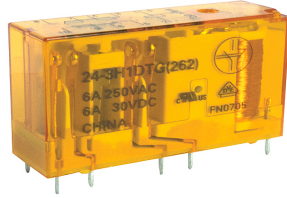




HLR-A4-9

Safety relay (Relay with forced guide contact)



Features

- A variety of contact combinations: two groups of normally open + two groups of normally closed, three groups of normally open + one-group normally closed
- Forced guide contact structure (according to IEC 61810-3)
- Strong load capacity: 6A contact switching ability
- Low input power consumption: 360mW
- Strong insulation: input-output withstand 10kV surge voltage
- UL insulation grade :F insulation grade is available

RoHS compliant

Contact parameter

Contact form	2H2D, 3H1D
Mandatory oriented type (According to IEC 61810-3)	Class A mandatory orientation
Contact resistance ⁽¹⁾	≤100mΩ (1A 6VDC)
Contact material	AgSnO ₂
Contact load (resistive)	6A 250VAC / 30VDC
Maximum switching	400VAC / 30VDC
Maximum switching	6A
Maximum switching	1500VA /180W
Mechanical durability	1 x 10 ⁵ time(1NO: 6A 30VDC, Resistive load, room temperature, 1s on 9s off) 1 x 10 ⁵ time(1NO: 6A 250VAC, Resistive load, room temperature, 1s on 9s off)
Electrical durability	1 x 10 ⁷ time

Note: The preceding values are initial values.

Coil parameter

Rated coil power	About 360mW
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Coil specification sheet

23°C

Rated voltage VDC	Operating voltage VDC ⁽¹⁾	Release voltage VDC	Maximum voltage VDC ⁽²⁾	Coil resistance
6	≤4.5	≥0.6	7.8	100 x (1±10%)
9	≤6.8	≥0.9	11.7	225 x (1±10%)
12	≤9.0	≥1.2	15.6	400 x (1±10%)
18	≤13.5	≥1.8	23.4	900 x (1±10%)
24	≤18.0	≥2.4	31.2	1600 x (1±10%)
36	≤27.0	≥3.6	46.8	3600 x (1±10%)
48	≤36.0	≥4.8	62.4	6400 x (1±10%)

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.

Performance parameter

Insulation resistance	1000MΩ (500VDC)	
Dielectric withstand voltage	Disconnect between contacts	4000VAC 1 min
	Between contact groups	1500VAC 1 min
Surge voltage	Between coil and contact	2500VAC 1 min (7-8/9-10) 4000VAC 1 min (other)
	Between contact groups	10kV (1.2 / 50μs) 5kV (1.2 / 50μs)
Operating time (at rated voltage)	≤20ms	
Release time (at rated voltage)	≤20ms	
Coil temperature rise (at rated voltage)	≤60K (coil drive voltage is 1.1 times Un, contact current carrying is rated current, ambient temperature 85°C)	
Vibration	NO/NC: 10Hz ~ 55Hz 1.5mm Double amplitude NO: 55Hz ~ 200Hz, 98m/s ² NC: 55Hz ~ 200Hz, 49m/s ²	
strike	stability	100m/s ²
	intensity	980m/s ²
Creepage distance	Between coil and contact	8mm
	Between contact groups	5.5mm
Air gap	Between coil and contact	8mm
	Between contact groups	5.5mm
Humidity	5% ~ 85% RH	
Temperature range	-40°C ~ 85°C	
Outlet form	Printed plate	
Weight	About 20g	
Encapsulation mode	Anti-flux type	

Note: (1)UL insulation grade: F class, B class;
(2) The above values are initial values.

Safety certification

UL/CUL	6A 277VAC / 250VAC / 125VAC 85°C 6A 30VDC 85°C Pilot duty: 2A 240VAC 室温
VDE	6A 250VAC 85°C 6A 30VDC 85°C AC-15: 1.5A 240VAC AC-15: 2A 240VAC

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, the detailed test conditions of each load are different, so the electrical durability life times are not the same, if you need detailed information, please contact our company.

Order mark example

	HLR-A4-9/	24	-2H2D	T	G	F	(XXX)
Relay type							
Coil voltage	6, 9, 12, 18, 24, 36, 48VDC						
Contact form	2H2D: 2 groups normally open +2 groups normally closed 3H1D: 3 groups normally open +1 group normally closed						
Contact material	T: AgSnO ₂						
Contact coating	G: Gold plating ⁽³⁾						
Insulation class	F: Grade F		None: Level B				
Special feature number ⁽⁴⁾	XXX: Customer special requirements		None: Standard type				

Note: (1) This product is a flux-proof product and cannot be used in polluted environment (containing a. Quantitative H₂S, SO₂, NO₂, dust and other pollutants) used in;

(2) After soldering the anti-flux products into the PCB board, they can not be cleaned or treated as a whole;

(3) For gold-plated contacts, the minimum load is 10mA 5VDC, if the customer has a special load, please contact us for evaluation, provide suitable product specifications;

(4) For the shell using PC material, avoid being contaminated by organic solvents, otherwise there may be chemical reactions leading to swelling or cracking of the shell.

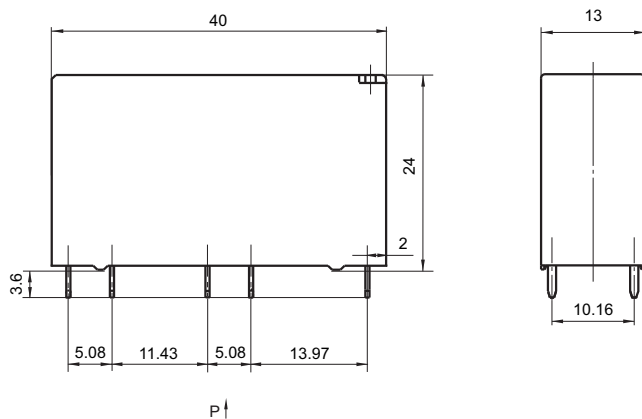
(5) After the special requirements of customers are reviewed by our company, they are identified in the form of the feature number, (310) indicating that the product packaging method meets the requirements of IEC61810-1 standard RTIII.

Outline drawing, wiring diagram, mounting hole dimensions

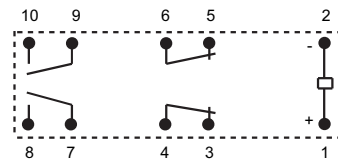
Unit: mm

HLR-A4-9/□□-2H2DTG(□□□)

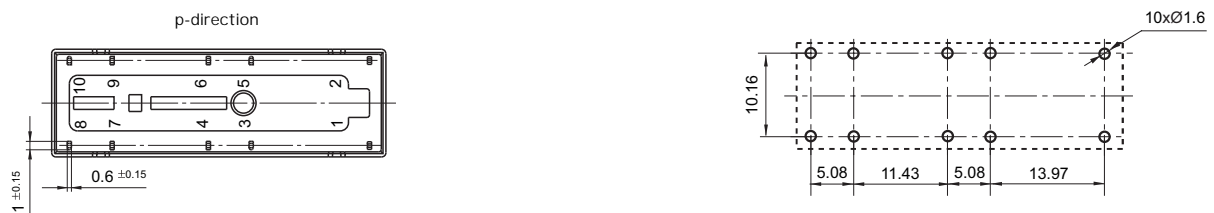
External drawing



Wiring diagram (bottom view)



Mounting hole dimensions (bottom view)

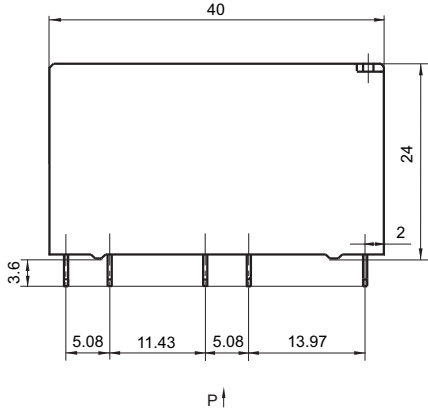


Outline drawing, wiring diagram, mounting hole dimensions

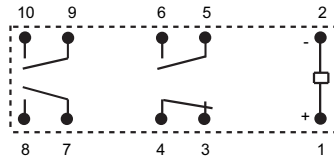
Unit: mm

HLR-A4-9/□□-3H1DTG(□□□)

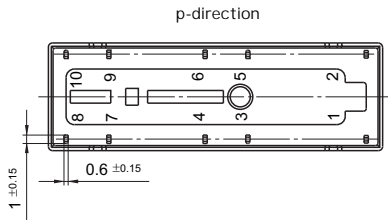
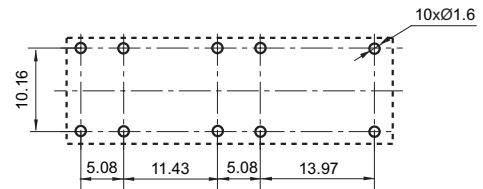
External drawing



Wiring diagram (bottom view)



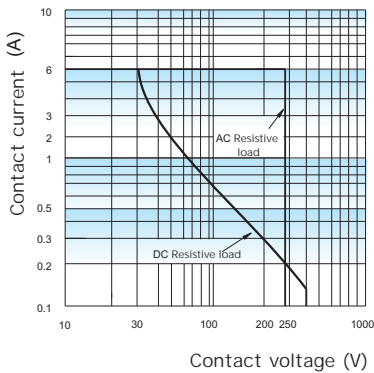
Mounting hole dimensions (bottom view)



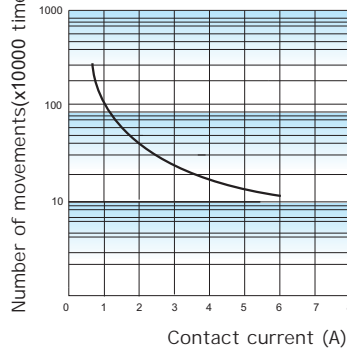
Note: (1) No dimensional tolerance is noted in the overall dimension of the product part. When the overall dimension is less than 1mm, the tolerance is $\pm 0.2\text{mm}$; When the overall size is between (1 and 5)mm, the tolerance is $\pm 0.3\text{mm}$; When the overall size is $> 5\text{mm}$, the tolerance is $\pm 0.4\text{mm}$;
 (2) The dimension tolerance of the mounting hole is $\pm 0.1\text{mm}$.

Performance curve

Maximum daily switching power

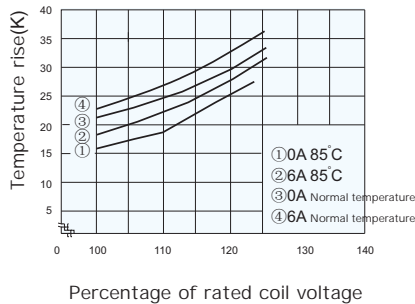


Electrical durability curve

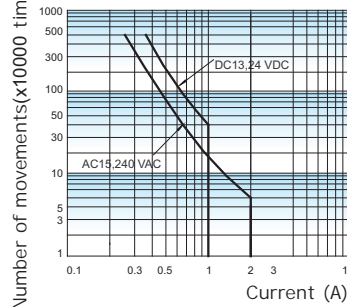


Note:
 (1) Test conditions :1NO end, resistive load, 250VAC, room temperature, 1s on 9s off.
 (2) The above values are typical for test tests.

Coil temperature rise

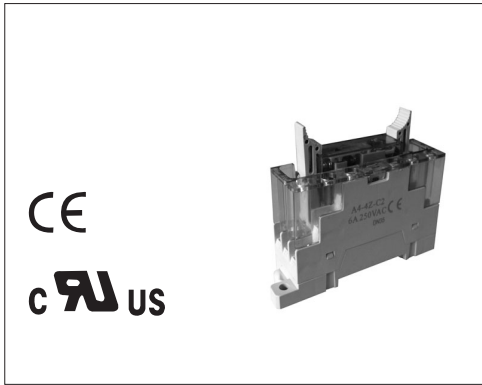


Inductive electrical durability curve



Note:
 Test according to IEC61810-1 Appendix B Table B.3 method, room temperature, 1NO, 1s on 9s off.

Relay socket



Features

- Voltage between coil and contact 2500VAC, insulation resistance 1000M
- Screw installation, can also be mounted on the guide rail
- Use diode to protect the coil and inhibit reverse overvoltage
- With finger protective cover
- With relay to keep and take out

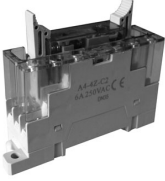
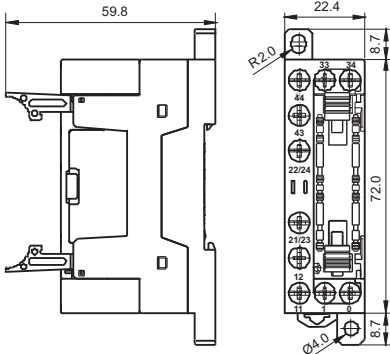
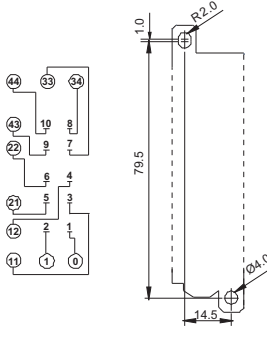
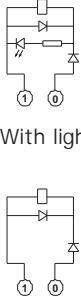
Performance parameter

Socket type	Rated voltage	Rated current	Relay coil applicable voltage	Ambient temperature	Torque *	Maximum wire cross-section size mm ²	Strip wire length	weight	remark
A4-4Z-C2-D24	250VAC	6A	(6~24)VDC	-25 °C ~ 55°C	1.0N·m	2 x1.5	7mm	About 49g	With light
A4-4Z-C2-D60	250VAC	6A	(36~60)VDC	-25 °C ~ 55°C	1.0N·m	2 x1.5	7mm	About 49g	With light
A4-4Z-C2-D110	250VAC	6A	(85~110)VDC	-25 °C ~ 55°C	1.0N·m	2 x1.5	7mm	About 49g	With light
A4-4Z-C2	250VAC	6A	(6~110)VDC	-25 °C ~ 55°C	1.0N·m	2 x1.5	7mm	About 49g	No indicator

Note: (1) * refers to the torque after loading the wire.

Outline drawing, wiring diagram, mounting hole size, circuit diagram

Unit: mm

socket (If you need the parts in the picture, please order separately)	Overall dimension	Wiring diagram/mounting hole dimensions	Circuit diagram
 <p>Screw outlet, Rail mounting, With finger protection structure</p>	 <p>Top view</p>	 <p>Top view</p>	 <p>With light</p> <p>With no light</p>

Note: (1) The main outline size, when the outline size >50mm, tolerance is ±1mm; When 20mm< overall size ≤50mm, the tolerance is ±0.5mm; When the overall size is between 5mm and ≤20mm, the tolerance is ±0.4mm; when the overall size is ≤5mm, the tolerance is ±0.3mm;

(2) Guide rail installation, it is recommended to use DIN standard 35x7.5x1mm, 35x15x1mm standard guide rail.

(3) The figure shows the socket and accessories. If you need accessories, please order by model or consult our sales staff.