance x(1±10%) Ω	Max. Allowable Voltage VDC
003-M-L1	3	2.25	90	8.4
005-M-L1	5	3.75	250	14
006-M-L1	6	4.5	360	17
009-M-L1	9	6.75	810	25
012-M-L1	12	9.0	1440	34
015-M-L1	15	11.25	2220	42
024-M-L1	24	18.0	4000	56

### 2 coils latching Standard (200mW)

Order Number	Nominal Voltage VDC	Set / Reset Voltage VDC	Coil Resistance x(1±10%) Ω	Max. Allowable Voltage VDC
003-M-L2	3	2.25	45	6
005-M-L2	5	3.75	125	10
006-M-L2	6	4.5	180	12
009-M-L2	9	6.75	405	18
012-M-L2	12	9.0	720	24
015-M-L2	15	11.25	1125	30
024-M-L2	24	18.0	2040	48

### 1 coil latching Sensitive (75mW)

Order Number	Nominal Voltage VDC	Set / Reset Voltage VDC	Coil Resistance x(1±10%) Ω	Max. Allowable Voltage VDC
005-S-L1	5	4.0	330	16
006-S-L1	6	4.8	480	19
009-S-L1	9	7.2	1080	29
012-S-L1	12	9.6	1920	39
015-S-L1	15	12.0	3000	43
024-S-L1	24	19.2	7680	78

### 2 coils latching Sensitive (150mW)

Order Number	Nominal Voltage VDC	Set / Reset Voltage VDC	Coil Resistance x(1±10%) Ω	Max. Allowable Voltage VDC
005-S-L2	5	4.0	167	11.5
006-S-L2	6	4.8	240	13.8
009-S-L2	9	7.2	540	20.8
012-S-L2	12	9.6	960	27.7
015-S-L2	15	12.0	1500	34.6
024-S-L2	24	19.2	3840	55.4

**Notes:** When user's requirements can't be found in the above table, special order allowed.

## TYPICAL CONTACT LIFE EXPECTANCY

Voltage	Power	Number of operations	
		Resistive Load	Inductive Load (For AC cosφ=0.7)
50mVDC	50uW	$5 \times 10^7$	$5 \times 10^7$
30VDC	20W	$3 \times 10^6$	$1 \times 10^6$
30VDC	30W	$1 \times 10^6$	$3 \times 10^5$
30VDC	60W	$1 \times 10^5$	$1.5 \times 10^4$
60VDC	20W	$3 \times 10^6$	--
60VDC	30W	$5 \times 10^5$	--
60VDC	60W	$1 \times 10^5$	--
30VAC	40VA	$3 \times 10^6$	$1 \times 10^6$
30VAC	80VA	$1 \times 10^6$	$3 \times 10^5$
30VAC	120VA	$1 \times 10^5$	$1.5 \times 10^4$
60VAC	40VA	$3 \times 10^6$	$1 \times 10^6$
60VAC	80VA	$1 \times 10^6$	$3 \times 10^5$
60VAC	120VA	$1 \times 10^5$	$1.5 \times 10^4$
125VAC	40VA	$3 \times 10^6$	$1 \times 10^6$
125VAC	80VA	$1 \times 10^6$	$3 \times 10^5$
125VAC	125VA	$1 \times 10^5$	$1.5 \times 10^4$

## SAFETY APPROVAL RATINGS

UL&CUL	0.5A 60VDC
	2A 25VDC
	2A 30VDC
	1A 100VAC
	(industrial control, business equipment)
	1A 120VAC (Telephone equipment)
	2A 125VAC

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

## ORDERING INFORMATION

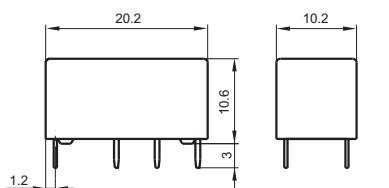
HFD2 / 012		-S	-L2	D	(XXX)
Type					
Coil voltage	3, 5, 6, 9, 12, 15, 24, 48VDC <sup>1)</sup>				
Coil power	M: Standard      S: Sensitive				
Sort	L1: 1 coil latching    L2: 2 coils latching    Nil: Single side stable				
Contact material	D: Ag-AuAg8 / Ag-AuAg8    Nil: AgPd60 / Ag-AuAg8				
Customer special code					

**Notes:** 1) 48VDC coil voltage is only for single side stable and standard type.  
2) If 3A 30VDC load is required, please note in the purchasing order.

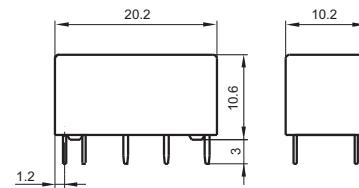
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

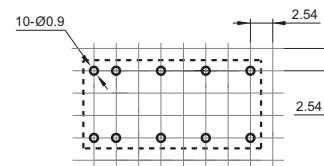
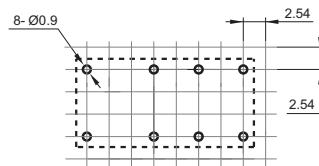
Outline Dimensions



Single side stable or 1 coil latching



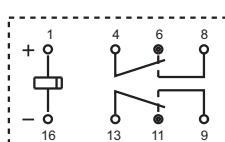
PCB Layout  
(Bottom view)



Matching 16 pin IC socket

Matching 16 pin IC socket

Wiring Diagram  
(Bottom view)



For latching, diagram shows the "reset" position  
Energize terminals 1 and 16 to "set"  
Reverse energize terminals 1 and 16 to "reset"

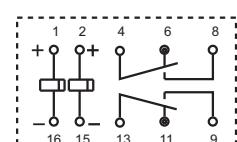


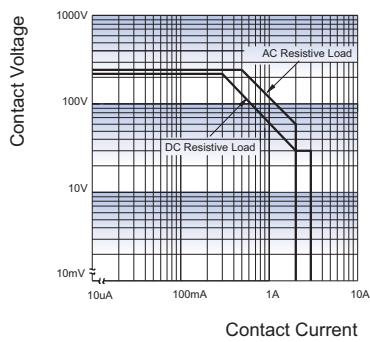
Diagram shows the "reset" position  
Energize terminals 1 and 16 to "set"  
Energize terminals 2 and 15 to "reset"

### Notice

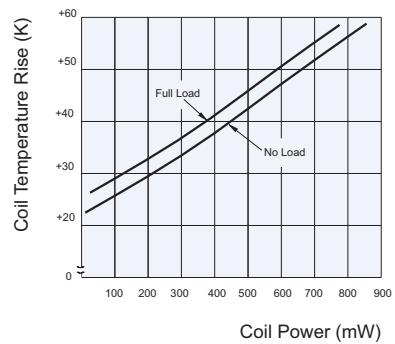
1. Relay is on the "reset" status when being released from stock, with the consideration of shock risen from transit and relay mounting, relay would be changed to "set" status, therefore, when application ( connecting the power supply), please reset the relay to "set" or "reset" status on request.
2. In order to maintain "set" or "reset" status, energized voltage to coil should reach the rated voltage, 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.

## CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



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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