Contactor

High voltage contactor for DC

Series/Type: **HVC200A-12**
Ordering code: **T. B. D.**
Version/Date: Issue 01 / 2014-12-02

Preliminary data

Product description

The HVC-series are specially designed to meet the requirements of high voltage DC switching applications. The optimized hermetically sealed design exhibits excellent reliability performance against harsh environments.
HVC-series can be used in a wide range of applications where fast and reliable switching operations are required. For applications such as xEV battery disconnect, low power consumption, exceptional reliability and high current extinguishing capability make this series an excellent choice.

Features

- Robust design
- Exceptional electrical & mechanical reliability
- Gas filled & hermetically sealed
- Stable performance over lifetime
- Customizable connection configuration
- RoHS-compatible

Applications

- Hybrid/electric vehicles (xEV)
- Fuel-cell vehicle
- Battery charge/discharge system
- Renewable energy storage system
- Forklifts/construction equipment
- DC high voltage/high current applications

Mechanical specifications

Width × height × depth	76 × 66 × 46	mm
Weight	~ 520	g
Connection cable cross section	> 70	mm²
Operation and storage - temperature - humidity	 −40 ... +90 5 … 95	 °C %
Climatic category (IEC 60068-1)	40/ 90/ 21	
Label		
Certifications	T.B.D.	

Preliminary data

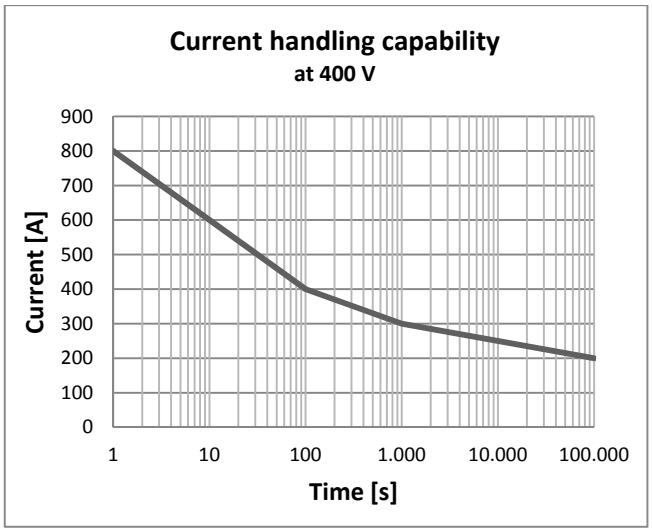
Electrical specifications[1)]

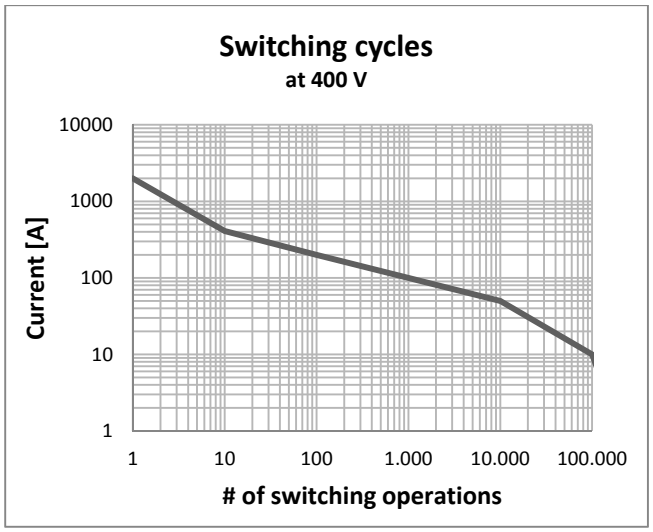
Contact		
Nominal current	200	A
Temporary overcurrent (15 min)	300	A
Temporary overcurrent (2 min)	400	A
Contact resistance	< 1	mΩ
Maximum cut-off current at 400 V (1 operation)	2000	A
Nominal cut-off current at 400 V (10 operations 5×(+) & 5× (−))	400	A
Coil		
Rated voltage	12	V
Operating voltage range	7 … 18	V
Pick-up voltage (max.)	7	V
Drop-out voltage (min.)	3	V
Resistance	< 50	Ω
Power consumption at 12 V	< 3	W
Electrical characteristics		
Operating time		
make	< 40	ms
break	< 20	ms
Insulation resistance		
contact to contact / contact to coil	> 1	GΩ
Dielectric strength		
contact to contact / contact to coil	> 3400	V_{AC}
Mechanical characteristics		
Switching cycles mechanical	200 000	cycles
at 10 A, 400 V_{DC}	50 000	cycles
at 50 A, 400 V_{DC}	20 000	cycles
at 100 A, 400 V_{DC}	1 000	cycles
at 200 A, 400 V_{DC}	50	cycles
at 410 A, 400 V_{DC}	10	cycles
at 2000 A, 400 V_{DC}	1	cycle

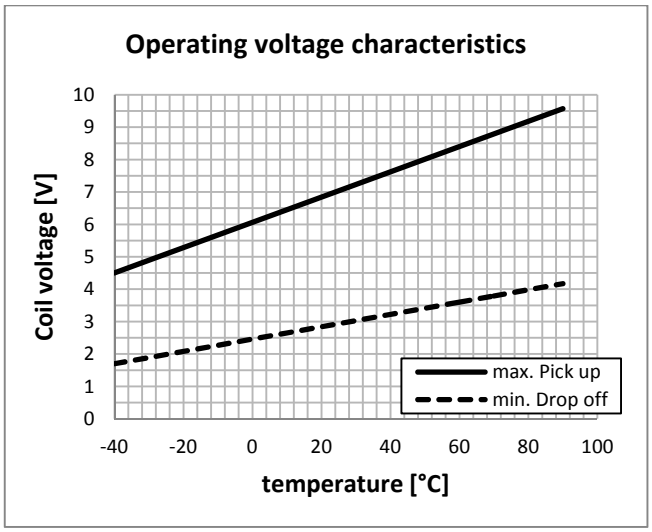
Notes:
1) For 25°C ambient temperature

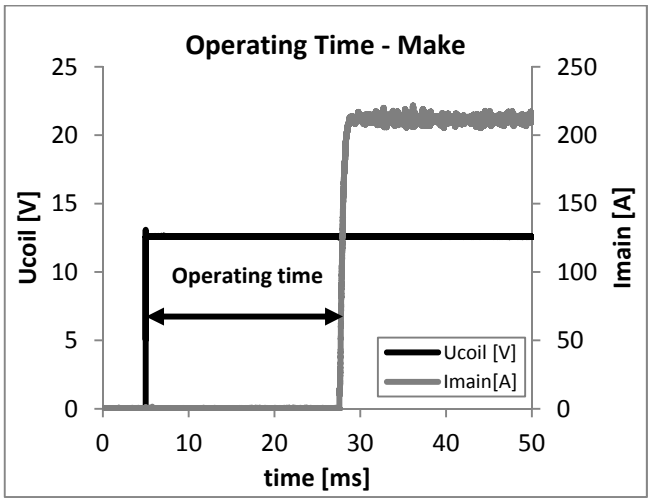
Preliminary data

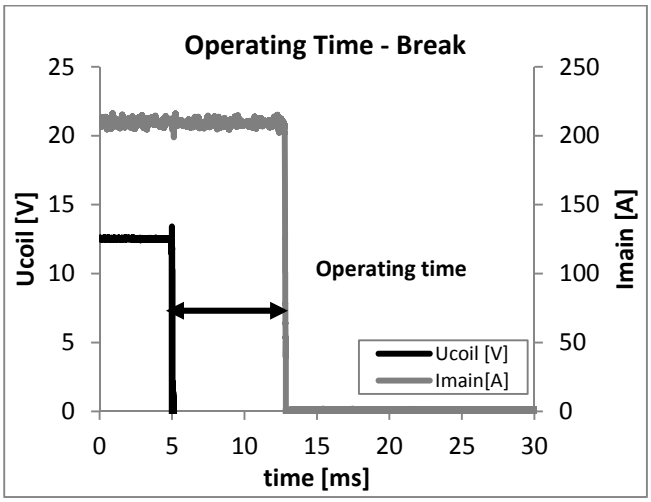
Engineering data





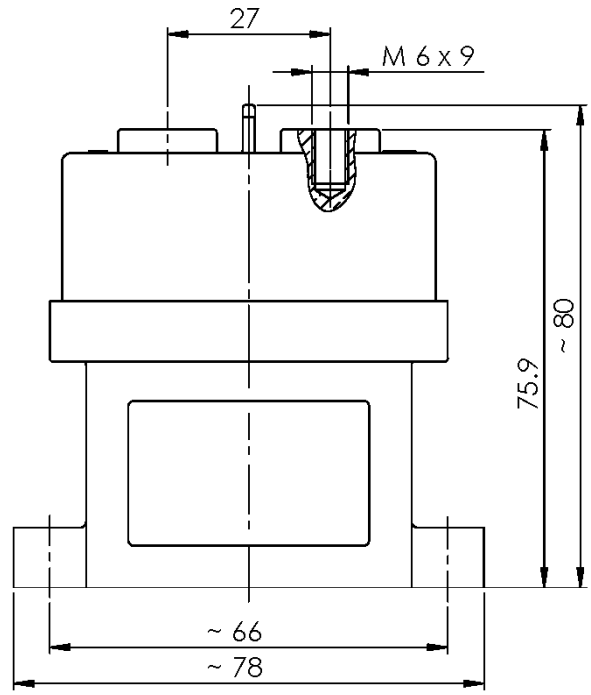


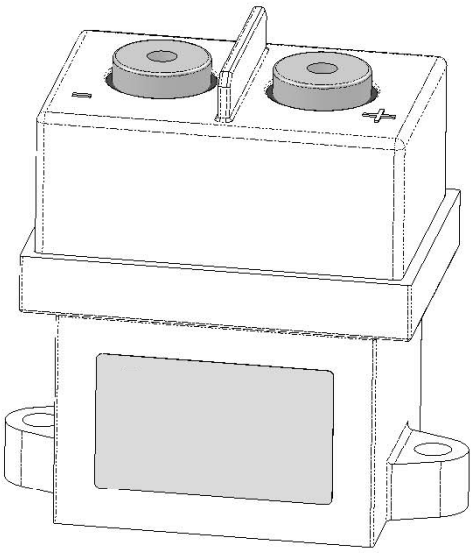


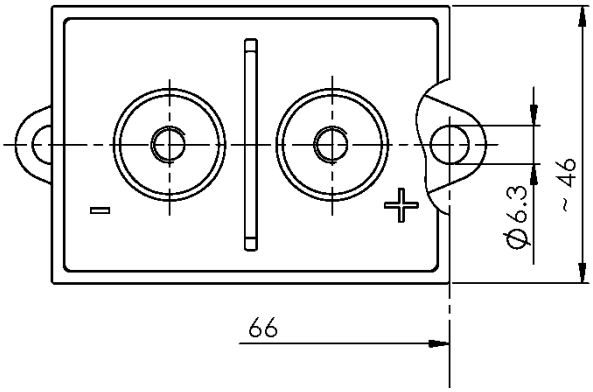


Preliminary data

Dimensional drawing for housing in mm







Note: Tightening torque of main contacts: 6 ... 8 Nm for M6 screw.

Ordering code and packing advice

*B88069X…**C011** = 1 pc. in cardboard box*

Preliminary data

Cautions and warnings

- Contactors have a polarity. Please ensure the connection is made in the right way otherwise the lifecycles specified in this document are no longer valid.
- Contactors radiate magnetic and electromagnetic fields. Please ensure that other components mounted in close proximity are not affected.
- The lifecycle of the contactor can be influenced by strong magnetic fields. Please ensure that magnetic field sources in close proximity (e.g. other contactors) are avoided.
- The contactor shall be mounted in that way, that the contacts face are perpendicular to the directions of the main shock-axis.
- The coil contacts need to be protected from overvoltage occurring during switch-off. Preferable a varistor has to be installed in parallel (e.g. EPCOS S14K18auto)
- The leads to the contactor have to be securely tightened to the terminals (check torque force limits in datasheet). Otherwise current stress may lead to the formation of sparks and heating.
- Contactor may become hot in case of longer periods of over-current stress (danger of burning).
- Contactors may be used only within their specified values. In case of overload, the component may be destroyed.
- Contactors must be handled with care and must not be dropped.
- Damaged contactors must not be re-used.

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