

# BATTERY FUSE



**ETI BATTERY FUSE**  
 Obreza 5  
 SI-1411 izlake  
 NH3L   
**630A** gBat  
 1500V d.c. 100kA  
 L/R=3ms IEC 60269-7  
 004110779  
 RoHS ENEC CE   
 Made in Slovenia W3/2022

$\frac{L}{+}$   
 BATTERY  
 FUSE

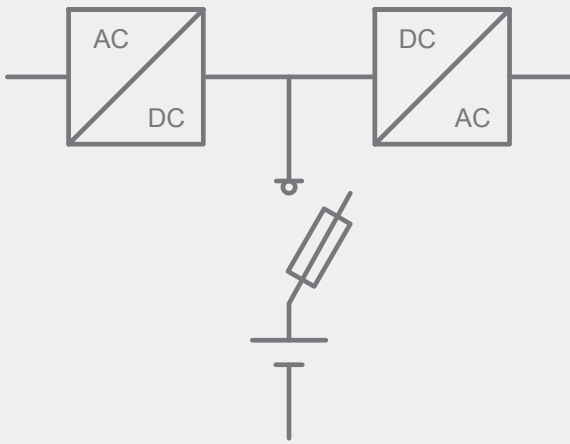
**BECAUSE EVERY SECOND COUNTS**

#### Application

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

# Battery Protection Fuses

## Battery storage fuse selection

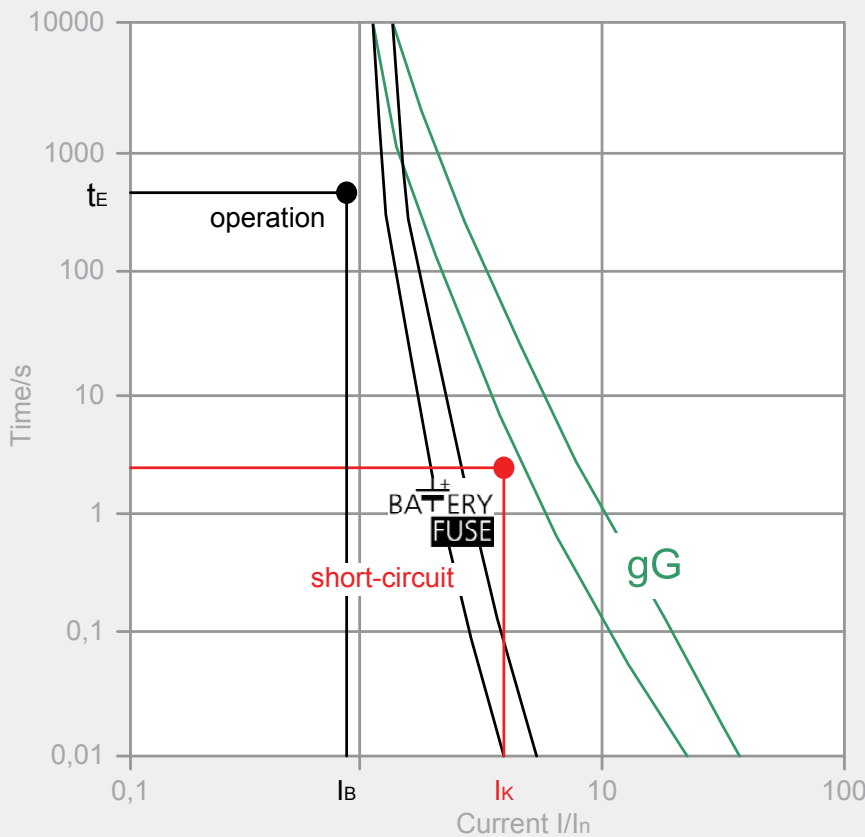


### Short circuit current

- 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



### 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 current  $I_B$  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

# NH gBat fuse-link 550V d.c.



General characteristics	
Rated voltage	550V d.c. (L/R=10ms)
Breaking capacity	30kA d.c.
Standard	IEC 60269-7
Application	Battery protection

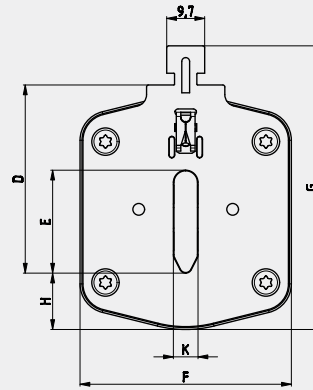
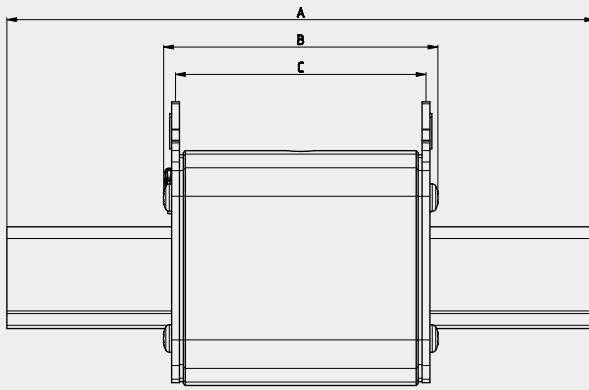


NH gBat fuse-link 550 V d.c.											
Size	$I_n$	Standard indicator	Striker indicator	Standard indicator S110mm	Power dissipation	Power dissipation $0,7 \times I_n$	Prearcing Joule integral L/R=10ms	Operating Joule integral L/R=10ms	For use with	Weight	Pack.
	[A]	pic. 1	pic. 2	pic. 3	[W]	[W]	[A <sup>2</sup> s]	[A <sup>2</sup> s]		[g]	[pcs]
1	40	004723259	004723279	004723269	6	2,7	250	833	PK1DC 004122025	420	3/24
	50	004723260	004723280	004723270	7	3,1	449	1.495			
	63	004723261	004723281	004723271	9	4	700	2.331			
	80	004723262	004723282	004723272	12	5,4	1.200	3.996			
	100	004723263	004723283	004723273	15	6,7	1.650	5.495			
	125	004723264	004723284	004723274	20	9	2.200	7.326			
	160	004723265	004723285	004723275	26	11,7	4.300	14.319			
	200	004723266	004723286	004723276	32	14,4	8.500	28.305			
	224	004723267	004723287	004723277	37	16,6	10.000	33.300			
	250	004723268	004723288	004723278	43	19,3	15.000	50.000			
2	125	004724260	004724280	004724270	20	9	2.200	10.296	PK2DC 004122024	660	3/24
	160	004724261	004724281	004724271	26	11,7	4.300	20.124			
	200	004724262	004724282	004724272	32	14,4	8.500	39.780			
	224	004724263	004724283	004724273	37	16,6	10.000	46.800			
	250	004724264	004724284	004724274	43	19,3	15.000	70.200			
	315	004724265	004724285	004724275	57	26,6	20.000	93.600			
	350	004724266	004724286	004724276	67	30	28.000	131.040			
3	250	004725260	004725280	004725270	43	19,3	15.000	65.550	PK3DC 004122023	870	3/24
	315	004725261	004725281	004725271	57	26,6	20.000	87.400			
	350	004725262	004725282	004725272	67	30	28.000	122.360			
	400	004725263	004725283	004725273	76	34,2	32.000	139.840			
	425	004725264	004725284	004725274	84	37,8	40.000	174.800			
	500	004725265	004725285	004725275	110	49,5	44.000	192.280			
	630	004725266	004725286	004725276	160	72	80.000	350.000			

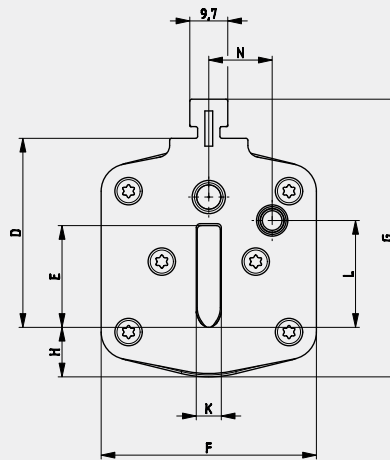
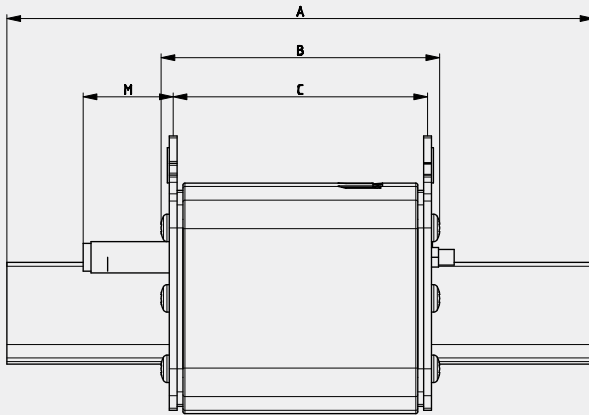
Green protect - gBat

## Dimensions

pic. 1

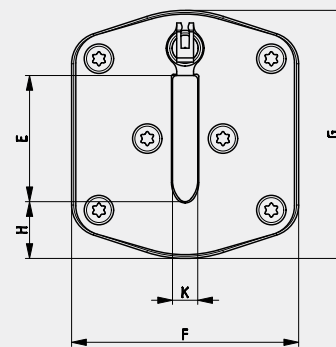
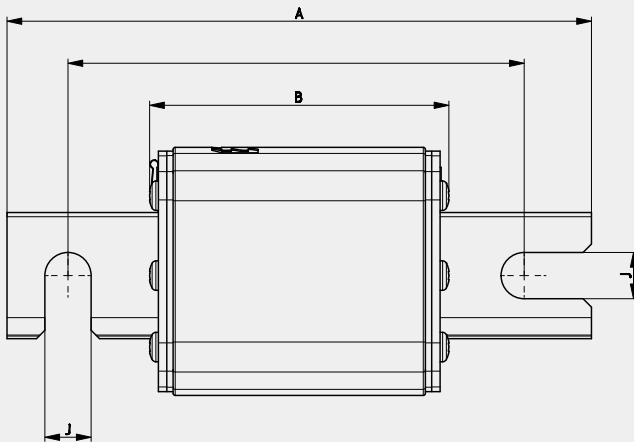


pic. 2



Size	A	B	C	D	E	F	G	H	K	L	M	M
1	135	73	65	40	24	46	62	12	6	20,5	27,5	13,7
2	150	73	65	48	30	54	71	13	6	27,3	27,5	16,2
3	150	73	65	60	37	64	84	14	6	35,6	27,5	17

pic. 3



Size	A	B	E	F	G	H	J	K
1	140	72	24	46	51	12	11	6
2	140	72	30	54	59	13	11	6
3	140	72	37	64	70	14	11	6