

HFE21

MINIATURE HIGH POWER LATCHING RELAY



Features

- Latching relay
- 120A switching capability at Res.load
- According to the fault current and electrical life test of IEC 62055-31: UC3 (please see below table and notes2)
- 4kV dielectric strength(between coil and contacts)
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (52.0 x 43.0 x 22.0) mm

CONTACT DATA

Contact arrangement	1A, 1B, 1U, 1V
Contact resistance	Typ.:0.35mΩ max. (at 100A) ¹⁾
Contact material	AgSnO ₂
Contact rating	100A 220VAC
Max. using voltage	440VAC
Max. current	120A
Rated switching power	22000VA
Mechanical endurance	1 x 10 ⁶ OPS

Notes: 1) 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 (at 500VDC)	
Dielectric strength	Between coil & contacts	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/s ²
	Destructive	980m/s ²
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 85°C	
Termination	QC	
Unit weight	Approx. 85g	
Construction	Dust protected	

Notes: The data shown above are initial values.

COIL

Coil power	Single coil latching: Approx. 3.0W Double coils latching: Approx. 6.0W
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COIL DATA

at 23°C

Nominal Voltage VDC	Set Voltage VDC	Pulse Duration ms min.	Coil Resistance x (1±10%) Ω	
6	4.8 ~ 9	50	Single coil latching	13
12	9.6 ~ 18	50		50
24	19.2 ~ 36	50		210
48	38.4 ~ 72	50		860
6	4.8 ~ 9	50	Double coils latching	6.5+6.5
12	9.6 ~ 18	50		25+25
24	19.2 ~ 36	50		105+105
48	38.4 ~ 72	50		430+430

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 IEC62055-31 test requirement, do the inductive load test after the resistive load test.
2) The coil is driven at rated voltage.



HONGFA RELAY

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

2017 Rev. 1.00

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, 12, 24, 48VDC						
Contact form ²⁾	D: 1 Form B (Single-contact) H: 1 Form A (Single-contact) SD: 1 Form B (Double-contact of 1 Form B) SH: 1 Form A (Double-contact of 1 Form A)						
Contact material	T: AgSnO ₂						
Sort	1: Single coil latching 2: Double coils latching						
Polarity	R: Negative polarity Nil: Positive polarity						
Special code ³⁾⁴⁾	XXX: Customer special requirement Nil: Standard(See electrical endurance)						

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 special 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 3 UC ratings:

UC3: meet the UC3 requirements on IEC62055-31: Making test:3kA/10MS; carrying test 6kA/10ms.

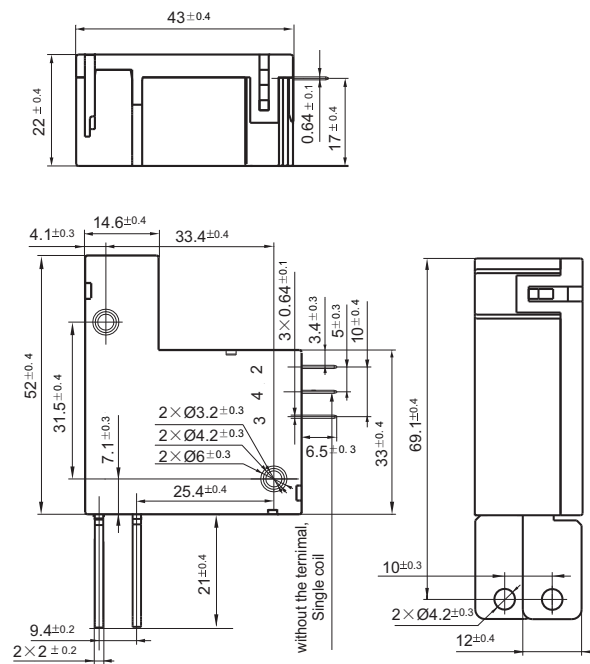
4) The customer special requirement express as special code after evaluating by Hongfa. e.g. (417) stands for UC3.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions

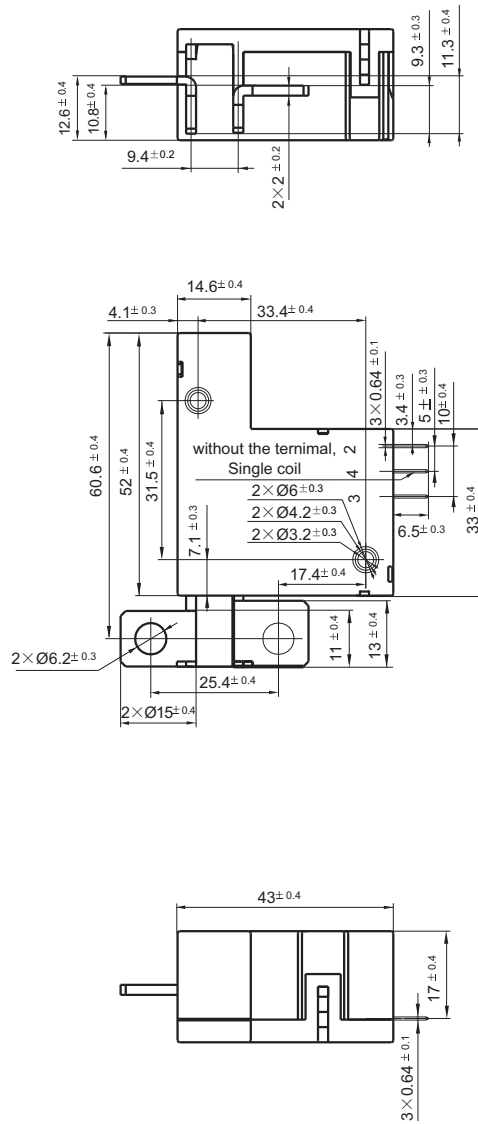
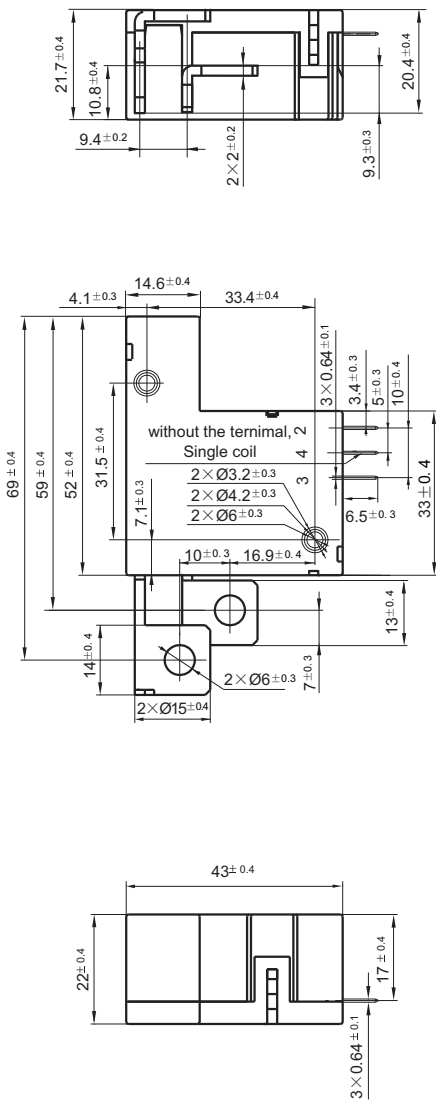
Type C contact terminal



Outline Dimensions

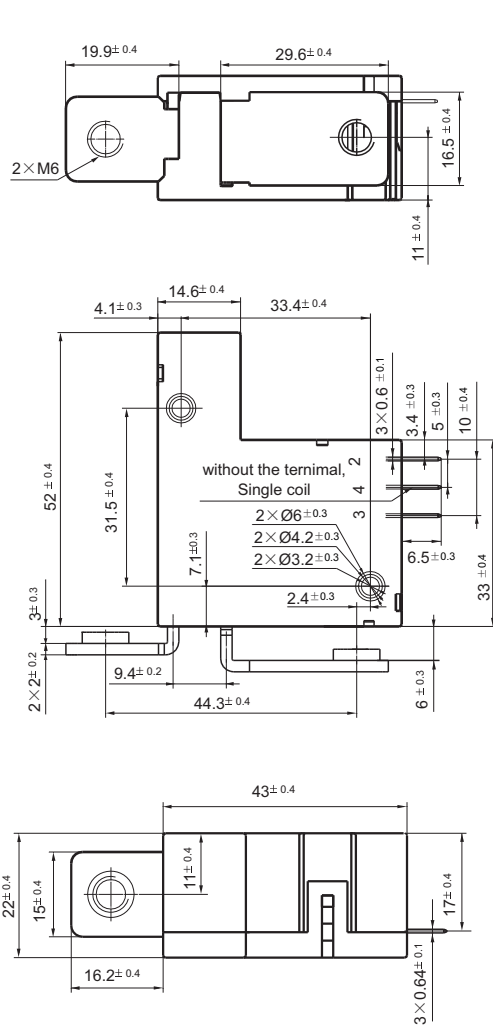
Type A contact terminal

Type B contact terminal

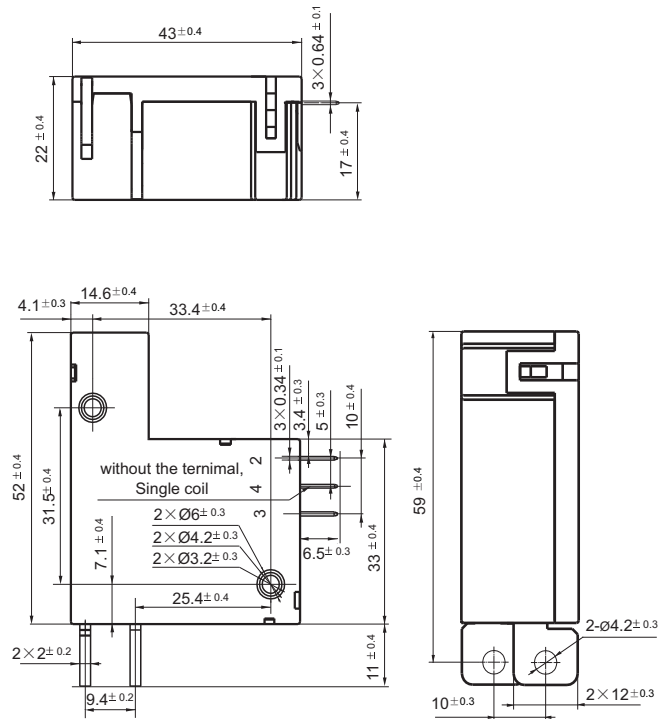


Outline Dimensions

Type D contact terminal

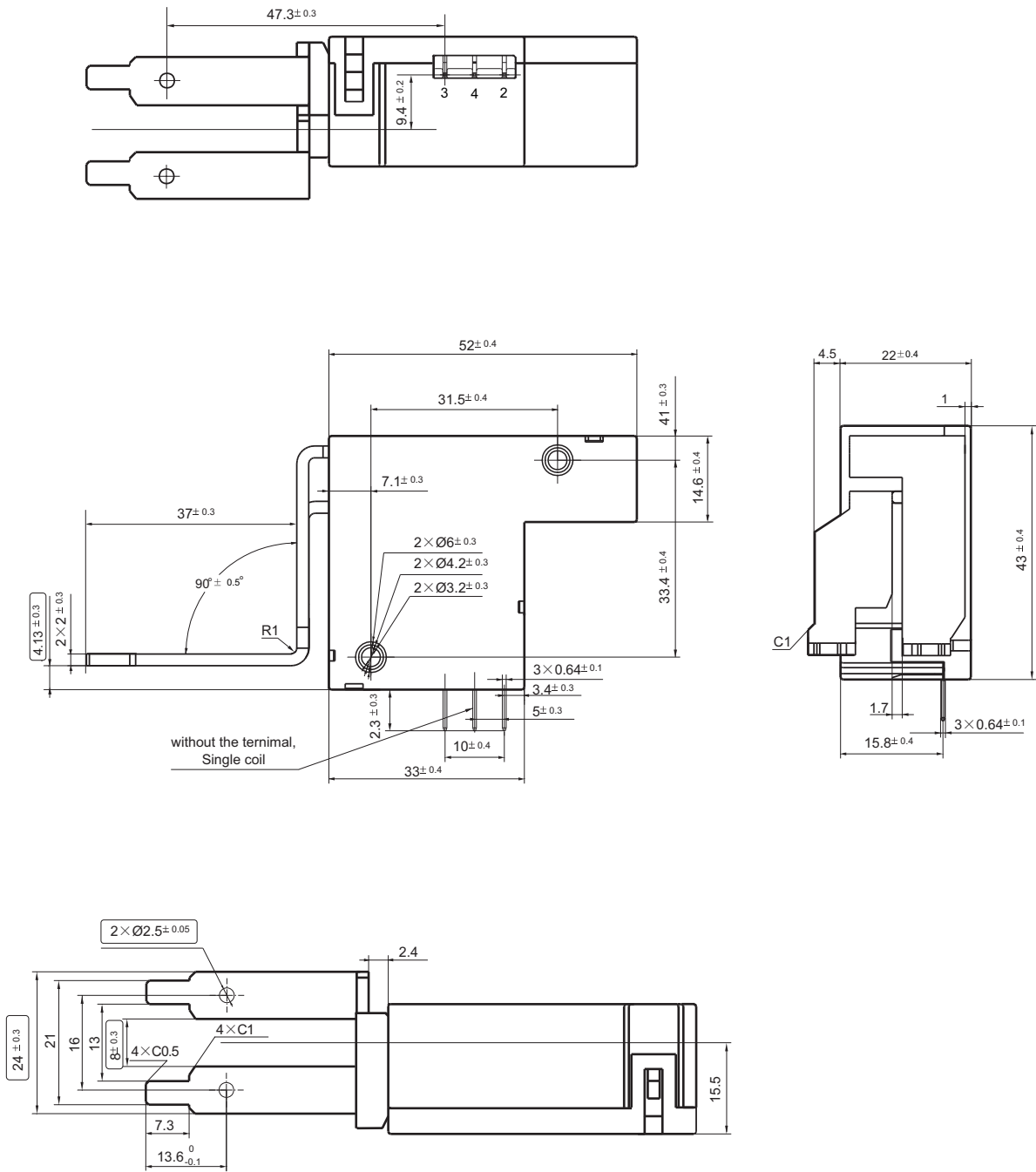


Type G contact terminal



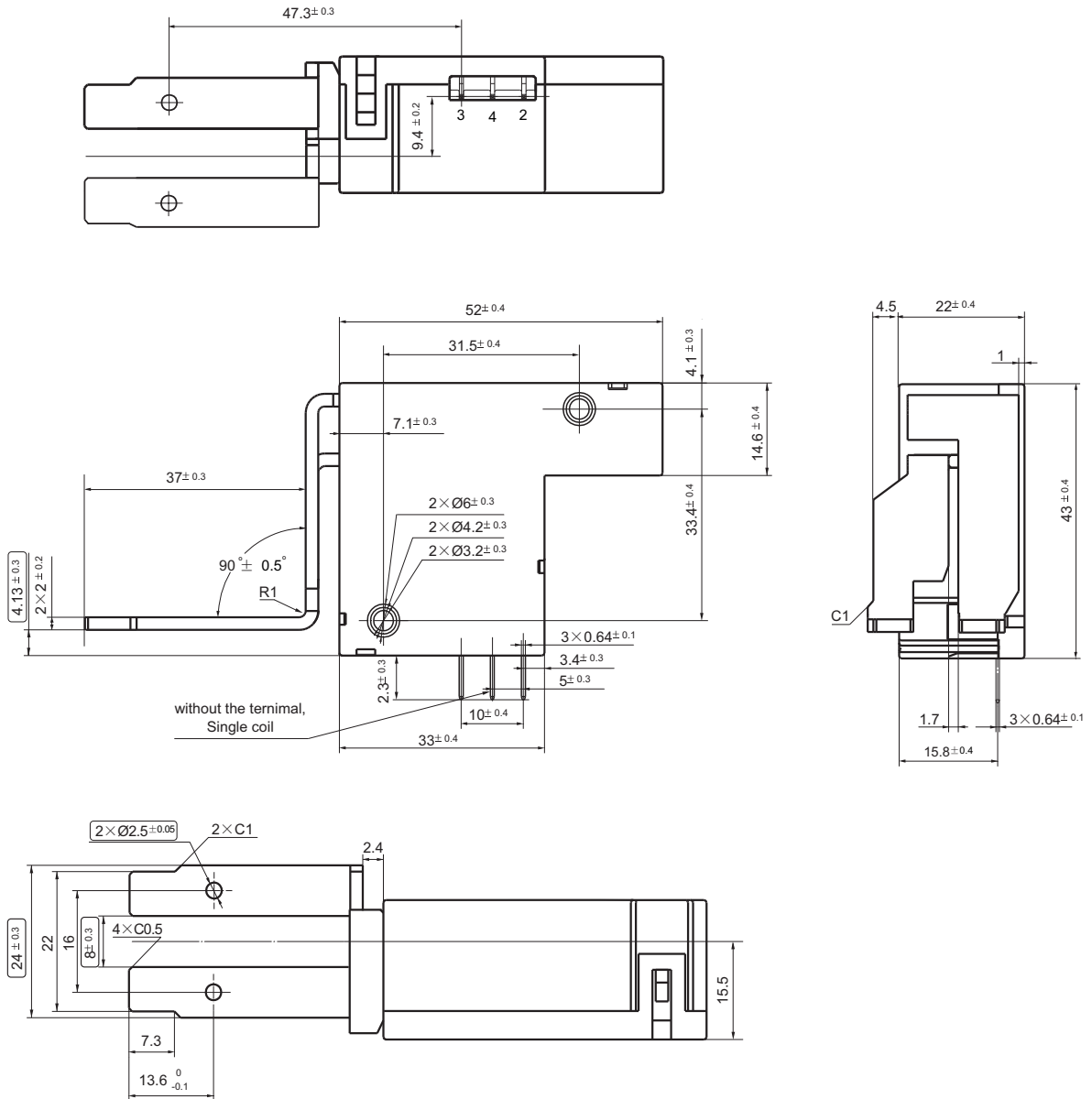
Outline Dimensions

Type I contact terminal



Outline Dimensions

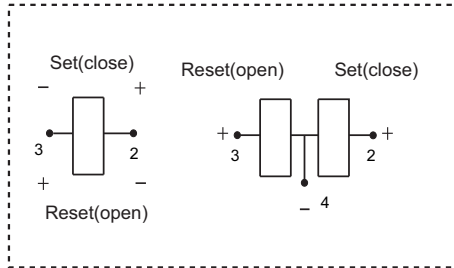
Type J contact terminal



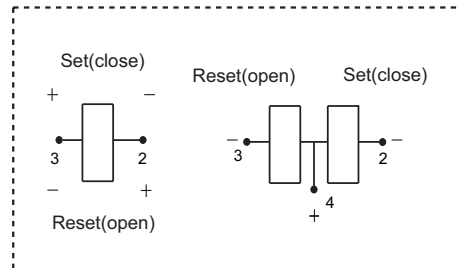
Remark: In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.1 mm; outline dimension > 1 mm and ≤ 5 mm, tolerance should be ± 0.2 mm; outline dimension > 5 mm, tolerance should be ± 0.4 mm.

Coil Wiring Diagram

Positive polarity



Negative polarity



Notice:

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. 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 time (more than 1 min) should be avoided.
3. The terminals of relay without twisted copper wire can not be tin-soldered, can not be moved willfully.
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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