DHVC150 Series
HVDC Contactor 150A / 1000VDC

- 150A Continuous
- Max. breaking current = 2000A
- Magnet arc blowout, non-polarised
- Auxiliary contact option
- Male or female power terminals
- Side or bottom mount
- PWM coil economiser

RoHS Compliant

Contacts

Contact arrangement		SPST-NO-DM
Contact material		Oxygen Free Copper (Cu. C10200)
Max. switching voltage	DC	1000VDC (current dependent - see fig. 1)
Rated load (resistive, cos φ=1)	DC1	150A
Max continuous thermal current	3600 / 1200s	225A / 300A
	30s	600A
Instant peak current	0.6s	1500A
Max switching current	1 time only	2000A @ 320VDC
Terminal temperature rise above ambient		<70°C. IEC EN60947 GB14/14048.4
Contact voltage drop	max.	≤ 80mV @ 150A
Auxiliary contact (when fitted)	arrangement	SPST-NO (1 Form A)
	max. current	2A @ 24VDC / 3A @ 125VAC
	min. current	100mA @ 8V

Coil

Nominal voltage	DC	9 ~ 36VDC, 32 ~ 95VDC - see Table 1, page 2
Rated power consumption	hold	2W approx.

Insulation

Insulation resistance	min	>100MΩ @ 500VDC
	life end	50MΩ (Min.)
Dielectric strength	coil to contact	2200Vrms / <1mA / 1 min (at sea level)
	between aux. contacts	1000Vrms / <1mA / 1 min (at sea level)

General Data

Operating time at 20°C	max.	20ms
Release time at 20°C	max.	12ms
Bounce time at 20°C	max.	7ms
Electrical life	at rated load	see page 2
Mechanical life		3 x 10^5

Environmental

Ambient temperature	operating	-40 to +85°C
Relative humidity		20 to 90%RH
Shock resistance		20G peak, 11ms 1/2 sine, peak
Vibration resistance		5G sine peak (10 to 500Hz)
Dimensions		see Figs. 4 & 5 (Page 3)
Weight	approx.	450g (will vary according to option)

Ordering Code

D H V C 1 5 0 - 4 0 8 1 - S 8 - 0 9 3 6 - R 1

Series

Contact material
40: Cu. C10200

Contact arrangement
61: SPST-NO
71: SPST-NO + Auxiliary
81: SPST-NO*
91: SPST-NO* + Auxiliary
* Non-Polarised

Mounting & terminations
Bottom mount
B8: M8 male stud power terminals
B9: M6 female power terminals
Side mount
S8: M8 male stud power terminals
S9: M6 female power terminals

Coil code:
See tables 1 & 2

Coil wire & auxiliary wire (when fitted) length
R: 390mm
T: 150mm

Coil wire & auxiliary contact termination
1: None (bare ends)
3: Mini-fit female (see Fig. 3)

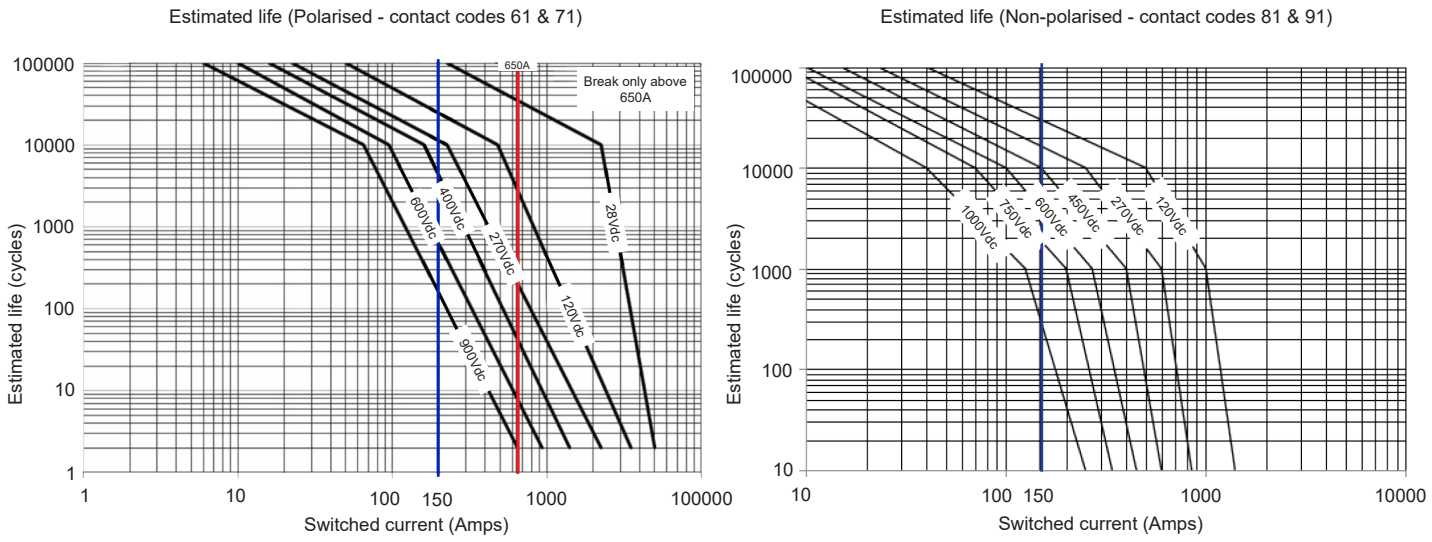
▲ NB: UL ratings may differ and not all variants are UL approved. Contact Durakool for more information.

Coil Data (with PWM economiser) — Table 1.

Coil code*	Nominal voltage (V DC) U_s	Coil operating range (V DC)	Must operate voltage (V DC)	Must release voltage (V DC)	Starting current (A)	Maintain (hold) current (A)
0936	9 ~ 36	12 ~ 24	8 ~ 9	5.5 ~ 7.0	3.8	0.18 @ 12V 0.09 @ 24V
3295	32 ~ 95	48 ~ 72	31 ~ 32	18 ~ 20	1.4	0.04 @ 48V

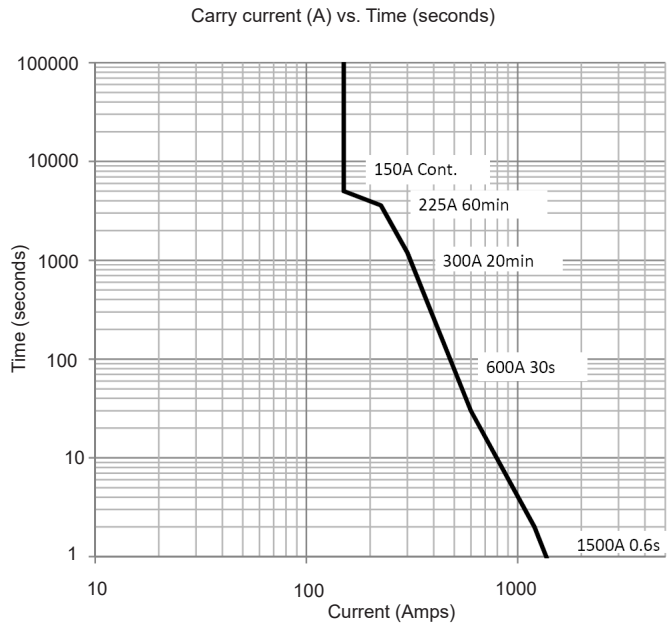
PWM Coil economiser: no additional coil surge suppression required. Coil terminals are polarized. (see Notes 1, 2 & 8). * DHVC150 with coil code type 3295 is not UL approved.

Electrical performance - Life — Fig. 1.

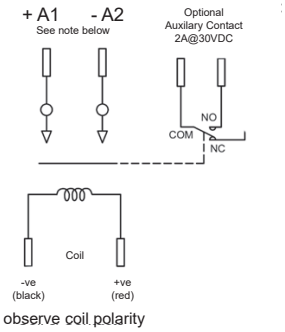


Electrical life is based on resistance load and is based upon actual test data and extrapolated data.
The above data was tested at +85°C with ≥ 95mm² bus bar.
Conductor size greatly affects performance. e.g. Non-polarised contacts with 120mm² conductors: 6000 cycles, 250A / 500VDC

Electrical performance - Endurance — Fig. 2.

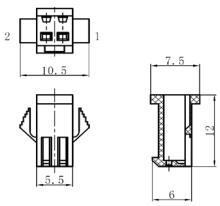


Connection Diagram — Fig. 3.



observe coil polarity

NB:
Codes 61 & 71: Power contact terminals are polarised as shown.
Codes 81 & 91: Power contact terminals are not polarised.
Coil terminal leads are polarised as shown.

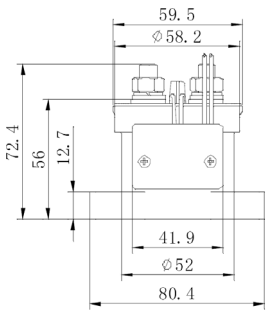


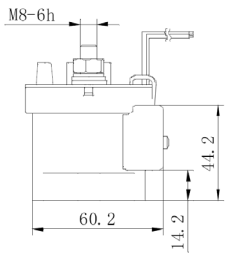
Optional mini-fit connector:

Connector for coil & auxilary contact (x2)
1 = Coil lead terminal +ve (red)
2 = Coil lead terminal -ve (black)
Auxilary contact leads = white
Fitted socket type: SM-2A-HW
Fitted terminal type: SMY-HW

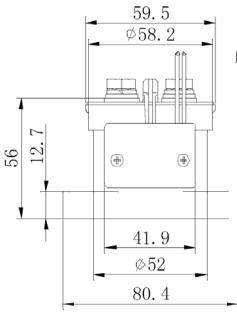
Dimensions - without auxiliary contacts — Fig. 4

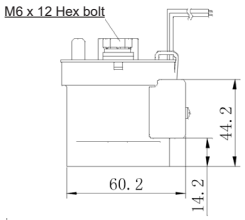
Bottom Mount - male terminals

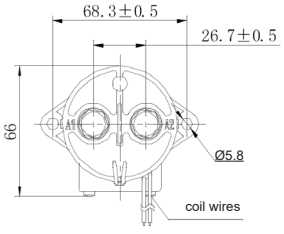




Bottom Mount - female terminals

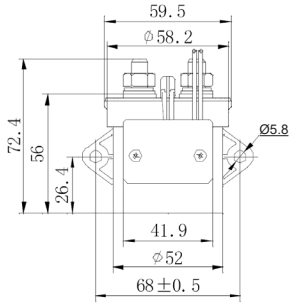


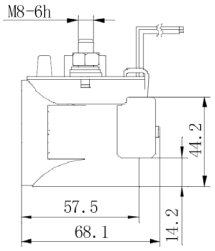




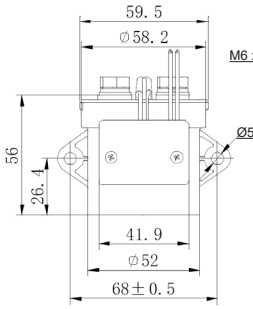
Top view (female terminals)

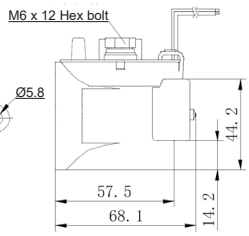
Side Mount - male terminals

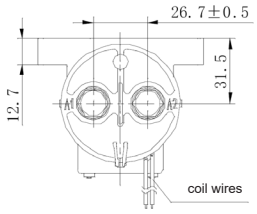




Side Mount - female terminals



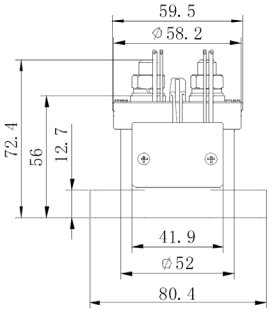


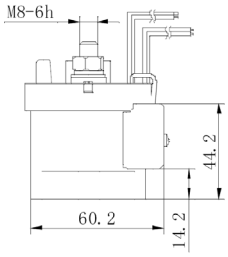


Top view (female terminals)

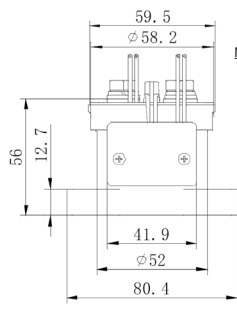
Dimensions - with optional auxiliary contacts — Fig. 5

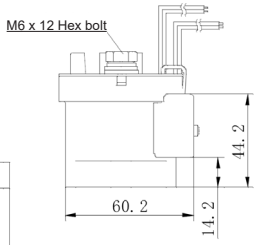
Bottom Mount - male terminals

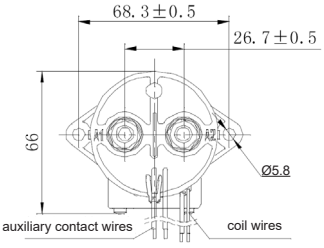




Bottom Mount - female terminals

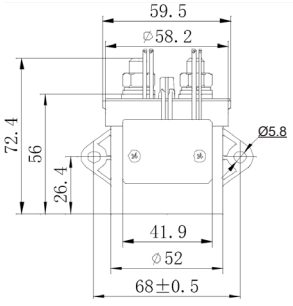


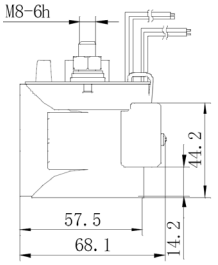




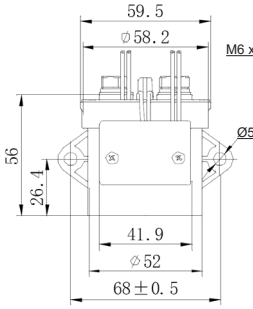
Top view (male terminals)

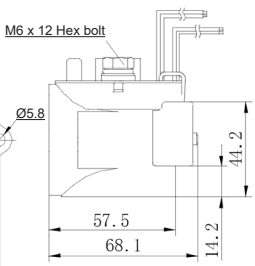
Side Mount - male terminals

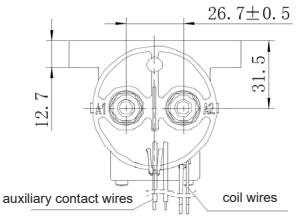




Side Mount - female terminals







Top view (male terminals)

Notes:
1: Coil terminals are polarised. Contacts codes 61 & 71 are polarised - observe correct polarity or damage may occur.
2: Please do not use a diode across coil terminals - a surge absorber is built in. Using a diode will reduce contactor performance.
3: Nominal dimensions in mm. Tolerances (nominal), <10mm: ± 0.3mm, 10 ~ 50mm: ± 0.6mm, >50mm: ± 1.0mm.
4: Power contact (M8) nut torque = 8 ~ 10Nm, Power contact (M6) torque = 6 ~ 8Nm; Installation/mounting torque = 1.7 ~ 3.5Nm.
5: Coil wire length and terminations can be customised upon request.
6. Coil and auxiliary contact wires: Teflon insulated UL1887 20AWG
7: Main contacts should be connected with cable section of more than 95mm², if used at maximum rated current.
8: Do not exceed coil operating frequency of 6 ops/min or damage may occur.