BATTERY FUSE

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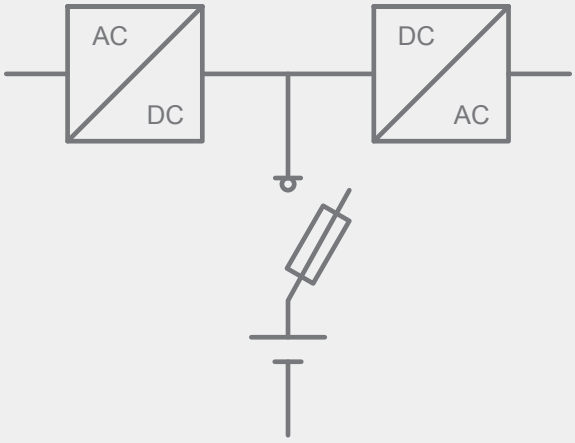
BECAUSE EVERY SECOND COUNTS

Application

- in battery storage systems
- in UPS systems
- in e-mobility

Battery Protection Fuses

Battery storage fuse selection



Short circuit current

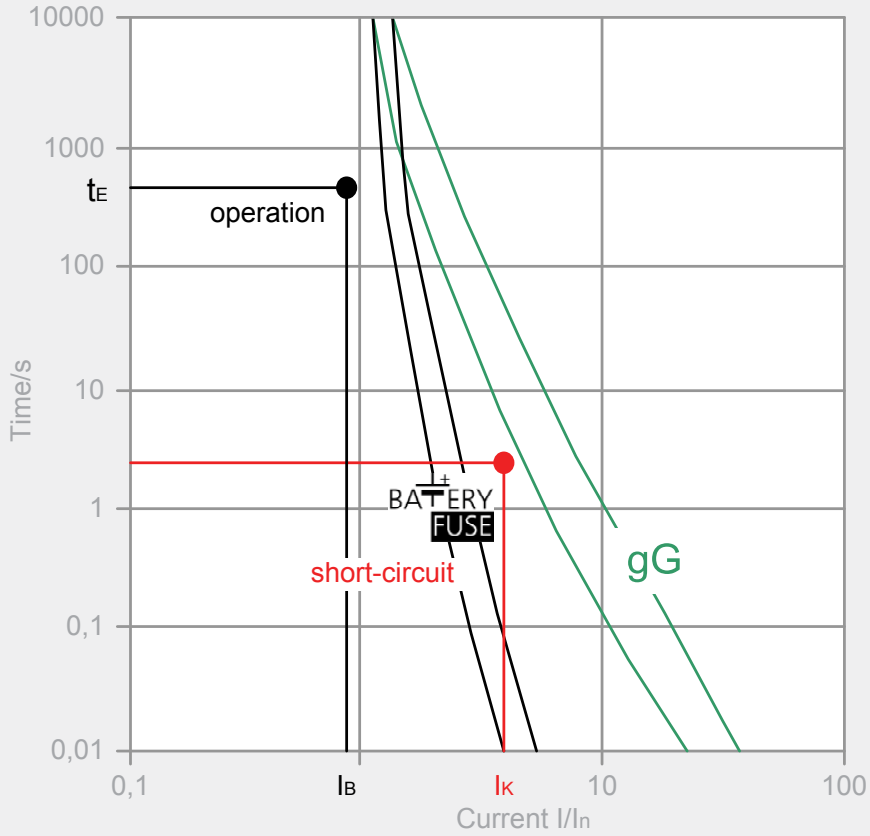
- Short circuit current depending on battery model, type and capacity, low compared to operating current
- Short circuit current has to be interrupted in <5 seconds

Required steep characteristics: protection with Battery fuse-link required!

Operating current

- Operating current depends on battery storage specification
- Battery operation: voltage of DC link circuit decreases to the final discharge voltage

Consider maximum current at final discharge voltage for fuse-link selection



In accordance with IEC 60269-7

Short circuit point (I_K)

- Short circuit current depending on battery model and type
- Manufacturer datasheets to include short circuit current according to IEC896
- Operating point has to be in adequate distance below the curve
- Short-circuit point has to be above the range of tolerance of the curve

Operating point (t_E/I_B)

- maximum operating curent I_B has to be calculated from battery storage true power and final discharge voltage U_E: $I_B = P_W/U_E$
- t_E is the back-up time of battery storage system

When choosing fuse switch disconnector consider fuse-link power dissipation!

$$P_d(I_B) < P_y$$

Power dissipation of fuse-link at maximal operating current (I_B):

$$P_d(I_B)=(I_B/I_n)^2 \times P_d(I_n)$$

I_B- maximal operating current
$P_d(I_B)$-power dissipation of fuse-link at maximal operating current
$P_d(I_n)$-power dissipation of fuse-link at nominal current
P_y- maximal permissible fuse-link power dissipation mounted in fuse switch disconnector

CH 10x38 gBat Fuse-link 800V d.c.

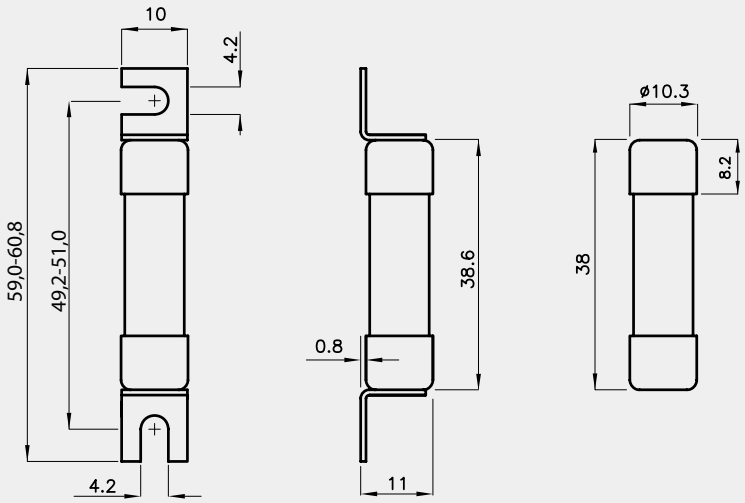
General characteristics	
Rated voltage	800V d.c. (L/R=10ms)
Breaking capacity	30kA d.c.
Standard	IEC 60269-7
Application	Battery protection
Fuse base	EFH 10 DC

CH gBat fuse-link

Size	I_n [A]	Code No. "standard contacts" 800V DC 30kA	Code No. "type SU contacts" 800V DC 30kA	Pre-arcing Joule integral L/R=10ms [A^2s]	Operating Joule integral L/R=10ms [A^2s]	Power dissipation [0,7 x I_n] P_d [W]	Power dissipation [1x I_n] P_d [W]	Weight [g]	Pack. [pcs]
10x38	2	002626030	002626130	1,2	1,6	0,47	1,12	10/12	10/500 SU: 10/380
	4	002626032	002626132	3,6	8,9	0,52	1,25		
	6	002626034	002626134	9,5	27,2	0,73	1,75		
	8	002626036	002626136	27,3	65,8	0,8	1,9		
	10	002626038	002626138	8,2	26,6	0,97	2,4		
	12	002626040	002626140	20,6	54,6	0,8	1,9		
	16	002626042	002626142	44,4	109,3	1,1	2,6		

Note:
CH Battery fuse-links are used in combination with fuse disconnector EFH 10 DC

Dimensions for CH 10x38 Battery fuses



I/t characteristics for CH 10x38 Battery fuses