EPCOS Product Brief 2017

High-Voltage Contactors

Gas-Filled Contactor for High-Voltage DC Switching Applications

The HVC series are specially designed to meet the requirements of high-voltage DC switching applications.

The hermetically sealed design based on our gas technology experience exhibits excellent reliability in harsh environments. The HVC series can be used in a wide range of applications where fast and reliable switching operations are required.

Features

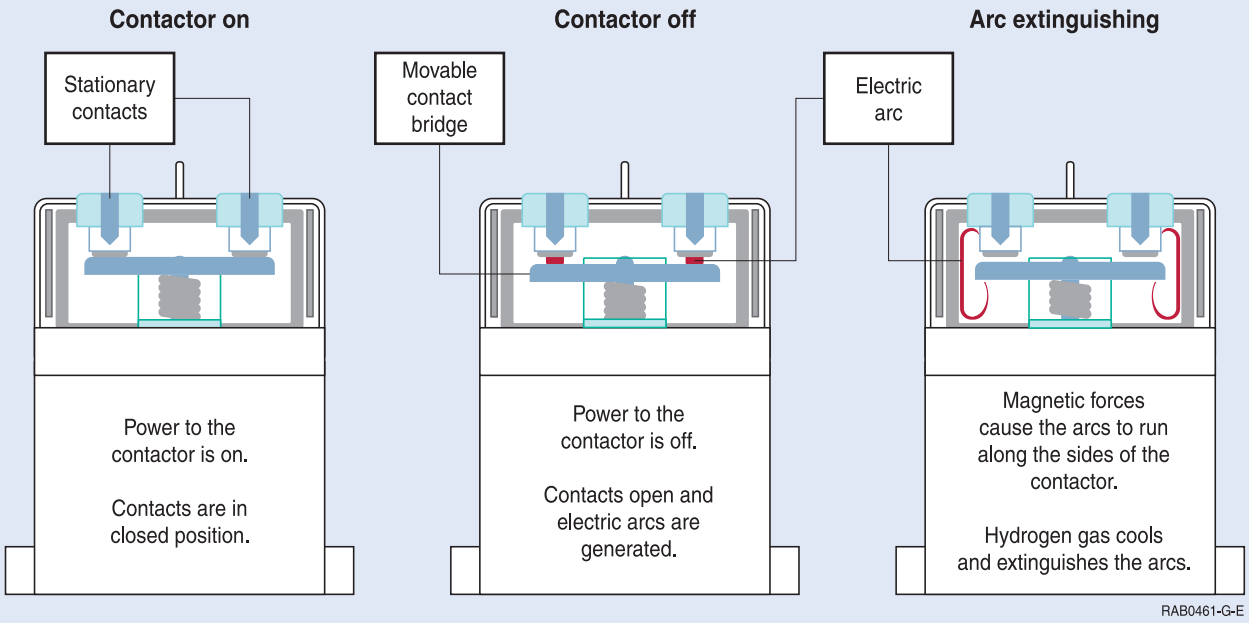
- Bipolar design
- 1 million nominal switching cycles
- Operating voltage up to 900 V
- Contact stuck detection available
- EMI free, hermetically sealed and RoHS compatible
- UL 60947-4-1 in preparation

Applications

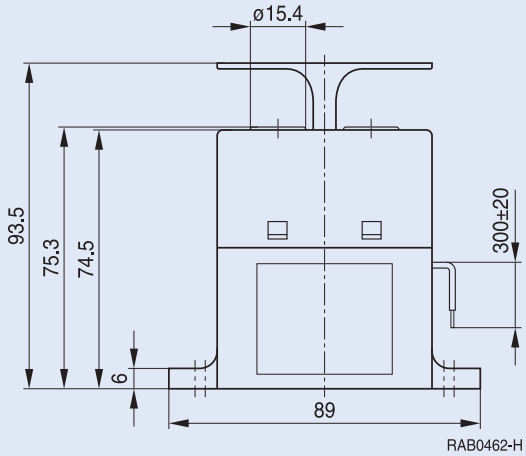
- DC fast charging stations
- Renewable energy storage systems
- Battery disconnect units
- High-voltage/ high-current applications

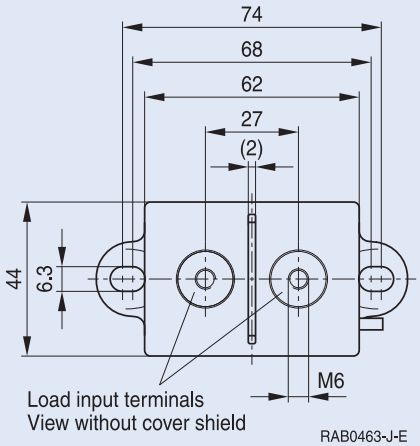
High-Voltage Contactors

Operating principle



Dimensional drawings





Weight: approx. 500 g
Dimensions in mm

For further information please contact your EPCOS sales office.
© EPCOS AG 2017

High-Voltage Contactors

Electrical specifications[1)]

	HVC200		HVC300 Preliminary data		HVC500 Preliminary data		
	12-V type	24-V type	12-V type	24-V type	12-V type	24-V type	
Contact							
Ordering code	B88269X1000C011 (1 pc.)	Upon request	Upon request		Upon request		
	B88269X1000C101 (10 pcs.)	Upon request					
Operating voltage	12 … 450		12 … 900		12 … 900		V_{DC}
Nominal current	200		300		500		A
Temporary overcurrent (10 min.)	300		400		600		A
Temporary overcurrent (1 min.)	400		500		750		A
Minimum make and break current	1		1		1		A
Contact resistance typical (> 100 A)	< 0.4		< 0.4		< 0.4		mΩ
Coil[2)]							
Rated voltage	12	24	12	24	12	24	V_{DC}
Operating voltage range	9 … 16	18 … 32	9 … 16	18 … 32	9 … 16	18 … 32	V_{DC}
Pick-up voltage range (max.)	9	18	9	18	9	18	V_{DC}
Drop-out voltage (min.)	1	2	1	2	1	2	V_{DC}
Power	6	6	6	6	6	6	W
Nominal operating current[3)]	500	250	500	250	500	250	mA
Minimum holding current	160	80	160	80	160	80	mA
Electrical characteristics							
Operating time make	< 40		< 40		< 40		ms
Operating time break	< 20		< 20		< 20		ms
Insulation resistance at 500 V (initial) contact to contact / contact to coil	> 1		> 1		> 1		GΩ
Dielectric strength[4)] contact to contact / contact to coil	> 3800		> 3800		> 3800		V_{AC}
Service life[5)]							
Mechanical	1000000		1000000		1000000		operations
Make and break at 10 A	50000		50000		100000		operations
Make and break at 30 A	30000		30000		50000		operations
Make and break at 100 A	10000		10000		20000		operations
Make and break at 200 A	100		100		1000		operations
Break only at 500 A	10		10		10		operations
Break only at 2000 A[6)]	1		1		1		operation

Notes:

1) Specified according to JIS C5442 (temperature +15 °C to +35 °C, humidity 25% to 85% RH)

2) Ambient temperature at +25 °C

3) Tolerance ±10%

4) Detection limit 10 mA

5) Tested at 450 V for resistive loads including inductance L < 35 µH. End of life is reached when dielectric strength is < 50 MΩ @ 500 V.

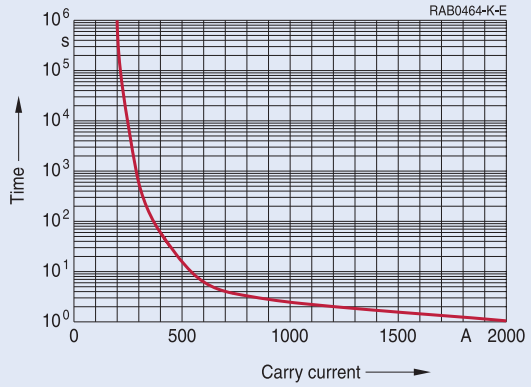
6) No fire and no explosion will occur after a break at 2000 A. After such an event, however, the dielectric strength and insulation resistance may not meet initial data sheet specifications.

© EPCOS AG 2017

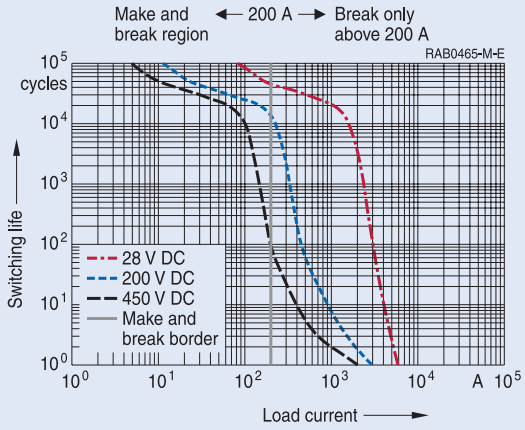
High-Voltage Contactors

Characteristics for 200 A type

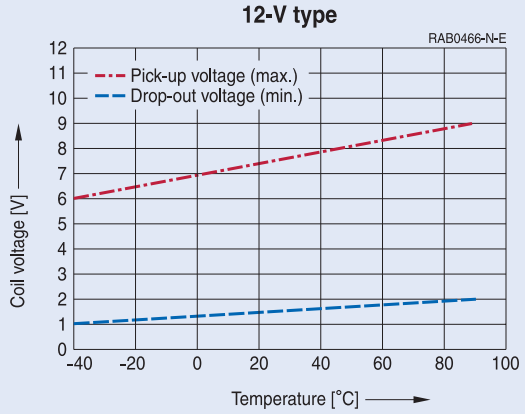
Current handling capability

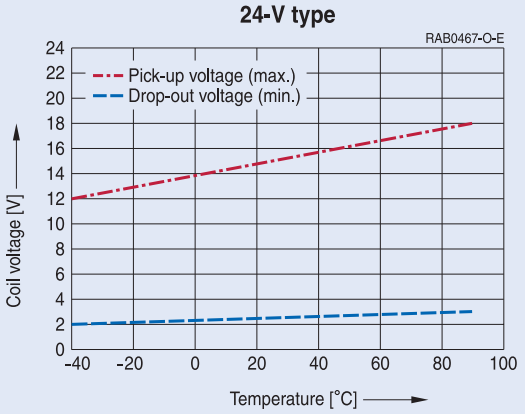


Estimated service life

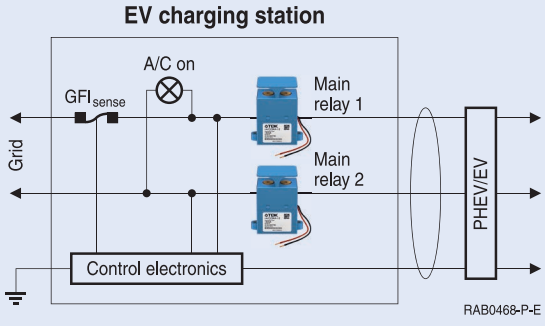


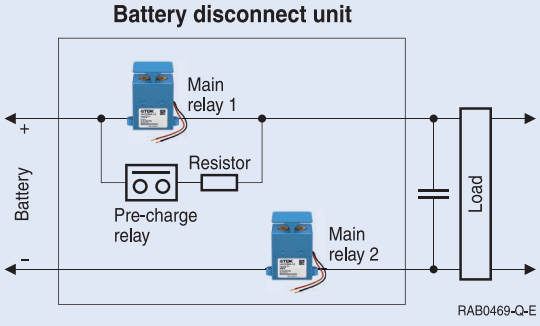
Operating voltage characteristics





Application examples





Structure of ordering codes: The ordering code for one and the same product can be represented differently in data sheets, data books, other publications and the website of EPCOS, or in order-related documents such as shipping notes, order confirmations and product labels. **The varying representations of the ordering codes are due to different processes employed and do not affect the specifications of the respective products.** Detailed information can be found on the Internet under www.epcos.com/orderingcodes.

Important information: Some parts of this publication contain statements about the suitability of our products for certain areas of application. These statements are based on our knowledge of typical requirements that are often placed on our products. We expressly point out that these statements cannot be regarded as binding statements about the suitability of our products for a particular customer application. It is incumbent on the customer to check and decide whether a product is suitable for use in a particular application. This publication is only a brief product survey which may be changed from time to time. Our products are described in detail in our data sheets. The *Important notes* (www.epcos.com/ImportantNotes) and the product-specific *Cautions and warnings* must be observed. All relevant information is available through our sales offices.

© **EPCOS AG** · A TDK Group Company
Edition 02/2017 · Ordering No. EPC:48016-7600 · Printed in Germany · PB 02171.