

EN2 SERIES

FEATURES

- Twin relay for motor and solenoid reversible control
- 30% less relay space than conventional two relays
- Contact switching current of 35 A max.
- High performance and productivity by unique symmetrical structure
- Flux tight housing
- Delivered in stick-tube for automatic insertion machine
- Washable type available



PART NUMBERS AND COIL RATINGS

At 20°C (68°F)

Part Number		Nominal Voltage (Vdc)	Coil Resistance (Ω±10%)	Nominal Current (mA)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Nominal Operate Power (W)
H bridge Type	Separate Type						
EN2-1N1S	EN2-1N1ST	12	125	96.0	6.5	0.6	1.15
EN2-1N2S	EN2-1N2ST	12	125	96.0	7.0	0.6	1.15
EN2-2N3S	EN2-2N3ST	12	180	67.0	7.5	0.6	0.8
EN2-2N4S	EN2-2N4ST	12	180	67.0	8.0	0.6	0.8
EN2-3N4S	EN2-3N4ST	12	225	53.0	8.0	0.9	0.64
EN2-3N5S	EN2-3N5ST	12	225	53.0	8.5	0.9	0.64

PART NUMBER SYSTEM

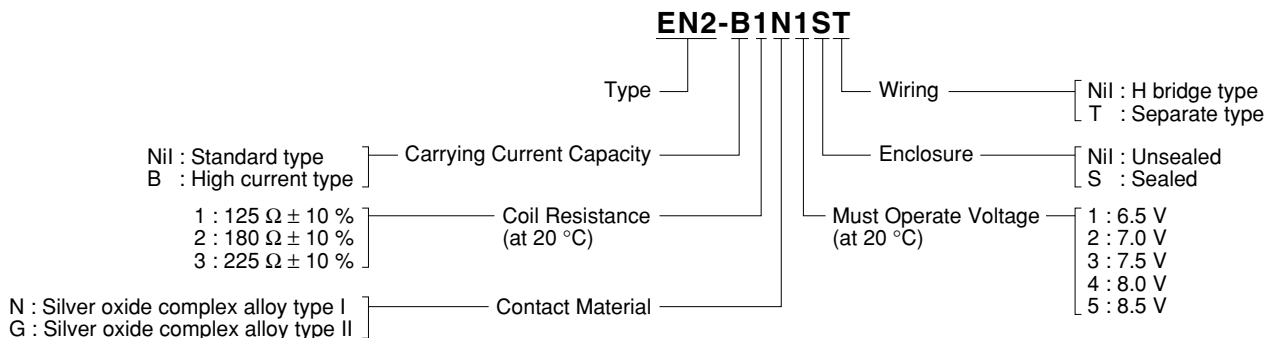
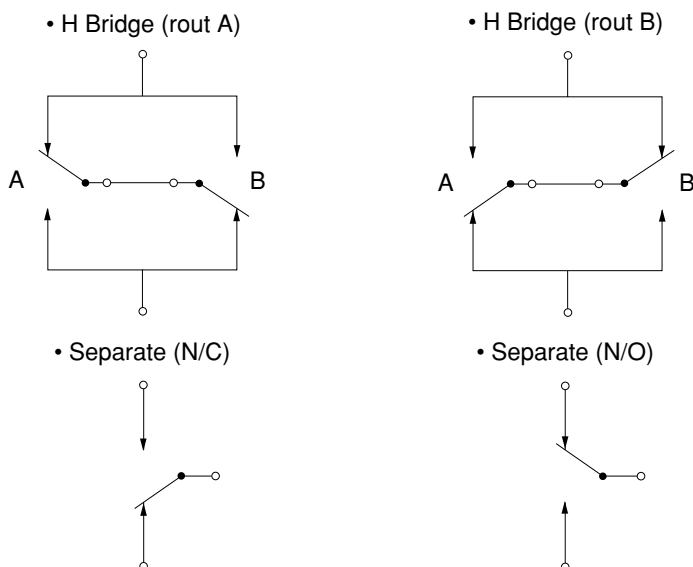
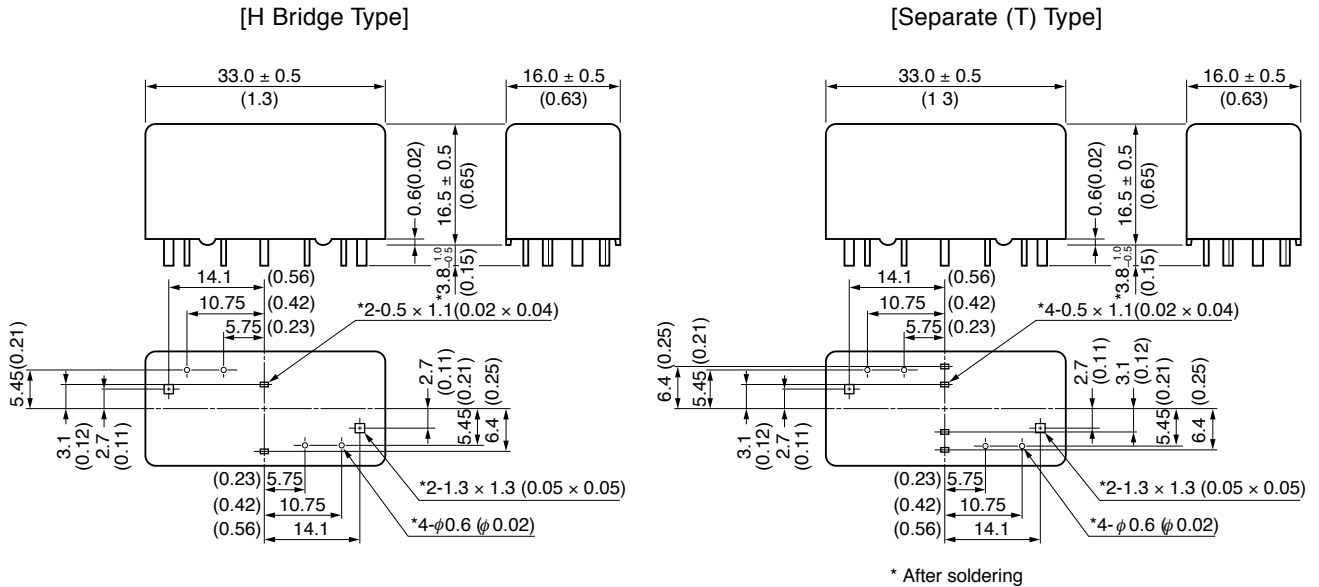


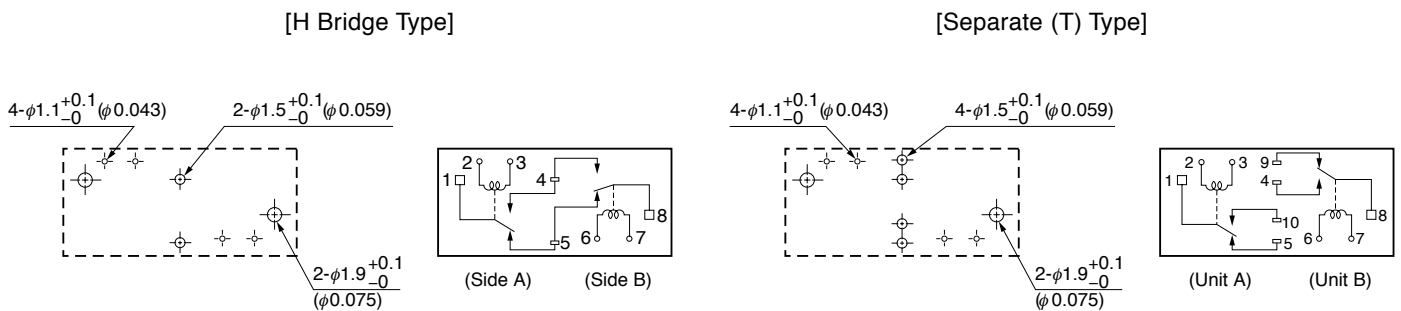
Figure 1 Contact Resistance*



DIMENSIONS mm (inch)



PCB PAD LAYOUT and SCHEMATICS (bottom view) mm (inch)



SPECIFICATIONS

At 20°C (68°F)

Items	Spec f cat on	
	EN2-(Standard)	EN2-B (H gh Current)
Contact Form	1 Form c × 2 (H Br dge Type or Separate Type)	
Contact Mater a	S ver ox de comp ex a oy (Spec a types ava ab e)	
Contact Res stance (*f gure 1) (measured by vo tage drop at 6 Vdc, 7A)	H Br dge (rout A): 8.1 mΩ typ. H Br dge (rout B): 7.8 mΩ typ. Separate (N/C): 3.9 mΩ typ. Separate (N/O): 3.9 mΩ typ.	H Br dge (rout A): 4.9 mΩ typ. H Br dge (rout B): 4.6 mΩ typ. Separate (N/C): 2.3 mΩ typ. Separate (N/O): 2.3 mΩ typ.
Contact Sw tch ng Vo tage	16 Vdc max. 5 Vdc m n.	
Contact Sw tch ng Current	35A max. (at 16 Vdc) 1 A m n.	
Contact Carry ng Current (2 m nutes max.)	H Br dge 25A (12Vdc, 20°C) 20A (12Vdc, 85°C)	35A (12Vdc, 20°C) 30A (12Vdc, 85°C)
	Separate 30A (12Vdc, 20°C) 25A (12Vdc, 85°C)	40A (12Vdc, 20°C) 35A (12Vdc, 85°C)
Operate T me	Approx. 5 ms (at 12 Vdc)	
Re ease T me	Approx. 7 ms (at 12 Vdc), w th d ode	
Nom na Operate Power	0.64 W/0.8 W/1.15 W (at 12 Vdc)	
Insu at on Res stance	100 MΩ m n. at 500 Vdc, ln t a	
Breakdown Vo tage	500 Vac m n. for 1 m nute, ln t a	
Shock Res stance	98 m/s ² m n. (m soperat ng)	
V brat on Res stance	10 to 300 Hz, 43 m/s ² m n. (m soperat ng)	
Amb ent Temperature	-40°C to +85°C (-40°F to +185°F)	
Co Temperature R se	50°C/W (Contact Carry ng Current 0 A)	
L fe Expectancy	Mechan ca	1 × 10 ⁶ operat ons
	E ctr ca	1 × 10 ⁵ operat ons (at 14 Vdc, Motor Load 30 A/7 A)
We ght	Approx. 18 g	

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"Standard," "Special," and "Specific". The Specific quality grade applies only to devices developed based on a customer designated "quality assurance program" for a specific application. The recommended applications of a device depend on its quality grade, as indicated below. Customers must check the quality grade of each device before using it in a particular application.

Standard: Computers, office equipment, communications equipment, test and measurement equipment, audio and visual equipment, home electronic appliances, machine tools, personal electronic equipment and industrial robots

Special: Transportation equipment (automobiles, trains, ships, etc.), traffic control systems, anti-disaster systems, anti-crime systems, safety equipment and medical equipment (not specifically designed for life support)

Specific: Aircrafts, aerospace equipment, submersible repeaters, nuclear reactor control systems, life support systems or medical equipment for life support, etc.

The quality grade of NEC/TOKIN devices is "Standard" unless otherwise specified in NEC/TOKIN's Data Sheets or Data Books. If customers intend to use NEC/TOKIN devices for applications other than those specified for Standard quality grade, they should contact an NEC/TOKIN sales representative in advance.

(Note)

- (1) "NEC/TOKIN" as used in this statement means NEC/TOKIN Corporation and also includes its majority-owned subsidiaries.
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