

## Feature

- Hermetically sealed: Intrinsically safe, operates in harsh environments without oxidation or contamination of coil or contacts.
- Excellent switching performance: Adopt the design of magnetic-driving, fast extinguishing of arc gases and anti-welded contacts.
- Space saving: Outline structure miniaturization.
- Mounting simplification: No barrier around the main terminals.
- Optional auxiliary contact: Be easy monitoring of power contact position.
- Economized coil system: Energy saving by owned PWM design control.



## Application

Battery Electric Vehicles(BEV), Fuel Cell Electric Vehicles(FCEV)  
Hybrid Electric Vehicles(HEV), EV Charging Station, UPS

## Coil

Series	Type	Coil voltage(VDC)	Coil Power(Max)
S/SA60	Standard	12, 24	6W
E/EA60	Economizes	12-24	Inrush: 42W ~ 100ms, Hold: 1.9W
S/SA120	Standard	12, 24	6W
E/EA120	Economizes	12-24	Inrush: 42W ~ 100ms, Hold: 1.9W

## Contact Data

Type	60A	120A
Contact arrangement	1 Form X	
Intital drop voltage(mV)	100mV	
Rated voltage(DC)	90VDC	
Max. break current (1 cycle)	360VDC/1000A	450VDC /1500A
Electrical endurance	See electrical endurance curve	
Mechanical endurance	200,000 ops Min.(no load)	
Aux.-contact voltage	30VDC / 125VAC	
Aux.-contact current	2A(DC) / 3A(AC)	
Minimum load(Main terminal)	48VDC 100mA	
Minimum load(Aux.contact)	9VDC 100mA	
Endurance Capacity (at 85°C)	See endurance capacity curve	

## Coil Data ( 23°C)

Series	Type	Coil voltage (VDC)	Coil resistance (Ω)±10%	Operate voltage (VDC)Max	Max. Work voltage (VDC)	Release voltage (VDC)Min
S/SA60	Standard	12	26	9.0	14.4	0.6
	Standard	24	104	18.0	28.8	1.2
E/EA60	Economizes	12-24	4.6	9.0	36.0	4.0
S/SA120	Standard	12	26	9.0	14.4	0.6
	Standard	24	104	18.0	28.8	1.2
E/EA120	Economizes	12-24	4.6	9.0	36.0	4.0

## Characteristics

Operate time	25ms max.	
Release time	25ms max.(E type); 10ms max.(S type)	
Insulation resistance	1000MΩ min.(at1000V DC)	
Dielectric strength	Coil-contact	4,000V AC, 50/60Hz (1min)
	Contact-contact	3,000V AC, 50/60Hz (1min)
Vibration resistance	Destruction	20G (10~2000Hz)
	Malfunction	20G (10~2000Hz)
Shock resistance	Destruction	50G
	Malfunction	ON: 40G(S type); 50G(E type) OFF:10G
Ambient temperature	- 40 ~ +85°C(with no icing or condensation)	
Ambient humidity	20% to 85%RH	
Mounting	M4 Screw(60~120A)	
	M5 Screw(150~350A)	
Weight	60~120A about 210g	

## Rating

Item	Voltage	S/SA60	E/EA60	S/SA120	E/EA120
Electrical endurance (Making/Breaking) (cycles)	450VDC	35,000	35,000	6,000	6,000
	750VDC	4,000	6,000	1,000	1,500
Electrical endurance (only for Breaking) (cycles)	450VDC	40,000	40,000	8,000	10,000
	750VDC	5,700	8,500	1,400	2,000

Notes: The temperature of electric endurance is 23°C and the on-off ratio is 1s/9s

## Ordering Information

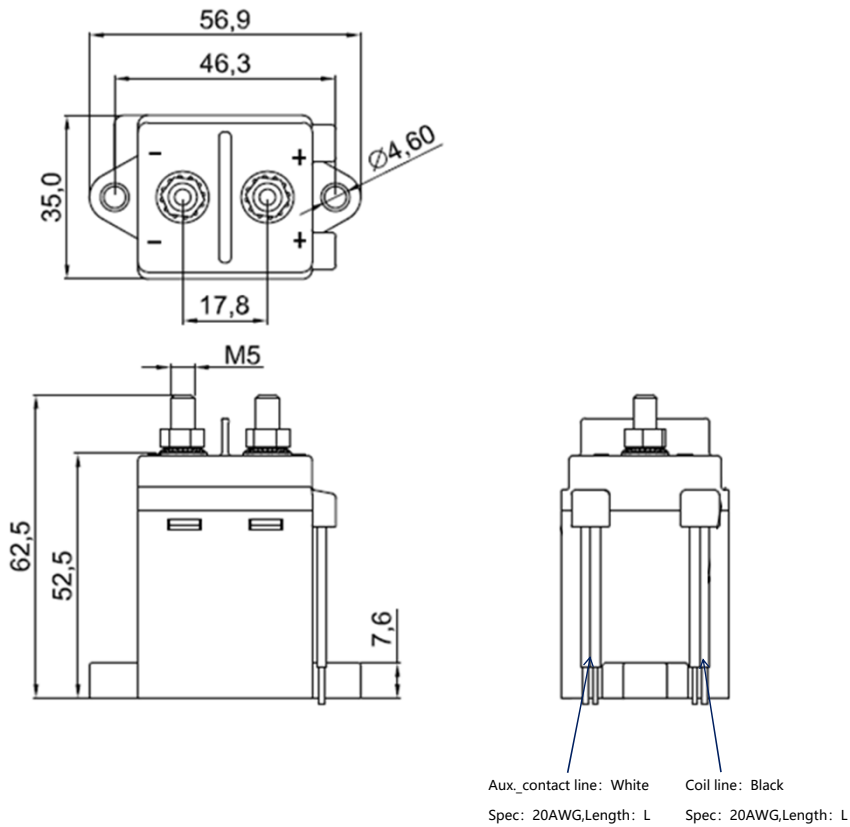
	CHEV	-1	12	S	A	60	H	,000
1.Product family CHEV series								
2.Number of poles 1=1pole								
3.Rated coil voltage 12 =12VDC 24 =24VDC 12=12-24VDC(only for E-type)								
4.Coil type S = Standard, For 60/120A E = Economizes, For 60/120								
5.Aux.contact A = With aux. contact Blank = Without aux.contact								
6.Contact current 60=60A 120=120A								
7.Product type Blank = Standard H = H type P = P type W = W type								
8. Additional numbers and / or letters 000-999, AAA-ZZZ, aaa-zzz or blank,only for specific customer requirements								

## Typical Products

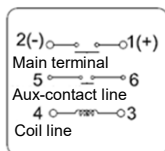
Product Description		Characteristic				Notes:
Product type	Code	Coil Voltage	Contact Load	Load Terminal form	Special Feature	
CHEV-1**S*60	000	12V,24V	60A @750VDC	M5 Screw		1、 Code description: Coil line form 000--leads; 001--leads+JAE Connector; 002--leads+Molex Connector; 100/101--leads+yazaki Connector; 200/210--leads+hulian Connector; 500--leads+5557 Connector; 2、 The length of the coil outgoing wire, aux. contact outgoing wire can be optional: 100mm, 300mm, 400mm, 1300mm, The default length is 400mm.
CHEV-112E*60	000	12-24V	60A @750VDC	M5 Screw		
CHEV-112E*60	001	12-24V	60A @750VDC	M5 Screw	JAE Connector	
CHEV-1**S*120	000	12V,24V	120A @750VDC	M5 Screw		
CHEV-1**S*120	002	12V,24V	120A @750VDC	M5 Screw	Molex Connector	
CHEV-112E*120	000	12-24V	120A @750VDC	M5 Screw		
CHEV-112EA120	500	12-24V	120A @750VDC	M5 Screw	5557 Connector	

## Outside Dimension

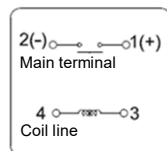
S/SA60; E/EA60; S/SA120; E/EA120



## Wiring Diagram



With Aux.contact



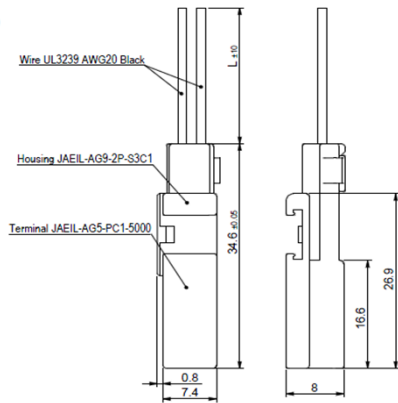
Without Aux.contact

### Remarks:

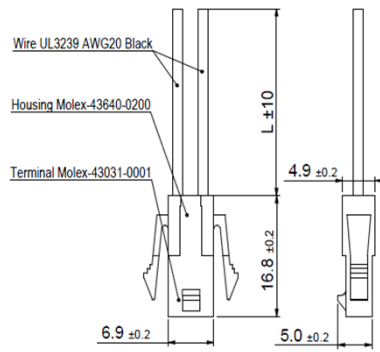
- The reference tolerance in outline dimension:
  - outline dimension  $\leq 10$ mm, reference tolerance is  $\pm 0.3$ mm;
  - outline dimension  $> 10$ mm and  $\leq 50$ mm, reference tolerance is  $\pm 0.6$ mm;
  - outline dimension  $> 50$ mm, reference tolerance is  $\pm 1.0$ mm;
- The torque requirement of Main Terminal: CHEV-60~120A: 3.0~3.5 N · m
- The torque requirement of Relay: CHEV-60~120A: 2~ 2.4N · m
- L See the Typical Products.

## Connector Form

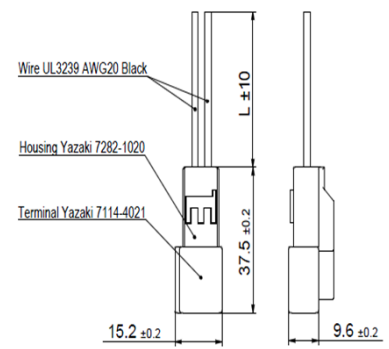
Code 001 JAE Connector



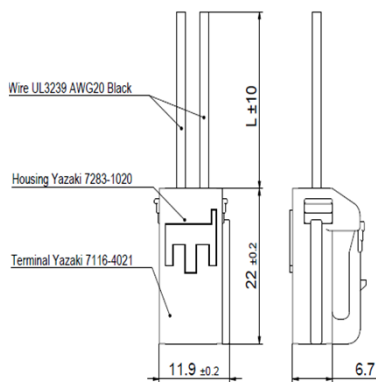
Code 002 Molex Connector



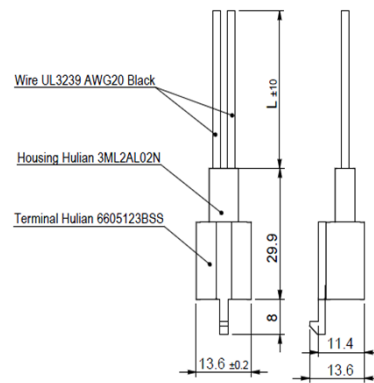
Code 100 Yazaki Connector



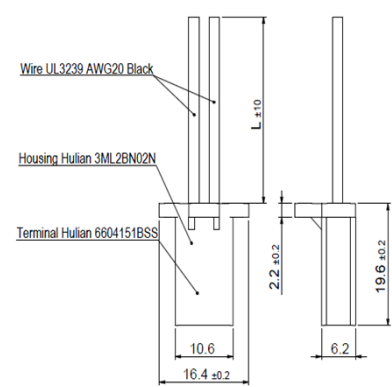
Code 101 Yazaki Connector



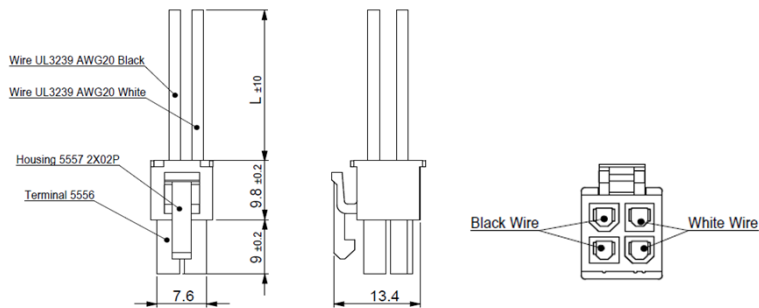
Code 200 Hulian Connector



Code 201 Hulian Connector

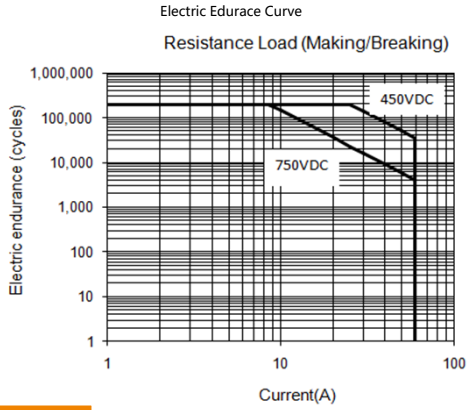


Code 500 5557 Connector

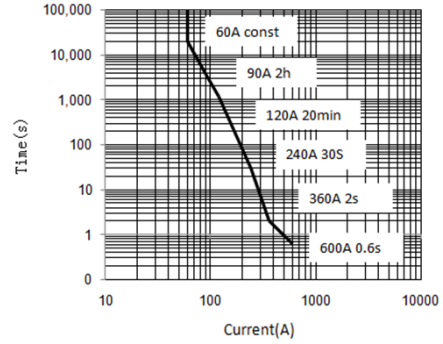


# Reference Date

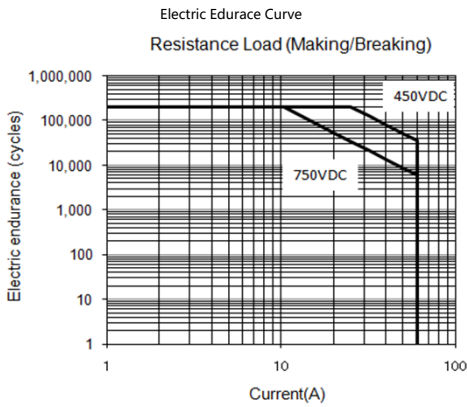
## S/SA60



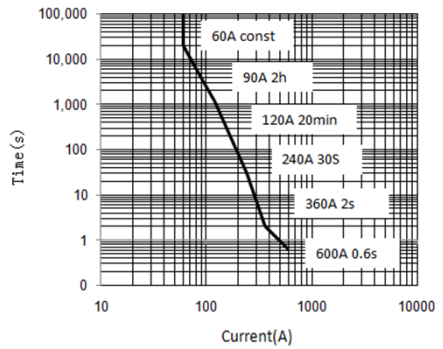
Endurance Capacity Curve  
Notes: The environment temperature of test is 85°C; Cross section area of wire  $\geq 15\text{mm}^2$



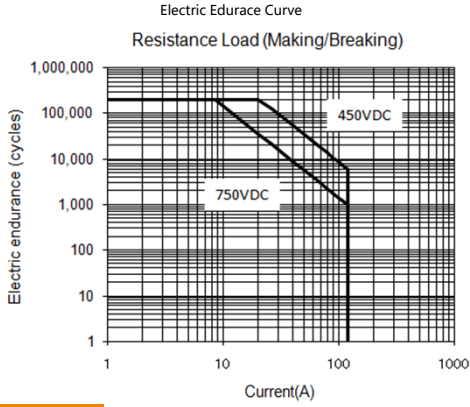
## E/EA60



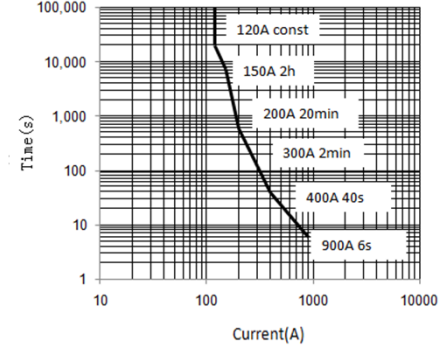
Endurance Capacity Curve  
Notes: The environment temperature of test is 85°C; Cross section area of wire  $\geq 15\text{mm}^2$



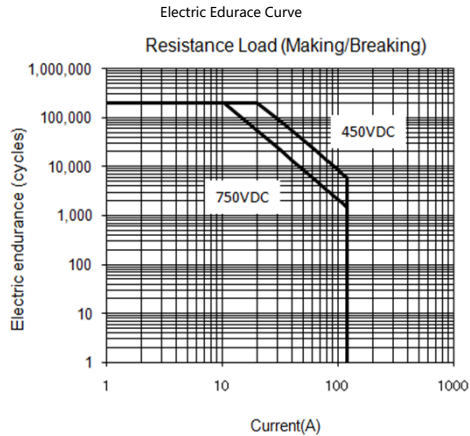
## S/SA120



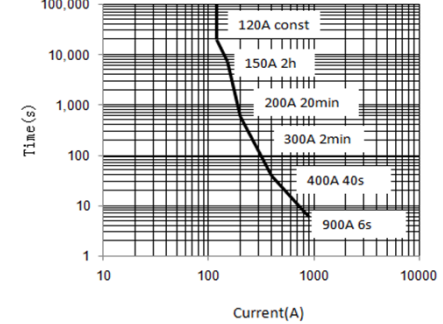
Endurance Capacity Curve  
Notes: The environment temperature of test is 85°C; Cross section area of wire  $\geq 50\text{mm}^2$



## E/EA120

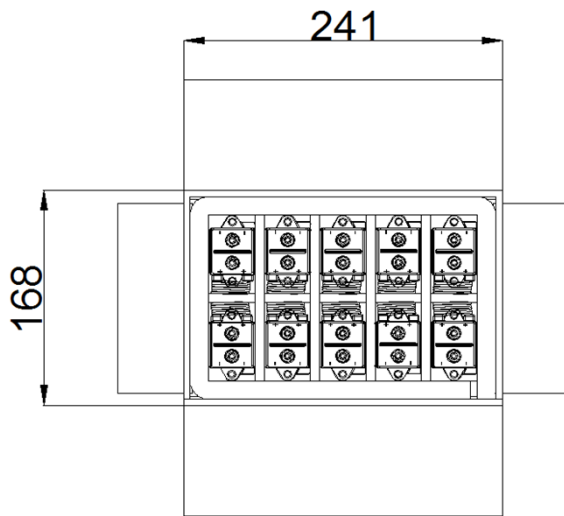


Endurance Capacity Curve  
Notes: The environment temperature of test is 85°C; Cross section area of wire  $\geq 50\text{mm}^2$



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## Packaging figure



S/SA60; E/EA60; S/SA120; E/EA120: one box: 10PCS.

### Disclaimer:

The specification is for reference only,if you need more detail information,please contact Churod. We could not evaluate all the performance and all parameters for every possible application.And the user should be in a right position to choose the suitable product for their own application.If there is any new need,please contact Churod for the technical service.