HF18FF-GN SMALL MEDIUM POWER RELAY

Features

- With two groups of conversion contact form.
- Optional with gold-plated contact.
- Transparent dust cover type, meet IP50 protection level.
- Non-transparent shell type can meet the IP67 protection class.
- There are two installation methods: insert type and PCB welding type

RoHS compliant

CONTACT DATA

Contact arrangement	2Z
Contact resistance	≤100mΩ (1A 6VDC)
Contact material	See"ORDERING INFORMATION"
Contact rating(Res. load)	12A 250VAC/ 30VDC
Least-Load	5mA 5VDC
Max.swtiching voltage	250VAC/30VDC
Max.switching current	12A
Max.switching power	3000VA/300W
Mechanical enduranc	1×10^7OPS
Electrical endurance	1×10^5OPS(Contact material:AgNi) 12A 250VAC,Resistive load, Room temp. ,1s on 9s off 1×10^5OPS(Contact material:$AgSnO_2$) 12A 30VDC,Resistive load, Room temp. ,1s on 9s off

Notes: 1) The data shown above are initial values.
2) Please refer to the characteristic curves for detailed electrical endurance information.if you need other conditions,please contact us.

CHARACTERISTICS

Insulation resistance		1000MΩ(500VDC)
Dielectric strength	Between coil & contacts	1000VAC 1min
	Between open contacts	2000VAC 1min
	Between contacts sets	2000VAC 1min
Operate time(at nomi. volt.)		20ms max.
Release time(at nomi. volt.)		15ms(DC type) 25ms max.(AC type)
Temperaturerise[2]		85K max.
Shock resistance	Functional	100m/s²
	Destructive	1000m/s²
Vibration resistance		10Hz to 55Hz 1mm DA
Humidity		5%RH to 85%RH
Ambient temperature		-40℃ to 70℃
Termination		DIP,SMT
Unit weight		Approx. 36.6g
Construction		Dustproof type meets(IP50)Protection grade. Transparent plastic seal type meets(IP54)Protection grade. Non-transparent shell plastic sealing satisfaction. (IP67)Protection grade.

COIL DATA

at 23℃

Nominal Voltage VAC	Pick-up Voltage[1] VAC max.	Drop-out Voltage VAC min.	Max. Voltage VAC[2]	Coil Resistance Ω
6	4.80	1.80	6.6	11 ×(1±10%)
12	9.60	3.60	13.2	44 ×(1±10%)
24	19.2	7.20	26.4	177 ×(1±10%)
36	28.8	10.8	39.6	400 ×(1±10%)
48	38.4	14.4	52.8	708 ×(1±10%)
60	48.0	18.0	66.0	1100 ×(1±10%)
110[3]	80.0	33.0	121	3400 ×(1±15%)
120[3]	88.0	36.0	132	4080 ×(1±15%)
220[3]	160.0	66.0	242	13600 ×(1±15%)
230	176.0	72.0	253	16300 ×(1±15%)
240[3]	176.0	72.0	264	16300 ×(1±15%)
277[3]	221.6	83.1	304.7	23590 ×(1±15%)

Nominal Voltage VDC	Pick-up Voltage[1] VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC[2]	Coil Resistance Ω
5	4.0	0.50	5.5	28 ×(1±10%)
6	4.8	0.60	6.6	40 ×(1±10%)
9	7.2	0.90	9.9	90 ×(1±10%)
12	9.6	1.20	13.2	160 ×(1±10%)
21	16.8	2.10	23.1	490 ×(1±10%)
24	19.2	2.40	26.4	640 ×(1±10%)
30	24.0	3.00	33.0	1000 ×(1±15%)
36	28.8	3.60	39.6	1440 ×(1±15%)
48	38.4	4.80	52.8	2560 ×(1±15%)
60	48.8	6.00	66.0	4000 ×(1±15%)
110[3]	80.0	11.0	121.0	12250 ×(1±15%)
125[3]	100.0	12.5	137.5	17360 ×(1±15%)
220	176.0	22.0	242.0	53360 ×(1±15%)

Notes: 1) Under ambient temperature, applying more than 8096 of rating woltage to coil, relay will take action accordingly. But in order to meet the stated product performance, please apply rated woltage to coli.
2) Maximum woltage refers to the maxmum woltage which relay coil could endure in a short period oftime.
3) A110:Rated voltage (100 to 110) VAC;
A120:Rated voltage (110 to 120) VAC;
A220:Rated voltage(200 to 220) VAC;
A240:Rated voltage(220 to 240) VAC;
110:Rated voltage(100 to 110) VDC;
125:Rated voltage(110 to 125) VDC.

COIL

Coil power	DC type：Approx. (0.8 to 1.1) W AC type：Approx. (0.9 to 1.5) VA

Construction

ORDERING INFORMATION

	HF18FF	-GN	/A	240	-2Z	1	S	3	G	D	(XXX)
Type	**HF18FF**：Button RF										
Series code	**GN**：Meet for a load current of 12A.Meet the protection capability of IP5X and above										
Coil voltage form	**A**：AC(50HZ or 60HZ) **Nil**：DC										
Coil voltage	See"COIL DATA"										
Contact arrangement	**2Z**：2 Form C										
Coaxial	**Nil**：Single contact										
Mounting termination	**1**：Socket	**2**：PCB									
Encapsulation mode	**Nil**：Non-plastic[1]	**S**：Plastic seal type[2]									
Contact material	**3**：AgNi	**T**：$AgSnO_2$									
Contact plating	**G**：Gold plated	**Nil**：No gold plated									
Component code	**D**：With LED	**Nil**：Without Component									
Special Code[4]	**XXX:** Customer special requiremen	**Nil:** Standard	**335:** XXX[4]								

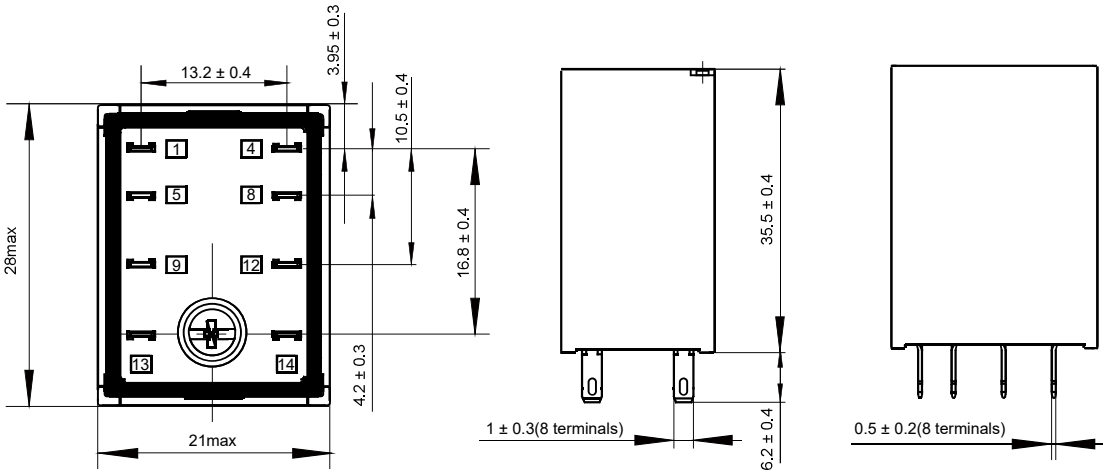
Notes: 1) "None" Optional transparent case, meets (IP50) protection class, without feature number; Optional black case, meet (IP50) protection level meet the requirements of hot wire, with 335 feature number.
2) "S" optional transparent shell, meets (IP54) protection class, without feature number; Optional black case, meets (IP67) protection level meets the requirements of hot wire, with 335 feature number.
3) "XXX" Customer special requirements are reviewed by our company and identified in the form of a feature number.
4) "335" characteristic code features an enclosure and base compliant with glow-wire requirements. Due to its non-transparent structure, LED pairing is not possible. Please select "None" for the combined component code.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit：mm

Outline Dimensions

HF18FF-N/□□-2Z1□□□□

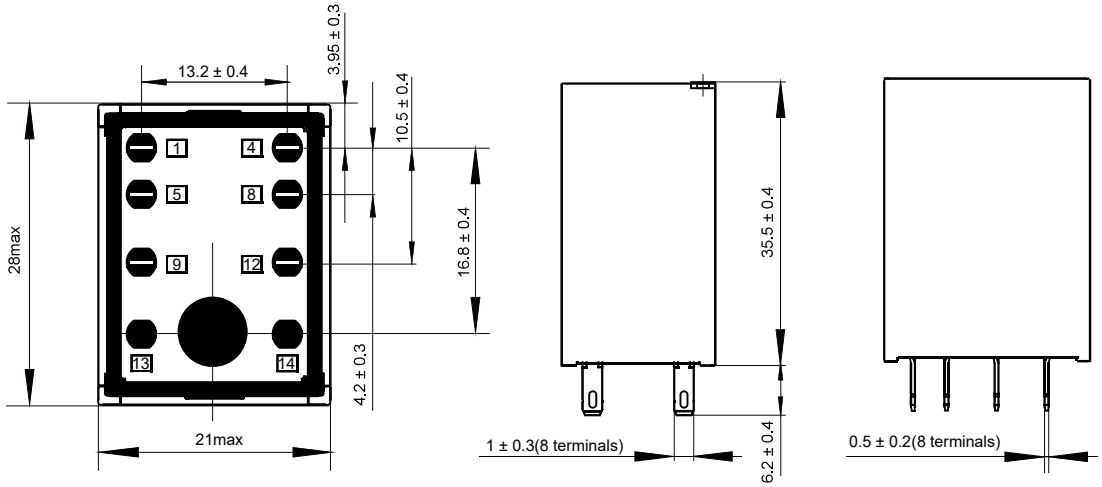


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

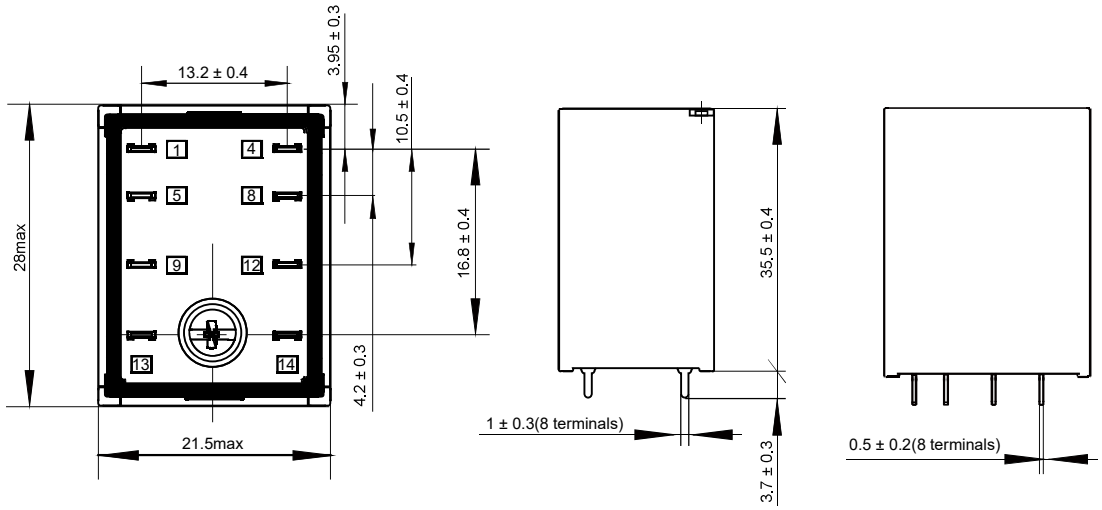
Unit：mm

Outline Dimensions

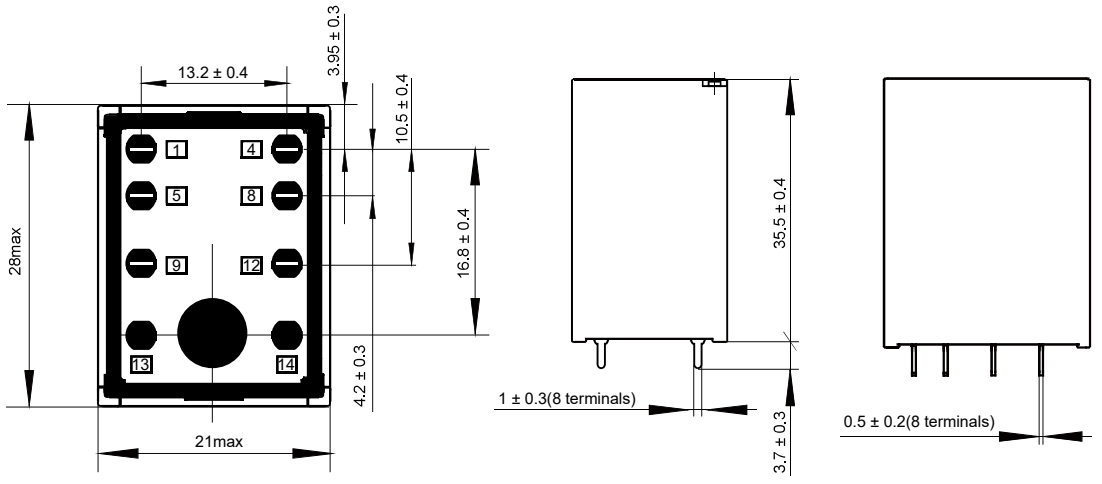
HF18FF-N/□□-2Z1S□□□□



HF18FF-N/□□-2Z2□□□□



HF18FF-N/□□-2Z2S□□□□



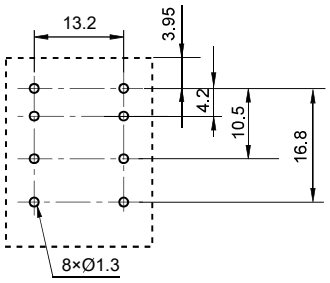
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit：mm

PC Board Layout

(Bottom view)

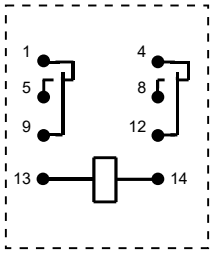
2Z: 2 Form C



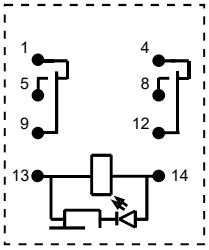
Wiring Diagram

(Bottom view)

2Z: 2 Form C



2Z: 2 Form C（with LED）

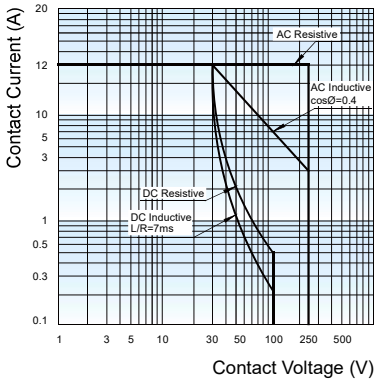


Notes: 1)In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be±2mm; outline dimension ＞1mm and ≤5mm, tolerance should be±3mm; outline dimension ≥5mm, tolerance should be±4mm.

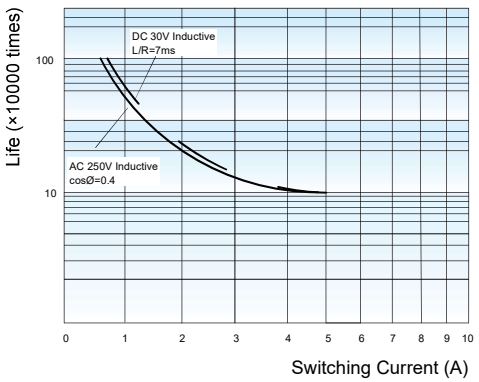
2)The tolerance without indicating for PCB layout is always±0.1mm.

CHARACTERISTIC CURVES

MAX.SWITCHING POWER
(2 Form C)



INDUCTIVE ELECTRICAL DURABILITY CURVE
(2 Form C)



CHARACTERISTIC CURVES

RESISTIVITY ELECTRICAL DURABILITY DIAGRAM
(2 Form C)