HFE12 MINIATURE HIGH POWER LATCHING RELAY

Features

- According to IEC 62055-31:UC3
- Strong resistance ability to short circuit current at 3600A (30 times more than rated load current)
- 120A switching capability
- Heavy load up to 33.24kVA
- 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
Contact resistence	1mΩ (at 1A 24VDC)
Contact material	$AgSnO_2$
Contact rating (Res. load)	120A 277VAC/28VDC
Max. switching voltage	440VAC
Max. switching current	120A
Max. switching power	33240VA / 3360W
Mechanical endurance	1 x 10^5OPS
Electrical endurance	1 x 10^4OPS

COIL

Coil power	1 coil latching: 2.4W; 2 coils latching: 4.8W

COIL DATA at 23˚C

Nominal Voltage VDC	Pick-up Voltage VDC	Pulse Duration ms	Coil Resistance x (1±10%) Ω	
6	4.8	75	1 coil latching	16
9	7.2	75		34
12	9.6	75		60
24	19.2	75		250
48	38.4	75		1000
6	4.8	75	2 coils latching	8+8
9	7.2	75		17+17
12	9.6	75		30+30
24	19.2	75		125+125
48	38.4	75		500+500

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength (Between coil & contacts)		4000VAC 1min
Creepage distance		8mm
Operate time (at nomi. volt.)		20ms max.
Release time (at nomi. volt.)		20ms max.
Shock resistance	Functional	98m/s^2
	Destructive	980m/s^2
Vibration resistance		10Hz to 55Hz 1.0mm DA
Humidity		98%RH，40˚C
Ambient temperature		-40˚C to 70˚C
Termination		QC
Unit weight		Approx. 85g
Construction		Dust protected

Notes: The data shown above are initial values.

ORDERING INFORMATION

	HFE12	-C	120/	12	-H	T	2	-R	(XXX)

Type

Version
- **A:** Type A contact terminal
- **B:** Type B contact terminal
- **C:** Type C contact terminal
- **D:** Type D contact terminal
- **F:** Type F contact terminal
- **G:** Type G contact terminal

Typical sampling resistence — **120:**120μΩ **150:**150μΩ **200:**200μΩ **250:**250μΩ

Coil voltage — 6, 9, 12, 24, 48VDC

Contact form [1] — **H:** 1 Form A D: 1 Form B

Contact material — **T:** $AgSnO_2$

Sort — **1:** 1 coil latching **2:** 2 coils latching

Polarity — **R:** Negative polarity **Nil:** Positive polarity

Customer special code

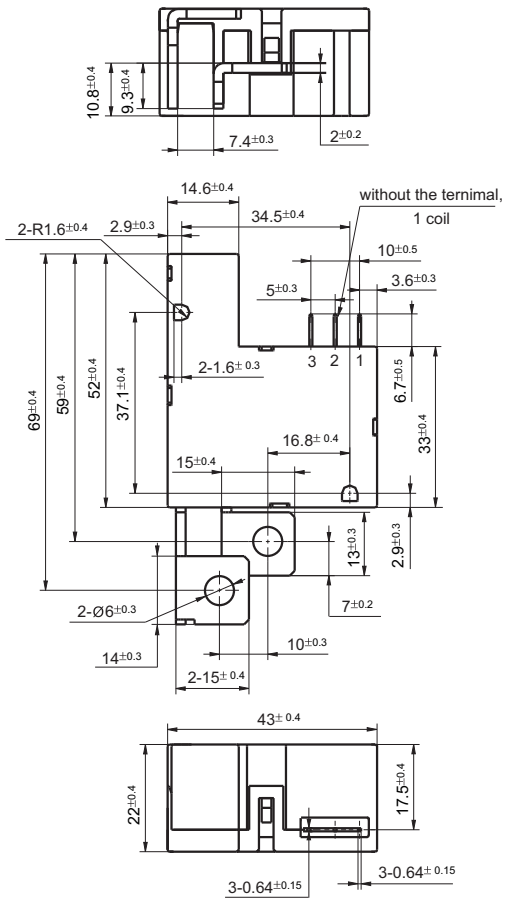
Notes: 1) H means that relay is on the "reset" status when delivery; D means that relay is on the "set" status when delivery.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

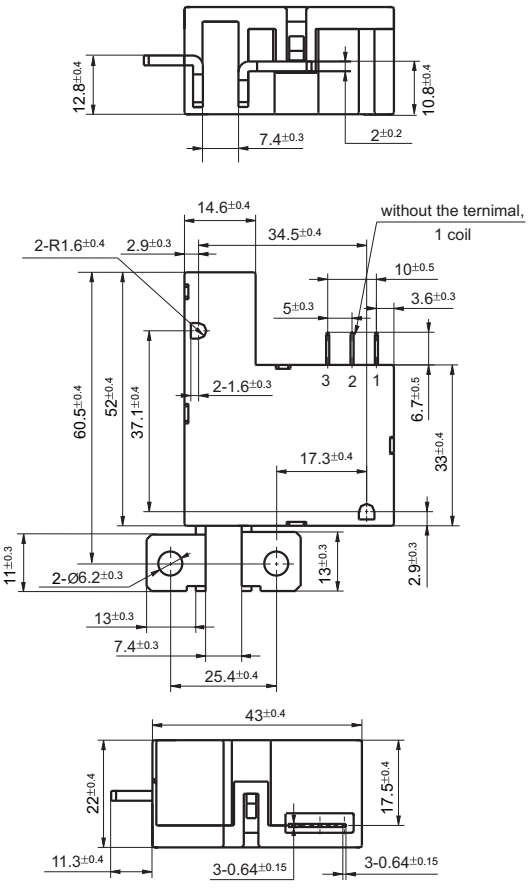
Unit: mm

Outline Dimensions

Type A contact terminal



Type B contact terminal

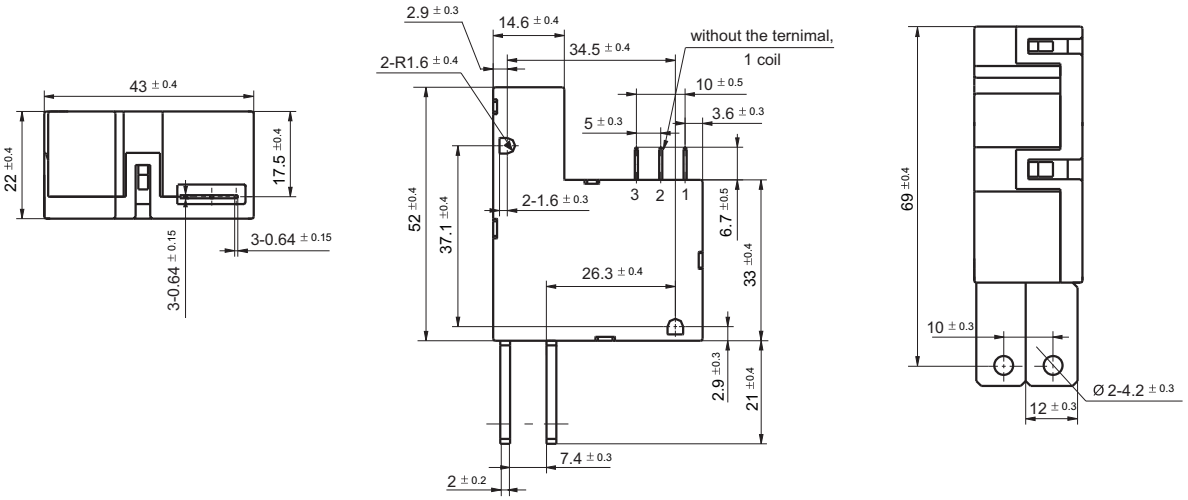


OUTLINE DIMENSIONS AND WIRING DIAGRAM

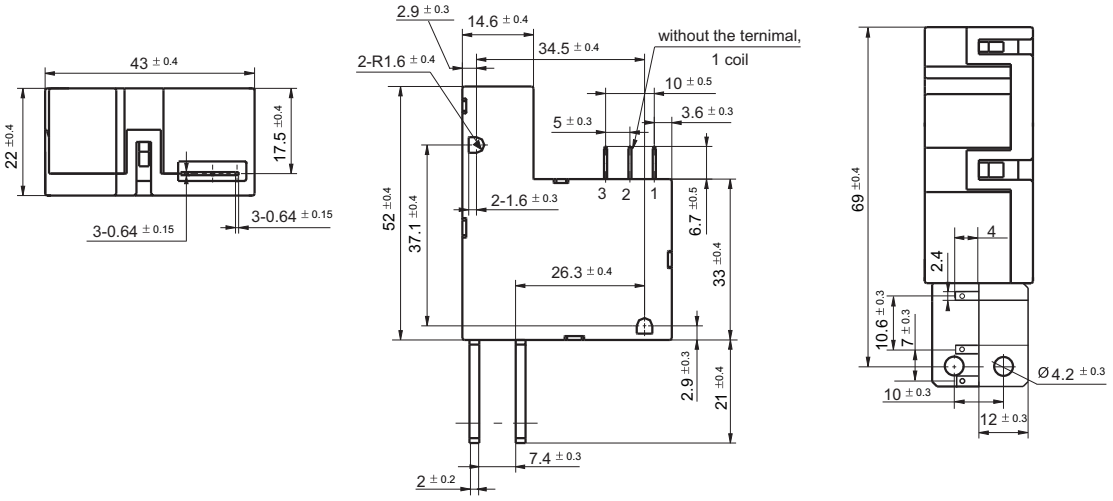
Unit: mm

Outline Dimensions

Type C contact terminal



Type C contact terminal with typical sampling resistence



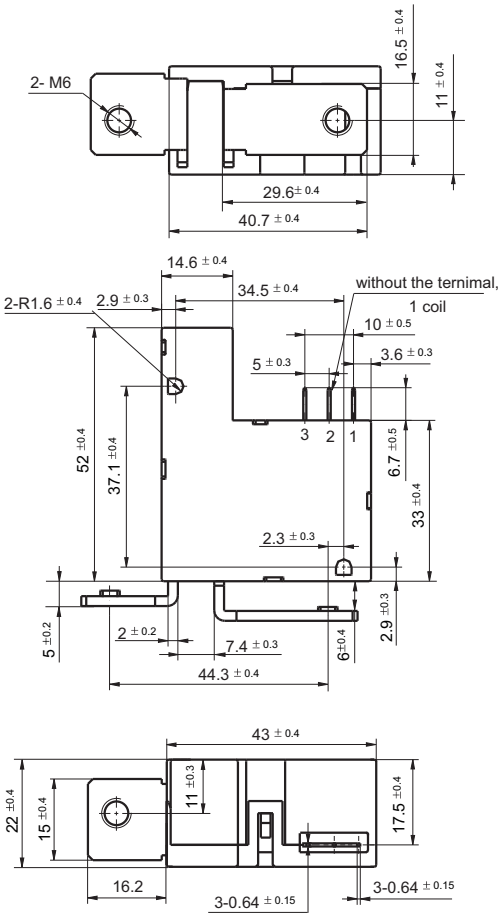
Notes：Type C contact terminal has 150μΩ.If requiring other typical sampling resistence, special order allowed.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

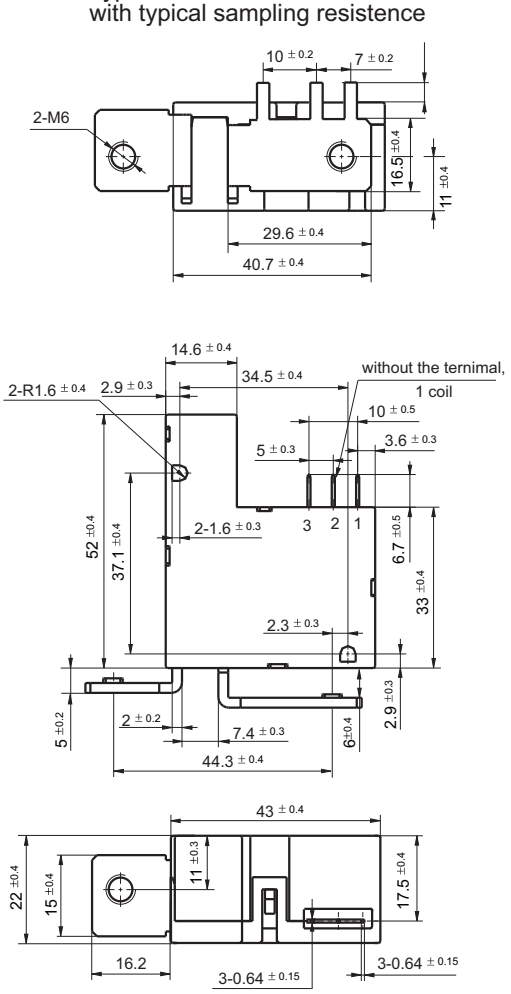
Unit: mm

Outline Dimensions

Type D contact terminal

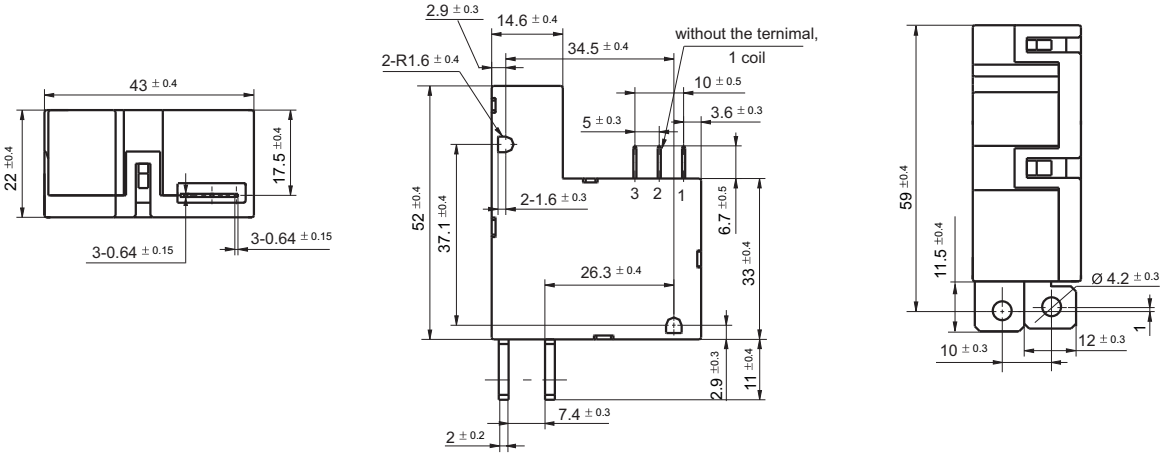


Type D contact terminal
with typical sampling resistence



Notes: Type D contact terminal has 120μΩ such one spec.If requiring other typical sampling resistence,special order allowed.

Type G contact terminal

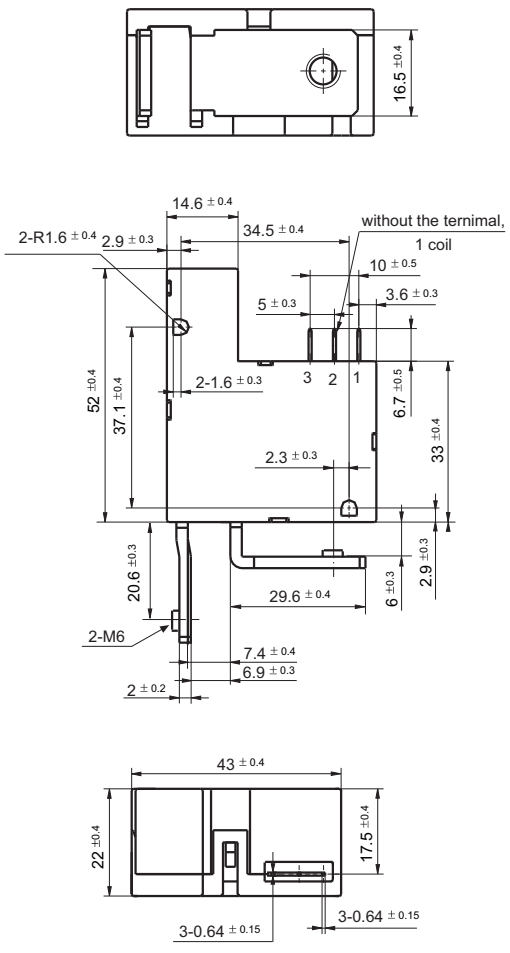


OUTLINE DIMENSIONS AND WIRING DIAGRAM

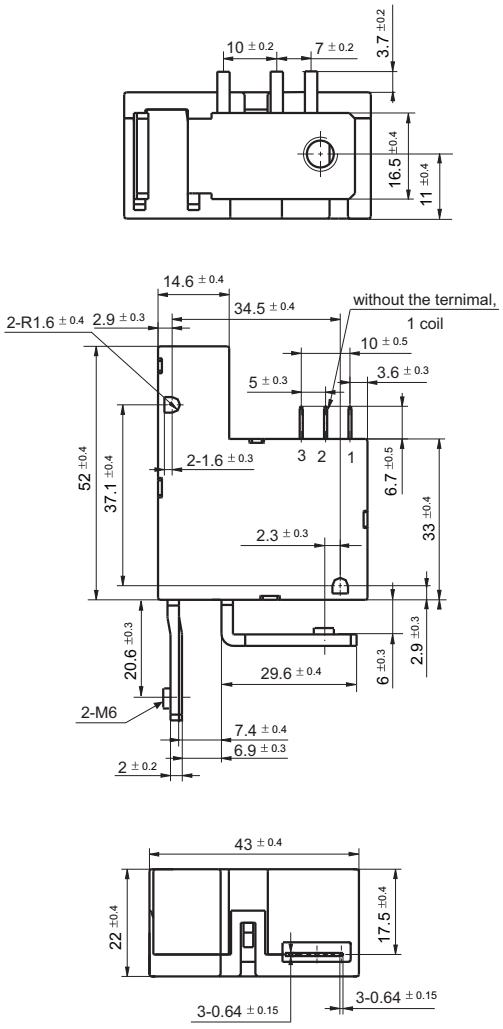
Unit: mm

Outline Dimensions

Type F contact terminal



Type F contact terminal
with typical sampling resistence



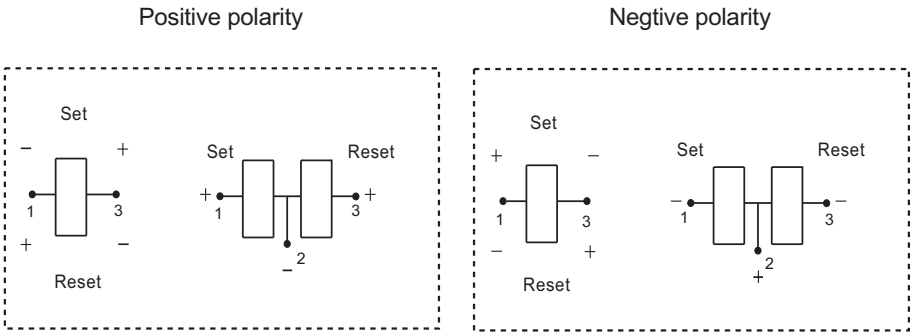
Notes: Type F contact terminal has 120μΩ such one spec.If requiring other typical sampling resistence,special order allowed.

Remark: 1) 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.

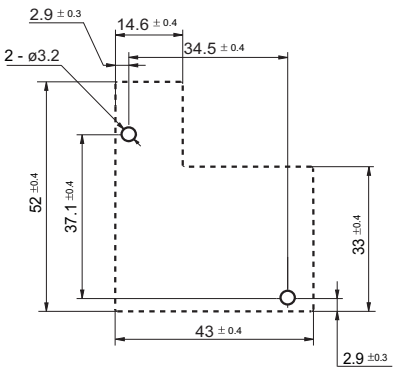
OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Coil Wiring Diagram



PCB Layout



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. In order to avoid changing operate voltage, products should not be kept in strong magnetic field during transportation, storage and application.