



- HVDC 40A carry current
- Max. switching voltage = 1000VDC
- Contacts sealed in inert gas
- Magnet arc blowout
- Non-polarised power terminals
- Ceramic arc chamber



RoHS  
Compliant ✓

### Contacts

Contact arrangement	SPST-NO-DM
Contact material	Oxygen Free Copper
Max. switching voltage	1000VDC
Rated load (resistive, $\cos \varphi=1$ )	DC1 40A 750VDC
Max. continuous thermal current at 23°C ambient temperature	1hr 60A (with $\geq 4\text{mm}^2$ conductors)
	20m 80A (with $\geq 4\text{mm}^2$ conductors)
	30s 160A (with $\geq 4\text{mm}^2$ conductors)
	10s 320A
	0.6s 400A
Initial contact volt drop	max. 80mV @40A

### Coil

Nominal voltage (see page 2)	DC 12VDC, 24VDC
Rated power consumption	4.5W

### Insulation

Insulation resistance	initial	$\geq 1000\text{M}\Omega$ (Min.) (1000VDC, 1 minute)
Dielectric strength	coil to contact	4000Vrms / 10mA / 1 min (at sea level)
	contact to contact	3000Vrms / 10mA / 1 min (at sea level)

### General Data

Operate time at 20°C	max.	$\leq 30\text{ms}$ (excluding bounce time)
Bounce time	max.	$\leq 5\text{ms}$
Release time	max.	$\leq 10\text{ms}$
Electrical life	40A / 450VDC.	$\geq 20000$ operations (make)
	40A / 750VDC	$\geq 6000$ operations (make and break) <sup>1</sup>
		<sup>1</sup> 1s ON / 9s OFF
Mechanical life	ops.	$>2 \times 10^5$

### Environmental

Ambient temperature	operating	-40 to +85°C
Relative humidity		5 to 85%RH
Shock resistance	impact	$>50\text{G}$ , 490m/s <sup>2</sup> 6ms 1/2 sine
	stability (malfunction $<10\mu\text{s}$ )	On: 196m/s <sup>2</sup> ( $>20\text{G}$ )
		Off: 98m/s <sup>2</sup> ( $>10\text{G}$ )
Vibration resistance		$>5\text{G}$ , 49m/s <sup>2</sup> , 10Hz ~ 500Hz
Dimensions	L x W x H	68 (over mounting flange) x 33 x 47mm (max.)
Weight	approx.	138g

### Ordering Code

C H V - 4 1      12VDC Coil - see Table 1

C H V - 4 2      24VDC Coil - see Table 1

Coil Data (@23°C)

Table 1

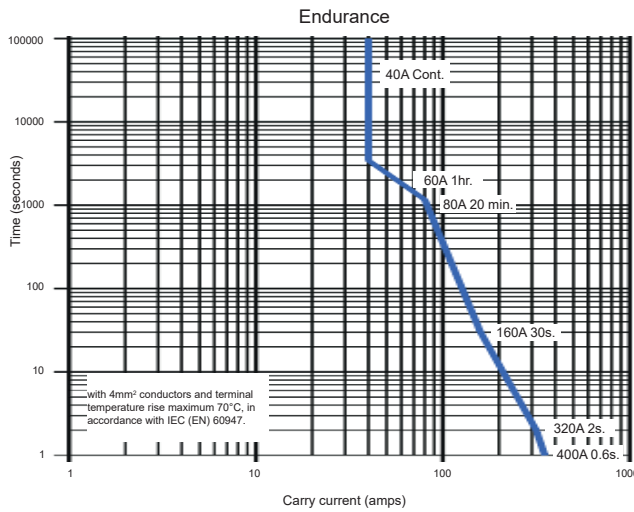
Order code	Nominal voltage (VDC)	Must operate voltage max. (VDC)	Max. allowable voltage (VDC)	Must release voltage min. (VDC)	Rated Current ±10% (A)	Rated Coil Power
CHV-41	12	9	16	1	0.375	4.5W
CHV-42	24	18	32	2	0.1875	

For coil back EMF suppression, please use a varistor with a voltage rating 1.5x to 2x the rated coil voltage. Diode is not recommended.

Other coils available upon special request.

Electrical Performance

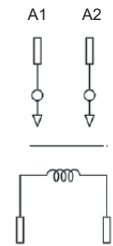
Fig. 1



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

Circuit Diagram

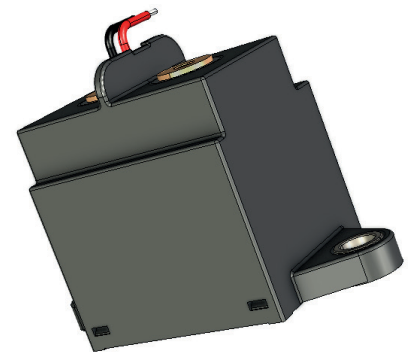
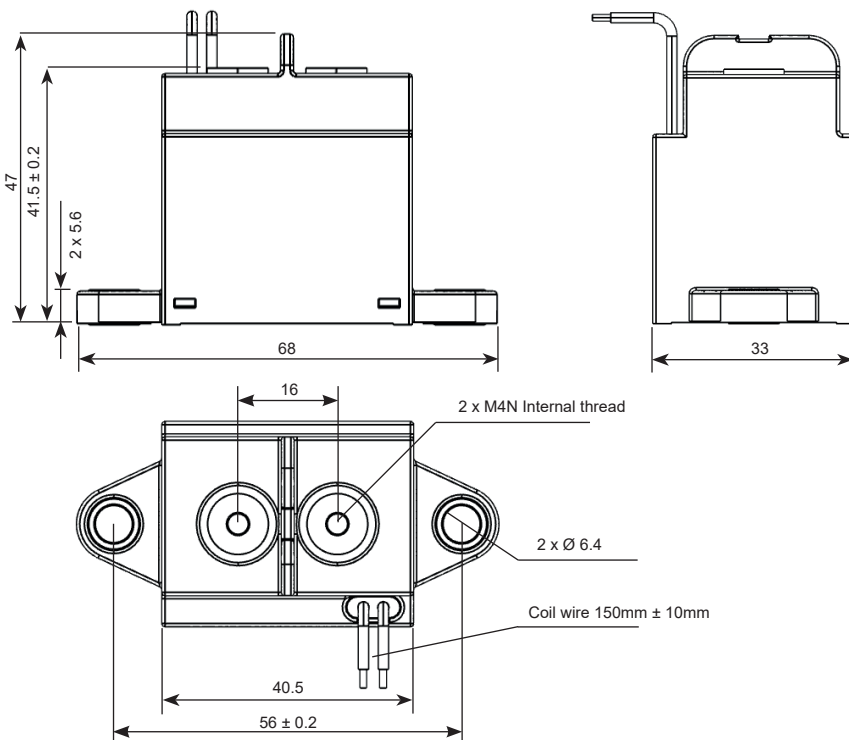
Fig. 2



Coil & Contact terminals are not polarised.

Dimensions

Fig. 3



**Terminals**  
M4N female thread, depth: 6mm

**Minimum Conductor:** >4mm<sup>2</sup>.

**Torque settings**  
Base Mounting: 3 ~ 4Nm  
M6 screw (not supplied)

Notes:  
1: Nominal dimensions in mm.  
2: Tolerances (nominal), <10mm: ± 0.3mm, 10 ~ 50mm: ± 0.6mm, >50mm: ± 1.0mm.