CHV500 Series
HVDC Contactor 500A / 1500VDC

- HVDC 900A carry current (90s)
- Max. switching current = 2500A / 800VDC
- Contacts sealed in inert gas
- Magnet arc blowout
- Non-polarized power terminals
- Ceramic arc chamber
- Dual coil economiser as standard
- Auxiliary contact as standard

UK CA CE c UL us E305753 RoHS Compliant

Contacts

Contact arrangement		SPST-NO-DM
Contact material		Oxygen Free Copper
Max. switching voltage	AC/DC	1500VDC
Rated load (resistive, cos φ=1)	DC1	500A 1500VDC (break only above 350A)
Max. continuous thermal current at 23°C ambient temperature	300s	750A (with 300mm² conductors)
	90s	900A (with 300mm² conductors)
	5ms	8000A (with 300mm² conductors)
Max switching current (1 time only)	V DC	800V: 2500A / 1000V: 2000A / 1500V: 1000A
Initial contact resistance	max.	0.3mΩ @ 20A / 6VDC
Auxiliary contact	arrangement	SPST-NO (1 Form A) (SPST-NC by request)
	max. current	2A @ 24VDC / 3A @ 125VAC
	min. current	100mA @ 8VDC

Coil

Nominal voltage (see page 2)	DC	12VDC, 24VDC (with dual coil economiser)
Rated power consumption	hold	<5W

Insulation

Insulation resistance	initial	≥ 1000MΩ (Min.) (1000VDC, 1 minute)
Dielectric strength	coil to contact	4000Vrms / ≤1mA / 1 min (at sea level)
between main contacts, main & aux contacts		4000Vrms / ≤1mA / 1 min (at sea level)
between open auxiliary contacts		750Vrms / ≤1mA / 1 min (at sea level)

General Data

Operate time at 23°C	max.	50ms (+ 5ms bounce time)
Release time at 23°C	max.	30ms
Electrical life	ops.	Voltage and current dependent - see fig. 1
Mechanical life	ops.	>2 x 10^5
Capacitive make	(RC=1ms)	10,000 cycles, 500A peak at 50V

Environmental

Ambient temperature	operating	-40 to +85°C
Relative humidity		5 to 85% RH
Altitude		≤4000m (derate by 0.83 between 3000 & 4000m)
Shock resistance	impact	>50G, 490m/s² 6ms ½ sine
	stabilty	>20G, 11ms ½ sine (malfunction <10µs)
Vibration resistance	sine wave	>5G, 49m/s², 10Hz ~ 500Hz (malfunction <10µs)
Dimensions	L x W x H	104 x 70 x 108.1mm (max.)
Weight	approx.	1100g

Ordering Code

C H V 5 0 1

- Series
- Power Terminals
  - 0: Female M6 (standard)
  - 1: Male M8 stud
- Coil voltage
  - 1: 12VDC
  - 2: 24VDC

Specifications are subject to change without notice. E&OE.

Coil Data — Table 1

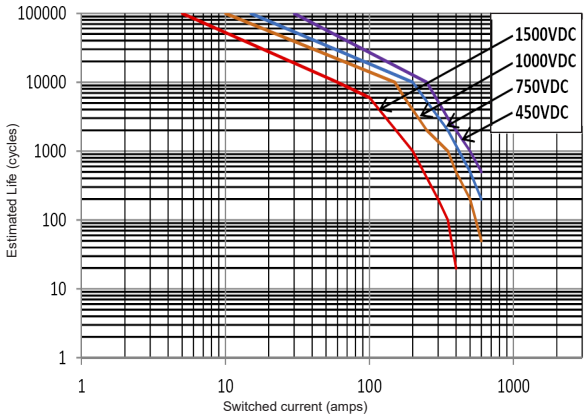
Order code	Nominal voltage (VDC)	Must operate voltage max. (VDC)	Max. allowable voltage (VDC)	Must hold voltage max.* (VDC)	Must release voltage min. (VDC)	Inrush Current ±10% (A)	Hold Current ± 10%(A)	Rated Coil Power
CHV501 CHV511	12.0	9.0	16.0	7.8	1.2	4.2	0.42	5W (Hold)
CHV502 CHV512	24.0	18.0	32.0	15.6	2.4	2.1	0.21	50W, 0.2s (Operate)

Twin coil economiser standard. No additional coil back emf suppresion required. Other coils available upon special request.

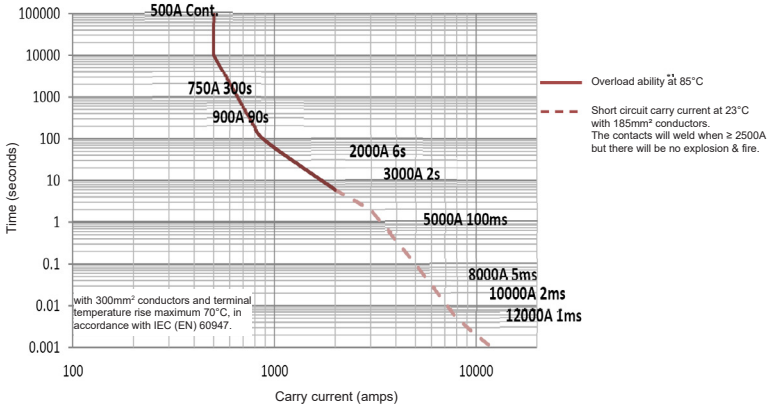
* Max. Non-release voltage @ 85ºC and max. continuous current load, pre-energized at 1.1Un

Electrical Performance — Fig. 1

Estimated Life

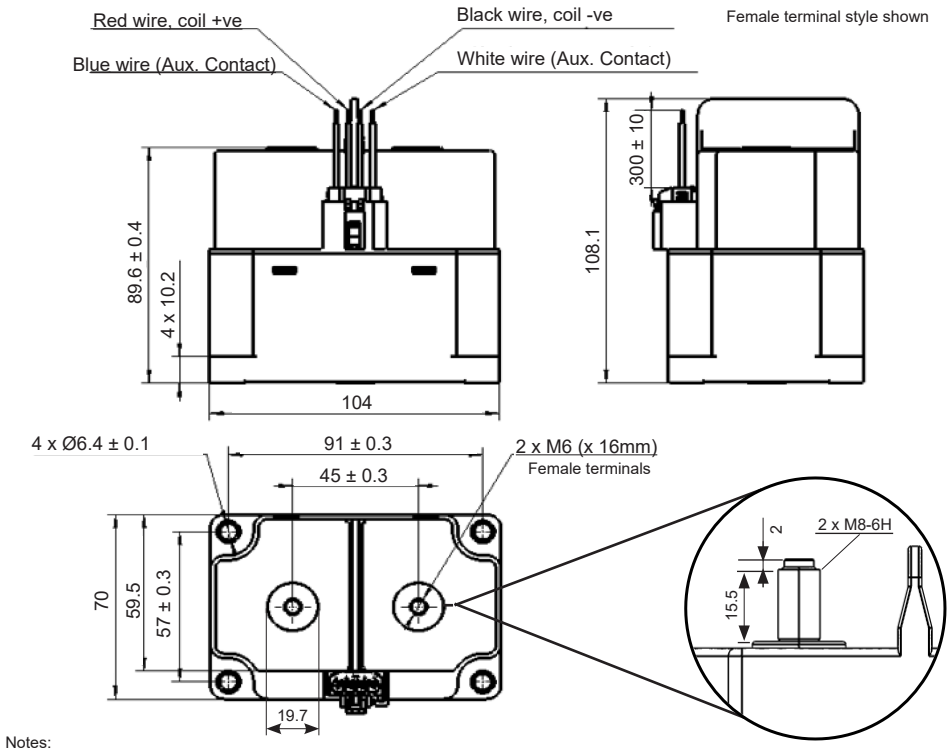


Endurance



Estimates are based on tests and extrapolated data.
The user is advised to confirm the performance in their application.

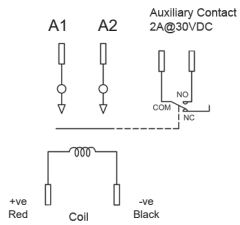
Dimensions — Fig. 2



Male stud terminals
(nuts and washers not supplied)

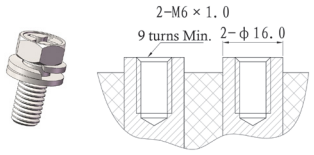
Notes:
1: Note coil polarity
3: Nominal dimensions in mm.
4: Tolerances (nominal), <10mm: ± 0.3mm, 10 ~ 50mm: ± 0.6mm, >50mm:±1.0mm.
5. Coil & auxiliary wire length = 300mm
6: Coil wire length and terminations can be customized upon request.

Circuit Diagram — Fig. 3



Contact terminals are not polarised.

Coil terminals are polarised.



Female Power Terminals (standard)
Recommended Terminal Screws (not supplied):
M6 x 1 x 14mm
M6 spring washer
M6 flat washer

Recommended conductor: 300mm²

Torque settings
Terminals: 9.0-12.0Nm
Base Mounting: 1.8 to 3.5Nm

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