

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
- Nomal open auxiliary contacts for smart monitoring of contact status

Designed for varied usage

- The variations made available under ECPN, ECPS, 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 magawatt chargers

High Voltage DC Contactors ECPN, ECPS and ECP Series

ECPN, ECPS and ECP Series high voltage contactors are specifically engineered for battery energy storage systems, electric vehicle charging infrastructure, electric marine vessel charging, and critical data center power systems. With hydrogen gas filling and ceramic hermetic sealing technology, they achieve excellent arc extinguishing performance. Combined with TE's patented design, they deliver superior short-circuit current endurance and substantial carrying current capacity in compact sizes, making them safe and reliable for 1500 VDC voltage systems supporting up to 800A carrying current. ECPN delivers robust reliability in a standard form factor, while ECPS provides, high-performance capability in an ultra-compact form factor. The platform's modular design also allows flexible scalability to support higher power ratings for future application needs.

Product Offerings:



Key benefits:

- Hermetically sealed with ceramic technology helping ensure high reliability
- Strong short circuit current endurance up to 20KA
- Continuous current carrying capability of 800A
- High performance in electrical endurance with maximum breaking capacity up to 1500VDC at 2000A
- Supports bi-directional load
- Dual coil design requiring 5.0W holding 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
- Data center power system

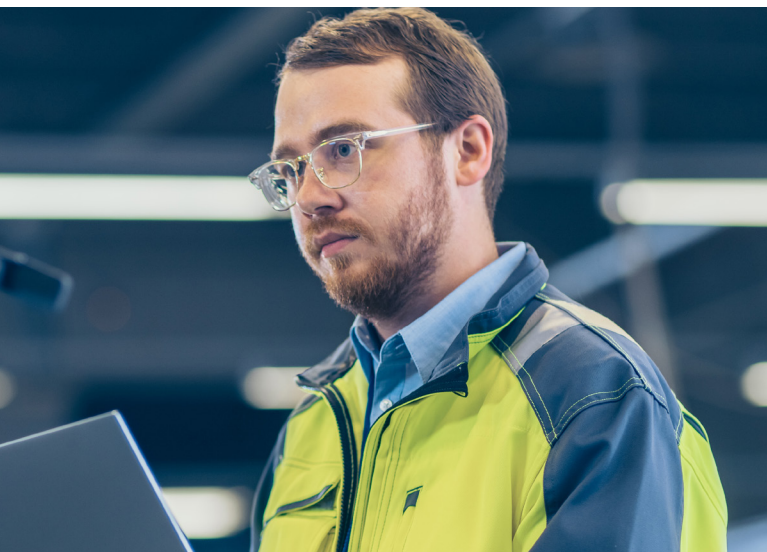
Technical Information

Relay Type		ECP 40B	ECPN350B	ECPS350	ECPN500B	ECPS500B	ECPN800B	ECPS800B
Features		<ul style="list-style-type: none">• Gas filled, ceramic hermetically sealed• Maximum breaking voltage up to 1500 VDC• Supports bi-directional load• Low coil power of 3 W• Comply with DC-1 acc. to IEC60947-4-1	<ul style="list-style-type: none">• Strong short circuit current endurance up to 15KA• Enhanced breaking capacity up to 1500 VDC at 1500 A• Hermetically sealed with ceramic technology• Allows bi-directional load• Dual coil design requiring 5.0W holding power• Equipped with auxiliary contact• Compatibility with DC-1 utilization category in IEC60947-4-1		<ul style="list-style-type: none">• Strong short circuit current endurance up to 15KA• Enhanced breaking capacity up to 1500 VDC at 2000 A• Hermetically sealed with ceramic technology• Allows bi-directional load• Dual coil design requiring 5.0W holding power• Equipped with auxiliary contact• Compatibility with DC-1 utilization category in IEC60947-4-1		<ul style="list-style-type: none">• Strong short circuit current endurance up to 20KA• Enhanced breaking capacity up to 1500 VDC at 2000 A• Hermetically sealed with ceramic technology• Allows bi-directional load• Dual coil design requiring 5.0W holding power• Equipped with auxiliary contact• Compatibility with DC-1 utilization category in IEC60947-4-1	
Contacts								
Contact arrangement		1 Form X (SPST-NO-DM)						
Continuous carry current DC [A]		40 A	350 A	350 A	500 A	500 A	800 A	800 A
Rated current [A]		40 A	350 A	350 A	500 A	500 A	800 A	800 A
Max. switching voltage [V]		1500 VDC						
Main contact polarity		non-polarity						
Mechanical life		Upto 200,000 cycles						
Auxiliary Contact Data								
Contact form		No auxiliary contact	1 Form A (SPST-NO)					
Contact current, Max			2 A, 24VDC					
Contact current, Min			10 mA, 12 VDC					
Coil Data								
Coil type		Single Coil	Dual Coil					
Coil voltages DC [V]		12, 24	12, 24					
Steady coil power [W] or Startup/Holding power [W/W]		3	50 / 5					
Max operate voltage DC [V]		16, 32	16, 32					
Min release voltage DC [V]		1, 2	1.2, 2.4					
Initial Dielectric Strength								
Breakdown voltage [Vrms]	Opened main contacts	5400 Vrms						
	Main contacts-coil							
	Main contact-aux contacts							
General Data								
Ambient temperature [°C]		-40°C to 85°C						
Termination		Screw						
Mounting		Panel mount						
Certifications		UL, TUV, CE, CCC						
Learn More								

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, With the hydrogen gas filling and ceramic hermetically sealing technology, they can achieve excellent arc extinguishing, making them 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
Features		<ul style="list-style-type: none">• Gas filled, ceramic hermitically sealed• Supports bi-directional load• Maximum breaking voltage upto 1000 VDC• Auxiliary contact optional• Comply with DC-1 acc. to IEC60947-1	<ul style="list-style-type: none">• Gas filled, ceramic hermitically sealed• Supports bi-directional load• Maximum breaking voltage upto 1000 VDC• Auxiliary contact optional• Comply with DC-1 acc. to IEC60947-1	<ul style="list-style-type: none">• Gas filled, ceramic hermitically sealed• Supports bi-directional load• Built-in economizer, hold power of 1.7 W• Maximum DC breaking current at 1500 A• Auxiliary contact optional• Comply with DC-1 acc. to IEC60947-4-1	<ul style="list-style-type: none">• Gas filled, ceramic hermitically sealed• Supports bi-directional load• Built-in economizer, hold power of 1.7 W• Maximum DC breaking current at 2000 A• Auxiliary contact optional• Comply with DC-1 acc. to IEC60947-4-1	<ul style="list-style-type: none">• Gas filled, ceramic hermitically sealed• Supports bi-directional load• Built-in economizer, hold power of 1.7 W• Maximum DC breaking current at 2000 A• Auxiliary contact optional• Comply with DC-1 acc. to IEC60947-4-1	<ul style="list-style-type: none">• Gas filled, ceramic hermitically sealed• Built-in economizer, hold power 1.7 W• Maximum DC breaking current at 1500 A• Maximum breaking voltage upto 1000 VDC• Auxiliary contact optional• Comply with DC-1 acc. to IEC60947-4-1	<ul style="list-style-type: none">• Gas filled, ceramic hermitically sealed• Built-in economizer, hold power 1.7 W• Maximum DC breaking current at 2000 A• Maximum breaking voltage upto 1000 VDC• Auxiliary contact optional• Comply with DC-1 acc. to IEC60947-4-1	<ul style="list-style-type: none">• Gas filled, ceramic hermitically sealed• Built-in economizer, hold power 1.7 W• Maximum DC breaking current at 2000 A• Maximum breaking voltage upto 1000 VDC• Auxiliary contact optional• Comply with DC-1 acc. to IEC60947-4-1
Contacts									
Contact arrangement		1 Form X (SPST-NO-DM)							
Continuous carry current DC [A]		100 A	150 A	200 A	500 A	500 A	200 A	500 A	500A
Rated current [A]		50 A	100 A	150 A	200 A	250 A	150 A	200 A	250A
Max. switching voltage [V]		1000 VDC							
Contact resistance max [mΩ]		1.2 mΩ (50 A, after 1min)	0.8 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 (250A, after 1min)
Main contact polarity		non-polarity					polarity		
Mechanical life		Upto 200,000 cycles		Upto 500,000 cycles					
Auxiliary Contact Data									
Contact form		1 Form A (SPST-NO)							
Contact current, Max		2A, 30VDC							
Contact current, Min		10 mA, 24 VDC							
Coil Data									
Coil type		Single Coil		PWM control					
Coil voltages DC [V]		12, 24, 48		9 - 36					
Steady coil power [W] or Startup/Holding power [W/W]		5.5, 6, 6		27.7 / 1.7					
Max operate voltage DC [V]		13.2, 26.4, 52.8		36					
Min release voltage DC [V]		10% Un		3					
Initial Dielectric Strength									
Breakdown voltage [Vrms]	Opened main contacts	4300 Vrms							
	Main contacts-coil								
	Main contact-aux contacts								
General Data									
Ambient temperature [°C]		-40°C to 85°C							
Termination		Screw for contact, wire for coil							
Mounting		Panel mount							
Certifications		UL, TUV, CE, CCC							
Learn More									

High Voltage DC Contactors Part List

Product Name	Part Number	Description
ECP 40B series	2071591-1	ECP40BAAAAA
	2071591-2	ECP40BABAAA
ECPN 350B Series	2071630-1	ECPN350BHAADA
	2071630-2	ECPN350BHBADA
ECPN 500B Series	1-2071630-1	ECPN500BHAADA
	1-2071630-2	ECPN500BHBADA
	2-2071630-1	ECPN500BHAADB
	2-2071630-2	ECPN500BHBADB
ECPN 800B Series	3-2071630-1	ECPN800BHAADB
	3-2071630-2	ECPN800BHBADB
ECPS 350B Series	2071631-1	ECPS350BHAADA
	2071631-2	ECPS350BHBADA
ECPS 500B Series	1-2071631-1	ECPS500BHAADA
	1-2071631-2	ECPS500BHBADA
	2-2071631-1	ECPS500BHAADB
	2-2071631-2	ECPS500BHBADB
ECPS 800B Series	3-2071631-1	ECPS800BHAADB
	3-2071631-2	ECPS800BHBADB

Product Name	Part Number	Description
ECK 100B series	2071583-1	ECK100BH4AAA
	2071583-2	ECK100BH5AAA
	2071583-3	ECK100BH6AAA
	2071583-4	ECK100BA4AAA
	2071583-5	ECK100BA5AAA
	2071583-6	ECK100BA6AAA
ECK 50B series	2071584-1	ECK50BH4AAA
	2071584-2	ECK50BH5AAA
	2071584-3	ECK50BH6AAA
	2071584-4	ECK50BA4AAA
	2071584-5	ECK50BA5AAA
	2071584-6	ECK50BA6AAA
ECK 150B series	2071576-1	ECK150BAAAEA
	2071576-2	ECK150BHAAEA
ECK 200B series	1-2071576-1	ECK200BAAAEA
	1-2071576-2	ECK200BHAAEA
ECK 250B series	2-2071576-1	ECK250BAAAEA
	2-2071576-2	ECK250BHAAEA
ECK 150 series	2071567-1	ECK150HAAPA
	2071567-2	ECK150AAAPA
ECK 200 series	1-2071567-1	ECK200HAAPA
	1-2071567-2	ECK200AAAPA
ECK 250 series	2-2071567-1	ECK250HAAPA
ECK 250 series	2-2071567-2	ECK250AAAPA

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