HFV8 AUTOMOTIVE RELAY

Features

- 2.8mm QC terminals available
- Wash tight and dust protected types available
- 1 Form A & 1 Form C contact arrangement
- RoHS & ELV compliant

Typical Applications

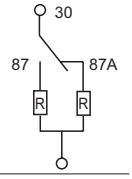
Fuel pump control, Fan control, Horn control,
Fog lamp & headlight control, A/C compressor clutch

CHARACTERISTICS

Contact arrangement	1A, 1C
Voltage drop (initial) 1)	Typ.: 50mV (at 10A) Max.: 250mV (at 10A)
Max. continuous current	NO: 40A (at 23˚C) NC: 30A (at 23˚C)
Max. switching current	40A 2)
Max. switching voltage	75VDC 2)
Min. contact load	1A 6VDC
Electrical endurance	$1x10^5$ OPS
Mechanical endurance	$1x10^7$ OPS (300OPS/min)
Initial insulation resistance	500MΩ (at 500VDC)
Dielectric strength 3)	between contacts: 500VAC between coil & contacts: 500VAC
Operate time	Typ..: 5ms Max.: 10ms (at nomi. vol.)
Release time	Typ.: 3ms Max.: 6ms 4)
Ambient temperature	-40˚C to 125˚C
Storage temperature	-40˚C to 155˚C
Vibration resistance	10Hz to 40Hz 1.27mm DA 40Hz to 70Hz 49m/s² (5g) 70Hz to 100Hz 0.5mm DA 100Hz to 500Hz 98m/s² (10g)
Shock resistance	196m/s² (20g)
Termination	2.8mm QC
Construction	Wash tight, Dust protected
Unit weight	Standard: Approx. 22g Wateproof cover: Approx. 37g

1) Equivalent to the max. initial contact resistance is 100mΩ (at 1A 6VDC).
2) See "Load limit curve".
3) 1min, leakage current less than 1mA.
4) The value is measured when voltage drops suddenly from nominal voltage to 0 VDC and coil is not paralleled with suppression circuit.

CONTACT DATA 2)

Load voltage	Load type 1)		Load current A			On/Off ratio		Electrical endurance OPS	Contact material	Ambient temp.	Load wiring diagram
			1C		1A	On s	Off s				
			NO	NC	NO						
13.5VDC	Resistive	Make	40	30	40	1.5	1.5	$1×10^5$	$AgSnO_2$	23˚C	
		Break	40	30	40						

1) When applied in flasher, a special silver alloy ($AgSnO_2$) contact material should be used and the customer special code should be (170) as a suffix. Please heed the anode and cathode's request when wired, terminal 30# should connect with anode.
2) When the load requirement is different from content of the table above, please contact Hongfa for relay application support.。

COIL DATA

at 23˚C

Nominal voltage VDC	Pick-up voltage VDC	Drop-out voltage VDC	Coil resistance x(1±10%)Ω	Parallel resistance 1) x(1±5%) Ω	Equivalent resistance Ω	Power consumption W	Max. allowable overdrive voltage 2) VDC	
							23˚C	85˚C
6	3.6	0.6	27	---	---	1.3	10.4	7.6
6	3.6	0.6	27	180	23.5	1.5	10.4	7.6
12	7.2	1.2	109	---	---	1.3	20.4	14.9
12	7.2	1.2	109	680	93.9	1.5	20.4	14.9
24	14.4	2.4	436	---	---	1.3	40.4	29.6
24	14.4	2.4	436	2700	375.4	1.5	40.4	29.6

1) The power consumption of parallel resistance is 0.5W.
2) Max. allowable overdrive voltage is stated with no load applied.

ORDERING INFORMATION

HFV8 / 012 1H 1 S R (XXX)

Type			
Coil voltage	**006**: 6VDC	**012**: 12VDC	**024**: 24VDC
Contact arrangement	**1H**: 1 Form A	**1Z**: 1 Form C	
Version	**1**: Standard	**2**: Waterproof cover	
Construction	**S**: Wash tight	**Nil**: Dust protected	
Transient suppression resistor	**R**: With resistor	**Nil**: Without resistor	
Customer special code 1)	e.g. (170) stands for flasher load, (555) stands for RoHS & ELV compliant. In case there are multiple special requirements, all special codes should be followed one by one.		

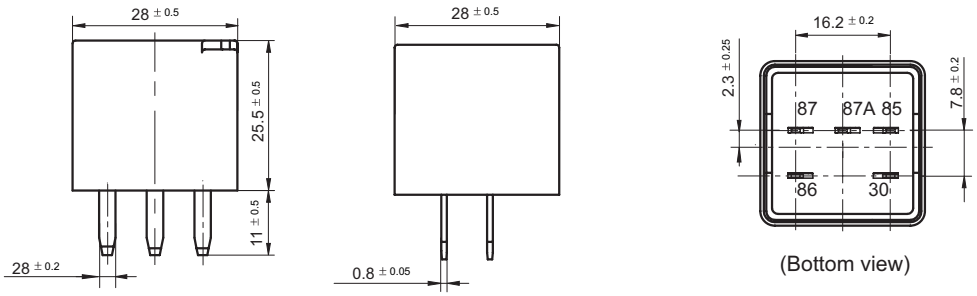
1) HFV8 is an environmental friendly product, please mark special code (555) when order.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions

Standard



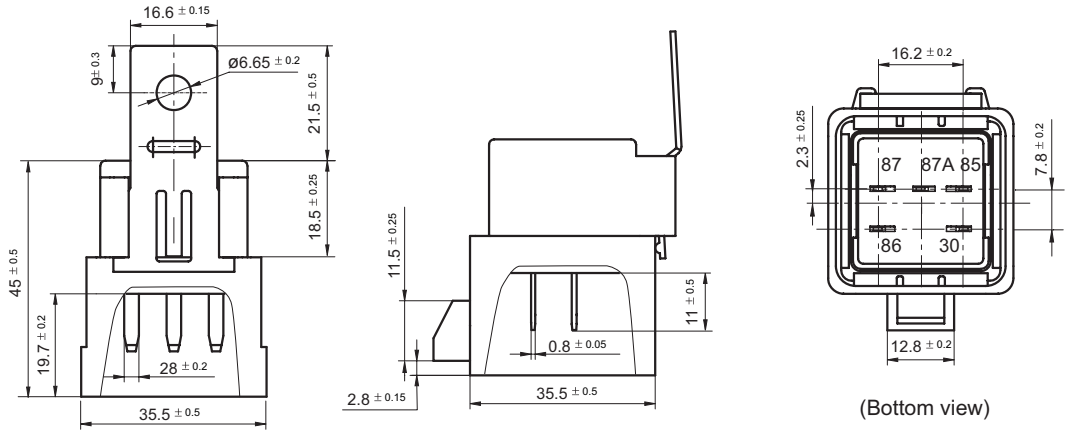
(Bottom view)

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

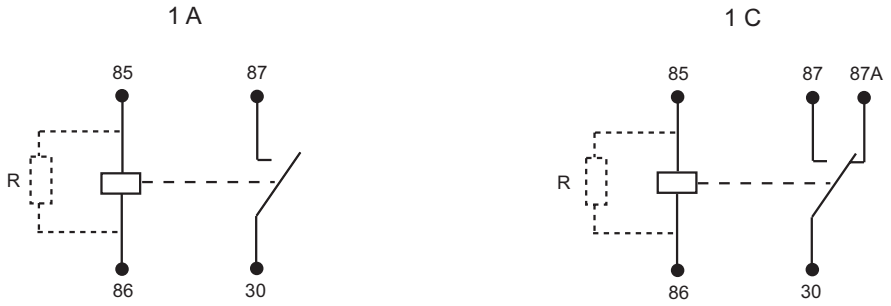
Outline Dimensions

Waterproof cover type



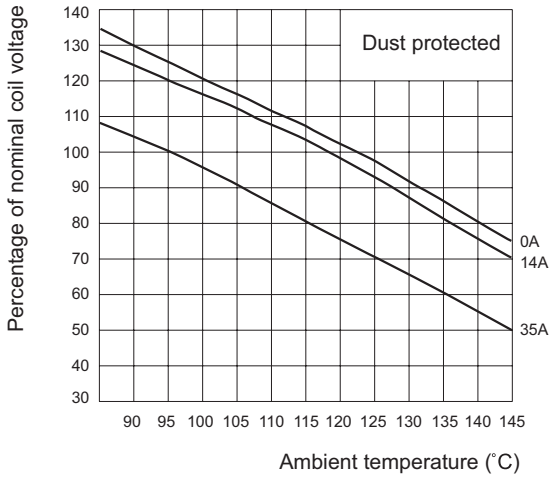
Notes: Terminal vertical deviation tolerance is 0.2mm.

Wiring Diagram



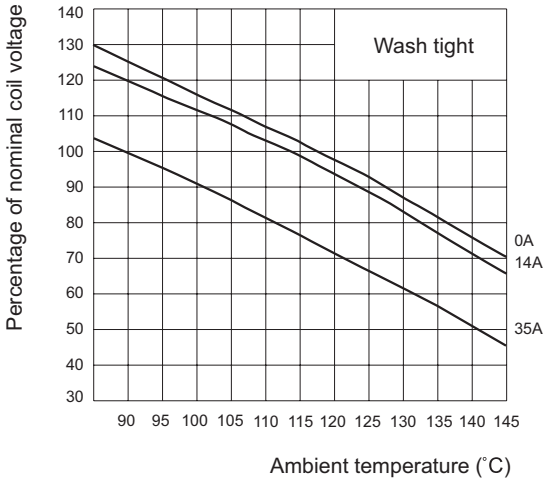
CHARACTERISTIC CURVES

1. Coil operating voltage range



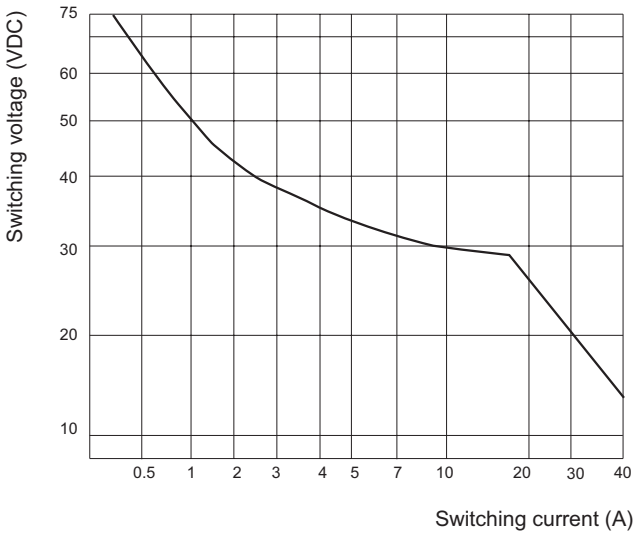
1) The curve is applicable under the condition of no contact load applied.
2) This chart takes 12VDC coil voltage, dust protected version as example.
3) The maximum allowable coil temperature is 180˚C. For the coil temperature rise which is measured by resistance is average value, we recommend the coil temperature should be below 170˚C under the different application ambient, different coil voltage and different load etc.
4) If the actual operating coil voltage is out of the specified range, please contact Hongfa for further details.

CHARACTERISTIC CURVES



1) The curve is applicable under the condition of no contact load applied.
2) This chart takes 12VDC coil voltage, wash tight version as example .
3) The maximum allowable coil temperature is 180˚C. For the coil temperature rise which is measured by resistance is average value, we recommend the coil temperature should be below 170˚C under the different application ambient, different coil voltage and different load etc.
4) If the actual operating coil voltage is out of the specified range, please contact Hongfa for further details.

2. Load limit curve (at 23˚C)



1) This chart takes NO contact as example.
2) The load and electrical endurance tests are made according to “CONTACT DATA” parameters’ table. If actual load voltage, current, or operate frequency is different from “CONTACT DATA” table, please arrange corresponding tests for confirmation.