TE工业高压直流接触器
助力新能源行业发展

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TE 工业事业部产品经理

EVERY CONNECTION COUNTS

25亿美元
通信电子解决方案
家用电器、数据与终端设备

92亿美元
交通解决方案
汽车、工业与商业运输
传感、应用工具

45亿美元
工业解决方案
工业、医疗、能源、
航空航天、防务与船舶

相信世界需要互连，因为的确如此。

2360亿
年生产产品数量

因展示需要，以上销售额为四舍五入后的整数值

每一次连接都有改变世界的力量

作为全球行业技术企业，合作的客户遍及

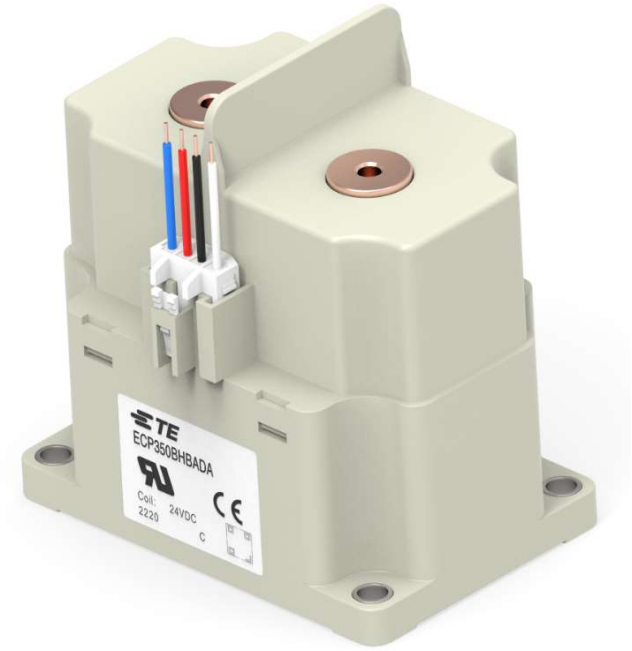
140 个国家

	生产基地	员工人数
美洲	36	28,000
欧洲、中东和非洲	45	37,000
亚太地区	25	27,000

因展示需要，以上销售额为四舍五入后的整数值

TE 工业直流接触器产品
ECK / ECP 系列产品介绍

EVERY CONNECTION COUNTS



ECP 1500V

ECK 1000V

TE工业高压直流接触器产品概览 (20A~600A, 48V~1500VDC)

	ECK50B	ECK100B	ECK150	ECK200	ECK250	ECK150B	ECK200B	ECK250B	ECK600	ECP40B	ECP150B	ECP250B	ECP350B	ECP600B
最大承载电流（推荐线径）	50A (>10mm2)	100A (>21mm2) 150A (>33.6mm2)	200A (95mm2)	500A (202mm2)	500A (202mm2)	200A (95mm2)	500A (202mm2)	500A (202mm2)	650A (>400mm2)	20A (2.5mm2)	350A (120mm2)	500A (>202mm2)	500A (>202mm2)	800A (480mm2) 600A (375mm2)
最大切换电压	1000VDC	1000VDC	1000VDC	1000VDC	1000VDC	1000VDC	1000VDC	1000VDC	1000VDC	1500VDC	1500VDC	1500VDC	1500VDC	1500VDC
主触点极性	无极性	无极性	有极性	有极性	有极性	无极性	无极性	无极性	有极性	无极性	无极性	无极性	无极性	无极性
电气寿命	50A, 450VDC, 6K ops 50A, 1000VDC, 1K ops	100A, 450VDC, 6K ops 100A, 1000VDC, 1K ops 150A, 1000VDC, >150 ops	150A, 450VDC, 6K ops 150A, 1000VDC, 1K ops	200A, 450VDC, 6K ops 200A, 1000VDC, 1Kops	250A, 450VDC, 6K ops 250A, 800VDC, 1Kops 250A, 1000VDC, >400 ops	150A, 450VDC, 6K ops 150A, 1000VDC, 1K ops	200A, 450VDC, 6K ops 200A, 1000VDC, 1Kops	250A, 450VDC, 6K ops 250A, 800VDC, 1Kops 300A, 1000VDC, break only, >100 ops	620A, 100VDC, 6K ops 400A, 750VDC, 1K ops (TBD)	15A, 1500Vdc, 10K ops 40A, 1000VDC, make only, 10K ops	100A,1500VDC, 6K ops 350A,1000VDC, 800 ops 150A,1500VDC, 2500 ops	100A,1500VDC, 6K ops 250A,1500VDC, 1000 ops 500A,1500VDC, 20 ops	100A,1500VDC, 6K ops 500A,1000VDC, 200 ops 500A,1500VDC, 30 ops	250A,1500VDC, 1K ops 600A,1000VDC, 100 ops 600A,1500VDC, 20 ops
机械寿命 (次) 带/ 不带辅助触点	500K	500K	200K / 500K	200K / 500K	200K / 500K	200K / 500K	200K / 500K	200K / 500K	500K	500K	200K	200K	200K	200K
长×宽×高	52×40×58mm	52× 40× 58mm	80.4×52.8×73mm	80.4×52.8×73mm	80.4×52.8×73mm	80.4×60×73mm	80.4×60×73mm	80.4×60×73mm	62.5×70.7×77.6 mm	72×33×58mm	104× 74.5×108mm	104× 74.5×108mm	104× 74.5×108mm	104× 74.5×108mm
辅助触点形式	1 form A (N.O)	1 form A (N.O)	1 form A (N.O)	1 form A (N.O)	1 form A (N.O)	1 form A (N.O)	1 form A (N.O)	1 form A (N.O)	1 form A (N.O)	N/A	1 form A (N.O)	1 form A (N.O)	1 form A (N.O)	1 form A (N.O)
安规认证	UL, TUV, CE, CCC	UL, TUV, CE, CCC	UL, TUV, CE, CCC	UL, TUV, CE, CCC	UL, TUV, CE, CCC	UL, TUV, CE, CCC	UL, TUV, CE, CCC	UL, TUV, CE, CCC	UL, CCC	UL, TUV, CE	UL, TUV, CE	UL, TUV, CE	UL, TUV, CE	UL, TUV, CE
量产时间	Jan 2024	Jan 2024	In MP	In MP	In MP	Dec 2023	Dec 2023	Dec 2023	Sept 2024	Jun 2024	In MP	In MP	In MP	Dec 2023
									tbd	tbd				

More NPIs on the Roadmap towards High Power Density, High Reliability !!

ECK50B_ECK100B系列
最大150A, 1000VDC
无极性（“B”系列）
高压直流接触器

EVERY CONNECTION COUNTS

ECK50B_ECK100B系列直流接触器 (最大150A, 1000VDC)

产品规格

- 最大长期承载电流：**50A for ECK50B, 100A~150A for ECK100B**
- 最大带载切换电压：**1000VDC**
- **无极性主触点，双向接通分断**
- **典型负载：**
  - **新能源：50A@1000VDC, 1K cycles, 100A@1000VDC, 1000cycles**
  - **仓储物流自动化：100A, 100VDC, >10K cycles**
- **陶瓷完全密封**
- 辅助触点可选
- 符合DC-1使用类别 (EN/IEC60947-4-1)

产品外观

产品优势

- 完全密封更可靠
- 氢气灭弧高切换
- 双向负载可分断
- 辅助触点可监控
- 体积小巧省空间
- 认证齐全可通用 （CCC, UL, CE, TUV 认证）

产品应用

- 电动车充电设施
- 光伏设施
- 储能系统
- 电动叉车/AGV

ECK50B_ECK100B 典型参数

电气寿命

ECK50:

50A, 450VDC, make/break, resistive, 6000 cycles
50A, 800VDC, make/break, resistive, 1000 cycles
50A, 1000VDC, make/break, resistive, 1000 cycles

ECK100B:

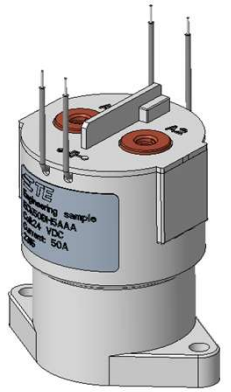
100A, 450VDC, make/break, resistive, 6000 cycles
100A, 800VDC, make/break, resistive, 1000 cycles
50A, 1000VDC, make/break, resistive, 1100 cycles
100A, 1000VDC, break only, resistive, 1000 cycles
150A, 1000VDC, break only, resistive, 150 cycles

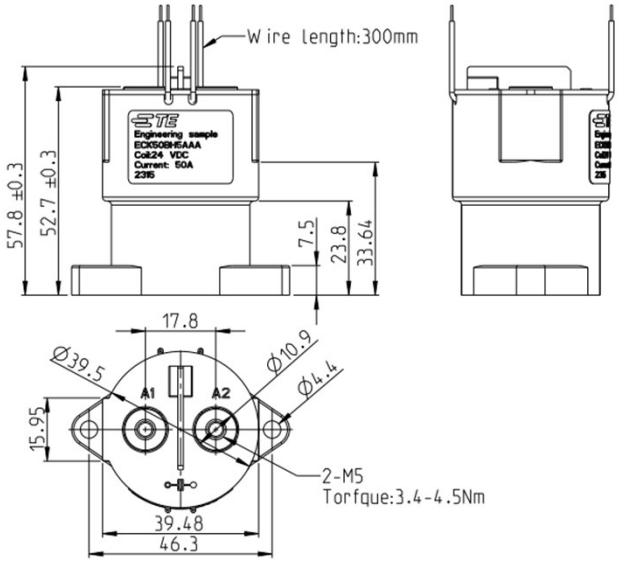
机械参数

- 底部法兰螺丝固定安装
- 尺寸: 52mm × 40mm × 58mm
- 引线长短以及接线方式可定制

认证

- UL (UL60947-4-1)
- CCC (GB/T 14048.4)
- CE (IEC60947-4-1)
- TUV (IEC60947-4-1)





Product Code	Contact Form	Coil
ECK50BA4AAA	Normally Open	12VDC
ECK50BH4AAA	Normally Open + Auxiliary Contact (N.O)	12VDC
ECK50BA5AAA	Normally Open	24VDC
ECK50BH5AAA	Normally Open + Auxiliary Contact (N.O)	24VDC
ECK50BA6AAA	Normally Open	48VDC
ECK50BH6AAA	Normally Open + Auxiliary Contact (N.O)	48VDC

Product Code	Contact Form	Coil
ECK100BA4AAA	Normally Open	12VDC
ECK100BH4AAA	Normally Open + Auxiliary Contact (N.O)	12VDC
ECK100BA5AAA	Normally Open	24VDC
ECK100BH5AAA	Normally Open + Auxiliary Contact (N.O)	24VDC
ECK100BA6AAA	Normally Open	48VDC
ECK100BH6AAA	Normally Open + Auxiliary Contact (N.O)	48VDC

ECK150/200/250 系列
最大500A，1000VDC
高压直流接触器

EVERY CONNECTION COUNTS

ECK150/200/250 (B) 系列接触器概览 (500A,1000VDC, 无极性可选)

产品规格

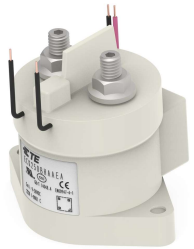
- 最大长期承载电流：**200A for ECK150, 500A for ECK200_250**
- 最大带载切换电压：**1000VDC**
- **典型负载：200A@1000VDC, 1K cycles, 250A@1000VDC, 500cycles**
- **陶瓷完全密封**
- **内置PWM节能器，功耗1.7W**
- 辅助触点可选
- 可使用环境温度: -40℃~85 ℃
- **符合DC-1使用类别 (EN/IEC60947-4-1)**

产品外观

ECK150_200_250
有极性

ECK150B_200B_250B
无极性

MP in Dec 23



产品优势

- 完全密封更可靠
- 氢气灭弧高切换
- 节能设计低功耗
- 辅助触点可监控
- 体积小巧省空间
- 认证齐全可通用 （CCC, UL, CE, TUV 认证）

产品应用

- 电动车充电设施
- 光伏设施
- 储能系统
- 电动叉车/AGV

ECK150/200/250 典型参数

电气寿命 - 有极性

ECK150
150A, 450VDC, 6000 cycles
150A, 1000VDC, 1000 cycles

ECK200
200A, 450VDC, 6000 cycles
200A, 1000VDC, 1000 cycles

ECK250
250A, 450VDC, 6000 cycles
250A, 800VDC, 1000 cycles
200A, 1000VDC, 1000 cycles
250A, 1000VDC, 400 cycles
500A, 500VDC, 3000 cycles

电气寿命 - 无极性, “B”版)

ECK150B
150A, 450VDC, 6000 cycles
150A, 1000VDC, 1000 cycles

ECK200B
200A, 450VDC, 6000 cycles
200A, 1000VDC, 1000 cycles

ECK250B
250A, 450VDC, 6000 cycles
250A, 800VDC, 1000 cycles
200A, 1000VDC, 1000 cycles
300A, 1000VDC, break, 100 cycles
500A, 500VDC, 3000 cycles

机械参数

- 底部法兰螺丝固定安装
- 尺寸: 80.4mm × 52.8mm × 73mm
- 引线长短以及接线方式可定制

认证

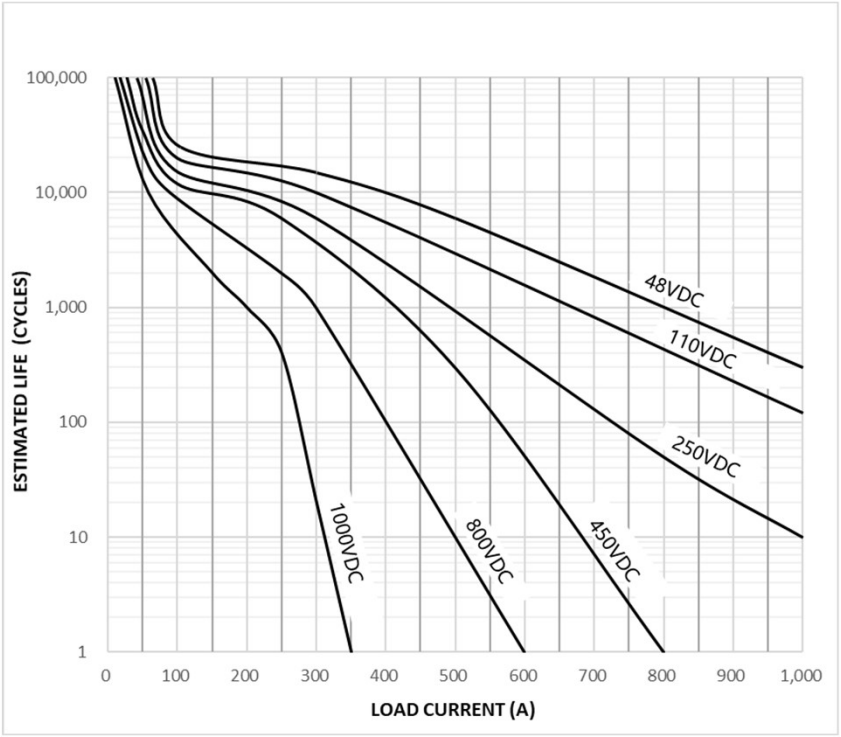
- UL (UL60947-4-1)
- CCC (GB/T 14048.4)
- CE (IEC60947-4-1)
- TUV (IEC60947-4-1)

Product Code	Contact Current	Max. Switching Voltage	Contact Form	Coil	Part Number
ECK150AAAPA	200A	1000VDC	Normally Open w/o Aux Contact	9-36VDC with economizer	2071567-2
ECK150HAAPA	200A	1000VDC	Normally Open with N.O. Aux Contact		2071567-1
ECK200AAAPA	500A	1000VDC	Normally Open w/o Aux Contact		1-2071567-2
ECK200HAAPA	500A	1000VDC	Normally Open with N.O. Aux Contact		1-2071567-1
ECK250AAAPA	500A	1000VDC	Normally Open w/o Aux Contact		2-2071567-2
ECK250HAAPA	500A	1000VDC	Normally Open with N.O. Aux Contact		2-2071567-1

Product Code	Contact Current	Max. Switching Voltage	Contact Form	Coil	Part Number
ECK150BAAAEA	200A	1000VDC	Normally Open w/o Aux Contact	9-36VDC with economizer	2071576-1
ECK150BHAAEA	200A	1000VDC	Normally Open with N.O. Aux Contact		2071576-2
ECK200BAAAEA	500A	1000VDC	Normally Open w/o Aux Contact		1-2071576-1
ECK200BHAAEA	500A	1000VDC	Normally Open with N.O. Aux Contact		1-2071576-2
ECK250BAAAEA	500A	1000VDC	Normally Open w/o Aux Contact		2-2071576-1
ECK250BHAAEA	500A	1000VDC	Normally Open with N.O. Aux Contact		2-2071576-2

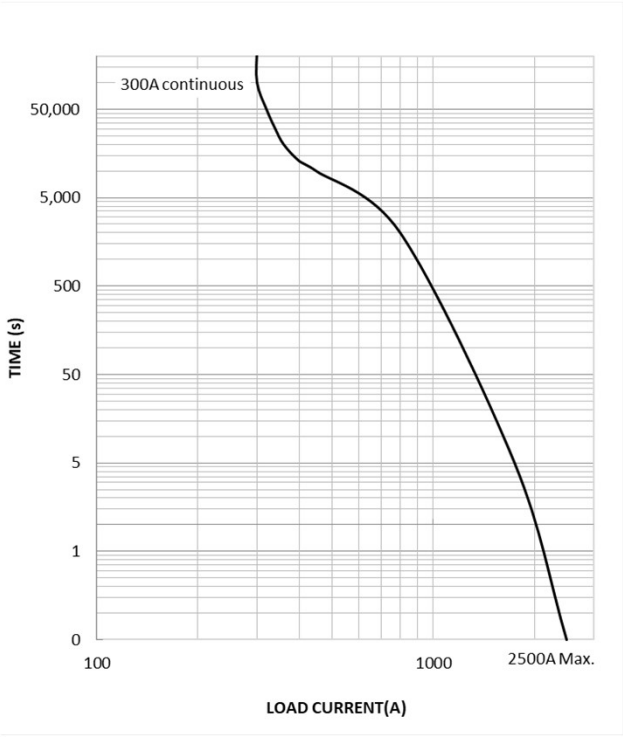
ECK250 产品特性参考曲线

接通分断能力参考曲线



- The curve was created based on extrapolated data with few typical points, users are recommended to confirm performance in actual application.
- The typical data were estimated with resistive load at room temperature

电流承载能力曲线



- The data is measured at the environment temperature 85ºC with cross section area of wire 185mm2 min.
- Please consult with TE FAE/engineer for 500A carry parameters.

可靠性测试报告及认证

可靠性测试报告

UL

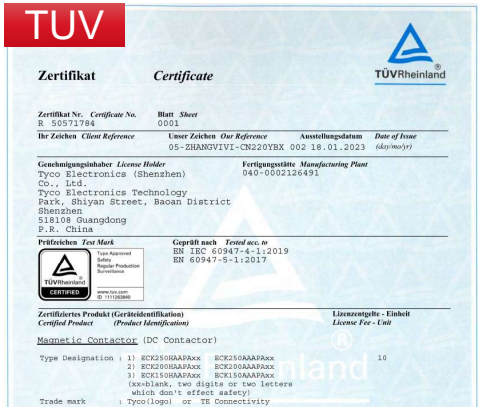
CERTIFICATE OF COMPLIANCE

Certificate Number E82292
Report Reference E82292-20221031
Issue Date 2022-OCTOBER-31

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Industrial Control Switches
ECK150HAAPA
ECK150AAAPA
ECK200HAAPA
ECK200AAAPA
ECK250HAAPA
ECK250AAAPA

TUV



Zertifikat Certificate

TÜVRheinland

Zertifikat Nr. Certificate No. R 50571784
Blatt Sheet 0001
Ihr Zeichen Client Reference
Unser Zeichen Our Reference 05-ZHANGVIVI-CN220YBX
Ausstellungsdatum Date of Issue 002 18.01.2023 (day/mo/yr)

Genehmigungsinhaber License Holder
Tyco Electronics (Shenzhen) CO., Ltd.
Tyco Electronics Technology Park, Shiyan Street, Baoan District Shenzhen
518108 Guangdong
P.R. China

Fertigungsstätte Manufacturing Plant 040-0002126491

Prüfzeichen Test Mark
Geprüft nach Tested acc. to EN IEC 60947-4-1:2019 EN 60947-5-1:2017

Zertifiziertes Produkt (Geräteidentifikation) Certified Product (Product identification)
Lizenzentgelte - Einheit License Fee - Unit

Magnetic Contactor (DC Contactor)

Type Designation : 1) ECK250AAAPAxx ECK250AAAPAxx 10
2) ECK200AAAPAxx ECK200AAAPAxx
3) ECK150AAAPAxx ECK150AAAPAxx
(xx=blank, two digits or two letters which don't effect safety)
Trade mark : Tyco(logo) or TE Connectivity

CCC

联系人：曹世雄
电话：0755-27620888-346
电子邮箱：stephen.cao@te.com
指定签字人：

自我声明时间：2022-08-26
自我声明地点：深圳
生产者签章：

注：有关本声明信息真伪可登录全国认证认可信息公共服务平台（cx. cnca. cn）或扫描右上角二维码

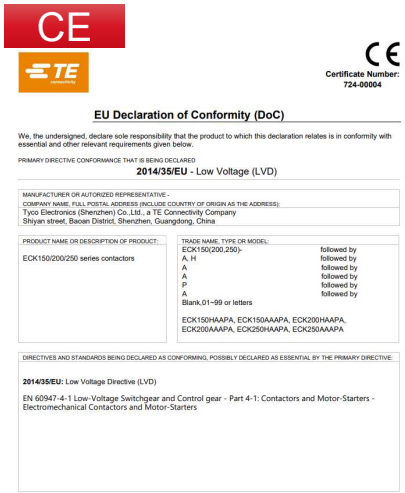
第1页/共3页

强制性认证产品符合性自我声明(附页)

自我声明编号：2022960304002220

产品系列、型号、规格：
ECK150HAAPA, ECK200HAAPA, ECK250HAAPA, ECK150AAAPA, ECK200AAAPA, ECK250AAAPA;

CE



Certificate Number: 724-00004

EU Declaration of Conformity (DoC)

We, the undersigned, declare sole responsibility that the product to which this declaration relates is in conformity with essential and other relevant requirements given below.

PRIMARY DIRECTIVE CONFORMANCE THAT IS BEING DECLARED
2014/35/EU - Low Voltage (LVD)

MANUFACTURER OR AUTORIZED REPRESENTATIVE -
COMPANY NAME, FULL POSTAL ADDRESS (INCLUDE COUNTRY OF ORIGIN AS THE ADDRESS):
Tyco Electronics (Shenzhen) Co. Ltd., a TE Connectivity Company
Shiyan street, Baoan District, Shenzhen, Guangdong, China

PRODUCT NAME OR DESCRIPTION OF PRODUCT:	TRADE NAME, TYPE OR MODEL:	
ECK150/200/250 series contactors	ECK150(200,250)-	followed by
	A, H	followed by
	A	followed by
	A	followed by
	P	followed by
	A	followed by
	Blank,01~99 or letters	
	ECK150HAAPA, ECK150AAAPA, ECK200HAAPA, ECK200AAAPA, ECK250HAAPA, ECK250AAAPA	

DIRECTIVES AND STANDARDS BEING DECLARED AS CONFORMING, POSSIBLY DECLARED AS ESSENTIAL BY THE PRIMARY DIRECTIVE:

2014/35/EU: Low Voltage Directive (LVD)

EN 60947-4-1 Low-Voltage Switchgear and Control gear - Part 4-1: Contactors and Motor-Starters - Electromechanical Contactors and Motor-Starters

ECK150/200/250 产品应用及典型负载

EV Charging

功能:
- 充电枪主回路
- 功率分配

典型负载:
- 300A continuous carry
- 150A, 1000VDC, 1000 cycles
- 200A, 1000VDC, 1000 cycles
- 250A, 800VDC, 1000 cycles
- 250A, 1000VDC, 400 cycles

Electric forklift / AGV

功能:
- 电池主回路/开关盒
- 功率分配

典型负载:
- 250A, 450VDC, 6000 cycles
- 500A, 48VDC, 6000 cycles

Battery Energy Storage System

功能:
- 电池主回路/高压开关盒

典型负载:
- 150A, 1000VDC, 1000 cycles
- 200A, 1000VDC, 1000 cycles
- 250A, 450VDC, 6000cycles
- 250A, 800VDC, 1000 cycles
- 250A, 1000VDC, 500 cycles

Solar Inverters

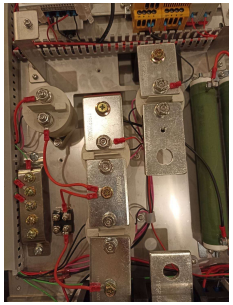
功能:
- 直流主回路

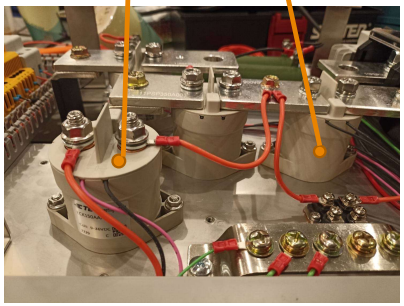
典型负载:
- 150A, 1000VDC, 1000 cycles
- 200A, 1000VDC, 1000 cycles
- 250A, 450VDC, 6000cycles
- 250A, 800VDC, 1000 cycles
- 250A, 1000VDC, 500 cycles

ECK Contactor Success Story 成功案例

180KW DC EV Charger / 充电桩

- **Application (应用):**
  - Main Switch (主切换): 4pcs ECK250 / set
  - PDU (功率分配): 12pcs ECK150 / set



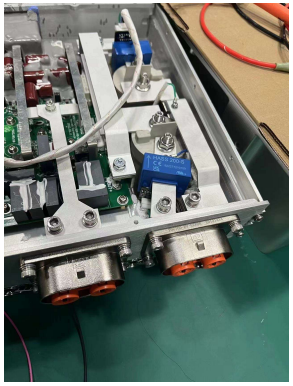


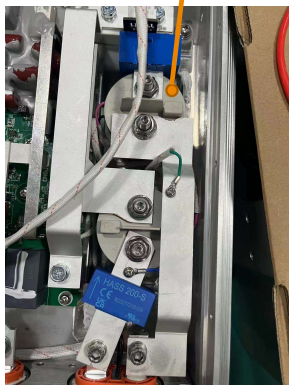
DC Converter / 直流变频器

- **Application (应用):**
  - Main Switch (直流切换): 1pcs ECK250 /set

Battery Pack / 电池包

- **Application (应用):**
  - Hydrogen fuel battery DC/DC control (氢燃料电池DC/DC切换): 2 pcs ECK200 / set

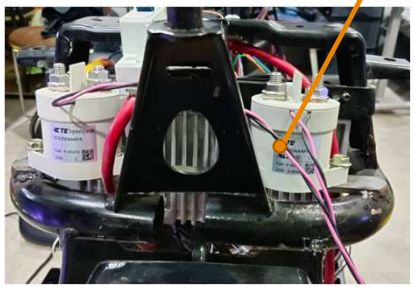




ECK Contactor Success Story 成功案例

E-Bike / 电动摩托

- **Application (应用):**
  - Battery Main Switch (主切换): 2pcs ECK250 / set



Logistic EV / 电动物流车

- **Application (应用):**
  - Battery Main Switch (主切换): 2pcs ECK200 /set and 1 pcs IHV50/set

Battery Energy Storage / 储能

- **Application (应用):**
  - Residential Battery DC main switch (高压开关盒): 2 pcs ECK200 / set

ECP250B_350B系列
ECP600B 系列
最大 600A, 1500VDC
高压直流接触器

EVERY CONNECTION COUNTS

ECP 系列1500VDC直流接触器，最大电流600A

产品特征

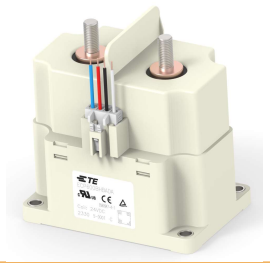
- 长期承载电流：**500A for ECP250B_ECP350B, 600A for ECP600B**
- 极限分断电流：**1000A, 1500VDC**
- 主触点无极性，允许双向负载分断
- 陶瓷完全密封
- 双线圈设计，保持功耗5W
- 配备辅助触点
- UL, CE, TUV 认证

产品外观

ECP250B_350B (500A)

ECP600B
(600A long term, 800A 2 hrs)

MP in Dec 23



产品优势

- 陶瓷密封，氢气灭弧，可靠性高
- 切换电压达1500VDC，寿命次数高
- 爬电绝缘能力完全满足UL要求>25mm
- 认证齐全，全球通用

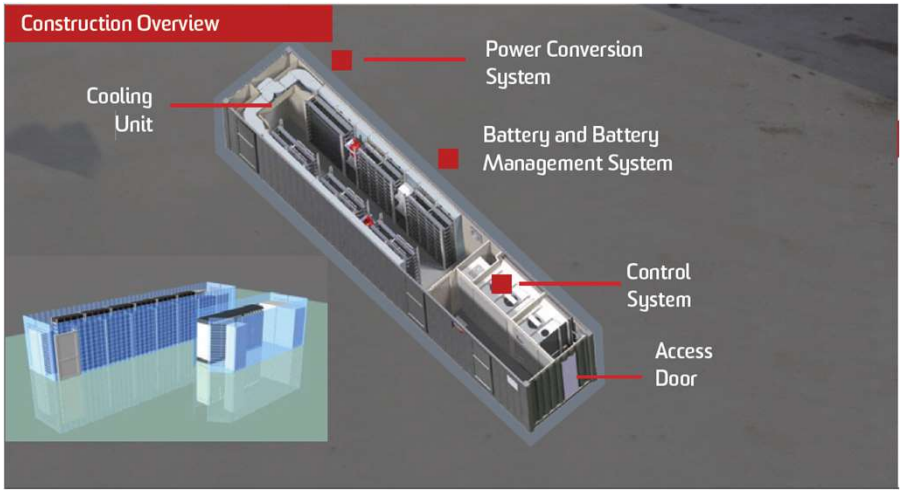
产品应用

- 工商业储能
- 超级充电桩
- 光伏系统
- 其他高压应用

ECP系列接触器应用场景概览

大储 / 工商业储能

- 电池管理系统/高压开关盒（BMS）主切换
- 变流箱 （PCS）主切换



超级充电桩 >=350KW

- 充电枪主回路切换

选型建议：

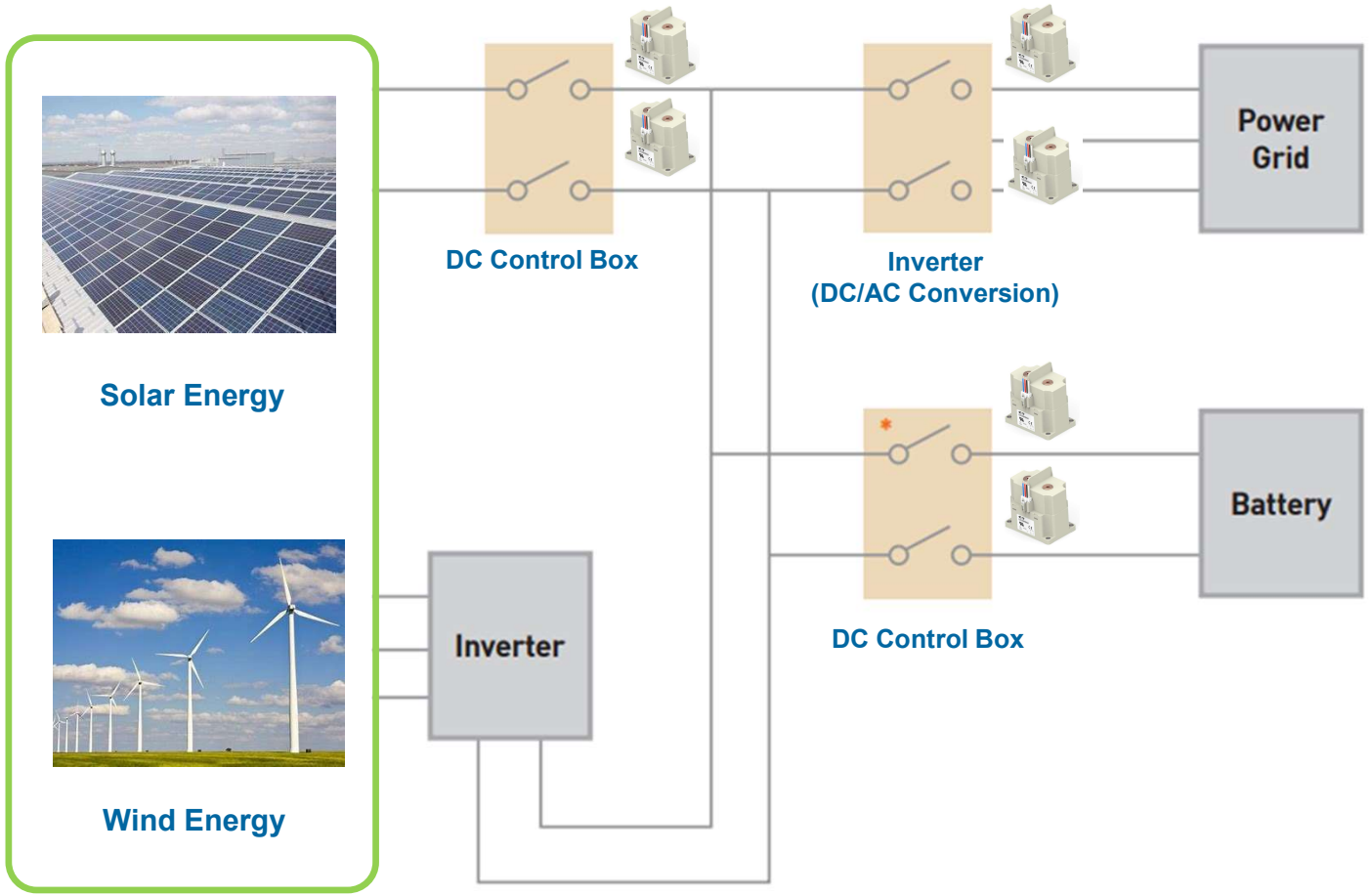
C：用来表示电池充放电电流大小的比率，即倍率。

充放电倍率=充放电电流/额定容量，如280Ah额定容量的电池，0.5C表示充放电电流为140A（280Ah的0.5倍率），1C表示280A（280Ah的1倍率），同理，2C代表560A的充放电电流。电池的充放电电流的大小决定了作为关键开关器件的接触器的电流规格大小。目前市场上280Ah为较主流的储能电池规格，其他电池规格可以进行相应的计算先得出充放电电流，再根据该电流选择合适电流能力的接触器产品。

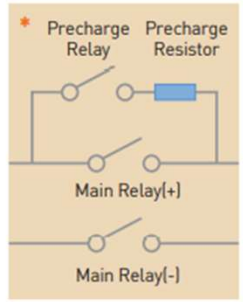
应用建议：

- 适用于500A~800A, 1000VDC以上的超级充电桩。.

ECP 系列接触器储能应用场景电路示意图



Pre-charge Circuit



ECP主接触器大储 / 工商业储能应用场景剖析

- **电池管理系统/高压开关盒（BMS）主切换**

TE value chain focus

3.2V
280Ah (~320Ah)

✕ 14

Battery Cell

Battery Pack

8.96 (~10KW) per Pack

✕ 16

~1000V Battery Cluster
~150kw per Cluster

✕ 26

~1500V Battery Cluster
~230kw per Cluster

For a 4MW BESS BMS System:
- ~30pcs Main Contactor + optional ~15 pcs pre-charge Contactor

✕ 2

- **变流箱 （PCS）主切换**

分布式PCS: 1 PCS for 1 Battery Cluster

✕ 2pc ✕ n sets of PCS

PCS used the same Current specification contactor BMS Contactor. e.g. BMS use 350A, contactor, PCS also use 350A contactor.

集中式PCS: 1 PCS for **2** Battery Cluster

PCS used the **2 times** of Current specification contactor BMS Contactor. e.g. BMS use 350A, contactor, PCS use >700A contactor.
PCS sets is half of Configuration A

For a 4MW BESS PCS System:
- Configuration A: ~30pcs Main Contactor
- Configuration B: 10~15 pcs Main Contactor (Multiple Times of Current spec than A)

ECP 系列接触器典型参数

电气寿命

ECP150B
- 100A, 1500VDC, 6000 cycles
- 150A, 1500VDC, 1000 cycles

ECP250B
- 100A, 1500VDC, 6000 cycles
- 250A, 1500VDC, 1000 cycles
- 250A, 1000VDC, 1000 cycles

ECP350B
- 100A, 1500VDC, 6000 cycles
- 300A, 1500VDC, 500 cycles
- 350A, 1000VDC, 1000 cycles
- 350A, 1500VDC, 200 cycles
- 500A, 1500VDC, 30 cycles

ECP600B
- 200A, 1500VDC, >1000 cycles
- 600A, 1000VDC, >100 cycles
- 600A, 1500VDC, >20 cycles

机械参数

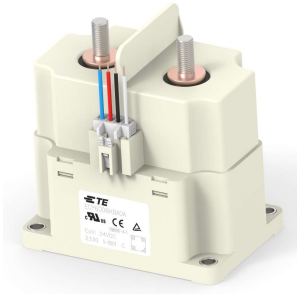
- 机械寿命：20万次
- 底部法兰螺丝固定安装
- 尺寸: 104mm × 74.5mm × 108mm
- 引线长短以及接线方式可定制

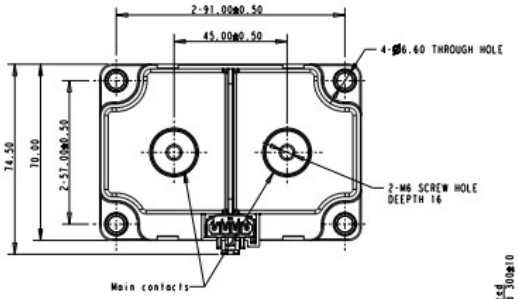
其他参数

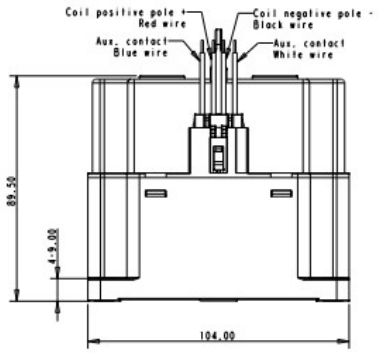
触点间耐压：4000Vrms
线圈触点间耐压：4000Vrms
温度范围：-40C-85C
湿度范围：95% RH
抗振动（功能性）：Sine, 10-2000Hz, 5G
抗冲击（功能性）: 11ms 1/2 Sine, Peak 20G
短路电流能力：10KA, 2ms (不带熔断器)

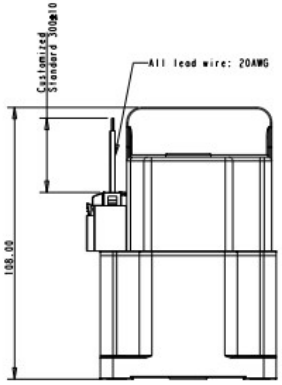
认证

CE, TUV, UL (IEC/UL60947-4-1)



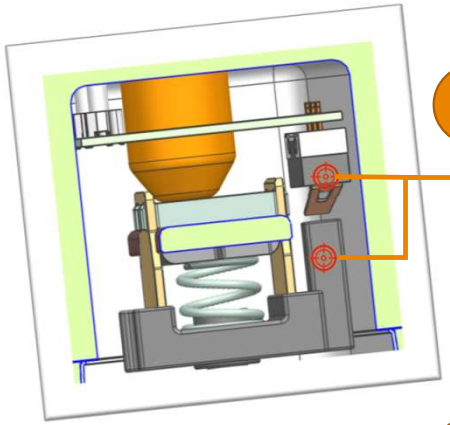






产品型号	触点电流	触点形式	安装方向	线圈电压	线圈驱动	料号
ECP150BHAADA	350A	1组常开，带常开辅助触点	底部安装	12VDC	双线圈节能	2071568-1
ECP150BHBADA	350A			24VDC	双线圈节能	2071568-2
ECP250BHAADA	500A			12VDC	双线圈节能	1-2071568-1
ECP250BHBADA	500A			24VDC	双线圈节能	1-2071568-2
ECP350BHAADA	500A			12VDC	双线圈节能	2-2071568-1
ECP350BHBADA	500A			24VDC	双线圈节能	2-2071568-2
ECP600BHAADA	600A			12VDC	双线圈节能	1-2071582-1
ECP600BHBADA	600A			24VDC	双线圈节能	2-2071582-2

ECP 系列接触器产品设计亮点



1

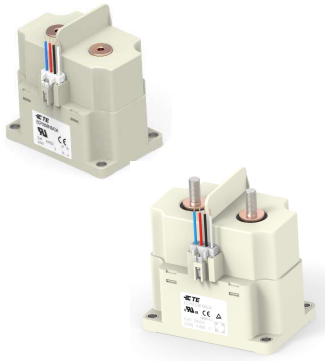
- 辅助触点与主触点机械连接，提高辅助触点反馈可靠性

2

- 陶瓷密封，氢气灭弧，可靠性高

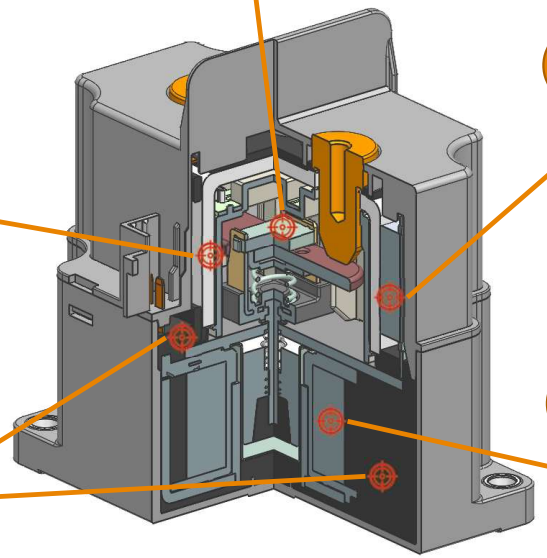
3

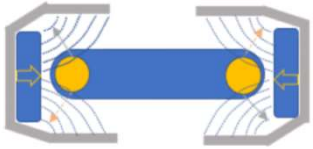
- 完全满足UL对于1500VDC的爬电距离的要求，实际值>25mm, 保障安全。



6

- 特殊的短路环设计以提升短路电流能力 （10KA, >2ms）





5

- 无极性主触点设计

4

- 双线圈节能设计

ECP 系列接触器绝缘距离

Table 15 – Minimum creepage distances

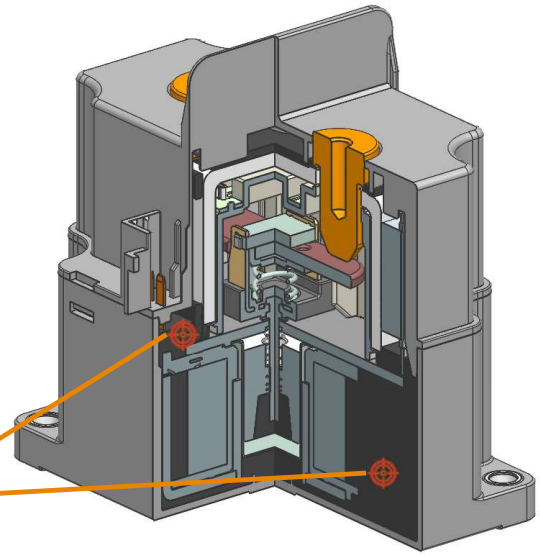
Rated insulation voltage of equipment or working voltage a.c. r.m.s. or d.c. [d, f] V	Creepage distances for equipment subject to long term stress mm													
	Pollution degree			Pollution degree				Pollution degree				Pollution degree			
	1 [e]		2 [e]	1	2			3				4			
	Material group			Material group				Material group				Material group			
	a		b	a	I	II	IIIa	IIIb	I	II	IIIa	IIIb	I	II	IIIa	IIIb
10	0,025		0,04	0,08	0,4	0,4	0,4		1	1	1		1,6	1,6	1,6	
12,5	0,025		0,04	0,09	0,42	0,42	0,42		1,05	1,05	1,05		1,6	1,6	1,6	
16	0,025		0,04	0,1	0,45	0,45	0,45		1,1	1,1	1,1		1,6	1,6	1,6	
20	0,025		0,04	0,11	0,48	0,48	0,48		1,2	1,2	1,2		1,6	1,6	1,6	
25	0,025		0,04	0,125	0,5	0,5	0,5		1,25	1,25	1,25		1,7	1,7	1,7	
32	0,025		0,04	0,14	0,53	0,53	0,53		1,3	1,3	1,3		1,8	1,8	1,8	
40	0,025		0,04	0,16	0,56	0,8	1,1		1,4	1,6	1,8		1,9	2,4	3	
50	0,025		0,04	0,18	0,6	0,85	1,2		1,5	1,7	1,9		2	2,5	3,2	
63	0,04		0,063	0,2	0,63	0,9	1,25		1,6	1,8	2		2,1	2,6	3,4	
80	0,063		0,1	0,22	0,67	0,95	1,3		1,7	1,9	2,1		2,2	2,8	3,6	
100	0,1		0,16	0,25	0,71	1	1,4		1,8	2	2,2		2,4	3	3,8	
125	0,16		0,25	0,28	0,75	1,05	1,5		1,9	2,1	2,4		2,5	3,2	4	
160	0,25		0,4	0,32	0,8	1,1	1,6		2	2,2	2,5		3,2	4	5	
200	0,4		0,63	0,42	1	1,4	2		2,5	2,8	3,2		4	5	6,3	
250	0,56		1	0,56	1,25	1,8	2,5		3,2	3,6	4		5	6,3	8	
320	0,75		1,6	0,75	1,6	2,2	3,2		4	4,5	5		6,3	8	10	
400	1		2	1	2	2,8	4		5	5,6	6,3		8	10	12,5	
500	1,3		2,5	1,3	2,5	3,6	5		6,3	7,1	8		10	12,5	16	
630	1,8		3,2	1,8	3,2	4,5	6,3		8	9	10		12,5	16	20	c
800	2,4		4	2,4	4	5,6	8		10	11	12,5		16	20	25	
1 000	3,2		5	3,2	5	7,1	10		12,5	14	16		20	25	32	
1 250				4,2	6,3	9	12,5		16	18	20		25	32	40	
1 600				5,6	8	11	16		20	22	25		32	40	50	
2 000				7,5	10	14	20		25	28	32		40	50	63	
2 500				10	12,5	18	25		32	36	40		50	63	80	
3 200				12,5	16	22	32		40	45	50	c	63	80	100	
4 000				16	20	28	40		50	56	63		80	100	125	
5 000				20	25	36	50		63	71	80		100	125	160	
6 300				25	32	45	63		80	90	100		125	160	200	
8 000				32	40	56	80		100	110	125		160	200	250	
10 000				40	50	71	100		125	140	160		200	250	320	

[a] Material groups I, II, IIIa, IIIb.
[b] Material groups I, II, IIIa.
[c] Values of creepage distances in this area have not been established. Material group IIIb is in general not recommended for application in pollution degree 3 above 630 V and in pollution degree 4.
[d] As an exception, for rated insulation voltages 127 V, 208 V, 415/440 V, 660/690 V and 830 V, creepage distances corresponding to the lower values 125 V, 200 V, 400 V, 630 V and 800 V respectively may be used.
[e] The values given in these two columns apply to creepage distances of printed circuit materials.
[f] The values of creepage distances stated for 250 V can be used for 230 V (±10 %) nominal voltage.

NOTE 1 It is appreciated that tracking or erosion will not occur on insulation subjected to working voltages of 32 V and below. However, the possibility of electrolytic corrosion has to be considered and for this reason minimum creepage distances have been specified.
NOTE 2 Voltage values are selected in accordance with the R_{10} series.

3

完全满足UL对于1500VDC的爬电距离的要求，实际值>25mm, 保障安全。



可靠性测试报告及认证

可靠性测试报告

UL

CERTIFICATE OF COMPLIANCE

Certificate Number	E82292
Report Reference	E82292-20230221
Issue Date	2023-February-21
Issued to:	Tyco Electronics (Shenzhen) Co Ltd TYCO ELECTRONICS TECHNOLOGY PARK SHIYAN ST BAO'AN DISTRICT SHENZHEN, GUANGDONG 518108 China

This certificate confirms that representative samples of Switches, Industrial Control - Component
See Addendum Page

Have been evaluated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

Standard(s) for Safety: Standard Number and Title
Additional Information: See UL Product iQ® at https://iq.ulprospector.com for additional information.

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Recognized Component Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Page 1 of 3

TUV

CERTIFICATE

of Conformity
Low Voltage Directive 2014/35/EU

Registration No.: AN 50578970 0001
Report No.: CN22JEWJ 004

Holder: Tyco Electronics (Shenzhen) Co., Ltd.
Tyco Electronics Technology Park, Shiyan Street, Baoan District
Shenzhen
518108 Guangdong
P.R. China

Product: Magnetic Contactor (DC Contactor)

Identification: Type Designation: ECP150HBAADA,** ECP150HBAADA,**
ECP250HBAADA,** ECP250HBAADA,**
ECP350HBAADA,** ECP350HBAADA,**
Serial No. : Engineering sample
Remark: Issued in conjunction with TÜV Rheinland license
R 50578964 0001 to 0002.

This certificate of conformity is based on an evaluation of a sample of the above mentioned product. Technical Report and documentation are at the Licence Holder's disposal. This is to certify that the tested sample is in conformity with Annex I of Council Directive 2014/35/EU, referred to as the Low Voltage Directive. This certificate does not imply assessment of the series-production of the product and does not permit the use of a TÜV Rheinland mark of conformity. The holder of the certificate is authorised to use this certificate in connection with the EC declaration of conformity according to Annex IV of the Directive.

Certification Body

Date 29.03.2023

Wencai Zheng

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

CE The CE marking may be used if all relevant and effective EC Directives are complied with. CE

CE

EU Declaration of Conformity (DoC)

MANUFACTURER - COMPANY NAME, FULL POSTAL ADDRESS (INCLUDE COUNTRY OF ORIGIN AS THE ADDRESS):
Tyco Electronics (Shenzhen) Co.,Ltd., a TE Connectivity Company
Shiyan street, Baoan District, Shenzhen, Guangdong, China
If applicable,
AUTORIZED REPRESENTATIVE – NAME, COMPANY NAME, FULL POSTAL ADDRESS (INCLUDE COUNTRY OF ORIGIN AS THE ADDRESS):
Dipl. Ing. Christian Krdpfl
Tyco Electronics Austria GmbH
Schrackstr. 1, 3830 Waidhofen Thaya
Austria

Declare, under our sole responsibility, that the product(s): **Certificate Number: 724_00005**

Product description:
DC contactors (ECP series):
ECP150B series
ECP250B series
ECP350B series

to which this Declaration of Conformity relates, in the form as delivered, are in conformity with the provisions of the following European Directive(s):

Applicable	Directives		Page	Revision
☒	2014/35/EU	Low Voltage (LVD)	2	1
☒	2014/30/EU	Electromagnetic instruments (EMC)	3	1
☒	2011/65/EU	Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS2)	4	1
Technical Documentation			5-6	1

SIGNED BY OR ON BEHALF OF THE MANUFACTURER AS AUTHORISED REPRESENTATIVE.

Dipl.-Ing. Christian Krdpfl — NAME and SIGNATURE
Sr Mgr R&D/Product DVL Engineering — TITLE
30.03.2023 — DATE

The declaration certifies the conformity to the specified directives but contains no assurance of properties. The safety documentation accompanying the product shall be considered in detail.

ECK / ECP 系列接触器应用选型建议

大储 / 工商业储能 (1500V为主)

基本信息
1. 客户的应用是BMS还是PCS?
2. 电芯规格是多少? 280Ah还是320Ah? 或者更高/更低?
3. 放电倍率是多少
4. 系统电压是多少V?

BMS
确定系统电压是1500VDC之后，只需要确定电流规格即可。
电流规格 = 电芯规格 ✕ 放电倍率，再加上~20%设计余量。

PCS
确认系统电压是1500VDC之后，同上可计算出客户电流规格。

假设**280Ah**的电芯，放电倍率为**1C**（1倍），那么电流规格 = 280 ✕ 1 = 280A，加上设计余量，应该推荐客户覆盖350A, 1500VDC的接触器即**ECP350B (最大500A 1500VDC)**系列。

假设**280Ah**的电芯，放电倍率为**0.5C** (0.5倍)，那么电流规格 = 280 ✕ 0.5 = 140A，加上设计余量，应该推荐客户250A, 1500VDC的接触器即**ECP250B**系列。

如果客户是模块化PCS设计，即1个电池簇对应1个PCS，那么电流规格可依据上述BMS电流规格计算方式。

如果客户是集中式PCS设计，即多个电池簇对应1个PCS，那么电流规格则需要乘以相应的倍数（电池簇数量）。

直流充电桩 (1000V为主)

- 最大充电功率 <350KW，推荐ECK150-250 或者ECK150B-250B（无极性）。规格500A长期承载，最大分断250A, 1000VDC, 500次。
- 最大充电功率 =350KW：
  - 客户余量要求小，可以继续推荐**ECK250**或者**ECK250B （无极性）**，因为350KW，最大分断350A，1000VDC的负载，ECK250/250B也是可以抗少量次数的。
  - 客户余量要求高，推荐**ECP350B（无极性）**：500A长期承载，分断500A，1000VDC，>100cycles。或者**ECP600B （无极性）**：600A承载，分断600A，1000VDC，>100cycles。
- 最大充电功率：>350KW的充电桩，那么推荐**ECP350B（无极性）**：500A长期承载，分断500A，1000VDC，>100cycles。或者**ECP600B （无极性）**：600A承载，分断600A，1000VDC，>100cycles。

叉车AGV (<100V为主) – 按电流选即可，电压通常都能覆盖。

注意：以上仅供初步选型参考，最终确定方案请与TE FAE/PM联系。

资源

联系TE

产品经理

APAC: Lian, Louis louis.lian@te.com

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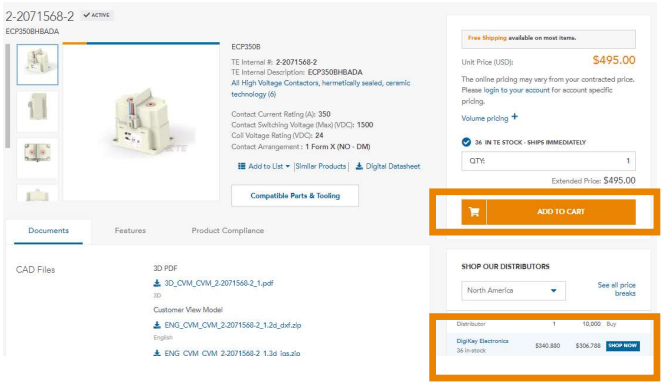
样品

对于正在开发产品，请联系TE销售，代理商窗口获取。

对于已量产产品，如下建议方式：

1) 按照MOQ下单给TE (PPQ 9pcs for ECP, PPQ 24pcs for ECK) 。
2) 搜索TE授权代理商购买现货，比如Digikey, Mouser, TTI, Heilind, Future…
3) TE.COM 线上商店也可以供客户采购样品。



文件

Please download the documents (3D CVM, Datasheet, Approval, Compliance…) on each product landing page on te.com.

产品页面

ECK Contactor: ECK landing page;
ECP Contactor: ECP landing page

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Online Ordering Link: https://store.intelliprintsolutions.com/te

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