CHV400 Series
HVDC Contactor 400A / 1500VDC



- HVDC 900A carry current (120s)
- Max. switching current = 2500A / 800VDC
- Contacts sealed in inert gas
- Magnet arc blowout
- Non-polarised 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	400A 1500VDC (break only above 350A)
Max. continuous thermal current at 23°C ambient temperature	120s	750A (with 185mm² conductors)
	60s	900A (with 185mm² conductors)
	5ms	8000A (with 185mm² conductors)
Max switching current (1 time only)	V DC	800V: 2500A / 1000V: 2000A / 1500V: 1000A
Initial contact volt drop	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 - 4 0 1

- Series
- Power Terminal Options
  - 0: Female M6 (Standard)
  - 1: Male M8 stud*
- Coil voltage
  - 1: 12VDC
  - 2: 24VDC

* Not UL approved

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

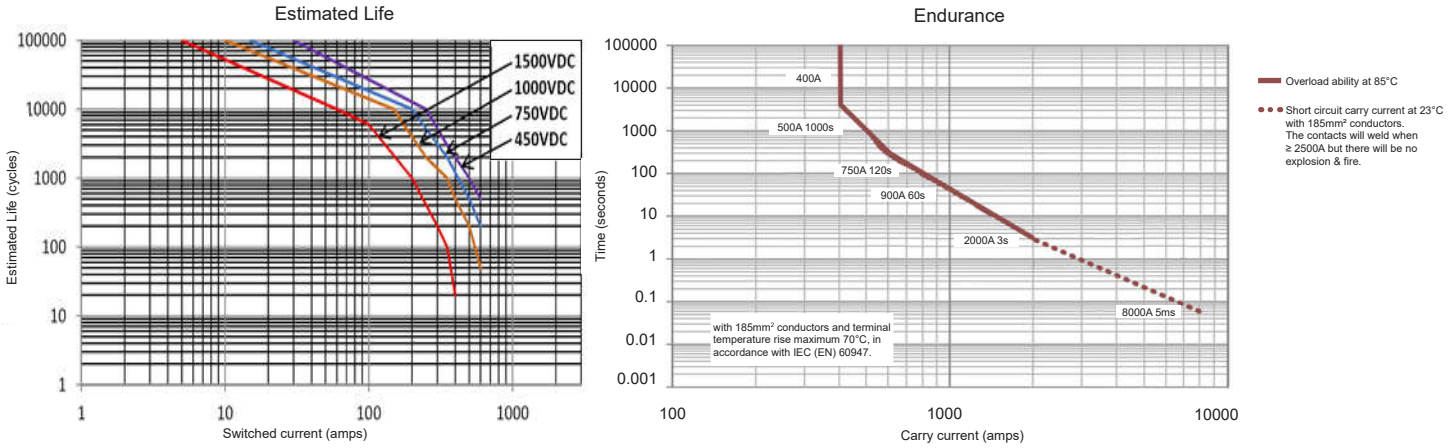
Coil Data — Table 1

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
CHV-4*1	12	9	16	7.8	1.2	4.2	0.42	5W (Hold)
CHV-4*2	24	18	32	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.

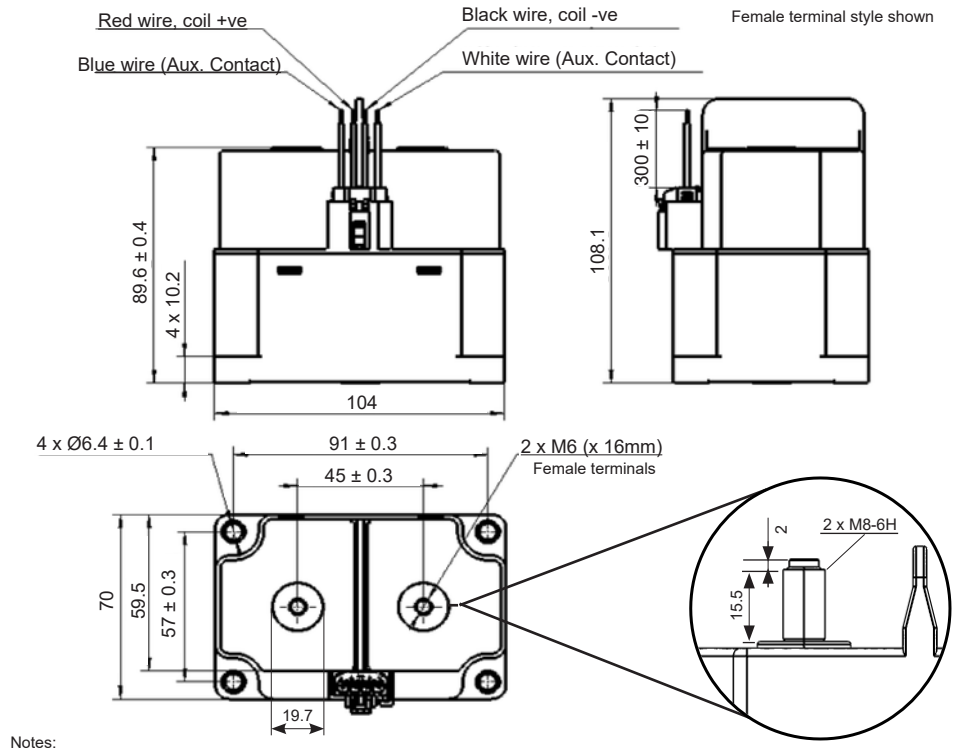
** Max. Non-release voltage @ 85ºC and max. continuous current load, pre-energized at 1.1Un

Electrical Performance — Fig. 1



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

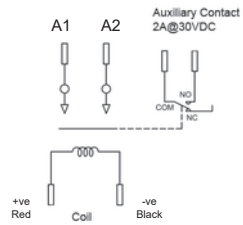
Dimensions — Fig. 2



Male stud terminals
(nuts and washers not supplied)

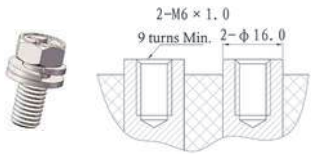
Notes:
1: Note coil polarity
3: Nominal dimensions in mm.
4: Tolerances (nominal), <10mm: ± 0.3mm, 10 ~ 50mm: ± 0.6mm, >50mm:±1.0mm.
5. Coil & auxiliary wire length = 300mm
6: Coil wire length and terminations can be customized upon request.

Circuit Diagram — Fig. 3



Contact terminals are not polarized.

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 minimum conductor: 185mm²
Preferred conductor: 200mm²

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

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