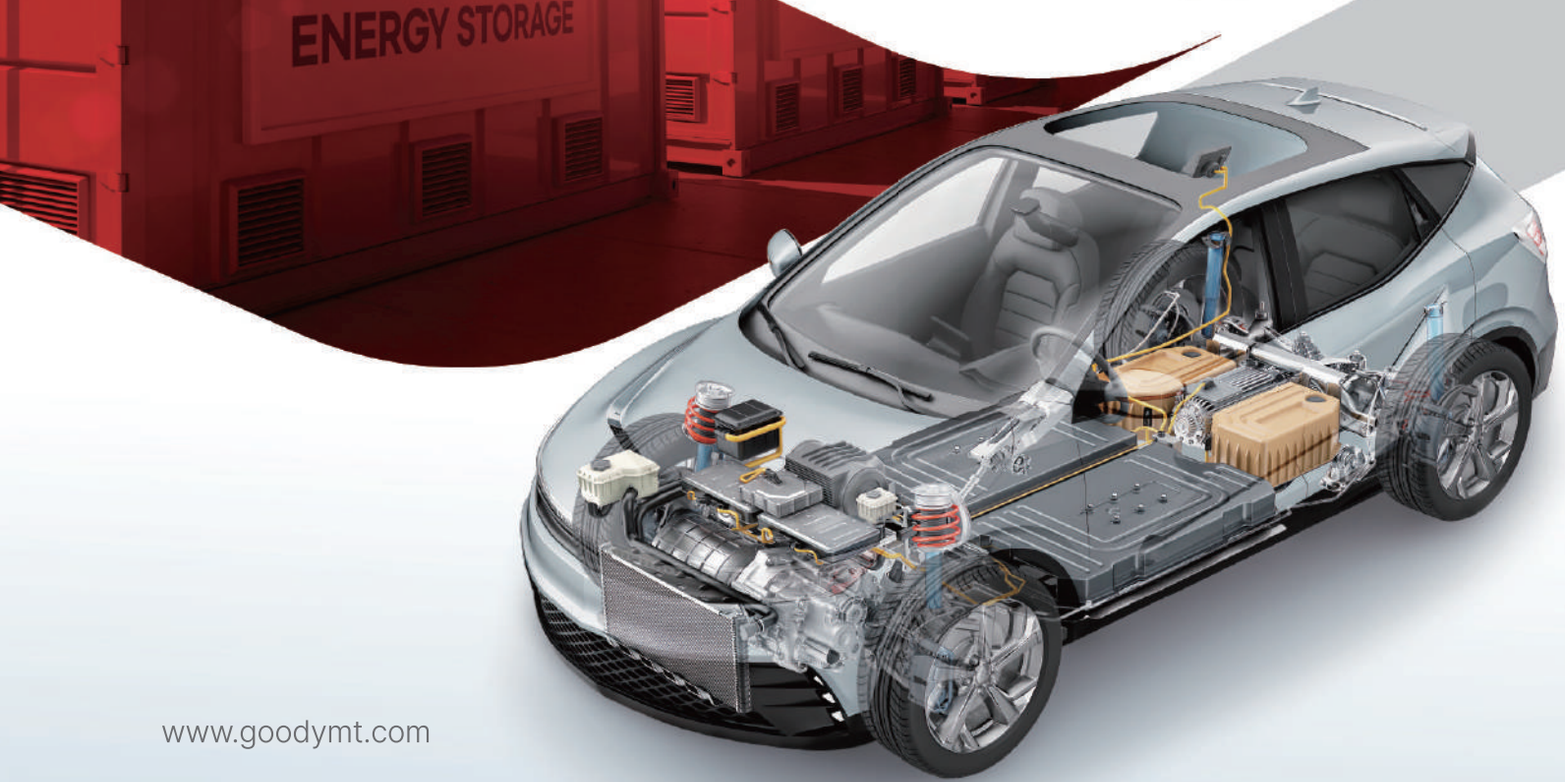
(주)와이엠텍
YM Tech Co., Ltd.

DC HIGH VOLTAGE EV RELAY 10~1000A

High Voltage DC System

Bi-directional switching device at 1500Vdc





www.goodymt.com

YM TECH

Global Leader in DC switching

직류 고전압 릴레이의 최강 기업 YM Tech



Greetings

"Since 1998, Leading the Future of Power Control"

Since its establishment in 1998, YMTech Co., Ltd. has been a specialized leader in DC power control technology, delivering high-reliability, high-voltage power switching solutions across advanced industries including electric vehicles (EV), energy storage systems (ESS), charging infrastructure, defense, and aerospace.

We pioneered the world's first EV relay to receive CCC certification and have earned key international accreditations such as UL, CE, CB, and FCC—setting new standards in the industry through technological excellence and unwavering trust.

With an IATF16949-certified automotive quality system and proprietary relay design that enables ultra-compact, high-voltage switching, YMTech continues to push the limits of innovation. Our strong technical capabilities allow us to turn the potential of future industries into tangible realities.

Today, YMTech is growing into a platform company in DC switching technology, driving the transition to eco-friendly energy through the miniaturization and lightweight design of DC circuit breakers for EVs, chargers, energy-saving systems, solar and wind power, military systems, and aerospace applications.

We precisely control the flow of current with advanced, deeply engineered technology—and we shape the future of industry through invisible yet powerful connections.

We deeply thank our valued customers and investors for their continued trust and support as we move forward together toward a sustainable and intelligent energy future.

All of us at YM Tech Co., Ltd.

"Since 1998, 전력 제어의 미래를 이끌다"

(주)와이엠텍은 1998년 설립 이래, DC 전력 제어 기술에 집중해 온 전문기업으로 전기차(EV), 에너지 저장장치(ESS), 충전 인프라, 국방 및 항공우주 등 고신뢰·고전압 환경에서 요구되는 핵심 전력 제어 솔루션을 공급하고 있습니다.

세계 최초 CCC 인증에 빛나는 EV Relay를 비롯해, UL, CE, CB, FCC 등 글로벌 주요 인증을 획득하며 기술로 시장을 선도하고, 신뢰로 고객 가치를 연결하는 전력 제어의 기준을 만들어왔습니다.

IATF16949 인증 기반의 자동차 전장 품질 체계, 초소형·고전압 차단을 실현한 독자적 릴레이 설계 기술, 그리고 지속적인 혁신과 작지만 강한 기술력을 바탕으로 와이엠텍은 오늘도 전력 제어 기술의 한계를 넘어, 미래 산업의 가능성을 하나씩 실현해 가고 있습니다.

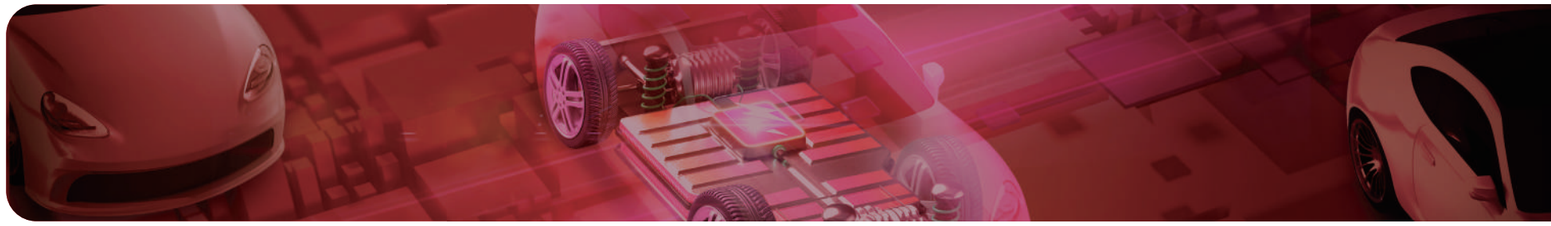
(주)와이엠텍은 전기자동차, 충전기, 에너지 절감 장치, 태양광, 풍력, 군사 무기, 항공기 등의 직류 개폐기를 소형화, 경량화를 통해 친환경 에너지 전환
시대를 위한 DC 스위칭 기술 플랫폼 기업으로 도약하고 있으며, 고객과 함께 환경과 인류를 생각하며 지속가능한 미래를 향해 나아가고자 합니다.

정교하고 심도깊은 기술로 전류를 제어하고, 보이지 않는 연결로 산업의 미래 흐름을 바꾸어 가는 와이엠텍이 되겠습니다.
항상 신뢰로써 함께해 주시는 고객님과 투자자분들께 깊이 감사드립니다.

YM Tech 임직원 일동

DC HIGH VOLTAGE EV RELAY

Product Approvals



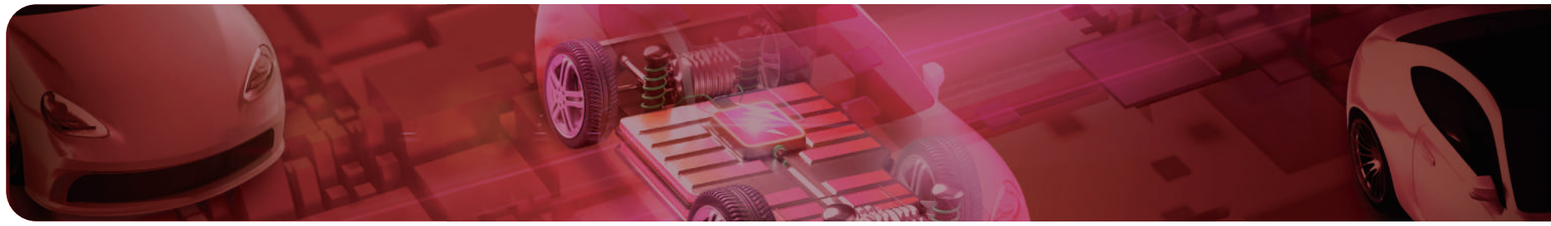
Product Approvals (해외규격)

Type	UL (E210800)	CE, CB	CCC	Short circuit test (CE, CCC)	SCPD	REMARK
EVR10	●	●	●	1KA	660GH 16A	CQC
EVR50	●	●	●	1KA	660GH 63A	CQC
EVR100	●	●	●	5KA	660GH 200A	CQC
EVR150	●	●	●	5KA	660GH 200A	CQC
EVR250	●	●	●	10KA	660GH 400A	CQC TUV-SUD
EVR400	●	●	●	5KA	660GH 500A	CQC TUV-SUD
EVR400-/B	●					
EVR600	●	●	●	6KA		CQC
EVH400	●	●	●	10KA		TUV-SUD
EVH600	●	●	●	10KA		TUV-SUD
EVH750	●	●	●	10KA		TUV-SUD
EVHB100	●	●	●	10KA		TUV-SUD

Type	UL (E210800)	CE, CB	CCC	Short circuit test (CE, CCC)	SCPD	REMARK
EVHB100 PCB	●	●		10KA		TUV-SUD
EVHB200						
EVHB250						
EVHB400	●	●	●	10KA		TUV-SUD
EVHB500	●	●	●	10KA		TUV-SUD
EVHB500H	●	●	●	10KA		TUV-SUD
EVHB520H	●					
EVHB600	●	●				TUV-SUD
EVHD500	●					
EVHD1000	●	●	●	10KA		TUV-SUD
EVL250	●					
EVL350						

DC HIGH VOLTAGE
EV RELAY SELECTION GUIDE

Bi-directional switching device at 1500Vdc



Specification \ Series			EVR10	EVR50	EVR100	EVR150	EVR250	EVR400
Figure								
			See 16 ~ 18 page	See 19 ~ 21 page	See 22 ~ 24 page	See 25 ~ 27 page	See 28 ~ 30 page	See 31 ~ 33 page
Type			EVR10	EVR50	EVR100	EVR150	EVR250	EVR400
Usage			Continuously 15A	Continuously 50A	Continuously 150A	Continuously 170A	Continuously 300A	Continuously 500A
Description			SPST-NO	SPST-NO	SPST-NO	SPST-NO	SPST-NO	SPST-NO
Contact ratings	Max. switching current		10A	50A	125A	150A	250A	400A
	Voltage drop across contacts		0.1V Max. (10A)	0.25V Max. (50A)	30mV Max. (100A)	30mV Max. (100A)	30mV Max. (100A)	30mV Max. (100A)
	Dielectric	Coil to contacts	2500VAC 1Minute	2500VAC 1Minute	3500VAC 1Minute	3500VAC 1Minute	3500VAC 1Minute	3500VAC 1Minute
		Open contact	2500VAC 1Minute	2500VAC 1Minute	3500VAC 1Minute	3500VAC 1Minute	3500VAC 1Minute	3500VAC 1Minute
	Ambient temperature		-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Operating time (at nominal voltage)		20ms	20ms	20ms	20ms	30ms	30ms
	Release time (at nominal voltage)		5ms	5ms	5ms	5ms	10ms	10ms
Coil ratings	Ambient temperature		-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40 C to 85°C	-40°C to 85°C	-40°C to 85°C
	Rated voltage		DC 6 to 110V, AC 6 to 220V	DC 6 to 220V	DC 6 to 220V	DC 6 to 220V	DC 9 to 95V	DC 9 to 95V
	Pick-up voltage (Nominal voltage)		75% Max.	75% Max.	75% Max.	75% Max.	75% Max.	75% Max.
	Drop-out voltage (Nominal voltage)		10% Min.	10% Min.	10% Min.	10% Min.	10% Min.	10% Min.
	Coil power (watts)		1.1 to 1.3W	3 to 3.5W	5.2 to 5.9W	5.2 to 5.9W	3 to 4W	3 to 3.5W
Expected life	Mechanical (min)		2,000,000	2,000,000	2,000,000	2,000,000	500,000	500,000
	Electrical (min)		70,000(450V 10A)	100,000(450V 50A)	100,000(450V 125A)	100,000(450V 150A)	7,000(450V 250A)	3,000(450V 400A)
Aux. Contacts	2(A)30VDC, 3(A) 125AC (resistive load)		X	X	O	O	O	O
Contact resistance(MΩ)			Max. 10	Max. 5	Max. 1	Max. 1	Max. 1	Max. 1
weight(g)			65	110	300	300	420	660
UL File No.			E210800	E210800	E210800	E210800	E210800	E210800
UL Standard Surrounding Air Temperature			40°C	50°C	40°C	40°C	40°C	40°C

Features (특징)

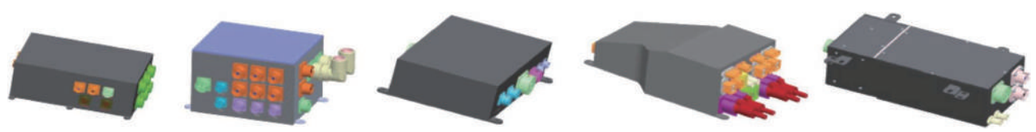
- A permanent magnet prevents arc effectively, our products can enables change 1200VDC.
- Compact, easy-to-use structure and easy installation

Usage (용도)

- Power distribution system
- Railroad application
- Rectifier
- Pallet lifter
- Unmanned vehicle
- Satellite station system
- SMPS
- DC motor
- Electric scooter
- Golf car
- Fuel cell
- Solar system
- Battery energy storage system
- Power battery test system
- Electric vehicle
- Switching DC solenoid of power switch gear

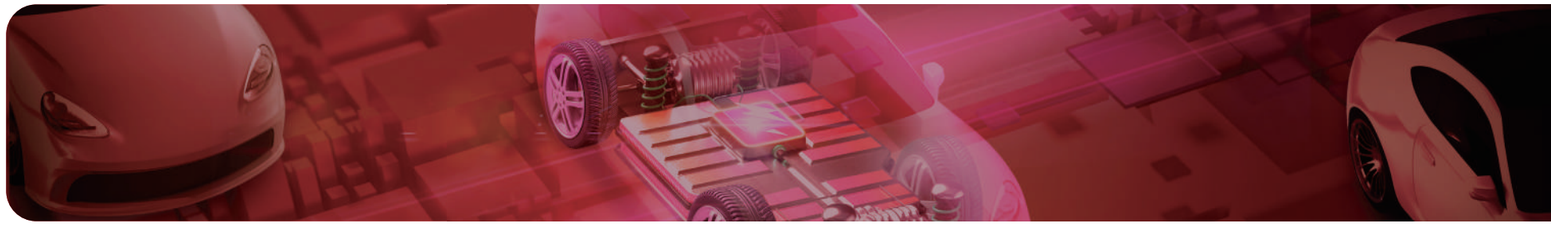
DC Hi-Voltage Power Distribution Unit

- Hydrogen EV Car, Hybrid Car, Fire Engine, Hybrid Personal Carrier



DC HIGH VOLTAGE
EV RELAY SELECTION GUIDE

Bi-directional switching device at 1500Vdc

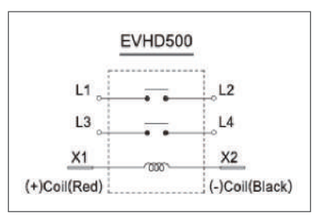


Specification \ Series			EVR400-S/B	EVR600	EVH400	EVH600	EVH750	EVHB100
Figure			Normal Close Contact  See 34 ~ 36 page	 See 37 ~ 39 page	 See 40 ~ 42 page	 See 43 ~ 45 page	 See 46 ~ 48 page	Bi-directional switching device  See 49 ~ 51 page
Type			EVR400 (Normal Close)	EVR600	EVH400	EVH600	EVH750	EVHB100
Usage			Continuously 500A	Continuously 600A	Continuously 400A	Continuously 600A	Continuously 750A	Continuously 100A
Description			SPST-NC	SPST-NO	SPST-NO	SPST-NO	SPST-NO	SPST-NO
Contact ratings	Max. switching current		400A	600A	400A	600A	750A	100A
	Voltage drop across contacts		30mV Max. (100A)	30mV Max. (100A)	30mV Max. (100A)	30mV Max. (100A)	30mV Max. (100A)	20mV Max. (20A)
	Dielectric	Coil to contacts	3500VAC 1Minute	3500VAC 1Minute	4500VAC 1Minute	4500VAC 1Minute	4500VAC 1Minute	4500VAC 1Minute
		Open contact	3500VAC 1Minute	3500VAC 1Minute	4500VAC 1Minute	4500VAC 1Minute	4500VAC 1Minute	4500VAC 1Minute
	Ambient temperature		-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Operating time (at nominal voltage)		30ms	30ms	40ms	40ms	50ms	25ms
	Release time (at nominal voltage)		10ms	10ms	10ms	10ms	10ms	10ms
Coil ratings	Ambient temperature		-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Rated voltage		DC 9 to 95V	DC 9 to 95V	DC 9 to 36V	DC 9 to 36V	DC 9 to 36V	DC 9 to 36V
	Pick-up voltage (Nominal voltage)		75% Max.	75% Max.	75% Max.	75% Max.	75% Max.	75% Max.
	Drop-out voltage (Nominal voltage)		10% Min.	10% Min.	10% Min.	10% Min.	10% Min.	10% Min.
	Coil power (watts)		3.5 to 4W	3 to 3.5W	4.5 to 5.5W	5.0 to 6.5W	4.5 to 5.5W	6.2 to 6.5W
Expected life	Mechanical (min)		500,000	500,000	500,000	200,000	200,000	500,000
	Electrical (min)		3,000(450V 400A)	1,000(450V 600A)	6,000(750V 400A)	6,000(500V 600A)	2,000(500V 750A)	6,000(750V 100A)
Aux. Contacts	2(A)30VDC, 3(A) 125AC (resistive load)		O	O	O	O	O	O
Contact resistance(MΩ)			Max. 1	Max. 1	Max. 1	Max. 1	Max. 1	Max. 1
weight(g)			660	920	950	1400	1200	180
UL File No.			E210800		E210800	E210800	E210800	E210800
UL Standard Surrounding Air Temperature			40°C	40°C	40°C	40°C	40°C	50°C

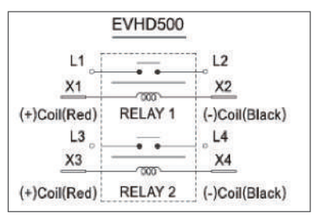
EVH Series

- EVH series are the switching device at 1500Vdc.
- EVHB400, EVHB500 and EVHB500h are the Bi-directional switching device at 1500Vdc.
- Bi-directional switching devices adopted the advanced and unique switching technology of YM Tech.
- Bi-directional switching device is used in the charging and discharging systems of Lithium Battery such as battery energy storage systems.
- EVH series is to achieve safety and reliability.
- So, EVHB500 series have Safety cover and Moisture-proof function.

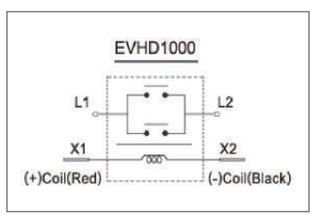
EVHD : Double Switching device



Basic



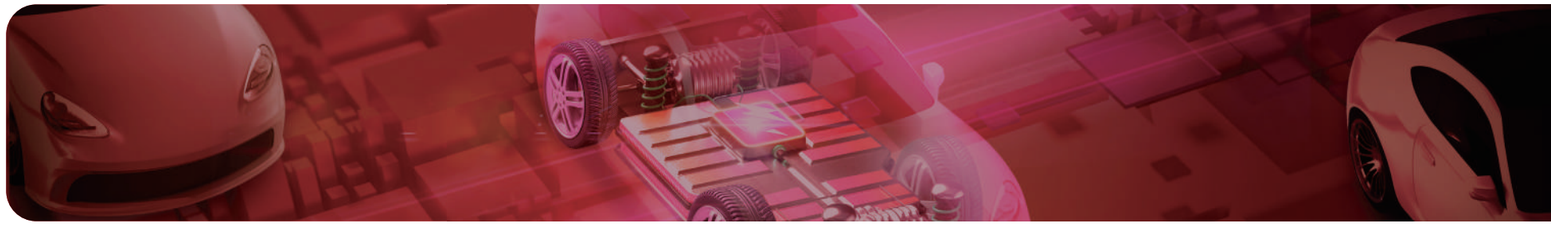
Separating operation



Basic

DC HIGH VOLTAGE
EV RELAY SELECTION GUIDE

Bi-directional switching device at 1500Vdc

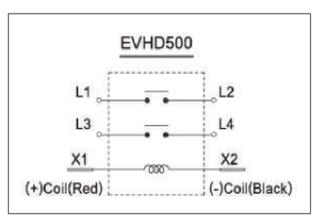


Specification		Series	EVHB100 PCB	EVHB200	EVHB250	EVHB400	EVHB500	EVHB500H
		Figure	Bi-directional switching device  See 52 ~ 54 page	Bi-directional switching device  See 55 ~ 57 page	Bi-directional switching device  See 58 ~ 60 page	Bi-directional switching device  See 61 ~ 63 page	Bi-directional switching device  See 64 ~ 66 page	Bi-directional switching device  See 67 ~ 69 page
		Type	EVHB100PCB	EVHB200	EVHB250	EVHB400	EVHB500	EVHB500H
Usage			Continuously 100A	Continuously 200A	Continuously 300A	Continuously 400A	Continuously 500A	Continuously 500A
Description			SPST-NO	SPST-NO	SPST-NO	SPST-NO	SPST-NO	SPST-NO
Contact ratings	Max. switching current		100A	200A	250A	400A	500A	500A
	Voltage drop across contacts		20mV Max. (20A)	30mV Max. (100A)	30mV Max. (100A)	30mV Max. (100A)	30mV Max. (100A)	30mV Max. (100A)
	Dielectric	Coil to contacts	4500VAC 1Minute	4500VAC 1Minute	4500VAC 1Minute	4500VAC 1 Minute	4500VAC 1Minute	4500VAC 1Minute
		Open contact	4500VAC 1Minute	4500VAC 1Minute	4500VAC 1Minute	4500VAC 1 Minute	4500VAC 1Minute	4500VAC1Minute
	Ambient temperature		-40°C to 65°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Operating time (at nominal voltage)		25ms	30ms	30ms	40ms	40ms	50ms
	Release time (at nominal voltage)		10ms	10ms	10ms	10ms	10ms	10ms
Coil ratings	Ambient temperature		-40°C to 65°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Rated voltage		DC 9 to 36V	DC9 to 32V	DC9 to 32V	DC9 to 36V	DC 9 to 95V	DC 9 to 36V
	Pick-up voltage (Nominal voltage)		75% Max.	75% Max.	75% Max.	75% Max.	75% Max.	75% Max.
	Drop-out voltage (Nominal voltage)		10% Min.	10% Min.	10% Min.	10% Min.	10% Min.	10% Min.
	Coil power (watts)		6.2 to 6.5W	6 to 6.3W	3.5 to 4W	4.5 to 5.5W	3 to 3.5W	5.5 to 6.5W
Expected life	Mechanical (min)		500,000	500,000	500,000	200,000	500,000	500,000
	Electrical (min)		6,000(750V 100A)	3,000 (750V 200A)	3,000 (750V 250A)	6,000(500V400A)	1,000(750V 500A)	6,000(750V 500A)
Aux. Contacts	2(A)30VDC, 3(A) 125AC (resistive load)		O	O	O	O	O	O
Contact resistance(MΩ)			Max. 1	Max. 1	Max. 1	Max. 1	Max. 1	Max. 1
weight(g)			175	440	460	840	980	1300
UL File No.			E210800	-	-	E210800	E210800	E210800
UL Standard Surrounding Air Temperature			50°C	-	-	40°C	40°C	40°C

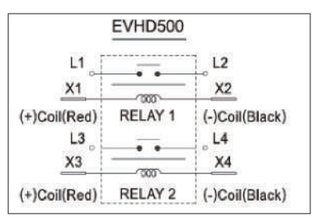
EVH Series

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- So, EVHB500 series have Safety cover and Moisture-proof function.

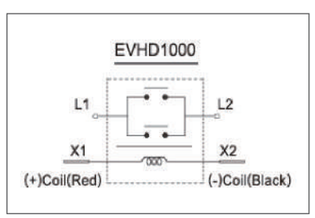
EVHD : Double Switching device



Basic



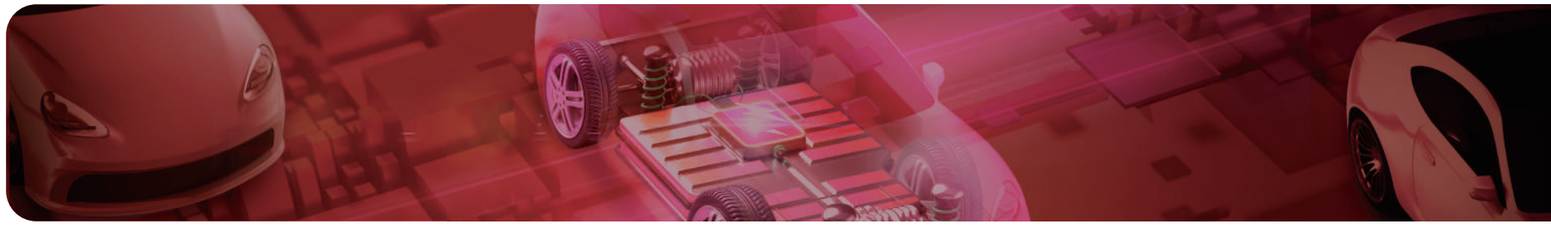
Separating operation



Basic

DC HIGH VOLTAGE
EV RELAY SELECTION GUIDE

Bi-directional switching device at 1500Vdc

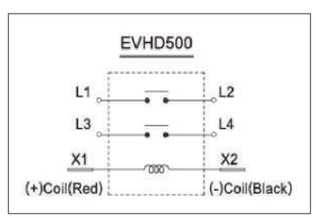


Specification \ Series			EVHB520H	EVHB600	EVHD500	EVHD1000	EVL250	EVL350
Figure			Bi-directional switching device  See 70 ~ 72 page	Bi-directional switching device  See 73 ~ 75 page	Bi-directional switching device  See 76 ~ 78 page	Bi-directional switching device  See 79 ~ 81 page	DC High Voltage EV Latch Relay  See 83 ~ 85 page	DC High Voltage EV Latch Relay  See 87 ~ 88 page
Type			EVHB520H	EVHB600	EVHD500	EVHD1000	EVL250	EVL350
Usage			Continuously 520A	Continuously 600A	Continuously 500A	Continuously 1000A	Continuously 300A	Continuously 350A
Description			SPST-NO	SPST-NO	DPST-NO	SPST-NO	SPST-Latching	SPST-Latching
Contact ratings	Max. switching current		520A	600A	500A	1000A	250A	350A
	Voltage drop across contacts		30mV Max. (100A)	30mV Max. (100A)	30mV Max. (100A)	20mV Max. (100A)	30mV Max. (100A)	30mV Max. (100A)
	Dielectric	Coil to contacts	4500VAC 1Minute	5375VAC 1Minute	4500VAC 1Minute	4500VAC 1Minute	3500VAC 1 Minute	3500VAC 1Minute
		Open contact	4500VAC 1Minute	5375VAC 1Minute	4500VAC 1Minute	4500VAC 1Minute	3500VAC 1 Minute	3500VAC 1Minute
	Ambient temperature		-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Operating time (at nominal voltage)		50ms	60ms	50ms	50ms	10ms	10ms
	Release time (at nominal voltage)		10ms	20ms	10ms	10ms	10ms	10ms
Coil ratings	Ambient temperature		-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Rated voltage		DC 24V	DC 24V	DC 9 to 95V	DC 9 to 95V	DC 12V, DC 24V	DC 12V, DC 24V
	Pick-up voltage (Nominal voltage)		75% Max.	75% Max.	75% Max.	75% Max.	75% Min. ~ 130% Max.	75% Min. ~ 130% Max.
	Drop-out voltage (Nominal voltage)		10% Min.	10% Min.	10% Min.	10% Min.	75% Min. ~ 130% Max.	75% Min. ~ 130% Max.
	Coil power (watts)		8.5W	8.5W	8.5 to 10.5W	8.5 to 10.5W	19 to 21W	19 to 21W
Expected life	Mechanical (min)		500,000	200,000	200,000	200,000	500,000	500,000
	Electrical (min)		6,000(1500V 200A)	6,000(1500V 350A)	2,000(1000V 500A)	1,000(400V 1000A)	6,000(450V 250A)	1,000(350V 350A)
Aux. Contacts	2(A)30VDC, 3(A) 125AC (resistive load)		O	O	O	O	O	O
Contact resistance(MΩ)			Max. 1	Max. 1	Max. 1	Max. 0.5	Max. 1	Max. 1
weight(g)			1300	2100	2100	2100	460	610
UL File No.			E210800	E210800	E210800	E210800	E210800	-
UL Standard Surrounding Air Temperature			40°C	40°C	40°C	40°C	40°C	40°C

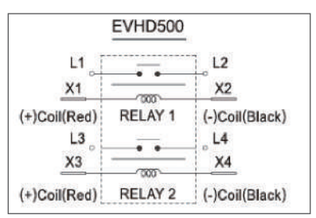
EVH Series

- EVH series are the switching device at 1500Vdc.
- EVHB400, EVHB500 and EVHB500h are the Bi-directional switching device at 1500Vdc.
- Bi-directional switching devices adopted the advanced and unique switching technology of YM Tech.
- Bi-directional switching device is used in the charging and discharging systems of Lithium Battery such as battery energy storage systems.
- EVH series is to achieve safety and reliability.
- So, EVHB500 series have Safety cover and Moisture-proof function.

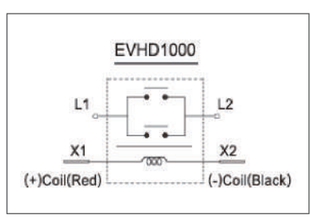
EVHD : Double Switching device



Basic



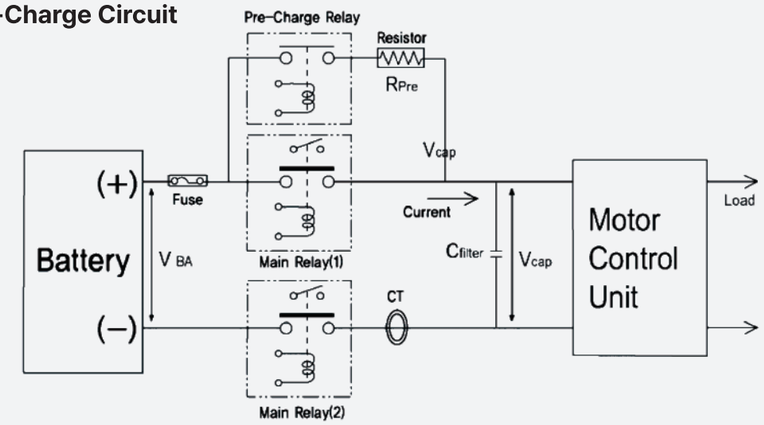
Separating operation



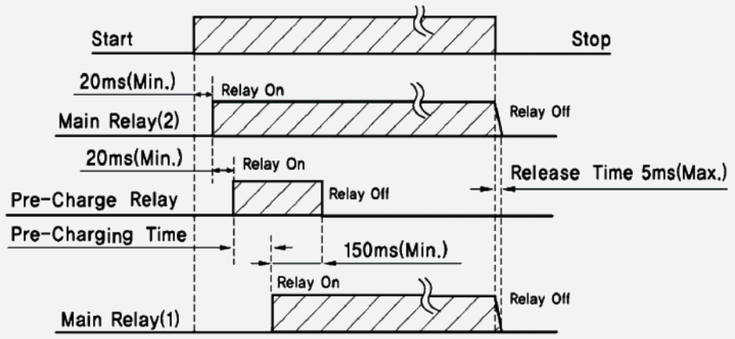
Basic

Main Contact Welds are Prevented (주접점 용착 예방)

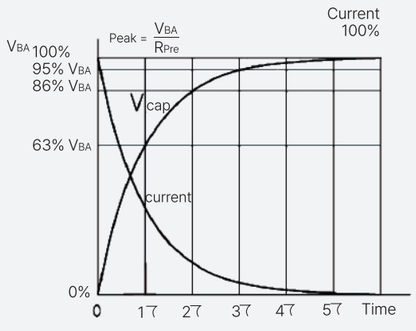
Pre-Charge Circuit



Operating Sequence

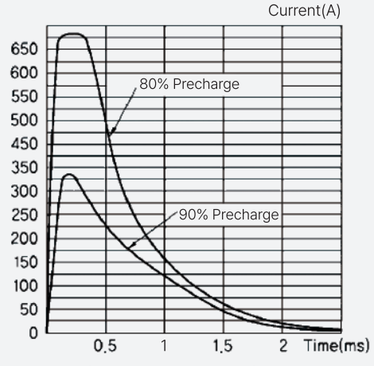


Charging Current



τ = RPre * Cfilter (R:Ohm, C:Farad, τ:Sec)

Pre-Charning Voltage and Current vs Time



Capacitive Make Test Curves

DC HIGH VOLTAGE EV RELAY

EVR10



Application (응용분야) : Pre-Charge Relay, Electric Vehicle, Charging System, Solar System, etc.

Magnet coil ratings (코일정격)

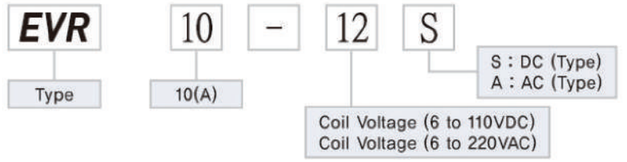
Nominal voltage (V)	Item	Nominal Coil current (mA) 60Hz	Coil resistance (Ω)	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Max. voltage (V)	Coil power (W) dissipation
AC	6	226.5	9.5	80%	30%	130%	1.5 to 1.8VA (60Hz)
	12	112	35				
	24	56	140				
	50	28	600				
	100/110	11.2/12.4	3.030				
	200/220	8.8/9.7	10.800				
DC	6	200	30	75%	10%	130%	1.1 to 1.3 Approx.
	12	100	120				
	28	43	650				
	24	50	480				
	36	34	1,080				
	48	25	1,920				
	60	20	3,000				
	72	17	4,320				
	100/110	11/12	9,350				

Notes : 1. Nominal current and coil resistance are measured at +20°C
2. Differences of coil resistance are ±10%
3. Performance characteristic coil temperature is measured at +20°C

Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load
	EVR10
Max. switching current (wire size 2.0mm²)	10A
Max. switching capacity	1200VDC 2A
Contact rating switching voltages	12 to 1200VDC
	900VDC 10A(Resistor load)(+ polarity Main Terminal A1 and A2) each NO contact connected in series
C-R Load (Pre-Charge)	550V 10A 150,000Ops
Max. contact performance (wire size 2.0mm²)	30A 120Sec.
	20A 180Sec.
Voltage drop across contacts per 10A	0.3V Max. (At 5VDC)
Min. permissible load	12VDC 0.1A
Description	S.P.S.T On/Off (1a)

Ordering information (주문방법)



DC HIGH VOLTAGE EV RELAY

EVR10

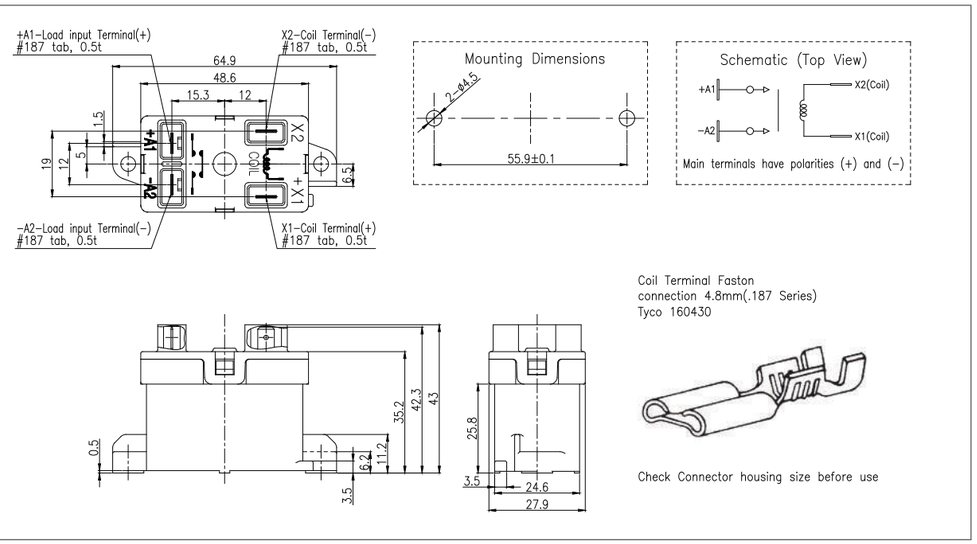


Characteristics (성능)

Expected life	Mechanical (Min.)		2×10^6
	Electric (Min.) (Resistor)	450VDC 10A	7×10^4
		400VDC 15A	15×10^3
		250VDC 15A	2×10^5
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		2500VAC 60 Sec. 10mA
	Between contacts & coil		2500VAC 60 Sec. 10mA
Operate time (at 20°C)			Max. 20ms
Release time (at 20°C)			Max. 5ms
Shock resistance	Functional		Min. 196 m/s² {20G}, (10μs)
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		43 m/s² {4.4G} 10 to 200Hz, (10μs)
	Destructive		43 m/s² {4.4G} 10 to 200Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			65g

Dimension in mm (외형치수도)

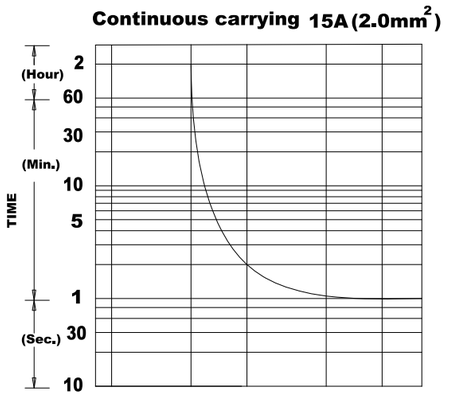
Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



Reference data (특성곡선)

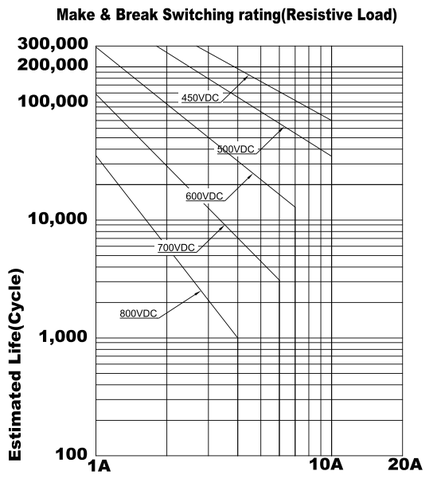
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



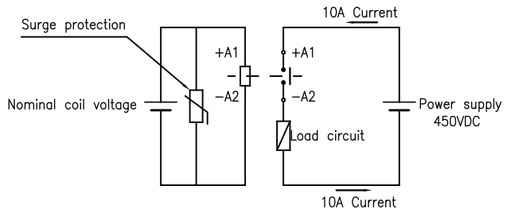
접점전류(A), Current(A)

전기적 수명 곡선
(Estimated Switching Ratings)

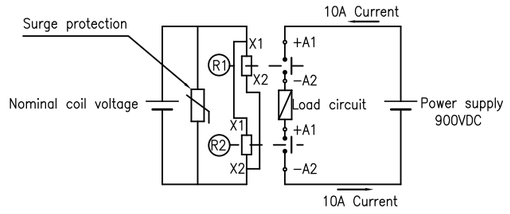


접점전류(A), Load Current(A)

Circuit (회로)



Surge protection
Varistor surge protection device should be connect parallel to coil
Suitable voltage of varistor is 3 times the coil voltage.



Surge protection
Varistor surge protection device should be connect parallel to coil
Suitable voltage of varistor is 3 times the coil voltage.

DC HIGH VOLTAGE EV RELAY

EVR50



Application (응용분야) : Pre-Charge Relay, Electric Vehicle, Charging System, Solar System, Heating System, etc.

Magnet coil ratings (코일정격)

Item / Nominal voltage (V)		Nominal Coil current (mA)	Coil resistance (Ω)	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Max. voltage (V)	Coil power (W) dissipation
DC	220	17	14,500	75%	10%	130%	3 to 3.5
	110	29	3,750				
	72	45	1,600				
	60	54	1,120				
	48	66	730				
	36	90	400				
	24	133	180				
	12	267	45				
	6	545	11				

Notes : 1. Nominal current and coil resistance are measured at +20°C
2. Differences of coil resistance are ±10%
3. Performance characteristic coil temperature is measured at +20°C

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVR50
Max. switching current (wire size 10mm²)	50A
Max. switching capacity	1200VDC 10A
Contact rating switching voltages	12 to 1200VDC
Max. contact performance (wire size 10mm²)	150A 30Sec.
	250A 10Sec.
Voltage drop across contacts per 50A	0.25V Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (1a)

Ordering information (주문방법)

EVR 50 - 12 S

- EVR : Type
- 50 : 50(A)
- 12 : Coil Voltage (6 to 220VDC)
- S : S : Basic Type

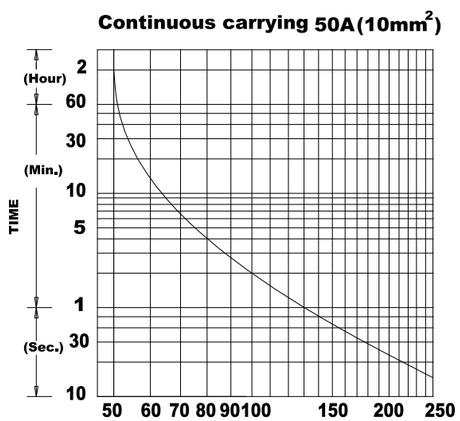
Characteristics (성능)

Expected life	Mechanical (Min.)		2×10⁶
	Electric (Min.) (Resistor)	450VDC 50A	1×10⁵
		250VDC 50A	2×10⁵
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		2500VAC 60 Sec. 10mA
	Between contacts & coil		2500VAC 60 Sec. 10mA
Operate time (at 20°C)			Max. 20ms
Release time (at 20°C)			Max. 5ms
Shock resistance	Functional		Min. 196 m/s² {20G}, (10μs)
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		43 m/s² {4.4G} 10 to 200Hz, (10μs)
	Destructive		43 m/s² {4.4G} 10 to 200Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			110g

Reference data (특성곡선)

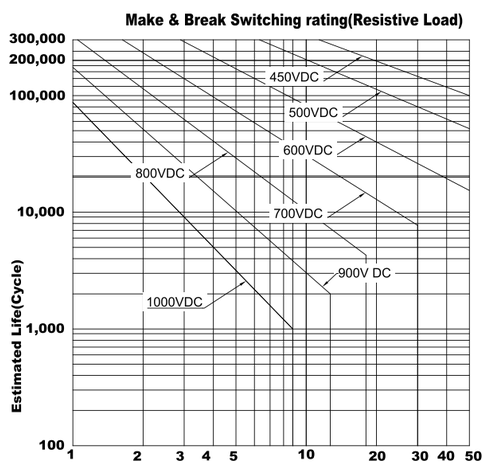
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선 (Estimated Switching Ratings)



접점전류(A), Load Current(A)

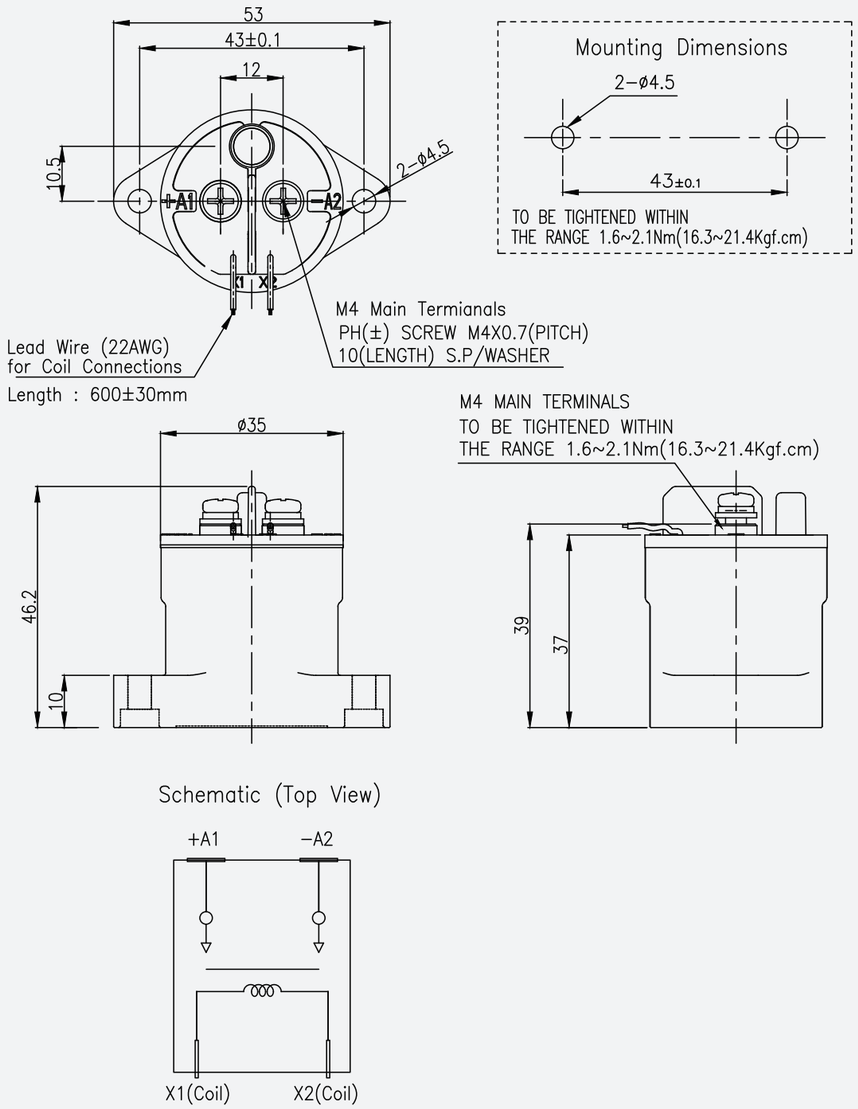
DC HIGH VOLTAGE EV RELAY

EVR50



Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



DC HIGH VOLTAGE EV RELAY

EVR100



Application (응용분야) : Electric Vehicle, Charging System, Battery Energy Storage System Solar System, Golf Car, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

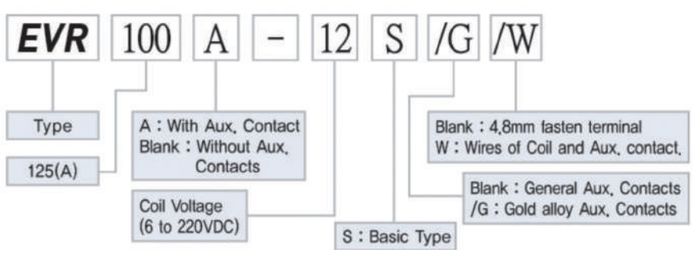
Nominal voltage (V) / Item		Nominal Coil current (mA)	Coil resistance (Ω)	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Max. voltage (V)	Coil power (W) dissipation
DC	220	27	8,600	75%	10%	130%	5.2 to 5.9
	110	52	2,100				
	72	83	870				
	60	95	630				
	48	117	410				
	36	156	230				
	24	245	110				
	12	480	25				
	6	952	6.3				

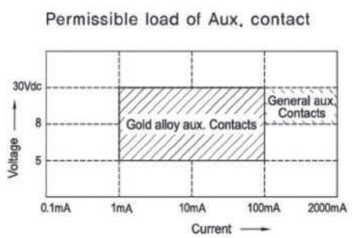
Notes : 1. Nominal current and coil resistance are measured at +20°C 2. Differences of coil resistance are ±10%
3. Performance characteristic coil temperature is measured at +20°C

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVR100
Max. Continuous current (wire size 50mm²)	150A
Max. switching current	125A
Max. switching capacity	1200VDC 20A
Contact rating switching voltages	12 to 1200VDC
Max. cut-off current	300VDC 1000A 3 Ops
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux, Contact Current, Min.	100mA 8VDC
Gold alloy Aux, Contacts Max.	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux, Contacts Min.	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





DC HIGH VOLTAGE EV RELAY

EVR100



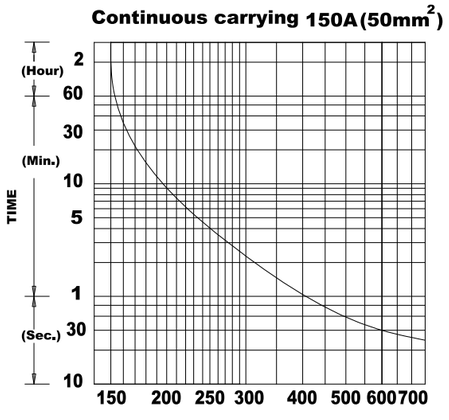
Characteristics (성능)

Expected life	Mechanical (Min.)		2×10^6
	Electric (Min.) (Resistor)	450VDC 125A	1×10^4
		250VDC 125A	1×10^5
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		3500VAC 60 Sec. 10mA
	Between contacts & coil		3500VAC 60 Sec. 10mA
Operate time (at 20°C)			Max. 20ms
Release time (at 20°C)			Max. 5ms
Shock resistance	Functional		Min. 147 m/s² {15G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 10 to 500Hz
	Destructive		98 m/s² {10G} 10 to 500Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			300g

Reference data (특성곡선)

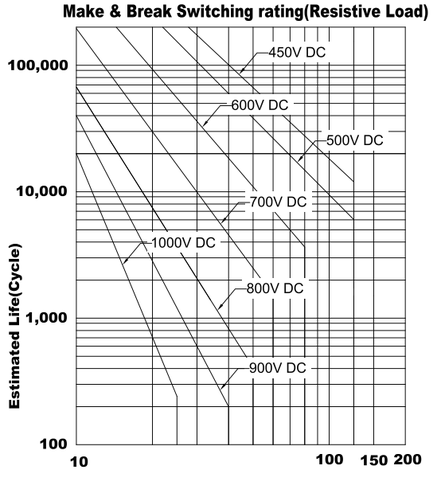
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

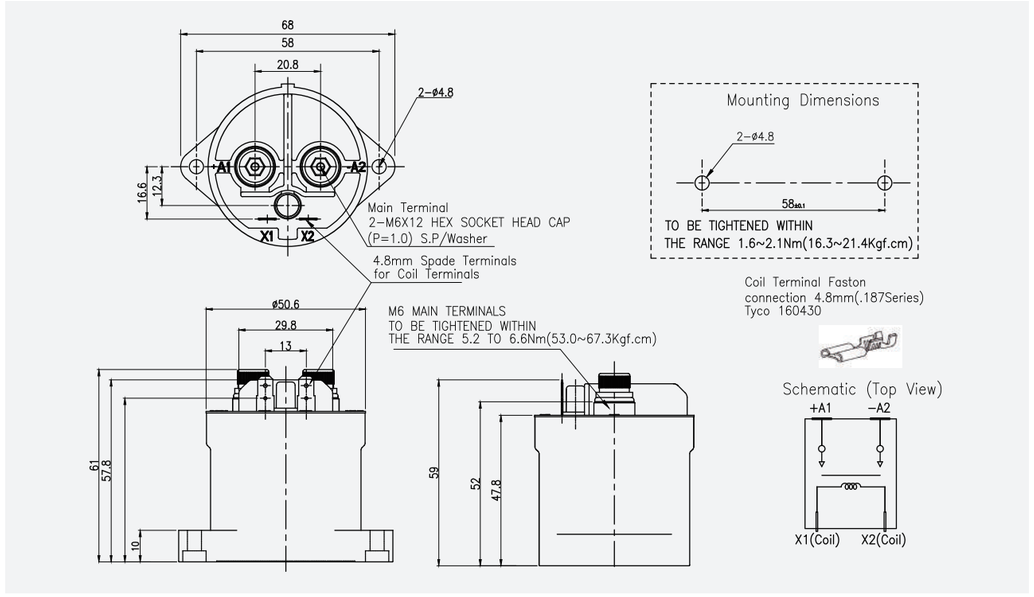
전기적 수명 곡선
(Estimated Switching Ratings)



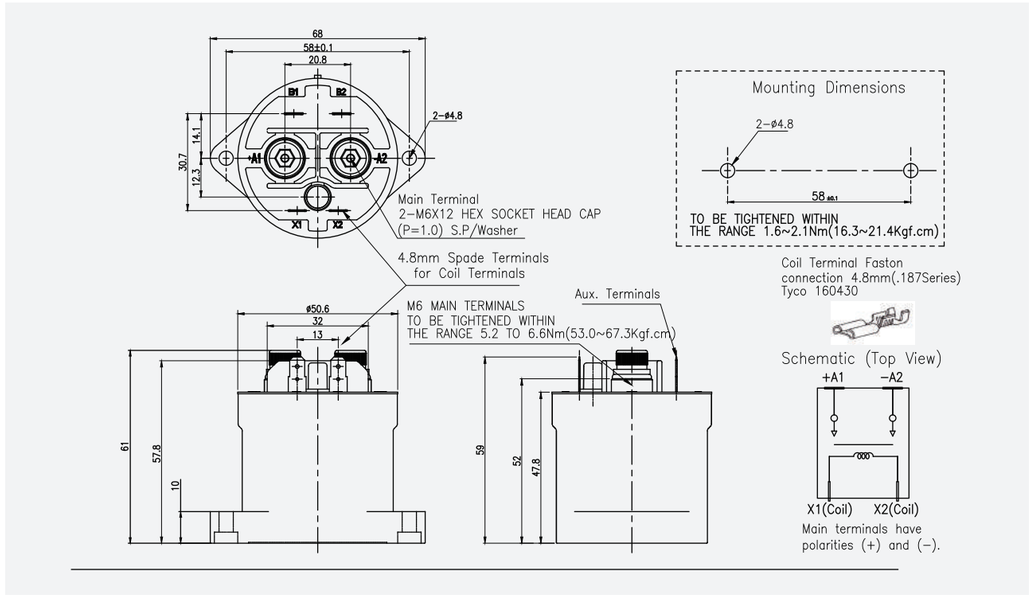
접점전류(A), Load Current(A)

Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



(Aux. Type)



DC HIGH VOLTAGE EV RELAY

EVR150



Application (응용분야) : Electric Vehicle, Charging System, Battery Energy Storage System, Solar System, Golf Car, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

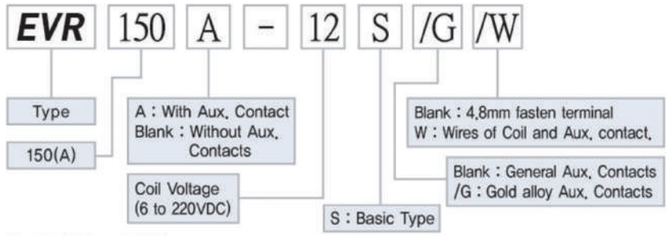
Item / Nominal voltage (V)		Nominal current (mA)	Coil resistance (Ω)	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Max. voltage (V)	Coil power (W) dissipation
DC	220	27	8,600	75%	10%	130%	5.2 to 5.9
	110	52	2,100				
	72	83	870				
	60	95	630				
	48	117	410				
	36	156	230				
	24	245	110				
	12	480	25				
	6	952	6.3				

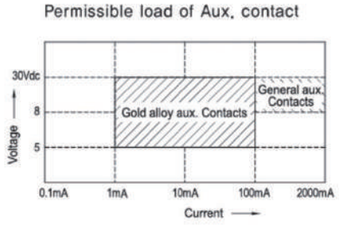
Notes : 1. Nominal current and coil resistance are measured at ±20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at ±20°C.

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVR150
Max. Continuous current (wire size 50mm²)	170A
Max. switching current	150A
Max. switching voltages	1200VDC 30A
Contact rating switching voltages	12 to 1200VDC
Max. cut-off current	300VDC 1000A 3 Ops
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux, Contact Current, Min.	100mA 8VDC
Gold alloy Aux, Contacts Max.	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux, Contacts Min.	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





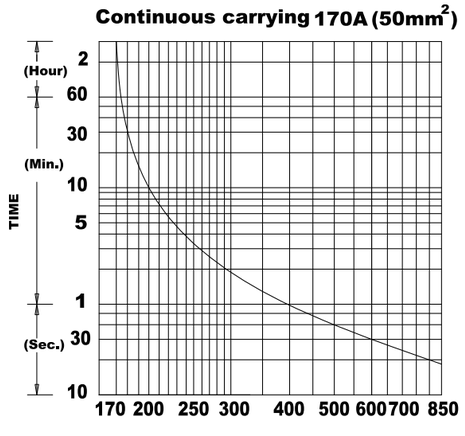
Characteristics (성능)

Expected life	Mechanical (Min.)		2×10⁶
	Electric (Min.) (Resistor)	450VDC 250A	1×10⁴
		750VDC 250A	1×10⁵
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		3500VAC 60 Sec. 10mA
	Between contacts & coil		3500VAC 60 Sec. 10mA
Operate time (at 20°C)			Max. 20ms
Release time (at 20°C)			Max. 5ms
Shock resistance	Functional		Min. 147 m/s² {15G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 10 to 500Hz
	Destructive		98 m/s² {10G} 10 to 500Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			300g

Reference data (특성곡선)

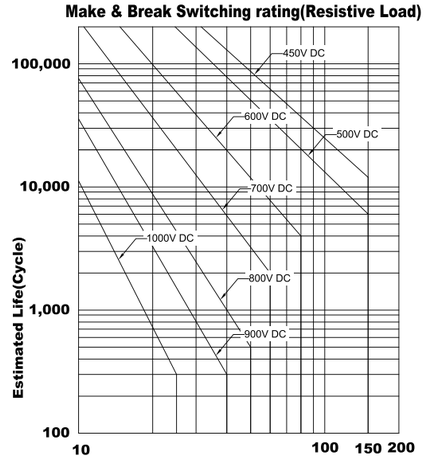
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선 (Estimated Switching Ratings)



접점전류(A), Load Current(A)

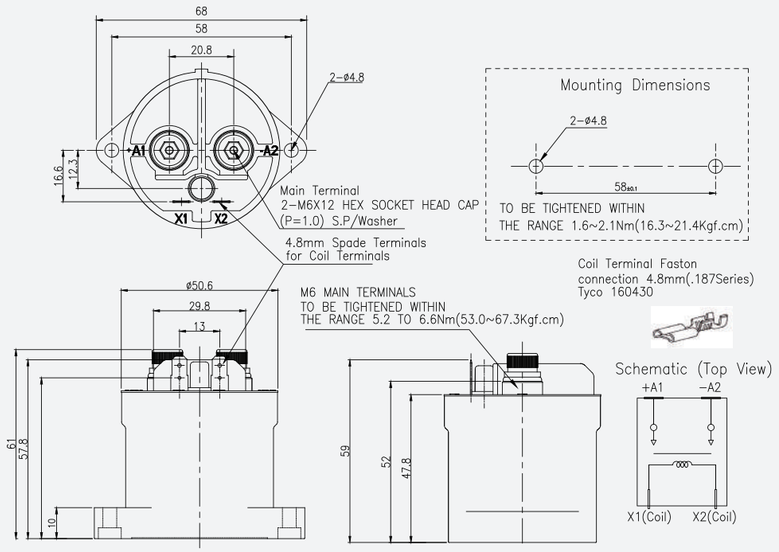
DC HIGH VOLTAGE EV RELAY

EVR150

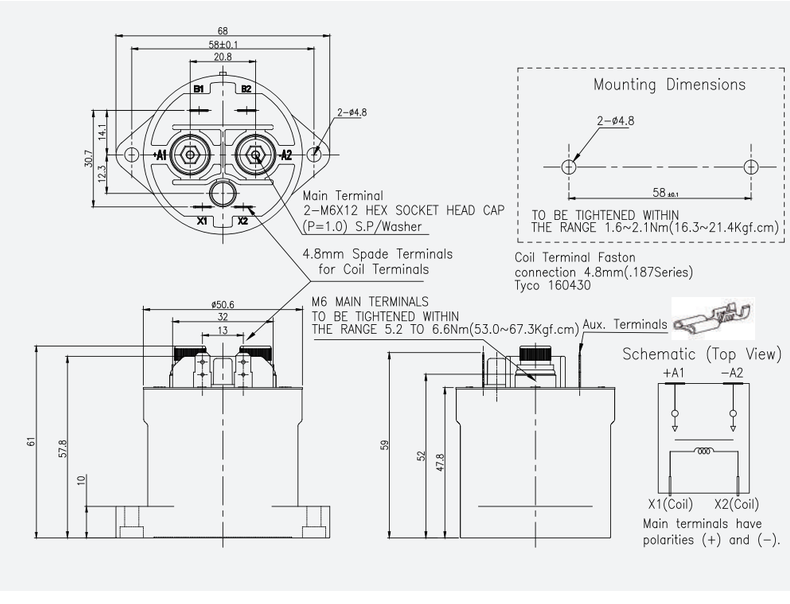


Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



(Aux Type)



DC HIGH VOLTAGE EV RELAY

EVR250



Application (응용분야) :

Electric Vehicle, Charging System, Battery Energy Storage System
Solar System, Golf Car, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

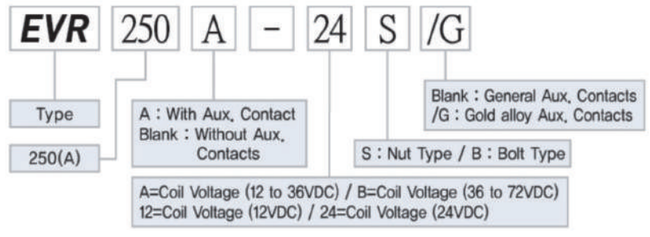
Nominal voltage(V) \ Item		Inrush Coil current 100ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)
B	72	1.3A	0.04A	32VDC	18VDC	22VDC	95VDC
	60	1.3A	0.05A				
	36	1.1A	0.1A				
A	36	2.4A	0.09A	9VDC	6VDC	7.5VDC	36VDC
	24	2.4A	0.14A				
	12	2.4A	0.29A				
12		2.4A	0.29A	9VDC	6VDC	7.5VDC	18VDC
24		1.3A	0.17A	18VDC	12VDC	13.5VDC	32VDC

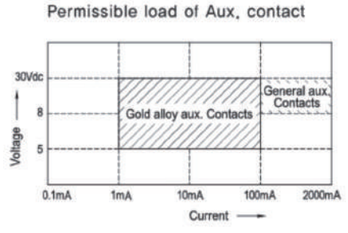
Notes : 1. Nominal current and coil resistance are measured at ±20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at ±20°C.

Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load
	EVR250
Max. Continuous current (wire size 300mm²)	500A
Max. switching current	250A
Max. switching capacity at max. voltages	900VDC 200A
Contact rating switching voltages	12 to 1200VDC
Max. cut-off current	600VDC 1000A 3 Ops / 400VDC 1500A 2 Ops
C-R load (charging)	500V 1500A 4,000 Ops / 500V 500A 30,000 Ops
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux, Contact Current, Min.	100mA 8VDC
Gold alloy Aux, Contacts Max.	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux, Contacts Min.	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





DC HIGH VOLTAGE EV RELAY

EVR250



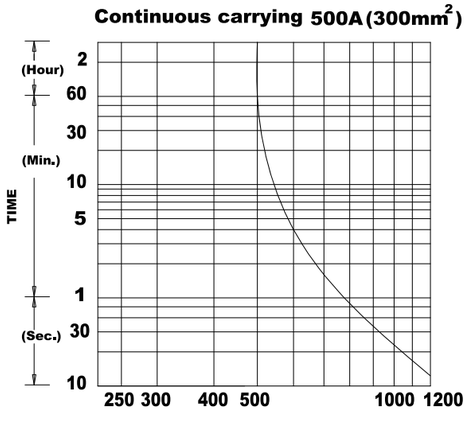
Characteristics (성능)

Expected life	Mechanical (Min.)		5×10⁵
	Electric (Min.) (Resistor)	450VDC 250A	7×10²
		750VDC 250A	3×10³
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		4000VAC 60 Sec. 5mA
	Between contacts & coil		4000VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 30ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		196 m/s² {20G} 80 to 2000Hz
	Destructive		196 m/s² {20G} 80 to 2000Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			460g

Reference data (특성곡선)

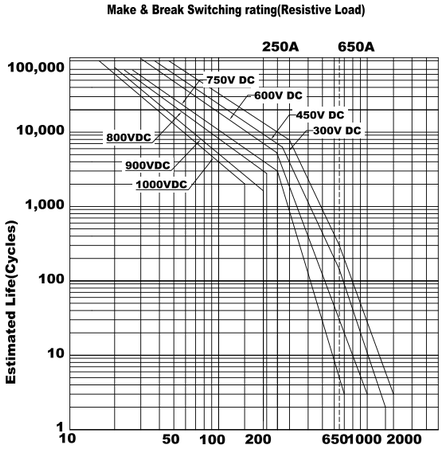
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선
(Estimated Switching Ratings)

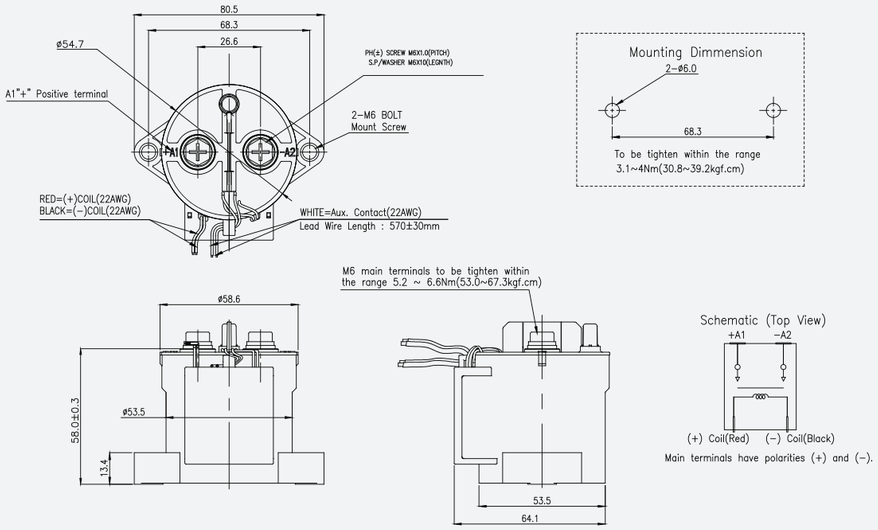


접점전류(A), Load Current(A)

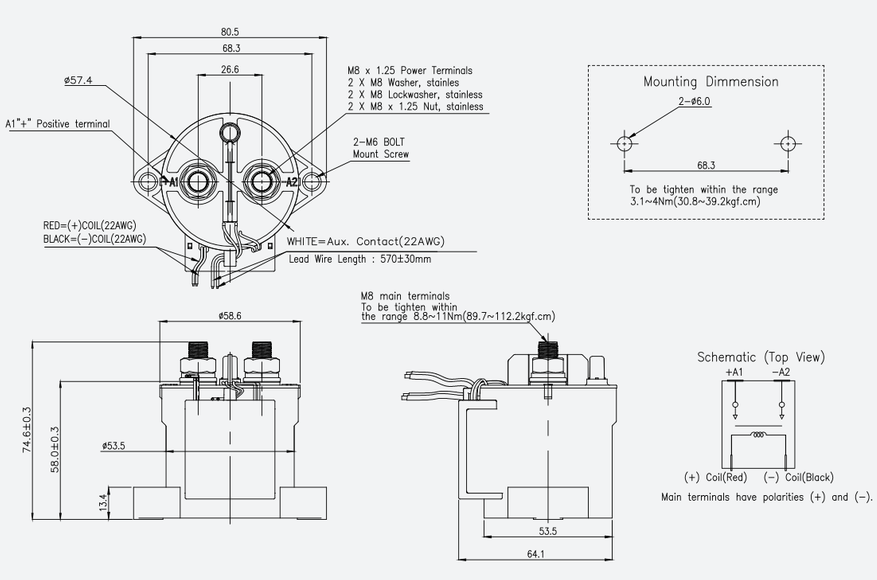
Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0

(S: Nut on Type)



(B: Bolt Type)



DC HIGH VOLTAGE EV RELAY

EVR400



Application (응용분야) : Electric Vehicle, Charging System, Battery Energy Storage System Solar System, Golf Car, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

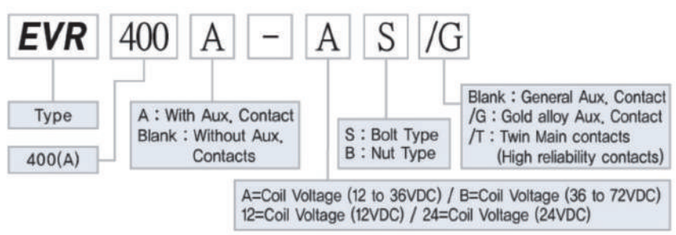
Nominal voltage(V) \ Item		Inrush Coil current 100ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)
B	72	1.1A	0.06A	32VDC	18VDC	22VDC	95VDC
	60	1.0A	0.06A				
	36	0.95A	0.1A				
A	36	2.0A	0.09A	9VDC	6VDC	7.5VDC	36VDC
	24	1.8A	0.13A				
	12	1.4A	0.27A				
12		1.2A	0.32A	9VDC	6VDC	7.5VDC	18VDC
24		0.6A	0.16A	18VDC	12VDC	13.5VDC	32VDC

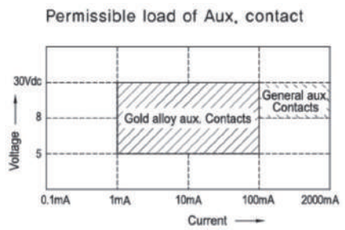
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load	
	EVR400	
Max. Continuous current (wire size 150mm²×2)	500A	
Max. switching current	450VDC 400A	UL Certification
	1200VDC 80A	
	1000VDC 200A	
	1000VDC 100A	CE
Contact rating switching voltages	12 to 1500VDC	
Max. cut-off current	300VDC 2500A 3 Ops	
C–R load (charging)	500V 1500A 4,000 Ops / 500V 500A 30,000 Ops	
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)	
Min. permissible load	12VDC 0.5A	
Description	S.P On/Off (a)	
Contact Arrangement, auxiliary contacts	1Form A (SPST–NO.)	
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC	
General Aux, Contact Current, Min.	100mA 8VDC	
Gold alloy Aux, Contacts Max.	0.1A 30VDC / 0.1A 30VAC	
Gold alloy Aux, Contacts Min.	1mA 5VDC / 1mA 5VAC	

Ordering information (주문방법)





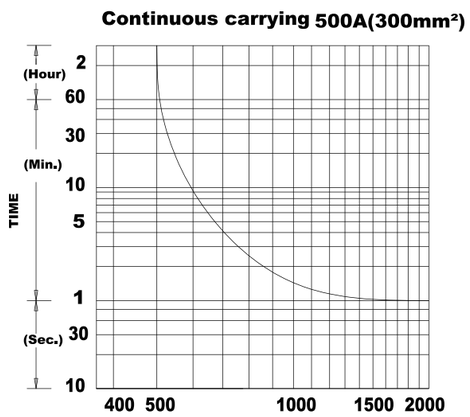
Characteristics (성능)

Expected life	Mechanical (Min.)		5×10⁵
	Electric (Min.) (Resistor)	450VDC 400A	3×10³
		250VDC 400A	1×10⁵
		1000VDC 100A	1×10⁴
		1000VDC 200A	1×10³
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		3500VAC 60 Sec. 5mA
	Between contacts & coil		3500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 30ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		196 m/s² {20G} 80 to 2000Hz
	Destructive		196 m/s² {20G} 80 to 2000Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			660g

Reference data (특성곡선)

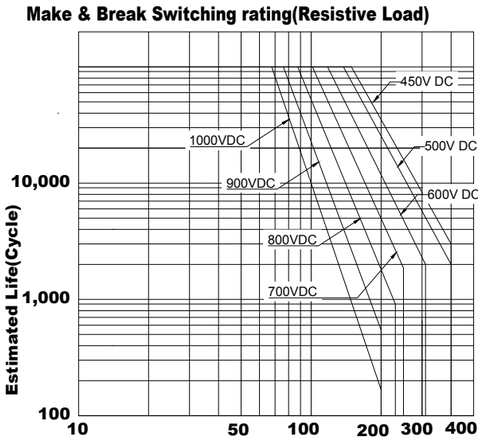
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선 (Estimated Switching Ratings)



접점전류(A), Load Current(A)

DC HIGH VOLTAGE EV RELAY

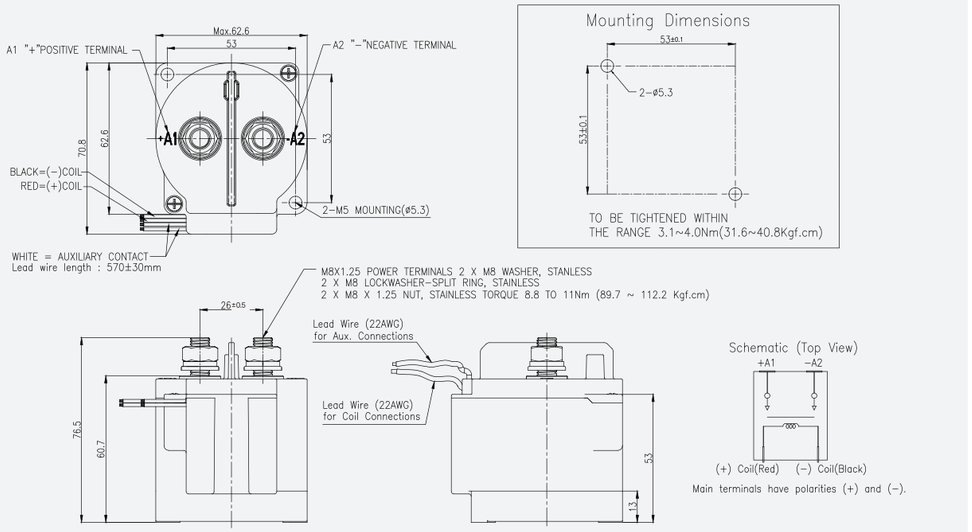
EVR400



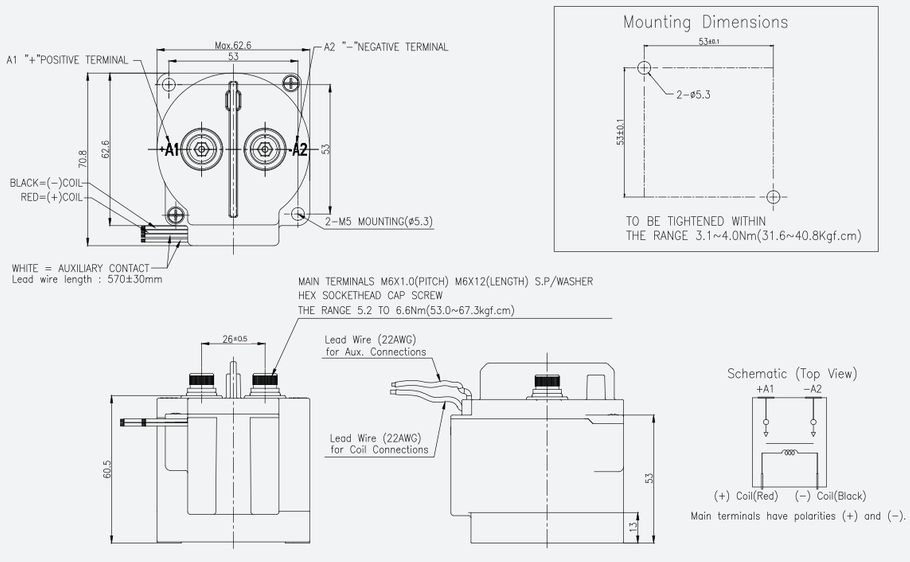
Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0

(S: Bolt Type)



(B: Nut Type)



DC HIGH VOLTAGE EV RELAY

EVR400-S/B

(Normal Close Contact)



Application (응용분야) : Elarth device of Solar Power Systems

Magnet coil ratings (코일정격)

Nominal voltage(V) \ Item		Inrush Coil current 150ms (Max.)	Holding Coil current	Pick-up voltage (V) max. (Contact Closing→Opening)	Drop-out voltage (V) min. (Contact Opening→Closing)	Holding voltage (V) min. (Contact:Opening)	Max. voltage (V)
A	36	4.0A	0.2A	9VDC	6VDC	7.5VDC	36VDC
	24		0.25A				
	12		0.3A				
12		4.0A	0.3A	9VDC	6VDC	7.5VDC	18VDC
24		2.7A	0.3A	18VDC	12VDC	13.5VDC	32VDC

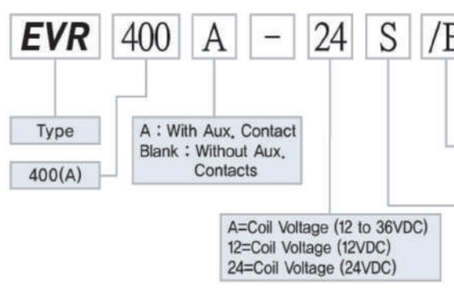
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

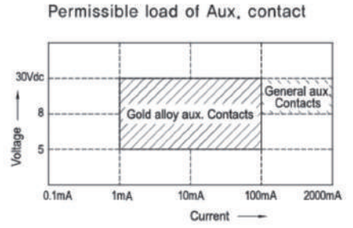
Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load	
	EVR400-S/B	
Max. Continuous current (wire size 150mm²×2)	500A	
Max. switching current	1200VDC 80A	UL Certification
	1000VDC 90A	
	1200VDC 80A	
	1000VDC 100A	
Contact rating switching voltages	12 to 1500VDC	
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)	
Min. permissible load	12VDC 0.5A	
Description	S.P On/Off (b)	
Contact Arrangement	1Form B (SPST−NC.)	

Notes : EVR400-S/B is without aux. contact.

Ordering information (주문방법)





DC HIGH VOLTAGE EV RELAY

EVR400-S/B

(Normal Close Contact)



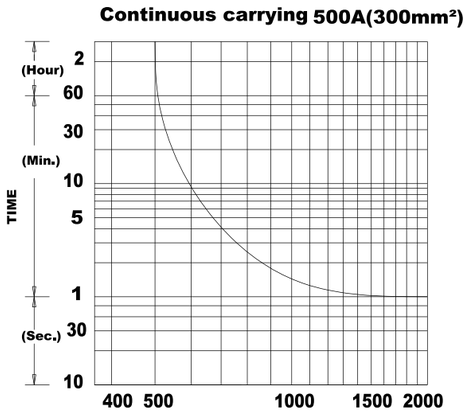
Characteristics (성능)

Expected life	Mechanical (Min.)		5×10^5
	Electric (Min.) (Resistor)	450VDC 400A	3×10^3
		1000VDC 100A	1×10^3
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		3500VAC 60 Sec. 5mA
	Between contacts & coil		3500VAC 60 Sec. 5mA
Operate time (at 20°C) (Contact closing → Contact opening)			Max. 30ms
Release time (at 20°C) (Contact opening → Contact closing)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		196 m/s² {20G} 80 to 2000Hz
	Destructive		196 m/s² {20G} 80 to 2000Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			660g

Reference data (특성곡선)

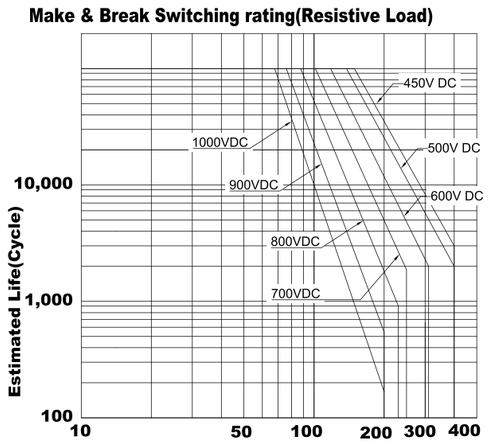
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선
(Estimated Switching Ratings)

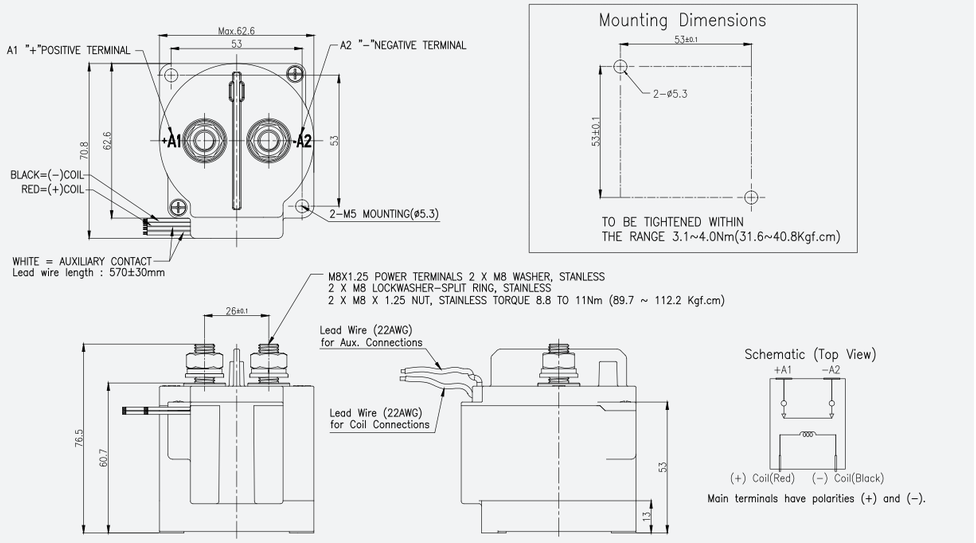


접점전류(A), Load Current(A)

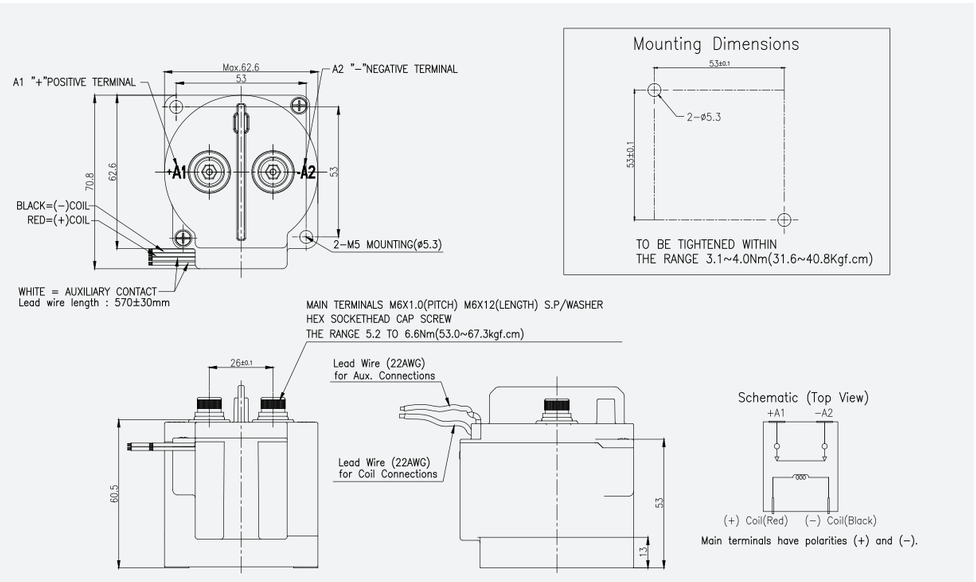
Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0

(S: Bolt Type)



(B: Nut Type)



DC HIGH VOLTAGE EV RELAY

EVR600



Application (응용분야) : Electric Vehicle, Charging System, Battery Energy Storage System Solar System, Golf Car, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

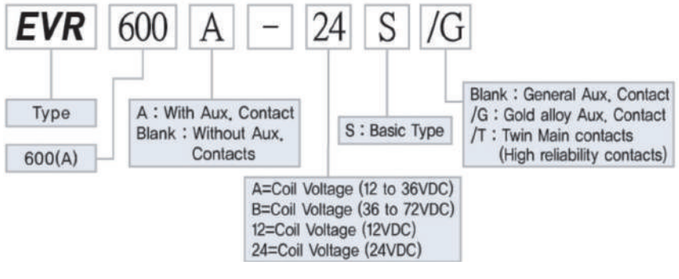
Nominal voltage(V) \ Item		Inrush Coil current 100ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)
B	72	1.1A	0.04A	32VDC	18VDC	22VDC	95VDC
	60	1.0A	0.06A				
	36	0.9A	0.08A				
A	36	3.6A	0.11A	9VDC	6VDC	7.5VDC	36VDC
	24	3.2A	0.16A				
	12	3.2A	0.32A				
12		1.2A	0.32A	9VDC	6VDC	7.5VDC	18VDC
24		0.6A	0.16A	18VDC	12VDC	13.5VDC	32VDC

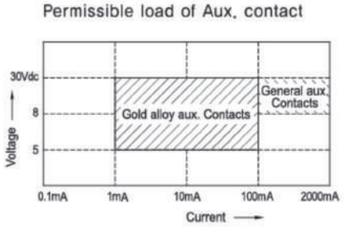
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load
	EVR600
Max. Continuous current (wire size 185mm²×2)	600A
Max. switching current	600A
Max. switching voltages	900VDC
Contact Rating switching voltages	12 to 900VDC
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux, Contact Current, Min.	100mA 8VDC
Gold alloy Aux, Contacts Max. (Low level circuit type)	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux, Contacts Min. (Low level circuit type)	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





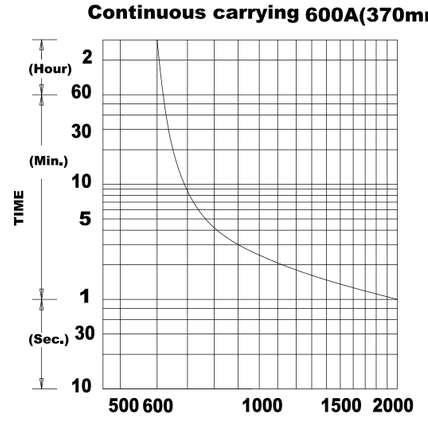
Characteristics (성능)

Expected life	Mechanical (Min.)		5×10⁵
	Electric (Min.) (Resistor)	450VDC 600A	6×10³
		250VDC 600A	1×10⁵
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		3500VAC 60 Sec. 5mA
	Between contacts & coil		3500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 30ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		196 m/s² {20G} 80 to 2000Hz
	Destructive		196 m/s² {20G} 80 to 2000Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			920g

Reference data (특성곡선)

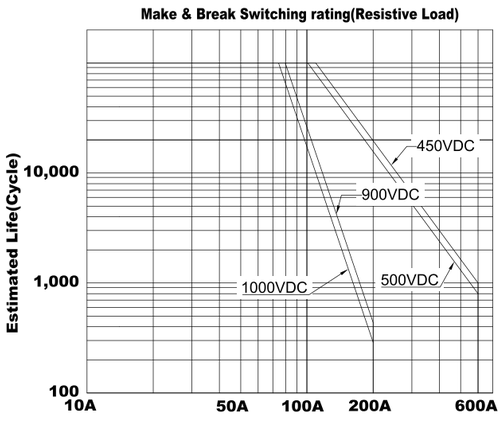
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선
(Estimated Switching Ratings)



접점전류(A), Current(A)

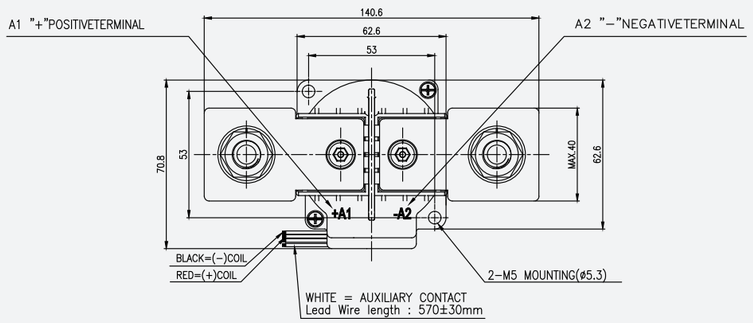
DC HIGH VOLTAGE EV RELAY

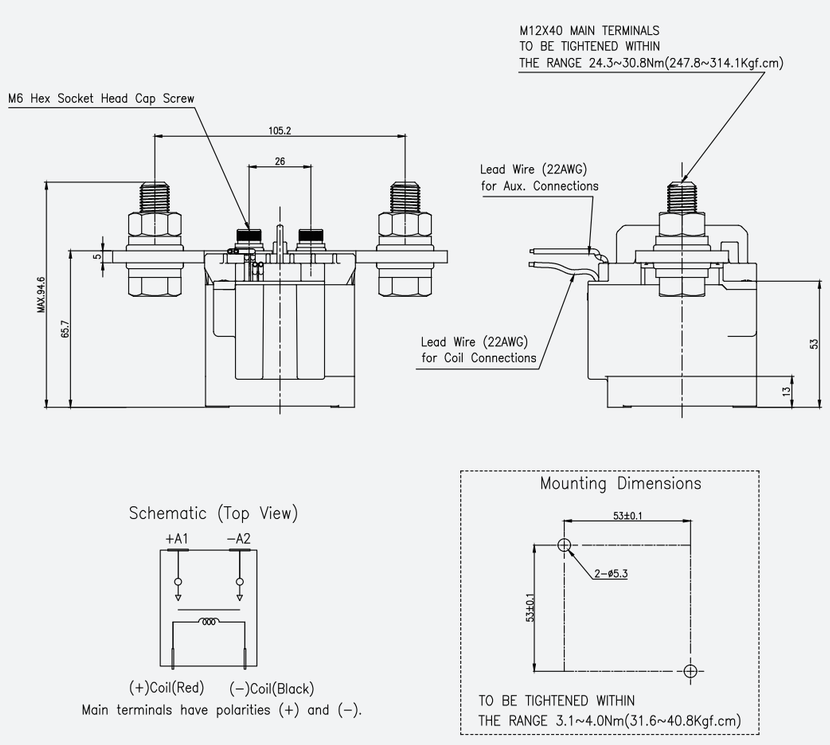
EVR600



Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0





HERMETIC SEALED DC CONTACTOR

EVH400

(H: 1500V Class)



Application (응용분야) :

Charging System, Battery Energy Storage System, Solar System, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

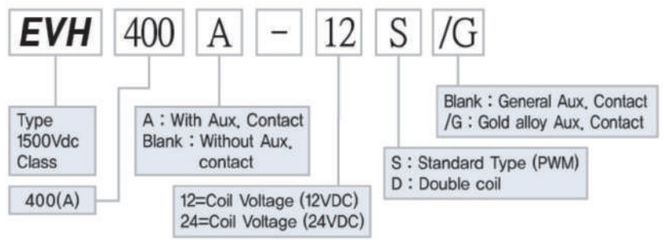
Nominal voltage(V)	Item	Inrush Coil current 150ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)	Remark
12S	12V	2.6A	0.45A	9VDC	6VDC	7.5VDC	18VDC	PWM economizer
24S	24V	1.4A	0.20A	18VDC	12VDC	15.0VDC	32VDC	
AS	12 to 36V	2.6A	0.15 to 0.45A	9VDC	6VDC	7.5VDC	36VDC	
12D	12V	4.4A	0.4A	9VDC	6VDC	7.5VDC	18VDC	Double coil economizer
24D	24V	2.6A	0.3A	18VDC	12VDC	15.0VDC	32VDC	

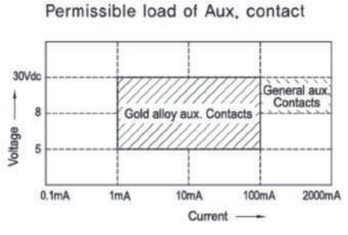
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load
	EVH400
Max. Continuous current (wire size 300mm²)	400A
Max. switching current	500VDC 900A
	1000VDC 600A
Contact rating switching voltages	12 to 1500VDC
Max. cut-off current	400VDC 2000A 10 Ops.
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST–NO.)
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux, Contact Current, Min.	100mA 8VDC
Gold alloy Aux, Contacts Max. (Low level circuit type)	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux, Contacts Min. (Low level circuit type)	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





HERMETIC SEALED DC CONTACTOR

EVH400

(H: 1500V Class)



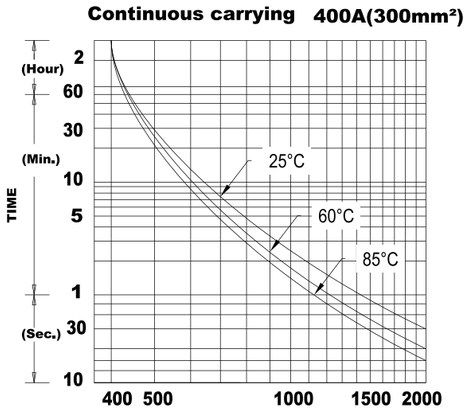
Characteristics (성능)

Expected life	Mechanical (Min.)		5×10^5
	Electric (Min.) (Resistor)	750VDC 400A	6×10^3
		1000VDC 400A	1×10^3
		1000VDC 200A	1×10^4
		1500VDC 200A	2×10^3
Initial insulation resistance			Min. 200MΩ 1000VDC
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 40ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		196 m/s² {20G} 80 to 500Hz
	Destructive		196 m/s² {20G} 80 to 500Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight	PWM		950g
	Double coil		1000g

Reference data (특성곡선)

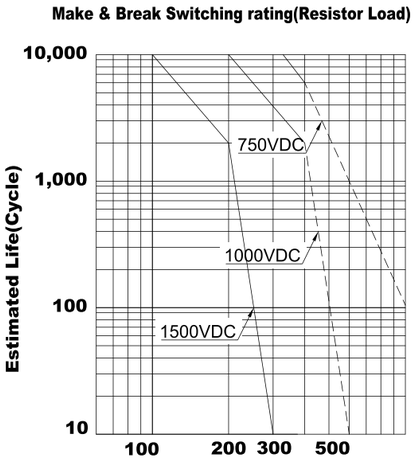
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

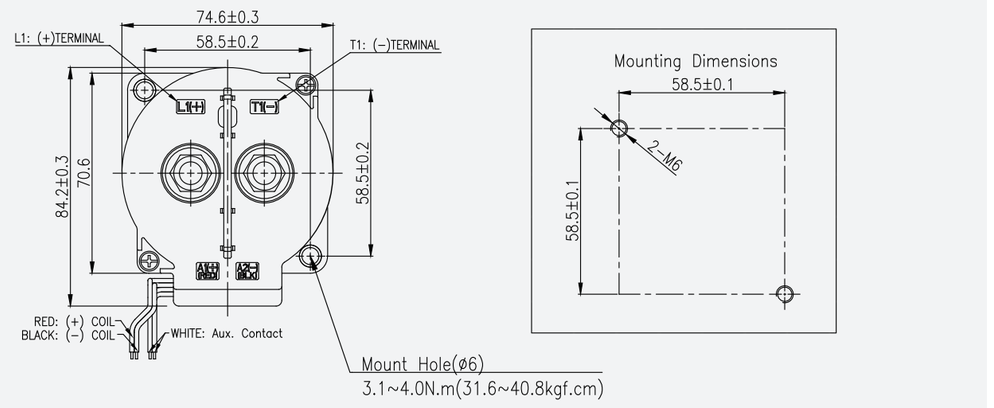
전기적 수명 곡선
(Estimated Switching Ratings)

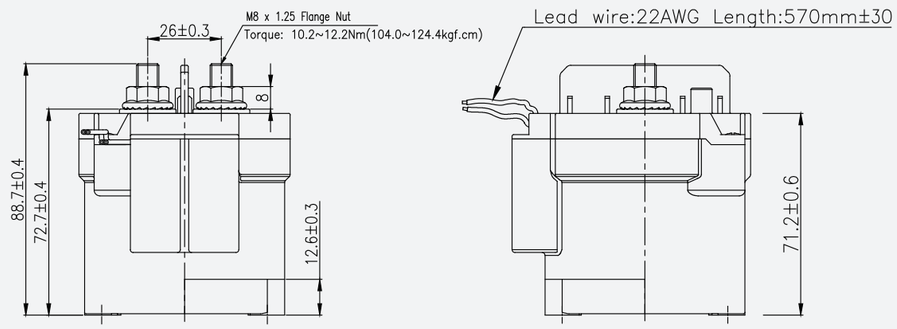


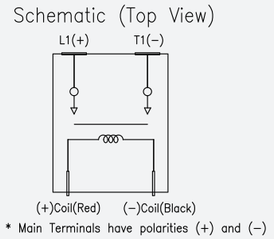
접점전류(A), Load Current(A)

Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0







HERMETIC SEALED DC CONTACTOR

EVH600

(H: 1500V Class)



Application (응용분야) : Charging System, Battery Energy Storage System, Solar System, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

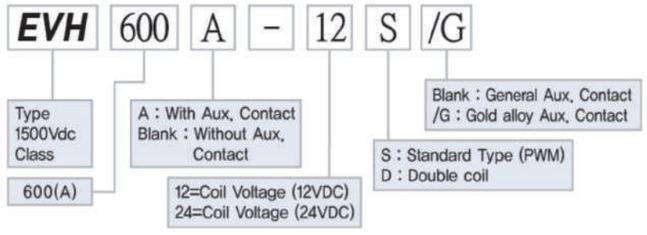
Nominal voltage(V) / Item		Inrush Coil current 150ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)	Remark
12S	12V	2.8A	0.5A	9VDC	6VDC	7.5VDC	18VDC	PWM economizer
24S	24V	1.4A	0.20A	18VDC	12VDC	15.0VDC	32VDC	
AS	12 to 36V	2.8A	0.15 to 0.5A	9VDC	6VDC	7.5VDC	36VDC	
12D	12V	4.6A	0.5A	9VDC	6VDC	7.5VDC	18VDC	Double coil economizer
24D	24V	2.9A	0.29A	18VDC	12VDC	15.0VDC	32VDC	

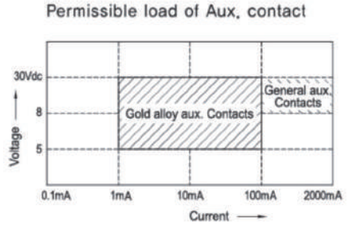
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load
	EVH600
Max. Continuous current (wire size 185mm²×2)	600A
Max. switching current	500VDC 900A
	1000VDC 600A
Contact rating switching voltages	12 to 1500VDC
Max. cut-off current	400VDC 2000A 10 Ops.
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux, Contact Current, Min.	100mA 8VDC
Gold alloy Aux, Contacts Max. (Low level circuit type)	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux, Contacts Min. (Low level circuit type)	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





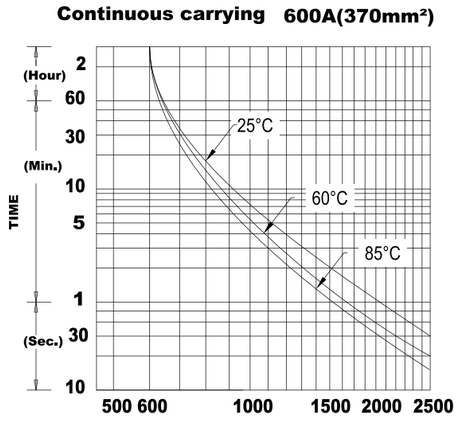
Characteristics (성능)

Expected life	Mechanical (Min.)		2×10⁵
	Electric (Min.) (Resistor)	500VDC 600A	6×10³
		750VDC 600A	2×10³
		1000VDC 400A	1×10³
		1000VDC 200A	1×10⁴
		1500VDC 200A	2×10³
Initial insulation resistance			Min. 200MΩ 1000VDC
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 40ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 10 to 500Hz
	Destructive		98 m/s² {10G} 10 to 500Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight	PWM		1400g
	Double coil		1450g

Reference data (특성곡선)

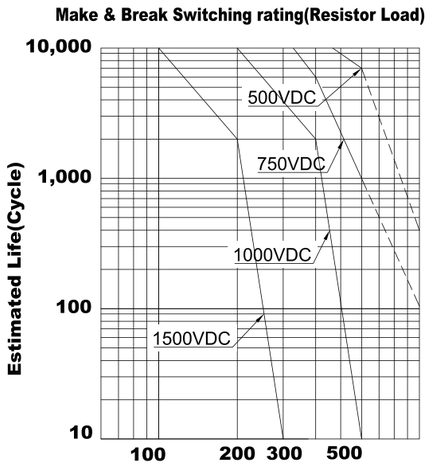
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선 (Estimated Switching Ratings)



접점전류(A), Load Current(A)

HERMETIC SEALED DC CONTACTOR

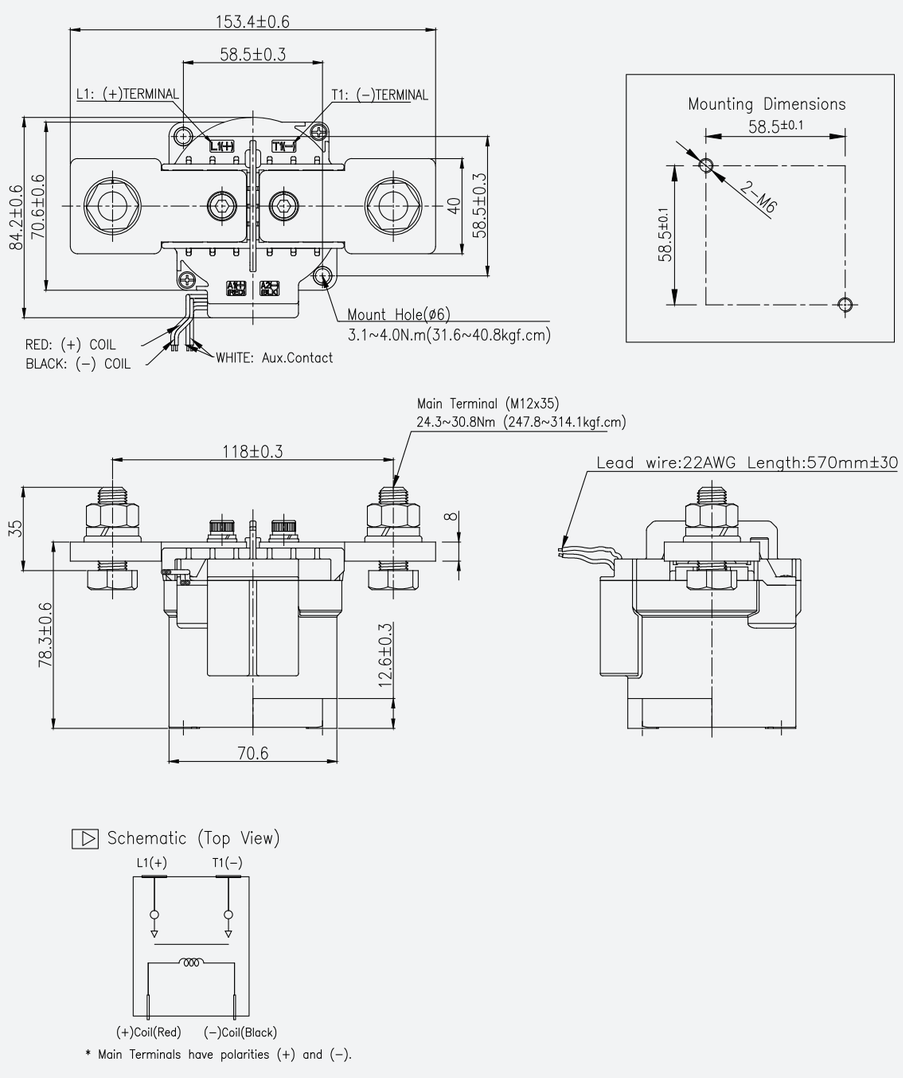
EVH600

(H: 1500V Class)



Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



HERMETIC SEALED DC CONTACTOR

EVH750

(H: 1500V Class)



Application (응용분야) :

Charging System, Battery Energy Storage System, Solar System, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

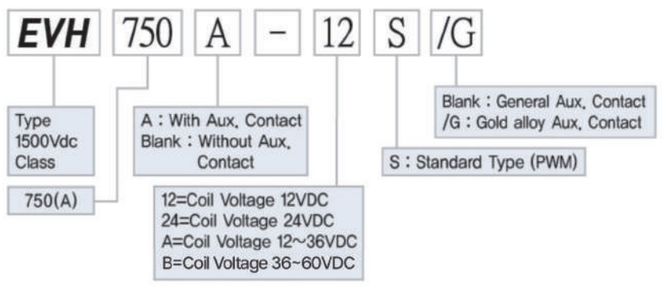
Nominal voltage (V) \ Item		Inrush Coil current 150ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)	Remark
12S	12V	2.3A	0.45A	9VDC	6VDC	7.5VDC	18VDC	PWM economizer
24S	24V	1.1A	0.16A	18VDC	12VDC	15.0VDC	32VDC	
AS	12 to 36V	3.8A	0.15 to 0.4A	9VDC	6VDC	7.5VDC	36VDC	
BS	48V	0.45A to 0.7A	0.05A to 0.11A	32VDC	18VDC	22VDC	72VDC	

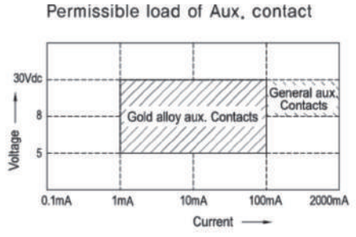
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load
	EVH750
Max. Continuous current (wire size 480mm²)	750A
Max. switching current	1000VDC 1000A
Contact rating switching voltages	1500VDC 800A
	12 to 1500VDC
Max. cut-off current	350VDC 2000A 10 Ops.
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST–NO.)
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux, Contact Current, Min.	100mA 8VDC
Gold alloy Aux, Contacts Max. (Low level circuit type)	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux, Contacts Min. (Low level circuit type)	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





HERMETIC SEALED DC CONTACTOR

EVH750

(H: 1500V Class)



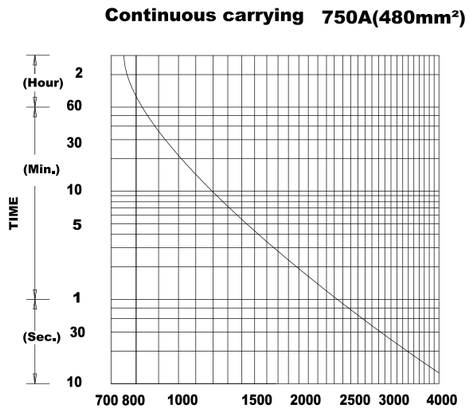
Characteristics (성능)

Expected life	Mechanical (Min.)		2×10^5
	Electric (Min.) (Resistor)	500VDC 750A	2×10^3
		750VDC 500A	2×10^3
		1000VDC 500A	1×10^3
		1000VDC 320A	6×10^3
		1500VDC 250A	6×10^3
Initial insulation resistance			Min. 200MΩ 1000VDC
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 50ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 10 to 500Hz
	Destructive		98 m/s² {10G} 10 to 500Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			1200g

Reference data (특성곡선)

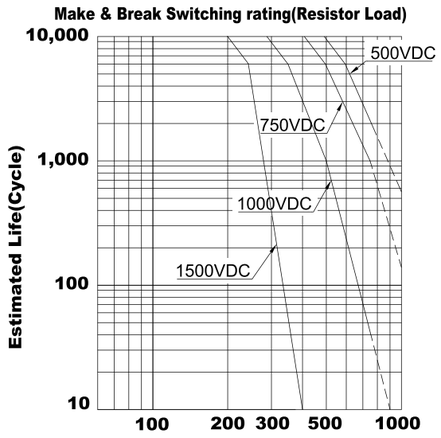
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

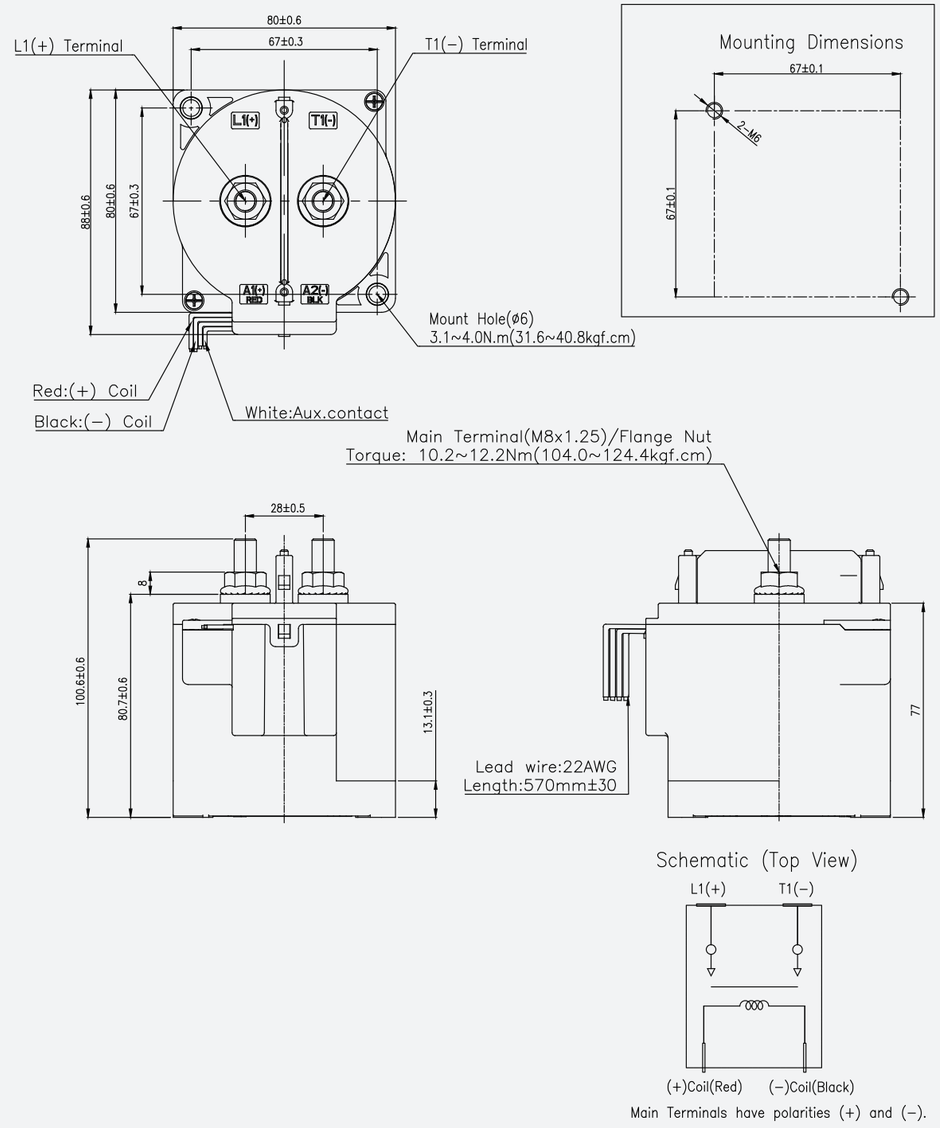
전기적 수명 곡선
(Estimated Switching Ratings)



접점전류(A), Load Current(A)

Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB100

(H: 1500V Class)



Application (응용분야) :

Electric Vehicle, Charging System, Battery Energy Storage System, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

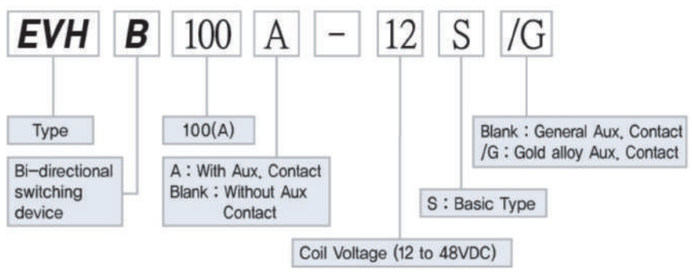
Item / Nominal voltage (V)		Nominal current (mA)	Coil resistance (Ω)	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Max. voltage (V)	Coil power (W) dissipation
DC	12	530	22.8	75%	10%	130%	6.2 to 6.5
	24	260	92.5				
	48	130	370				

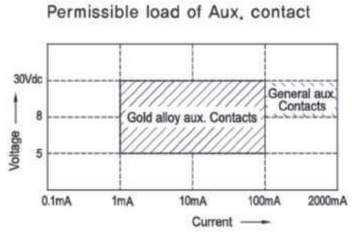
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVHB100
Max. Continuous current (wire size 50mm²)	100A
Max. switching voltages	1500VDC
Contact rating switching voltages	12 to 1500VDC
Max. cut-off current	350VDC 2000A 1 Ops
Voltage drop across contact after 20A	20mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P. On/Off (a)
Contact arrangement, auxiliary contacts	1Form A (SPST–NO)
General Aux. Contact Current, Max.	2A 30VDC / 3A 125VAC
Gold alloy Aux. Contact Current, Min.	100mA 8VDC
Gold alloy Aux. Contacts Max°	0.1A 30VDC
Gold alloy Aux. Contacts Min.	1mA 5VDC

Ordering information (주문방법)





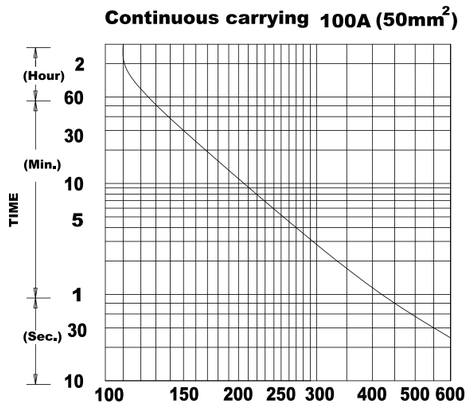
Characteristics (성능)

Initial insulation resistance			Min. 100MΩ 1000VDC
Expected life	Mechanical (Min.)		5×10^5
	Electric (Min.) (Resistor)	750VDC 100A	6×10^3
		1000VDC 90A	6×10^3
		1250VDC 40A	6×10^3
		1500VDC 30A	6×10^3
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 25ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 10 to 500Hz
	Destructive		196 m/s² {20G} 10 to 500Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			180g

Reference data (특성곡선)

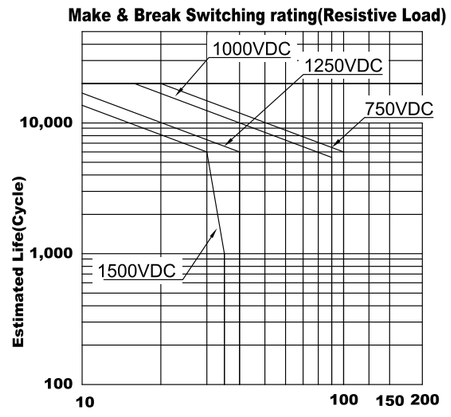
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선
(Estimated Switching Ratings)



접점전류(A), Load Current(A)

HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

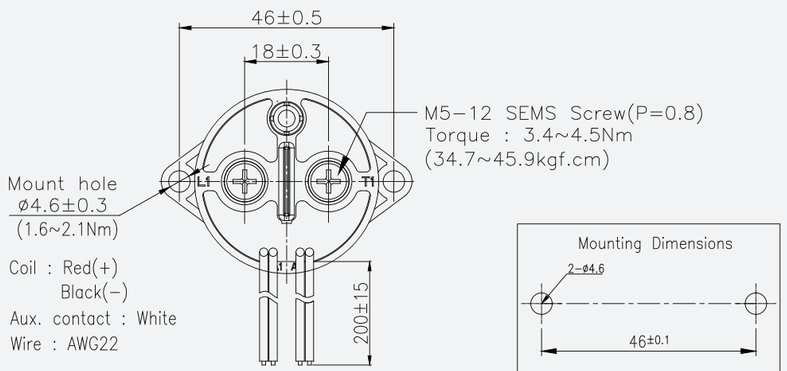
EVHB100

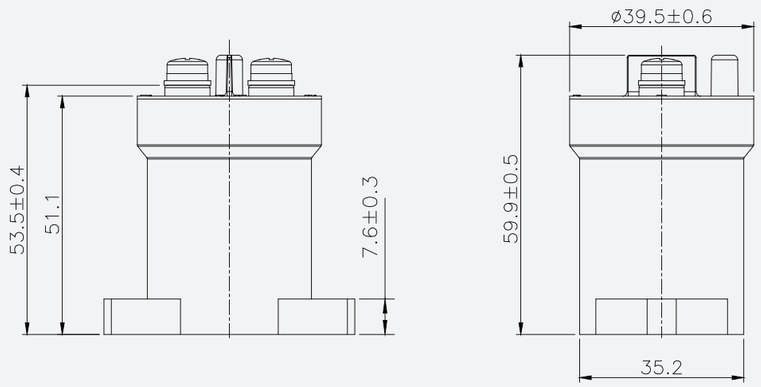
(H: 1500V Class)

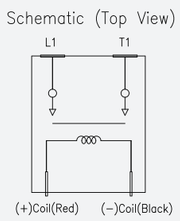


Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0







HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB100 PCB

(H: 1500V Class)



Application (응용분야) :

Electric Vehicle, Charging System, Battery Energy Storage System
Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

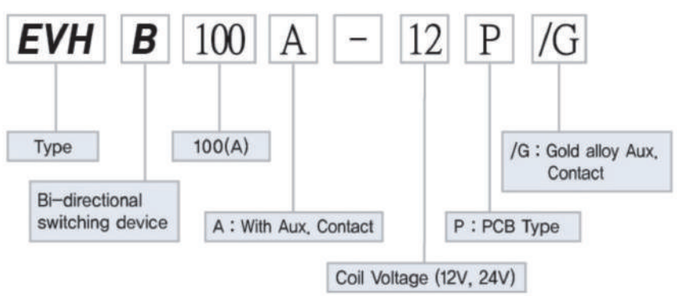
Item / Nominal voltage (V)		Nominal Coil current (mA)	Coil resistance (Ω)	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Max. voltage (V)	Coil power (W) dissipation
DC	12	530	22.8	75%	10%	130%	6.2 to 6.5
	24	260	92.5				

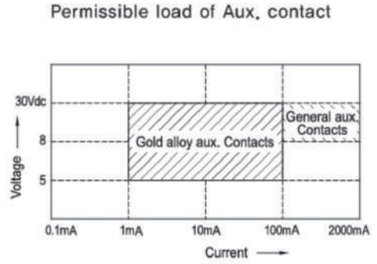
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coi temperature is measured at +20°C.

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVHB100
Max. Continuous current	100A
Max. switching voltages	1500VDC
Contact Rating switching voltages	12 to 1500VDC
Max. cut-off current	350VDC 2000A 1 Ops
Voltage drop across contacts per 20A	20mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
Gold alloy Aux. Contacts Max.	0.1A 30VDC
Gold alloy Aux. Contacts Min.	1mA 5VDC

Ordering information (주문방법)





HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB100 PCB

(H: 1500V Class)



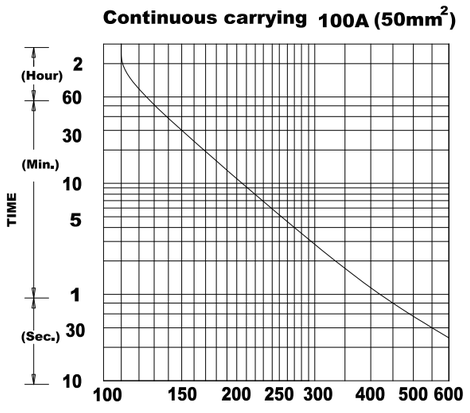
Characteristics (성능)

Initial insulation resistance			Min. 100MΩ 1000VDC
Expected life	Mechanical (Min.)		5×10^5
	Expected life	750VDC 100A	6×10^3
		1000VDC 60A	6×10^3
		1250VDC 40A	6×10^3
		1500VDC 30A	6×10^3
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 25ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 10 to 500Hz
	Destructive		196 m/s² {20G} 10 to 500Hz
Conditions for operation, transport and storage	Ambient temperature		−40°C to +65°C
	Humidity		5 to 85% R.H.
Unit weight			175g

Reference data (특성곡선)

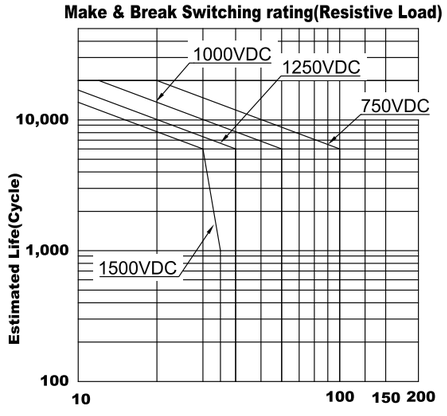
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

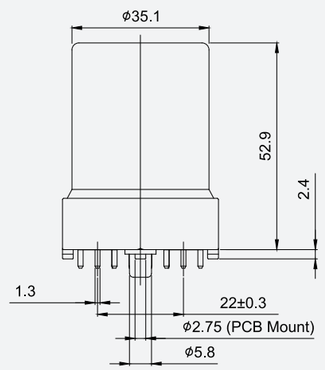
전기적 수명 곡선
(Estimated Switching Ratings)

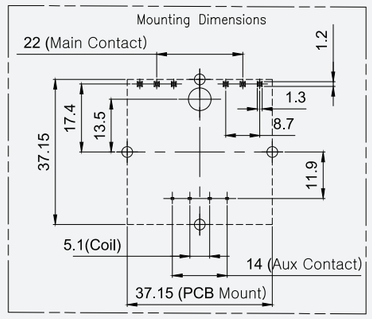


접점전류(A), Load Current(A)

Dimension in mm (외형치수도)

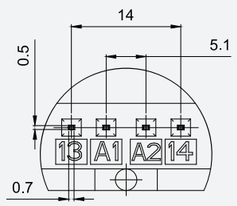
Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0





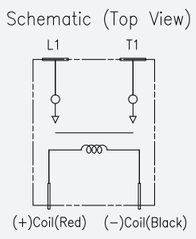






Detail 'A'

Pin Array	
13	Aux. Contact (No Polarity)
14	Aux. Contact (No Polarity)
A1	Coil (+)
A2	Coil (-)



HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB200

(H: 1500V Class)



Magnet coil ratings (코일정격)

Item / Nominal voltage (V)	Nominal Coil Current (mA)	Coil Resistance (Ω)	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Max. voltage (V)	Coil power(W) dissipation
12	508	23.6	9	1.2	15.6	6 to 6.3
24	258	93	18	2.4	31.2	

Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

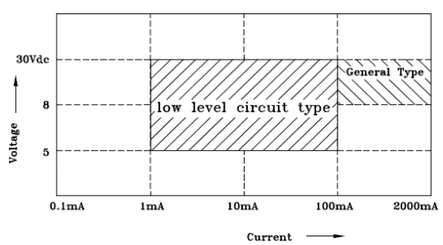
Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVHB200
Max. Continuous current (Wire size 70mm²)	200A
Max. switching current	200A
Max. switching capacity at max. voltages	-
Contact rating switching voltages	12~1500VDC
Max. cut-off current	-
C-R load (charging)	-
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Descriotion	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1From A (SPST-NO)
General Aux. Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux. Contact Current, Min.	100mA 8VDC
Gold alloy Aux. Contacts Max.	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux. Contacts Min.	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)

EVH B 200 A - 12 B /G

- /G : Aux. contacts for Low level current
- B : Bolt Type
- Coil ; 12 : 12Vdc, 24 : 24Vdc
- A: with Aux. contacts
- Rating current : 200A
- B: Bi-direction switching device
- YM Tech High Voltage DC Relay



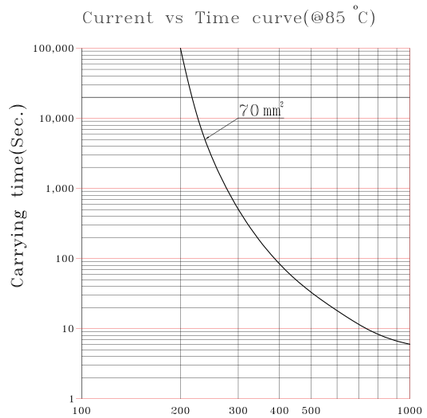
Characteristics (성능)

Mecahnical life			5×10⁵
Expected life	Electric (Min.) (Resistor)	450VDC 200A	7×10³
		750VDC 200A	3×10³
Initial insulation resistance			Min. 100MΩ 1000VDC
Initial breakdown voltage	Between open contacts		4500VAC 60Sec. 5mA
	Between contacts & coil		4500VAC 60Sec. 5mA
Operate time (at 20°C)			Max. 30ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistacne	Functional		196 m/s² {20G} 80 to 2000Hz
	Destructive		196 m/s² {20G} 80 to 2000Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			440g

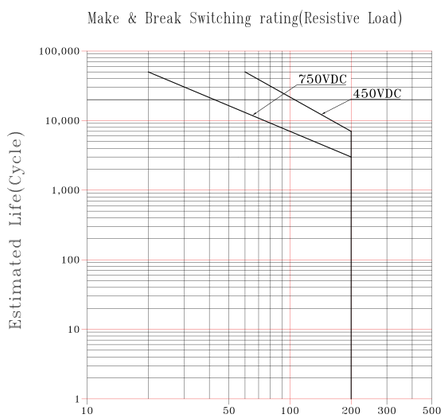
Reference data (특성곡선)

온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



전기적 수명 곡선
(Estimated Switching Ratings)



HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

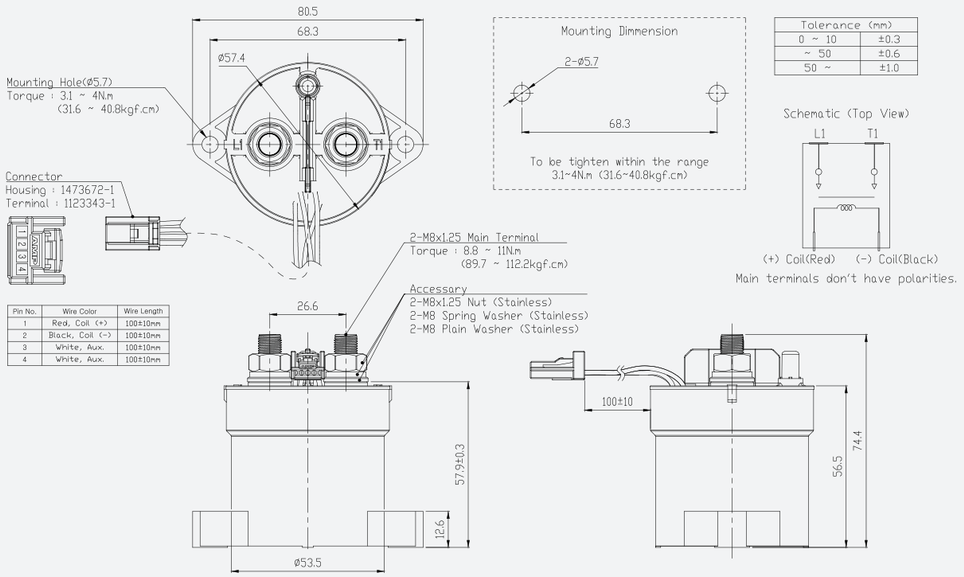
EVHB200

(H: 1500V Class)



Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



Tolerance (mm)	
0 ~ 10	±0.3
~ 50	±0.6
50 ~	±1.0

Pin No.	Wire Color	Wire Length
1	Red, Coil (+)	100±10mm
2	Black, Coil (-)	100±10mm
3	White, Aux.	100±10mm
4	White, Aux.	100±10mm

HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB250

(H: 1500V Class)



Magnet coil ratings (코일정격)

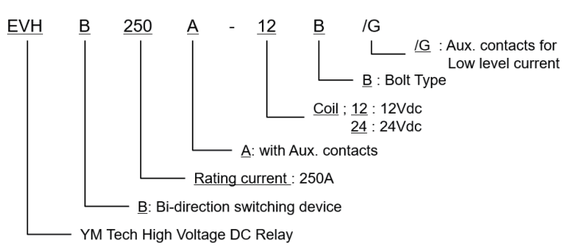
Item / Nominal voltage (V)	Inrush Coil current 100ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)
12	2.4A	0.29A	9VDC	6VDC	7.5VDC	18VDC
24	1.3A	0.17A	18VDC	12VDC	13.5VDC	32VDC

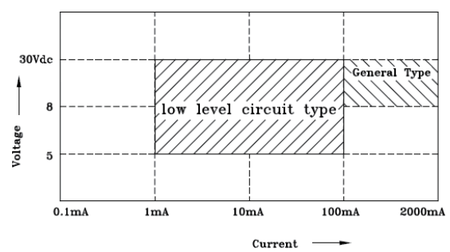
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVHB250
Max. Continuous current (Wire size 185mm²)	300A
Max. switching current	250A
Max. switching capacity at max. voltages	1500VDC 60A
Contact rating switching voltages	12~1500VDC
Max. cut-off current	-
C-R load (charging)	-
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Descriotion	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1From A (SPST-NO)
General Aux. Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux. Contact Current, Min.	100mA 8VDC
Gold alloy Aux. Contacts Max.	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux. Contacts Min.	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB250

(H: 1500V Class)



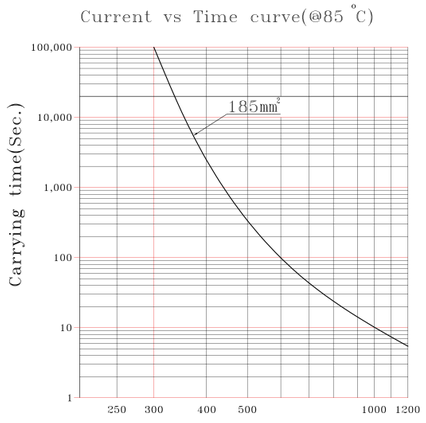
Characteristics (성능)

Mecahnical life			5×10^5
Expected life	Electric (Min.) (Resistor)	450VDC 250A	7×10^3
		750VDC 250A	3×10^3
Initial insulation resistance			Min. 100MΩ 1000VDC
Initial breakdown voltage	Between open contacts		4500VAC 60Sec. 5mA
	Between contacts & coil		4500VAC 60Sec. 5mA
Operate time (at 20°C)			Max. 30ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistacne	Functional		196 m/s² {20G} 80 to 2000Hz
	Destructive		196 m/s² {20G} 80 to 2000Hz
Conditions for operation transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			460g

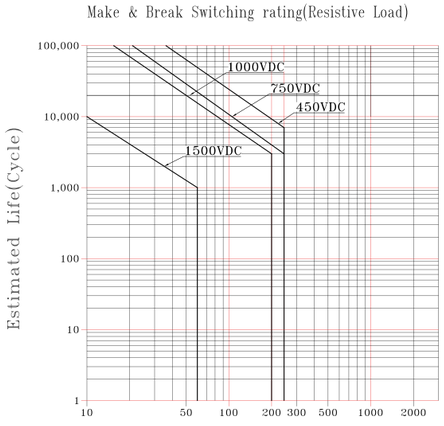
Reference data (특성곡선)

온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)

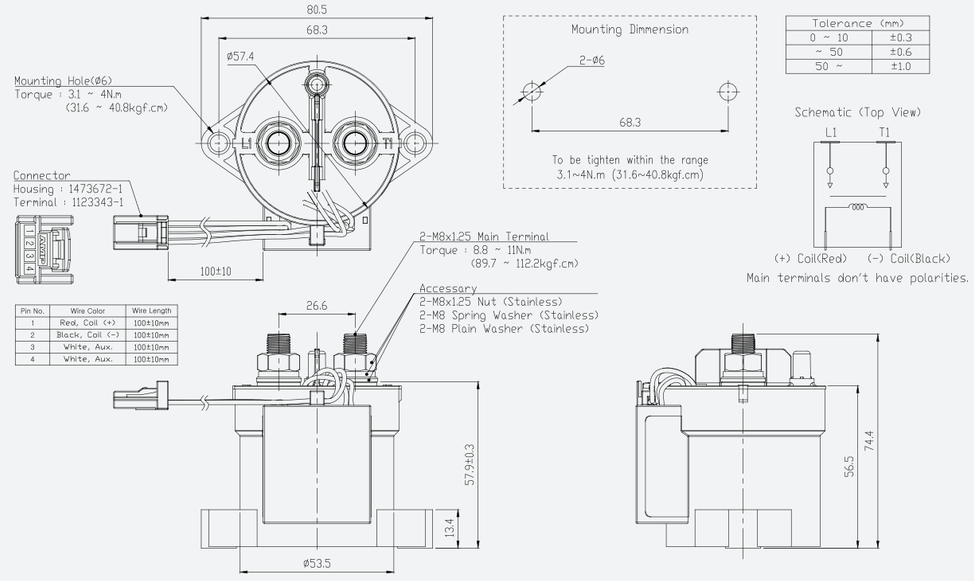


전기적 수명 곡선
(Estimated Switching Ratings)



Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



Pin No.	Wire Color	Wire Length
1	Red, Coil (+)	100±10mm
2	Black, Coil (-)	100±10mm
3	White, Aux.	100±10mm
4	White, Aux.	100±10mm

HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB400
(H: 1500V Class)



Application (응용분야) : Charging System, Battery Energy Storage System, Solar System, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

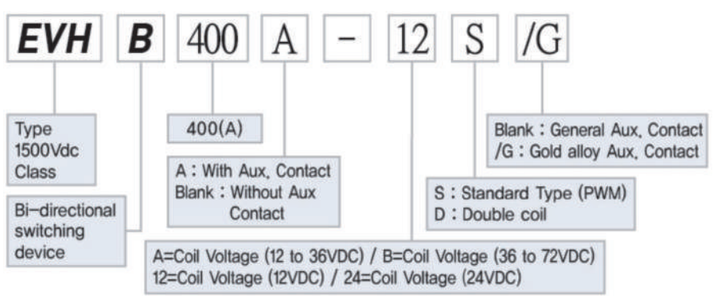
Nominal voltage(V)	Item	Inrush Coil current 150ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)	Remark
12S	12V	2.8A	0.45A	9VDC	6VDC	7.5VDC	18VDC	PWM economizer
24S	24V	1.4A	0.20A	18VDC	12VDC	15.0VDC	32VDC	
AS	12 to 36V	2.8A	0.11 to 0.45A	9VDC	6VDC	7.5VDC	36VDC	
12D	12V	4.4A	0.4A	9VDC	6VDC	7.5VDC	18VDC	Double coil economizer
24D	24V	2.8A	0.33A	18VDC	12VDC	15.0VDC	32VDC	

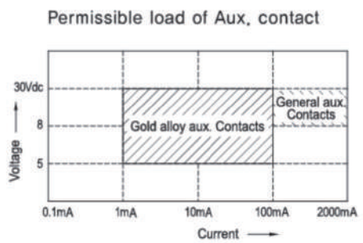
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load
	EVHB400
Max. Continuous current (wire size 300mm²)	400A
Max. switching current	600VDC 500A
	1000VDC 500A
	1500VDC 300A
Contact Rating switching voltages	12 to 1500VDC
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P. On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
General Aux. Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux. Contact Current, Min.	100mA 8VDC
Gold alloy Aux. Contacts Max. (Low level circuit type)	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux. Contacts Min. (Low level circuit type)	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





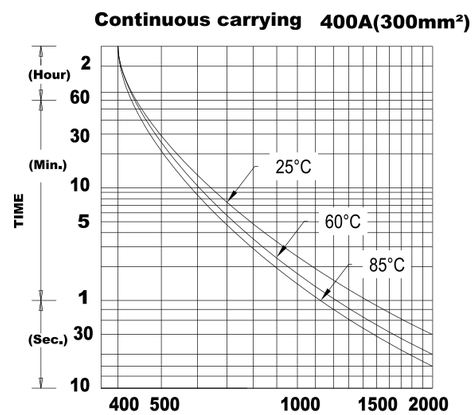
Characteristics (성능)

Expected life	Mechanical (Min.)		2×10⁵
	Electric (Min.) (Resistor)	1000VDC 60A	6×10³
		1250VDC 40A	6×10³
		1500VDC 30A	1×10³
Initial insulation resistance			Min. 200MΩ 1000VDC
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 40ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 10 to 500Hz
	Destructive		98 m/s² {10G} 10 to 500Hz
Conditions for operation, transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			840g

Reference data (특성곡선)

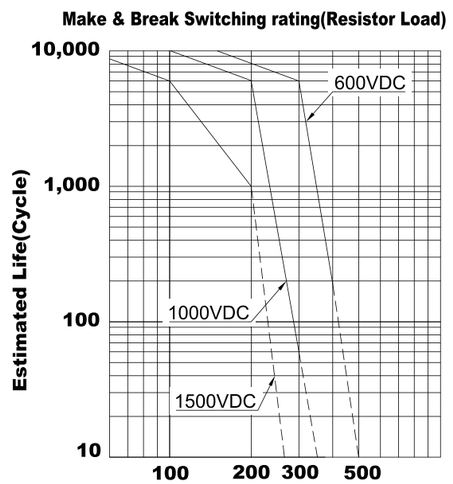
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선
(Estimated Switching Ratings)



접점전류(A), Load Current(A)

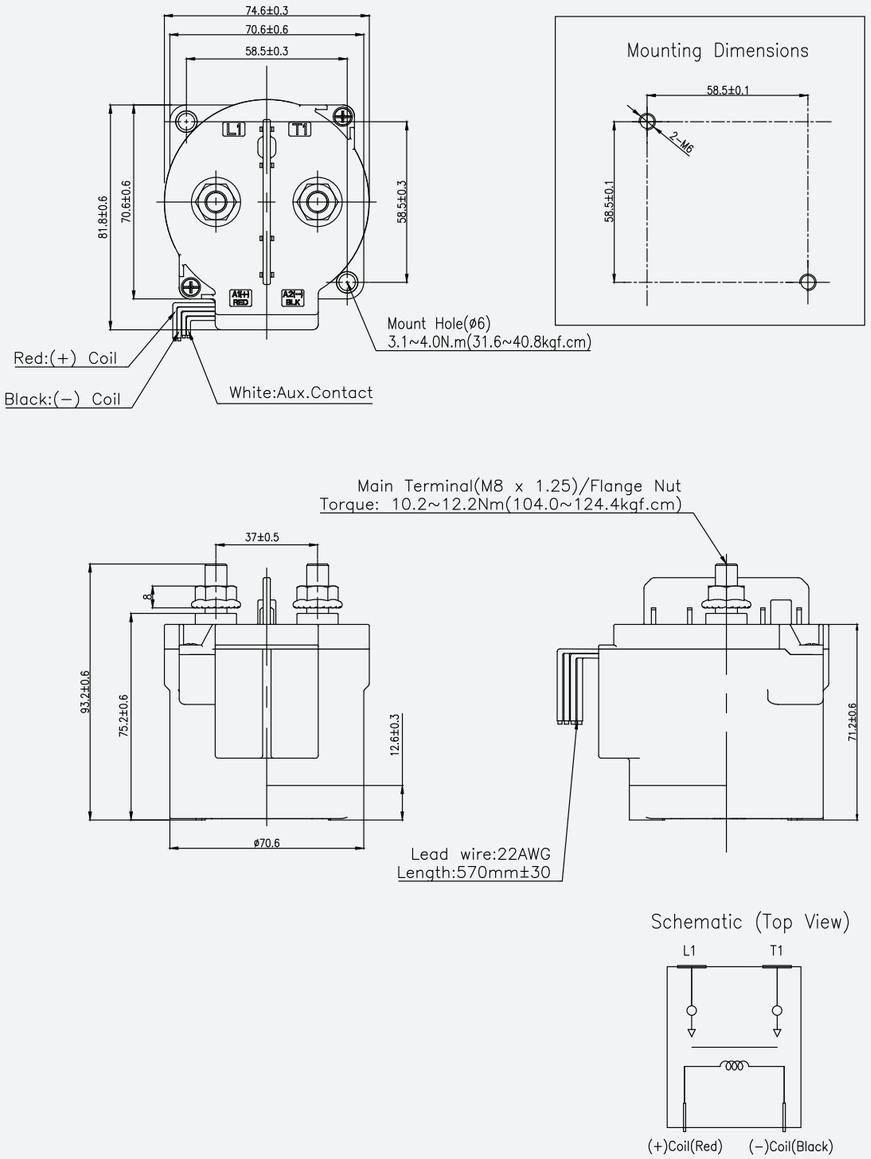
HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB400
(H: 1500V Class)



Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



DC HIGH VOLTAGE Bi-directional SWITCHING RELAY

EVHB500
(H: 1500V Class)



Application (응용분야) :

Electric Vehicle, Charging System, Battery Energy Storage System, Solar System, etc. Bi-directional switching systems and AC systems

Magnet coil ratings (코일정격)

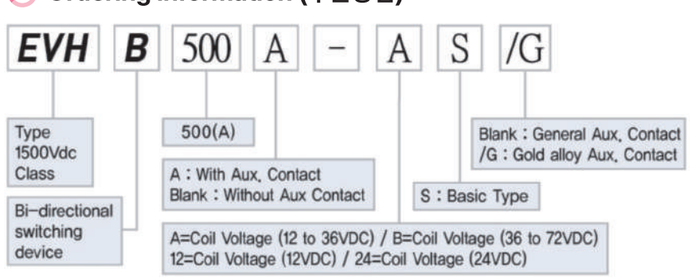
Nominal voltage (V) \ Item		Inrush Coil current 100ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)
B	72	1.3A	0.08A	32VDC	18VDC	22VDC	95VDC
	60	1.1A	0.08A				
	36	1.0A	0.12A				
A	36	3.8A	0.10A	9VDC	6VDC	7.5VDC	36VDC
	24	1.8A	0.16A				
	12	1.4A	0.35A				
12		1.4A	0.32A	9VDC	6VDC	7.5VDC	18VDC
24		1.1A	0.16A	18VDC	12VDC	13.5VDC	32VDC

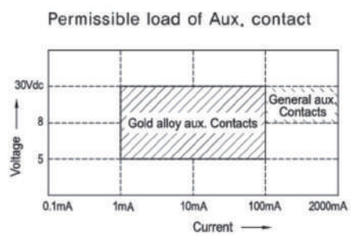
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load	
	EVHB500	
Continuous current (wire size 325mm²)	500A	
Max. switching current	750VDC 500A	UL Certification
	1000VDC 300A	
	1500VDC 100A	
Max. switching voltages	1500VDC / 1000VAC	
Contact Rating switching voltages	12 to 1500VDC / 1000VAC	
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)	
Min. permissible load	12VDC 0.5A	
Description	S.P On/Off (a)	
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)	
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC	
General Aux, Contact Current, Min.	100mA 8VDC	
Gold alloy Aux, Contact Current, Max.	0.1A 30VDC / 0.1A 30VAC	
Gold alloy Aux, Contact Current, Min.	1mA 5VDC / 1mA 5VAC	

Ordering information (주문방법)





DC HIGH VOLTAGE Bi-directional
SWITCHING RELAY

EVHB500

(H: 1500V Class)



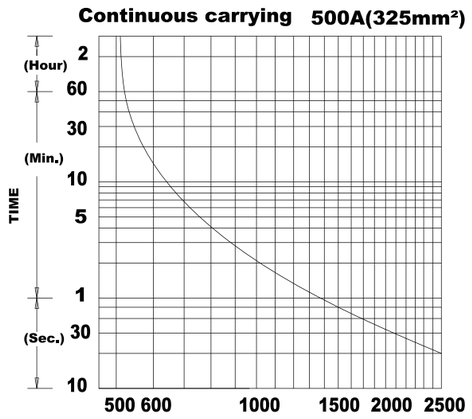
Characteristics (성능)

Expected life	Mechanical (Min.)		5×10^5
	Electric (Min.) (Resistor)	750VDC(+), (–) 500A	1×10^3
		1000VDC(+), (–) 300A	1×10^3
		1500VDC(+), (–) 100A	1×10^3
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 40ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		196 m/s² {20G} 80 to 2000Hz
	Destructive		196 m/s² {20G} 80 to 2000Hz
Conditions for operation, transport and storage	Ambient temperature		-40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			980g

Reference data (특성곡선)

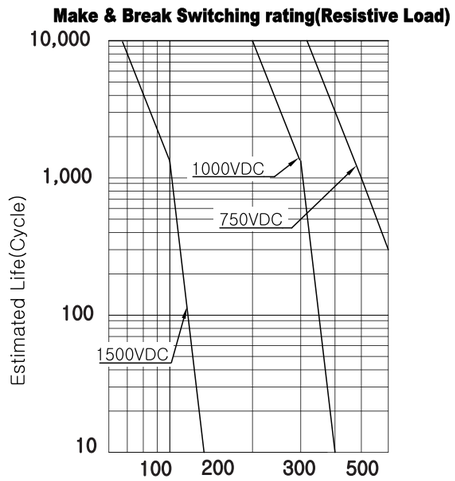
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선
(Estimated Switching Ratings)

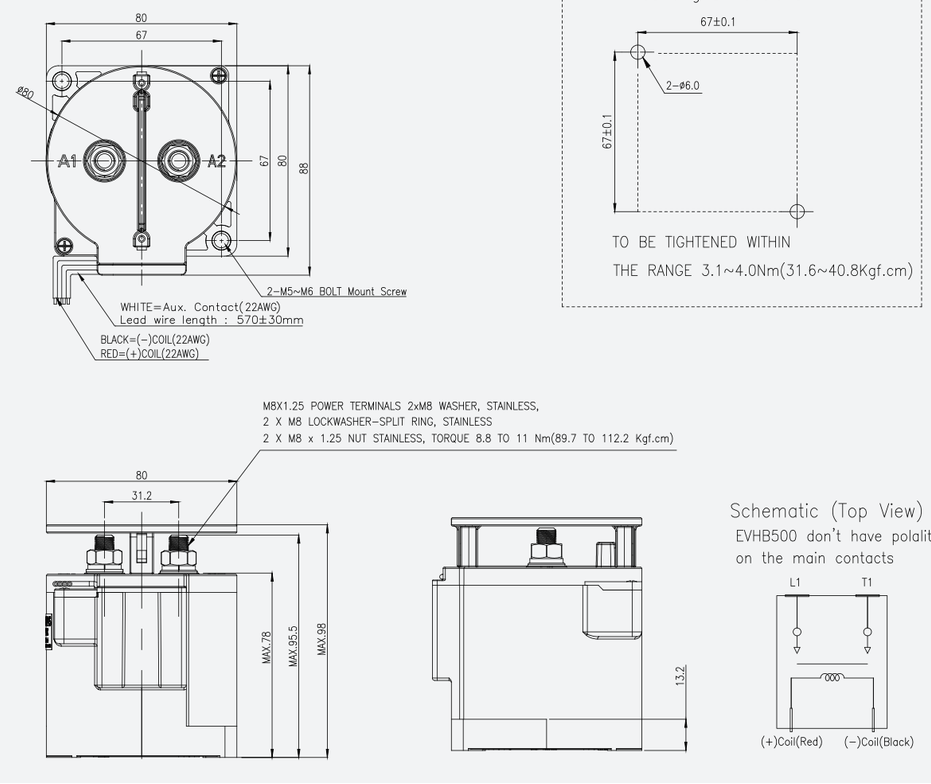


접점전류(A), Current(A)

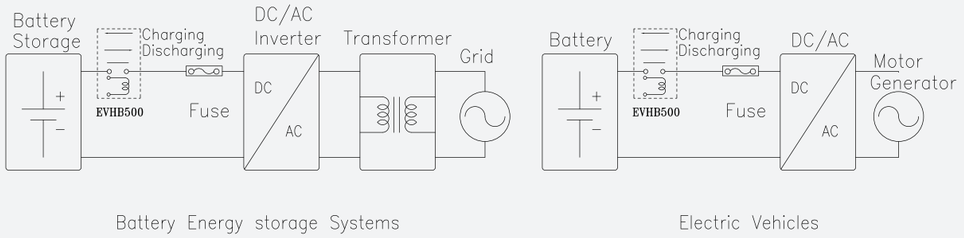
Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0

(Basic Type)



Application Circuit (응용 회로)



HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB500H
(H: 1500V Class)



Application (응용분야) : Electric Vehicle, Charging System, Battery Energy Storage System, Solar System, etc. Bi-directional switching systems and AC systems

Magnet coil ratings (코일정격)

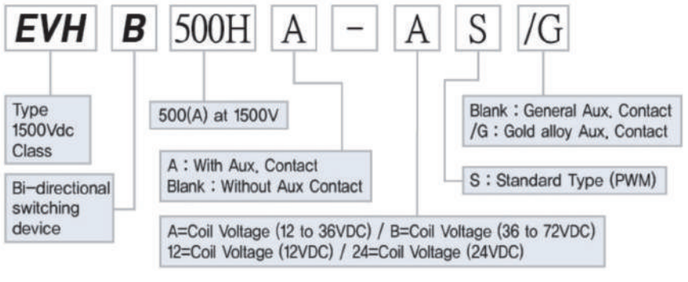
Nominal voltage(V) / Item		Inrush Coil current 150ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)	Remark
12S	12V	3.0A	0.4A	9VDC	6VDC	7.5VDC	32VDC	PWM economizer
24S	24V	1.4A	0.2A	18VDC	9VDC	9.0VDC	48VDC	
AS	12 to 36V	3.1A	0.4 to 0.2A	9VDC	6VDC	7.5VDC	48VDC	

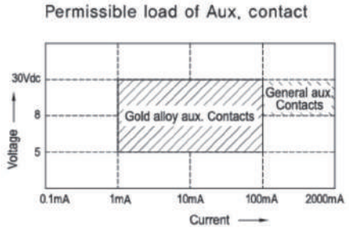
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at +20°C.

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVHB500H
Max. Continuous current (wire size 325mm²)	500A
Max. switching current	1000VDC 1000A
	1500VDC 800A
	400VDC 2000A
Max. switching voltage	1500VDC
Contact Rating switching voltages	12 to 1500VDC
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
General Aux. Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux. Contact Current, Min.	100mA 8VDC
Gold alloy Aux. Contacts Max. (Low level circuit type)	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux. Contacts Min. (Low level circuit type)	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





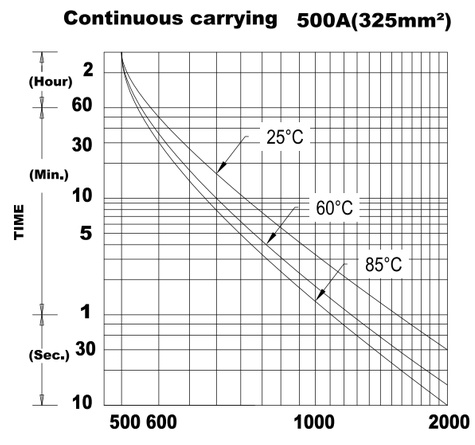
Characteristics (성능)

Expected life	Mechanical (Min.)		5×10⁵
	Electric (Min.) (Resistor)	1500VDC (+), (–) 150A	6×10³
		1500VDC (+), (–) 200A	2×10³
		1500VDC (+), (–) 500A	5×10
Initial insulation resistance			Min. 200MΩ 1000VDC
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 50ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 80 to 2000Hz
	Destructive		98 m/s² {10G} 80 to 2000Hz
Conditions for operation, transport and storage	Ambient temperature		–40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			1300g

Reference data (특성곡선)

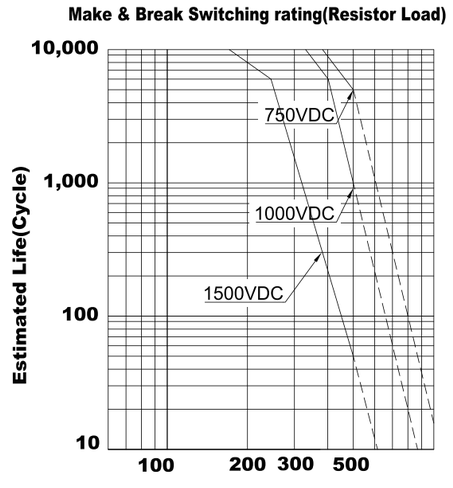
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선 (Estimated Switching Ratings)



접점전류(A), Load Current(A)

HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

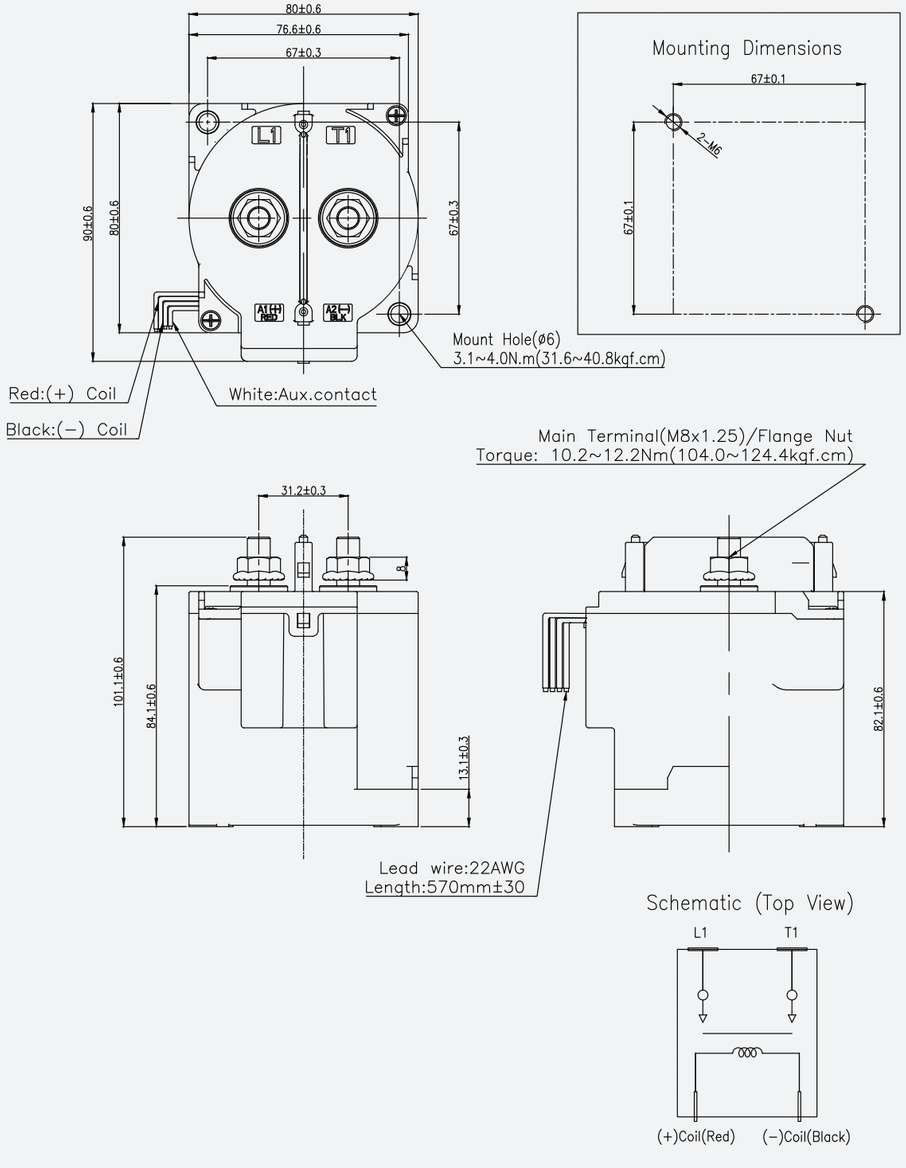
EVHB500H

(H: 1500V Class)



Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB520H



Application (응용분야)

Electric Vehicle, Charging System, Battery Energy Storage System, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

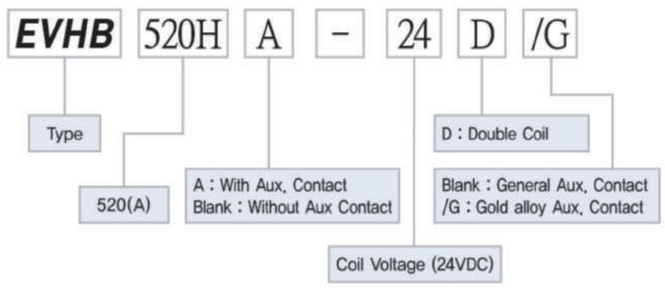
Nominal voltage(V) / Item		Inrush Coil current 150ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)	Remark
DC	24	3.2A	0.35A	18VDC	12VDC	12.5VDC	32VDC	Double coil Economizer

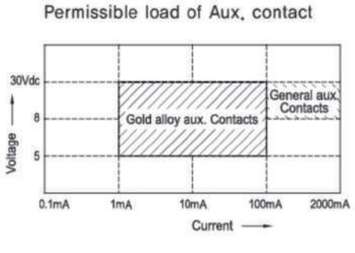
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coi temperature is measured at +20°C.

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVHB520H
Max. Continuous current (wire size 320mm²)	520A
Max. switching current	1000VDC 1200A
	1500VDC 800A
	850VDC 2000A
Max. switching Voltage	1500VDC
Contact Rating switching voltages	12 to 1500VDC
Voltage drop across contacts per 100A	100mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux, Contact Current, Min.	100mA 8VDC
Gold alloy Aux, Contacts Max. (Low level circuit type)	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux, Contacts Min. (Low level circuit type)	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB520H



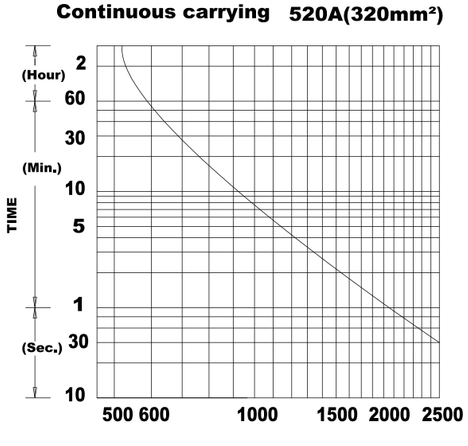
Characteristics (성능)

Expected life	Mechanical (Min.)		5×10^5
	Electric (Min.) (Resistor)	1000V DC(+), (–) 400A	1×10^3
		1500V DC(+), (–) 200A	6×10^3
		1500V DC(+), (–) 300A	1×10^3
Initial insulation resistance			Min. 100MΩ 1000VDC
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 50ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 196 m/s² {20G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 10 to 200Hz
	Destructive		98 m/s² {10G} 10 to 200Hz
Conditions for operation, transport and storage	Ambient temperature		-40°C to +80°C
	Humidity		5 to 85% R.H.
Unit weight			1300g

Reference data (특성곡선)

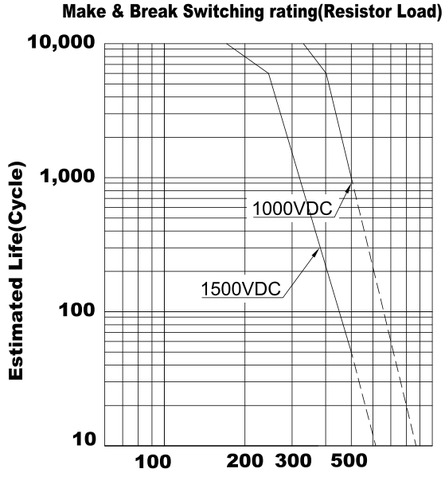
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

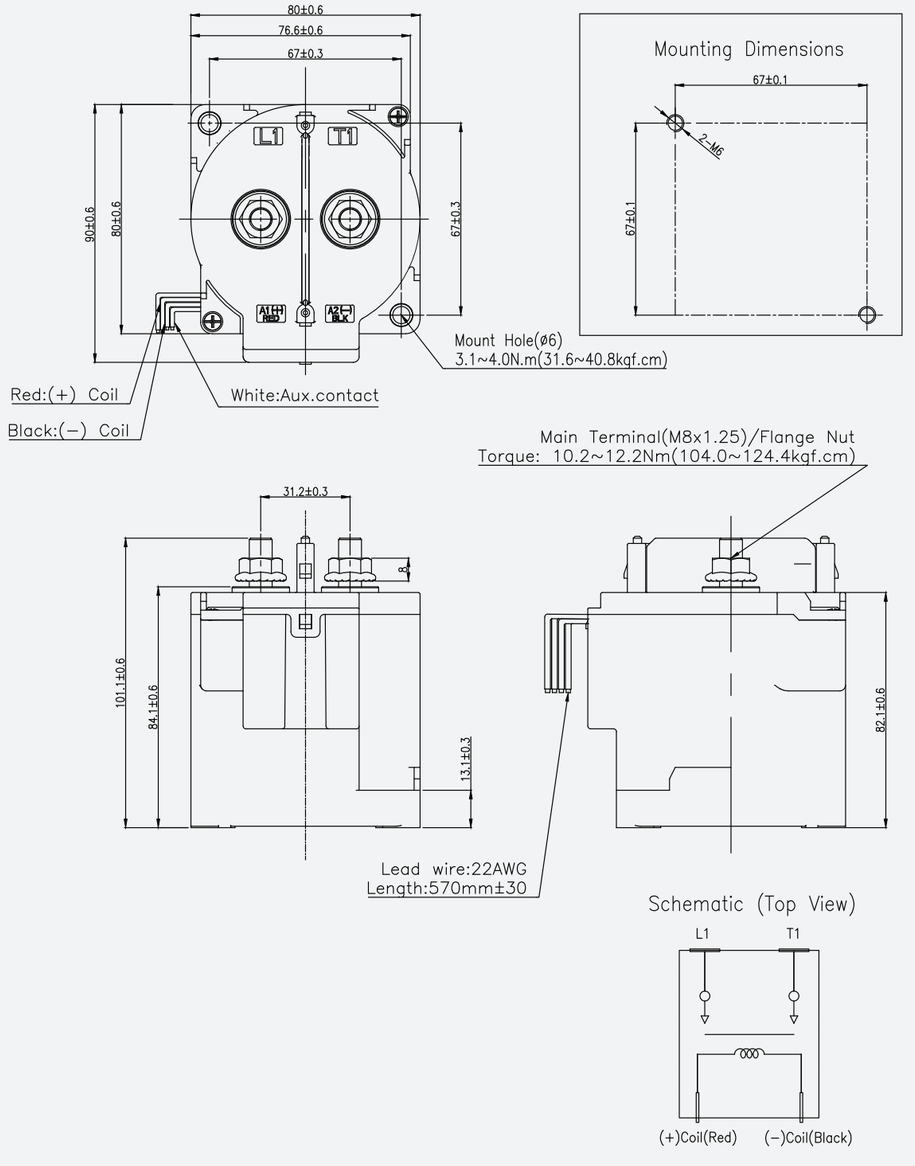
전기적 수명 곡선
(Estimated Switching Ratings)



접점전류(A), Load Current(A)

Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHB600



Application (응용분야)

Electric Vehicle, Charging System, Battery Energy Storage System, Fuel Cell Vehicle, etc.

Magnet coil ratings (코일정격)

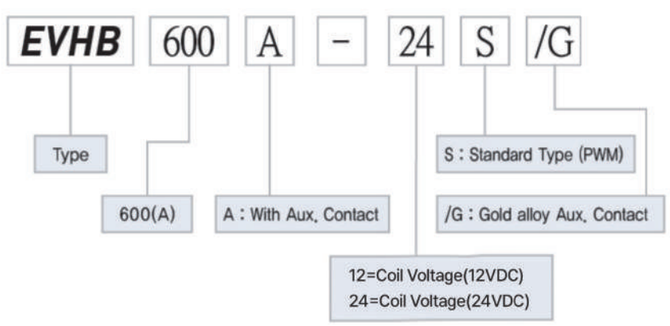
Item / Nominal voltage(V)		Inrush Coil current 200ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)	Remark
12S	12V	4.4A	0.49A	9VDC	6VDC	7.5VDC	18VDC	PWM Economizer
24S	24V	2.0A	0.25A	18VDC	9VDC	10VDC	32VDC	

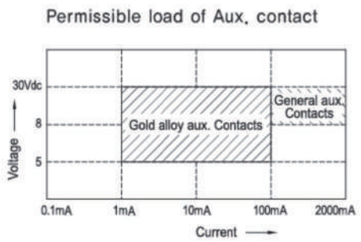
Notes : 1. Nominal current and coil resistance are measured at +20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coi temperature is measured at +20°C.

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVHB600
Max. Continuous current (wire size 370mm²)	600A
Max. switching capacity	1500VDC 1800A
Max. breaking capacity	1500VDC 2000A
Contact Rating switching voltages	12 to 1500VDC
Voltage drop across contacts per 100A	100mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
Gold alloy Aux. Contacts Max. (Low level circuit type)	0.1A 30VDC
Gold alloy Aux. Contacts Min. (Low level circuit type)	1mA 5VDC

Ordering information (주문방법)





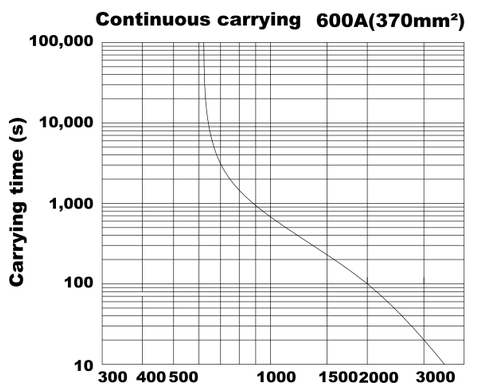
Characteristics (성능)

Expected life	Mechanical (Min.)		2×10^5
	Electric (Min.) (Resistor)	1500V DC (+),(–) 350A	6×10^3
		1500V DC (+),(–) 400A	1×10^3
		1500V DC (+),(–) 500A	5×10^2
		1500V DC (+),(–) 1,000A	20
Short circuit withstand current		1500Vdc 10,000A	5ms
Initial insulation resistance			Min. 200MΩ 1500VDC
Initial breakdown voltage	Between open contacts		5375VAC 60 Sec. 5mA
	Between contacts & coil		5375VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 60ms
Release time (at 20°C)			Max. 20ms
Shock resistance	Functional		Min. 98 m/s² {10G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		49 m/s² {5G} 10 to 500Hz
	Destructive		49 m/s² {5G} 10 to 500Hz
Conditions for operation, transport and storage	Ambient temperature		–40°C to +80°C
	Humidity		5 to 85% R.H.
Unit weight			2100g

Reference data (특성곡선)

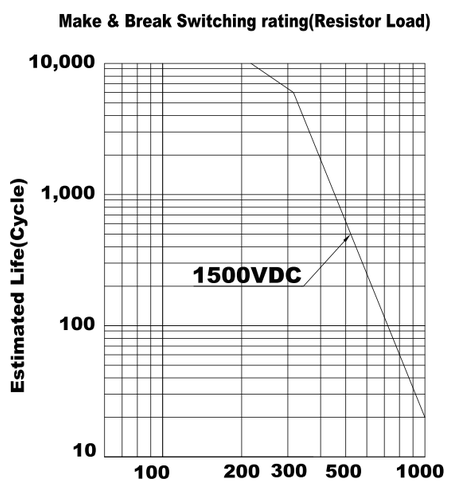
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선
(Estimated Switching Ratings)



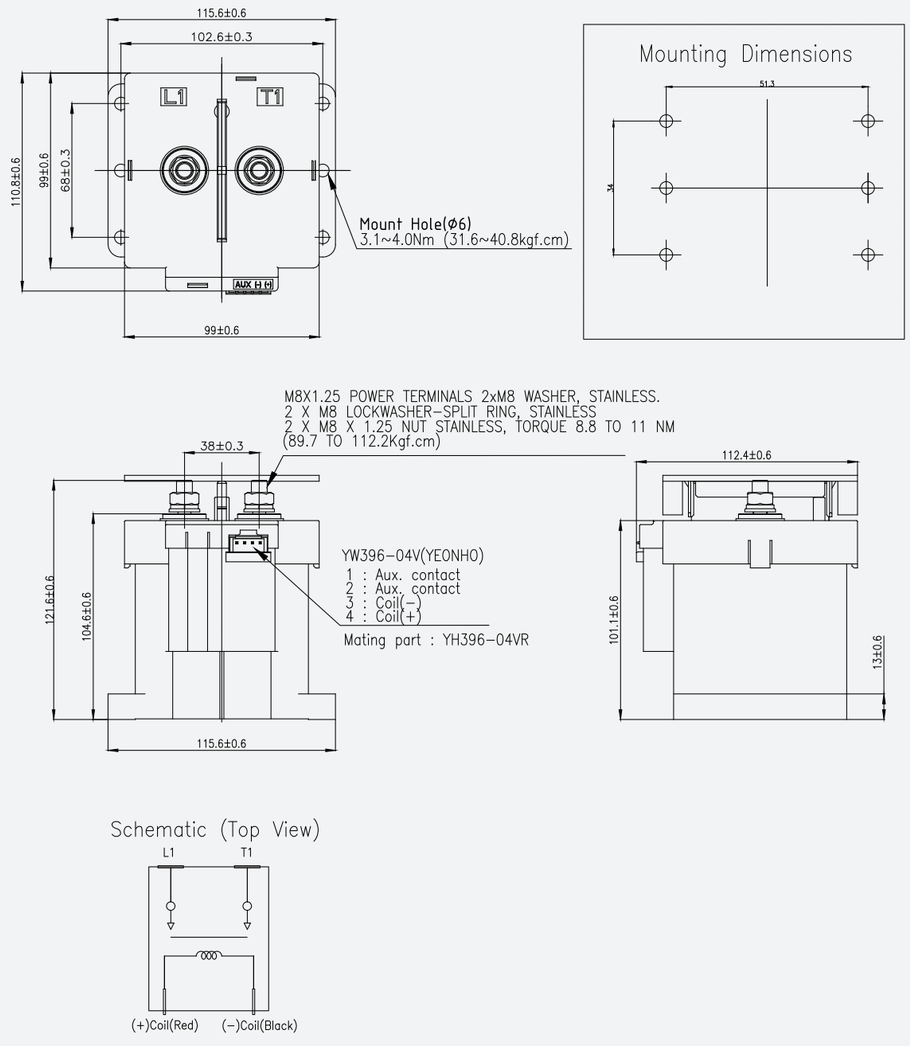
접점전류(A), Load Current(A)

HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)
EVHB600



Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)
EVHD500
(Double Switching Device)



Application (응용분야) :

Charging System, Battery Energy Storage System, Solar System, etc.
Bi-directional switching systems and AC systems

Magnet coil ratings (코일정격)

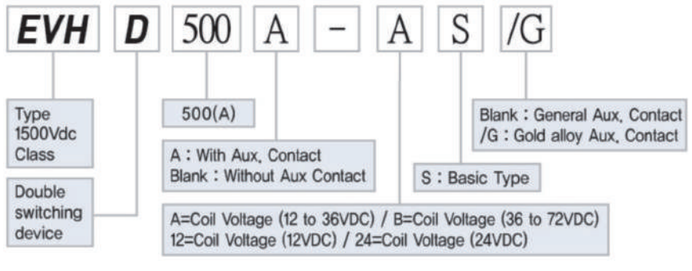
Item / Nominal voltage(V)		Inrush Coil current 150ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)
B	60	4.0A	0.2A	32VDC	18VDC	22VDC	60VDC
	48	3.8A	0.2A				
	36	3.0A	0.3A				
A	36	6.0A	0.4A	9VDC	6VDC	7.5VDC	36VDC
	24	6.0A	0.5A				
	12	6.0A	0.9A				
12		6.0A	0.9A	9VDC	6VDC	7.5VDC	18VDC
24		3.0A	0.45A	18VDC	12VDC	13.5VDC	32VDC

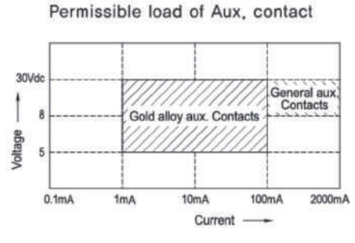
Notes : 1. Nominal current and coil resistance are measured at ±20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at ±20°C.

Contact ratings (접점정격)

Item / Type	2 Pole Resistor load	
	EVHD500	
Max. Continuous current (wire size 300mm²)	500A	
Max. switching current	1000VDC 500A (Series)	UL Certification
	1500VDC 400A (Series)	
Max. switching voltages	1500VDC	
Contact Rating switching voltages	12 to 1500VDC/AC	
Voltage drop across contacts per 100A	30mV Max. (At 5VDC) / Pole	
Min. permissible load	12VDC 0.5A	
Description	D. P On/Off (a)	
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)	
General Aux. Contact Current, Max.	2A 30VDC / 3A 125VAC	
General Aux. Contact Current, Min.	100mA 8VDC	
Gold alloy Aux. Contacts Max. (Low level circuit type)	0.1A 30VDC / 0.1A 30VAC	
Gold alloy Aux. Contacts Min. (Low level circuit type)	1mA 5VDC / 1mA 5VAC	

Ordering information (주문방법)





HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHD500

(Double Switching Device)



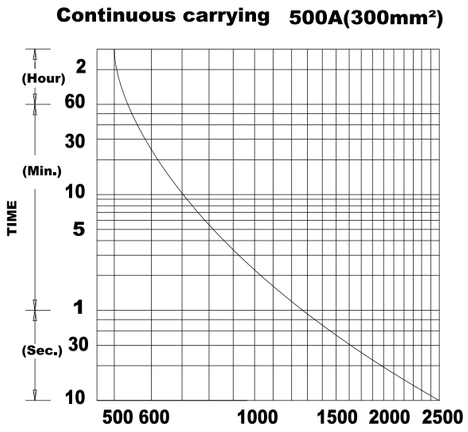
Characteristics (성능)

Expected life	Mechanical (Min.)		2×10^5
	Electric (Min.) (Resistor)	1000VDC (+),(–) 500A	2×10^3
		1500VDC (+),(–) 300A	6×10^3
		1500VDC (+),(–) 400A	1×10^3
Initial insulation resistance			Min. 200MΩ 1000VDC
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 50ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 98 m/s² {10G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 80 to 2000Hz
	Destructive		98 m/s² {10G} 80 to 2000Hz
Conditions for operation, transport and storage	Ambient temperature		–40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			2100g

Reference data (특성곡선)

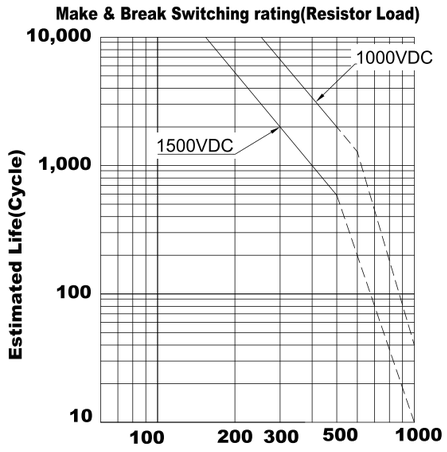
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선
(Estimated Switching Ratings)

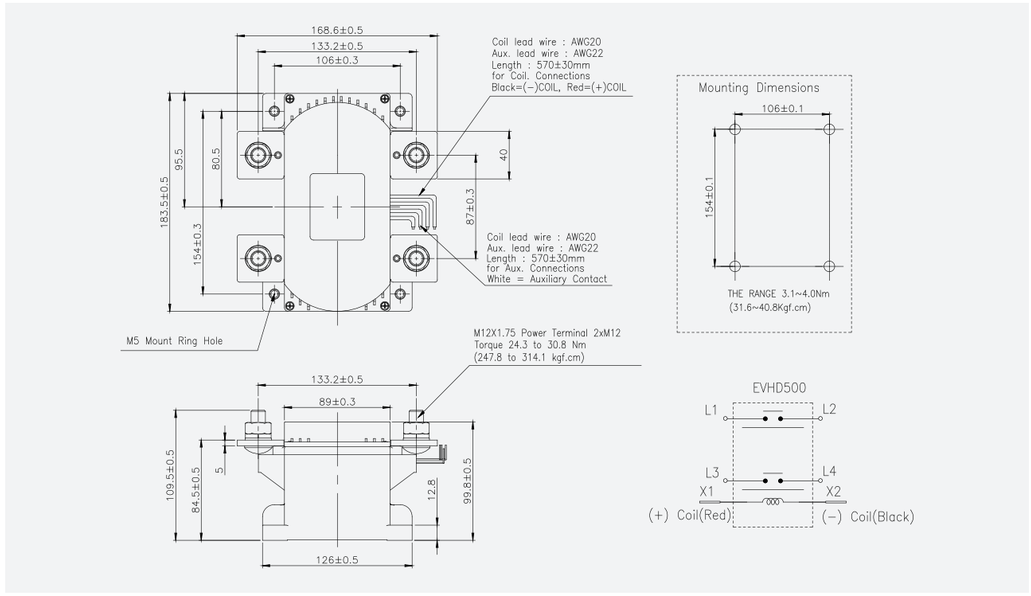


접점전류(A), Load Current(A)

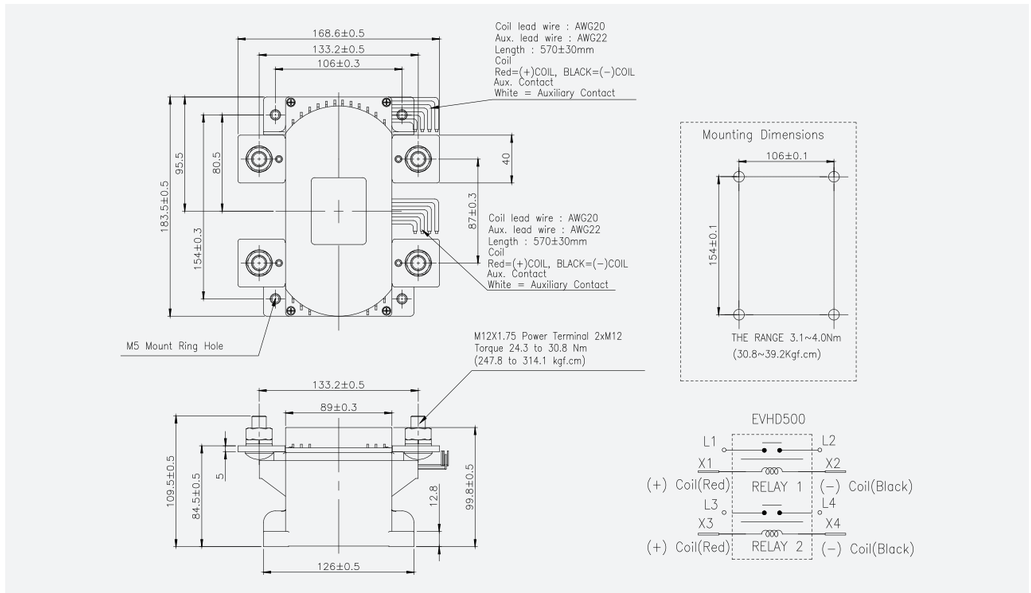
Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0

(Basic Type)



(Seperation Type)



HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

EVHD1000
(Double Switching Device)



Application (응용분야) : Charging System, Battery Energy Storage System, Solar System, etc.
Bi-directional switching systems and AC systems

Magnet coil ratings (코일정격)

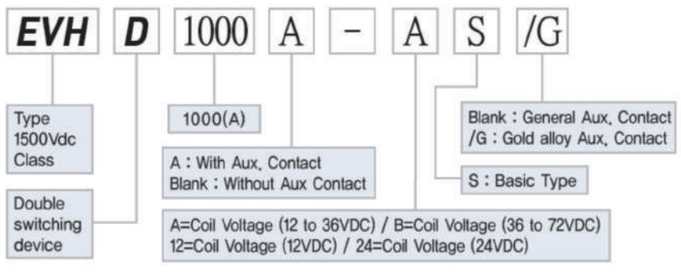
Nominal voltage(V) \ Item		Inrush Coil current 150ms (Max.)	Holding Coil current	Pick-up voltage (V) max.	Drop-out voltage (V) min.	Holding voltage (V) min.	Max. voltage (V)
B	60	4.0A	0.2A	32VDC	18VDC	22VDC	60VDC
	48	3.8A	0.2A				
	36	3.0A	0.3A				
A	36	6.0A	0.4A	9VDC	6VDC	7.5VDC	36VDC
	24	6.0A	0.5A				
	12	6.0A	0.9A				
12		6.0A	0.9A	9VDC	6VDC	7.5VDC	18VDC
24		3.0A	0.45A	18VDC	12VDC	13.5VDC	32VDC

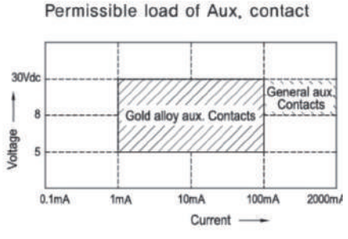
Notes : 1. Nominal current and coil resistance are measured at ±20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at ±20°C.

Contact ratings (접점정격)

Item \ Type	1 Pole Resistor load	
	EVHD1000	
Max. Continuous current (wire size 300mm²×2)	1000A	
Max. switching current	250VDC 1000A	UL Certification
	400VDC 800A	
Max. switching voltages	1500VDC / 1000VAC	
Contact Rating switching voltages	12 to 1500VDC	
Voltage drop across contacts per 100A	20mV Max. (At 5VDC)	
Min. permissible load	12VDC 0.5A	
Description	S.P On/Off (a)	
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)	
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC	
General Aux, Contact Current, Min.	100mA 8VDC	
Gold alloy Aux, Contacts Max. (Low level circuit type)	0.1A 30VDC / 0.1A 30VAC	
Gold alloy Aux, Contacts Min. (Low level circuit type)	1mA 5VDC / 1mA 5VAC	

Ordering information (주문방법)





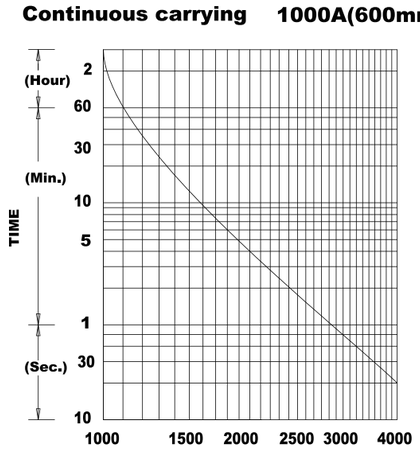
Characteristics (성능)

Expected life	Mechanical (Min.)		2×10⁵
	Electric (Min.) (Resistor)	250VDC (+),(–) 1,000A	2×10³
		400VDC (+),(–) 1,000A	1×10³
		800VDC (+),(–) 800A	100
Initial insulation resistance			Min. 200MΩ 1000VDC
Initial breakdown voltage	Between open contacts		4500VAC 60 Sec. 5mA
	Between contacts & coil		4500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 50ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 98 m/s² {10G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 80 to 2000Hz
	Destructive		98 m/s² {10G} 80 to 2000Hz
Conditions for operation, transport and storage	Ambient temperature		–40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			2100g

Reference data (특성곡선)

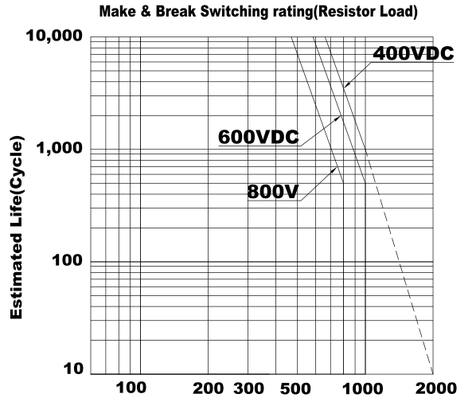
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선 (Estimated Switching Ratings)

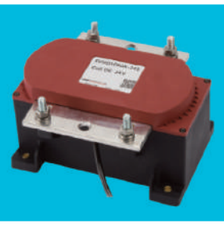


접점전류(A), Load Current(A)

HERMETIC SEALED DC CONTACTOR
(Bi-directional DC Contactor)

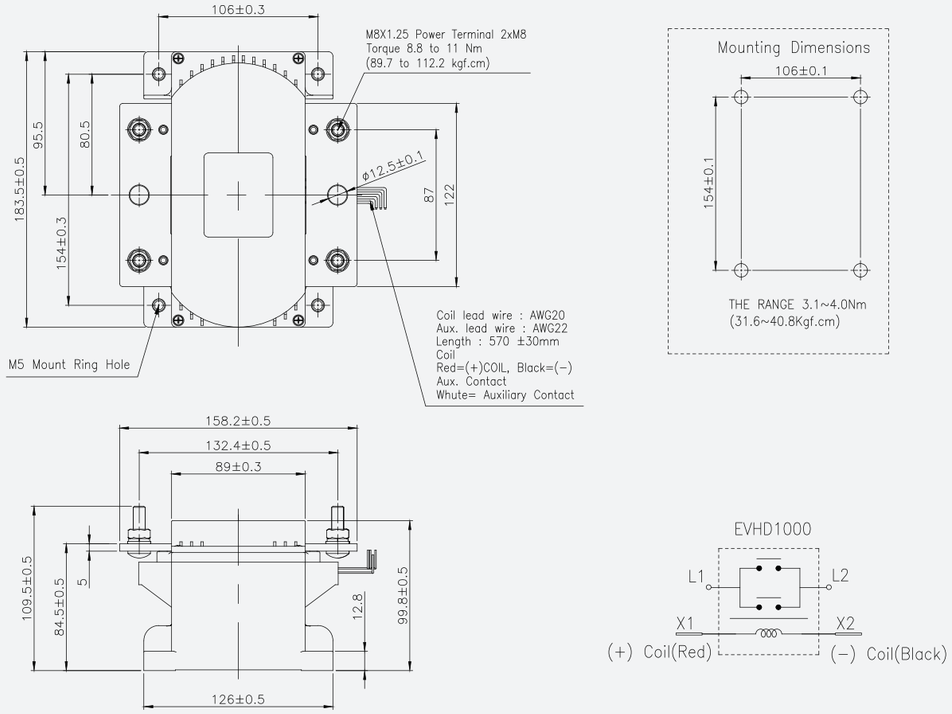
EVHD1000

(Double Switching Device)



Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



DC HIGH VOLTAGE

EV LATCH RELAY

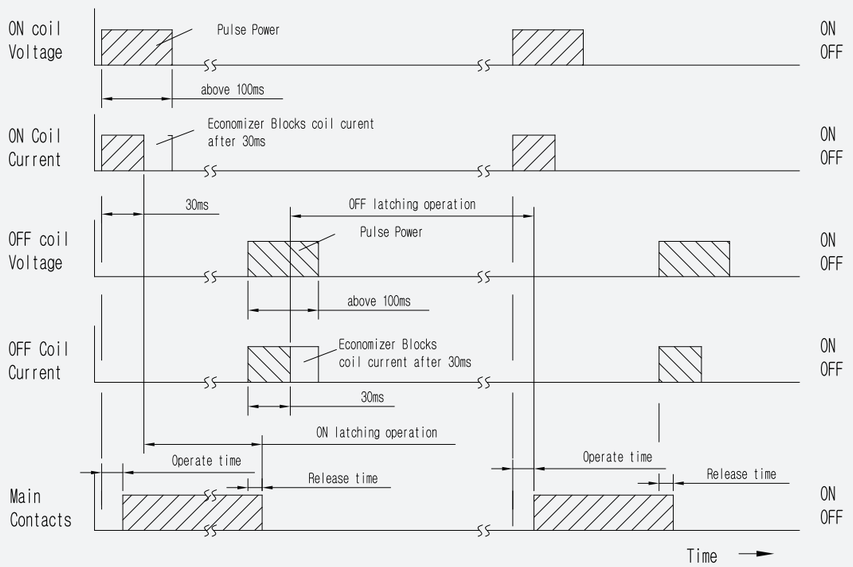


EV Latch Relay characteristics (EV LATCH Relay 특성)

1. Because EV Latch relay consumes electric power only 30ms in the Coil, when main contact moves On and Off, so you can save energy.
2. Because the EV Latch relay Coils doesn't consume electric energy at normal state, this product prevent a fault risks by high temperature.
3. When the power supply of coil is unstable, a malfunction of EV Latch relay does not occur.
4. Even if coil power is continuously supplied, the economizer blocks coil current after 30ms, so the economizer of EV Latch relay protects coil failure.

1. EV Latch Relay는 ON과 OFF시에 30ms 동안만 코일이 전력을 소모하기 때문에 에너지를 절약할 수 있습니다.
2. 코일은 상시 전력을 소모하지 않기 때문에 발열에 의한 고장을 방지합니다.
3. 전원 전압이 불안정한 사용환경에서 오동작이 없습니다.
4. 코일에 전원을 지속적으로 인가하여도 Economizer가 On/Off시에 30ms 동안만 전류를 흘리고, 그 이후에는 Coil에 전류를 차단합니다.

Timing Diagram of EV Latch Relay (EV Latch Relay 시간 특성)



DC HIGH VOLTAGE EV LATCH RELAY

EVL250



Application (응용분야) : Electric Vehicle, Charging System, Battery Energy Storage System, Solar System, Golf Car, Fuel Cell Vehicle, Helicopter, etc.

Magnet coil ratings (코일정격)

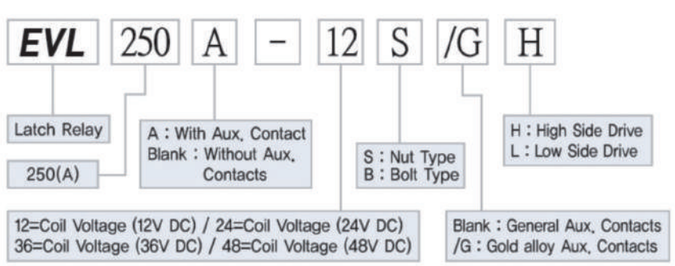
Item / Nominal voltage(V)	Inrush Coil current (Max.)	Pick-up Holding Time (ms)	Pick-up voltage(V)	Drop-out voltage (V)	Drop-out Time (ms)	Max. voltage (V)
12	2.5A	50 to 100ms	9.0VDC	9.0VDC	50 to 100ms	15VDC
24	1.5A	50 to 100ms	18.0VDC	18.0VDC	50 to 100ms	30VDC
36	1.0A	50 to 100ms	27.0VDC	27.0VDC	50 to 100ms	45VDC
48	0.75A	50 to 100ms	36.0VDC	36.0VDC	50 to 100ms	60VDC

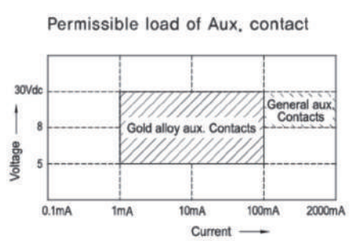
Notes : 1. Nominal current and coil resistance are measured at ±20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at ±20°C.

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVL250
Max. Continuous current (wire size 185mm²)	300A
Max. switching current	250A
Max. switching voltages	1000VDC 80A
Contact Rating switching voltages	12 to 1000VDC
Max. cut-off current	300VDC 1000A 10 Ops
	300VDC 1500A 3 Ops
C–R load (charging)	500V 1500A 4,000 Ops
	500V 500A 30,000 Ops
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST–NO.)
General Aux, Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux, Contact Current, Min.	100mA 8VDC
Gold alloy Aux, Contacts Max.	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux, Contacts Min.	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





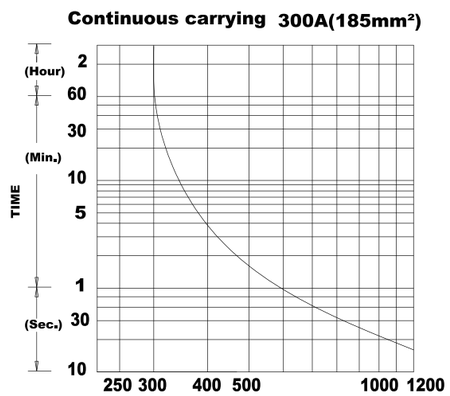
Characteristics (성능)

Expected life	Mechanical (Min.)		5×10⁵
	Electric (Min.) (Resistor)	450VDC 250A	6×10³
		250VDC 250A	1×10⁴
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		3500VAC 60 Sec. 5mA
	Between contacts & coil		3500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 10ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 147 m/s² {15G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 10 to 500Hz
	Destructive		98 m/s² {10G} 10 to 500Hz
Conditions for operation, transport and storage	Ambient temperature		–40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			460g

Reference data (특성곡선)

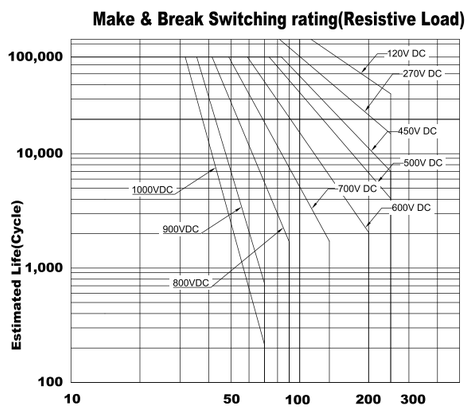
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



접점전류(A), Current(A)

전기적 수명 곡선 (Estimated Switching Ratings)



접점 전류(A), Load Current(A)

DC HIGH VOLTAGE EV LATCH RELAY

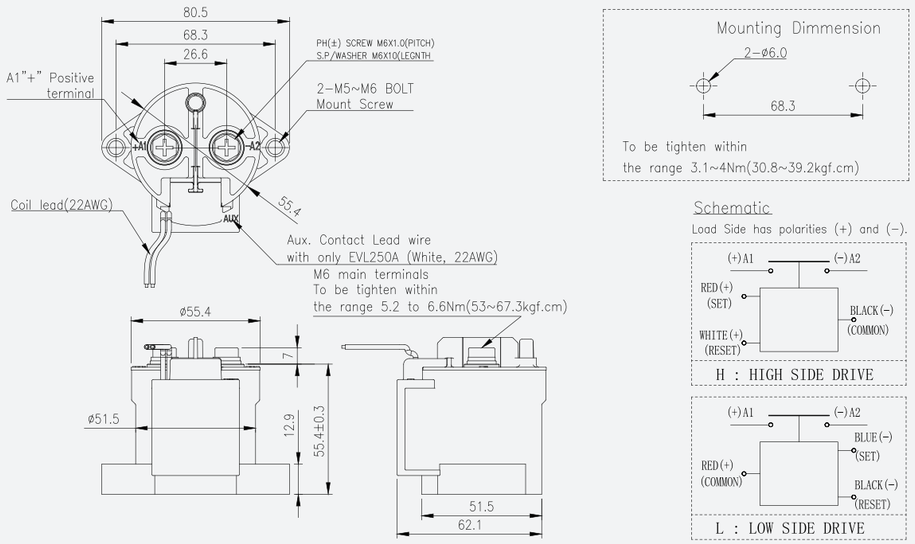
EVL250



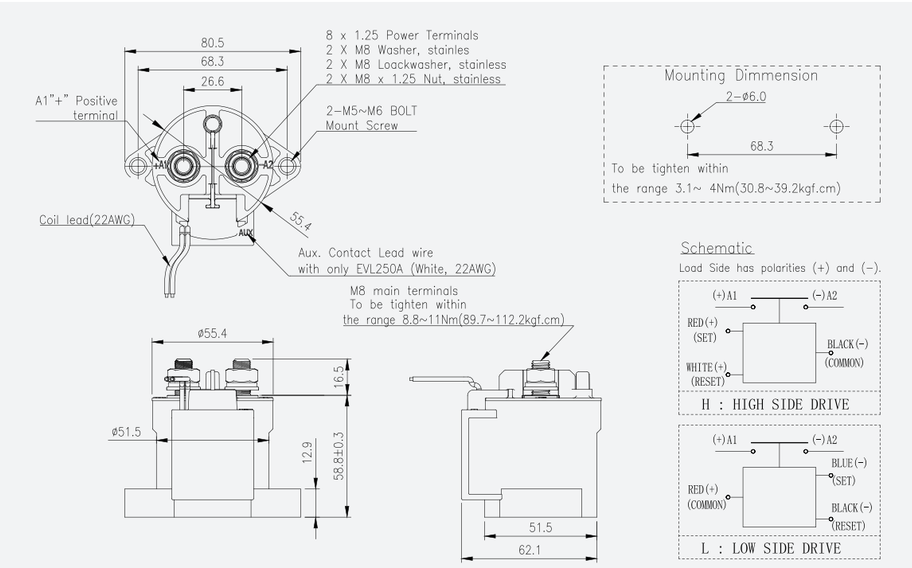
Dimension in mm (외형치수도)

Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0

(N : Nut Type)



(B : Bolt Type)



DC HIGH VOLTAGE EV LATCH RELAY

EVL350



Application (응용분야) :

Electric Vehicle, Charging System, Battery Energy Storage System, Solar System, Golf Car, Fuel Cell Vehicle, Helicopter, etc.

Magnet coil ratings (코일정격)

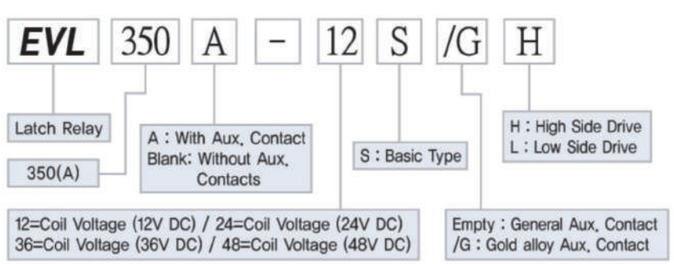
Item / Nominal voltage(V)	Inrush Coil current (Max.)	Pick-up Holding Time (ms)	Pick-up voltage (V)	Drop-out voltage (V)	Drop-out Time (ms)	Max. voltage (V)
12	2.5A	50 to 100ms	9.0VDC	9.0VDC	50 to 100ms	15VDC
24	1.5A	50 to 100ms	18.0VDC	18.0VDC	50 to 100ms	30VDC
36	1.0A	50 to 100ms	27.0VDC	27.0VDC	50 to 100ms	45VDC
48	0.75A	50 to 100ms	36.0VDC	36.0VDC	50 to 100ms	60VDC

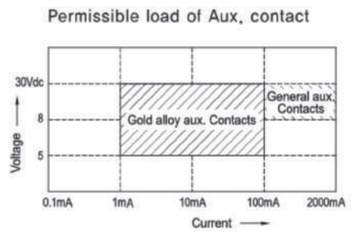
Notes : 1. Nominal current and coil resistance are measured at ±20°C. 2. Differences of coil resistance are ±10%.
3. Performance characteristic coil temperature is measured at ±20°C.

Contact ratings (접점정격)

Item / Type	1 Pole Resistor load
	EVL350
Max. Continuous current (wire size 100mm²×2)	350A
Max. switching current	350A
Max. switching voltages	900VDC
Contact Rating switching voltages	12 to 900VDC
Voltage drop across contacts per 100A	30mV Max. (At 5VDC)
Min. permissible load	12VDC 0.5A
Description	S.P On/Off (a)
Contact Arrangement, auxiliary contacts	1Form A (SPST-NO.)
General Aux. Contact Current, Max.	2A 30VDC / 3A 125VAC
General Aux. Contact Current, Min.	100mA 8VDC
Gold alloy Aux. Contacts Max.	0.1A 30VDC / 0.1A 30VAC
Gold alloy Aux. Contacts Min.	1mA 5VDC / 1mA 5VAC

Ordering information (주문방법)





DC HIGH VOLTAGE EV LATCH RELAY

EVL350

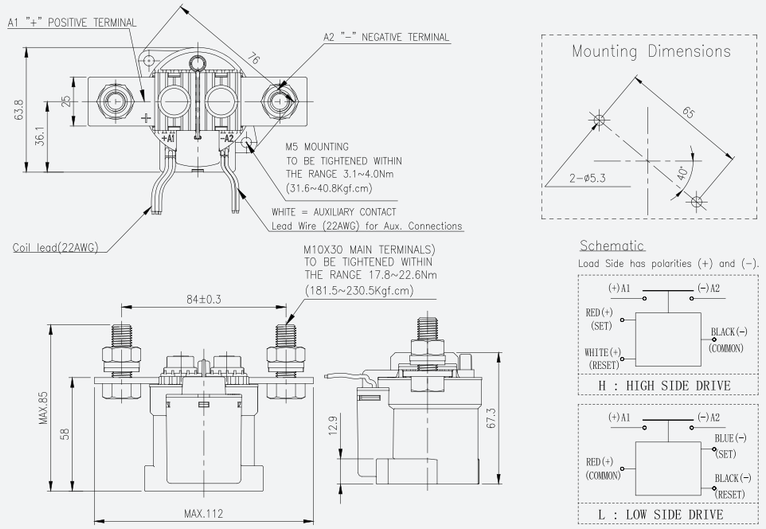


Characteristics (성능)

Expected life	Mechanical (Min.)		5×10^5
	Electric (Min.) (Resistor)	350VDC 350A	1×10^3
		250VDC 350A	1×10^5
Initial insulation resistance			Min. 100MΩ 500VDC
Initial breakdown voltage	Between open contacts		3500VAC 60 Sec. 5mA
	Between contacts & coil		3500VAC 60 Sec. 5mA
Operate time (at 20°C)			Max. 10ms
Release time (at 20°C)			Max. 10ms
Shock resistance	Functional		Min. 147 m/s² {15G}
	Destructive		Min. 490 m/s² {50G}
Vibration resistance	Functional		98 m/s² {10G} 10 to 500Hz
	Destructive		98 m/s² {10G} 10 to 500Hz
Conditions for operation, transport and storage	Ambient temperature		−40°C to +85°C
	Humidity		5 to 85% R.H.
Unit weight			610g

Dimension in mm (외형치수도)

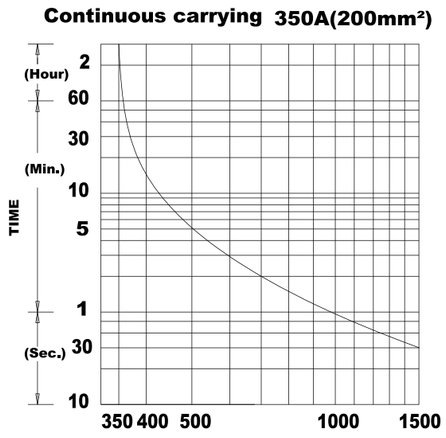
Tolerance(공차) : 10mm 이하±0.3, 10~50mm ±0.6, 50mm 이상±1.0



Reference data (특성곡선)

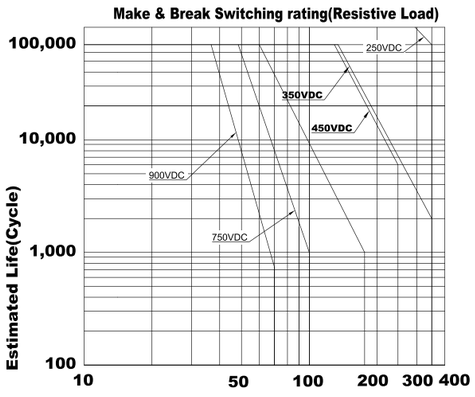
온도상승곡선

· 통전시간의 최대치 Max. Current capacity
Max. Continuous thermal current rating (amperes)



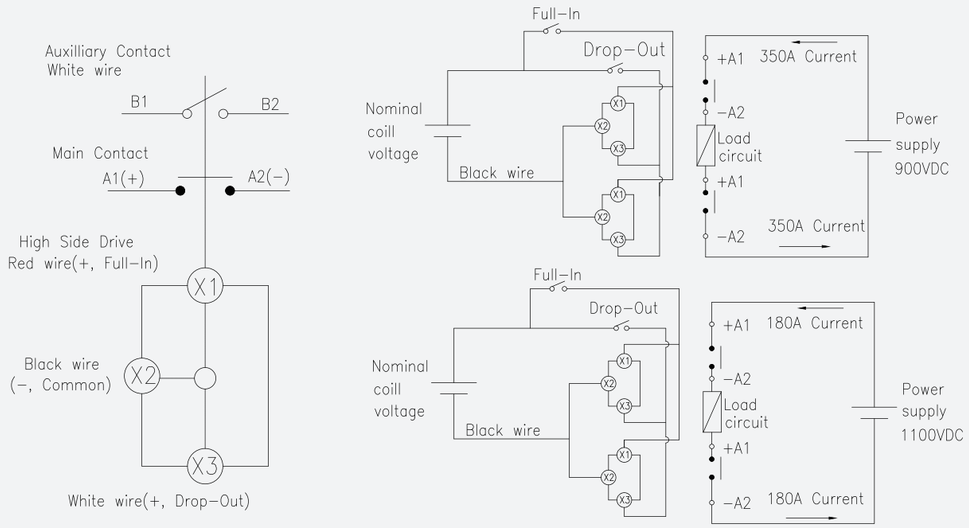
접점전류(A), Current(A)

전기적 수명 곡선
(Estimated Switching Ratings)



접점 전류(A), Load Current(A)

2 Pole wiring diagram of EVL350 (EVL350-2P 결선도)



PWM Unit



Function

The PWM unit flows inrush current for the relay operation and reduces the current flowing through the coil after a certain period of time. So it is an energy saving device.

Application load

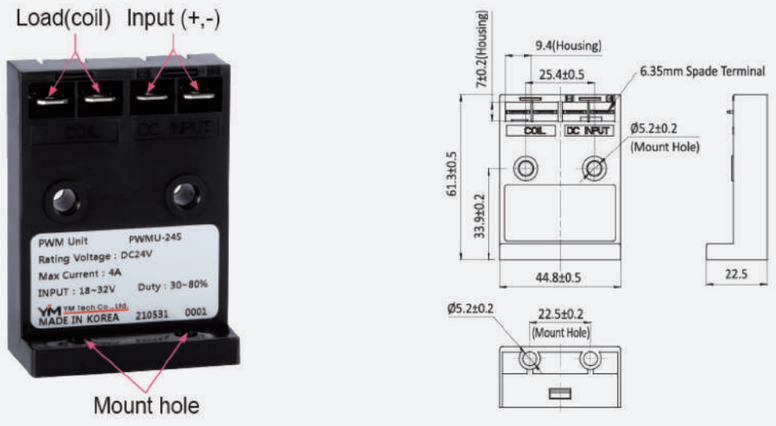
CTT200, EVR10, EVR50, EVR100, EVHB100

Magnet coil ratings (코일정격)

Model	Input (Vdc)	Max. Current	Duty (%)	동작 전압	개방 전압	Inrush Time
PWMU-12S	9 to 18Vdc	4A	20 to 100	9V ±1V	6V ±1V	Below 200ms
PWMU-24S	18 to 32Vdc	4A	30 to 100	18V ±1V	12V ±1V	
PWMU-48S	36 to 60Vdc	4A	40 to 100	33V ±1V	18V ±1V	

Connection and attachment method

Tolerance(공차) : 10mm 이하 ±0.3, 10~50mm ±0.6, 50mm 이상 ±1.0



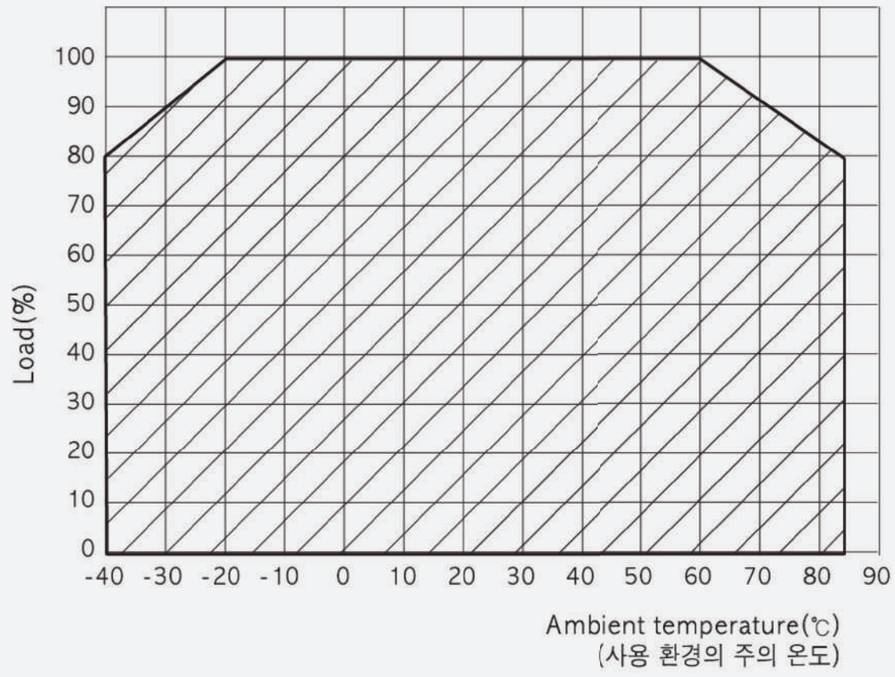
EV Latch Relay characteristics (EV LATCH Relay 특성)

1. To prevent electric collision and electric shock, make a connection when the input power is off.
2. If there is a short circuit in the coil, the PWM unit may occur a failure.
3. In order to use the PWM unit, please sufficiently verify EMC, mechanical vibration and shock.

Contact De-rating factor :
Ambient temperature

De-rating

Contact De-rating factor : Ambient temperature
(EVR Relay의 온도에 따른 주접점의 De-rating 계수)



De-rating factor of altitude
(EVR Relay의 고도에 따른 De-rating 계수)

Altitude	Derating factor	
	Rated Operating Voltage	Continuous Current
1000m	1.00	1.00
2000m	0.90	0.98
3000m	0.80	0.96
4000m	0.72	0.94

Power Supply and Wire Length Conductor Thickness under Main Terminal

Power Supply and Wire Length

No.	Model	Coil Voltage (V)	Inrush current (A)	Wire resistance (Ω) 이내	Terminal Voltage (V) 이상	Power Supply (VA)
1	EVR250	12	2.4	0.625	10.5	30
2	EVR250	24	1.3	2.308	21.0	30
3	EVR400, EVR600	12	1.2	1.250	10.5	15
4	EVR400, EVR600	24	0.6	5.000	21.0	15
5	EVH400	12	2.8	0.536	10.5	36
6	EVH400	24	1.4	2.143	21.0	36
7	EVH600	12	3.0	0.500	10.5	36
8	EVH600	24	1.4	2.143	21.0	36
9	EVH750	12	3.0	0.500	10.5	36
10	EVH750	24	1.4	2.143	21.0	36
11	EVHB400	12	3.0	0.500	10.5	36
12	EVHB400	24	1.4	2.143	21.0	36
13	EVHB500	12	1.4	1.071	10.5	20
14	EVHB500	24	1.1	2.727	21.0	25
15	EVHD1000	12	2.5	0.600	10.5	30
16	EVHD1000	24	2.2	1.364	21.0	50

Permissible Conductor Thickness for Connecting under Main Terminal

No.	Model	Minimum thickness (mm)	Maximum thickness (mm)
1	EVR50	0.7	4.3
2	EVR100-□□S	0.7	4.5
3	EVR150-□□S	0.7	4.5
4	EVR250-□□S	1.0	3.0
5	EVR250-□□B/EVHB200/EVHB250	1.0	7.5
6	EVR400-□□S	1.0	6.0
7	EVH400	1.0	8.0
8	EVH750	1.0	8.0
9	EVHB400	1.0	8.0
10	EVHB500	1.0	5.0
11	EVHB500H	1.0	7.0

Product Features 제품의 특징

EV Relay Features

1. As YM Tech EV Relay is a closed-type relay, it completely removes oxygen and organic compound emissions inside and prevents the contact from being oxidized and carbonized, which keeps the contact reliability as brand-new all the time.
2. As an Arc is not erupting with closed type (IP67), it is not likely to be ignited and can be safely used in harmful environments.
3. This YM Tech EV Relay's using voltage is a direct 450V, which is the highest among relays of the same kind. At rated current, its electrical life is the longest out of the same kind of relays.
4. As for ones over EVR100, an auxiliary contact is built in order to check the movements of relay and be able to use for communication.
5. As for ones over EVR400, an energy saving circuit is equipped to save electric power consumed in coils, which contributes to raising the efficiency of electric vehicles.
6. For EVL350, it only supplies approximately 30mS' energy to coils and shuts off automatically, only when moves such as opening and inserting are observed. And a Latch mechanism which doesn't consume any energy in coils at ordinary state is built, and is regarded as the first design of EV Latch Relay. Furthermore, although power is continuously supplying when in motion and returning, the inside circuit judges itself and supplies only necessary energy for 30mS' movements and returning, and then automatically shuts off which doesn't need an extra control circuit. It is suitable for direct switching of solar panels and can be controlled by On and Off at a long distance. This is an eco-friendly latch relay fit for controlling the batteries of energy charging/discharging.
7. As the terminal connected to wires isn't affected by high temperature, it is solid and there is no failure risks of abrasion and breakage etc.

1. YM Tech EV 릴레이는 밀폐형 릴레이로 내부에 산소 및 유기가스를 완전히 제거하여 접점의 산화 및 탄화를 방지하여 언제나 신품 같은 접촉 신뢰성을 유지합니다.
2. 밀폐형(IP67) 등급으로 아크가 분출되지 않기 때문에 접화 가능성이 유해한 환경에서 안전하게 사용 가능합니다.
3. YM Tech EV 릴레이는 사용 전압이 직류 450V로 동종 릴레이 중 가장 높고, 정격 전류에서 전기적 수명이 동종 릴레이 중 가장 긴 것이 YM Tech 릴레이의 특징입니다.
4. EVR 100 이상은 릴레이의 동작을 확인하고, 통신에 활용할 수 있도록 보조 접점을 내장하였습니다.
5. EVR 400 이상은 코일에서 소모하는 전력을 절감하기 위하여 에너지 saving 회로를 채용하여 전기 자동차의 효율을 높이는데 기여합니다.
6. EVL350은 투입과 개방 동작 시에만 코일에 약 30mS의 에너지만 공급하고 자동 차단합니다.
   유지 상태는 코일에서 에너지를 전혀 소비 안하는 래치 메커니즘을 장착하였으며, EV 래치 릴레이 최초의 설계입니다.
   또한, 동작, 복귀 시 제측 전원이 필요도 내부의 회로에서 판단하여 30mS의 동작과 복귀에 필요한 에너지만 공급하고, 자동 차단되며 별도의 제어회로가 필요 없습니다.
   태양광 발전 펌의 직류 스위칭에 적합하고, 원격에서 On·Off가 가능하며, 에너지 충·방전용 배터리 제어에 적합한 친환경적인 래치 릴레이입니다.
7. 전선을 연결하는 단자는 고온에 열화 되지 않으며, 고강하고 마모·피삭에 우수한 재질입니다.



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