



## HL2 Relay

DC, AC coil available,  
16A Switching capabilities,  
SPST, SPDT, DPST, DPDT configurations,  
Creepage distance 10mm  
[Various sockets available](#)

### 1. Contact Data

Contact Form	1A(SPST), 1C(SPDT)				2A(DPST) 2C(DPDT)
Contact Material	Silver alloy				
Contact Ratings	20A	16A		12A	8A
	20A 250VAC	Resistive	30VDC/250VAC	30VDC/250VAC	30VDC/250VAC
		Inductive	5A 250VAC 0.3A 100VDC		
Max. Switching Current	20A	16A		12A	8A
Max. Switching Power	5,000VA	4,000VA		3,000VA	2,000VA
UL/CUR Rating	18A 250VAC	16A 277VAC		12A 277VAC	8A 277VAC
Max. Switch Voltage	440VAC				
Contact Resistance(Initial)	100mΩ Max (at 6VDC 1A)				
Life Expectancy	Electrical	100,000 Operations ( 360 ops/hour )			
	Mechanical	10,000,000 Operations( 72,000 ops/hour )			

### 2. General Data

Insulation Resistance		1000MΩ, Min at 500VDC
Dielectric Strength Between	Open Contacts	1,000VAC (for one minute)
	Contacts and coil	5,000VAC (for one minute)
	Between Contact Sets	2,500VAC (for one minute)
Operate Time		15ms
Release Time		8ms
Temperature rise (at nomi. Volt.)		55°C
Ambient Temperature		-40°Cto+85°C
Shock Resistance	Malfunction	100m/s <sup>2</sup>
	Mechanical	1,000m/s <sup>2</sup>
Vibration Resistance		10-150Hz, 1.5mm
Humidity		35% ~ 85%RH
Weight		Approx. 13.5g
Safety Standard		<a href="#">UL E222977</a>
		<a href="#">VDE40008094</a>

### 3. Coil Data DC Coil

( at 20 ° C )

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Coil Current mA	Coil Resistance ohm	Pick-up Voltage VDC	Drop-out Voltage VDC	Coil Current mA	Coil Resistance ohm
Standard Coil (0.4W)					Sensitive Coil (0.25W)			
5	3.50	0.5	80.0	62±10%	3.75	0.5	50.0	100±10%
6	4.20	0.6	66.7	90±10%	4.50	0.6	41.7	144±10%
9	6.30	0.9	44.5	202±10%	6.75	0.9	27.7	325±10%
12	8.40	1.2	33.3	360±10%	9.00	1.2	20.8	576±10%
18	12.60	1.8	22.2	810±10%	13.50	1.8	13.8	1,296±10%
24	16.80	2.4	16.7	1,440±10%	18.00	2.4	10.4	2,304±10%
48	33.60	4.8	8.3	5,760±15%	36.00	4.8	5.4	9,216±15%

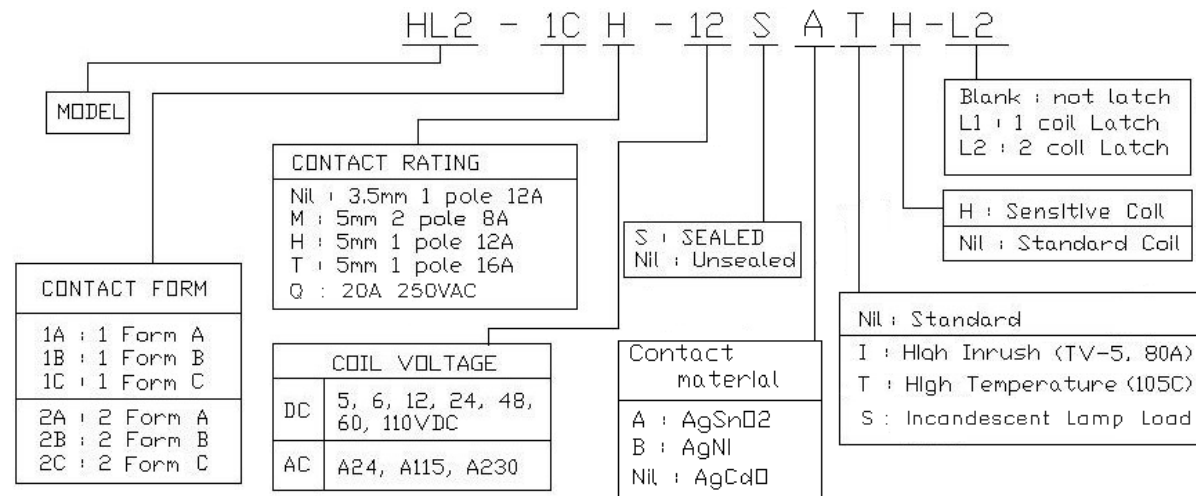
60	42.00	6.0	8.0	7,500±15%	45.00	6.0	4.7	12,857±15%
110	77.00	11.0	4.3	25,200±15%				

\* Max.allowable voltage in coil is 150% of Nominal Voltage. However, it is coil overdrive voltage and instantaneous max. voltage which the relay coil could endure in very short time.

#### AC Coil ( at 20 ° C )

Nominal Voltage VAC	Pick-up Voltage VAC	Drop-out Voltage VAC	Coil Current mA	Coil Resistance ohm
24	18.00	3.60	31.6	350±10%
115	86.30	17.30	6.6	8,100±10%
230	172.50	34.50	3.2	32,500±10%

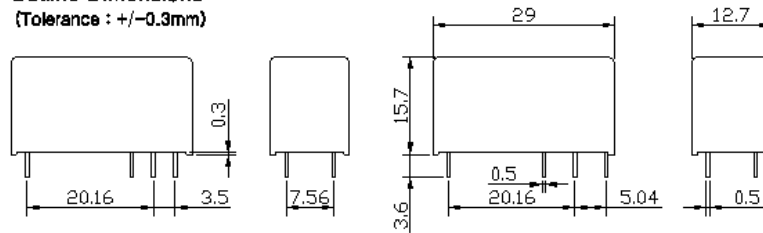
#### 4. Ordering Code



- High sensitive coils (0.25W) are valid only all 1 poles versions with 10A 250VAC contact rating.
- High in-rush types (TV-5 80A) are valid only HL2-1AT version.
- High temperature (105 C) are valid only 5mm 16A version.

#### 5. Overall And Mounting Dimensions

### Outline Dimensions (Tolerance : $\pm 0.3\text{mm}$ )



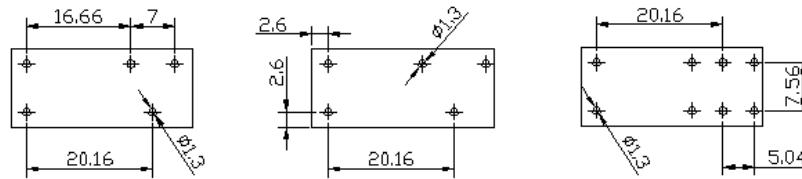
### PC Board Pattern (Bottom view)

(Tolerance :  $\pm 0.02\text{mm}$ )

HL2-1\*

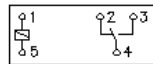
HL2-1\*H

HL2-1\*T (2\*M)

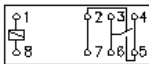


### Schematic (Bottom View)

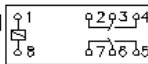
HL2-1C,  
HL2-1CH



HL2-1CT



HL2-2CM



HL2-1A,  
HL2-1AH



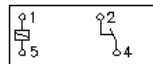
HL2-1AT



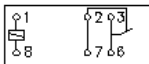
HL2-2AM



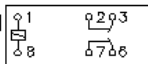
HL2-1B,  
HL2-1BH



HL2-1BT

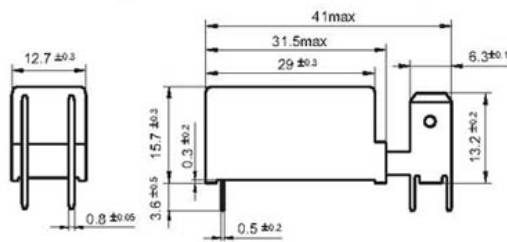


HL2-2BM

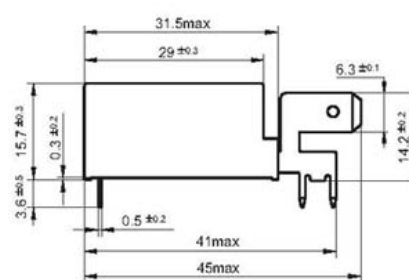


HL2-1AQ

vertical terminals

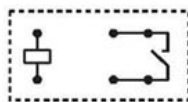


horizontal terminals

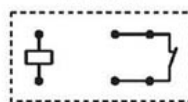


### Wiring Diagram (Bottom view)

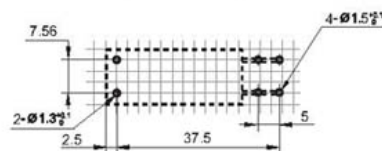
1 Form A



1 Form B



### PCB Layout (Bottom view)

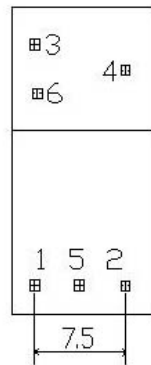


## 6. LATCHING RELAY OPERATING GUIDE

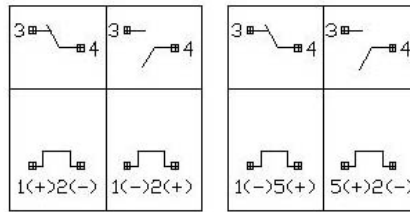
1. Relay is on the "reset or set" status when being released from stock, with the consideration of shock, with the consideration of shock risen from transit and relay mounting, relay would be changed to "set" or "reset" status, therefore, when application (connecting the power supply), please reset the 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.

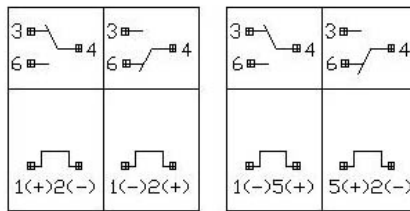
3. The terminals of relay without twisted copper wire can not be tin-soldered, can not be moved willfully, more over two terminals can not be fixed at the same time.



Single Coil, 1 Form A Double Coil, 1 Form A



Single Coil, 1 Form C Double Coil, 1 Form C



## 7. Useful Curves

