

Miniature Intermediate Power Relay

KML3, KML4

Features

- 15A contact switching capability
- Impulse voltage up to 4kV (Between coil and contact)
- Plug-in terminal
- LED available, Socket available
- 3 & 4 poles configurations
- UL insulation system: Class F



cULus
(File No.:E122258)

1. COIL DATA (at 23°C)

1) DC Type (3 Form C)

Nominal Voltage (VDC)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)	Max Allowable Voltage (VDC)	Coil Resistance (Ω)	Coil Power (W)
12	9.60	1.2	13.2	80 x (1 $\pm$ 10%)	Approx. 1.7
24	19.2	2.4	26.4	320 x (1 $\pm$ 10%)	
48	38.4	4.8	52.8	1280 x (1 $\pm$ 10%)	
110	88	11	121	6720 x (1 $\pm$ 10%)	

2) DC Type (4 Form C)

Nominal Voltage (VDC)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)	Max Allowable Voltage (VDC)	Coil Resistance (Ω)	Coil Power (W)
12	9.60	1.2	13.2	75.8 x (1 $\pm$ 10%)	Approx. 2
24	19.2	2.4	26.4	303 x (1 $\pm$ 10%)	
48	38.4	4.8	52.8	1210 x (1 $\pm$ 10%)	
110	88	11	121	6370 x (1 $\pm$ 10%)	

3) AC Type (3 Form C)

Nominal Voltage (VAC)	Pick-up Voltage (VAC)	Drop-out Voltage (VAC)	Max Allowable Voltage (VAC)	Coil Resistance (Ω)	Coil Power (VA)
12	9.60	3.6	13.2	30 x (1 $\pm$ 10%)	Approx. 1.7
24	19.2	7.2	26.4	110 x (1 $\pm$ 10%)	
48	38.4	14.4	52.8	460 x (1 $\pm$ 10%)	
120	96	36	132	2880 x (1 $\pm$ 10%)	
230	184	69	253	9600 x (1 $\pm$ 15%)	
240	192	72	264	11300 x (1 $\pm$ 15%)	

4) AC Type (4 Form C)

Nominal Voltage (VAC)	Pick-up Voltage (VAC)	Drop-out Voltage (VAC)	Max Allowable Voltage (VAC)	Coil Resistance (Ω)	Coil Power (VA)
12	9.60	3.6	13.2	20 x (1 $\pm$ 10%)	Approx. 2.9
24	19.2	7.2	26.4	80 x (1 $\pm$ 10%)	
48	38.4	14.4	52.8	310 x (1 $\pm$ 10%)	
120	96	36	132	2100 x (1 $\pm$ 10%)	
230	184	69	253	7350 x (1 $\pm$ 15%)	
240	192	72	264	8000 x (1 $\pm$ 15%)	

Notes:

- 1) The data shown above are initial values.
- 2) Maximum allowable voltage refers to the maximum voltage which relay coil could endure in a short period of time.

2. CONTACT DATA

Contact Arrangement	3 Form C, 4 Form C	
Contact Resistance ¹⁾	50m Ω max. (at 100mA 6VDC)	
Contact Material	AgSnO ₂ In ₂ O ₃	
Contact Gap	0.5mm max.	
Contact Ratings (Resistive load)	NO: 15A 250VAC, 15A 28VDC NC: 7.5A 250VAC, 7.5A 28VDC	
Max. Switching Voltage	250VAC	
Max. Switching Current	15A	
Max. Switching Power	3750VA / 420W	
Min. Capacity ²⁾	5VDC 100mA	
Life Expectancy	Electrical	100,000 operations (55 $^{\circ}$ C)
	Mechanical	10,000,000 operations

Note:

- 1) The data shown above are initial values.
- 2) Min. contact load is reference value. Please confirm the confirmation test with the actual load before usage since reference value may change according to switching frequencies, environmental conditions and expected life cycles.

3. CHARACTERISTICS

Insulation Resistance		1000MΩ (at 500VDC)
Dielectric Strength	Open Contacts	1500VAC 1min
	Coil and Contacts	2000VAC 1min
	Contact Sets	2000VAC 1min
Impulse Voltage (between coil and contact)		4kV(1.2/50μs)
Operate Time (at nominal voltage)		20ms max.
Release Time (at nominal voltage)		20ms max.
Temperature Rise		100K max. (at 55℃)
Temperature Range		-40℃ ~ 55℃
Shock Resistance	Functional	10g
	Destructive	30g
Vibration Resistance		10 ~ 35Hz 1mm DA
Humidity		5% ~ 85% RH
Termination		Plug-in
Construction		Dust protected
Weight (Approx.)		3 Form C: 54g 4 Form C: 71g
Outline Dimension (L x W x H)		3 Form C: 30.6 x 27.2 x 34.8mm 4 Form C: 40.6 x 27.2 x 34.8mm

Notes: The data shown above are initial values.

4. SAFETY APPROVAL

UL / cUL	NO: 15A 250VAC / 28VDC NC: 7.5A 250VAC / 28VDC
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Notes: All values unspecified are at room temperature.

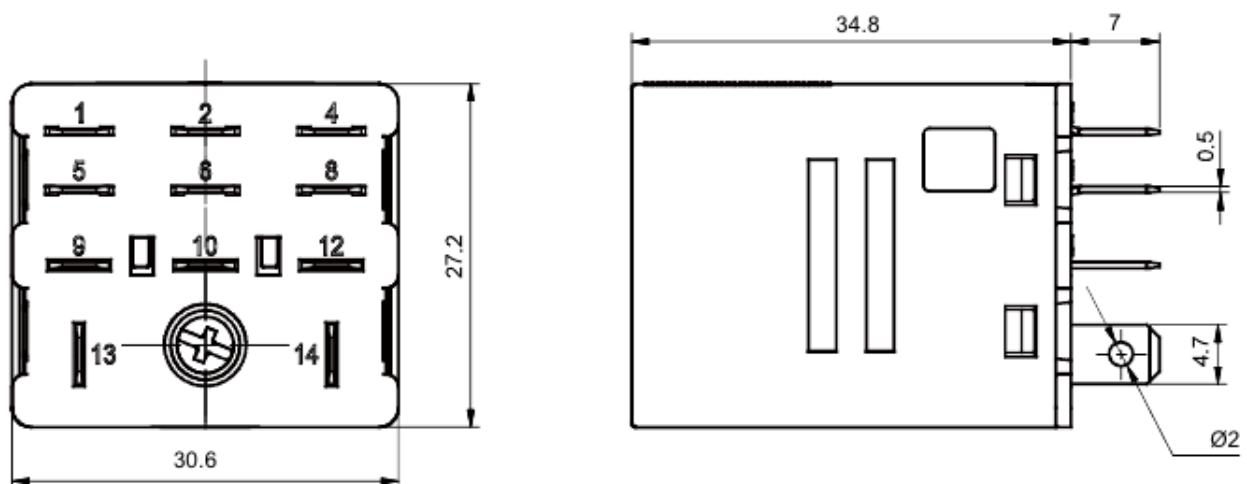
5. ORDERING INFORMATION

<u>KML</u>	<u>3</u>	-	<u>D24</u>	<u>P</u>	<u>L</u>
①	②		③	④	⑤
① Relay Model	KML				
② Contact Arrangement	3 : 3 Form C (3PDT) 4 : 4 Form C (4PDT)				
③ Coil Voltage	DC: D12=12VDC, D24=24VDC, D48=48VDC, D110=110VDC AC: A12=12VAC, A24=24VAC, A48=48VAC, A120=120VAC, A230=230VAC, A240=240VAC				
④ Terminal Form	S: Plug-in				
⑤ Component Code	Nil: Without LED L: With LED				

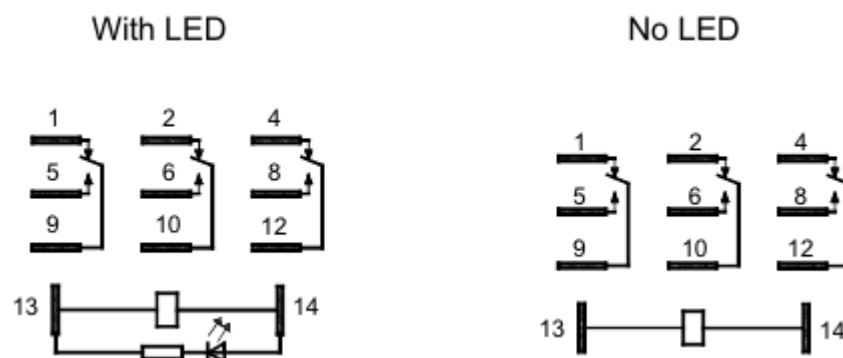
6. DIMENSIONS (Unit: mm)

3 Form C, Plug-in

Outline Dimensions

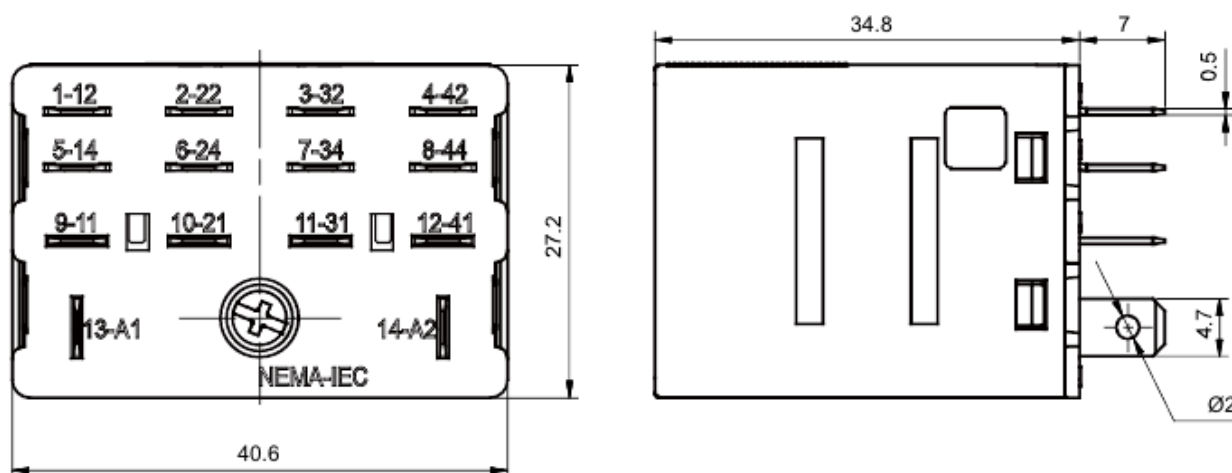


Wiring Diagram (Bottom View)



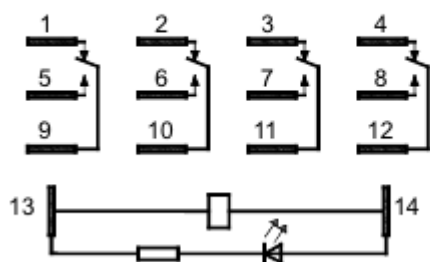
4 Form C, Plug-in

Outline Dimensions

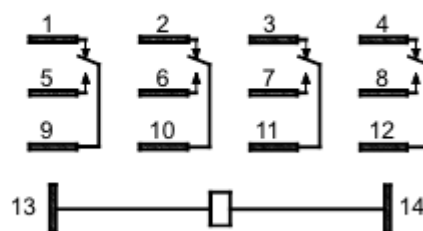


Wiring Diagram (Bottom View)

With LED



No LED



Remark:

In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.