

Battery storage fuse links, fuse bases and microswitches overview

Battery storage fuse links offering specifications

Body type	Body size	Fuse type	Catalogue number	Rated current (A)	Rated voltage (V d.c.)	Standard IEC 60269-7	Data sheet number
NH	NH1	NH Bladed	BSF-(amps)G-NH110	63, 80, 100, 125, 160, 200	1000	✓	135001
		NH Bolted	BSF-(amps)G-NH110-B	63, 80, 100, 125, 160, 200	1000	✓	135001
	NH2	NH Bladed	BSF-(amps)G-NH210	160, 200, 250	1000	✓	135001
		NH Bolted	BSF-(amps)G-NH210-B	160, 200, 250	1000	✓	135001
	NH3	NH Bladed	BSF-(amps)G-NH310	315, 355, 400	1000	✓	135001
		NH Bolted	BSF-(amps)G-NH310-B	315, 355, 400	1000	✓	135001
XL	3L	XL Bladed	BSF-(amps)G-3XL15	250, 315, 355, 400, 450, 500	1500	✓	135002
		XL Bolted	BSF-(amps)G-3XL15-B	250, 315, 355, 400, 450, 500	1500	✓	135002



Fuse bases and microswitches

Fuse size	Fuse type	Fuse bases		Microswitches
		Catalogue number	Data sheet	Catalogue number
NH1	Bladed	SD1-D-PV	720149	170H0236 and 170H0238
	Bolted	N/A	N/A	N/A
NH2	Bladed	SD2-D-PV	720149	170H0236 and 170H0238
	Bolted	N/A	N/A	N/A
NH3	Bladed	SD3-D-PV	720149	170H0236 and 170H0238
	Bolted	N/A	N/A	N/A
XL	Bladed	SD3L-S-PV (up to 400 A)	10685	170H0236 and 170H0238
	Bolted	N/A	N/A	170H0069



NH battery storage fuse links, 63 to 400 A, 1000 V d.c., BSF-NH

Description

Eaton's Bussmann series NH battery storage fuse links are specifically designed to protect and isolate battery array combiners and disconnects. These fuse links are capable of interrupting low overcurrents associated with faulted battery storage systems.

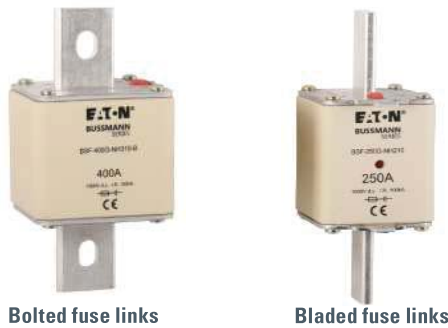
Fuse size

NH1, NH2 and NH3

Catalogue number

Knife blade fuse links: BSF-(amps)G-NH(Body size)10

Bolted fuse links: BSF-(amps)G-NH(body size)10-B



Bolted fuse links

Bladed fuse links

Technical data

- Rated voltage: 1000 V d.c.
- Rated current: 63 to 400 A
- Breaking capacity: 100 kA
- Class of operation: gBat proposed for full range fuse links for protection of battery storage systems
- Time constant: 4.5 ms at 100 kA

Standards/Approvals

- IEC 60269-7
- RoHS and REACH compliant

Packaging

MOQ: 3

Packaging 100% recyclable

Technical data

Catalogue number with knife blade	Catalogue number with bolted blade	Fuse body size	Rated current (Amps)	Rated voltage (V d.c.)	Pre-arcing I _{2t}	Total I _{2t} @ 1000 V d.c.	Power loss at 0.7 x I _n (W)	Power loss at I _n (W)
BSF-063G-NH110	BSF-063G-NH110-B	1	63	1000	470	4300	5	12
BSF-080G-NH110	BSF-080G-NH110-B	1	80	1000	640	5760	6	15.5
BSF-100G-NH110	BSF-100G-NH110-B	1	100	1000	1300	11,700	7	16.5
BSF-125G-NH110	BSF-125G-NH110-B	1	125	1000	2600	23,400	7	17.5
BSF-160G-NH110	BSF-160G-NH110-B	1	160	1000	5200	46,800	11	27.5
BSF-160G-NH210	BSF-160G-NH210-B	2	160	1000	4600	37,000	11	28
BSF-200G-NH210	BSF-200G-NH210-B	2	200	1000	9500	76,000	13	32
BSF-250G-NH210	BSF-250G-NH210-B	2	250	1000	17,000	136,000	15	38
BSF-315G-NH310	BSF-315G-NH310-B	3	315	1000	32,000	260,000	18	44
BSF-355G-NH310	BSF-355G-NH310-B	3	355	1000	44,500	370,000	18	46
BSF-400G-NH310	BSF-400G-NH310-B	3	400	1000	67,500	550,000	21	52

Microswitches for NH knife blade fuse links

Catalogue number	Fuse type	Fuse body size	Microswitches	Terminal size	Rated Voltage	Rated current
BSF-(amps)G-NH	Knife blade	1 to 3	170H0236	6.3 x 0.8 mm	250 V a.c.	5 A
			170H0238	2.8 X 0.5 mm	250 V a.c.	5 A

NH Bases for NH knife blade fuse links

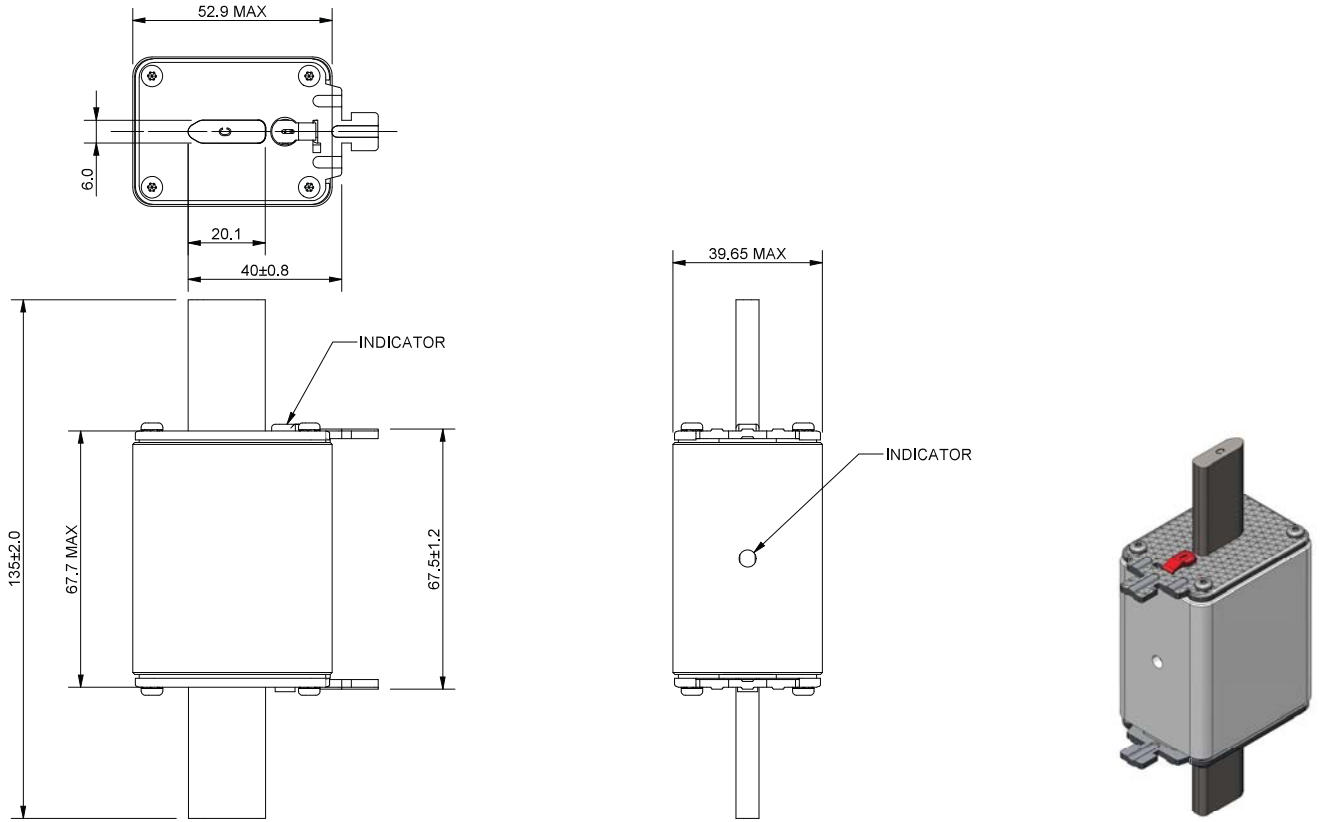
Catalogue number with knife blade	Fuse body size	NH Bases
BSF-(amps)G-NH110	1	SD1-D-PV
BSF-(amps)G-NH210	2	SD2-D-PV
BSF-(amps)G-NH310	3	SD3-D-PV

Data sheet: 135001

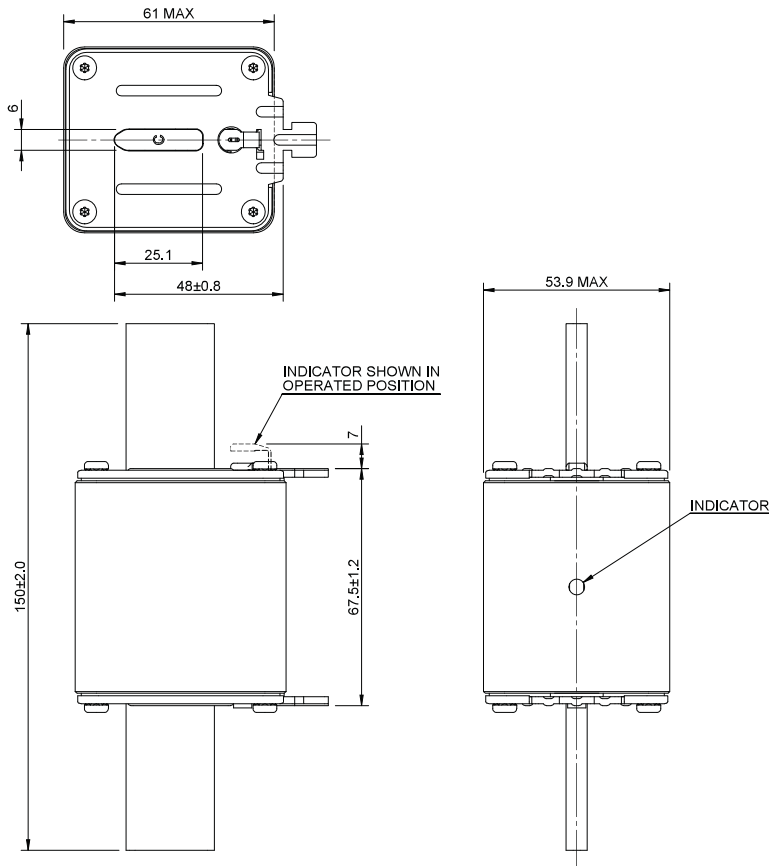
NH battery storage fuse links, BSF-NH

Dimensions

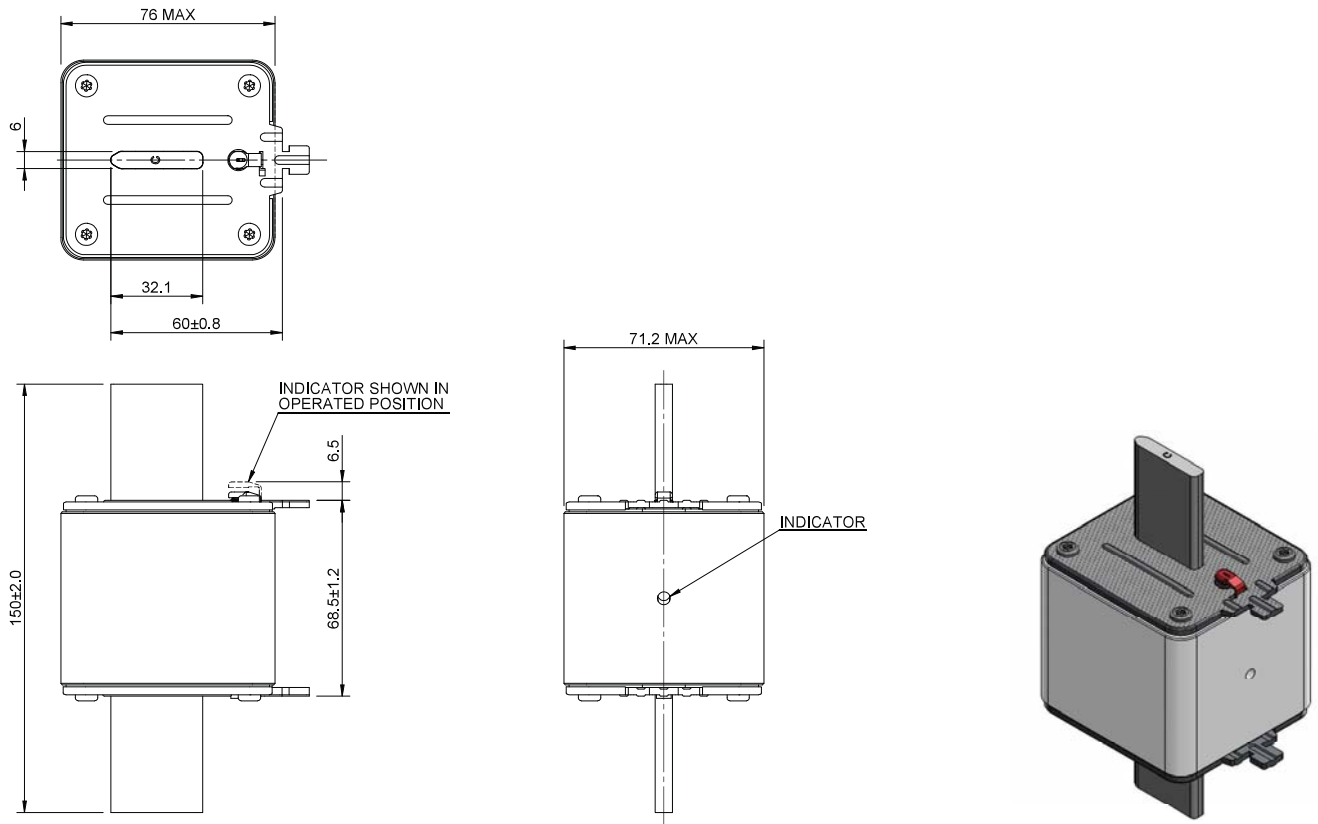
Dimensions - NH1 Bladed fuse links



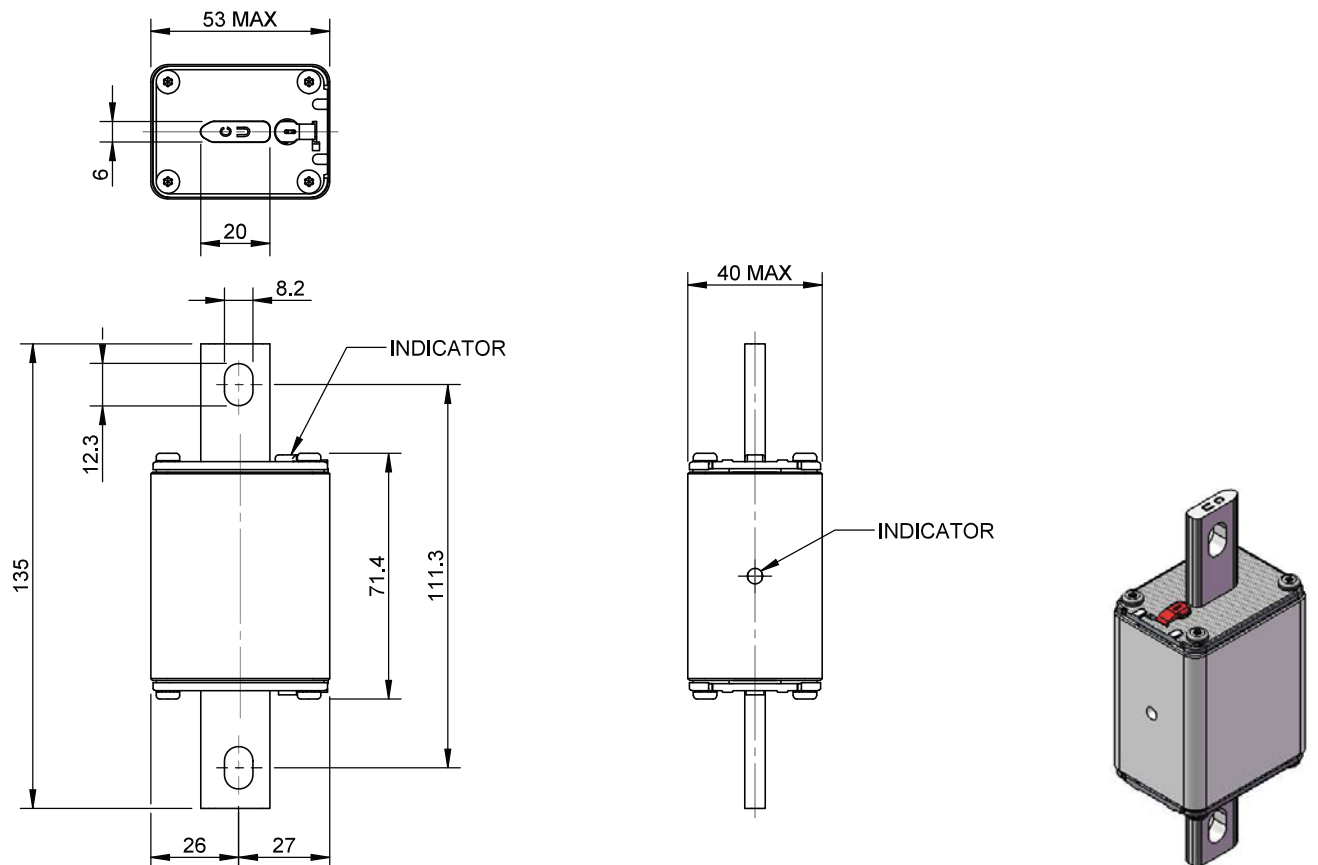
Dimensions mm - NH2 Bladed fuse links



Dimensions mm - NH3 Bladed fuse links



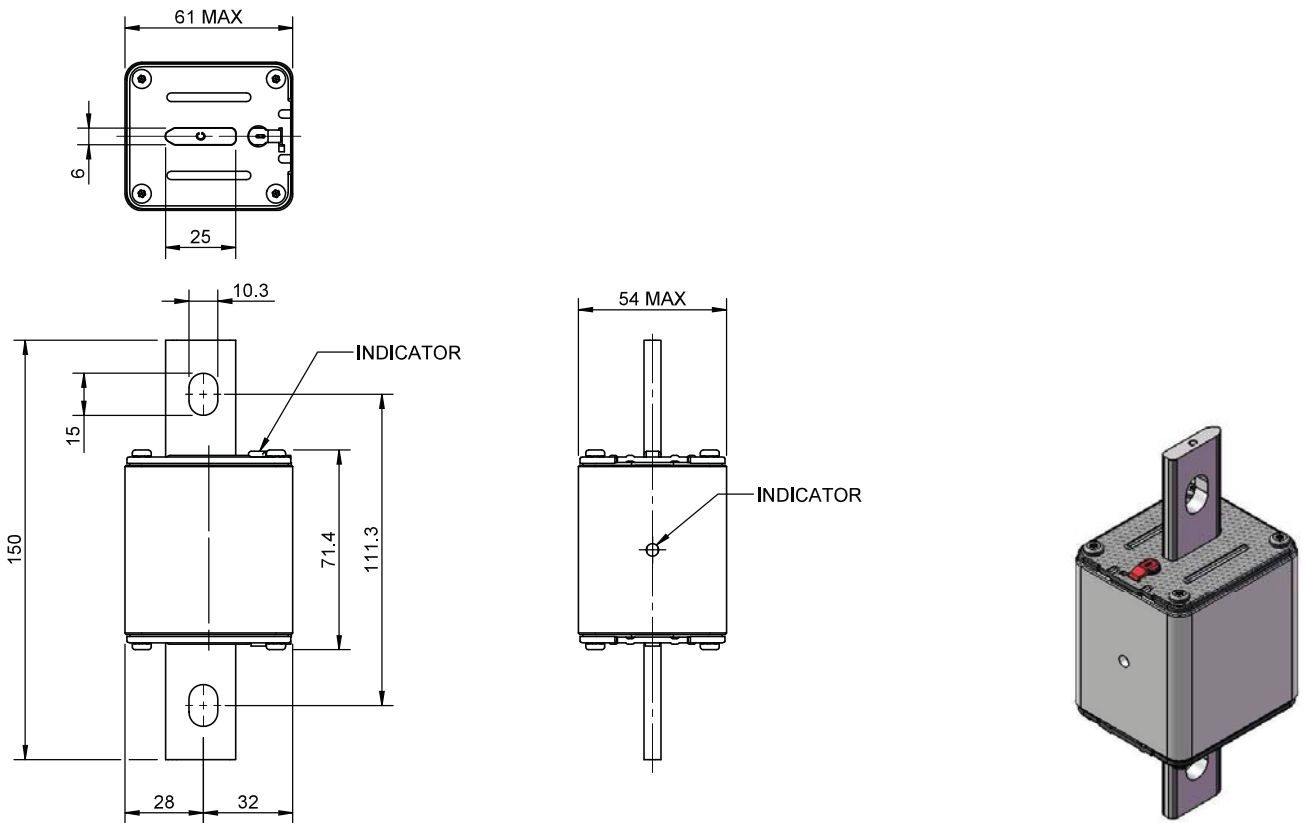
Dimensions mm - NH1 Bolted fuse links



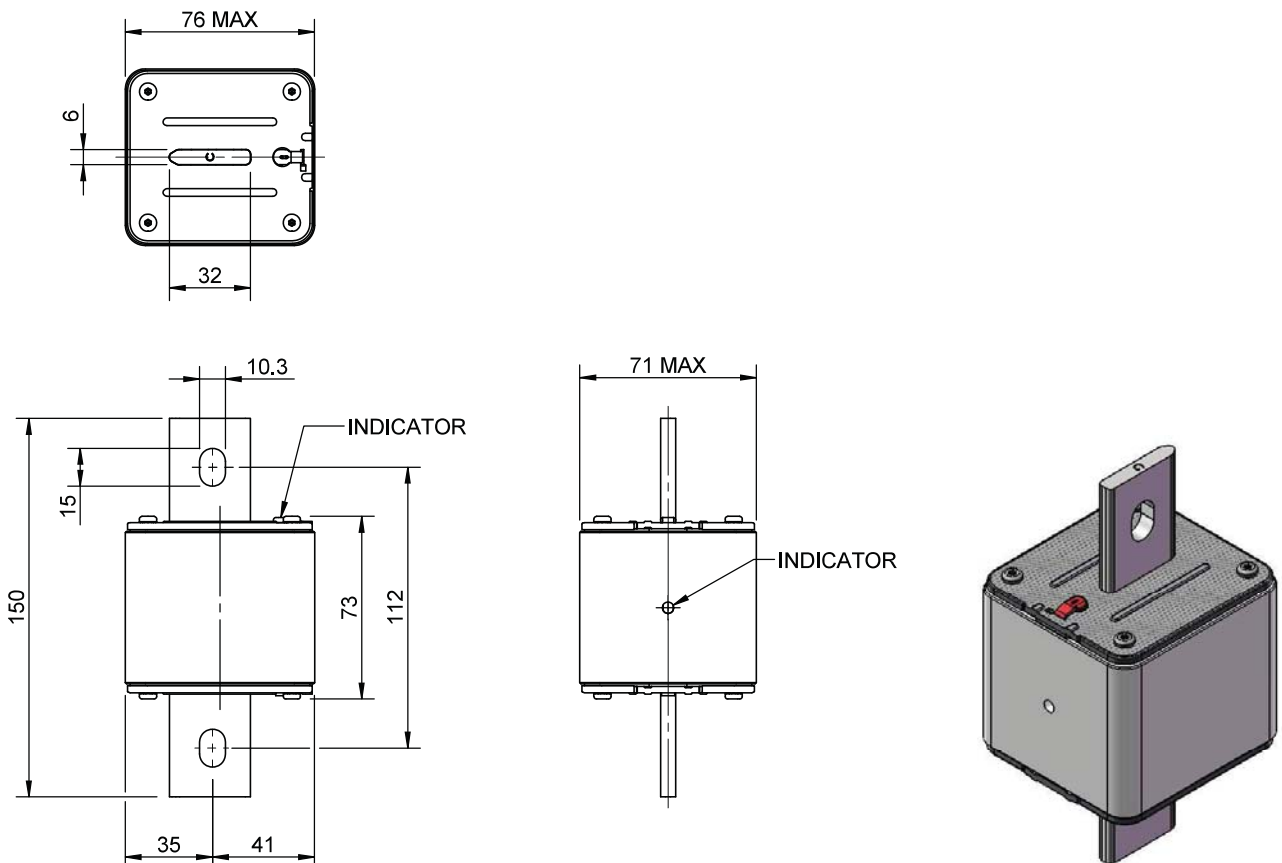
NH battery storage fuse links, BSF-NH

Dimensions

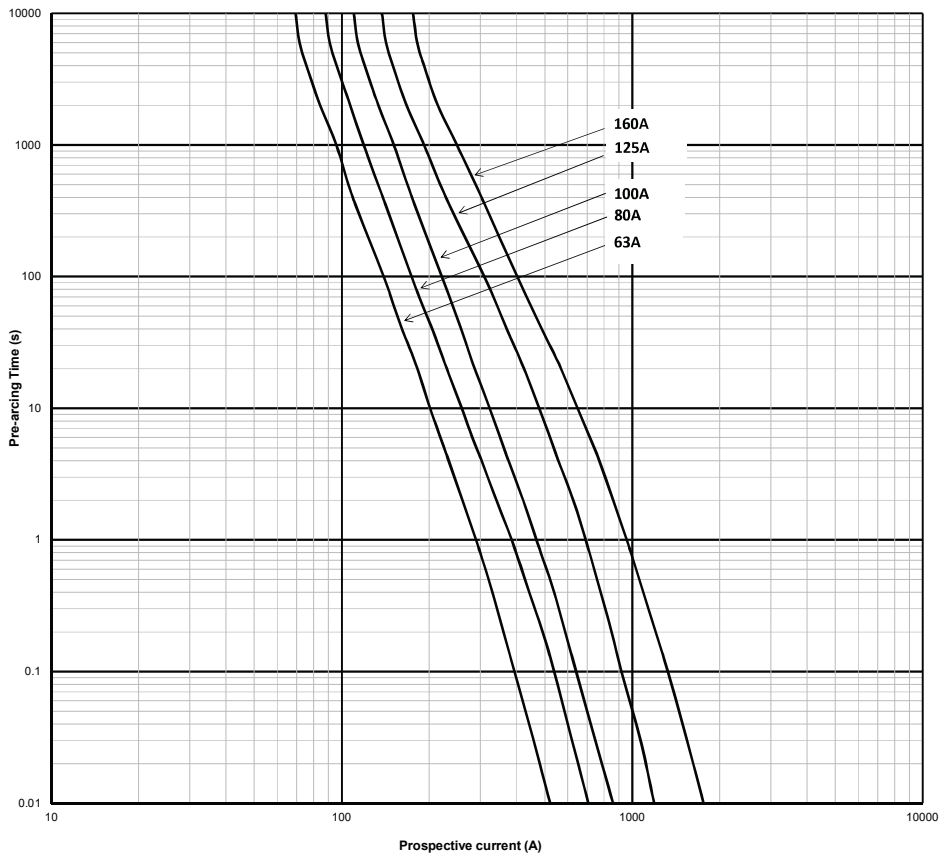
Dimensions mm - NH2 Bolted fuse links



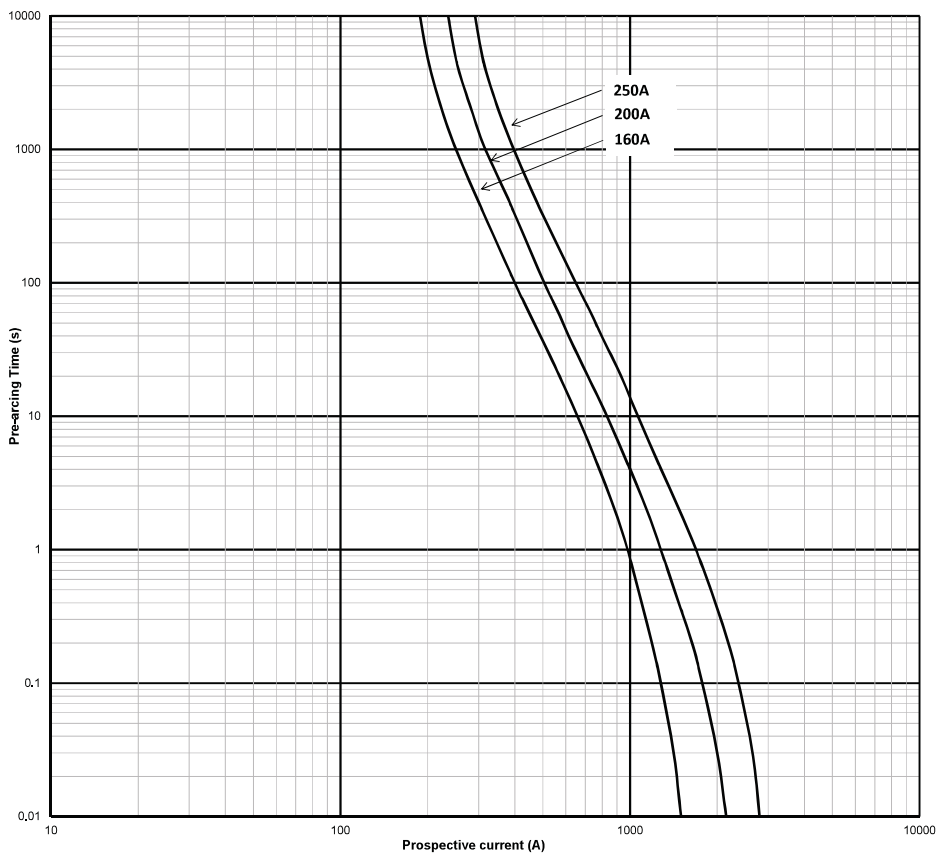
Dimensions mm - NH3 Bolted fuse links



Time-current curve - NH1 fuse links



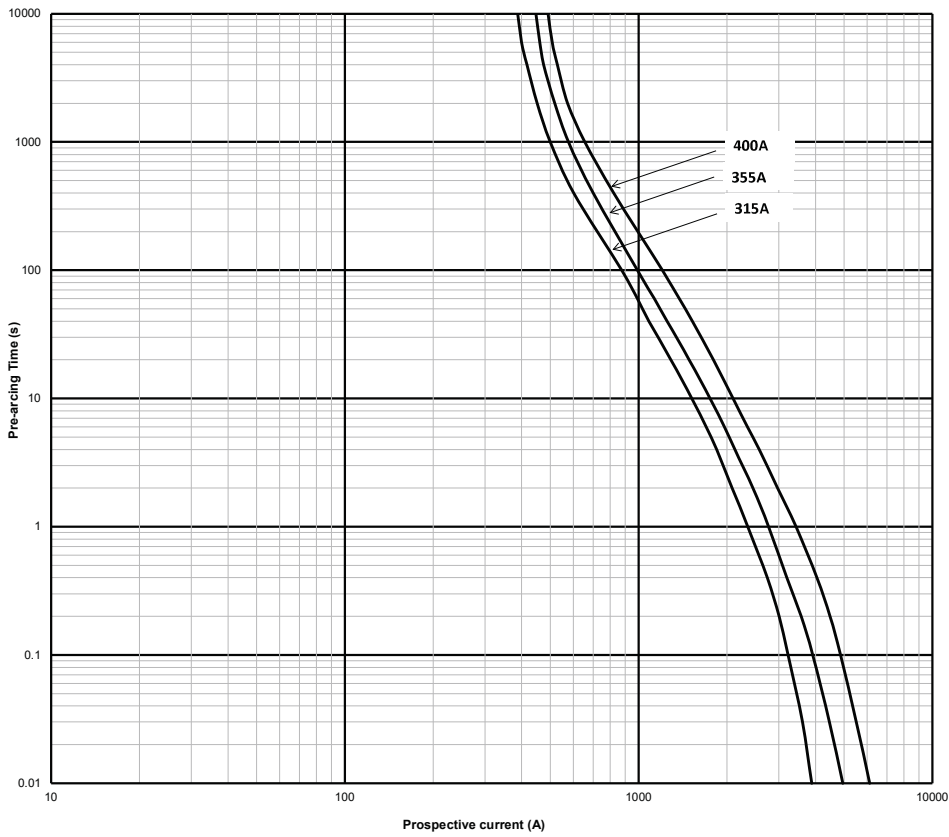
Time-current curve - NH2 fuse links



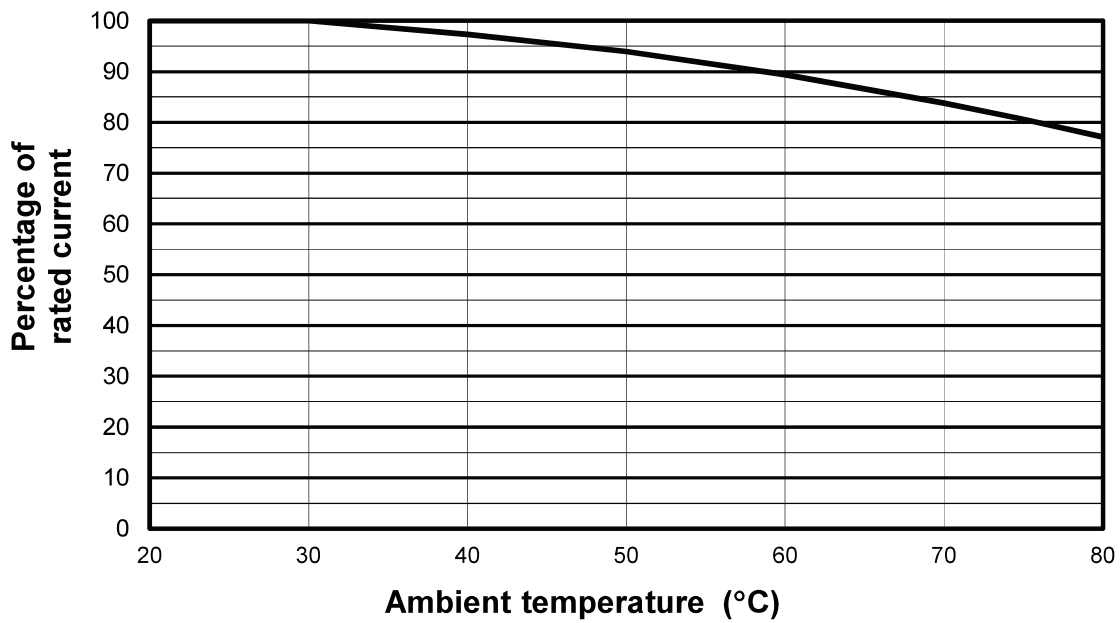
NH battery storage fuse links, BSF-NH

Time-current curve and temperature derating curve

Time-current curve - NH3 fuse links

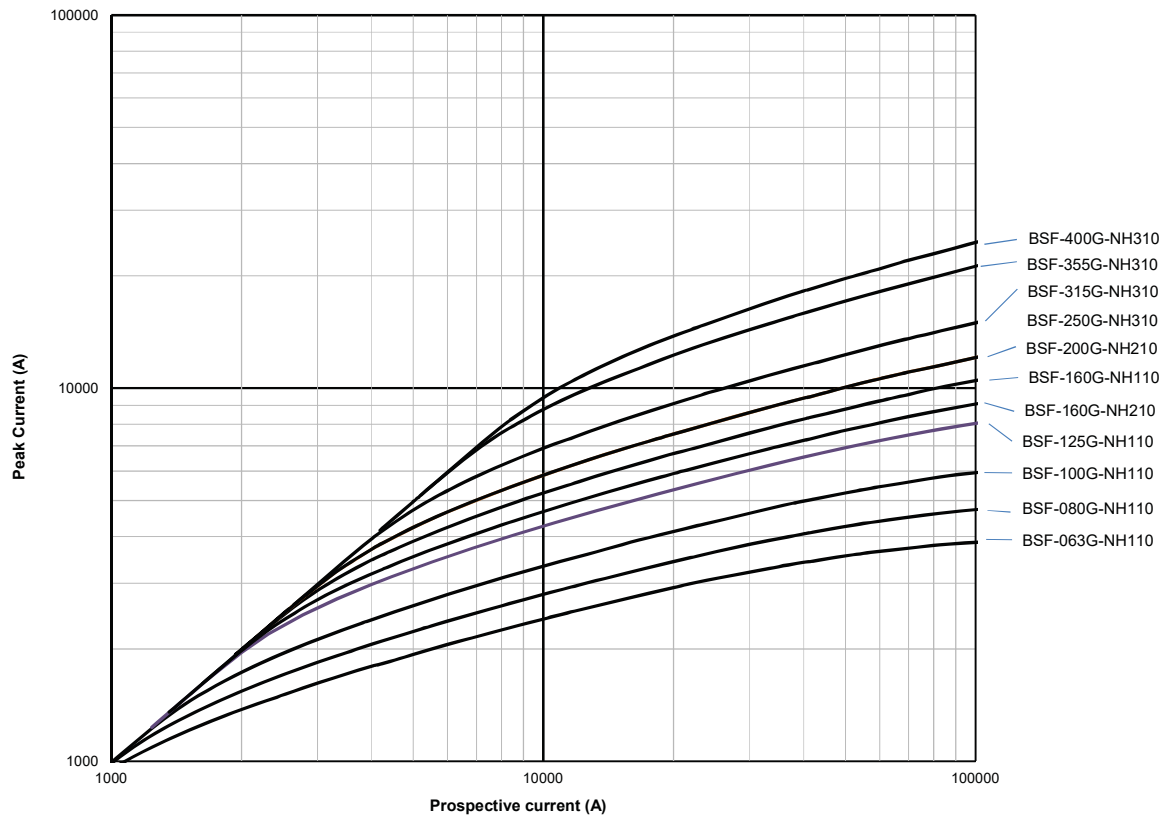


Temperature derating curve



(The ambient temperature is that local to the fuse link)

Peak let-through curve



NH Bases, SD-D-PV

Technical data

NH Bases, SD-D-PV

Catalogue number

- SD1-D-PV
- SD2-D-PV
- SD3-D-PV



Technical data

- Rated voltage:
 - 1500 V d.c. (IEC)
 - 1000 V d.c. (UL)
- Rated current:
 - 250 A (SD1)
 - 400 A (SD2)
 - 630 A (SD3)
- Withstand: 50 kA
- Power acceptance
 - SD1 - 32W
 - SD2 - 45W
 - SD3 - 60W

- Protection level:

IEC - IP20 with shroud kit installed and shielding of any exposed terminal lugs

UL - Installation of shroud kit decreases the likelihood of incidental terminal contact. To ensure compliance to IP20 specifications per UL the installer must make additional provisions.

- Temperature range

Operating - IEC Standards -20°C to 70°C

- UL-20°C to 90°C Max*

Storage - IEC and UL: -40°C to 90°C

* Dependant upon rating of customer supplied lugs

- Derating factors for maximum current

Ambient	Derating factor
35°C	1.00
40°C	0.95
50°C	0.85

- Terminal/Lug mounting torque: 32N•m (283.2 Lb-In)

- Mounting

- 35 mm DIN-Rail
- Panel

- Flammability rating: UL 94V0

- Materials

- Base: Glass filled PBT
- Contacts: Silver plated copper
- Hardware: Clear zinc-plated steel

Standards/Approvals

- IEC 60269-1
- UL Listed (UL file E348242)
- CSA file 47235

Packaging: MOQ: 3

Data sheet: 720149

Accessories

Fuse extraction handle

NH fuse link body size	Current (Amps)	Catalogue Numbers	Pack Quantity
NH1-3	250- 630	FEH	1

Shroud kits

Fuse Base Series	Fuse size	Current (Amps)	Catalogue Numbers	Description
SD1	NH1	250	SD12-SK	Kit includes 2 shrouds and 1 fuse cover
SD2	NH2	400	SD12-SK	
SD3	NH3	630	SD3-SK	

Phase Barrier Kit

NH fuse link body size	Current (Amps)	Catalogue Numbers	Pack Quantity	Description
NH1	250	SD12-PB	1	2-Phase barriers and 2 ganging links
NH2	400	SD12-PB	1	
NH3	630	SD3-PB	1	



Phase barrier



Ganging link

Microswitch

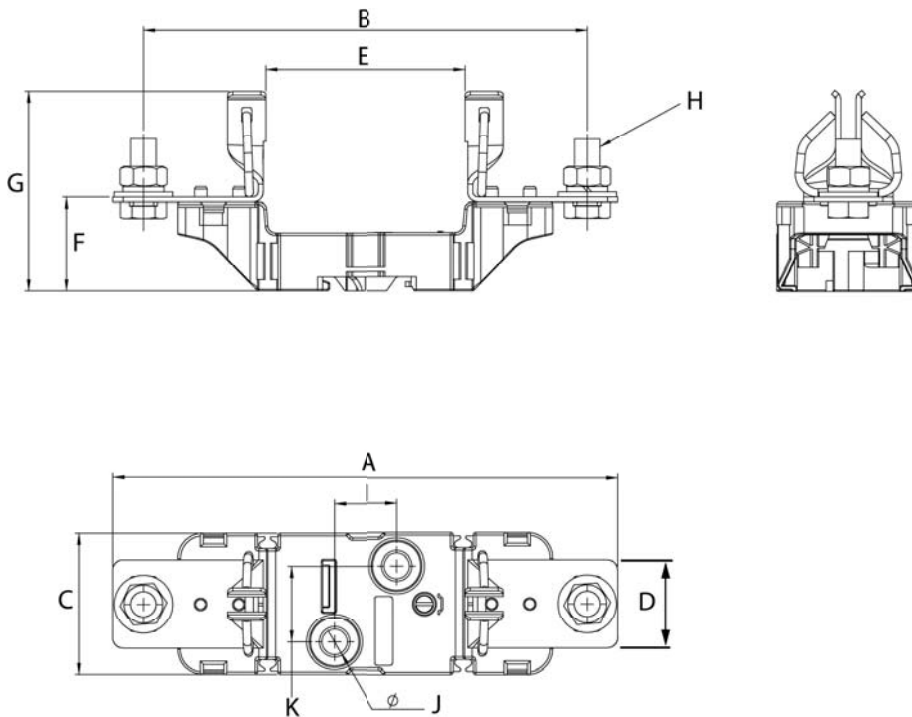
Catalogue Numbers	Pack Quantity	Rated
170H0236	12	2 A 250 V a.c.
170H0238	12	2 A 250 V a.c.

1-pole changeover microswitch suitable for the following NH Battery storage bladed fuse links:

Neutral links

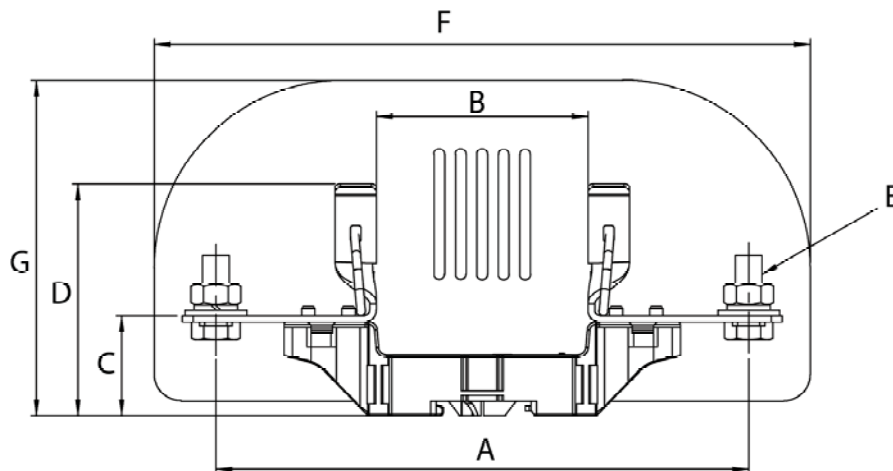
NH fuse link body size	Current (Amps)	Catalogue Numbers	Pack Quantity
NH1	250	SDL-1	3
NH2	400	SDL-2	3
NH3	630	SDL-3	3

Dimensions - mm 1-pole, Sizes 1, 2 and 3



Catalogue numbers	NH Fuse link body size	A	B	C	D	E	F	G	H	I	J	K
SD1	NH1	199	175	56	35	79	37	78	M10x25	25	10	30
SD2	NH2	224	199	56	35	79	37.5	86	M10x25	25	10	30
SD3	NH3	239	209	56	36	82	37.5	88	M12x30	25	10	30

Dimensions - mm With phase barriers 1-pole sizes 1, 2 and 3



Catalogue numbers	NH Fuse link body size	A	B	C	D	E	F	G
SD1	NH1	175	79	37	78	M10 x 25	245	125.5
SD2	NH2	199	79	37.5	86	M10 x 25	245	125.5
SD3	NH3	209	82	37.5	88	M12 x 30	260	137.5

Data sheet: 720149