



## **6PDT FLATPACK 2AMP DIL RELAY**

# **NL-RELAYS**

**NLE Amber Relays** 

mm inch

### **FEATURES**

- ullet Space saving dimensions 25.4 mm imes 32.4 mm imes 10.9 mm
  - 1.000 inch× 1.276 inch× 0.429 inch
- Latching types available
- Low operating power 400 mW (single side stable) **Transistor compatible**
- High breakdown voltage for transient protection 1,000 Vrms between open contacts, contact sets, and 1,500 V FCC surge between open contacts
- Soldering flux inflow completely prevented

#### **SPECIFICATIONS**

#### Contacts

Arrangemen	t**1	6 Form C		
Contact material			gold-clad silver**2	
Initial contact resistance, max. (By voltage drop 6 V DC 1 A)			100 mΩ	
Rating (resistive)	Nominal sv	vitching capacity	2 A 30 V DC	
	Max. switch	ning power	60 VA, 60 W	
	Max. switch	ning voltage	125 V AC, 30 V DC	
	Max. switch	ning current	2 A	
Expected life (min. operations)	Mechanica	I	5×10 <sup>7</sup>	
	Electrical (resistive)	2 A 30 V DC	5×10⁵	
		0.6 A 100 V DC	106	

<sup>\*\*1</sup> MBB contact types also available: 2 MBB, 4 MBB & 6 MBB

#### Coil (polarized) (at 25°C 77°F)

Minimum operating power	Approx. 460 mW		
Nominal operating power	up to 60 V DC: Approx. 720 mW 110 V DC: Approx. 900 mW		
Minimum set and reset power	Approx. 1,000 mW		
Nominal set and reset power	Approx. 1,600 mW		

- Specifications will vary with foreign standards certification ratings.
- \*1 Measurement at same location as "Initial breakdown voltage" section
- \*2 Detection current: 10 mA
- \*3 Excluding contact bounce time
- \*4 Half-wave pulse of sine wave: 11ms; detection time: 10μs \*5 Half-wave pulse of sine wave: 6ms
- \*6 Detection time: 10µs
- \*7 Refer to 5. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT (Page 61).

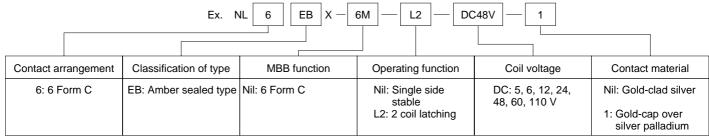
#### Characteristics

Maximum operating speed				50 cps		
Initial insulat	ion resista	nce'	<sup>•</sup> 1	Min. 100 MΩ at 500 V DC		
Breakdown	Between open contacts, contact sets			1,000 Vrms		
voltage*2	Between contacts and coil			2,000 Vrms		
Operate time*3 (at nominal voltage)				Max. 15 ms (Approx. 10 ms)		
Release time (without diode)*3 (at nominal voltage)				Max. 10 ms (Approx. 5 ms)		
Temperature rise				Max. 65°C with nominal coil voltage and at switching current 2 A		
Shock resistance		Functional*4		Min. 147 m/s² {15 G}		
		Destructive*5		Min. 980 m/s <sup>2</sup> {100 G}		
Vibration resistance		Functional*6		58.8 m/s <sup>2</sup> {6 G}, 10 to 55 Hz at double amplitude of 1 mm		
		Destructive		117.6 m/ s <sup>2</sup> {12 G}, 10 to 55 Hz at double amplitude of 2 mm		
Conditions for operation, transport and storage*7			Ambient temp.	–40°C to +55°C −40°F to +131°F		
(Not freezing and con- densing at low tempera- ture)		<b>1-</b>	Humidity	5 to 85% R.H.		
Unit weight				Approx. 17 g.60 oz		

### TYPICAL APPLICATIONS

Telecommunications, security equipment, detection systems.

#### ORDERING INFORMATION



(Notes) 1. For UL/CSA or VDE recognized types, add suffix UL/CSA or VDE.

2. Standard packing Carton: 20 pcs. Case: 200 pcs.

<sup>\*\*2</sup> Gold capped silver-palladium contact also available

# TYPES AND COIL DATA (at 20°C 68°F)

#### Single side stable

	Coil voltage, V DC			Coil	Nominal
Part No.	Pick-up (max.)	Drop-out (min.)	Maximum allowable	resistance, $\Omega$ (±10%)	operating power, mW
NL6EBX-DC5V	4.0	0.5	6.0	34.7	
NL6EBX-DC6V	4.8	0.6	7.2	50	
NL6EBX-DC12V	9.6	1.2	14.4	200	720
NL6EBX-DC24V	19.2	2.4	28.8	800	720
NL6EBX-DC48V	38.4	4.8	57.6	3,200	
NL6EBX-DC60V	48	6.0	72	5,000	
NL6EBX-DC110V	88	11.0	132	13,467	898

#### 2 coil latching

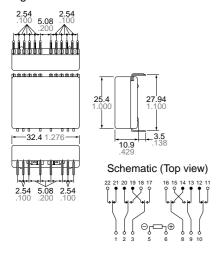
	Coil voltage,* V DC			Coil	Nominal
Part No.	Set (max.)	Reset (max.)	Maximum allowable	resistance, Ω (±10%)	operating power, mW
NL6EBX-L2-DC5V	4.0	4.0	5.5	15.6	
NL6EBX-L2-DC6V	4.8	4.8	6.6	22.5	
NL6EBX-L2-DC12V	9.6	9.6	13.2	90	
NL6EBX-L2-DC24V	19.2	19.2	26.4	360	1,600**
NL6EBX-L2-DC48V	38.4	38.4	52.8	1,440	
NL6EBX-L2-DC60V	48	48	66	2,250	
NL6EBX-L2-DC110V	88	88	121	7,563	

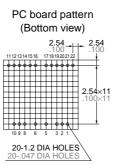
<sup>\*</sup> See NOTE 2

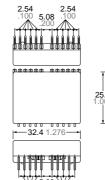
2 coil latching

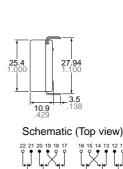
### **DIMENSIONS**

Single side stable



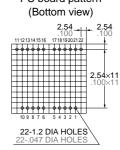








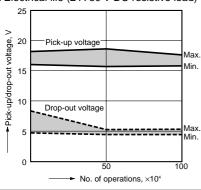
mm inch

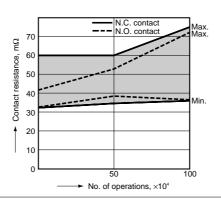


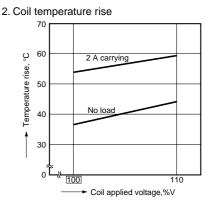
General tolerance: ±0.3 ±.012

#### REFERENCE DATA

1. Electrical life (2 A 30 V DC resistive load)



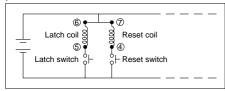




#### **NOTES**

#### On two coil latching relays

1. To maintain insulation between coils, terminals 6 and 7 should be connected to provide common return.



- 2. Two coil latching relays are for intermittent operation only. Power should be applied to coils for no more than two minutes; continuous operation may burn out the coils.
- 3. Position of MBB contacts 2M (2 Form D 4 Form C): 1-21-22, 10-11-12 4M (4 Form D 2 Form C): 1-21-22, 2-20-18, 9-13-15, 10-11-12

# For Cautions for Use, see Relay Technical Information (Page 48 to 76).

<sup>\*\*</sup> Two coil latching series are for intermittent operation only.

Power should be applied to coil continuously for no more than two minutes.