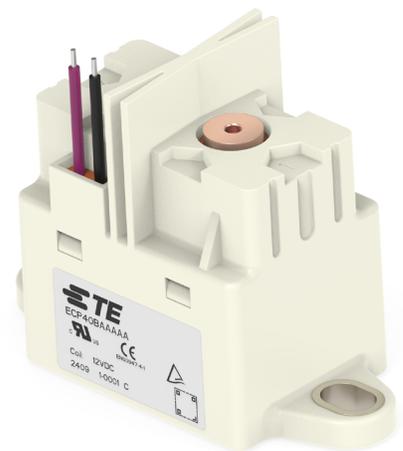


HIGH VOLTAGE DC CONTACTORS ECP40B SERIES

FOR 40 AMP

INTRODUCTION

TE Connectivity (TE)'s ECP40B series high-voltage DC contactor is designed for control in high voltage environments like battery energy storage system, solar inverters, and EV charging applications. ECP40B series is designed and suited for pre-charge applications. It can be used in 1500 VDC voltage systems, and the enhanced insulation distance meets the requirement of UL60947-4-1 and IEC60947-4-1 standards. The contacts provided in this series allows bi-directional load and are hermetically sealed with ceramic sealing technology, making it safer and more reliable.



FEATURES

- 40 A making capability
- Breaking capability at 1500 VDC
- Allow bi-directional load
- Hermetically sealed with ceramic

APPLICATIONS

- Battery energy storage systems
- Photovoltaic inverters
- DC converter

APPROVALS

- UL:E82292
- TUV:R50630715
- CE: 724-00008



Note: Technical data of approved types on request

High Voltage DC Contactors ECP40B Series

MAIN CONTACT DATA

Contact current	40 A
Maximum breaking voltage	1500 VDC
Contact arrangement	1 Form X (SPST-NO-DM)
Initial voltage drop	≤ 160 mV @ 20 A, 6 VDC
Operate time maximum (at 23 °C)	30 ms
Release time, maximum (at 23 °C)	10 ms
Mechanical life	200,000 cycles

CONTACT RATINGS

Load	Cycles
10 A, 1500 VDC, make/break, resistive, 65 °C	10,000
15 A, 1500 VDC, make/break, resistive, 40 °C	6,000
40 A, 1500 VDC, make only, resistive, 40 °C	10,000
10 A, 450 VDC, DC-1, 40 °C	6,050

Coil versions, DC coil

Coil code	Nominal voltage	Operate voltage	Release voltage	Maximum operate voltage	Coil power
A	12 VDC	≤ 9 VDC	≥ 1 VDC	16 VDC	3 W
B	24 VDC	≤ 18 VDC	≥ 2 VDC	32 VDC	3 W

All figures are given for coil without pre-energization, at ambient temperature +23 °C.

INSULATION DATA

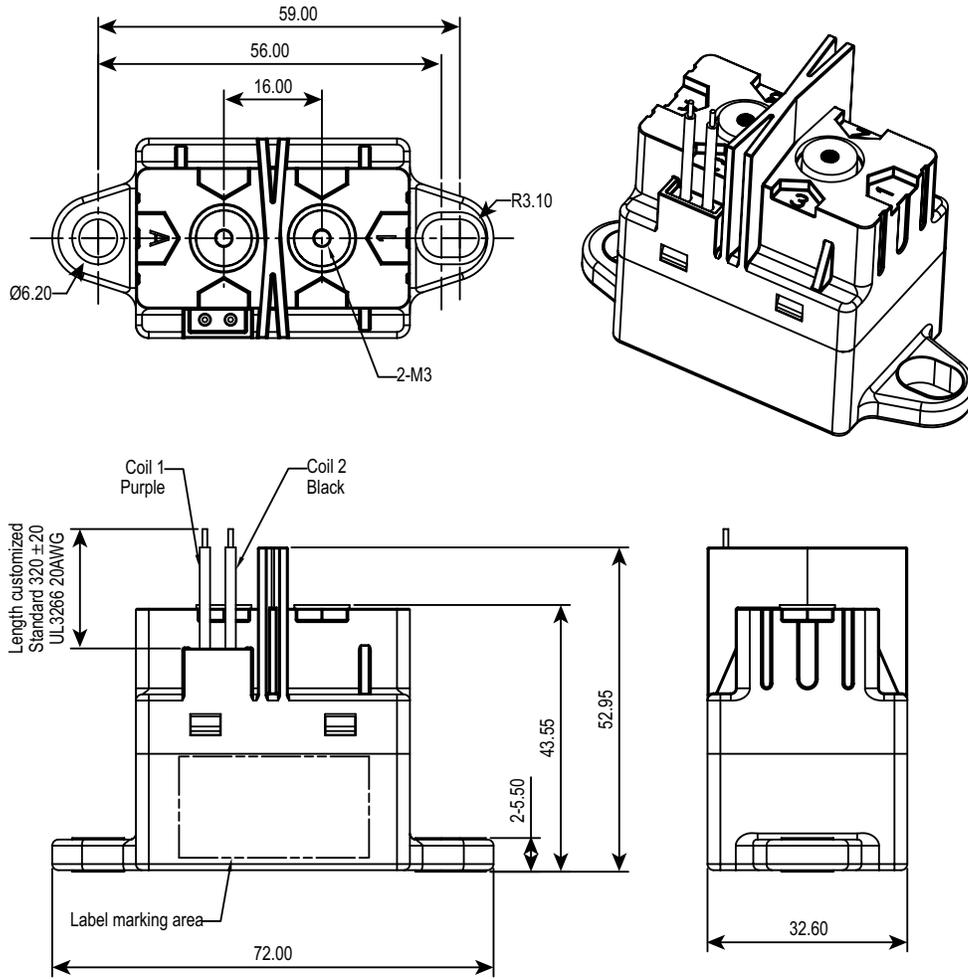
Dielectric Withstand Voltage (leakage current <1 mA)	
between open main contacts	5,400 Vrms
between main contact and coil	5,400 Vrms
Initial Insulation Resistance @ 1000 VDC	
between insulated elements	>1x10 ⁹ Ω

OTHER DATA

Material compliance	EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the product compliance support center at www.te.com/customer-support/rohssupportcenter
Ambient temperature	-40 °C to 85 °C
Vibration resistance (functional)	Sine, 10 Hz - 2000 Hz, 5 G
Shock resistance (functional)	11ms 1/2 Sine, Peak 20 G (on), 10 G (off)
Terminal type	Screw terminals
Weight	-160 g

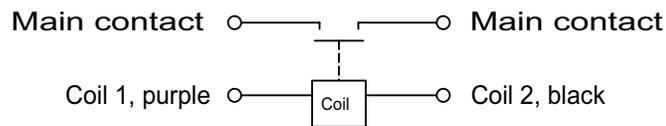
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DIMENSIONS (Unit: mm)



General tolerance	
Dimension	Tolerance
<10	±0.30
10~50	±0.60
>50	±1.00

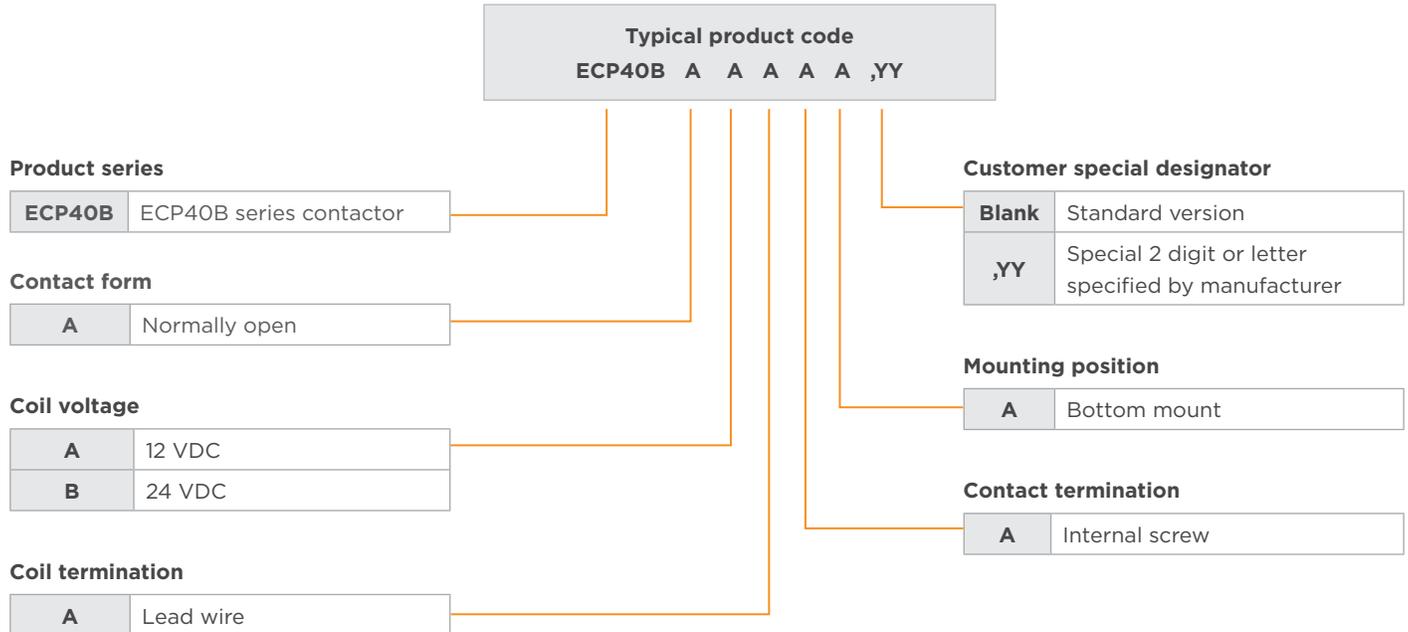
CIRCUIT DIAGRAM



PRODUCT INFORMATION

Product code	Contact form	Mounting position	Coil	Coil control mode	Part number
ECP40BAAAAA	Normally open (N.O.), without auxiliary contact	Bottom	12 VDC	Single coil	2071591-1
ECP40BABAAA			24 VDC		2071591-2

ORDERING INFORMATION



CAUTIONS

- Do not use the contactor when contactor is dropped or broken.
- Avoid mounting the contactor with the main contact screw terminals in downward direction, otherwise the contactor performance will not be guaranteed.
- If using with diodes for coil, it may lead to a decline in product switching performance.
- Screw locking torque of main contact terminals should be 1 N·m - 2 N·m for M3 screw. Screw locking torque of product bottom mounting should be 3 N·m - 4 N·m for M5 screw.
- Suitable for applications under Uimp 6 kV.

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