

HFE29

HIGH POWER LATCHING RELAY



Features

- 100A, 120A Latching relay
- Electrical endurance 10000ops
- According to IEC62055-31:UC3
- Contact resistance $\leq 0.35\text{m}\Omega$

CONTACT DATA

Contact arrangement	1U, 1V
Contact resistance ¹⁾	Typ.:0.35m Ω max. (at 100A) ²⁾
Contact material	AgSnO ₂
Contact rating	100A 240VAC (HFE29-100) 120A 240VAC (HFE29-120)
Max. switching voltage	277VAC
Max. switching current	100A (HFE29-100) 120A (HFE29-120)
Rated switching power	24000VA (HFE29-100) 28800VA (HFE29-120)
Mechanical endurance	1 x 10 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 continuous measurements for each sample.

CHARACTERISTICS

Insulation resistance		1000M Ω (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	Coil termination	PCB&QC
	Load termination	QC
Unit weight		Approx. 75g
Construction		Dust protected

Notes: The data shown above are initial values.



HONGFA RELAY

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

2019 Rev. 1.00

COIL

Coil power	HFE29-100	Single coil latching: Approx. 2.4W Double coils latching: Approx. 4.8W
	HFE29-120	Single coil latching: Approx. 3W Double coils latching: Approx. 6W

COIL DATA

at 23°C

HFE29-100 Single coil

Nominal Voltage VDC	Set / Reset Voltage VDC ¹⁾ max.	Pulse Duration (Recommended) ms.	Coil Resistance x (1 \pm 10%) Ω
6	≤ 4.8	50~100	15
9	≤ 7.2	50~100	34
12	≤ 9.6	50~100	60
24	≤ 19.2	50~100	250
48	≤ 38.4	50~100	1000

HFE29-100 Double coils

Nominal Voltage VDC	Set / Reset Voltage VDC ¹⁾ max.	Pulse Duration (Recommended) ms.	Coil Resistance x (1 \pm 10%) Ω
6	≤ 4.8	50~100	7.5+7.5
9	≤ 7.2	50~100	17+17
12	≤ 9.6	50~100	30+30
24	≤ 19.2	50~100	125+125
48	≤ 38.4	50~100	500+500

Notes: 1) The data shown above are initial values ; 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)	
416 (UC2)	240VAC	80A	COS ϕ =1	10:20	5000	Total:10000
			COS ϕ =0.5		5000	
417 (UC3)		100A	COS ϕ =1		5000	Total:10000
			COS ϕ =0.5		5000	

Notes: 1) Electrical endurance meet IEC62055-31 test requirement, do the inductive load test after the resistive load test.

2) Only some typical ratings of UC are listed above, if more special ratings required, please contact us.

COIL DATA

at 23°C

HFE29-120 Single coil

Nominal Voltage VDC	Set / Reset Voltage VDC ¹⁾ max.	Pulse Duration (Recommended) ms.	Coil Resistance x (1±10%) Ω
6	≤4.8	50~100	12
9	≤7.2	50~100	27
12	≤9.6	50~100	48
24	≤19.2	50~100	192
48	≤38.4	50~100	768

HFE29-120 Double coils

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+6
9	≤7.2	50~100	13.5+13.5
12	≤9.6	50~100	24+24
24	≤19.2	50~100	96+96
48	≤38.4	50~100	384+384

Notes:1) The data shown above are initial values ; recommended driving voltage is 1~1.5times of rated voltage.

ORDERING INFORMATION

Type	HFE29 - 120 /12 -SD T -2 -R (XXX)						
Contact rating	100: 100A						
	120: 120A						
Coil voltage	6, 9, 12, 24, 48VDC						
Contact form ¹⁾	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 ²⁾³⁾	XXX: Customer special requirement						

Notes: 1) SH means that relay is on the "reset" status when delivery; 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.

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

UC2: meet the UC2 requirements on IEC62055-31: Making test: 2.5KA/10ms, carrying test 4.5KA/10ms;

UC3: meet the UC3 requirements on IEC62055-31: Making test: 3KA/10ms, carrying test 6KA/10ms.

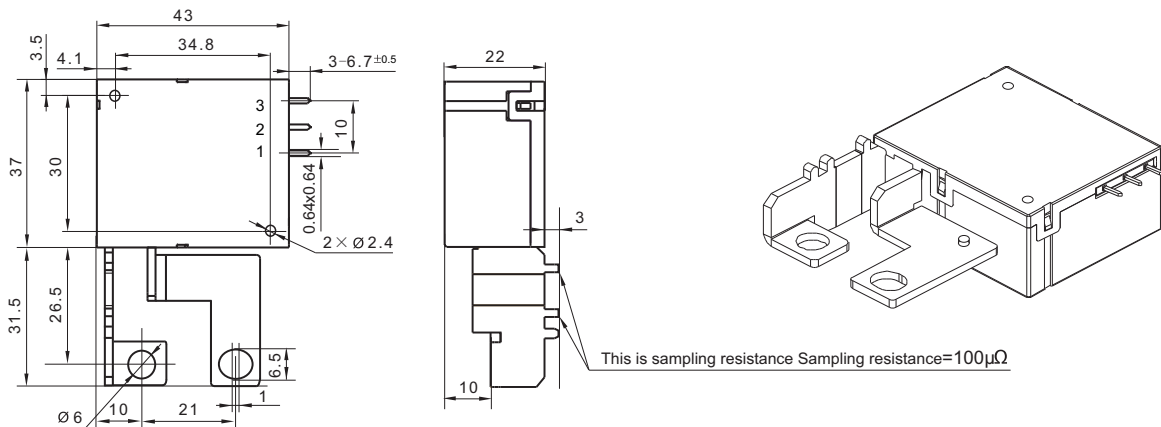
Nil: Only some typical ratings of UC are listed above, if need more special requirement, please contact us.

3) The customer special requirement express as special code after evaluating by Hongfa. e.g. (416) stands for UC2(HFE29-100); e.g. (417) stands for UC3(HFE29-120).

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

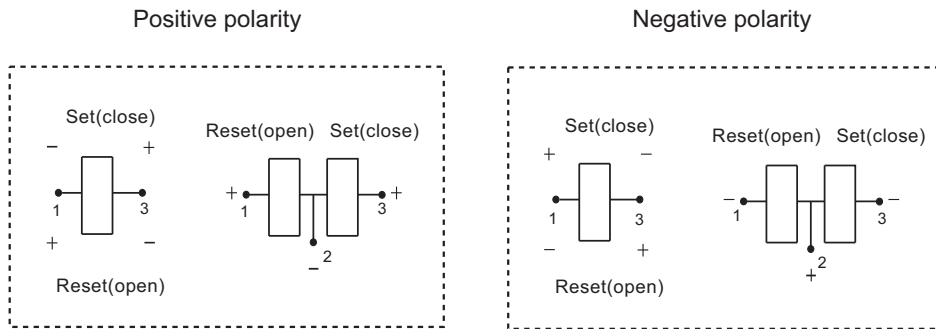
Outline Dimensions



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



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.

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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