High Voltage Contactors ECP350B Series

Hermetically sealed with ceramic technology
Allow bi-directional load
Breaking capability at 1500VDC
Dual coil design, hold power 5.0W
Auxiliary contact available
Comply with DC-1 utilization category in IEC60947-4-1

Typical applications
Battery energy storage systems, Photovoltaic inverters, EV Charger.

Approvals

UL, CE - to be added.

Main Contact Data

Continuous carry current	350A @ 85°C
Rated Switching Current	350A
Max. Breaking Voltage	1500VDC
Max. Breaking Capacity	1500VDC, 800A, 3 cycles 1000VDC, 2000A, 1 cycle
Contact arrangement	1 Form X (SPST-NO-DM)
Initial Voltage Drop	<=0.4mohm @20A, 6VDC
Operate time max. (at 23°C)	50ms
Release time, max. (at 23°C)	30ms
Mechanical Life	200,000 cycles

Contact Ratings

Load	Cycles
100A, 1500Vdc, make/break, resistive	6,000
350A, 1000VDC, break only, resistive	1,000
300A, 1500VDC, break only, resistive	400

CE Declaration (IEC60947-4-1)

Rated Operational Current	Utilization Category	Switching Cycles
60A	DC-1	6,050

Auxiliary Contact Data

Contact Form	1 Form A (SPST-NO)
Contact Current, Max.	2A, 24VDC
Contact Current, Min.	10mA, 24VDC

Coil versions, DC coil

Coil Code	Nominal Voltage	Operating Voltage	Release Voltage	Maximum Operate Voltage	Coil Power
A	12VDC	≤ 8VDC	≥ 4.5VDC	16VDC	Start: 50W Hold: 5W
B	24VDC	≤ 16VDC	≥ 9.0VDC	32VDC	Start: 50W Hold: 5W

All figures are given for coil without pre-energization, at ambient temperature +23 °C and the coil will be automatically switched to 5W hold status after about 200ms energization with coil power 50W.

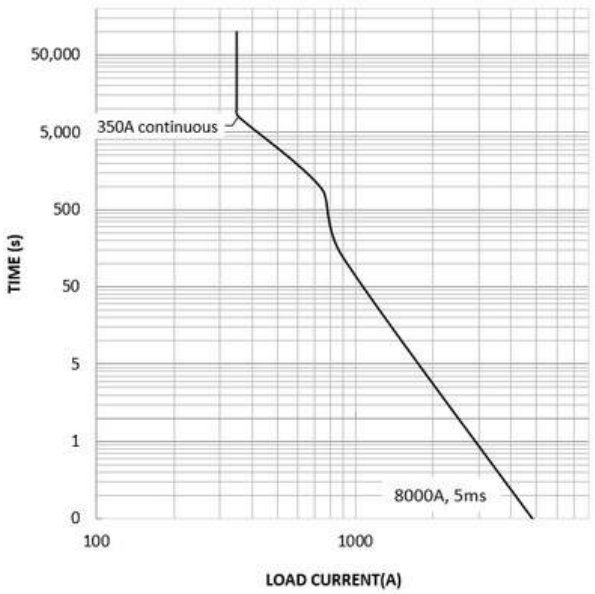
Insulation Data

Dielectric Withstand Voltage (leakage current <1mA)	
between open main contacts	4,000Vrms
between main contact and coil	4,000Vrms
between main contacts and aux contacts	4,000Vrms
between open aux contacts	750Vrms
Initial Insulation Resistance @ 1500VDC	
between insulated elements	> $1x10^9\Omega$

Other Data

Material Compliance:	EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the product Compliance Support Center at www.te.com/customersupport/rohssupportcenter
Ambient Temperature	-40°C to 85°C
Vibration Resistance (functional)	Sine, 10-2000Hz, 5G
Shock Resistance (functional)	11ms 1/2 Sine, Peak 20G
Terminal Type	Screw for contact, wire for coil
Weight	~1200g
Packaging/unit	box/9 pcs.

Current Carry Capability Curve



Note: The data is measured at the environment temperature 85°C with cross section area of wire 120mm² min.

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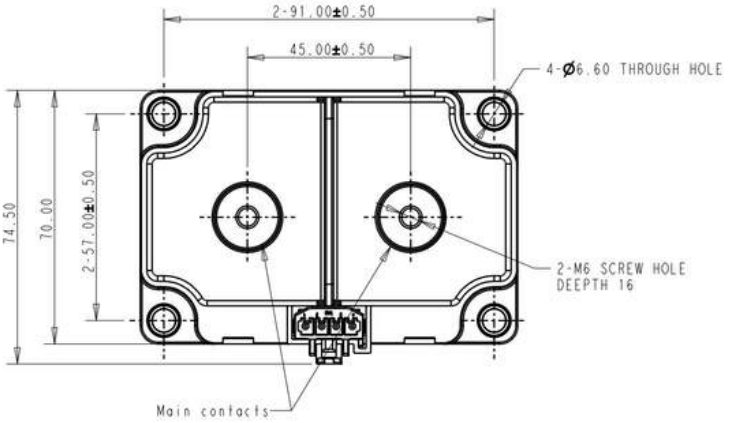
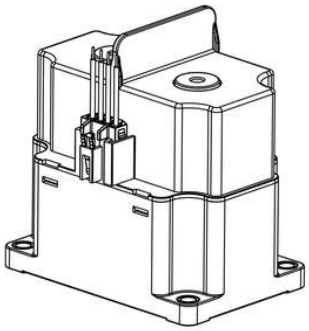
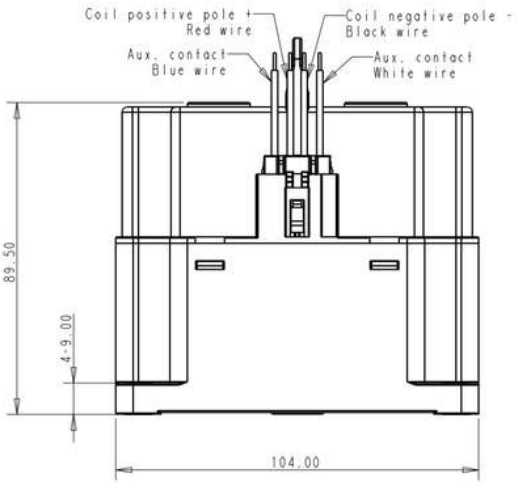
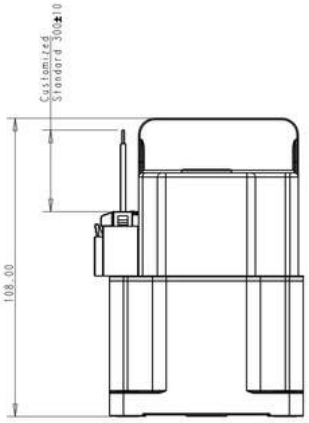
Dimension

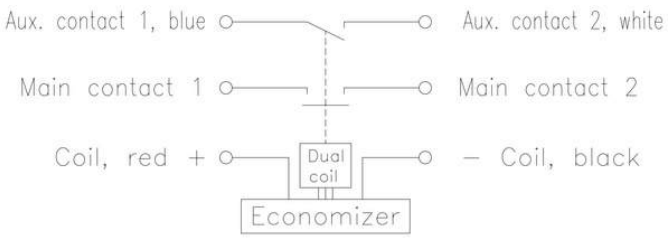








Circuit Diagram



General tolerance	
Dimension	Tolerance
<10	±0.4
10~50	±0.8
>50	±1.2

High Voltage Contactors ECP350B Series

Product Nomenclature ECP350B H B A D A ,XX

Product series
ECP350B = 350A contactor, bi-directional

Contact form
H = Normally open, with auxiliary contacts (N.O.)

Coil Voltage
A = 12Vdc
B = 24VDC

Coil Termination
A = Flying leads

Coil Control Mode
D = Dual coil

Mounting position
A = Bottom mount

Customer Special Designator
Blank = Standard version
XX = 2 digit or letter specified by manufacturer (Eg. wire can be terminated with connector, wire length can be customized)

Product Part Number Table

Product Code	Contact Form	Mounting Position	Coil	Coil Control Mode	Part Number
ECP350BHAADA	Normally open, with auxiliary contacts (N.O.)	Bottom	12VDC	Dual coil	2-2071568-1
ECP350BHBADA			24VDC		2-2071568-2

Note: Only typical part numbers are listed above, other types please contact TE engineer.

Cautions

1. Do not use the product when product is dropped or broken.
2. Avoid mounting the contactor main contact terminals in downward direction, otherwise the contactor performance will not be guaranteed.
3. There is no polarity difference at the load connection end of this contactor, and no polarity difference at the auxiliary contact connection end. There is a polarity difference at the coil connection end: the red wire is connected to the positive pole of the control power supply, and the black wire is connected to the negative terminal of the control power supply. Please pay attention to the correct installation and use.
4. The nominal value of the contact is the value when the resistive load is applied. In the case of an inductive load (L-load) of L/R≥1ms, take surge absorption measures in parallel with the inductive load. Otherwise the electrical performance cannot be guaranteed.
5. This product has built-in coil suppression reverse electromotive force circuit, so it does not require surge suppression device. When performing this action voltage test, the voltage cannot rise slowly, Please drive the product coil through the fast rising (step type power supply mode), otherwise the contactors will not operate.
6. The coil type of this product is dual coil, and the coil will be automatically switched to “hold” status after about 0.2 seconds of energization, and the contactor may not operate if energization is less than 0.2s.
7. It is strictly forbidden to place the contactor in an environment that exceeds the temperature range of the product (-40℃~+85℃) for a long time.
8. Please avoid installing near strong magnetic boundaries (around transformers and magnets) and heating objects.
9. In order to prevent loosening, please use the gasket correctly when installing the contactor. Screw locking torque of main contact terminals should be 8-10 N·m for M6 screw. Screw locking torque of product bottom mounting should be 3-4 N·m for M5 screw.
10. Please avoid adhering to foreign matter such as grease on the lead end, To maintain the maximum long-term performance, user should select the appropriate connection cable cross section or active cooling to control the temperature.