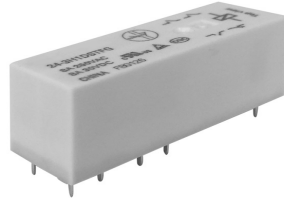




# HLR-A4A-8

## Safety relay (Relay with forced guide contact)



### Features

- Forced guide contact structure, according to IEC61810-3 (equivalent to EN50205 standard)
- Strong load capacity: 8A contact switching ability
- Strong insulation ability: the medium between the contact and the coil can withstand 4kV
- UL insulation grade: F insulation grade
- Dimensions: (40.0x13 x15.7)mm

**RoHS compliant**

### Contact parameter

Contact form	2NO+2NC 3NO+1NC
Mandatory oriented type (According to IEC 61810-3)	Class A mandatory orientation
Contact resistance <sup>(1)</sup>	100mΩ(6VDC 100mA)
Contact material	AgSnO <sub>2</sub> + gild
Rated load	8A 250VAC/30VDC
Maximum switching	400VAC(3.5A Resistive load)
Maximum switching	8A
Maximum switching	2000VA /240W
Switch capacity DC-13	1NO:3A 24VDC(1sON:9sOFF)
Switch capacity AC-15	1NO:3A 250VAC(1sON:9sOFF)
Mechanical durability	1 x 10 <sup>7</sup> time
Electrical durability	1 x 10 <sup>4</sup> time(1NO: 85 °C, 1s on 9s off 8A 250VAC, Resistive load)

Note: The preceding values are initial values.

### Performance parameter

Insulation resistance	1000MΩ (500VDC)	
Dielectric withstand voltage	Disconnect between contacts	4000VAC 1min
	Between contact groups	2500VAC 1min
	Between coil and contact	1500VAC 1min
Surge voltage ( Between coil and contact )	10kV (1.2 / 50μs)	
Operating time (at rated voltage)	≤20ms	
Release time (at rated voltage)	≤10ms	
Coil temperature rise	≤70K (2 groups of normally open contact load 8A, rated voltage excitation, ambient temperature 85)	
strike	stability	10g(NO)
	intensity	100g
Vibration	10Hz ~ 200Hz 10g(NO)	
Humidity	5% ~ 85% RH	
Temperature range	-40°C to 85°C	
Outlet form	Printed plate	
Weight	About 15g	
Encapsulation mode	Plastic seal	

Note: The preceding values are initial values.

### Coil parameter

Rated coil power	About 800mW
Holding voltage <sup>(1)</sup>	50% ~ 100%U <sub>N</sub> (Ambient temperature 23°C) 60% ~ 100%U <sub>N</sub> (Ambient temperature 85°C)

Note: (1) Coil holding voltage is the coil voltage applied after the rated voltage is applied to the coil 100ms.

### Coil specification sheet 23°C

Rated voltage VDC	Operating voltage VDC <sup>(1)</sup>	Release voltage VDC	Maximum voltage VDC <sup>(2)</sup>	Coil resistance
5	≤3.8	≥0.5	7.5	31 x (1±10%)
6	≤4.5	≥0.6	9	45 x (1±10%)
9	≤6.8	≥0.9	13.5	101 x (1±10%)
12	≤9	≥1.2	18	180 x (1±10%)
15	≤11.3	≥1.5	22.5	281 x (1±10%)
18	≤13.5	≥1.8	27	405x (1±10%)
21	≤16	≥2.1	31.5	551 x (1±10%)
24	≤18	≥2.4	36	720 x (1±10%)
36	≤27	≥3.6	54	1620x (1±10%)
40	≤30	≥4	60	2000x (1±10%)
48	≤36	≥4.8	72	2880x (1±10%)
60	≤45	≥6	90	4500 x (1±15%)
85	≤63.8	≥8.5	127.5	9031 x (1±15%)
110	≤83	≥11	165	15125x (1±15%)

Note: (1) The above values are initial values;

(2) The maximum voltage refers to the maximum voltage value that the relay coil can withstand in a short time.

### Safety certification

<b>UL/CUL</b>	8A 250VAC cos(phi)=1 85°C 8A 30VDC L/R=0 85°C NO:B300 R300 85°C NO:3.5A 400VAC
<b>TÜV</b>	8A 250VAC cos(phi)=1 85°C 8A 30VDC L/R=0 85°C NO:3A 250VAC(AC-15) 85°C NO:3A 24VDC(DC-13) 85°C

Note: (1) For loads whose temperature is not indicated in the table, the ambient temperature is room temperature;

(2) The above only lists some typical loads of the product certification , if you need more information, please contact us.

Order mark example

	<b>HLR-A4A -8/</b>	<b>12-</b>	<b>2H2D</b>	<b>S</b>	<b>T</b>	<b>F</b>	<b>G</b>	<b>(XXX)</b>
Relay type								
Coil voltage	5,6,9,12,15,18,21,24,36,40,48,60,85,110VDC							
Contact form	<b>2H2D:</b> Two groups normally open + two groups normally closed <b>3H1D:</b> Three sets of normally open + one set of normally closed							
Encapsulation form	<b>S:</b> Plastic seal							
Contact material	<b>T:</b> AgSnO <sub>2</sub>							
Insulation class	<b>F:</b> Grade F							
Contact coating	<b>G:</b> Contact gold plating							
Special feature number <sup>(3)</sup>	<b>XXX:</b> Customer special requirements      None: Standard type							

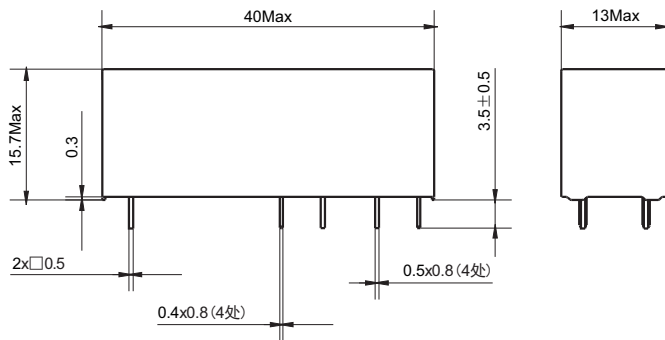
Note: (1) This product is a flux-proof product and cannot be used in polluted environment (containing a certain amount of H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, dust and other pollutants);  
 (2) After the anti-corrosion product is loaded into the PCB board, it can not be cleaned or surface treated as a whole;  
 (3) The special requirements of customers shall be identified by the form of feature number after review by our company.

Outline drawing, wiring diagram, mounting hole dimensions

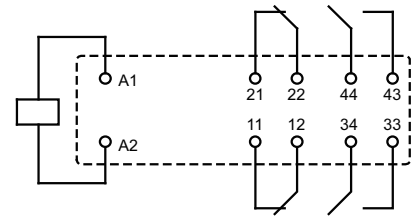
Unit: mm

HLR-A4A-8/□□-2H2D STFG(□□□)

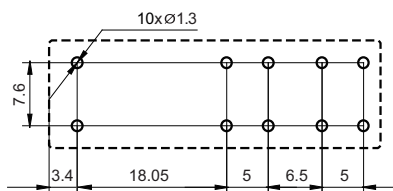
External drawing



Wiring diagram (bottom view)



Mounting hole dimensions (bottom view)

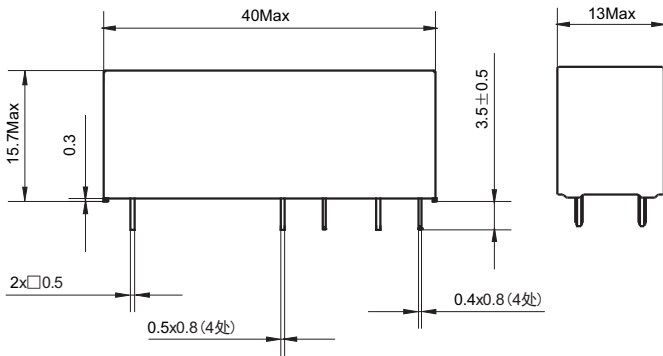


Outline drawing, wiring diagram, mounting hole dimensions

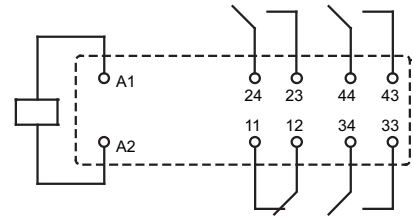
Unit: mm

HLR-A4A-8/□□-3H1D STFG(□□□)

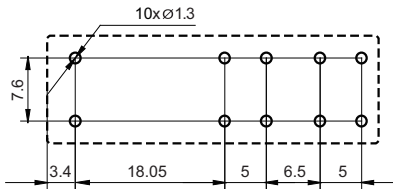
External drawing



Wiring diagram (bottom view)



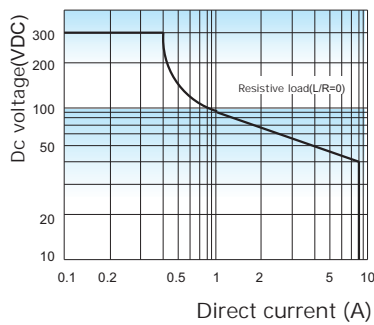
Mounting hole dimensions (bottom view)



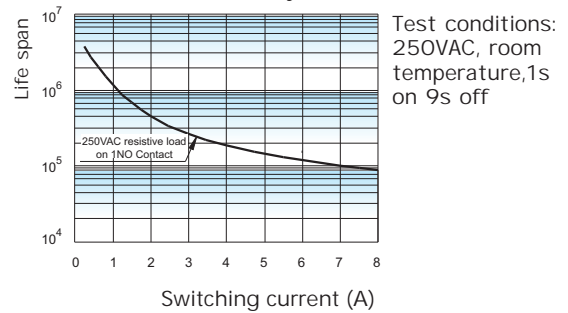
Note : (1) The pin size of the product outline drawing is the size before staining (it will be larger after staining), and the installation hole size is the recommended design size of the PCB hole. The specific design size of the PCB hole can be mapped and adjusted according to the actual product;  
 (2) No dimensional tolerance is noted in the outline size of the product part, when the outline size is  $\leq 1\text{mm}$ , the tolerance is  $\pm 0.2\text{mm}$ ; When the contour ruler is between (1 and 5)mm, the tolerance is  $\pm 0.3\text{mm}$ ; When the overall size is  $> 5\text{mm}$ , the tolerance is  $\pm 0.4\text{mm}$ ;  
 (3) The dimension tolerance of the mounting hole is  $\pm 0.1\text{mm}$ .

Performance curve

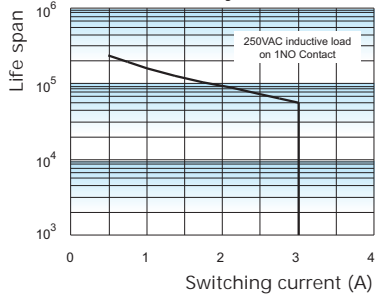
Maximum DC carrying capacity



Electrical durability curve

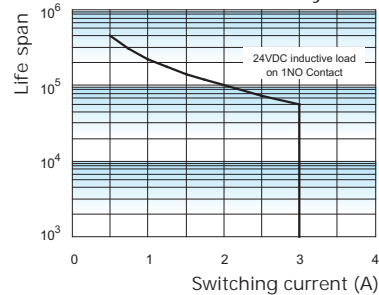


Electrical durability curve of AC-15



Note:  
 1) AC-15 life is tested according to IEC 60947-5-1 standard.  
 2) AC-15 test load: 250VAC, 85°C, 1s is connected and 9s is disconnected

DC-13 electrical durability curve



Note:  
 1) DC-13 life is tested according to IEC 60947-5-1 standard.  
 2) DC-13 test load: 24VDC, 85°C, 1s is connected and 9s is disconnected