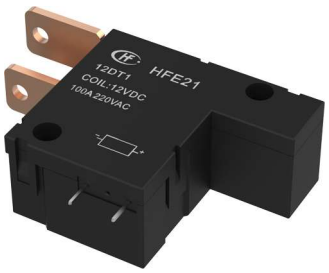
HFE21 MINIATURE HIGH POWER LATCHING RELAY



Features

- 120A Latching relay
- Electrical endurance 10000ops
- According to IEC62055-31:UC3
- Contact resistence ≤0.35mΩ
- Outline Dimensions: 52.0mm x 43.0mm x 22.0mm

CONTACT DATA

Contact arrangement	1A, 1B, 1U, 1V
Contact resistence 1)	Typ.:0.35mΩ max. (at 100A)2)
Contact material	$AgSnO_2$
Contact rating	120A 220VAC
Max. switching voltage	253VAC
Max. switching current	120A
Rated switching power	26400VA
Mechanical endurance	1 x 10^5OPS

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 (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/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

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

COIL DATA at 23°C

Single coil latching

Nominal Voltage VDC	Set / Reset Voltage VDC 1) 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) 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 and recommended driving voltage is 1~1.5times of 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 IEC62055-31 test requirement,do the inductive load test after the resistive load test.
2) The coil is driven at rated voltage.

ORDERING INFORMATION

	HFE21	-C	/12	-D	T	2	-R	(XXX)
Type								
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 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 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 3 UC ratings:
UC3: meet the UC3 requirements on IEC62055-31: Making test:3kA/10MS; carrying test 6kA/10ms.

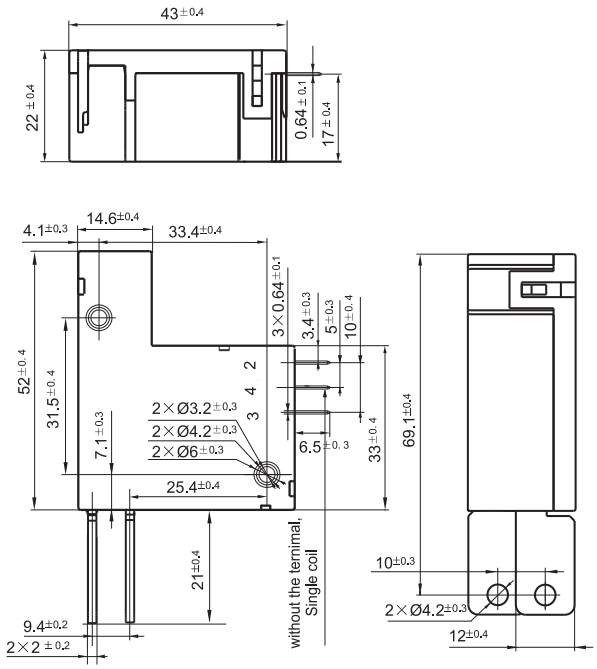
4) The customer special requirement express as special code after evaluating by Hongfa. e.g. (417) stands for UC3.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions

Type C contact terminal

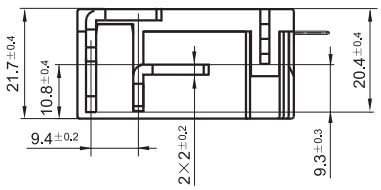


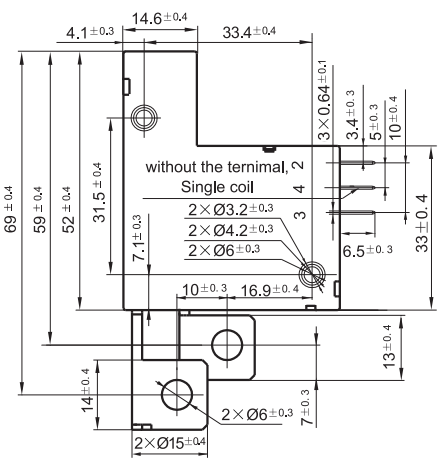
OUTLINE DIMENSIONS AND WIRING DIAGRAM

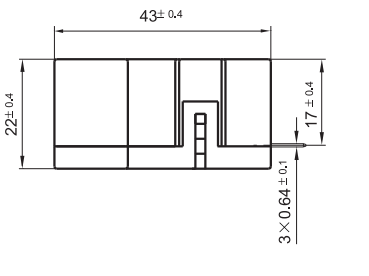
Unit: mm

Outline Dimensions

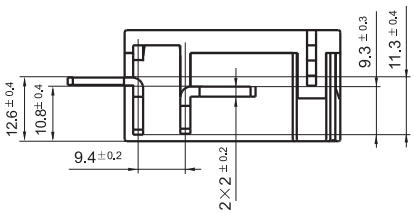
Type A contact terminal

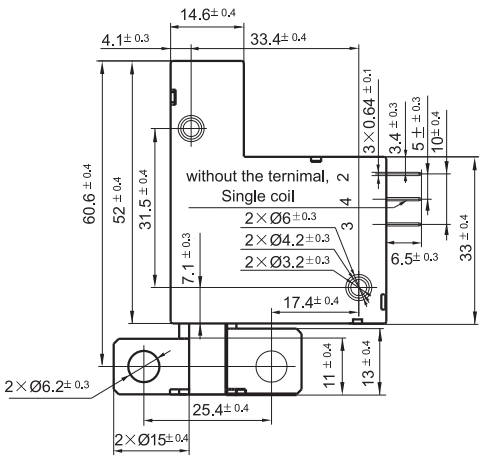


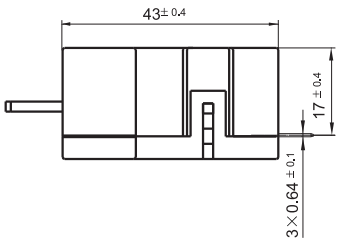




Type B contact terminal





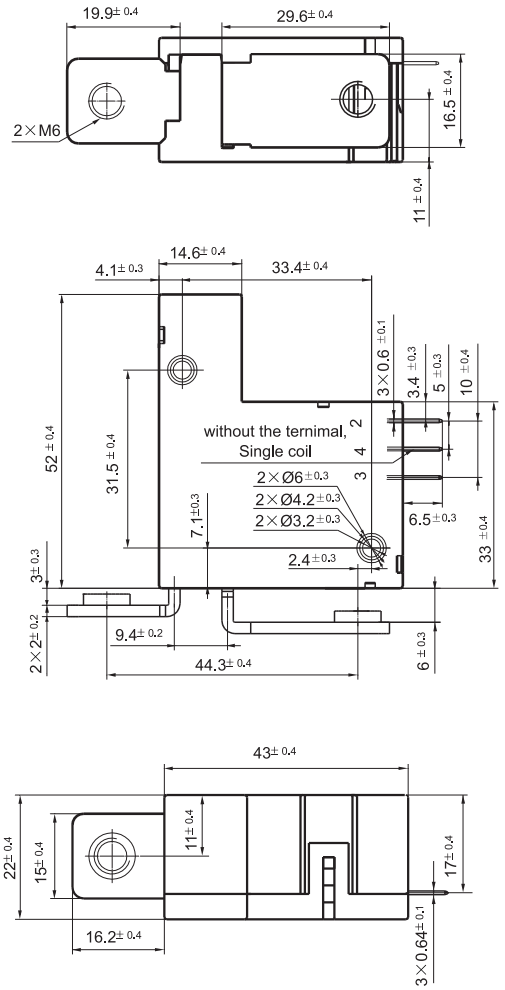


OUTLINE DIMENSIONS AND WIRING DIAGRAM

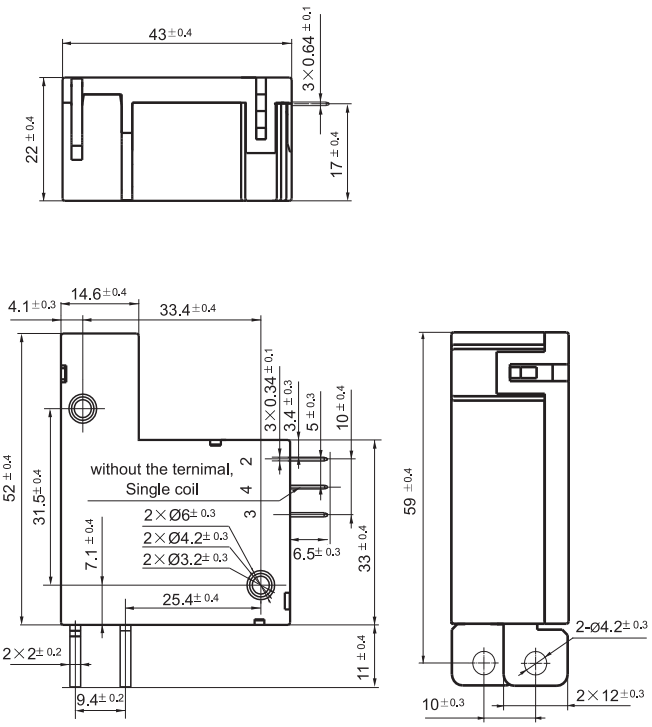
Unit: mm

Outline Dimensions

Type D contact terminal



Type G contact terminal

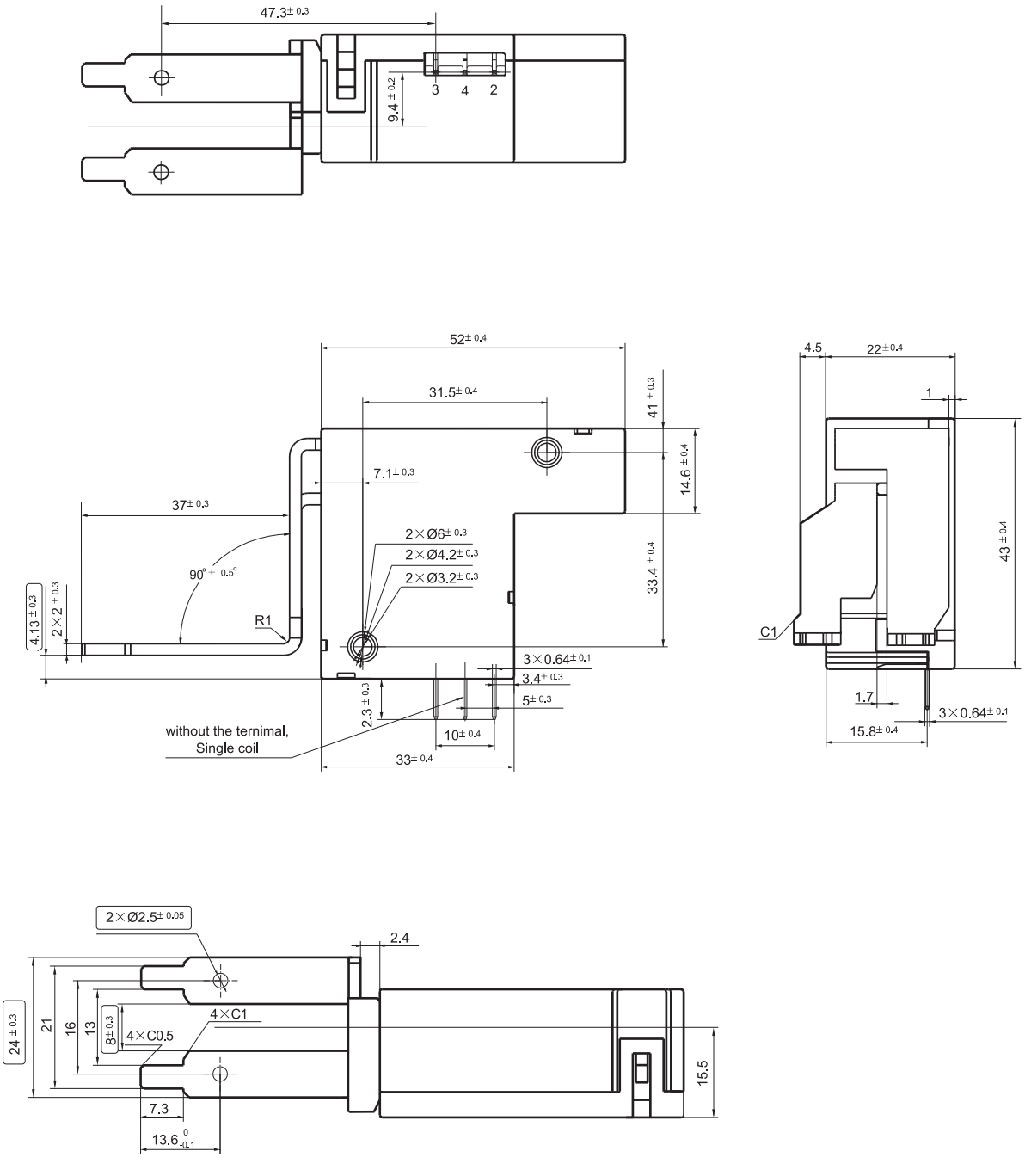


OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions

Type I contact terminal

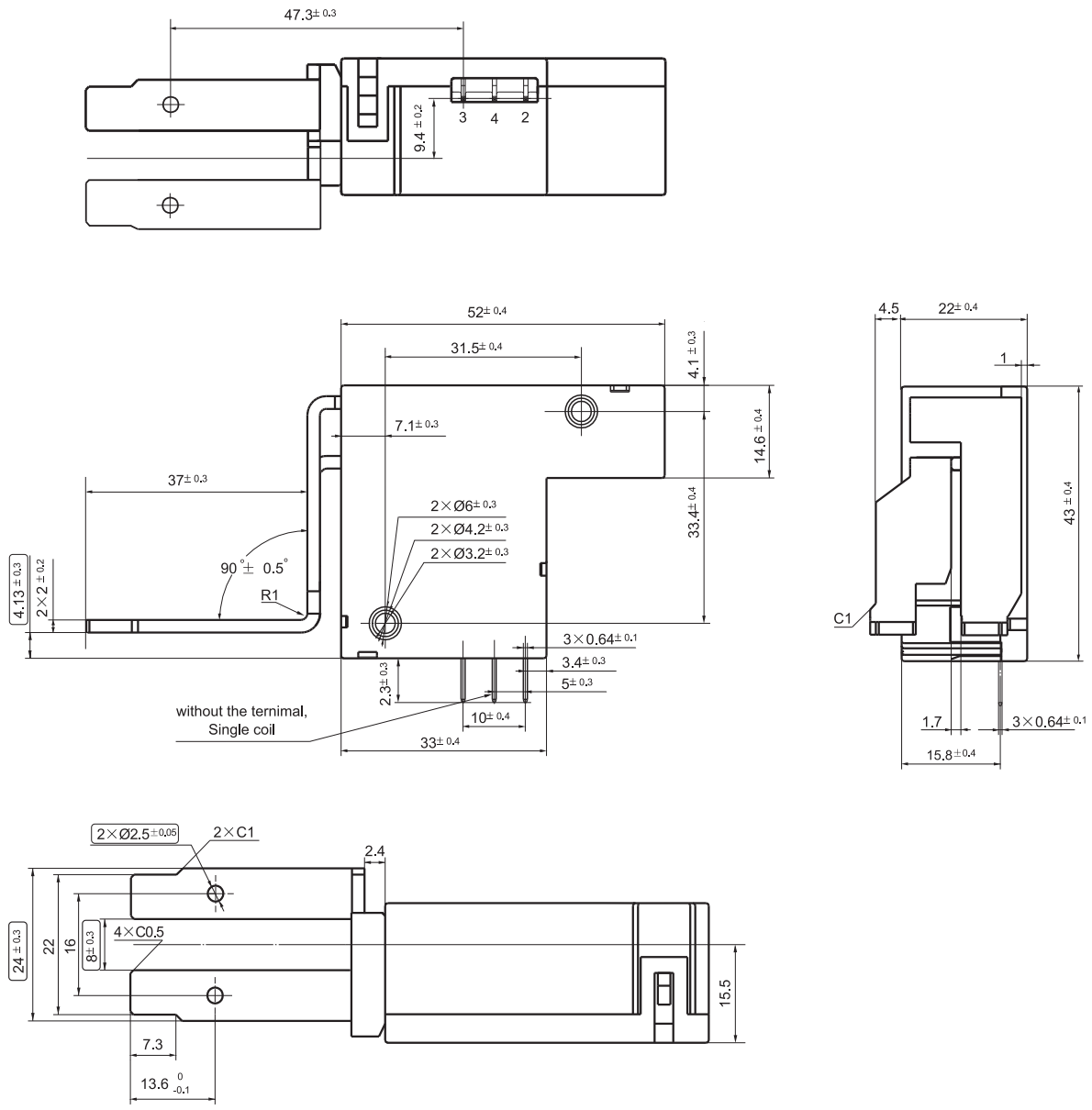


OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions

Type J contact terminal



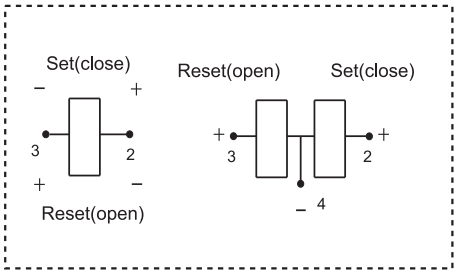
Remark: In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.1mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.2mm; outline dimension >5mm, tolerance should be ±0.4mm.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

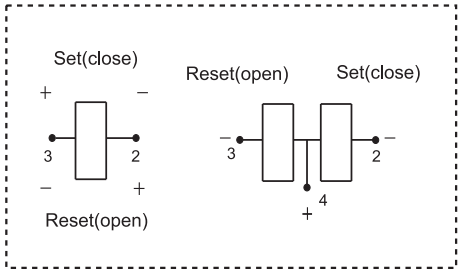
Unit: mm

Coil Wiring Diagram

Positive polarity



Negtive 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. 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.