

HFE316

MINIATURE 3-PHASES RELAY



Features

- 120A 3-phases latching relay
- Q/GDW 11179.8 compliant
- Contact resistance $\leq 0.35m\Omega$
- Contact gap $\geq 5.5mm$

RoHS compliant

CONTACT DATA

Contact arrangement	3A,3B
Contact resistance ¹⁾	Typical value: ²⁾ $\leq 0.5m\Omega(100A)$
Contact material	AgSnO ₂
Contact rating	See "electrical endurance"
Max. switching voltage	276VAC
Max. switching current	150A
Max. switching power	33000W
Mechanical endurance	7000ops

Notes: 1) The data shown above are initial values.

2) Typical value: Sampling quantity for contact resistance shall not less than 20 pcs, take the average value from 5 continuous measurements for each sample.

CHARACTERISTICS

Insulation resistance	1000M Ω (500VDC)	
Dielectric strength	Between coil and contact	4000VAC 1min
	Between open contacts	2000VAC 1min
	Between contact and auxiliary contact	4000VAC 1min
Creepage distance	$\geq 8mm$	
Set time	$\leq 50ms$	
Reset time	$\leq 50ms$	
Shock resistance	Functional	98m/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz ~ 55Hz 1.5mm DA	
Humidity	5% ~ 85% RH	
Ambient temperature	-40°C ~ 85°C	
Termination	Coil termination	PCB&QC
	Load termination	QC
Unit weight	Approx.335g (Without terminals and CT)	
Construction	Dust protected	

Notes: The data shown above are initial values.

COIL

Rated power	Single coil latching: Approx.12.0W
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COIL DATA

23°C

Single coil latching

Nominal Voltage VDC	Set / Reset Voltage ⁽¹⁾⁽²⁾ VDC	Pulse Duration (Recommended) ms	Coil Resistance x (1 \pm 10%) Ω
9	≤ 6.3	100~200	6.75
12	≤ 8.4	100~200	12
15	≤ 10.5	100~200	18.75

Double coils latching

Nominal Voltage VDC	Set / Reset Voltage ⁽¹⁾⁽²⁾ VDC	Pulse Duration (Recommended) ms	Coil Resistance x (1 \pm 10%) Ω
9	≤ 6.3	100~200	3.4+3.4
12	≤ 8.4	100~200	6+6
15	≤ 10.5	100~200	9.4+9.4

Notes: 1) The data shown above are initial values.

2) The above values are used as incoming inspection standards, and the recommended driving voltage is 1~1.5 times the rated voltage.

ELECTRICAL ENDURANCE

UC Class	Voltage (Uc)	Current (Ic)	Power Factor	Close Open time (s)	Electrical endurance (ops)
417 (UC3)	220VAC	120A	COS ϕ =0.8	2:28	Total:1000

Notes: 1) The coil is driven at the rated voltage.



HONGFA RELAY

ISO9001、IATF16949、ISO14001、ISO45001、IECQ QC 080000、ISO/EC 27001

2025 Rev.1.00

ORDERING INFORMATION

Type	HFE316	/15	-3SD	B	-T	-1	-R	(XXX)
Coil voltage	9,12,15VDC							
Contact arrangement ⁽¹⁾	SD: 1 Form B(Dual contact) SH: 1 Form A(Dual contact)							
Auxiliary contact	Nil: No auxiliary contact A: The auxiliary contact state is consistent with main contact (Limited to the (AZ3) signal line lead-out scheme) B: The auxiliary contact state is the opposite to the main contact state							
Contact material	T: AgSnO ₂							
Coil type	1: Single coil latching		2: Double coils latching					
Polarity	R: Reverse polarity			Nil: Standard polarity				
Special code ²⁾³⁾	XXX: Customer special requirement (AZ3): Signal line lead-out scheme(coil and microswitch)							

Notes:1) SH means that the relay contacts are in an open state and SD means that the contacts are in a closed state when delivery. Unless otherwise specified by the customer, we will ship the relay with the contacts closed by default.

2) Please make clear your technical requirements, and choose from the following UC ratings:

UC3: meet the UC3 requirements on GB/T 17215.231—2021: Making test: 3KA/10ms, carrying test 6KA/10ms.

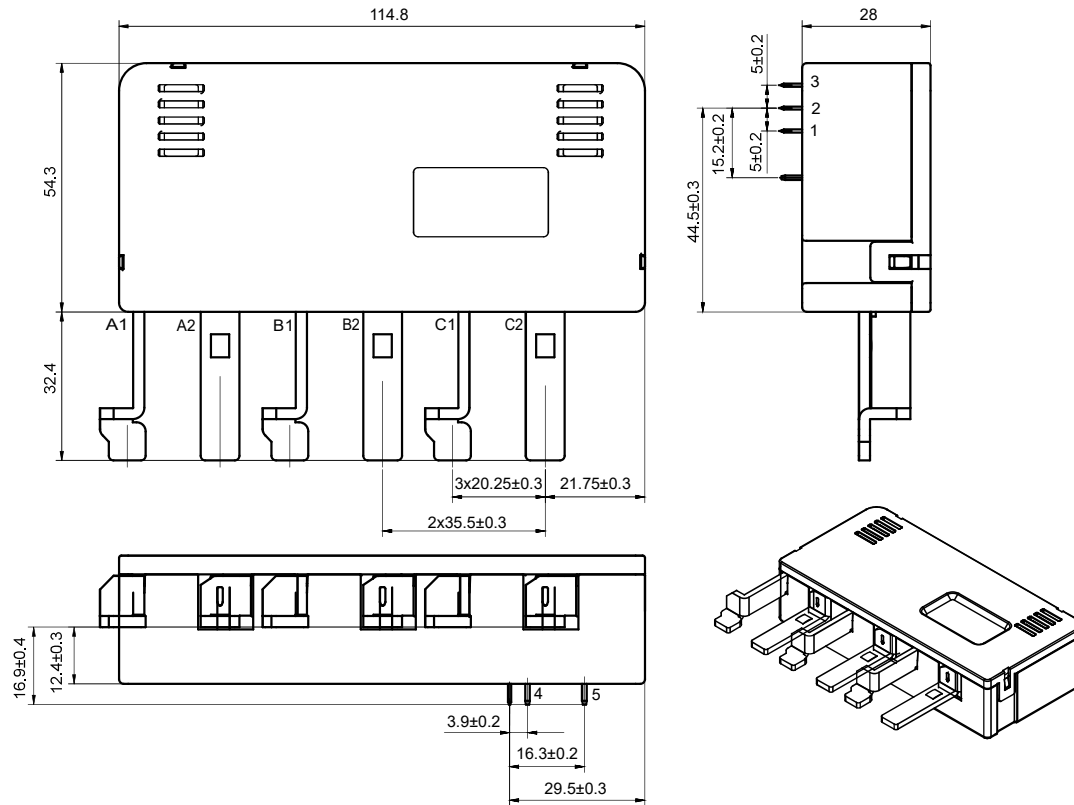
3) The special requirements of the customer will be expressed as special code after reviewed by Hongfa.

CAUTIONS

- Relay is on the "reset" or "set" status when being released from stock, with the consideration of shock risen from transit and relay mounting, relay would be changed to "set" or "reset" status, therefore, when application (connecting the power supply), please reset the relay to "set" or "reset" status on request.
- Do not apply voltage to "set" coil and "reset" coil simultaneously. And also long energized time (more than 1 min) should be avoided.
- Normally the load terminals are not suitable for reflow solder, wave solder or tin solder, we suggest use spot welding. Load terminals shall be prevented from mounting stress, or freely move.
- Relays used for metering measuring applications are usually made with dust proof structure, while most relays could be made specially per customer's specific requirements. No longer than 6 months' storage time is recommended for this kind of relay, and please pay attention to the storage environment. To ensure contact reliability, we will keep contact status be closed when delivery if no special required by customer.

Outline Dimensions

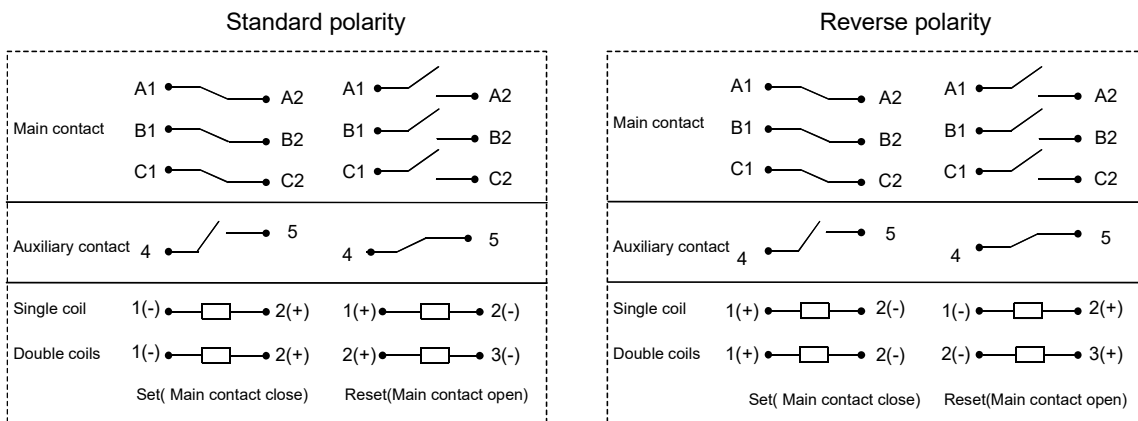
HFE316(Microswitch hard pin scheme)



Remark: 1) The dimension of the load terminals as well as the sampling resistance can be made per customer request.
 2) 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.

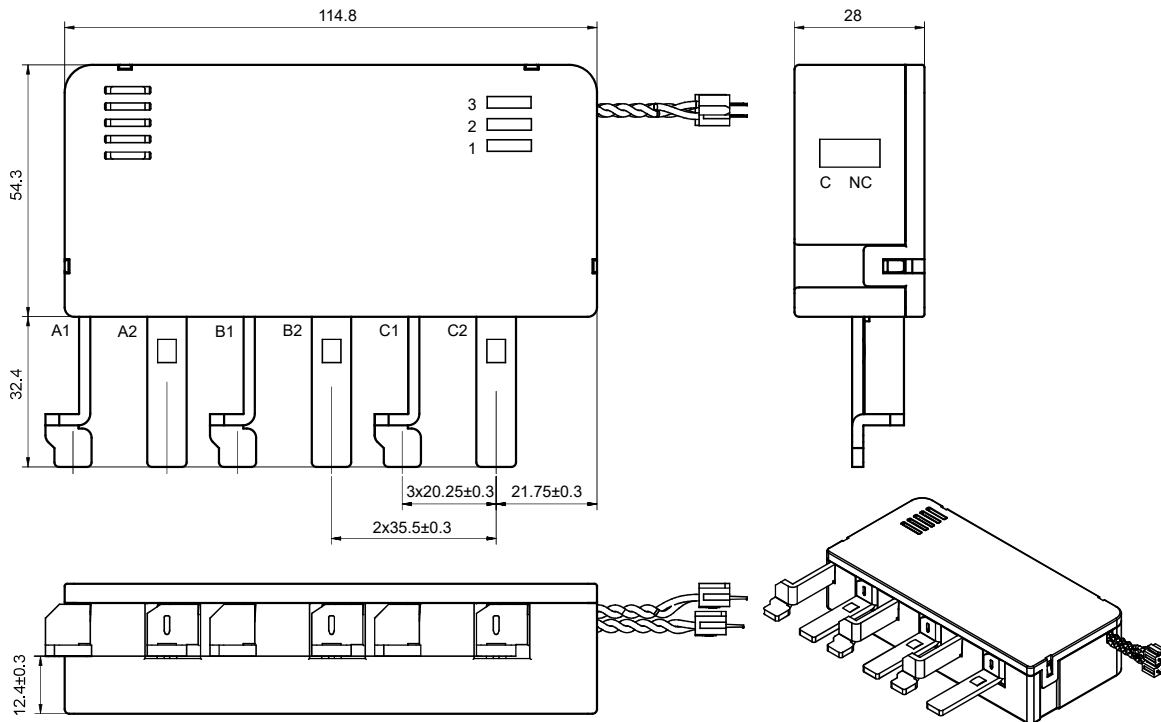
WIRING DIAGRAM

HFE316(Microswitch hard pin scheme)



Outline Dimensions

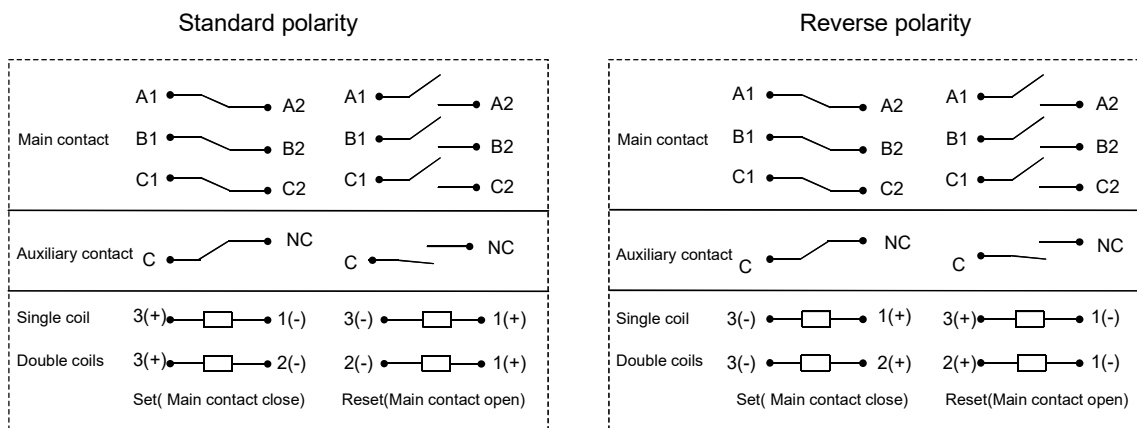
HFE316(AZ3)
Signal line lead-out scheme(coil and microswitch)



Remark: 1) The dimension of the load terminals as well as the sampling resistance can be made per customer request.
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WIRING DIAGRAM

HFE316(AZ3)
Signal line lead-out scheme(coil and microswitch)



Disclaimer

The specification is for reference only. 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.