HFE21 MINIATURE HIGH POWER LATCHING RELAY



Features

- 120A Latching relay
- Electrical endurance 10000ops
- According to IEC62052-31:UC3
- Contact resistance ≤0.35mΩ

RoHS compliant

CONTACT DATA

Contact arrangement	1A,1B,SH,SD
Contact resistance 1)	Typical value: 2) ≤0.35mΩ(100A)
Contact material	$AgSnO_2$
Contact rating	See “electrical endurance”
Max. switching voltage	276VAC
Max. switching current	120A
Max. switching power	33120VA
Mechanical endurance	$1x10^5$ops

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 continous measurements for each sample.

CHARACTERISTICS

Insulation resistance		1000MΩ(500VDC)
Dielectric strength	Between coil and contact	4000VAC 1min
	Between open contacts	2000VAC 1min
Creepage distance		8mm
Set time (at nomi. volt.)		20ms max.
Reset time (at nomi. volt.)		20ms max.
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.5mm DA
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination	Coil termination	PCB&QC
	Load termination	QC
Unit weight		Approx. 85g
Construction		Dust protected

Notes: The data shown above are initial values.

COIL

Rated power	Single coil latching: Approx. 3.0W Double coils latching: Approx. 6.0W

COIL DATA 23°C

Single coil latching

Nominal Voltage VDC	Set / Reset Voltage VDC 1)2) max.	Pulse Duration (Recommended) ms.	Coil Resistance x (1±10%) Ω
6	≤4.8	50~100	13
9	≤7.2	50~100	27
12	≤9.6	50~100	50
24	≤19.2	50~100	210
48	≤38.4	50~100	860

Double coils latching

Nominal Voltage VDC	Set / Reset Voltage VDC 1)2) max.	Pulse Duration (Recommended) ms.	Coil Resistance x (1±10%) Ω
6	≤4.8	50~100	6.5+6.5
9	≤7.2	50~100	13.5+13.5
12	≤9.6	50~100	25+25
24	≤19.2	50~100	105+105
48	≤38.4	50~100	430+430

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 of the rated voltage.

ELECTRICAL ENDURANCE

UC Class	Voltage (Uc)	Current (Ic)	Power Factor	Close Open time (s)	Electrical endurance (OPS)	
417 (UC3)	220VAC	100A	COSØ=1	10:20	5000	Total:10000
			COSØ=0.5		5000	
NIL: (UC3)		100A	COSØ=1		5000	Total:10000
			COSØ=0.5		5000	

Notes: 1) Electrical endurance meet IEC62052-31 test requirement,do the inductive load test after the resistive load test.

ORDERING INFORMATION

Type	HFE21	-C	/12	-D	T	2	-R	(XXX)
Version[1]	**A:** Type A contact terminal **B:** Type B contact terminal **C:** Type C contact terminal **D:** Type D contact terminal **G:** Type G contact terminal **I:** Type I contact terminal **J:** Type J contact terminal							
Coil voltage	6, 9,12, 24, 48VDC							
Contact arrangement[2]	**D:** 1 Form B (Single-contact) **H:** 1 Form A (Single-contact) **SD:** 1 Form B (Dual contact) **SH:** 1 Form A (Dual contact)							
Contact material	**T:** $AgSnO_2$							
Coil type	**1:** Single coil latching	**2:** Double coils latching						
Polarity	**R:** Reverse polarity	**Nil:** Standard polarity						
Special code[3) 4)]	**XXX:** Customer special requirement							

Notes: 1) The version code A,B,C,D,G,I,J is for D,H type contact form only.Regarding the terminal size of SH,SD contact type, we can design according to customer's requirement.

2) H, SH means that relay is on the "reset" status when delivery; D, SD means that relay is on the "set" status when delivery. If no speical required by customer, we will keep the relay on the "set" status when delivery.

3) Please make clear your technical requirements, and choose from the following UC ratings:
UC3: meet the UC3 requirements on IEC62052-31: Making test:3kA/10MS; carrying test 6kA/10ms.

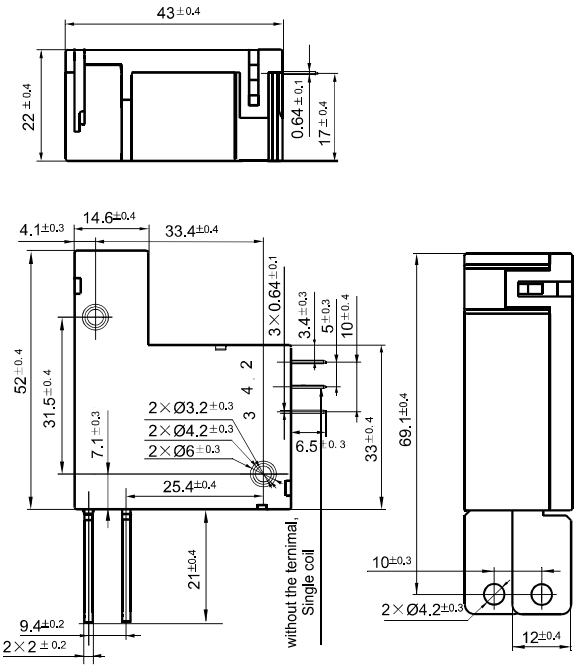
4) The customer special requirement express as special code after evaluating by Hongfa. e.g. (417) stands for UC3.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions

Type C contact terminal

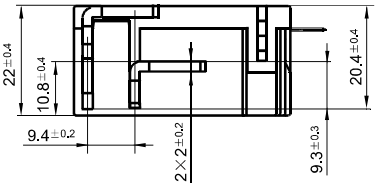


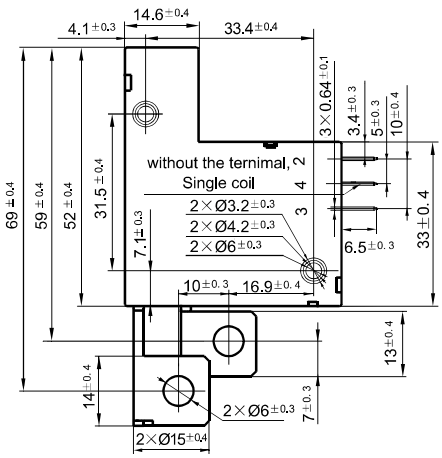
OUTLINE DIMENSIONS AND WIRING DIAGRAM

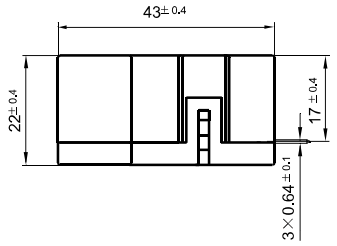
Unit: mm

Outline Dimensions

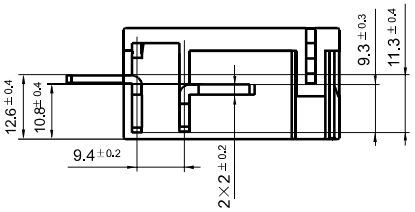
Type A contact terminal

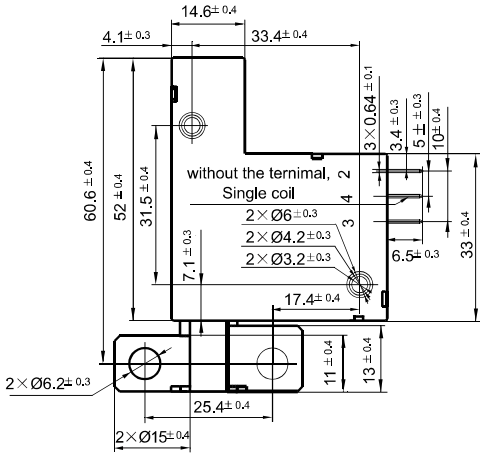


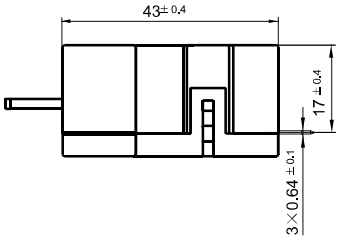




Type B contact terminal





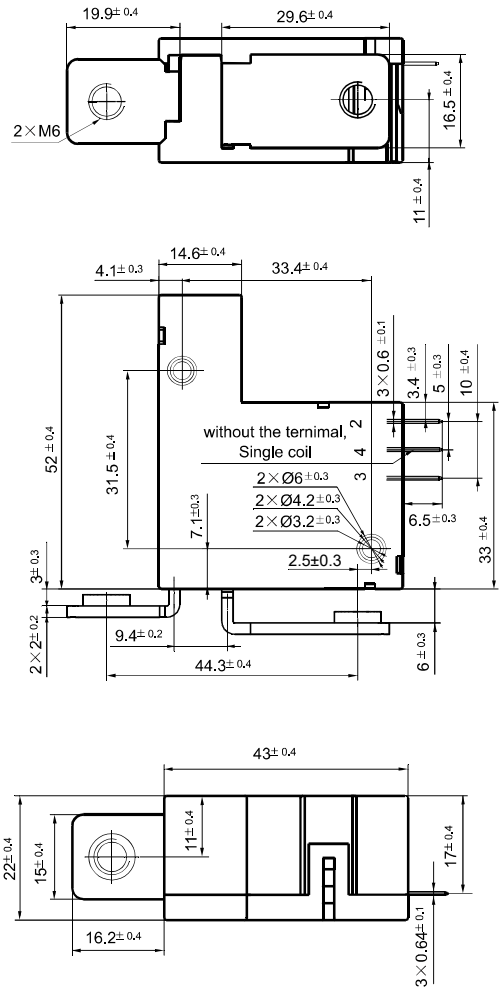


OUTLINE DIMENSIONS AND WIRING DIAGRAM

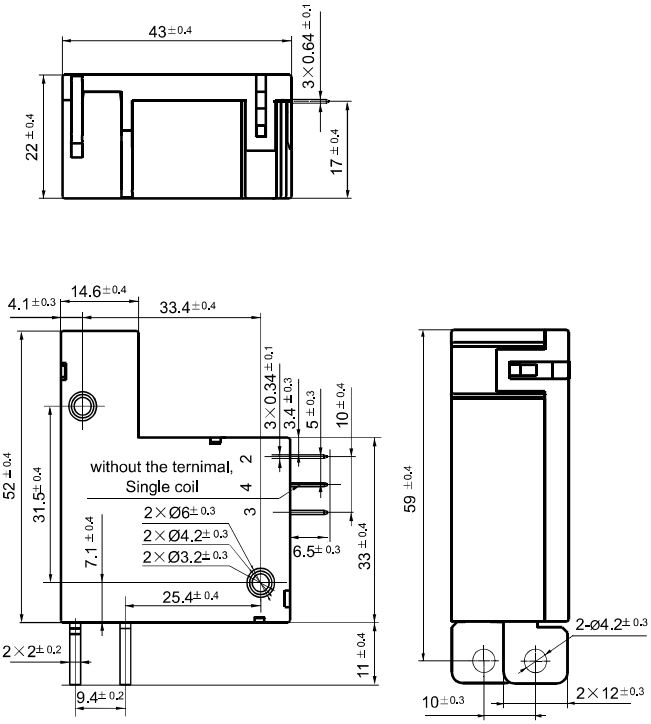
Unit: mm

Outline Dimensions

Type D contact terminal



Type G contact terminal

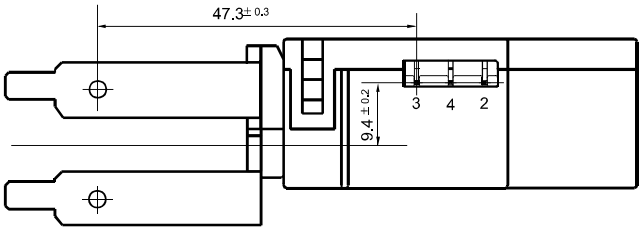


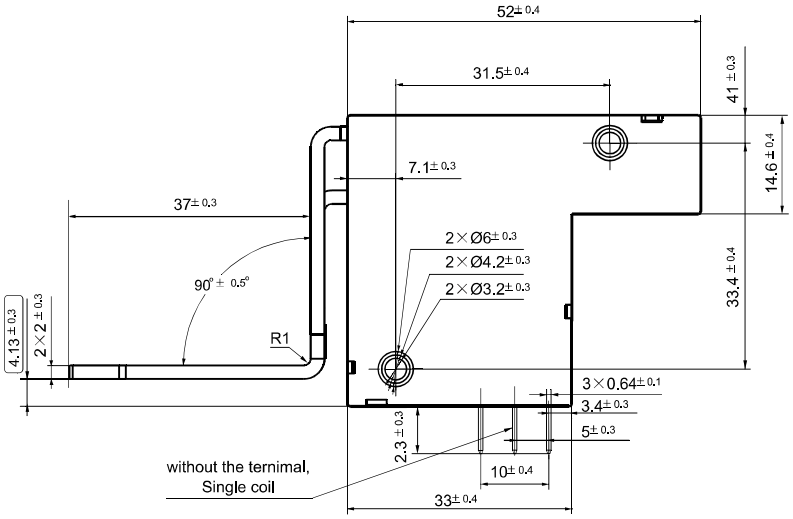
OUTLINE DIMENSIONS AND WIRING DIAGRAM

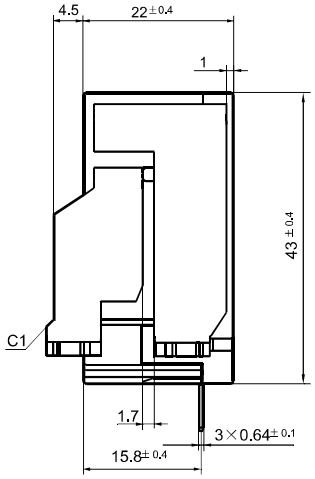
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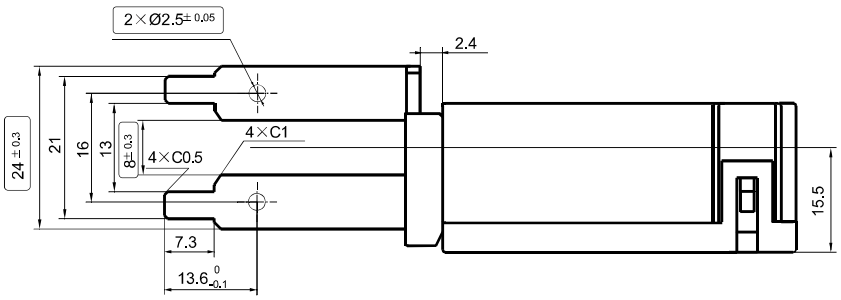
Outline Dimensions

Type I contact terminal







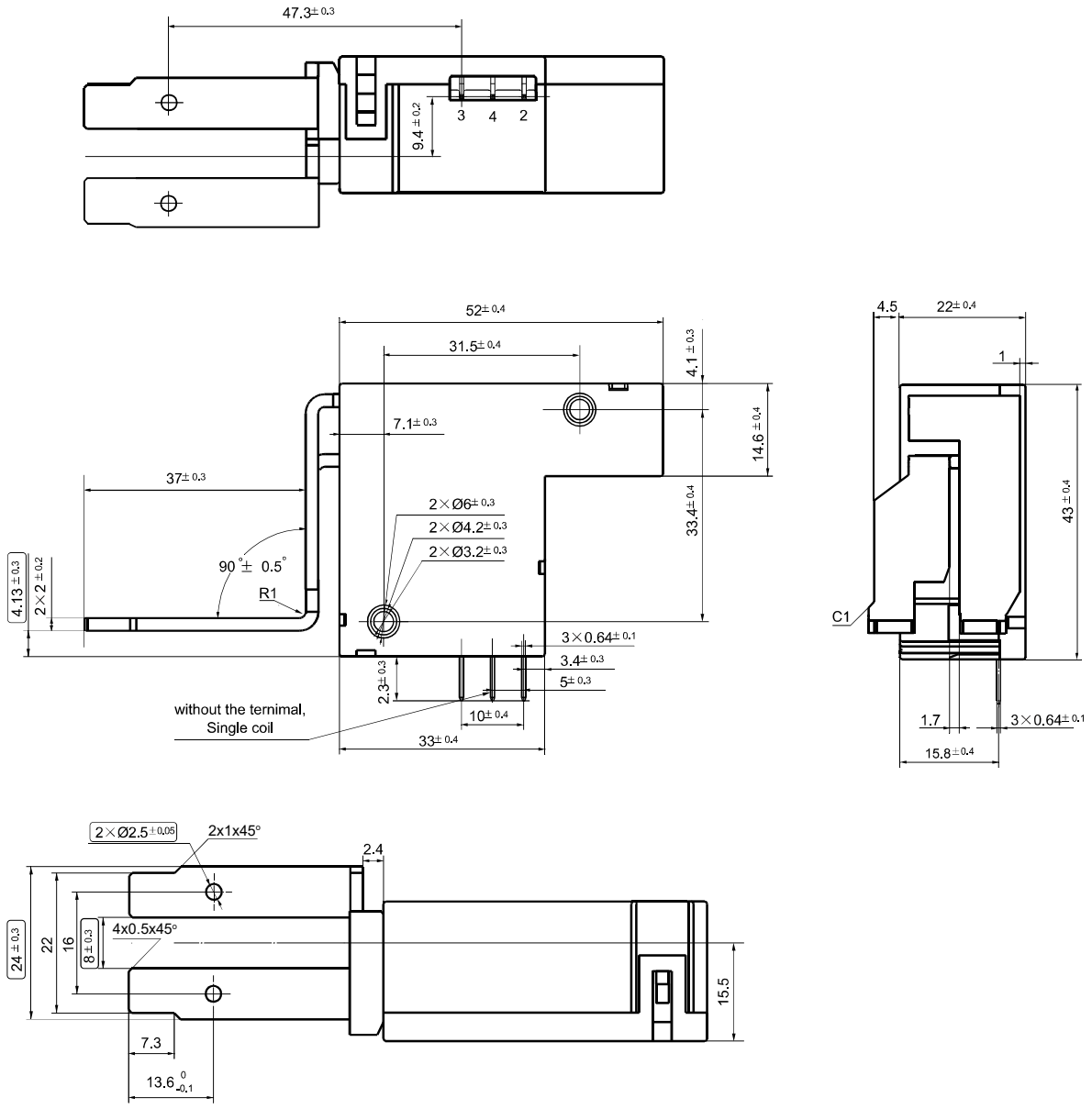


OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions

Type J contact terminal

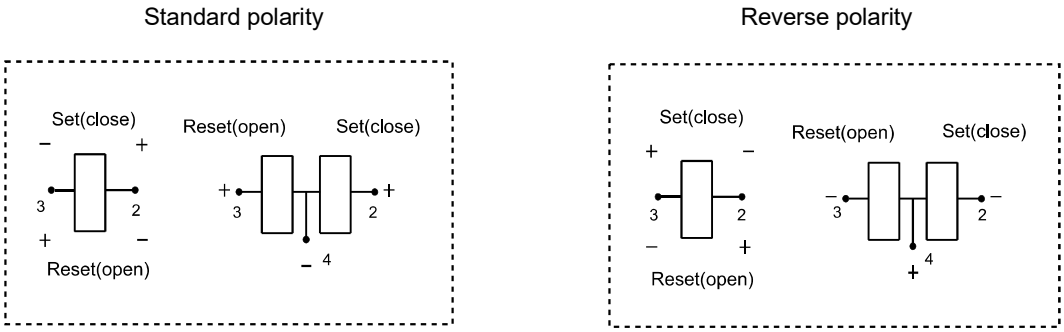


Remark: In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.1mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.2mm; outline dimension >5mm, tolerance should be ±0.4mm.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Wiring Diagram



CAUTIONS

1. 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.
2. Do not energize voltage to “set” coil and “reset” coil simultaneously. And also long energized time (more than 1 min) should be avoided.
3. 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 assembly stress, or freely move.
4. 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.

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.

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