DATA SHEET

NEXEM

AUTOMOTIVE RELAYS
EX2/EX1 SERIES

DESCRIPTION

The NEXEM EX2/EX1 series is PC-board mount type and the most suitable for various motor and heater controls for automobiles which require high quality and high performance.

The EX2 series is succeeding for about 60% of miniaturization compared to ET2 series. The EX1 series is succeeding for about 50% of miniaturization compare to ET1 series.

FEATURES

- PC-board mounting
- Lead free solder is used
- Approx. 75% relay volume of ET2
- Approx. 65% relay volume of ET1
- Approx. 60% relay space of ET2
- Approx. 50% relay space of ET1
- Approx. 88% relay weight of ET2
- Approx. 78% relay weight of ET1

APPLICATIONS

- Motor control
- Solenoid control

EX2 SERIES

EX1 SERIES

For Proper Use of Miniature Relays

DO NOT EXCEED MAXIMUM RATING

Do not use relay under excessive conditions such as over ambient temperature, over voltage and over current. Incorrect use could result in abnormal heating and damage to the relay or other parts.

READ CAUTIONS IN THE SELECTION GUIDE

Read the cautions described in EM Devices' “Miniature Relays” before dose designing your relay applications.

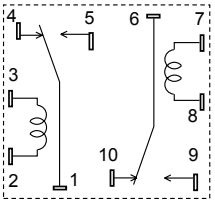
The information in this document is subject to change without notice.

⚠

●All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact EM Devices for updated product data.
●Please request for a specification sheet for detailed product data prior to the purchase.
●Before using the product in this catalog, please read "NOTE ON CORRECT USE" in "Miniature Relays selection guide" catalog.

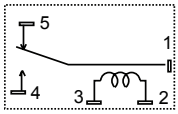
SCHEMATIC (BOTTOM VIEW)

EX2

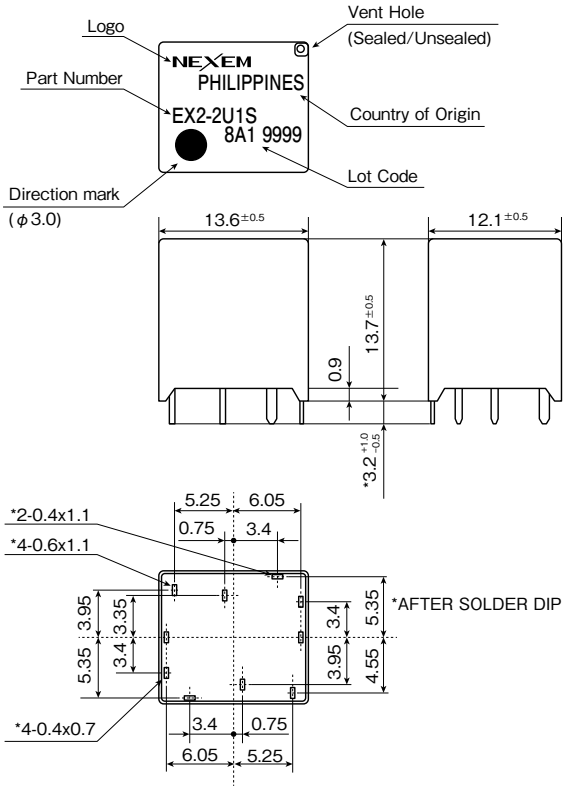


(Unit A) (Unit B)

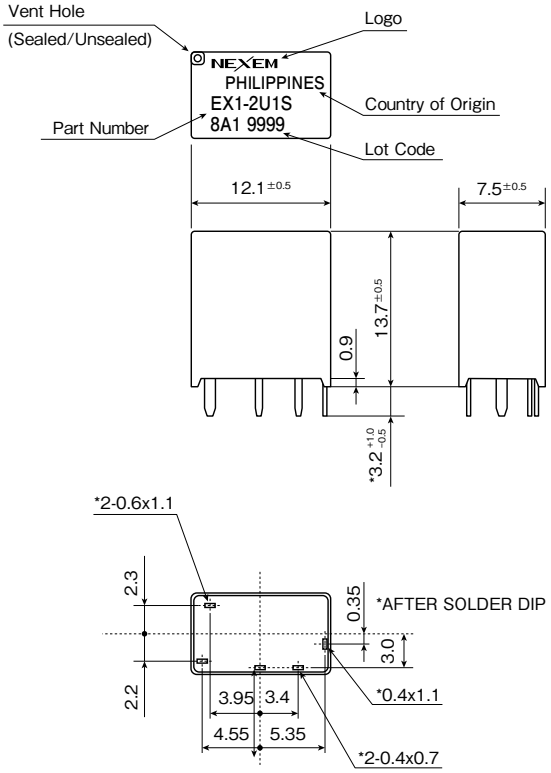
EX1



DIMENSIONS [mm]



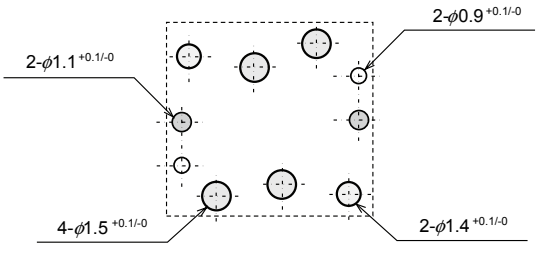
EX2



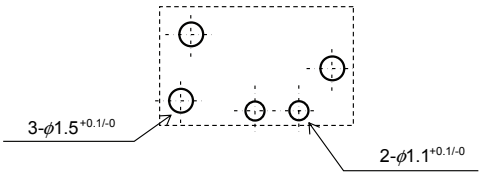
EX1

PCB PAD LAYOUT [mm] (BOTTOM VIEW)

EX2



EX1



SPECIFICATION

(Ambient temprature : 20 ℃)

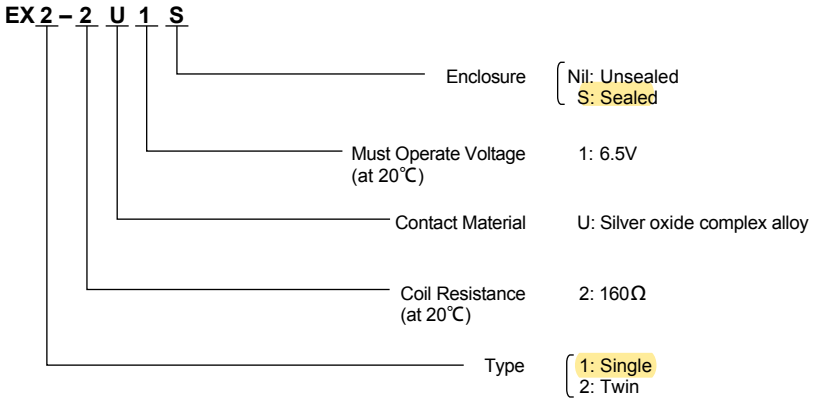
Items			Specifications	
			EX2	EX1
Contact Form			1 Form C x 2 (Separate)	1 Form C
Contact Rating	Maximum Switching Voltage		16VDC	
	Maximum Switching Current		30A (at16VDC)	
	Minimum Switching Current		1A (5VDC)	
	Maximum Carrying Current		35A (2minutes max. 12VDC at 25℃) 30A (2minutes max. 12VDC at 85℃) 20A (2minutes max. 12VDC at 125℃)	
	Contact Resistance		4mΩ typical (measured at 7A) initial	
Contact Material			Silver oxide complex alloy	
Operate Time (Excluding Bounce)			2.5ms typical (at nominal voltage)	
Release Time (Excluding Bounce)			3ms typical (at nominal voltage with diode)	
Nominal Operating Power			900mW	
Insulation Resistance			100MΩ at 500VDC	
Withstand Voltage	Between Open Contacts		500VAC min. (for 1minute)	
	Between Coil and Contacts		500VAC min. (for 1minute)	
Shock Resistance	Misoperation		98m/s^2	
	Destructive Failure		980m/s^2	
Vibration Resistance	Misoperation		10 to 300Hz, 43m/s^2	
	Destructive Failure		10 to 500Hz 43m/s^2, 200hour	
Ambient Temperature			-40 to +125 °C	
Coil Temperature Rise			70°C / W (without contact carrying current)	
Running Specifications	Non-load		1 x 10^6 operations	
	Load	P/W motor lock (14Vdc, 25A)	100x10^3 operations	
		P/W motor free (14Vdc, 25A/7A)	100x10^3 operations	
Weight			Approx. 6.5g	Approx. 3.5g

COIL RATING

(Ambient temprature : 20 ℃)

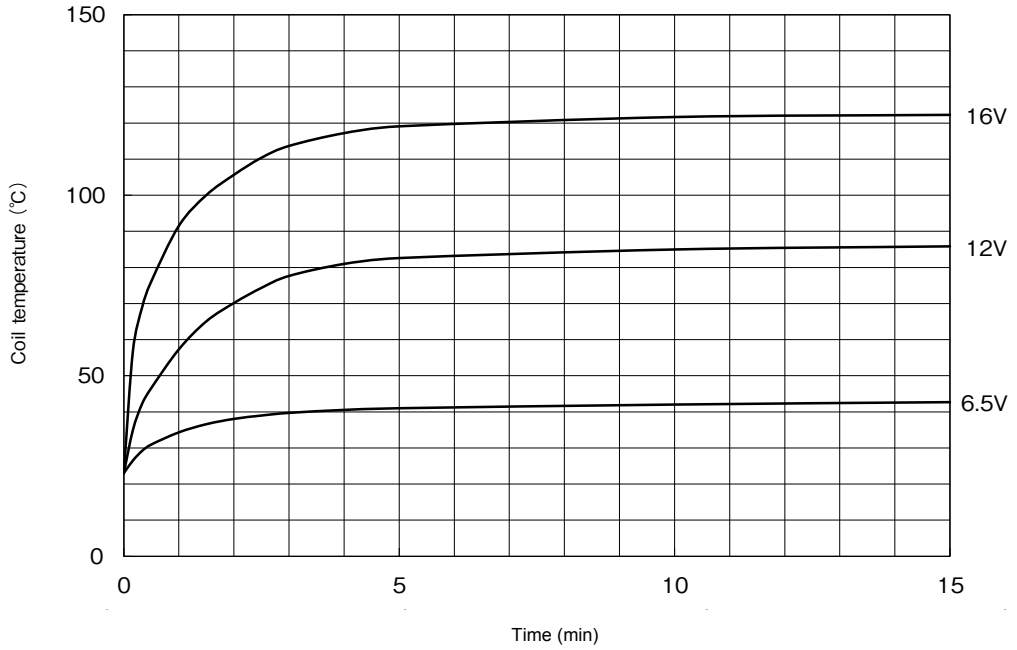
Part Numbers	Nominal Voltage (VDC)	Coil Resistance (Ω)+/-10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
EX2/1-2U1S (Sealed type)	12	160	6.5	0.9
EX2/1-2U1 (Unsealed type)	12	160	6.5	0.9

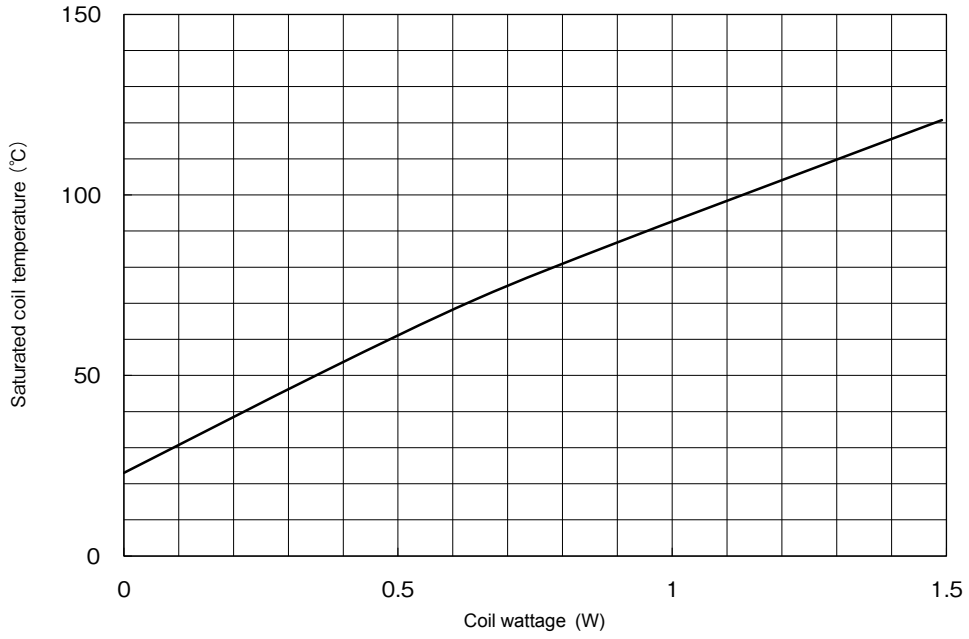
NUMBERING SYSTEM



TECHNICAL DATA

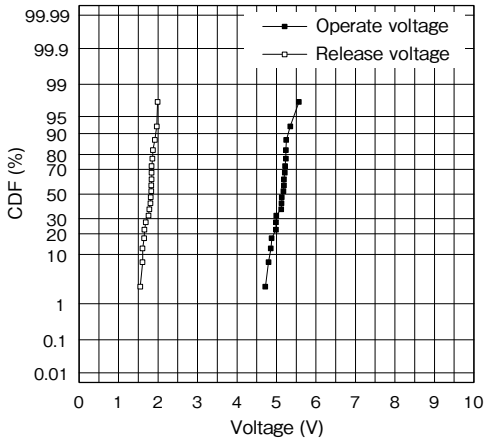
Coil Temperature Rise





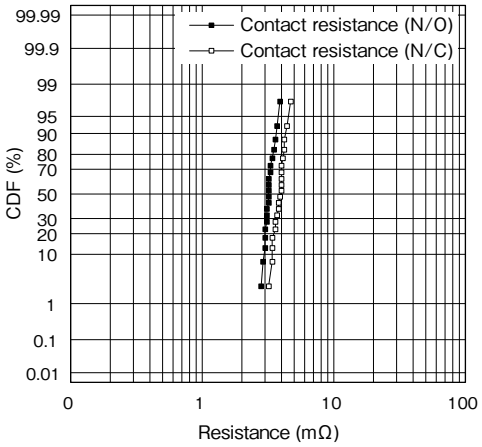
RELAY CHARACTERISTICS DISTRIBUTION (INITIAL, n = 20 pcs., at 20°C)

Operate/Release Voltage

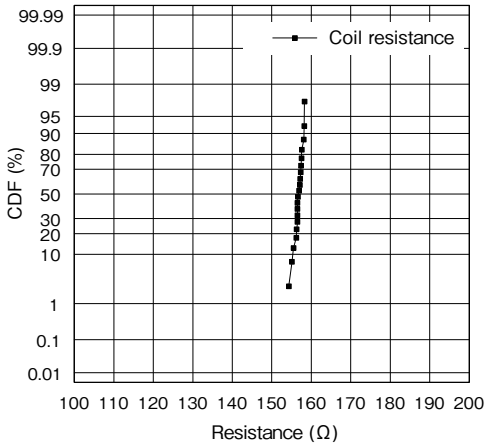


Specimen : EX2-2U1S
Ambient Temperature : 20℃
Quantity : 20 pcs.

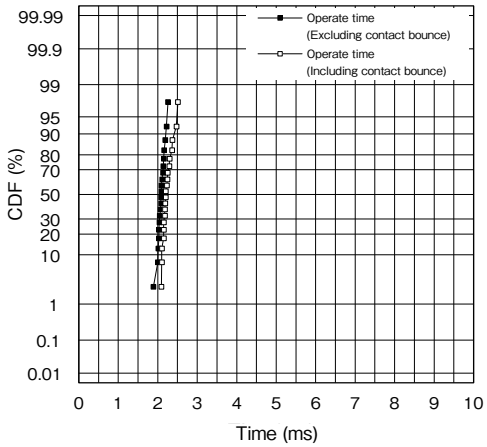
Contact Resistance



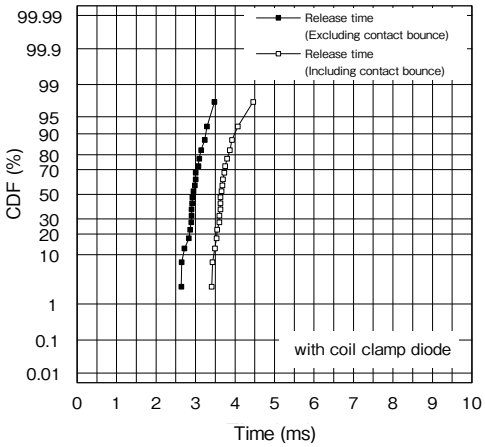
Coil Resistance



Operate Time

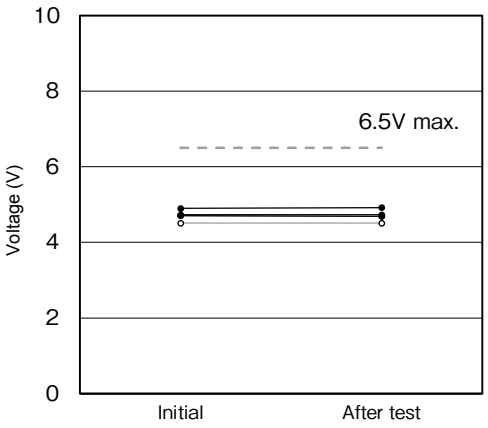


Release Time

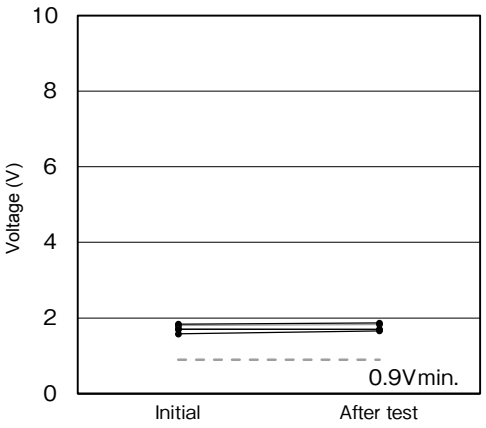


ELECTRICAL LIFE TEST (14VDC-25A, P/W motor, Lock)

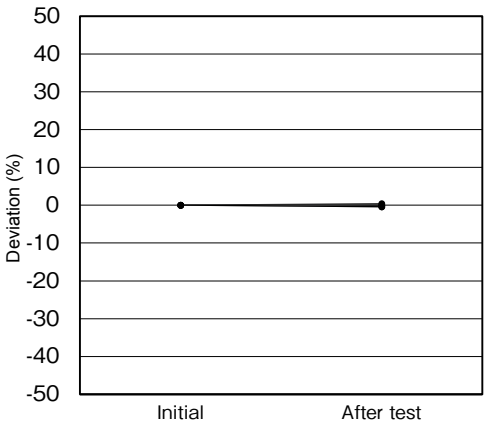
Test items	Test conditions	Samples
1. Operate voltage 2. Release voltage 3. Contact resistance 4. Coil resistance 5. Operate time 6. Release time (with coil clamp diode)	Temperature :20°C Frequency :0.1Hz (0.2s ON, 9.8s OFF) Contact load :14VDC-25A, P/W motor, Lock Number of operations :100 x 10^3	EX2-2U1S 5 pcs



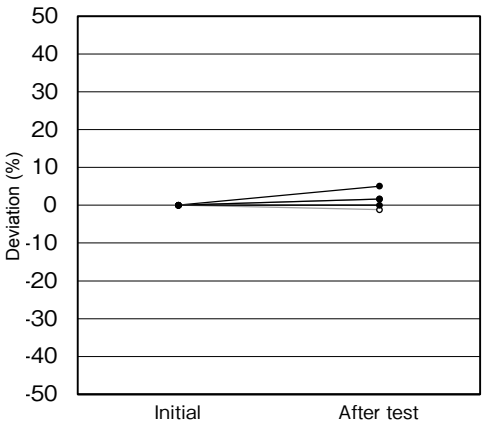
Operate voltage



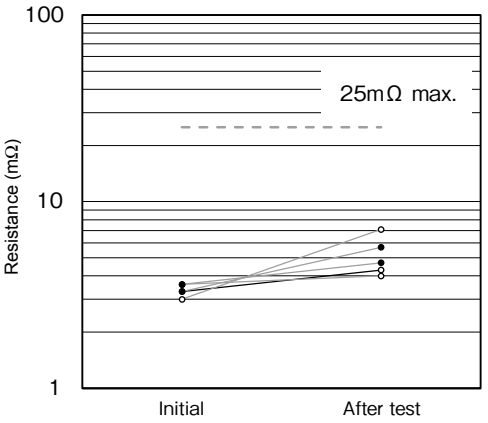
Release voltage



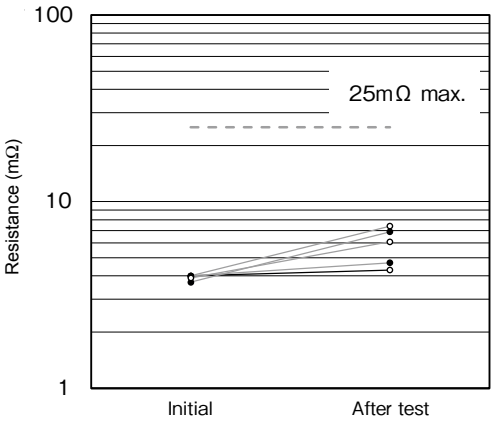
Operate voltage



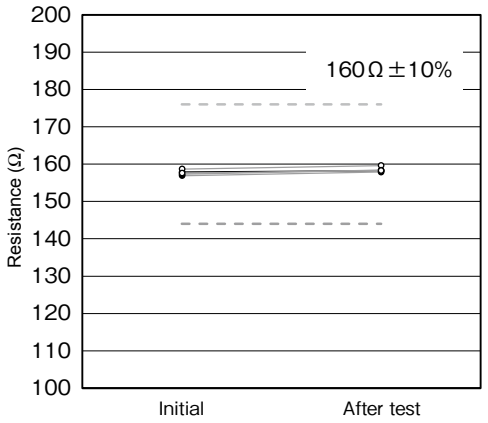
Release voltage



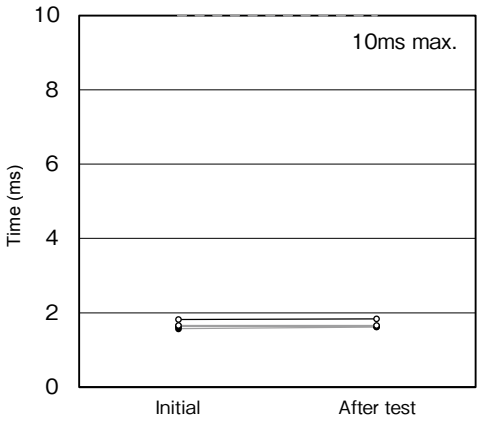
Contact resistance (N/O)



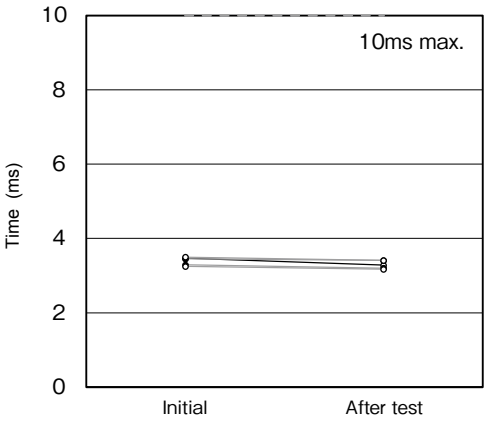
Contact resistance (N/C)



Coil resistance



Operate time



Release time

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

KEMET:

EX2-2U1S EX1-2U1S