

# HIGH VOLTAGE DC CONTACTORS

Quick Reference Guide



## CHOOSE TE CONNECTIVITY (TE)'S HIGH VOLTAGE DC CONTACTORS, BECAUSE WE OFFER...

### **Safer and Reliable**

These DC contactors are hermetically sealed with ceramic technology making it reliable and safer.

### **Equipped with Superior Contacts**

- Bi-directional contacts providing for bi-directional load
- Open auxiliary contacts for smart monitoring of contact status

### **Designed for varied usage**

- The variations made available under ECP and ECK series are suitable for multiple high voltage applications
- Suitable for use in battery energy storage systems, photovoltaic inverters, warehouse automation, EV charging, DC converter, battery testing equipment, power distribution units and megawatt chargers

## High Voltage DC Contactors ECP Series

ECP series high voltage contactors are designed for battery energy storage systems, photovoltaic inverters, and EV chargers. They are hermetically sealed with ceramic sealing technology making it safer and reliable, applicable in 1500 VDC voltage system.

### Product Offerings:



#### Key benefits:

- Hermetically sealed with ceramic technology helping ensure high reliability
- Continuous current carrying capability of 800A
- High performance in electrical endurance with maximum breaking capacity up to 1500VDC at 1000A
- Supports bi-directional load
- Dual coil design withstanding 5.0W of power
- Equipped with auxiliary contact and smart monitoring for main contact status
- Complies with DC-1 utilization category in IEC60947-4



#### Focus Applications:

- Battery energy storage system
- Photovoltaic inverters
- Super EV charger
- Megawatt charger

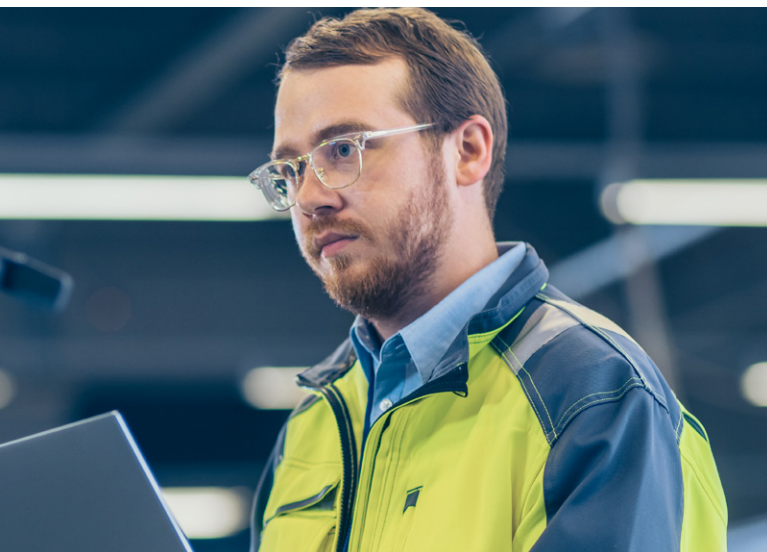
## Technical Information

Relay Type		ECP 40B	ECP 150B	ECP 250B	ECP 350	ECP 600B
<b>Features</b>		<ul style="list-style-type: none"> <li>• Ceramic hermetically sealed</li> <li>• Low coil power of 3 W</li> <li>• Maximum breaking capacity upto 1500 VDC</li> <li>• Auxiliary contact optional</li> <li>• Comply with DC-1 acc. to IEC60947-4-1</li> <li>• Supports bi-directional load</li> </ul>	<ul style="list-style-type: none"> <li>• Ceramic hermetically sealed</li> <li>• Maximum breaking capacity of upto 1500 VDC at 1000 A</li> <li>• Supports bi-directional load</li> <li>• Dual coil design with hold power 5.0 W</li> <li>• Equipped with auxiliary contact</li> <li>• Comply with DC-1 acc. to IEC60947-4-1</li> </ul>	<ul style="list-style-type: none"> <li>• Ceramic hermetically sealed</li> <li>• Maximum breaking capacity upto 1500 VDC at 1000 A</li> <li>• Supports bi-directional load</li> <li>• Dual coil design with hold power of 5.0 W</li> <li>• Equipped with auxiliary contact</li> <li>• Comply with DC-1 acc. to IEC60947-4-1</li> </ul>	<ul style="list-style-type: none"> <li>• Supports bi-directional load</li> <li>• Ceramic hermetically sealed</li> <li>• Maximum breaking capacity upto 1500 VDC at 1000 A</li> <li>• Dual coil design with hold power of 5.0 W</li> <li>• Equipped with auxiliary contact</li> <li>• Comply with DC-1 acc. to IEC60947-4-1</li> </ul>	<ul style="list-style-type: none"> <li>• Supports bi-directional load</li> <li>• Ceramic hermetically sealed</li> <li>• Maximum breaking capacity upto 1500 VDC at 1000 A</li> <li>• Dual coil design with hold power of 5.0 W</li> <li>• Equipped with auxiliary contact</li> <li>• Comply with DC-1 acc. to IEC60947-4-1</li> </ul>
<b>Contacts</b>						
<b>Contact arrangement</b>		1 Form X (SPST-NO-DM)				
<b>Continuous carry current DC [A]</b>		40 A	350 A	500 A	500 A	800 A
<b>Rated current [A]</b>		40 A	150 A	250 A	350 A	600 A
<b>Rated switching voltage [V]</b>		1500 VDC				
<b>Main contact polarity</b>		non-polarity				
<b>Mechanical life</b>		Upto 200,000 cycles				
<b>Auxiliary Contact Data</b>						
<b>Contact form</b>		1 Form A (SPST-NO)				
<b>Contact current, Max</b>		2 A, 30 VDC				
<b>Contact current, Min</b>		10 mA, 24 VDC				
<b>Coil Data</b>						
<b>Coil type</b>		DC, monostable				
<b>Coil voltages DC [V]</b>		12, 24				
<b>Steady coil power [W] or Startup/Holding power [W/W]</b>		50 / 5				
<b>Max operate voltage DC [V]</b>		75% Un				
<b>Min release voltage DC [V]</b>		10% Un				
<b>Initial Dielectric Strength</b>						
<b>Breakdown voltage [Vrms]</b>	<b>Opened main contacts</b>	5400 Vrms	4000 Vrms			
	<b>Main contacts-coil</b>					
	<b>Main contact-aux contacts</b>					
<b>General Data</b>						
<b>Ambient temperature [°C]</b>		-40°C to 85°C				
<b>Termination</b>		Screw				
<b>Mounting</b>		Panel mount				
<b>Certifications</b>		UL, TUV, CE				
<b>Learn More</b>		<b>DATA SHEET IN DEVELOPMENT</b>				

## High Voltage DC Contactors ECK Series

The ECK series is designed for control in new energy applications. The ECK product line is an advanced and reliable solution for EV charging stations, solar inverters, battery energy storage systems, automated-guided vehicles (AGV) and e-Forklifts, they provide for bi-directional loads, and they are hermetically sealed with ceramic sealing technology making it safer and reliable. These contactors can be used in 1000VDC system applications.

### Product Offerings:



### Key benefits:

- Hermetically sealed with ceramic technology
- Switching voltage up to 1000VDC
- Equipped with optional auxiliary contact and smart monitoring for main contact status
- Complies with DC-1 utilization category
- Meets the system upgrade requirement
- High performance in electrical endurance making it suitable for high voltage applications
- Equipped with bi-directional contacts that supports bi-directional load
- CE approved, serving as a global solution for customer projects

### Focus Applications:

- Electric Forklifts
- DC converter
- Power Distribution Unit
- EV charging
- Battery Test Equipment

## Technical Information

Relay Type	ECK 50B	ECK 100B	ECK 150B	ECK 200B	ECK 250B	ECK 150	ECK 200	ECK 250
<b>Features</b>	<ul style="list-style-type: none"> <li>Gas filled, ceramic hermitically sealed</li> <li>Supports bi-directional load</li> <li>Maximum breaking voltage upto 1000 VDC</li> <li>Auxiliary contact optional</li> <li>Comply with DC-1 acc. to IEC60947-1</li> </ul>	<ul style="list-style-type: none"> <li>Gas filled, ceramic hermitically sealed</li> <li>Supports bi-directional load</li> <li>Maximum breaking voltage upto 1000 VDC</li> <li>Auxiliary contact optional</li> <li>Comply with DC-1 acc. to IEC60947-1</li> </ul>	<ul style="list-style-type: none"> <li>Ceramic hermetically sealed</li> <li>Supports bi-directional load for main contacts</li> <li>Built-in economizer, hold power of 1.7 W</li> <li>Maximum DC breaking current at 1500 A</li> <li>Auxiliary contact optional</li> <li>Comply with DC-1 acc. to IEC60947-4-1</li> </ul>	<ul style="list-style-type: none"> <li>Ceramic hermetically sealed</li> <li>Supports bi-directional load for main contacts</li> <li>Built-in economizer, hold power of 1.7 W</li> <li>Maximum DC breaking current at 2000 A</li> <li>Auxiliary contact optional</li> <li>Comply with DC-1 acc. to IEC60947-4-1</li> </ul>	<ul style="list-style-type: none"> <li>Ceramic hermetically sealed</li> <li>Supports bi-directional load for main contacts</li> <li>Built-in economizer, hold power of 1.7 W</li> <li>Maximum DC breaking current at 2000 A</li> <li>Auxiliary contact optional</li> <li>Comply with DC-1 acc. to IEC60947-4-1</li> </ul>	<ul style="list-style-type: none"> <li>Ceramic hermetically sealed</li> <li>Built-in economizer, hold power 1.7 W</li> <li>Maximum DC breaking current at 1500 A</li> <li>Maximum breaking voltage upto 1000 VDC</li> <li>Auxiliary contact optional</li> <li>Comply with DC-1 acc. to IEC60947-4-1</li> </ul>	<ul style="list-style-type: none"> <li>Ceramic hermetically sealed</li> <li>Built-in economizer, hold power 1.7 W</li> <li>Maximum DC breaking current at 2000 A</li> <li>Maximum breaking voltage upto 1000 VDC</li> <li>Auxiliary contact optional</li> <li>Comply with DC-1 acc. to IEC60947-4-1</li> </ul>	<ul style="list-style-type: none"> <li>Ceramic hermetically sealed</li> <li>Built-in economizer, hold power 1.7 W</li> <li>Maximum DC breaking current at 2000 A</li> <li>Maximum breaking voltage upto 1000 VDC</li> <li>Auxiliary contact optional</li> <li>Comply with DC-1 acc. to IEC60947-4-1</li> </ul>
<b>Contacts</b>								
<b>Contact arrangement</b>	1 Form X (SPST-NO-DM)							
<b>Continuous carry current DC [A]</b>	100 A	100 A	200 A	500 A	500 A	200 A	500 A	500A
<b>Rated current [A]</b>	50 A	100 A	150 A	200 A	250 A	150 A	200 A	250A
<b>Rated switching voltage [V]</b>	1000 VDC							
<b>Contact resistance max [mΩ]</b>	1 mΩ (50 A, after 1min)	1 mΩ (100 A, after 1min)	0.4 mΩ (150 A, after 1min)	0.4 mΩ (200 A, after 1min)	0.4 mΩ (250 A, after 1min)	0.4 mΩ (150 A, after 1min)	0.4 mΩ (200 A, after 1min)	0.4 mΩ (150 A, after 1min)
<b>Main contact polarity</b>	non-polarity					polarity		
<b>Mechanical life</b>	Upto 200,000 cycles			Upto 500,000 cycles				
<b>Auxiliary Contact Data</b>								
<b>Contact form</b>	1 Form A (SPST-NO)							
<b>Contact current, Max</b>	2A, 30VDC							
<b>Contact current, Min</b>	10 mA, 8 VDC	10 mA, 8 VDC	100 mA, 8 VDC	100 mA, 8 VDC	100 mA, 8 VDC	10 mA, 24 VDC	10 mA, 24 VDC	10 mA, 24 VDC
<b>Coil Data</b>								
<b>Coil type</b>	DC, monostable							
<b>Coil voltages DC [V]</b>	12, 24, 48			9 - 36				
<b>Steady coil power [W] or Startup/Holding power [W/W]</b>	6			43.2 / 1.7				
<b>Max operate voltage DC [V]</b>	75% Un			9				
<b>Min release voltage DC [V]</b>	10% Un			3				
<b>Initial Dielectric Strength</b>								
<b>Breakdown voltage [Vrms]</b>	Opened main contacts	3500 Vrms						
	Main contacts-coil							
	Main contact-aux contacts							
<b>General Data</b>								
<b>Ambient temperature [°C]</b>	-40°C to 85°C							
<b>Termination</b>	Screw							
<b>Mounting</b>	Panel mount							
<b>Certifications</b>	UL, TUV, CE					UL, TUV, CE, CCC		
<b>Learn More</b>								

## High Voltage DC Contactors Part List

Product Name	Part Number	Description
ECP 40B series	<u>2071591-1</u>	ECP40BAAAAA
ECP 40B series	<u>2071591-2</u>	ECP40BABAAA
ECP 600B series	<u>1-2071582-1</u>	ECP600BHAADB
ECP 600B series	<u>1-2071582-2</u>	ECP600BHBADB
ECP 150B series	<u>2071568-1</u>	ECP150BHAADA
ECP 150B series	<u>2071568-2</u>	ECP150BHBADA
ECP 250B series	<u>1-2071568-1</u>	ECP250BHAADA
ECP 250B series	<u>1-2071568-2</u>	ECP250BHBADA
ECP 350B series	<u>2-2071568-1</u>	ECP350BHAADA
ECP 350B series	<u>2-2071568-2</u>	ECP350BHBADA

Product Name	Part Number	Description
ECK 100B series	<u>2071583-1</u>	ECK100BH4AAA
ECK 100B series	<u>2071583-2</u>	ECK100BH5AAA
ECK 100B series	<u>2071583-4</u>	ECK100BA4AAA
ECK 100B series	<u>2071583-5</u>	ECK100BA5AAA
ECK 50B series	<u>2071584-1</u>	ECK50BH4AAA
ECK 50B series	<u>2071584-2</u>	ECK50BH5AAA
ECK 50B series	<u>2071584-4</u>	ECK50BA4AAA
ECK 50B series	<u>2071584-5</u>	ECK50BA5AAA
ECK 150B series	<u>2071576-1</u>	ECK150BAAAEA
ECK 150B series	<u>2071576-2</u>	ECK150BHAAEA
ECK 200B series	<u>1-2071576-1</u>	ECK200BAAAEA
ECK 200B series	<u>1-2071576-2</u>	ECK200BHAAEA
ECK 250B series	<u>2-2071576-1</u>	ECK250BAAAEA
ECK 250B series	<u>2-2071576-2</u>	ECK250BHAAEA
ECK 150 series	<u>2071567-1</u>	ECK150HAAPA
ECK 150 series	<u>2071567-2</u>	ECK150AAAPA
ECK 200 series	<u>1-2071567-1</u>	ECK200HAAPA
ECK 200 series	<u>1-2071567-2</u>	ECK200AAAPA
ECK 250 series	<u>2-2071567-1</u>	ECK250HAAPA
ECK 250 series	<u>2-2071567-2</u>	ECK250AAAPA

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