Eaton's Bussmann series
IEC High speed fuse links catalogue

BUSSMANN SERIES

Leadership in fusible circuit protection



Powering Business Worldwide

Photovoltaic fuse links, fuse bases and holders

PVM - 10 x 38 mm, 600 V d.c. (UL), 4 A to 30 A

Specifications



Description

A range of UL 2579 fast-acting 600 V d.c. midget fuse links specifically designed to protect solar power systems in extreme ambient temperature, high cycling and low level fault Rated current conditions (reverse rated current, multi-array fault).

Technical data

- Rated voltage: 600 V d.c. to UL 2579
- Rated current: 4 A to 30 A
- Breaking capacity: 50 kA DC (4 A to 30 A)

Compatible fuse holder

CHPV

Standards / Agency information

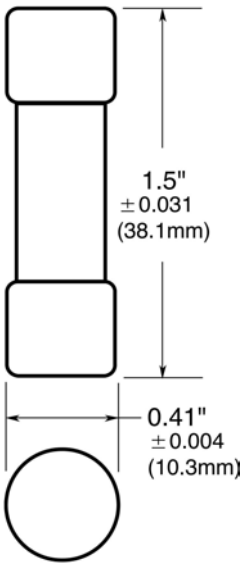
UL Listed 2579, Guide JFGA, File E335324, CSA Component Certified C22.2

Catalogue numbers

Rated voltage	Rated current (Amps)	Power Loss (W)		Catalogue numbers
		0.8 x I_n	1 x I_n	
600 V d.c. (UL)	4			PVM-4
	5			PVM-5
	6			PVM-6
	7			PVM-7
	8			PVM-8
	9			PVM-9
	10	1	1.9	PVM-10
	12			PVM-12
	15	1	1.7	PVM-15
	20			PVM-20
	25			PVM-25
	30	1.6	2.9	PVM-30

Please contact FUSETECH@eaton.com for further information

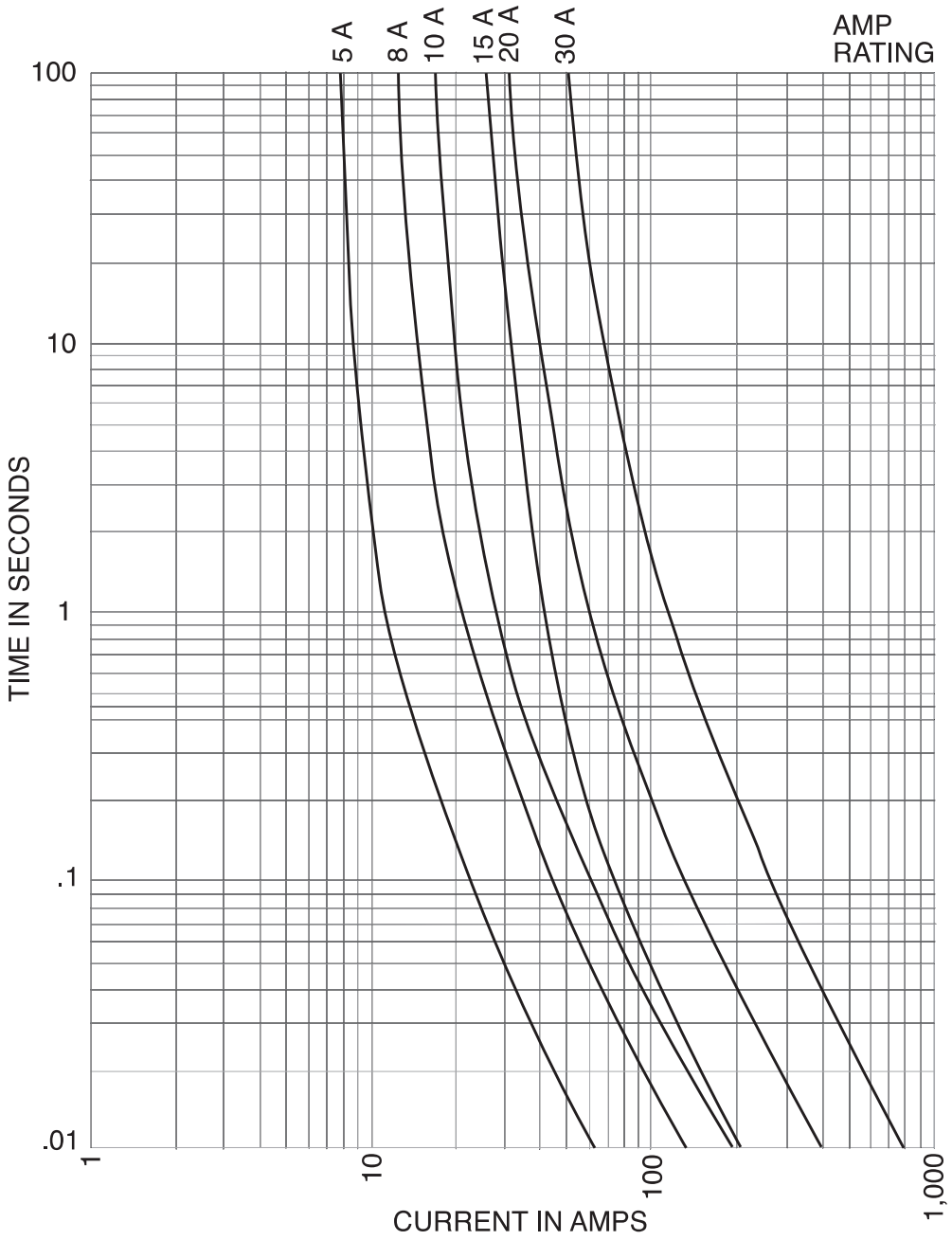
Dimensions in (mm)



Data sheet: 2153

PVM - 10 x 38 mm, 600 V d.c. (UL), 4 A to 30 A

Time-current curve - 5 A to 30 A



Please contact FUSETECH@eaton.com for further information

Data sheet: 2153

Photovoltaic fuse links, fuse bases and holders

PV-A10 - 10 x 38 mm, 1000 V d.c. (IEC/UL), 1 A to 20 A

Specifications

Description

A range of fuse links in a 10 x 38 mm package specifically designed for the protection and isolation of photovoltaic strings. The fuse links are capable of interrupting low over rated currents associated with faulted PV (reverse rated current, multi-array fault) string arrays.



Technical data

- Rated voltage: 1000 V d.c. (IEC/UL)
- Rated current: 1 A to 20 A
- Breaking capacity: 50 kA
- Operating class: gPV and UL PV fuse links

Compatible fuse holder

CHPV

Standards / Agency information

IEC 60269-6, UL Recognised 2579 (File number E335324), CSA, CCC (1-15A), RoHS compliant.

Catalogue numbers - Cylindrical and bolt fixing fuse links

		I^2t (A^2 Sec)		Watts loss (W)		Catalogue numbers	
Rated voltage	Rated current (Amps)	Pre-arcing	Total at 1000 V d.c.	0.8 I_n	I_n	Cylindrical	Bolt fixing
1000 V d.c. (UL/IEC)	1	0.2	0.4	0.8	1.5	PV-1A10F	PV-1A10-T
	2	1.2	4	0.6	1.0	PV-2A10F	PV-2A10-T
	2.5	3	9	0.6	1.0	PV-2-5A10F	PV-2-5A10-T
	3	4	11	0.8	1.3	PV-3A10F	PV-3A10-T
	3.5	6.6	18	0.9	1.4	PV-3-5A10F	PV-3-5A10-T
	4	9.5	26	1.0	1.5	PV-4A10F	PV-4A10-T
	5	19	50	1.0	1.6	PV-5A10F	PV-5A10-T
	6	30	90	1.1	1.8	PV-6A10F	PV-6A10-T
	8	3	32	1.2	2.1	PV-8A10F	PV-8A10-T
	10	7	70	1.2	2.3	PV-10A10F	PV-10A10-T
	12	12	120	1.5	2.7	PV-12A10F	PV-12A10-T
	15	15	160	1.7	2.9	PV-15A10F	PV-15A10-T
	16	19	200	1.8	3	PV-16A10F	PV-16A10-T
	20	34	350	2.1	3.6	PV-20A10F	PV-20A10-T

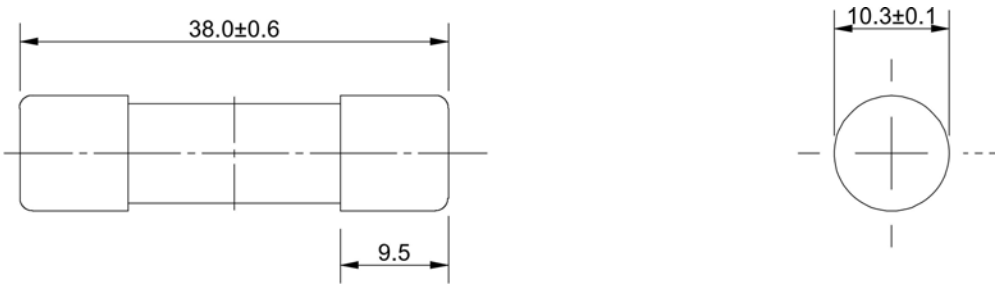
Catalogue numbers - PCB fixing fuse links

		I^2t (A^2 Sec)		Watts loss (W)		Catalogue numbers		
Rated voltage	Rated current (Amps)	Pre-arcing	Total at 1000 V d.c.	0.8 I_n	I_n	PCB fixing single pin	PCB fixing double pin	PCB fixing double pin silver cap
1000 V d.c. (UL/IEC)	1	0.2	0.4	0.8	1.5	PV-1A10-1P	PV-1A10-2P	PV-1A10-2P-S
	2	1.2	4	0.6	1.0	PV-2A10-1P	PV-2A10-2P	PV-2A10-2P-S
	2.5	3	9	0.6	1.0	PV-2-5A10-1P	PV-2-5A10-2P	PV-2-5A10-2P-S
	3	4	11	0.8	1.3	PV-3A10-1P	PV-3A10-2P	PV-3A10-2P-S
	3.5	6.6	18	0.9	1.4	PV-3-5A10-1P	PV-3-5A10-2P	PV-3-5A10-2P-S
	4	9.5	26	1.0	1.5	PV-4A10-1P	PV-4A10-2P	PV-4A10-2P-S
	5	19	50	1.0	1.6	PV-5A10-1P	PV-5A10-2P	PV-5A10-2P-S
	6	30	90	1.1	1.8	PV-6A10-1P	PV-6A10-2P	PV-6A10-2P-S
	8	3	32	1.2	2.1	PV-8A10-1P	PV-8A10-2P	PV-8A10-2P-S
	10	7	70	1.2	2.3	PV-10A10-1P	PV-10A10-2P	PV-10A10-2P-S
	12	12	120	1.5	2.7	PV-12A10-1P	PV-12A10-2P	PV-12A10-2P-S
	15	15	160	1.7	2.9	PV-15A10-1P	PV-15A10-2P	PV-15A10-2P-S
	16	19	200	1.8	3	PV-16A10-1P	PV-16A10-2P	PV-16A10-2P-S
	20	34	350	2.1	3.6	PV-20A10-1P	PV-20A10-2P	PV-20A10-2P-S

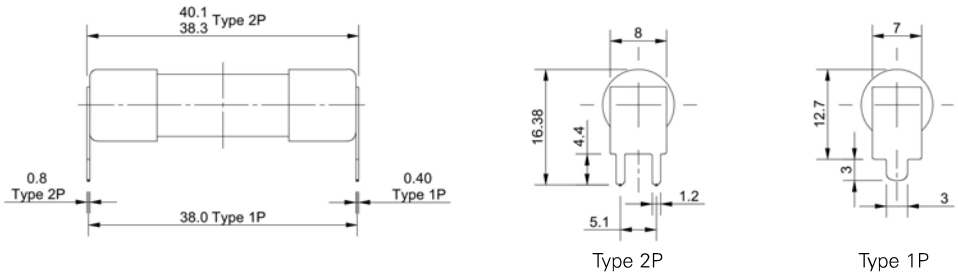
Data sheet: 720110

PV-A10 - 10 x 38 mm, 1000 V d.c. (IEC/UL), 1 A to 20 A

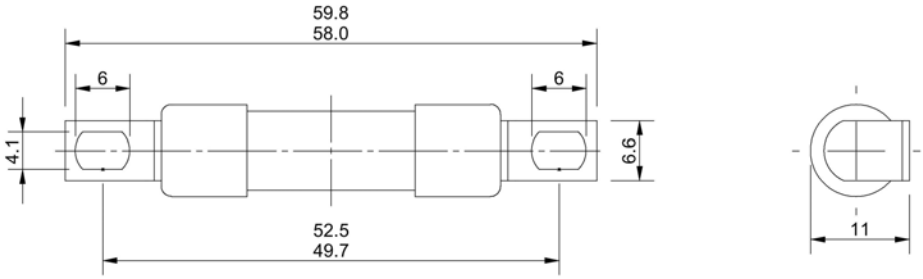
Dimensions (mm) - PV-**A10F, Cylindrical



Dimensions (mm) - PV-**A10-xP, PCB fixing



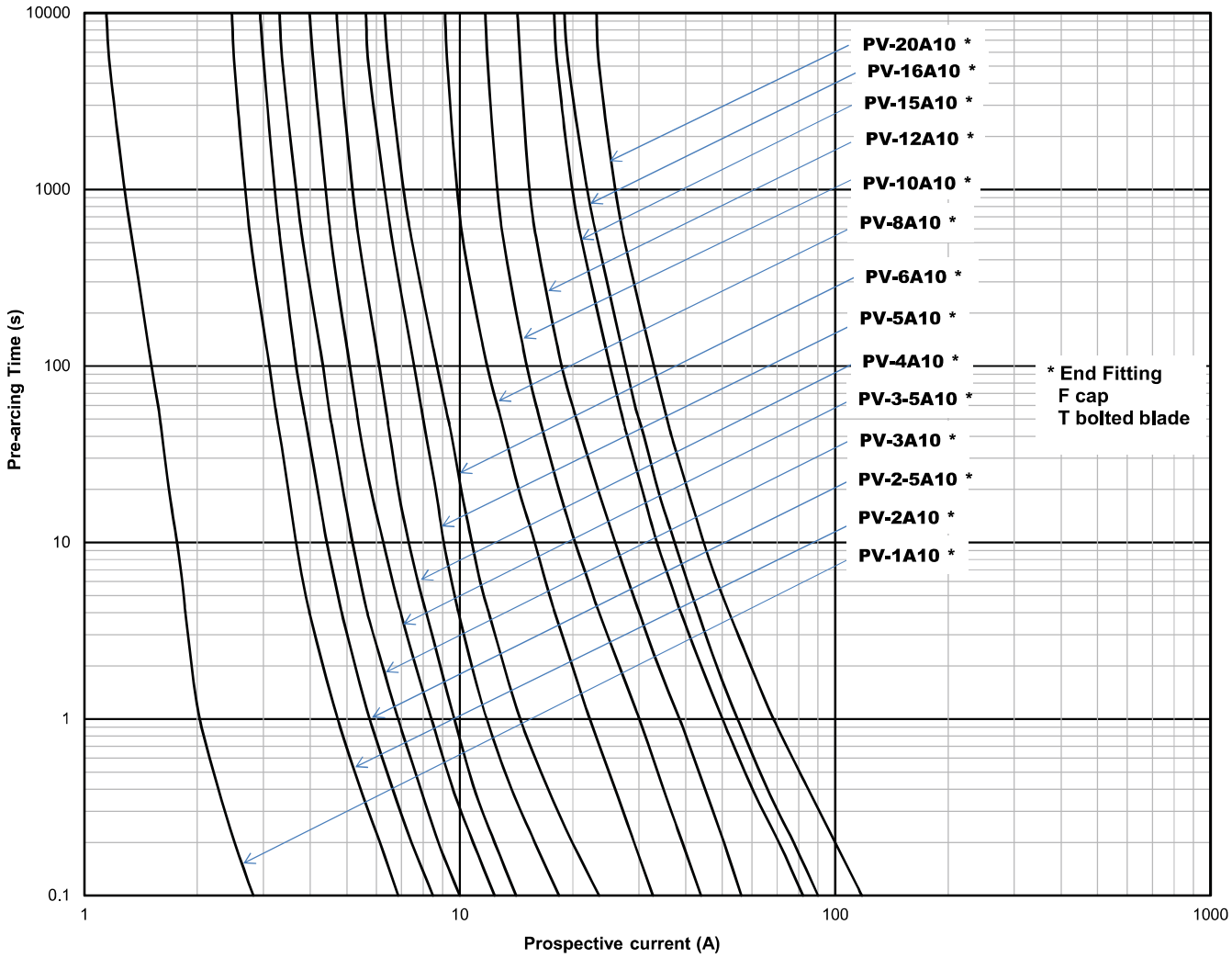
Dimensions (mm) - PV-**A10-T, Bolt fixing



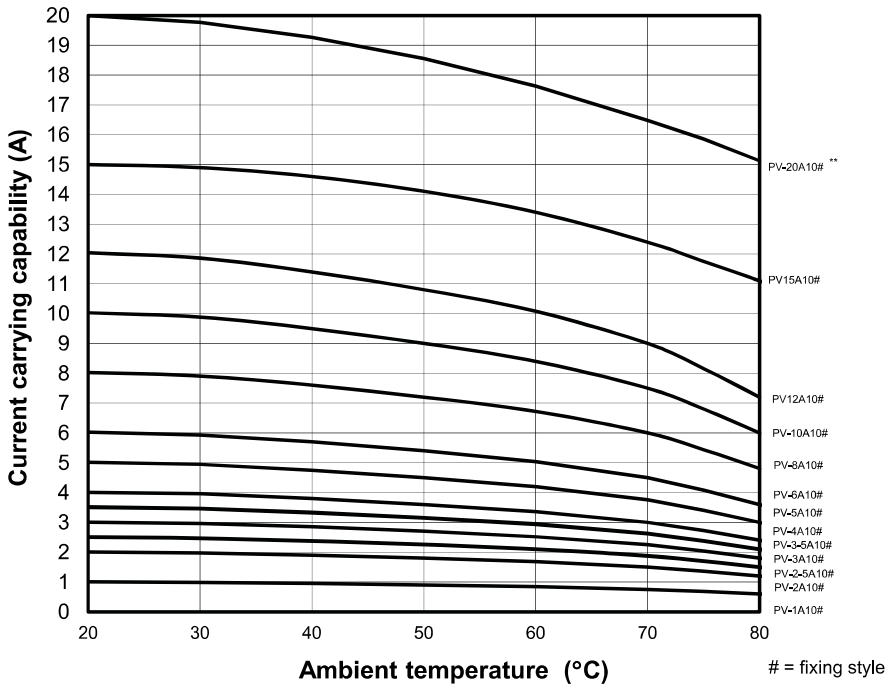
Data sheet: 720110

PV-A10 - 10 x 38 mm, 1000 V d.c. (IEC/UL), 1 A to 20 A

Time-current curve - 1 A to 20 A



Temperature deratings



Data sheet: 720110

CHPV - Modular fuse holders, 1000 V d.c. (IEC/UL), 32 A (IEC), 30 A (UL

Specifications

Description

Compact DIN-Rail mounting fuse holders specifically designed for 10 x 38 mm photovoltaic fuse links.



Catalogue numbers

- CHPV1U 1-pole modular fuse holder
- CHPV2U 2-pole modular fuse holder
- CHPV1IU 1-pole modular fuse holder with neon indicator
- CHPV2IU 2-pole modular fuse holder with neon indicator

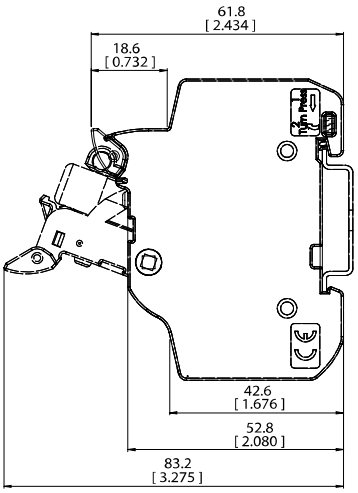
Technical data

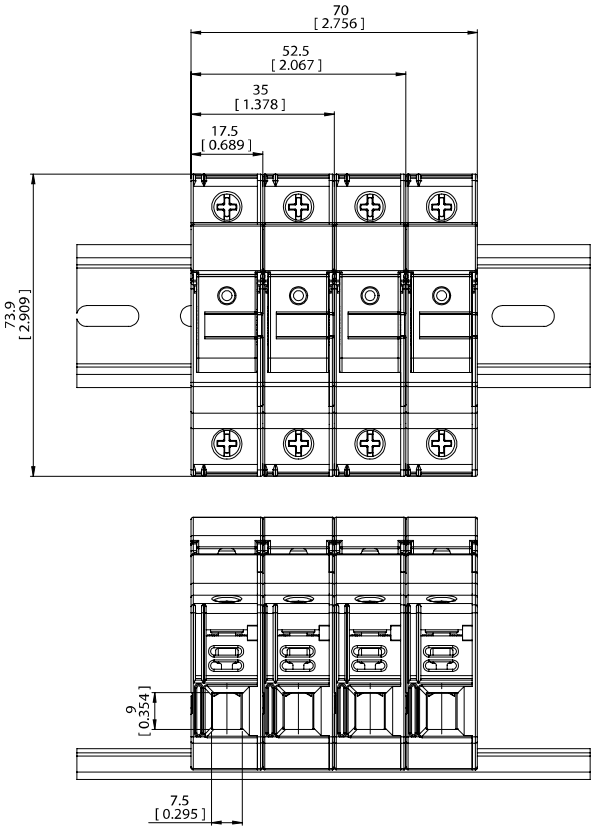
IEC		UL				
Rated voltage	**Rated current**	**Rated voltage**	**Rated current**	**Terminal rating**	**Rated breaking withstand capactiy**	**Compatible Bussmann series fuse links**
1000 V d.c.	32 A	1000 V d.c.	30 A	IEC 1 to 25 mm^2 70°C PVC Copper cable (solid stranded or fine stranded) Spade lug Comb bus bar	33 kA rms sym	Solar PV range: PVM, PV-A10F

Standards / Agency information

IEC	UL	CSA	CCC	CE
IEC 60269-1	UL 4248-1 UL4248-19 UL file E14853	C22.2 No 4248.1 C22.2 No 4248.19	GB 13539.1	DCB 272

Dimensions mm (in)





Data sheet: 720147

Photovoltaic fuse links, fuse bases and holders

PV-A10F85L - 10 x 85 mm, 1500 V d.c. (IEC/UL), 2.25 A to 30 A

Specifications

Description

A range of fuse links in a 10 x 85 mm package specifically designed for the protection and isolation of photovoltaic strings.



Technical data

- Rated voltage: 1500 V d.c.
- Rated current: 2.25 A to 30 A
- Breaking capacity: 30 kA 1 ms
- Operating class: gPV

Compatible fuse holder

CHPV15L85

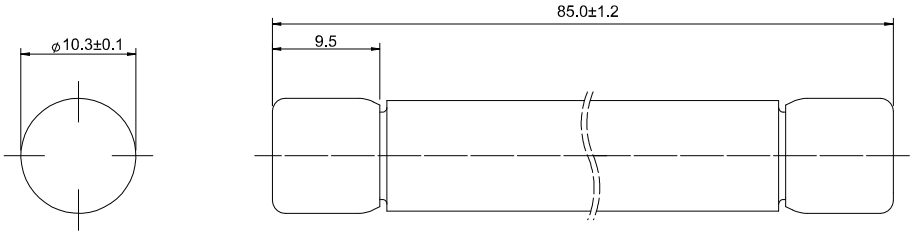
Standards / Agency information

IEC 60269-6, UL 248-19, RoHS compliant

Catalogue numbers

Rated voltage	Rated current (Amps)	I^2t (A^2 Sec) Pre-arcing	I^2t (A^2 Sec) Total at 1500 V d.c.	Watts loss (W) 0.8 I_n	Watts loss (W) I_n	Catalogue numbers
1500 V d.c. (IEC/UL)	2.25	3	10	1.4	2.4	PV-2-25A10F85L
	2.5	4	10	1.3	2.1	PV-2.5A10F85L
	3	7	20	1.3	2.2	PV-3A10F85L
	3.5	10	20	1.6	2.6	PV-3.5A10F85L
	4	15	30	1.7	2.8	PV-4A10F85L
	5	33	60	1.7	2.8	PV-5A10F85L
	12	19	240	2.1	3.5	PV-12A10F85L
	15	42	300	2.2	3.6	PV-15A10F85L
	16	48	350	2.1	3.5	PV-16A10F85L
	20	108	800	2.7	4.5	PV-20A10F85L
	25	190	1400	3.4	5.6	PV-25A10F85L
	30	485	3500	4	6.6	PV-30A10F85L

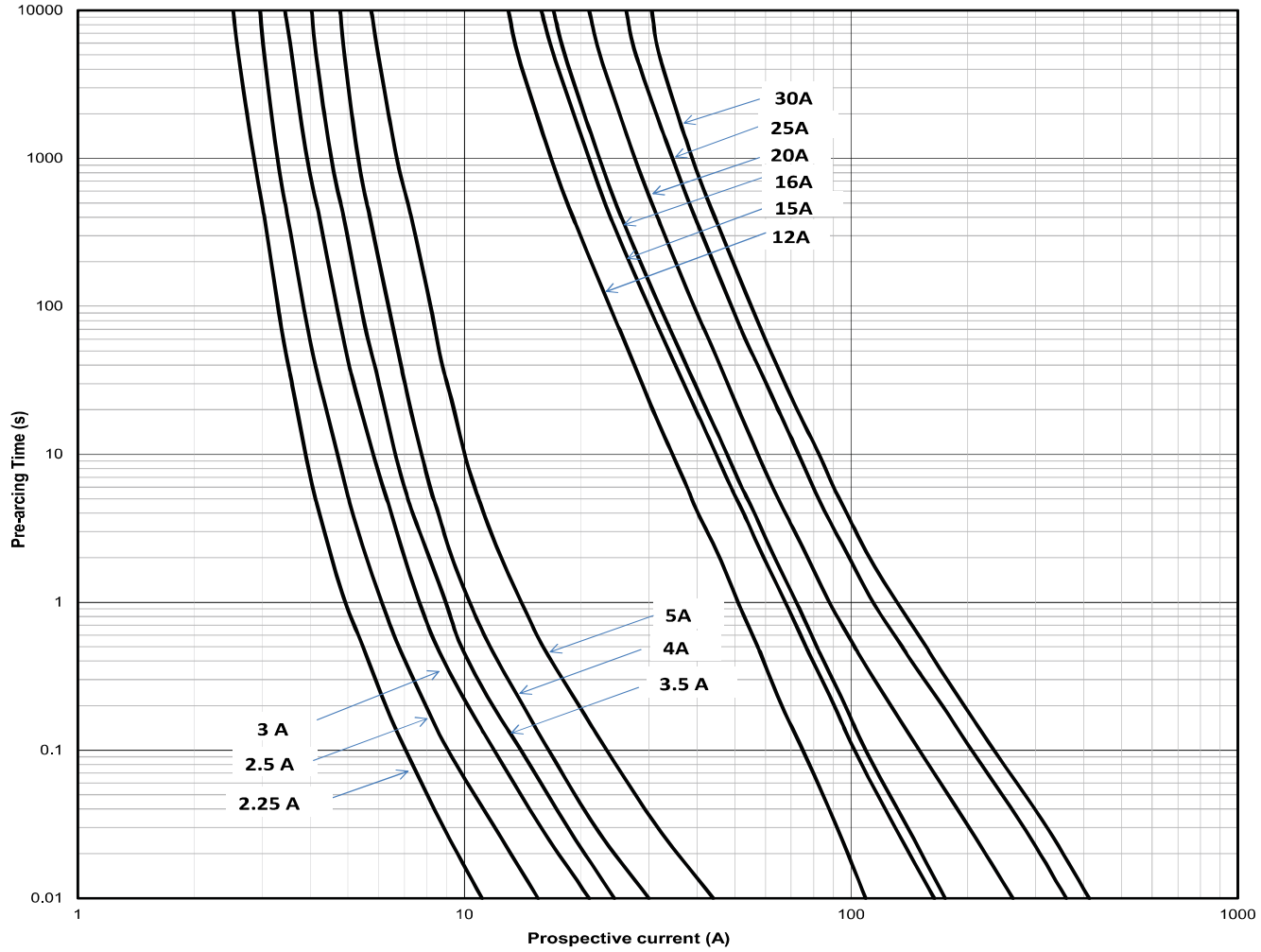
Dimensions (mm)



Data sheet: 10658

PV-A10F85L - 10 x 85 mm, 1500 V d.c. (IEC/UL), 2.25 A to 30 A

Time-current curve - 2.25 A to 30 A



Data sheet: 10658

CHPV15H85 -10 x 85 mm fuse holder, 1500 V d.c.. 32 A (IEC/UL)

Specifications



Description

Eaton's Bussmann series 10 x 85 mm fuse holders are suitable for use with 10 x 85 mm and 14 x 85 mm cylindrical gPV fuse links. The unique design offers high degree of safety. There is no possibility of any accidental contact with live parts during replacement of the fuse links. When the fuse carrier is extracted, a spring loaded cover moves out covering the live parts hence protecting against accidental damage.

Catalogue symbol

CHPV15H85

Compatible fuse links

- 10 x 85 mm fuse links - PV-A10F85L
- 14 x 85 mm fuse links - PV-A14LF

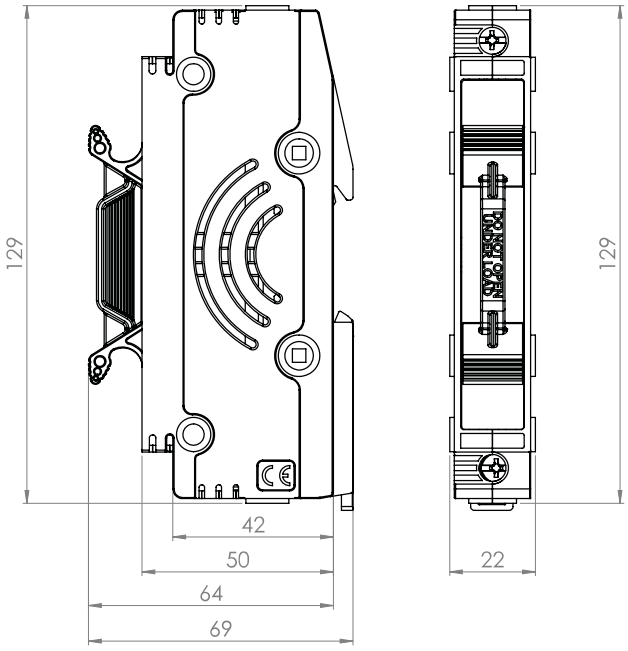
Technical data

- Rated voltage: 1500 V d.c.
- Rated current: 32 A (IEC/UL)
- Breaking capacity: 50 kA

Standards / Agency information

- IIEC 60269-1
- IEC 60269-6
- UL 4248-1 Edition 1 (File number 348242)
- UL 4248-19 Edition 1

Dimensions (mm)



Data sheet: TD135010

PV-14F - 14 x 51 mm, 1000 and 1100 V d.c. (IEC/UL), 15 A to 32 A

Specifications

Description

A range of fuse links in a 14 x 51 mm package specifically designed for the protection and isolation of photovoltaic strings. The fuse links are capable of interrupting low overrated currents associated with faulted PV (reverse rated current, multi-array fault).



Technical data

- Rated voltage:
  - 1100 V d.c. (IEC and UL, 15 A and 20 A)
  - 1000 V d.c. (IEC and UL, 25 A and 32 A)
- Rated current: 15 A to 32 A
- Breaking capacity: 30 kA
- Operating class: gPV and UL PV fuse links

Compatible fuse holder

- CHPV14

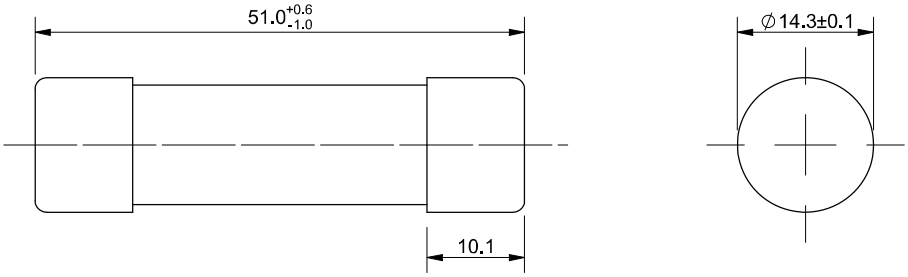
Standards / Agency information

IIEC 60269-6, UL Recognised 2579 (File number E335324), RoHS compliant. Pending: CCC

Catalogue numbers

Rated voltage	Rated current (Amps)	I^2t (A^2 Sec) Pre-arcing	I^2t (A^2 Sec) Total at rated voltage	Watts loss (W) 0.8 I_n	Watts loss (W) I_n	Catalogue numbers
1100 V d.c. (IEC/UL)	15	14	270	2.1	4	PV-15A14F
	20	27	570	2.9	5.5	PV-20A14F
1000 V d.c. (IEC/UL)	25	65	950	2.8	5.3	PV-25A14F
	32	120	1750	4	7.5	PV-32A14F

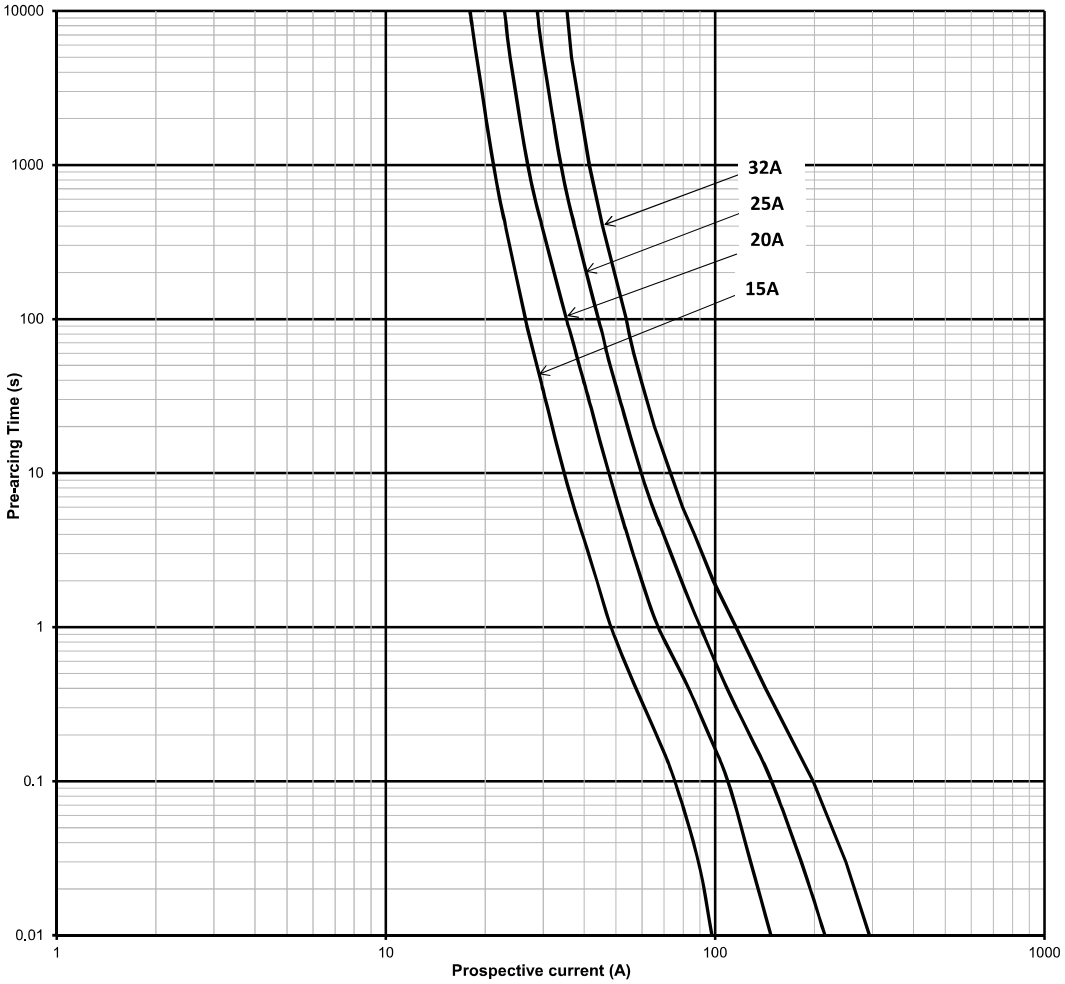
Dimensions (mm)



Data sheet: 720132

PV-14F - 14 x 51 mm, 1000 and 1100 V d.c. (IEC/UL), 15 A to 32 A

Time-current curve - 15 A to 32 A



Data sheet: 720132

CHPV14 - 14 x 51 mm, Modular fuse holders, 1500 V d.c., 50 A

Specifications



Description

Compact DIN-Rail mounting fuse holders specifically designed for 14 x 51 mm photovoltaic fuse links.

Catalogue numbers

- CHPV141U 1-pole without indicator
- CHPV142 2-pole without indicator
- CHPV141IU 1-pole with indicator
- CHPV142IU 2-pole with indicator

Standards / Agency information

IEC 60269-1 and 2, UL Listed file number E348242

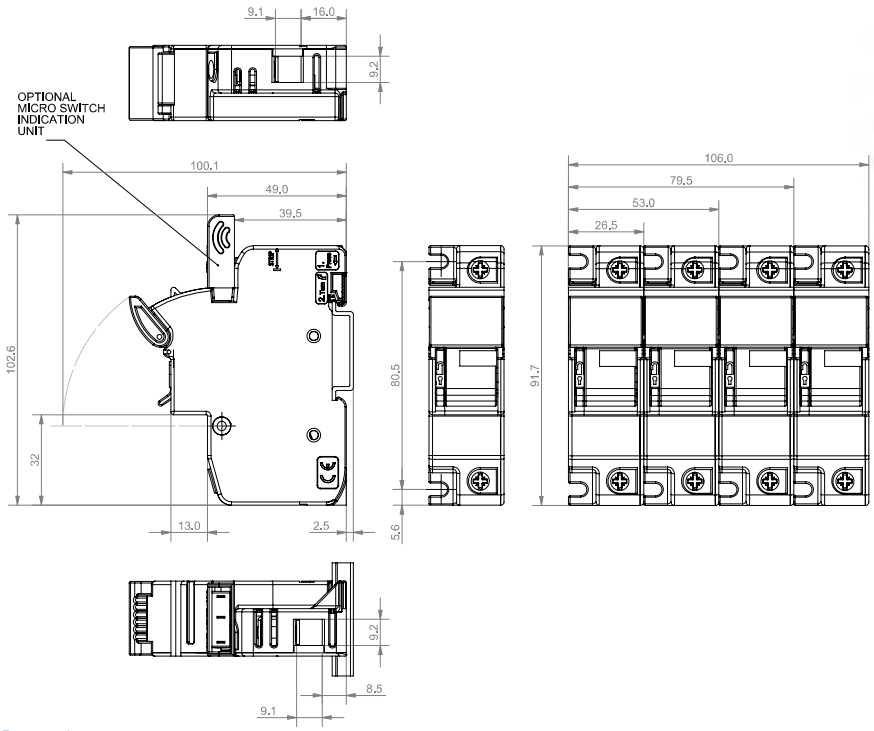
Technical data

Rated voltage	Rated current				
IEC and UL	IEC and UL	Agency markings	Terminal rating	Rated breaking withstand capactiy	Compatible Bussmann series fuse links
1500 V d.c.	32 A	IEC 60269-1 and 2 UL Listed file number E348242	Cable size: 1.5-50 mm² Recommended torque setting: 3.5 Nm Maximum torque setting: 3.5Nm Mounting 35 mm DIN-Rail or 2 x M4 panel mounting screws	10 kA d.c.	PV-A14F

Accessories

Catalogue numbers	Description	Unit packing
JV-L	Multi-pole connector kit. One kit will gang up to 4-poles together	12
CH14-CTP	IP20 Protection accessory, provides IP20 protection to terminals with 10mm² or less cable	12

Dimensions (mm)





Data sheet: 10080

Photovoltaic fuse links, fuse bases and holders

PV-14L - 14 x 65 mm, 1300-1500 V d.c. (IEC and UL), 2.25 A to 32 A

Specifications

Description

A range of fuse links in a 14 x 65 mm package specifically designed for the protection and isolation of photovoltaic strings. The fuse links are capable of interrupting low overrated currents associated with faulted PV (reverse rated current, multi-array fault).



Technical data

- Rated voltage:
  - 1500 V d.c. (IEC and UL, 2.25 A to 20 A)
  - 1300 V d.c. (IEC and UL, 25 A and 32 A)
- Rated current: 2.25 A to 32 A
- Breaking capacity: 10 kA
- Operating class: gPV and UL PV fuse links

Compatible fuse holder for PV-A14LF10F

CHPV15L85

Standards / Agency information

IEC 60269-6, UL Recognised 2579 (File number E335324), RoHS compliant, Pending: CCC.

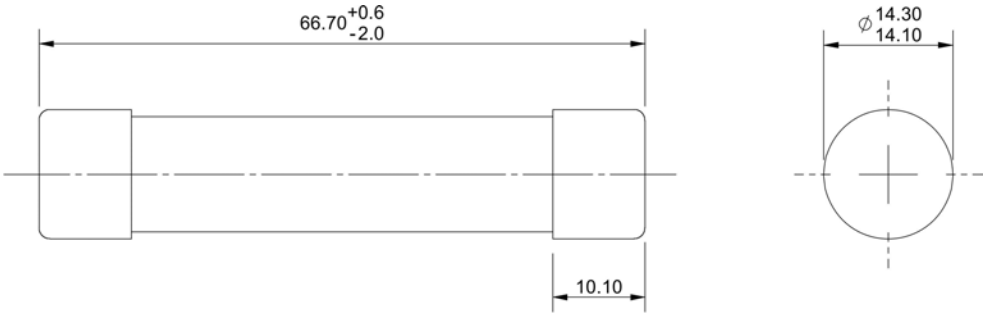
Catalogue numbers

		I^2t (A^2 Sec)		Watts loss (W)		Catalogue numbers		
Rated voltage	**Rated current (Amps)**	**Pre-arcing**	**Total at rated voltage**	**0.8 I_n**	**I_n**	**Cylindrical**	**Cylindrical with tags**	**Cylindrical with 10mm fixings**
1500 V d.c. (IEC/UL)	2.25	4	8	1.4	2.3	PV-2.25A14LF	N/A	PV-2.25A14LF10F
	2.5	5	10	1.5	2.5	PV-2.5A14LF	PV-2.5A14L-T	PV-2.5A14LF10F
	3	8	14	1.7	2.8	PV-3A14LF	PV-3A14L-T	PV-3A14LF10F
	3.5	12	23	1.8	3.0	N/A	N/A	PV-3.5A14LF10F
	4	18	34	2	3.3	PV-4A14LF	PV-4A14L-T	PV-4A14LF10F
	15	16	190	2.9	5.1	PV-15A14LF	PV-15A14L-T	PV-15A14LF10F
	20	34	400	3.8	6.9	PV-20A14LF	PV-20A14L-T	PV-20A14LF10F
1300 V d.c. (IEC/UL)	25	65	550	4.1	7.5	PV-25A14LF	PV-25A14L-T	PV-25A14LF10F
	32	105	900	5.7	10.4	PV-32A14LF	PV-32A14L-T	PV-32A14LF10F

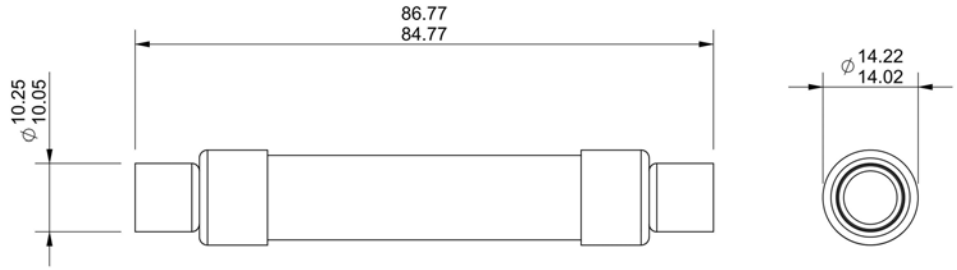
Data sheet: 720139, 5785579

PV-14L - 14 x 65 mm, 1300-1500 V d.c. (IEC and UL), 2.25 A to 32 A

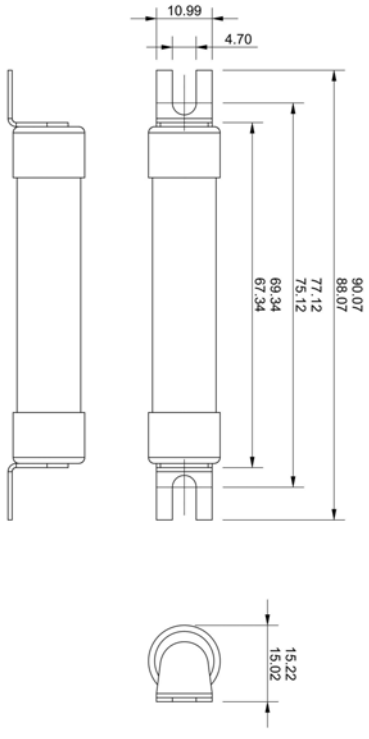
Dimensions (mm) - PV-*A14LF, Cylindrical



Dimensions (mm) - PV-*A14LF10F, Cylindrical with 10 mm Fixings



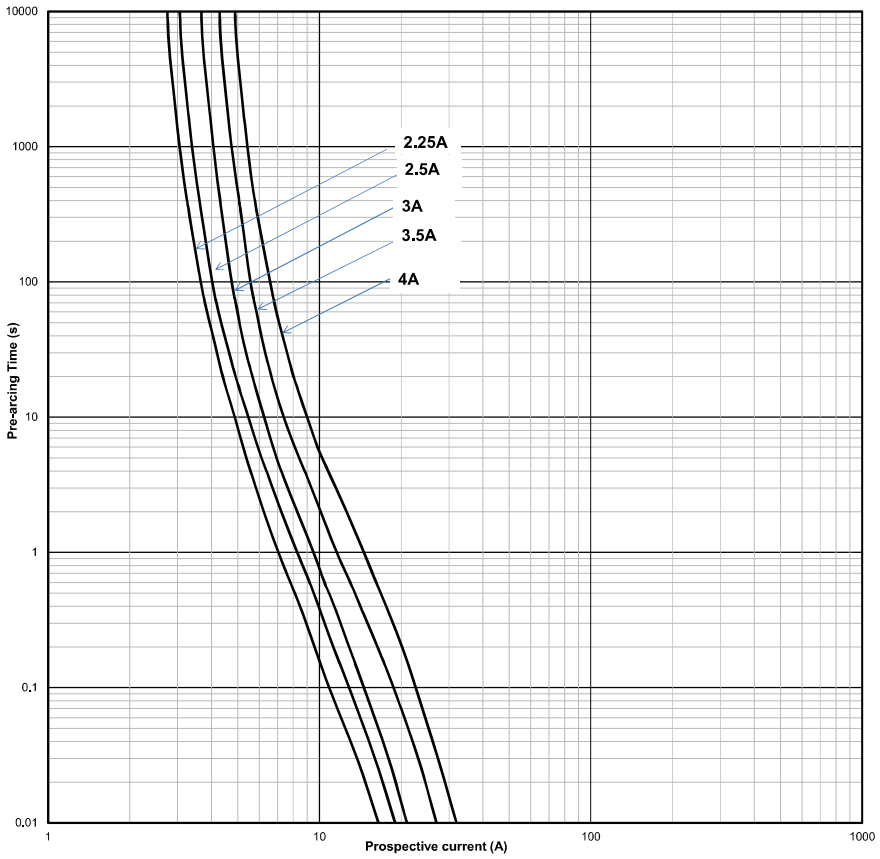
Dimensions (mm) - PV-*A14L-T, Cylindrical with tags



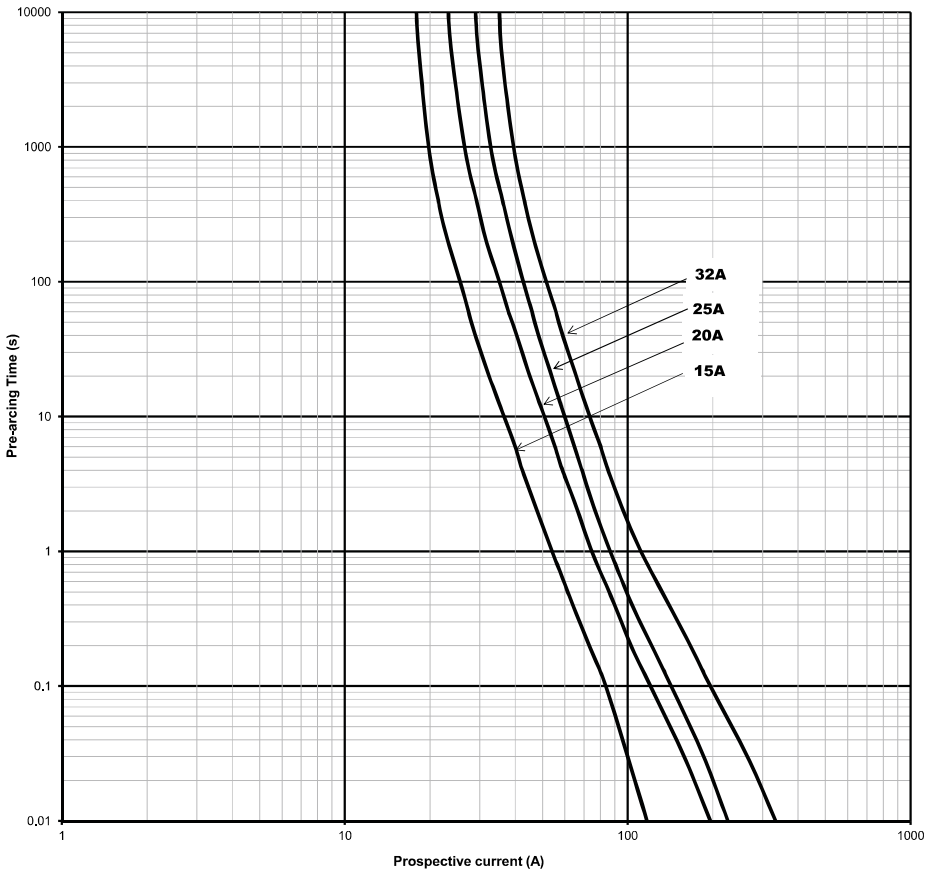
Data sheet: 720139, 5785579

PV-14L - 14 x 65 mm, 1300-1500 V d.c. (IEC and UL), 2.25 A to 32 A

Time-current curve - 2.25 A to 4 A



Time-current curve - 3.5 A to 32 A



Data sheet: 720139, 5785579

PV-22F65L - 22 x 65 mm, 1500 V d.c. (IEC and UL), 32 A to 50 A

Specifications



Description

A range of fuse links in a 22 x 65 mm package specifically designed for the protection and isolation of photovoltaic strings. The fuse links are capable of interrupting low overrated currents associated with faulted PV (reverse rated current, multi-array fault).

Technical data

- Rated voltage: 1500 V d.c. (IEC and UL)
- Rated current: 32 A to 50 A
- Breaking capacity: 50 kA
- Operating class: gPV and UL PV fuse links

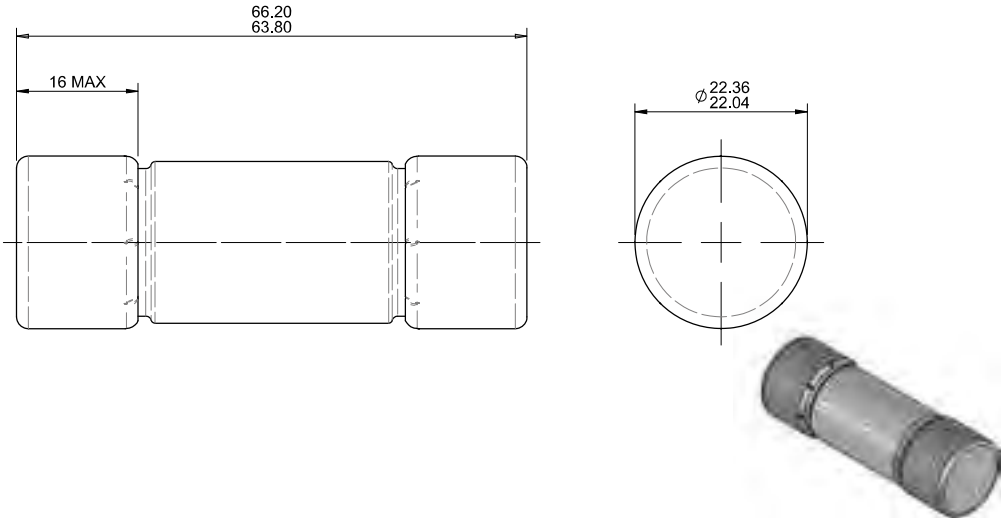
Standards / Agency information

IEC 60269-6, UL Recognised 2579 (File number E335324), RoHS compliant, Pending: CCC.

Catalogue numbers

		I^2t (A^2 Sec)		Watts loss (W)		
Rated voltage	Rated current (Amps)	Pre-arcing	Total at rated voltage	0.7 I_n	I_n	Catalogue numbers
1500 V d.c. (IEC/UL)	32	1650	3990	2.7	6.7	PV-32A22F65L
	35	2900	7080	2.5	6.1	PV-35A22F65L
	40	3450	8310	3.0	7.3	PV-40A22F65L
	45	4600	11,100	3.4	8.3	PV-45A22F65L
	50	6600	16,000	3.8	9.3	PV-50A22F65L

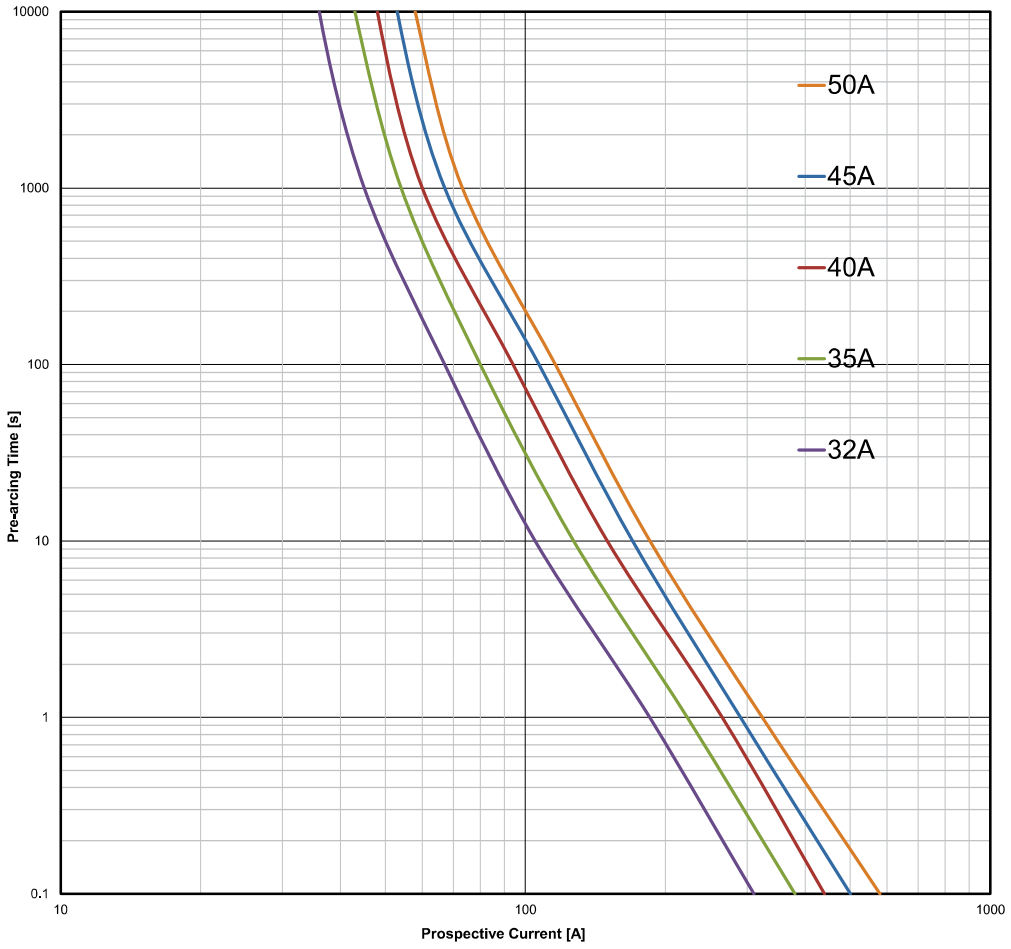
Dimensions - mm



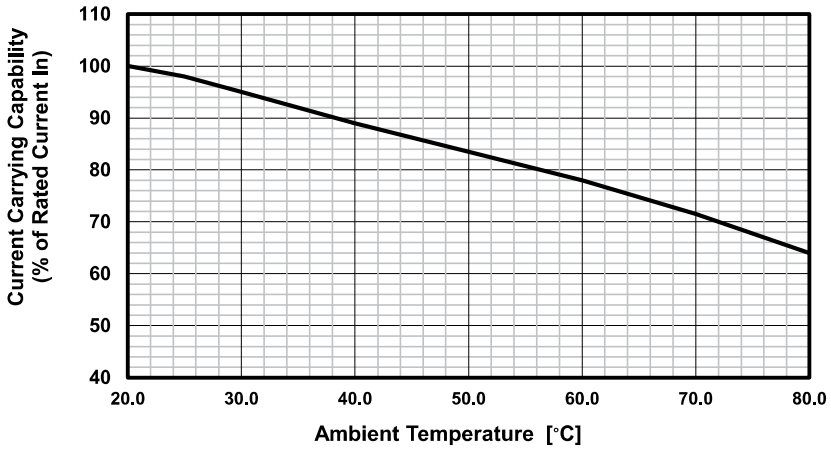
Data sheet: TD135022

PV-22F65L - 22 x 65 mm, 1500 V d.c. (IEC and UL), 32 A to 50 A

Time-current curve



Temperature derating curve



Data sheet: TD135022

NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

Specifications

Description

Eaton's Bussmann series NH size 800 V a.c. fuse links are specifically designed to meet the needs of branch circuit and transformer protection in photovoltaic inverter systems. The fuse links are capable of interrupting low overcurrents associated with faulted PV systems (reverse current, multi-array fault).



Technical data

- Rated voltage: 800 V a.c.
- Rated current: 32 A to 400 A
- Breaking capacity: 65 kA
- Operating class: gR

Compatible fuse base

SD-D-PV see details page 352

Microswitches, for use with bladed version

- 170H0236
- 170H0238

Standards / Agency information

UL 248-13 (file number E125085), IEC 60269-4 (see details below)

Catalogue numbers

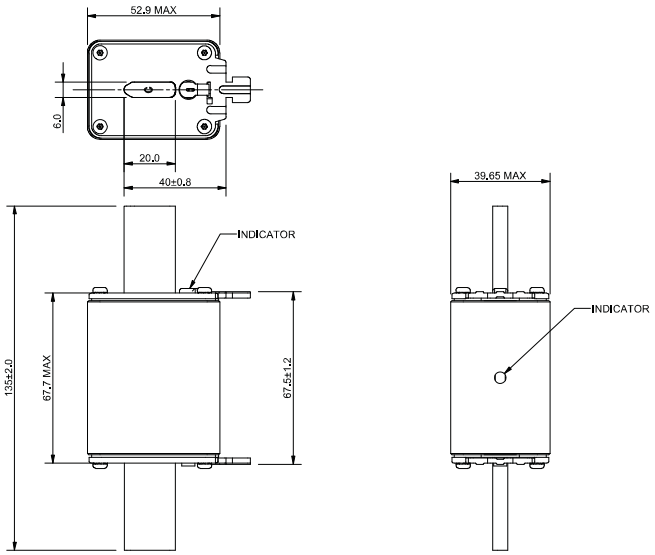
			I^2t (A^2 Sec)		Watts loss (W)	Catalogue numbers	
Fuse link body size	**Rated voltage**	**Rated current (Amps)**	**Pre-arcing**	**Total at 800 V a.c.**	**I_n**	**Bladed with lugs**	**Blade with bolt holes no lugs**
NH1	800 V a.c.	32	80	2000	8	170M7350	
		40	185	3000	9	170M7351	
		50	400	6000	11	170M7352	
		63	470	7000	12	170M7353*	170M7353-B*
		80	640	9000	15	170M7354	170M7354-B
		100	1300	17000	16	170M7355	170M7355-B
		125	2600	34000	17	170M7356*	170M7356-B*
		160	5200	68000	27	170M7357*	170M7357-B*
		200	10200	140000	25	170M7358*	170M7358-B*
NH2	800 V a.c.	160	4600	36800	28	170M7397	170M7397-B
		200	9500	76000	32	170M7398	170M7398-B
		250	17000	136000	38	170M7399	170M7399-B
NH3	800 V a.c.	315	32000	230000	44	170M7400*	170M7400-B*
		355	44500	320000	46	170M7401*	
		400	67500	480000	50	170M7402*	
		355	38000	270000	48		170M7401-B*
		400	61000	430000	50		170M7402-B*

*UL 248-13 and IEC 60269-4

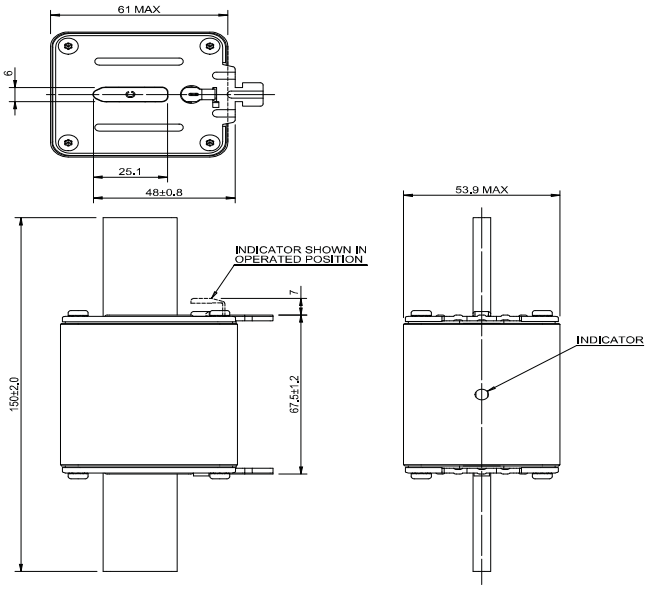
Data sheet: 10784

NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

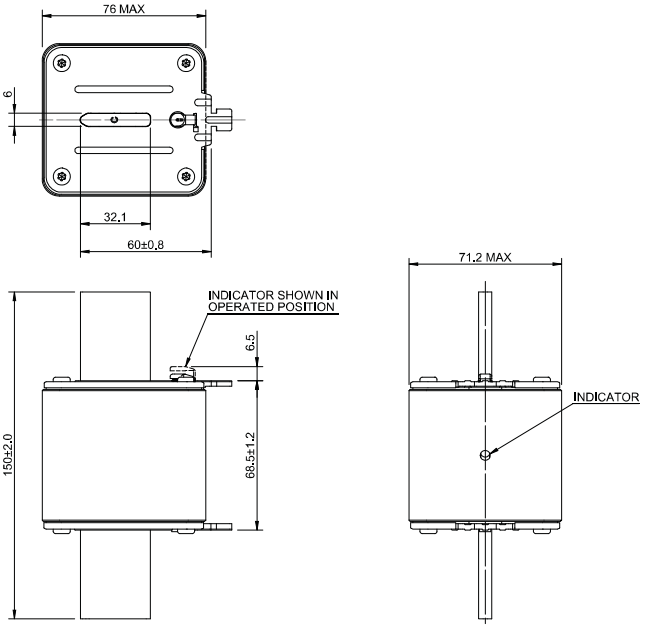
Dimensions (mm) - NH1, bladed with lugs



Dimensions (mm) - NH2, bladed with lugs



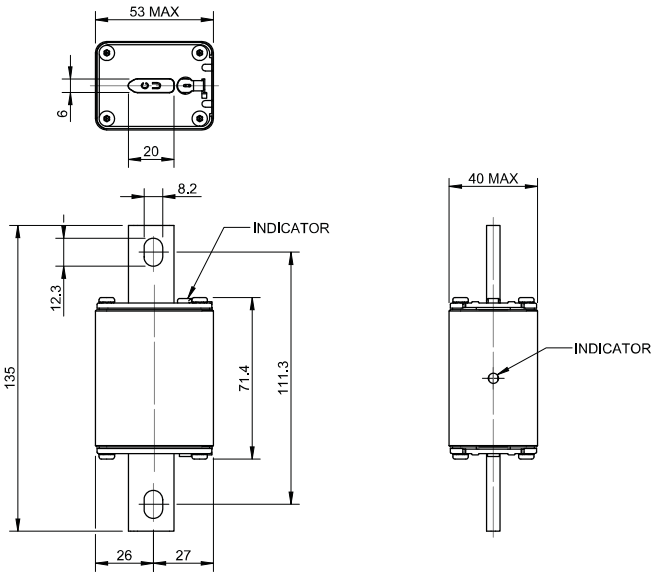
Dimensions (mm) - NH3, bladed with lugs



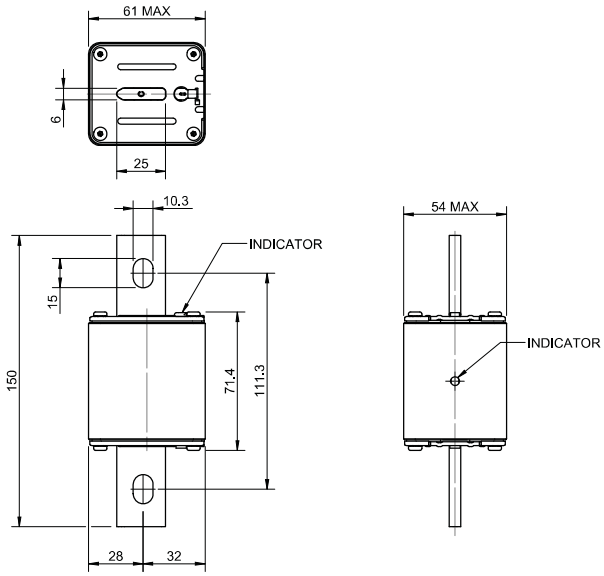
Data sheet: 10784

NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

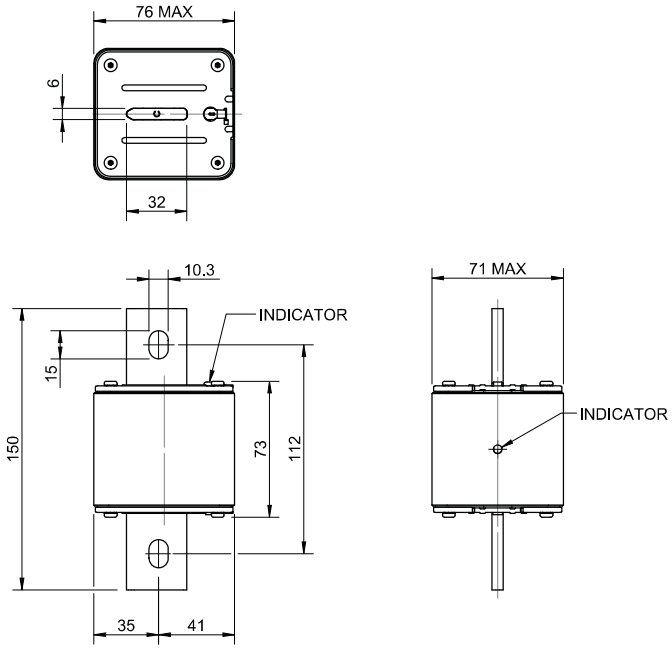
Dimensions (mm) - NH1,bolt holes no lugs



Dimensions (mm) - NH2, bolt holes no lugs



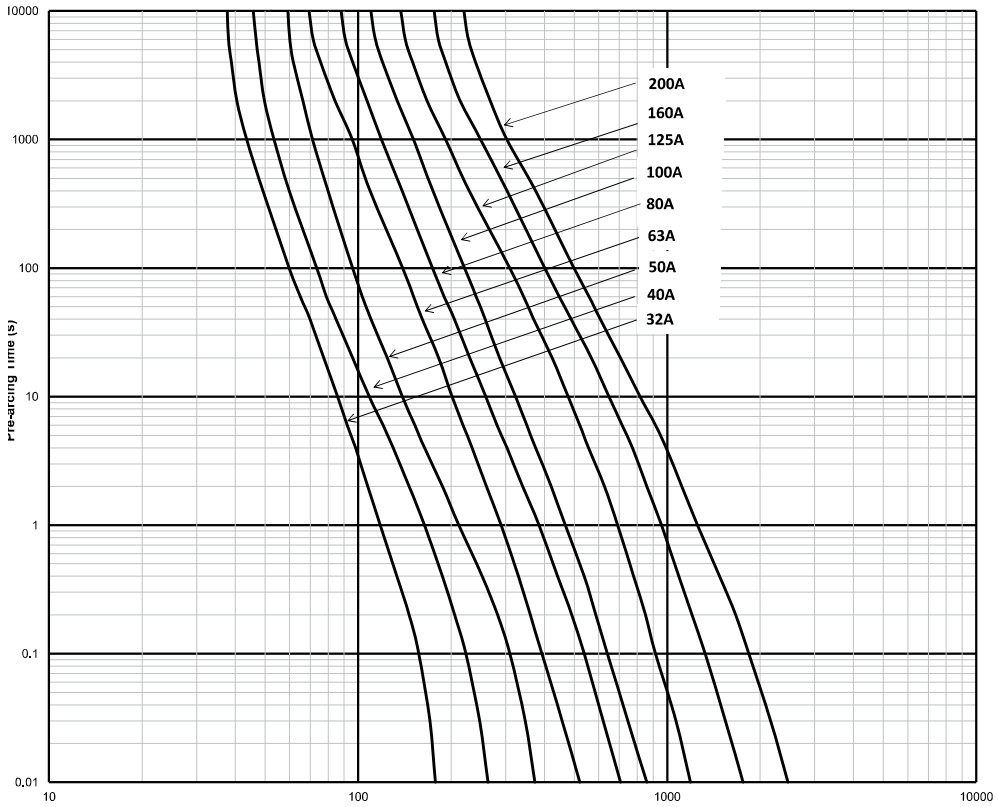
Dimensions (mm) - NH3, bolt holes no lugs



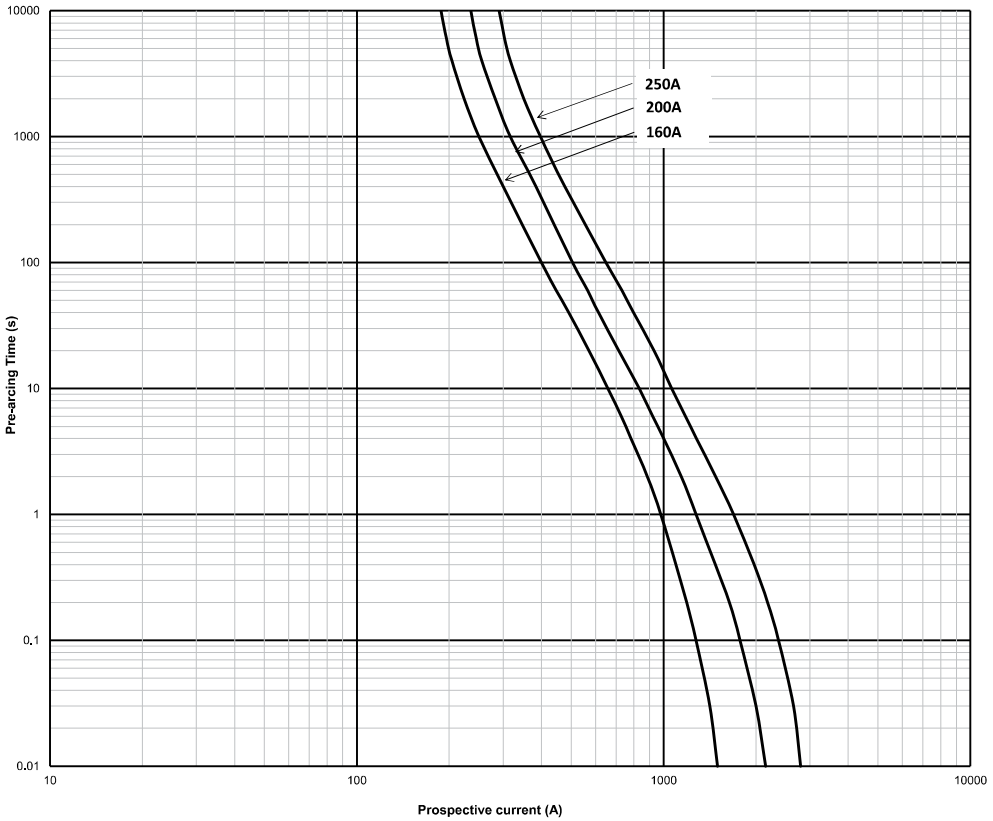
Data sheet: 10784

NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

Time-current curve - Size 1, 32 A to 200 A



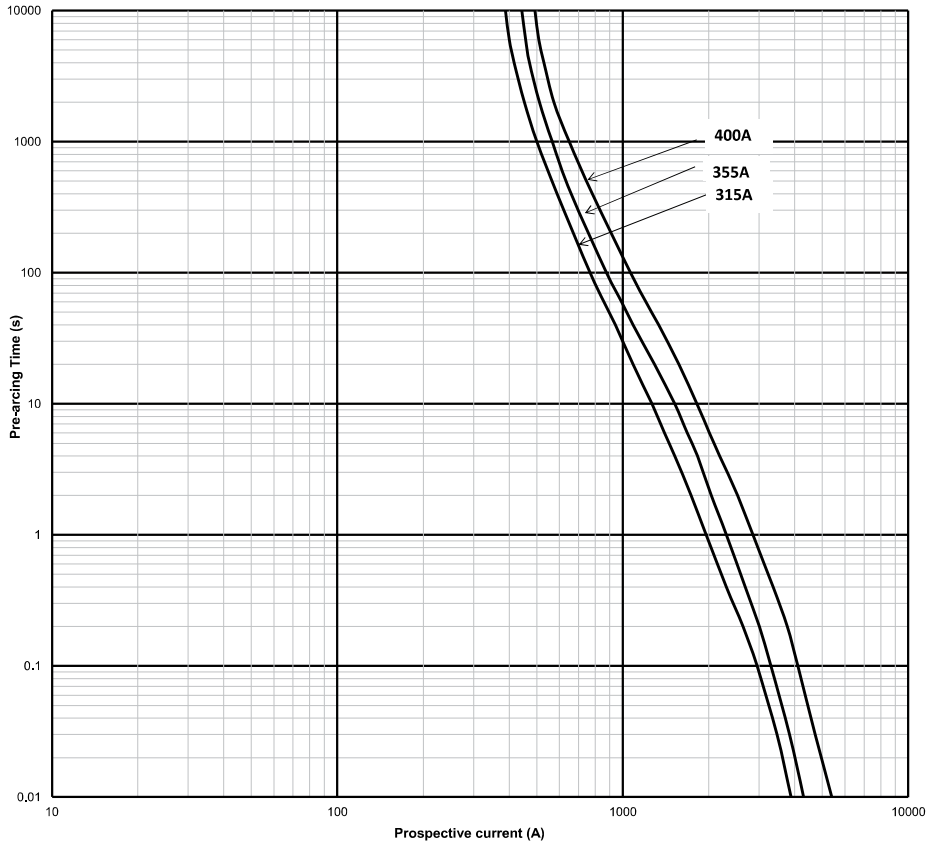
Time-current curve - Size 2, 160 A to 250 A



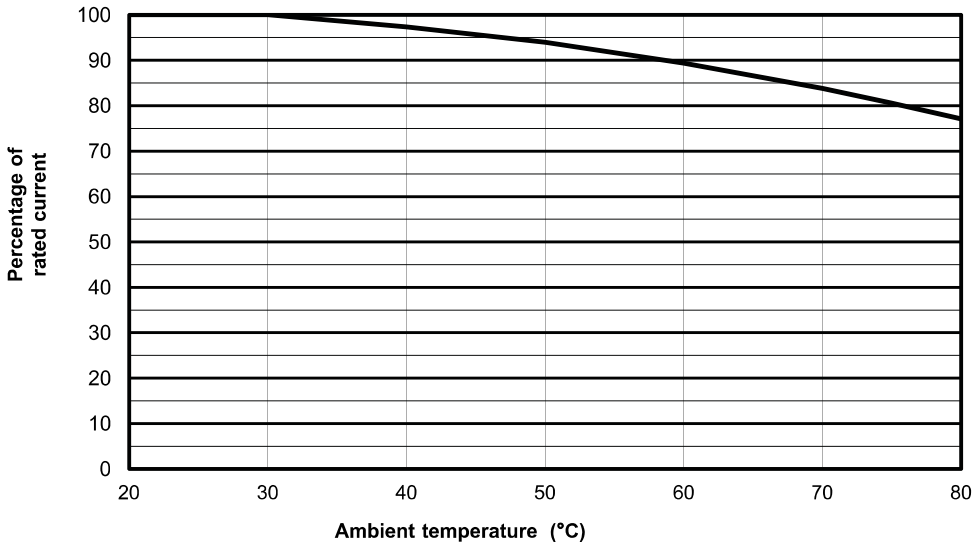
Data sheet: 10784

NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

Time-current curve - Size 3, 315 A to 400 A



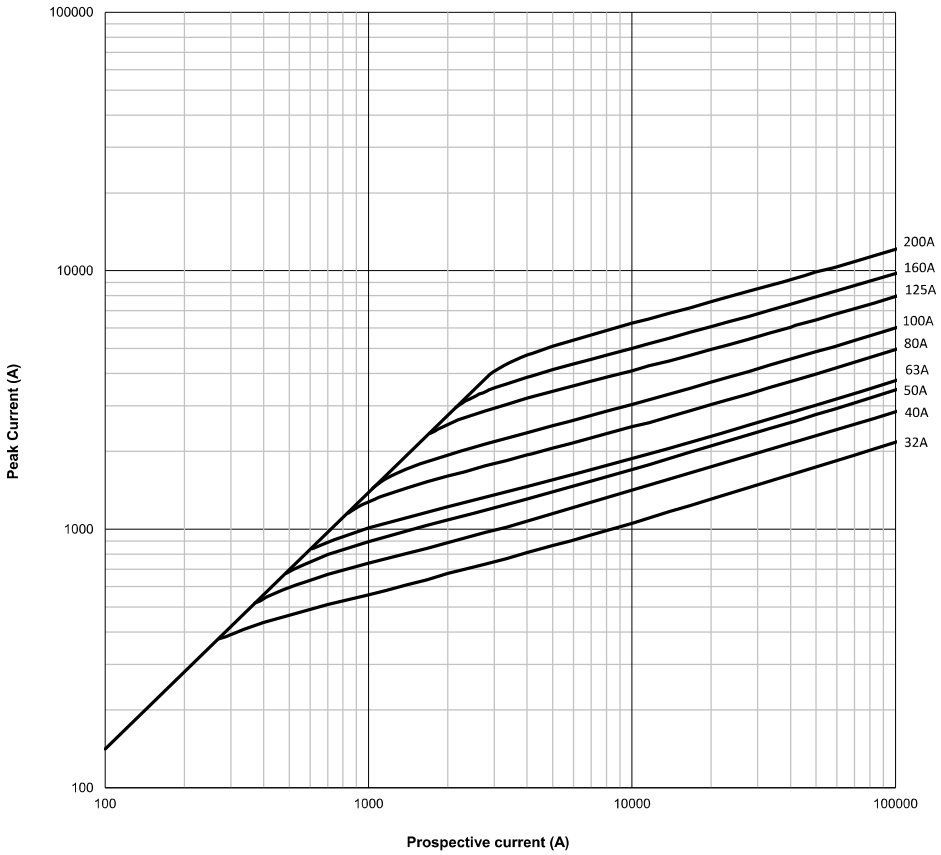
Temperature derating curve



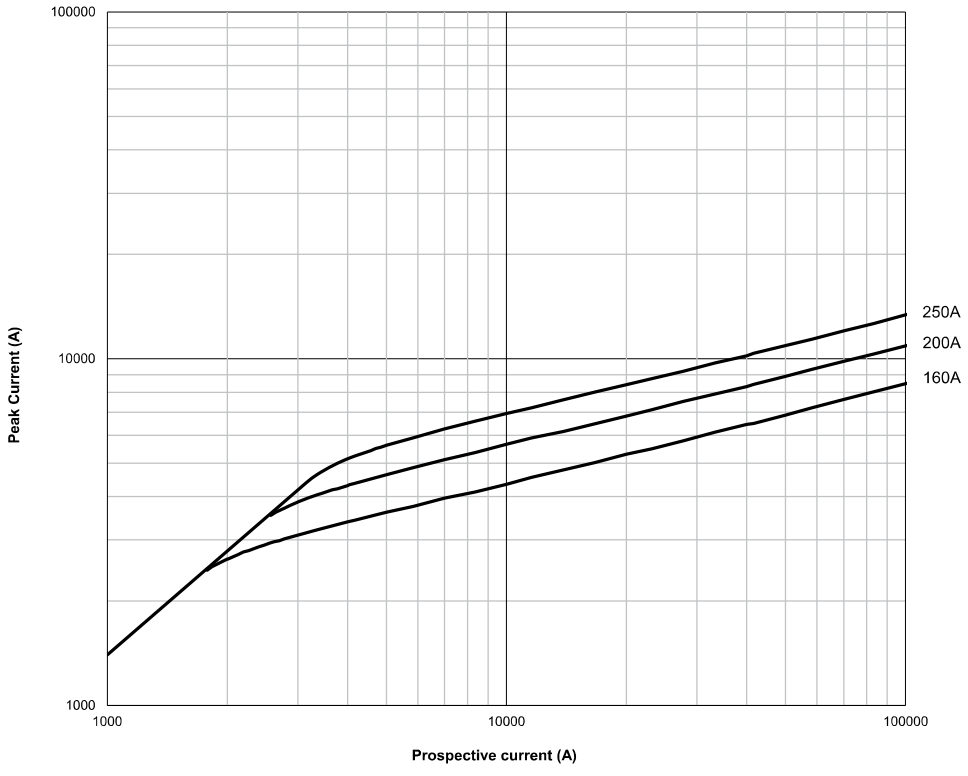
Data sheet: 10784

NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

Cut-off curve - Size 1, 32 A to 200 A



Cut-off peak current curve - Size 2, 160 A to 250 A

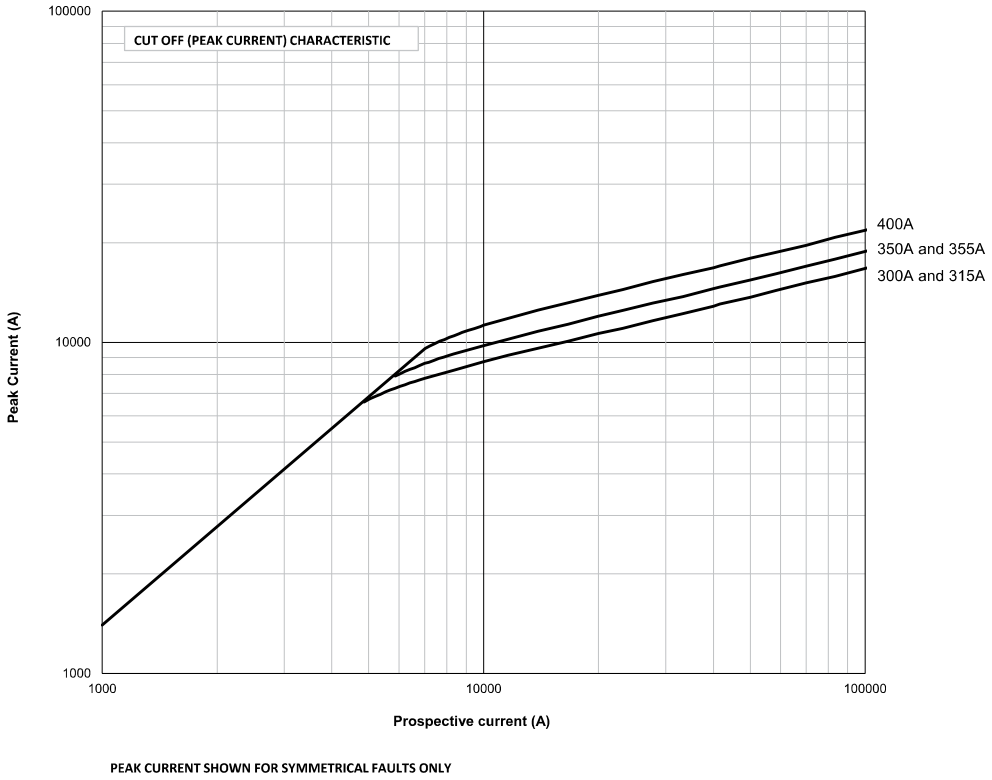


PEAK CURRENT SHOWN FOR SYMMETRICAL FAULTS ONLY

Data sheet: 10784

NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

Cut-off peak current curve - Sze 3, 315 A to 400 A



Data sheet: 10784

Photovoltaic fuse links, fuse bases and holders

NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Specifications

Description

A range of NH size bladed fuse links specifically designed for protecting and isolating photovoltaic array combiners and disconnects. These fuse links are capable of interrupting low overrated currents associated with faulted PV systems (reverse rated current, multi-array fault).



Technical data

- Rated voltage: 1000 V d.c. (IEC and UL)
- Rated current: 32 A to 400 A
- Breaking capacity: 50 kA
- Operating class: gPV and UL PV fuse links

Compatible fuse base

SD-D-PV see page 352

Standards / Agency information

IEC 60269-6, UL Recognised file 2579 E335324 for size 1 only, RoHS compliant

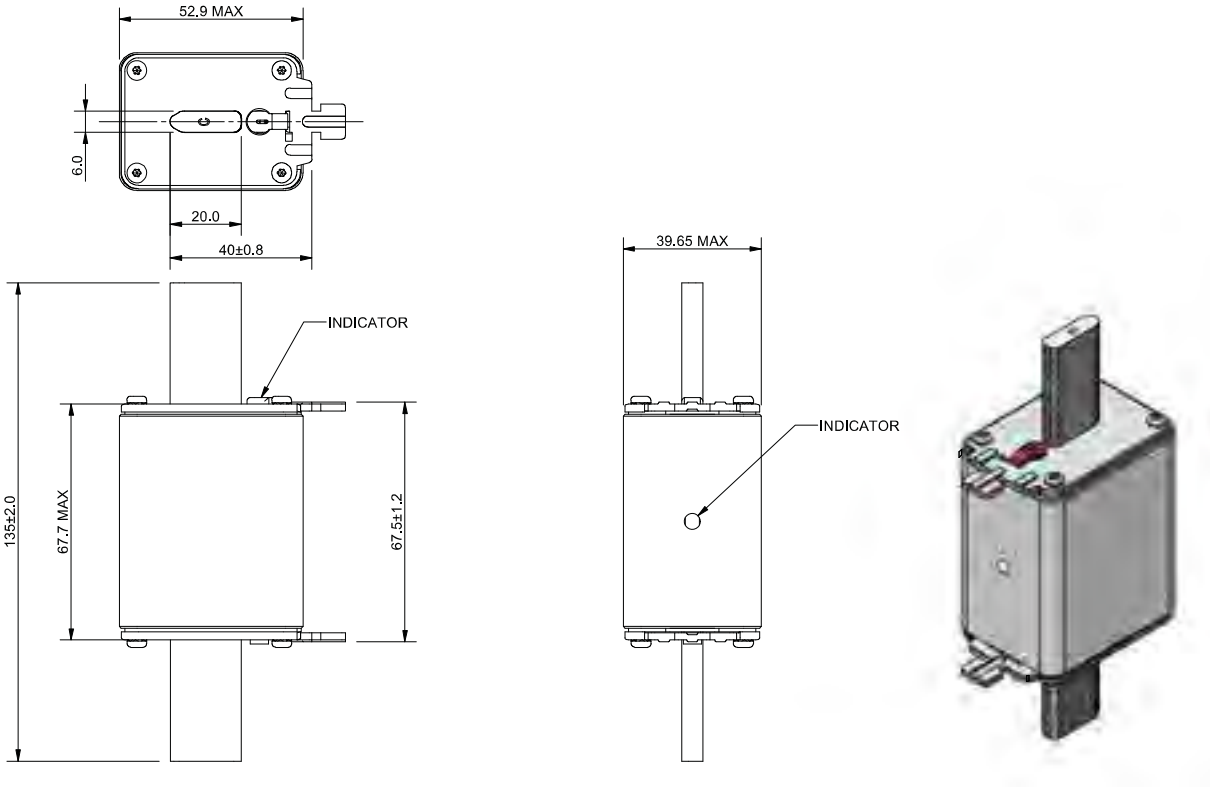
Catalogue numbers

Fuse link body size	Rated voltage	Rated current (Amps)	I^2t (A^2 Sec) Pre-arcing	I^2t (A^2 Sec) Total at 1000 V d.c.	Watts loss (W) 0.8 I_n	Watts loss (W) I_n	Catalogue numbers Blade without bolt holes	Catalogue numbers Blade with bolt holes	Catalogue numbers Blade with bolt holes and lugs
NH1	1000 V d.c. (IEC/UL)	32	80	720	4	8	PV-32ANH1	PV-32ANH1-B	
		40	185	1670	5	9	PV-40ANH1	PV-40ANH1-B	
		50	400	3600	6	11	PV-50ANH1	PV-50ANH1-B	
		63	470	4300	6	12	PV-63ANH1		
		80	640	5760	8	15	PV-80ANH1		
		100	1300	11700	8	16	PV-100ANH1		
		110	2100	18900	9	18.5	PV-110ANH1		
		125	2600	23400	9	17	PV-125ANH1		
		160	5200	46800	14	27	PV-160ANH1		
		175	8300	74700	15	29	PV-175ANH1		
		200	10200	82000	13	25	PV-200ANH1		
NH2	1000 V d.c. (IEC/UL)	160	4600	37000	14	28	PV-160ANH2		
		200	9500	76000	16	32	PV-200ANH2		
		250	17000	136000	19	38	PV-250ANH2		
NH3	1000 V d.c. (IEC/UL)	300	32000	260000	24	40	PV-300ANH3		
		315	32000	260000	26	44	PV-315ANH3		
		350	44500	370000	27	45	PV-350ANH3		
		355	44500	370000	28	46	PV-355ANH3		
		400	67500	550000	30	50	PV-400ANH3		
NH1	1000 V d.c. (IEC/UL)	63	470	4300	6	12		PV-63ANH1-B	PV-63ANH1-BL
		80	640	5760	8	15		PV-80ANH1-B	PV-80ANH1-BL
		100	1300	11700	8	16		PV-100ANH1-B	PV-100ANH1-BL
		125	2600	23400	9	17		PV-125ANH1-B	PV-125ANH1-BL
		160	5200	46800	14	27		PV-160ANH1-B	PV-160ANH1-BL
		200	10200	82000	13	25		PV-200ANH1-B	PV-200ANH1-BL
NH2	1000 V d.c. (IEC/UL)	160	4600	37000	14	28		PV-160ANH2-B	PV-160ANH2-BL
		200	9500	76000	16	32		PV-200ANH2-B	PV-200ANH2-BL
		250	17000	136000	19	38		PV-250ANH2-B	PV-250ANH2-BL
NH3	1000 V d.c. (IEC/UL)	315	32000	260000	26	44		PV-315ANH3-B	PV-315ANH3-BL
		355	38000	310000	29	48		PV-355ANH3-B	PV-355ANH3-BL
		400	61000	490000	32	50		PV-400ANH3-B	PV-400ANH3-BL

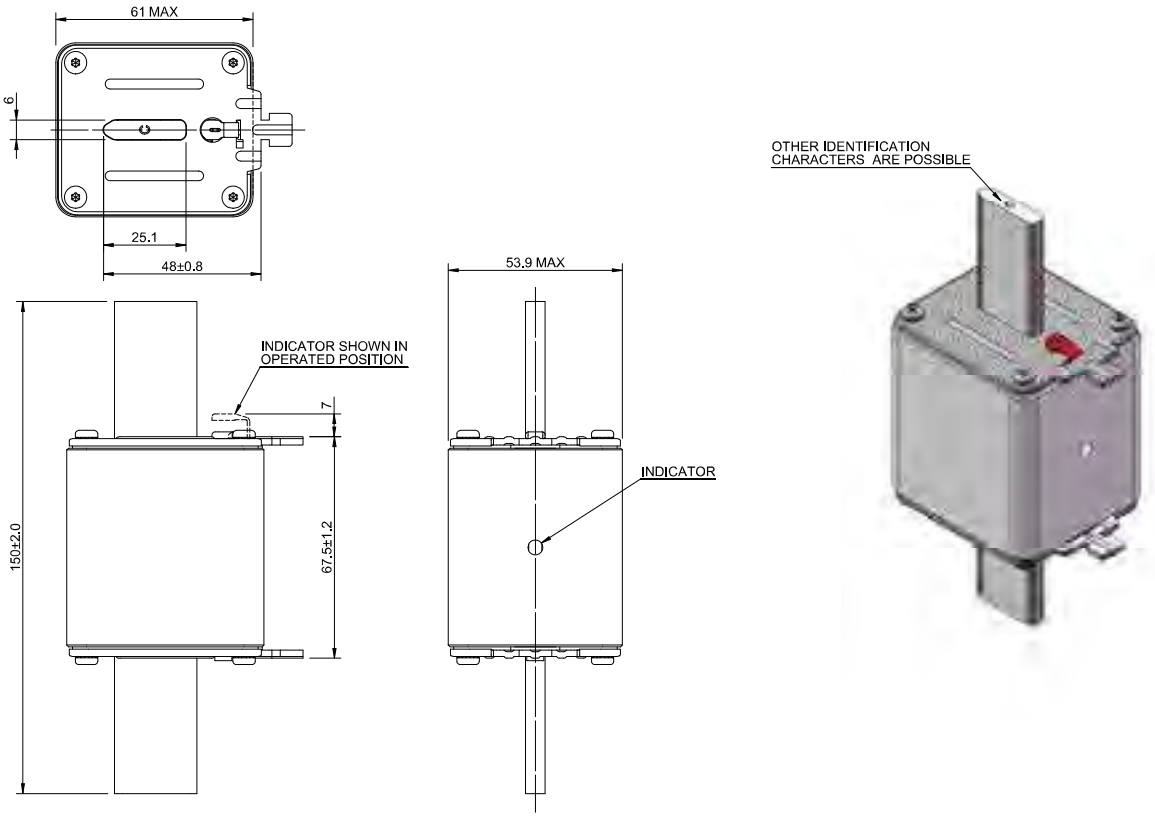
Data sheet: 720133

NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Dimensions (mm) - NH1, blade without bolt holes



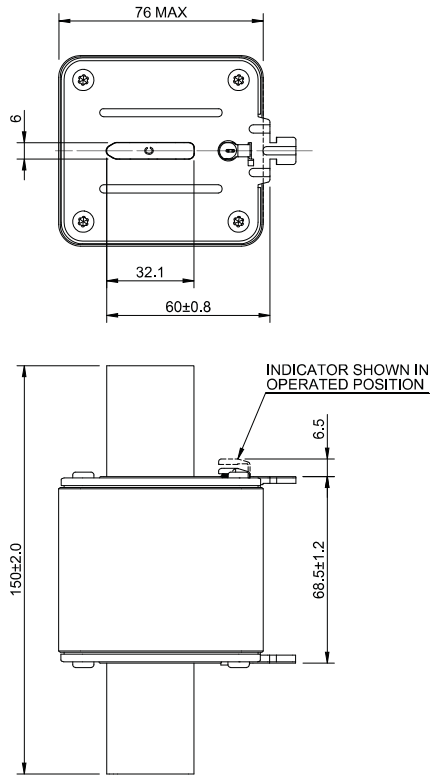
Dimensions (mm) - NH2, blade without bolt holes

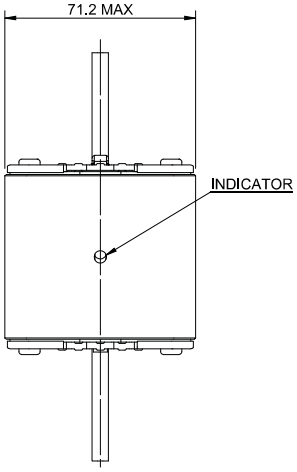


Data sheet: 720133

NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

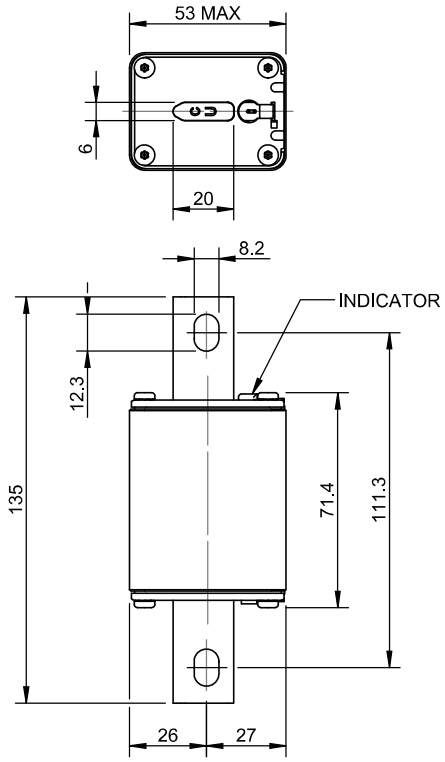
Dimensions (mm) - NH3, blade without bolt holes

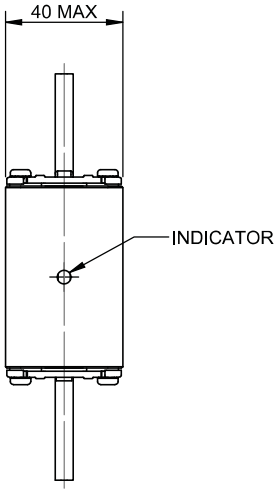






Dimensions (mm) - NH1, blade with bolt holes



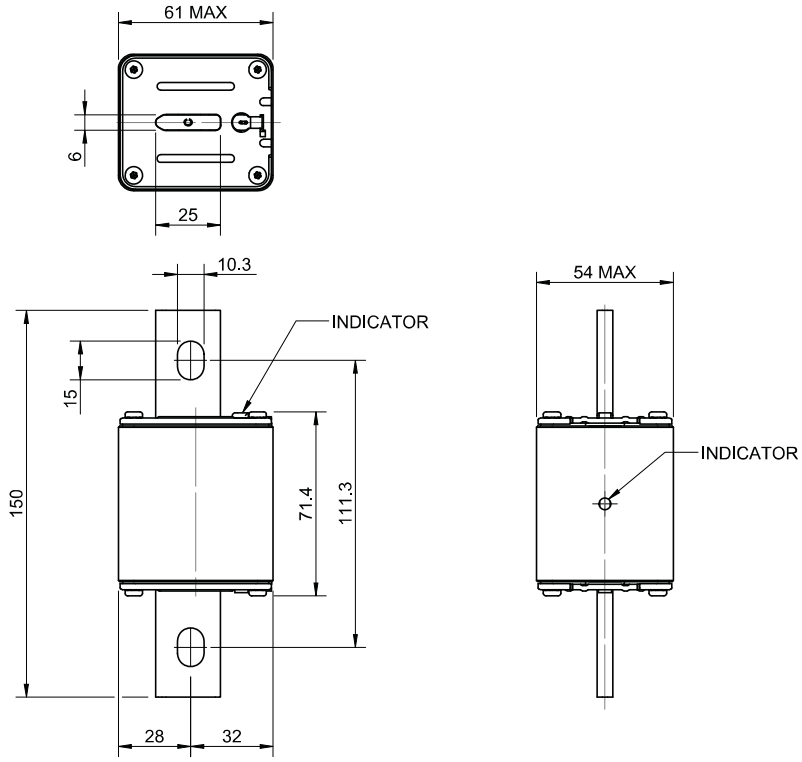




Data sheet: 720133

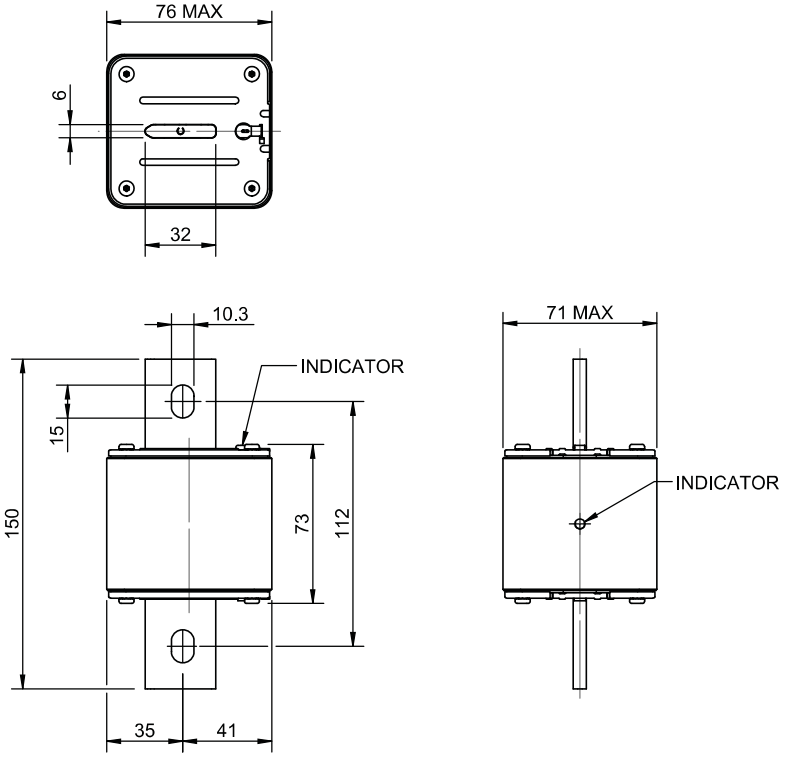
NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Dimensions (mm) - NH2, blade with bolt holes





Dimensions (mm) - NH3, blade with bolt holes

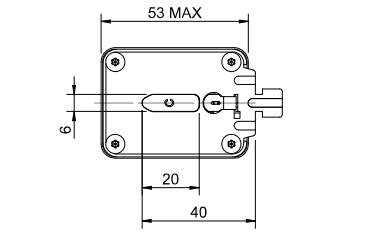


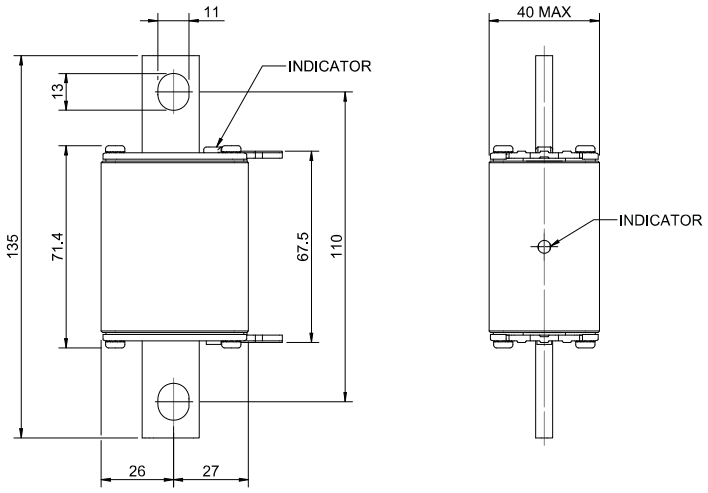


Data sheet: 720133

NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

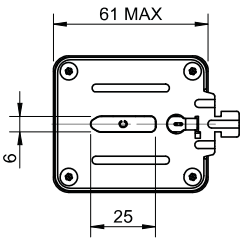
Dimensions (mm) - NH1, blade with bolt holes and lugs

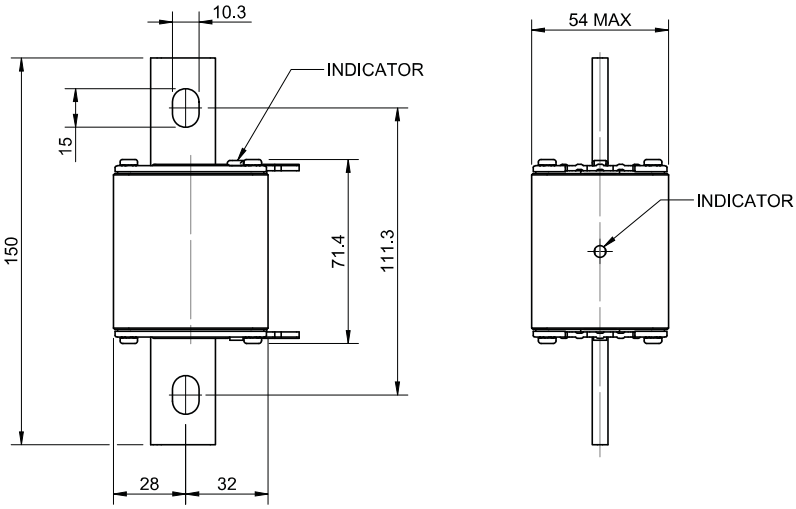






Dimensions (mm) - NH2, blade with bolt holes and lugs



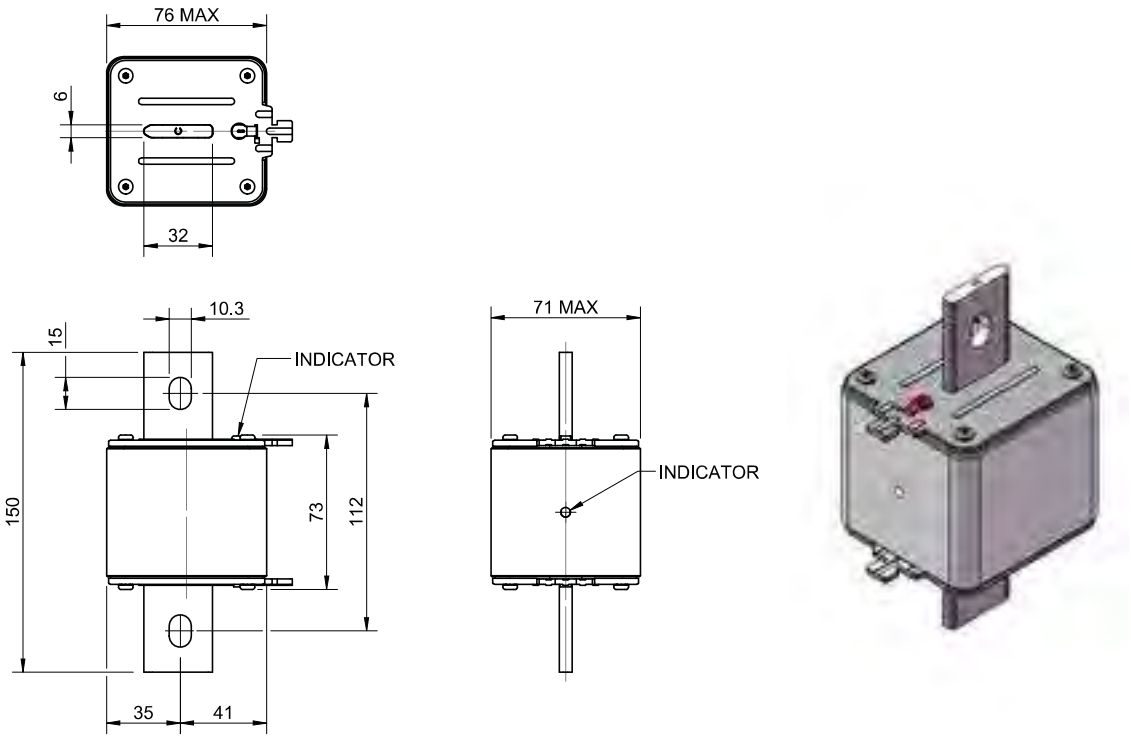




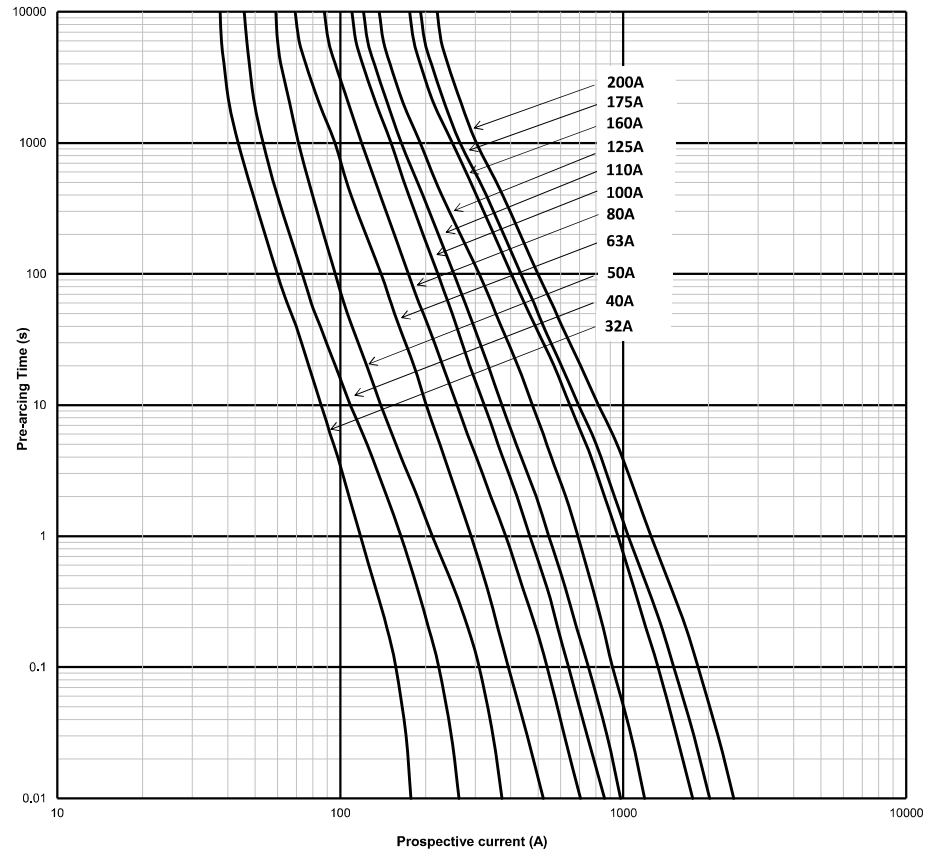
Data sheet: 720133

NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Dimensions (mm) - NH3, blade with bolt holes and lugs



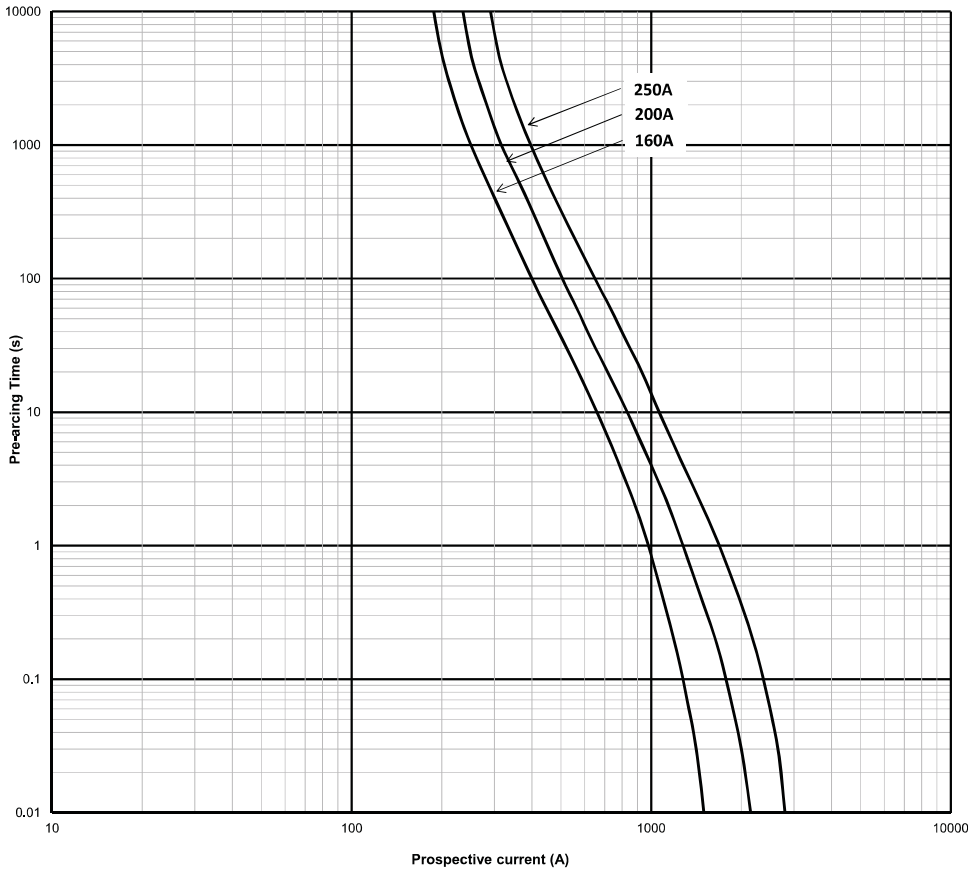
Time-current curve - Size 1, 32 A to 200 A



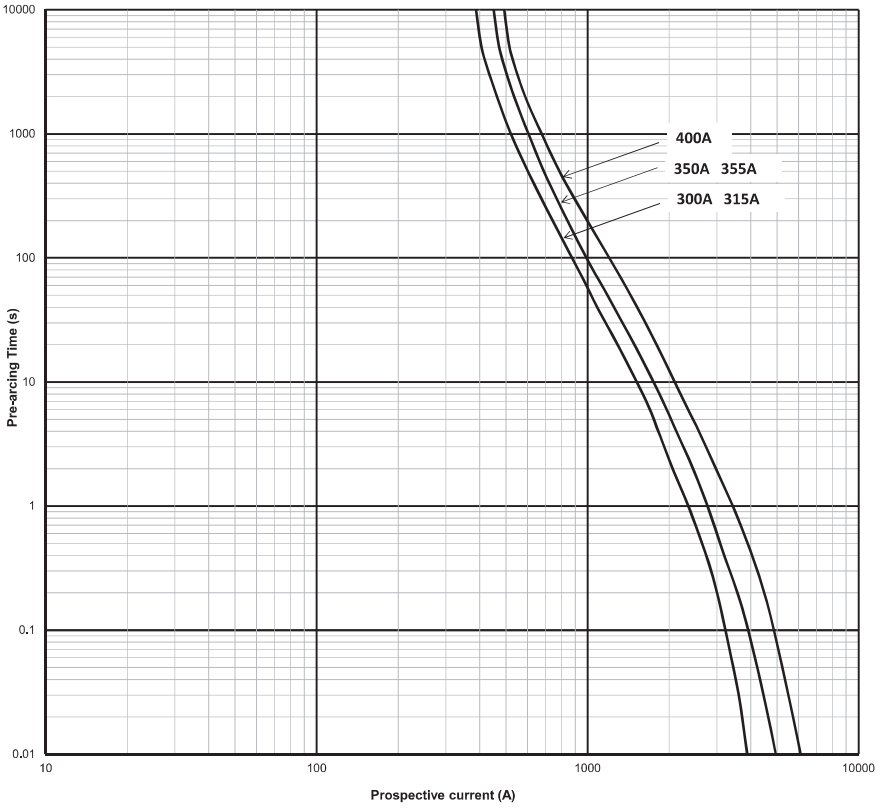
Data sheet: 720133

NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Time-current curve - Size 2, 160 A to 250 A



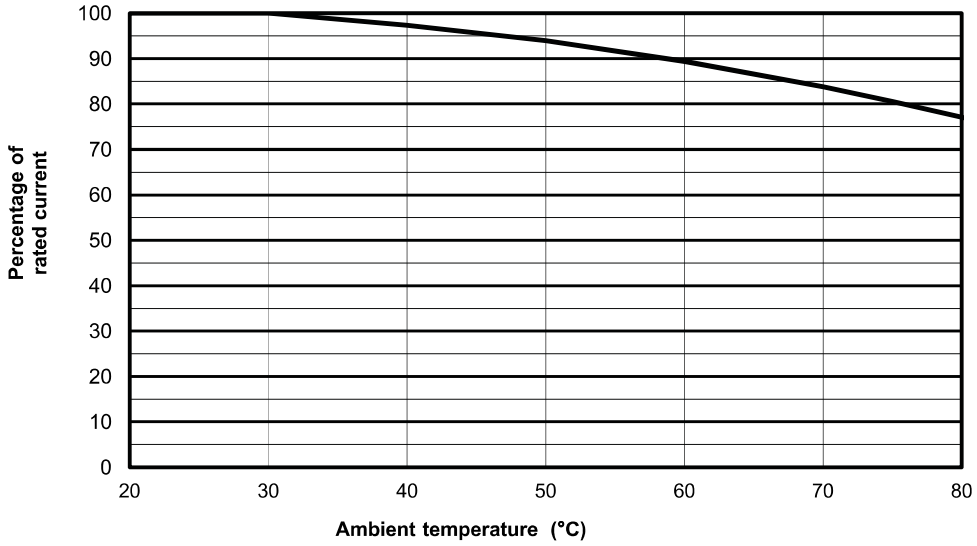
Time-current curve - Size 3, 300 A to 400 A



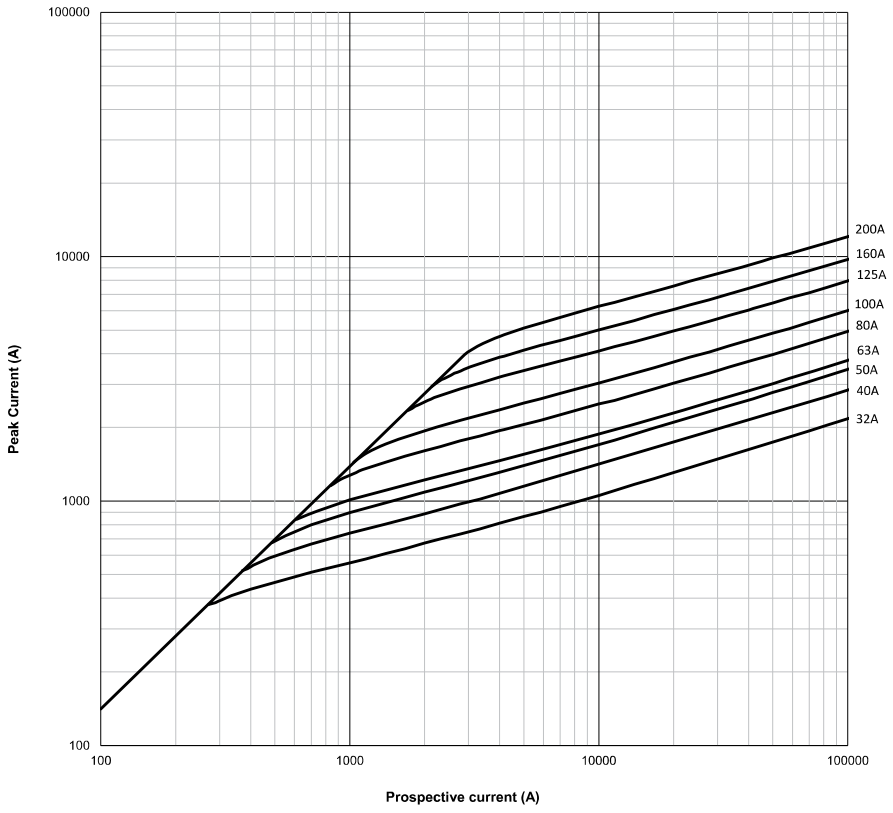
Data sheet: 720133

NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Temperature derating curve - Sizes 1 to 3



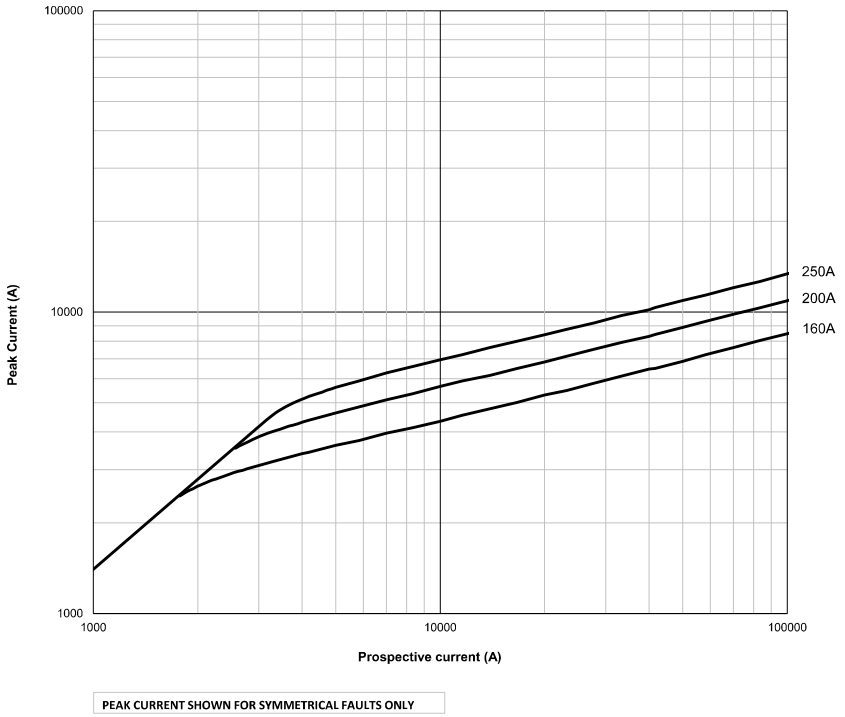
Cut-off curve - Size 1, 32 A to 200 A



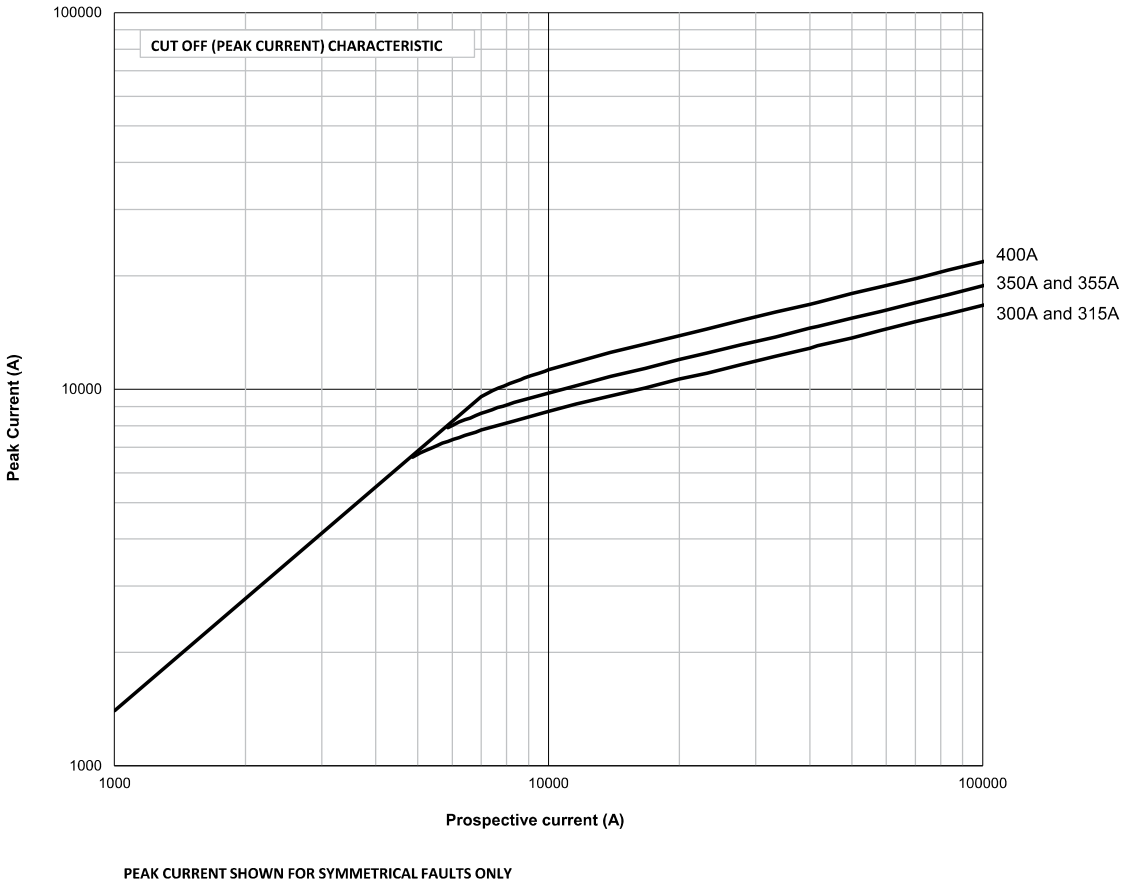
Data sheet: 720133

NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Cut-off curve - Size 2, 160 A to 250 A



Cut-off curve - Size 3, 300 A to 400 A



Data sheet: 720133

SD-D-PV - NH fuse bases, 1500 V d.c. (IEC), 1000 V d.c. (UL/CSA) 250 A to 630 A, sizes 1 to 3

Specifications



Description

Sizes 1 to 3 NH Fuse bases specifically designed for use with Bussmann series range of NH PV (Photovoltaic) fuse links.

Technical data

- Rated voltage:
  - 1500 V d.c. (IEC)
  - 1000 V d.c. (UL/CSA)
- Rated current:
  - 250 A (SD1)
  - 400 A (SD2)
  - 630 A (SD3)
- Fuse base sizes: 1 to 3
- Withstand: 50 kA
- Power acceptance
  - SD1: 32 W
  - SD2: 45 W
  - SD3: 60 W

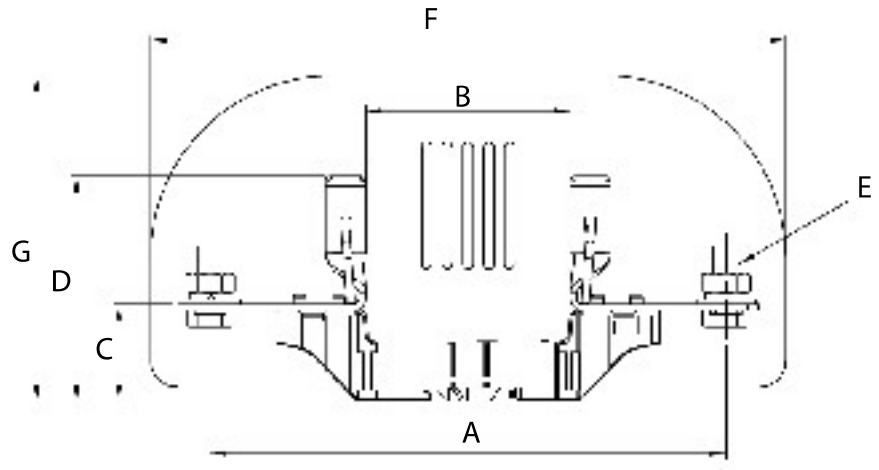
Standards / Agency information

IEC 60269-1, UL Listed - UL File #E348242, CSA file #47235

Accessories:

- Microswitches - 170H0236, 170H0238 and BVL50
- IP20 Finger-Safe Protection Kit - TD1-IP20, TD2-IP20, TD3-IP20
- Fuse extraction handle
- Shroud kits

Dimensions (mm) - 1-pole with phase barriers

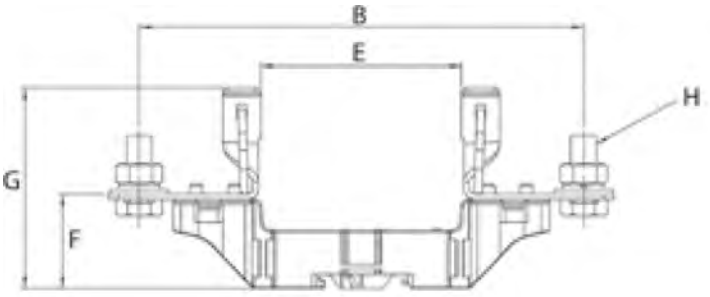


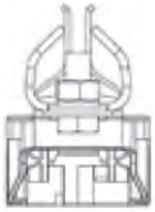
Catalogue numbers	Poles/Type	A	B	C	D	E	F	G
SD1-D-PV	1-pole	175	79	37	78	M10x25	245	125.5
SD2-D-PV	1 pole	199	79	37.5	86	M10x25	245	125.5
SD3-D-PV	1-pole	209	82	37.5	88	M12x30	260	137.5

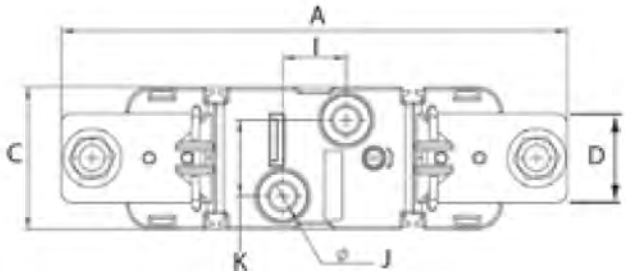
Data sheet: 720149

SD-D-PV - NH fuse bases, 1500 V d.c. (IEC), 1000 V d.c. (UL/CSA) 250 A to 630 A, sizes 1 to 3

Dimensions (mm) - 1-pole without phase barriers







Catalogue numbers	Poles	A	B	C	D	E	F	G	H	I	J	K
SD1-D-PV	1-pole	199	175	56	35	79	37	78	M10x25	25	10	30
SD2-D-PV	1 pole	224	199	56	35	79	37.5	86	M10x25	25	10	30
SD3-D-PV	1-pole	239	209	56	36	82	37.5	88	M12x30	25	10	30

Data sheet: 720149

PV-AF - Flush end, 1000 V d.c. (IEC/UL), 160 A to 400 A

Specifications

Description

A range of flush end fuse links specifically designed for protecting and isolating photovoltaic array combiners and disconnects. These fuse links are capable of interrupting low overrated currents associated with faulted PV systems (reverse rated current, multi-array fault).



Technical data

- Rated voltage: 1000 V d.c. (IEC and UL)
- Rated current: 160 A to 400 A
- Breaking capacity: 50 kA
- Operating class: gPV and UL PV fuse links

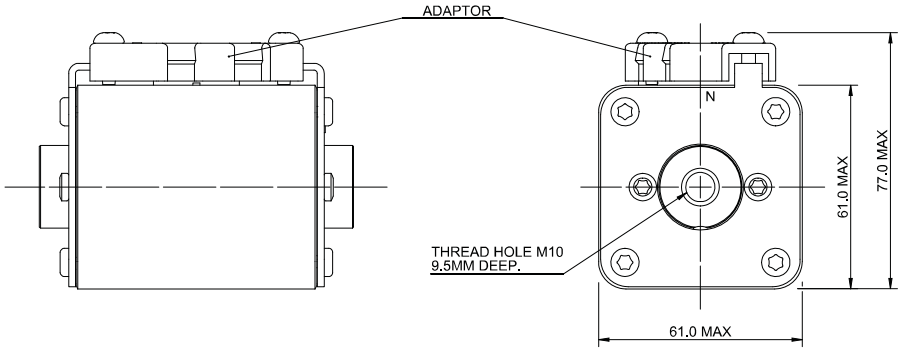
Standards / Agency information

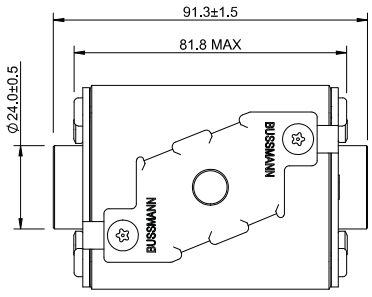
IEC 60269-6, UL 2579 (file number E335324), CSA Listed, RoHS compliant

Catalogue numbers

Fuse link type	Fuse link body size	Rated voltage	Rated current (Amps)	I^2t (A^2 Sec) Pre-arcing	I^2t (A^2 Sec) Total at 1000 V d.c.	Watts loss (W) 0.8 I_n	Watts loss (W) I_n	Catalogue numbers
Flush end	2	1000 V d.c.(IEC/UL)	160	4600	37,000	15	30	PV-160AF2
			200	9500	76,000	17	34	PV-200AF2
			250	17,000	136,000	19	38	PV-250AF2
	3	1000 V d.c.(IEC/UL)	315	27,000	240,000	30	49	PV-315AF3
			355	37,000	350,000	31	51	PV-355AF3
			400	61,500	550,000	32	52	PV-400AF3

Dimensions (mm) - Size 2



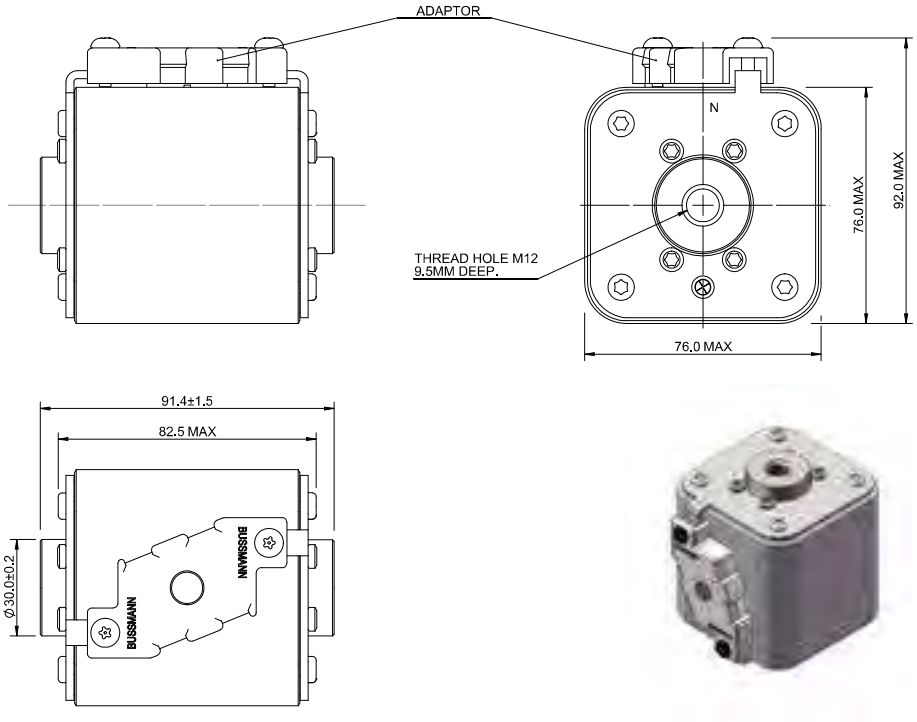




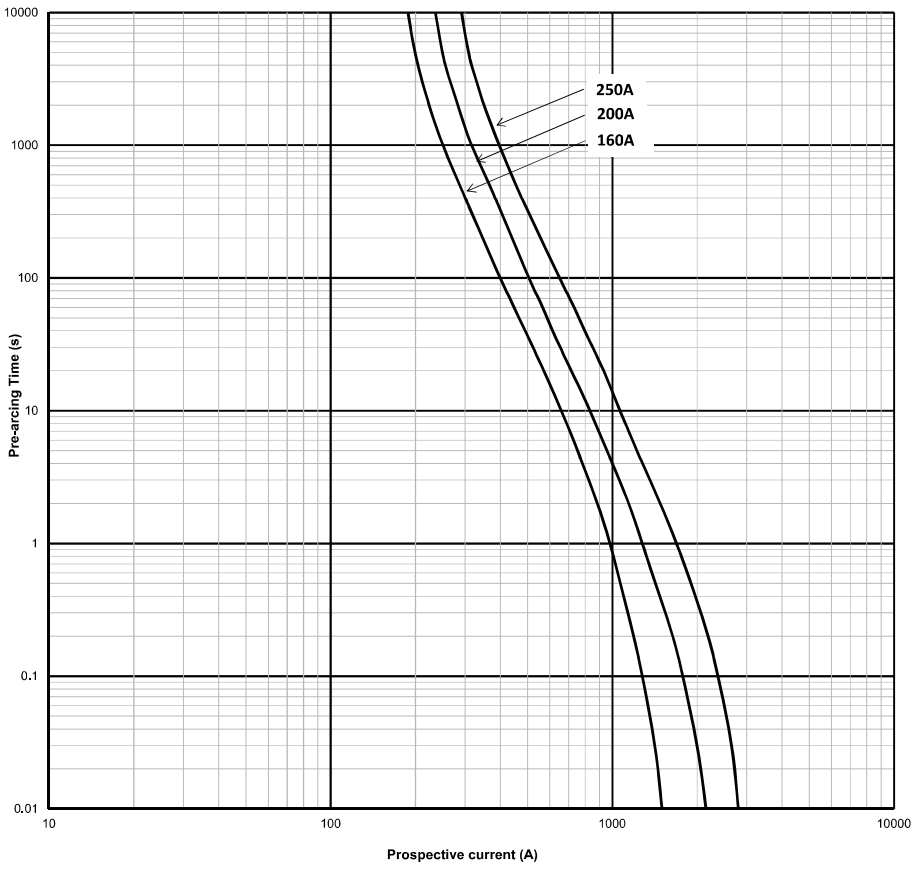
Data sheet: 10370

PV-AF - Flush end, 1000 V d.c. (IEC/UL), 160 A to 400 A

Dimensions (mm) - Size 3



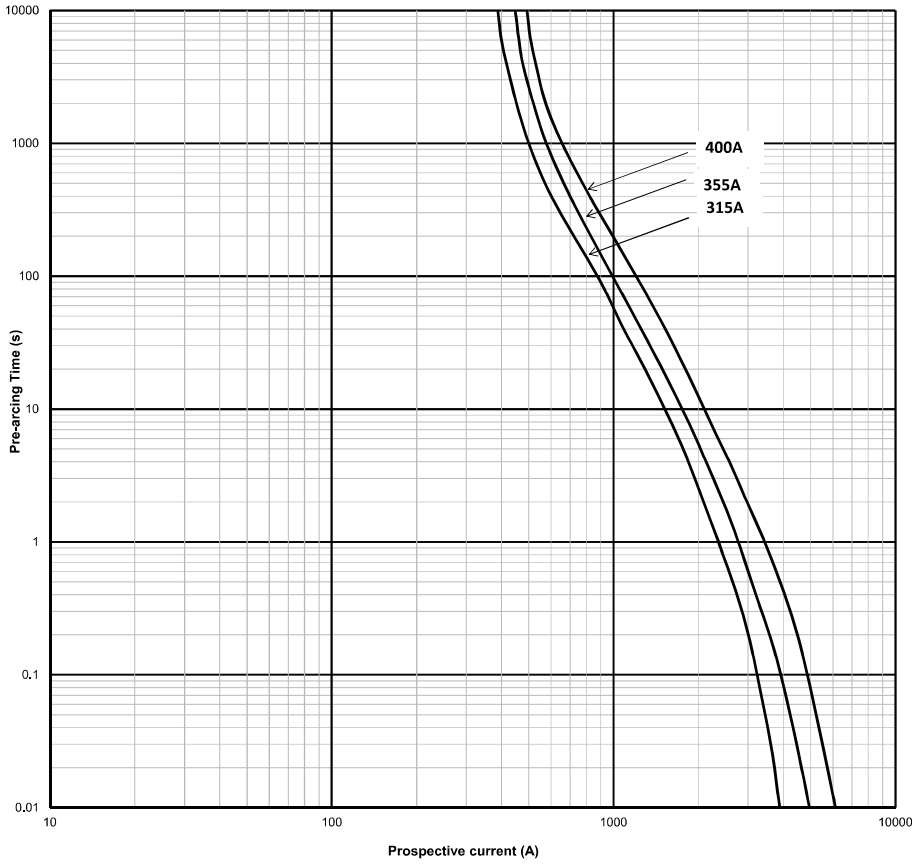
Time-current curve - Size 2, 160 A to 250 A



Data sheet: 10370

PV-AF - Flush end, 1000 V d.c. (IEC/UL), 160 A to 400 A

Time-current curve -Size 3, 315 A to 400 A



Data sheet: 10370

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Specifications

Description

A range of XL package bladed fuse links specifically designed for protecting and isolating photovoltaic array combiners and disconnects. These fuse links are capable of interrupting low overrated currents associated with faulted PV systems (reverse rated current, multi-array fault).



Technical data

- Rated voltage:
  - 1000 V d.c. (IEC and UL 63 to 600 A)
  - 1500 V d.c. (IEC and UL 50 to 500 A)
- Rated current: 50 A to 600 A
- Breaking capacity: see catalogue numbers tables
- Operating class: gPV and UL PV fuse links

Compatible fuse base

- SD-S-PV

Microswitches

- For bladed fuse links
  - 170H0235 or 170H0237 for 01XL
  - 170H0236 or 170H0238 for 1XL, 2XL and 3L
- For bolted fuse links
  - 170H0069 for all sizes

Standards / Agency information

IEC 60269-6, UL Recognised file 2579 E335324, RoHS compliant

Catalogue numbers - PV-XL fuse links, 1000 V d.c.

Fuse link body size	Rated voltage	Rated current (Amps)	Breaking capacity (IEC/UL) (kA)	I^2t (A^2 Sec)		Watts loss (W)		Catalogue numbers	
				Pre-arcing	Total at 1000 V d.c.	0.7 I_n	I_n	Bladed version	Bolted version
01	1000 V d.c.	63	50	260	1900	10	24	PV-63A-01XL	PV-63A-01XL-B
		80	50	490	3600	12	29	PV-80A-01XL	PV-80A-01XL-B
		100	50	870	6300	13	32	PV-100A-01XL	PV-100A-01XL-B
		125	50	1930	13,900	16	40	PV-125A-01XL	PV-125A-01XL-B
		160	50	3900	28,100	18	44	PV-160A-01XL	PV-160A-01XL-B
2	1000 V d.c.	160	33	2780	21,000	18	44	PV-160A-2XL	PV-160A-2XL-B
		200	33	4950	37,000	20	50	PV-200A-2XL	PV-200A-2XL-B
		250	33	9450	70,000	24	60	PV-250A-2XL	PV-250A-2XL-B
		315	33	16,600	123,000	26	66	PV-315A-2XL	PV-315A-2XL-B
		355	33	26,000	192,000	27	68	PV-355A-2XL	PV-355A-2XL-B
		160	33	2780	21,000	18	44		PV-160A-2XL-3B[1]
		200	33	4950	37,000	20	50		PV-200A-2XL-3B[1]
		250	33	9450	70,000	24	60		PV-250A-2XL-3B[1]
		315	33	16,600	123,000	26	66		PV-315A-2XL-3B[1]
		355	33	26,000	192,000	27	68		PV-355A-2XL-3B[1]
3	1000 V d.c.	350	50	31,000	161,200	26	65	PV-350A-3L	PV-350A-3L-B
		400	50	44,500	231,400	33	82	PV-400A-3L	PV-400A-3L-B
		500	50	85,000	442,000	34	85	PV-500A-3L	PV-500A-3L-B
		600	50	137,000	712,400	43	108	PV-600A-3L	PV-600A-3L-B

[1] PV-*A-2XL-3B and PV-*A-2XL-3B-15 have revised bolting patterns, which are identical to size 3L bolting pattern. This allows utilisation of both size 2XL and size 3L fuse links without changing the dimensional layout of the inverter, combiners and disconnects.

Data sheet: 10201

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

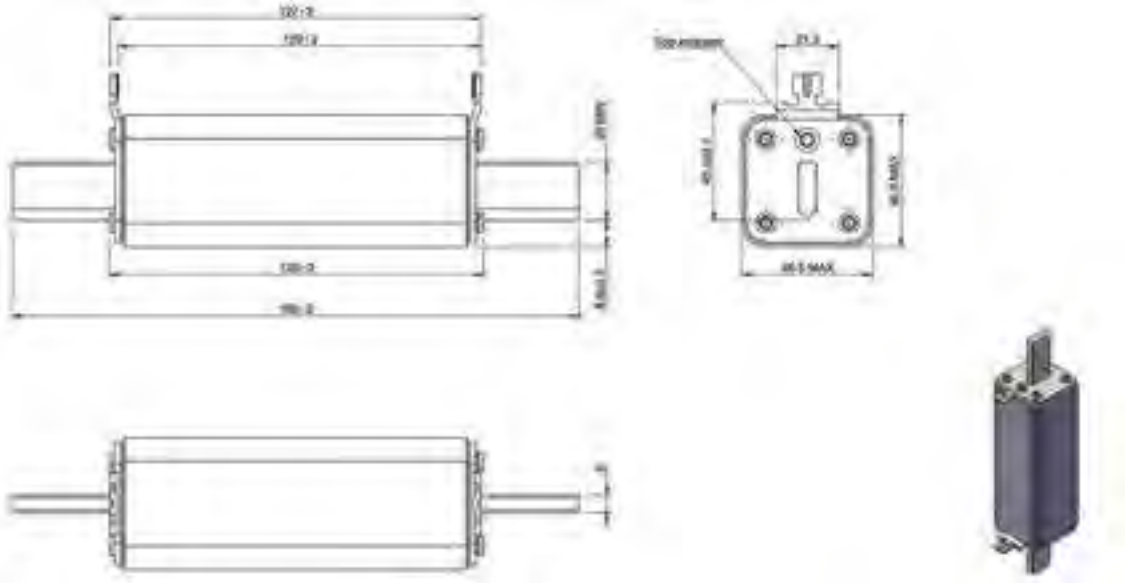
Catalogue numbers - PV-XL fuse links, 1500 V d.c.

Fuse link body size	Rated voltage	Rated current (Amps)	Breaking capacity (IEC/UL) (kA)	I^2t (A^2 Sec)		Watts loss (W)		Catalogue numbers			
				Pre-arcing	Total at 1500 V[1]	0.7 I_n	I_n	Bladed with top indicator	Bladed without top indicator	Bolted version with side indicator	Bolted without side indicator
01	1500 V d.c.	50	30	175	1000	10	25	PV-50A-01XL-15		PV-50A-01XL-B-15	
		63	30	362	2250	10	26	PV-63A-01XL-15		PV-63A-01XL-B-15	
		80	30	565	3300	14	35	PV-80A-01XL-15		PV-80A-01XL-B-15	
		100	30	1100	6600	16	40	PV-100A-01XL-15		PV-100A-01XL-B-15	
		125	30	2200	10,500	18	44	PV-125A-01XL-15		PV-125A-01XL-B-15	
1	1500 V d.c.	100	30	1250	6000	24	43	PV-100A-1XL-15		PV-100A-1XL-B-15	
		125	30	1950	9360	25	52	PV-125A-1XL-15		PV-125A-1XL-B-15	
		160	30	4200	20,160	26	54	PV-160A-1XL-15		PV-160A-1XL-B-15	
		200	30	9400	45,120	31	60	PV-200A-1XL-15		PV-200A-1XL-B-15	
2	1500 V d.c.	125	30	2200	15,000	18	44	PV-125A-2XL-15	PV-125A-2XL-U-15	PV-125A-2XL-B-15	PV-125A-2XL-BU-15
		160	30	5000	32,000	19	48	PV-160A-2XL-15	PV-160A-2XL-U-15	PV-160A-2XL-B-15	PV-160A-2XL-BU-15
		200	30	8800	51,000	23	57	PV-200A-2XL-15	PV-200A-2XL-U-15	PV-200A-2XL-B-15	PV-200A-2XL-BU-15
		250	30	16,600	85,000	28	70	PV-250A-2XL-15	PV-250A-2XL-U-15	PV-250A-2XL-B-15	PV-250A-2XL-BU-15
		125	30	2200	15,000	18	44			PV-125A-2XL-3B-15[1]	PV-125A-2XL-3BU-15[1]
		160	30	5000	32,000	19	48			PV-160A-2XL-3B-15[1]	PV-160A-2XL-3BU-15[1]
		200	30	8800	51,000	23	57			PV-200A-2XL-3B-15[1]	PV-200A-2XL-3BU-15[1]
		250	30	16,600	85,000	28	70			PV-250A-2XL-3B-15[1]	PV-250A-2XL-3BU-15[1]
3	1500 V d.c.	250	100	90,000	350,000	24	43	PVS250A-3L-15	PVS250A-3L-U-15	PVS250A-3L-B-15	PVS250A-3L-BU-15
		315	100	175,000	460,000	22	55	PVS315A-3L-15	PVS315A-3L-U-15	PVS315A-3L-B-15	PVS315A-3L-BU-15
		350	100	250,000	970,000	23	57	PVS350A-3L-15	PVS350A-3L-U-15	PVS350A-3L-B-15	PVS350A-3L-BU-15
		355	100	250,000	970,000	23	59	PVS355A-3L-15	PVS355A-3L-U-15	PVS355A-3L-B-15	PVS355A-3L-BU-15
		400	100	315,000	1,100,000	27	71	PVS400A-3L-15	PVS400A-3L-U-15	PVS400A-3L-B-15	PVS400A-3L-BU-15
		450	100[2]	412,000	1,470,000	27	67	PV-450A-3L-15	PV-450A-3L-U-15	PV-450A-3L-B-15	PV-450A-3L-BU-15
		500	100[2]	532,000	1,890,000	29	73	PV-500A-3L-15	PV-500A-3L-U-15	PV-500A-3L-B-15	PV-500A-3L-BU-15

[1] PV-*A-2XL-3B and PV-*A-2XL-3B-15 have revised bolting patterns, which are identical to size 3L bolting pattern. This allows utilisation of both size 2XL and size 3L fuse links without changing the dimensional layout of the inverter, combiners and disconnects.

[2] 100 kA at time constant 6 mS.

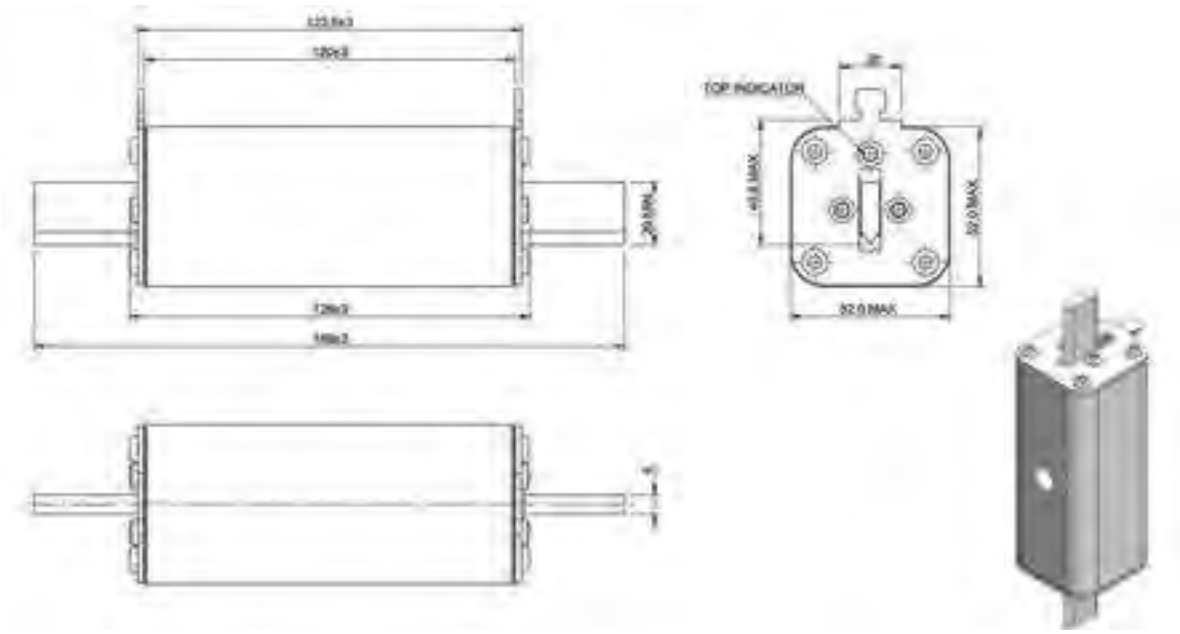
Dimensions (mm) - Size 01, bladed



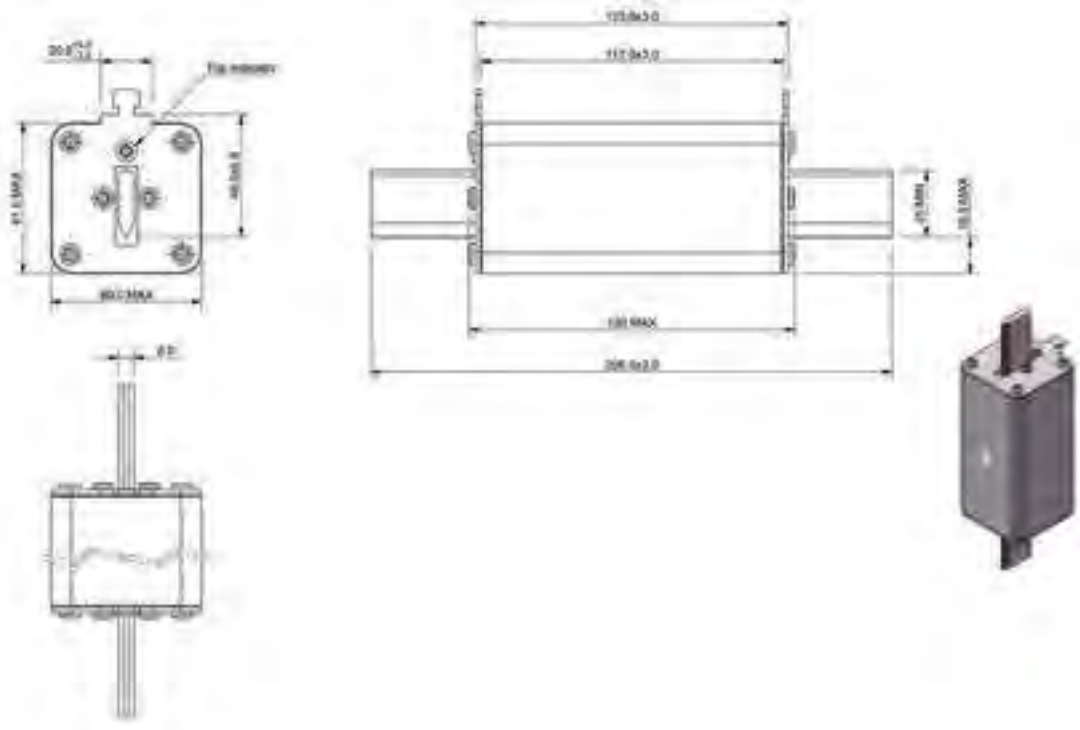
Data sheet: 10201

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Dimensions (mm) - Size 1, bladed



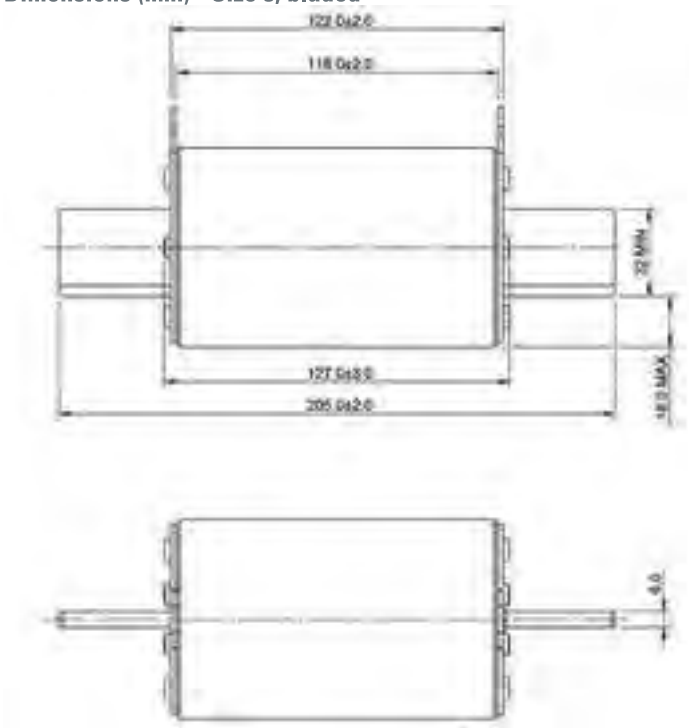
Dimensions (mm) - Size 2, bladed

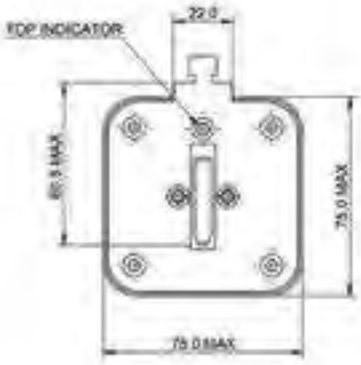


Data sheet: 10201

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

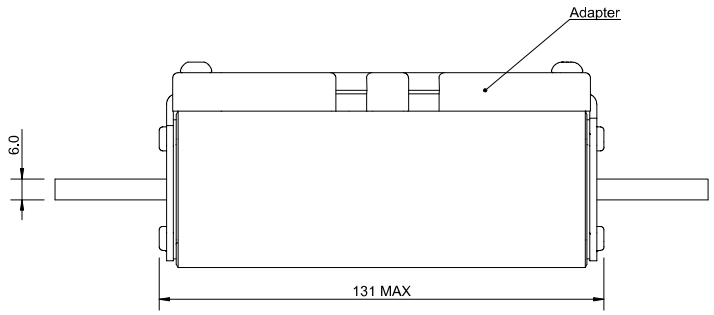
Dimensions (mm) - Size 3, bladed

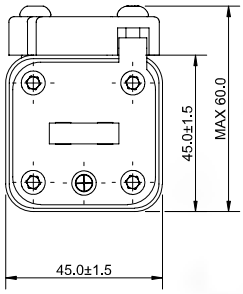


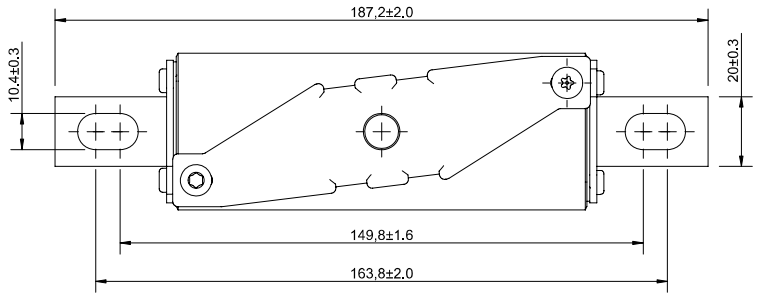




Dimensions (mm) - Size 01, bolted





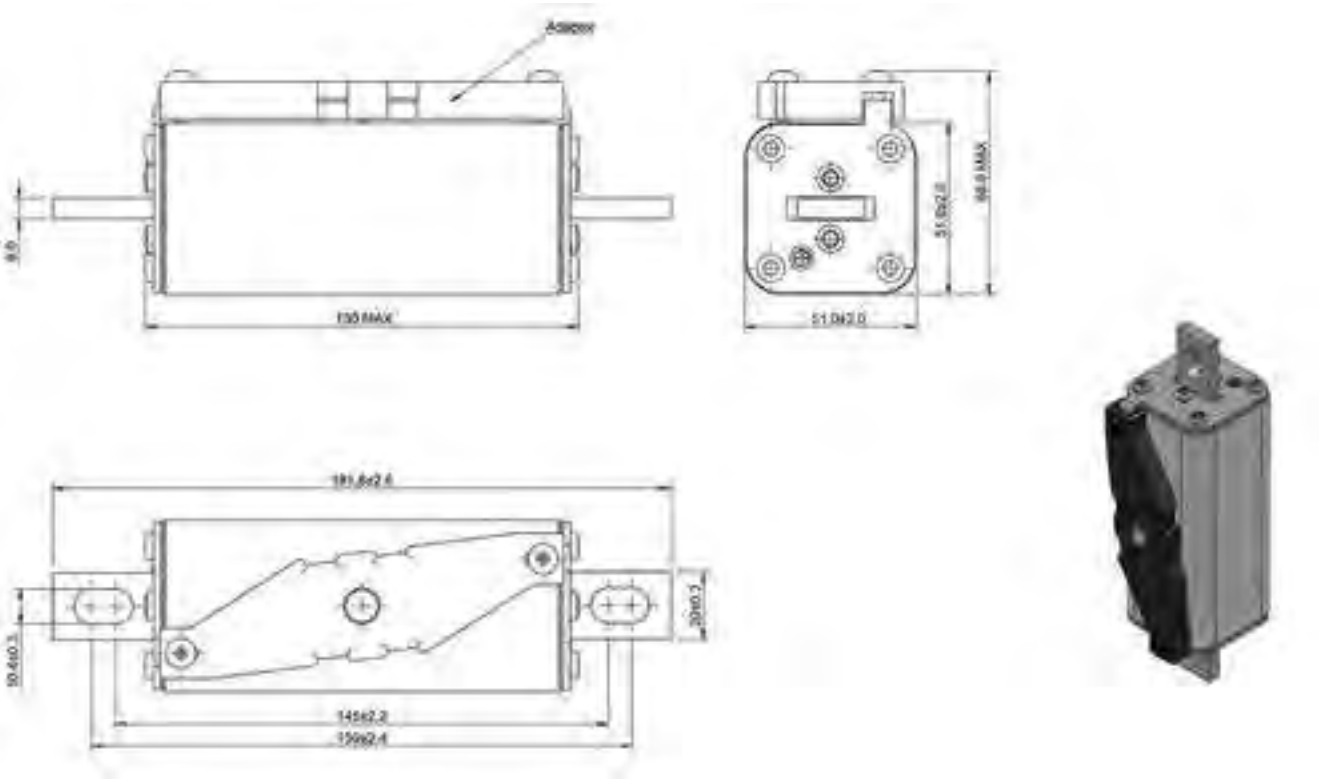




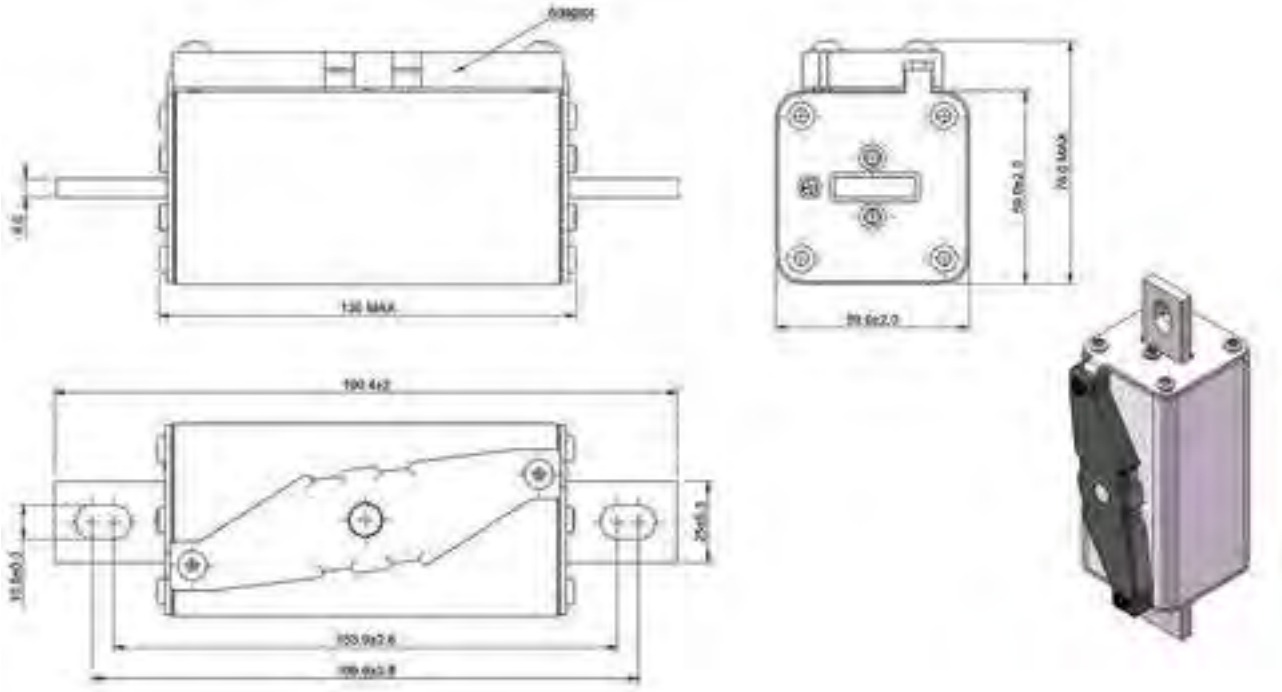
Data sheet: 10201

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Dimensions (mm) - Size 1, bolted



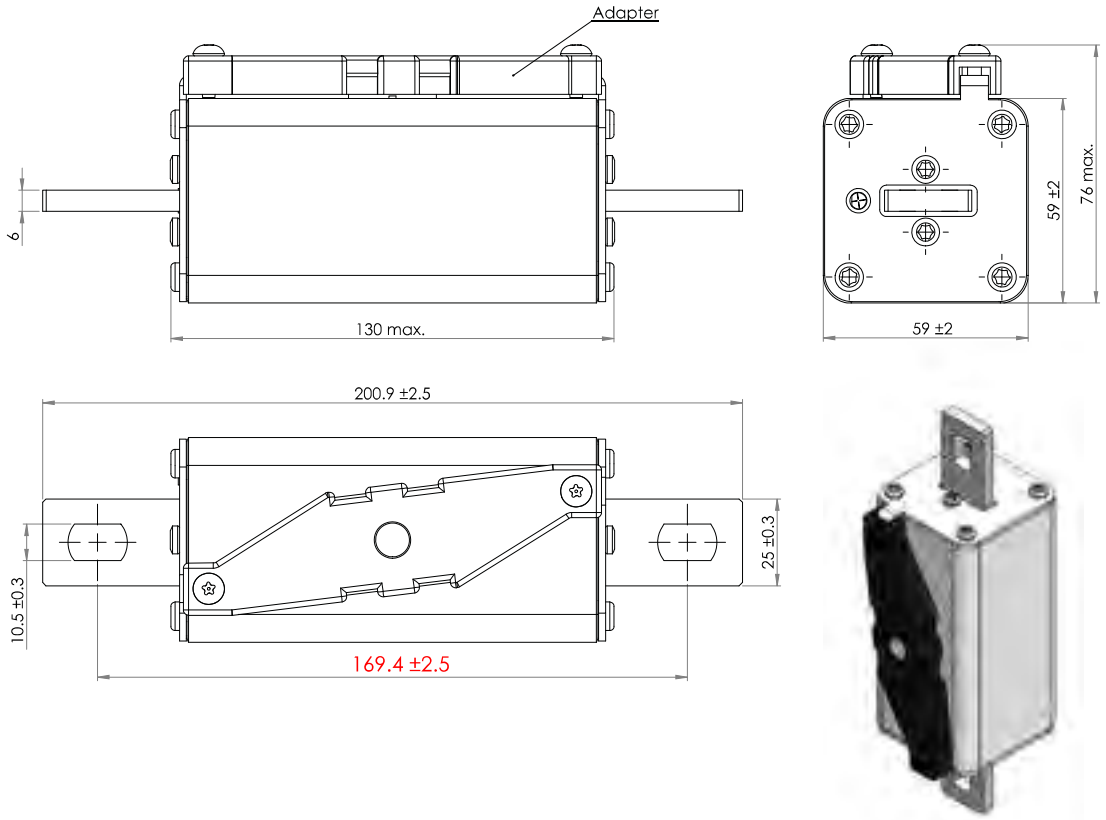
Dimensions (mm) - Size 2, bolted



Data sheet: 10201

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Dimensions (mm) - Size 2XL-3B, bolted

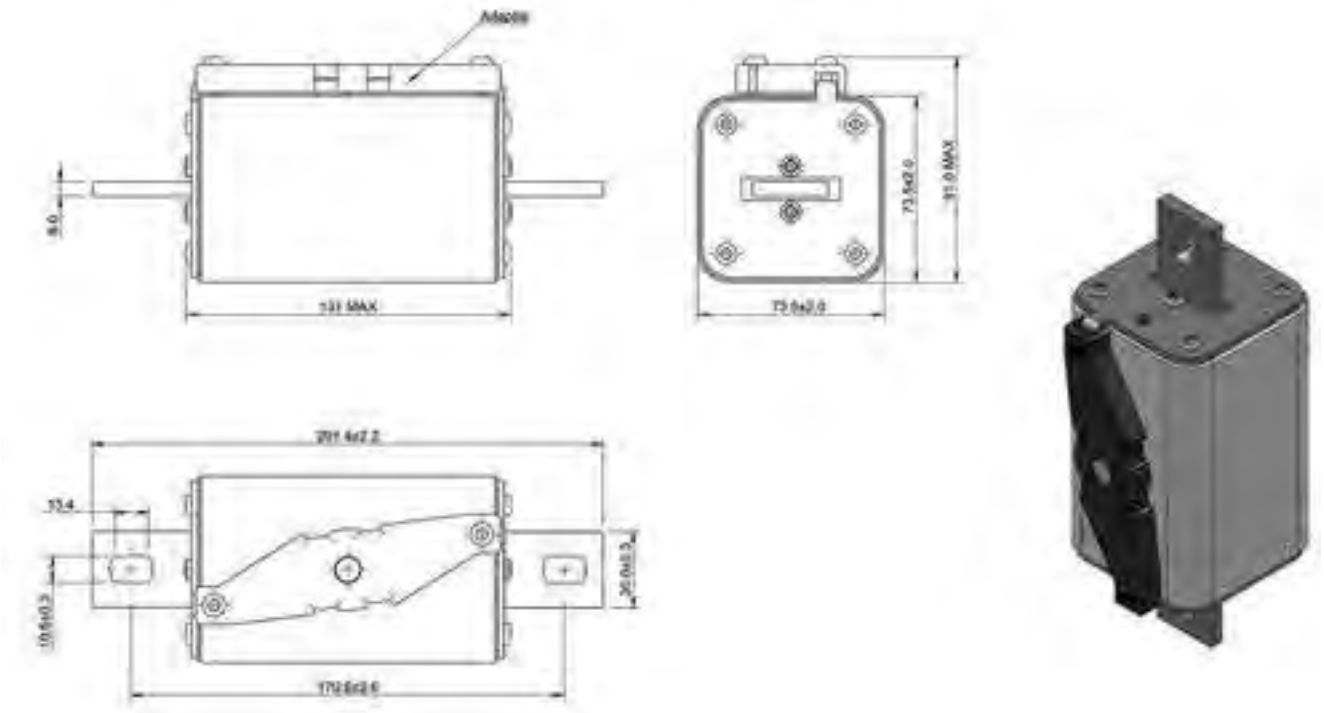


PV-*A-2XL-3B and PV-*A-2XL-3B-15 have revised bolting patterns, which are identical to size 3L bolting pattern. This allows utilisation of both size 2XL and size 3L fuse links without changing the dimensional layout of the inverter, combiners and disconnects.

Mounting dimensions comparison

2XL-3B	3L
169.4	170.8

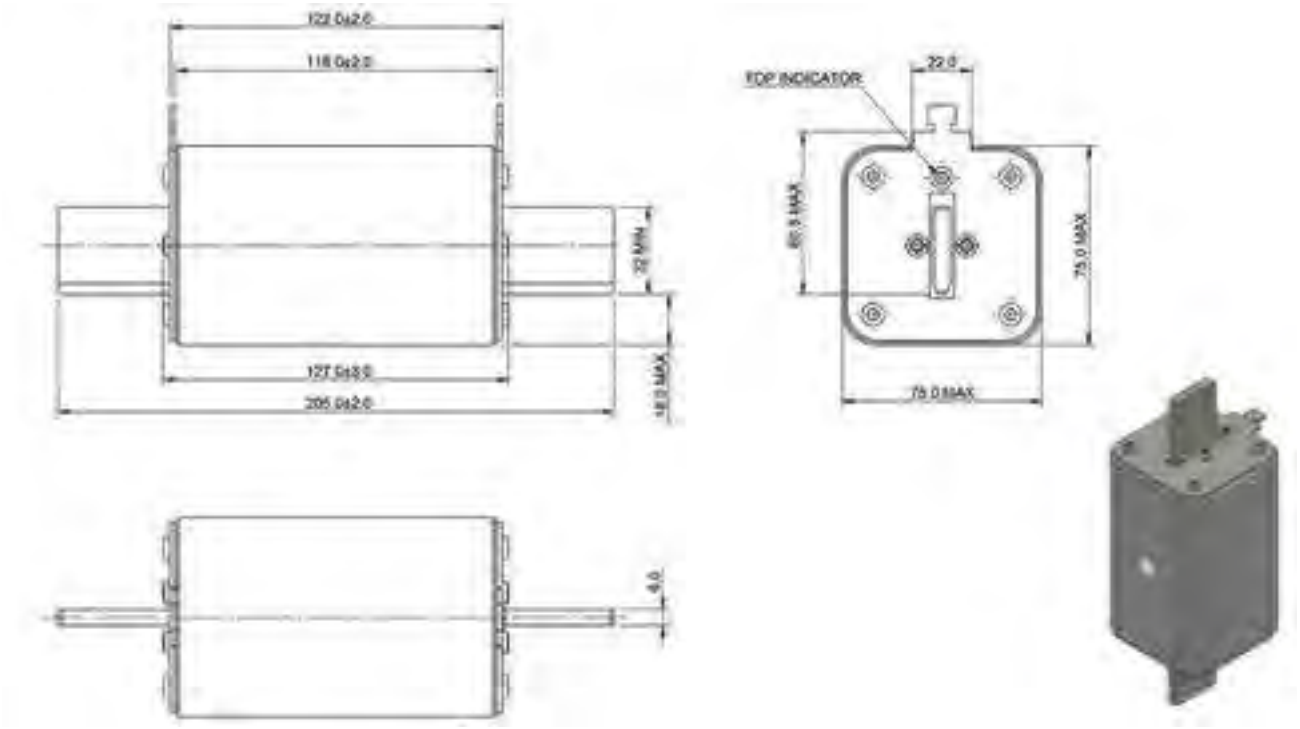
Dimensions (mm) - Size 3, bolted



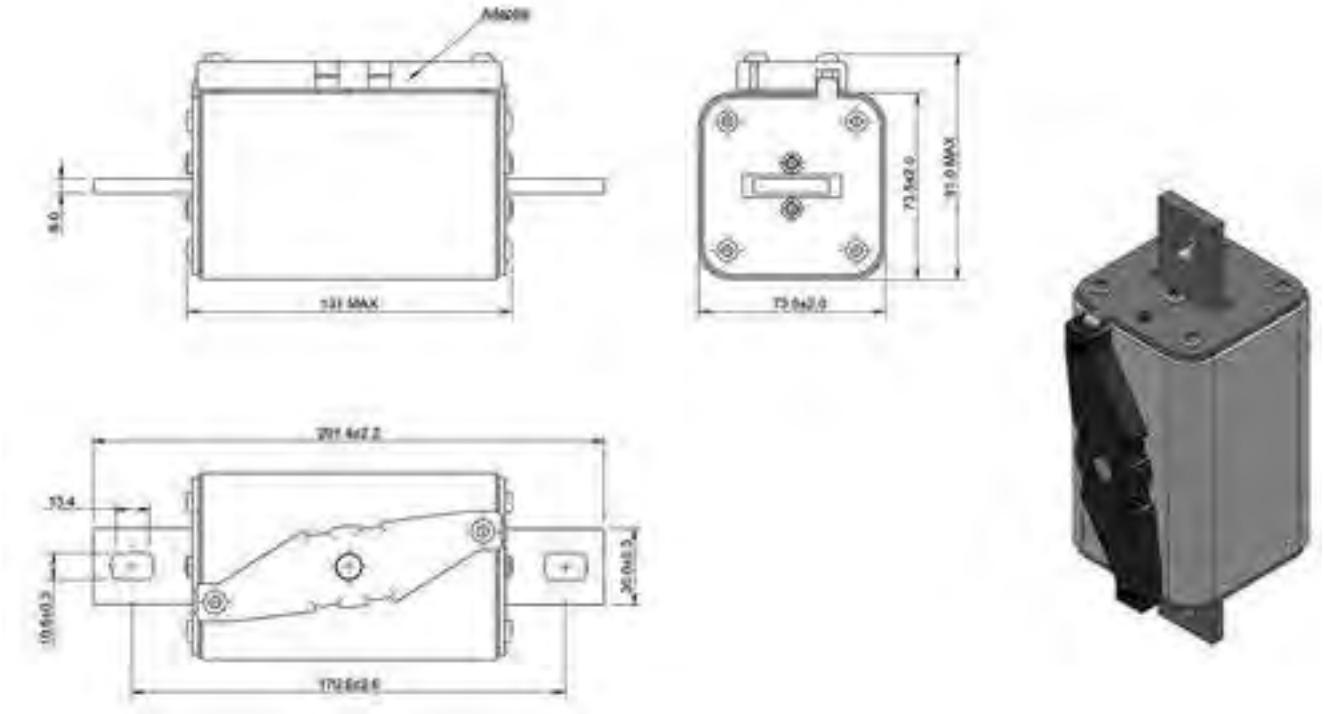
Data sheet: 10201

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Dimensions (mm) - Size 3L Bladed with and without top indicator



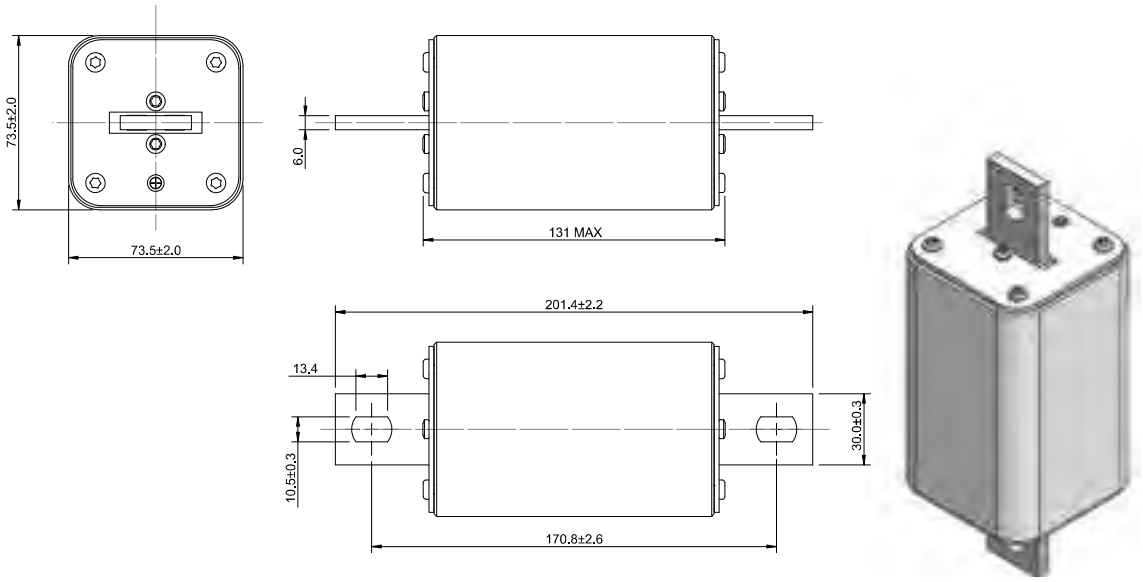
Dimensions (mm) - Size 3L Bolted with side indicator



Data sheet: TD135020EN

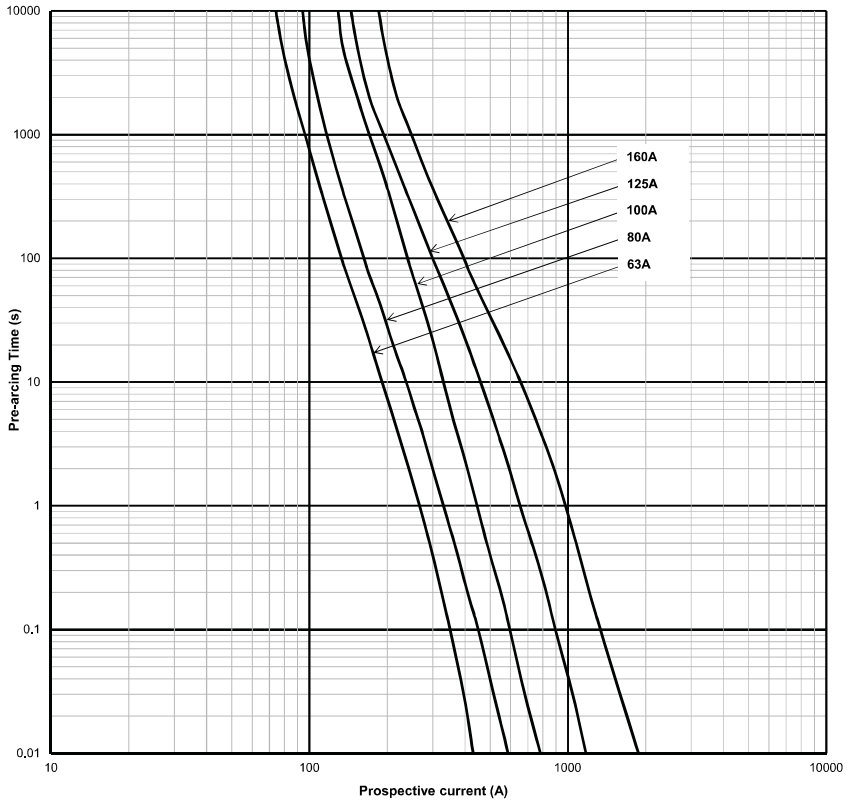
PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Dimensions (mm) - Size 3L Bolted without side indicator

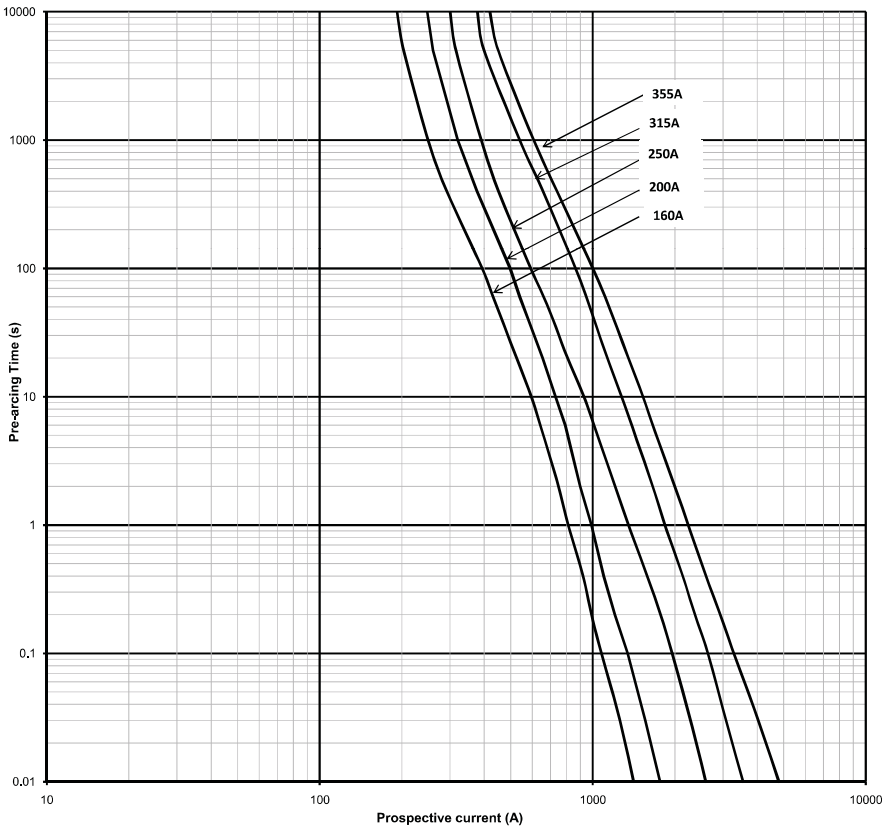


PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Time-current curve - Size 01XL, bladed and bolted, 1000 V d.c., 63 A to 160 A



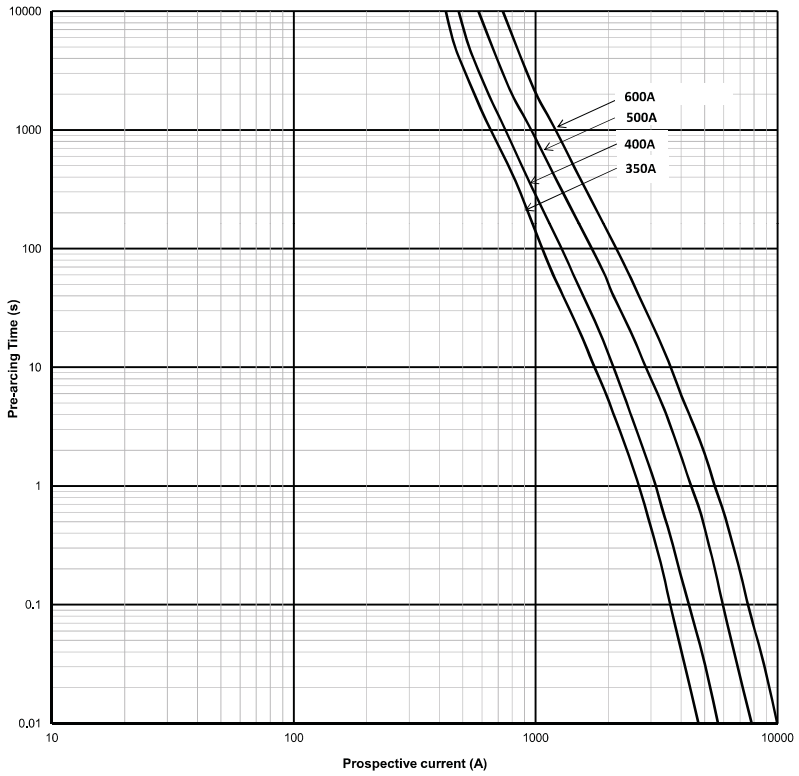
Time-current curve - Size 2XL, bladed and bolted, 1000 V d.c., 160 A to 355 A



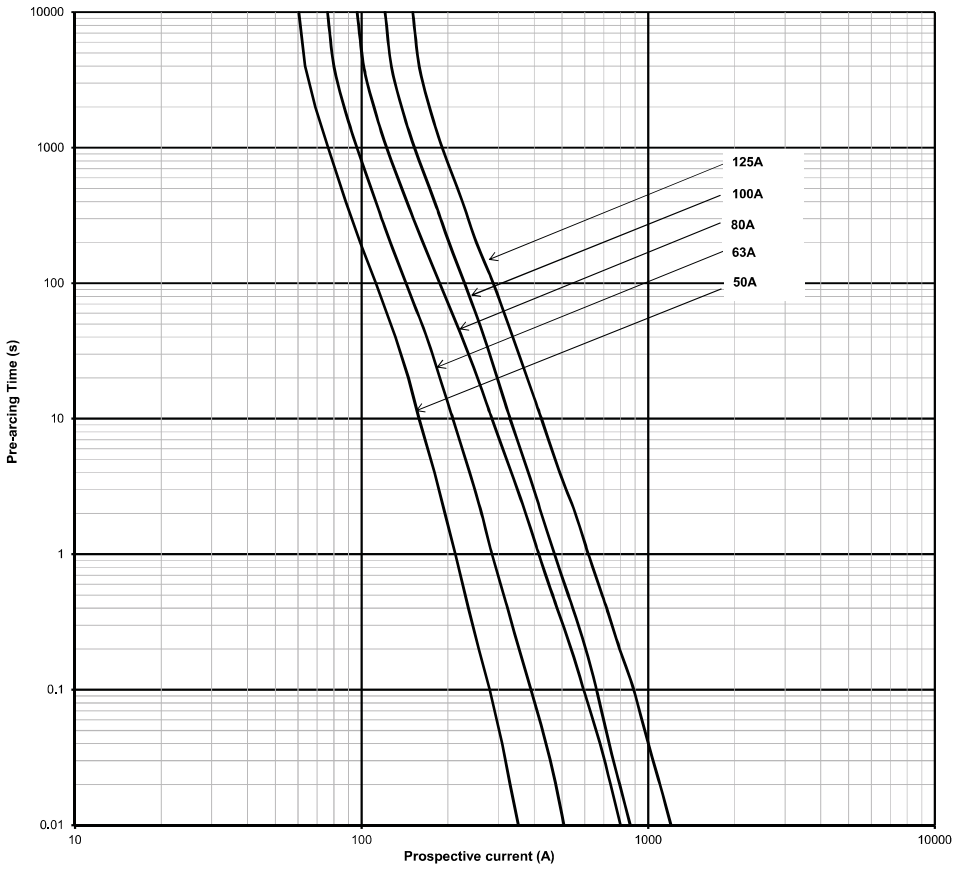
Data sheet: 10201

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Time-current curve - Size 3L, bladed and bolted, 1000 V d.c., 350 A to 600 A



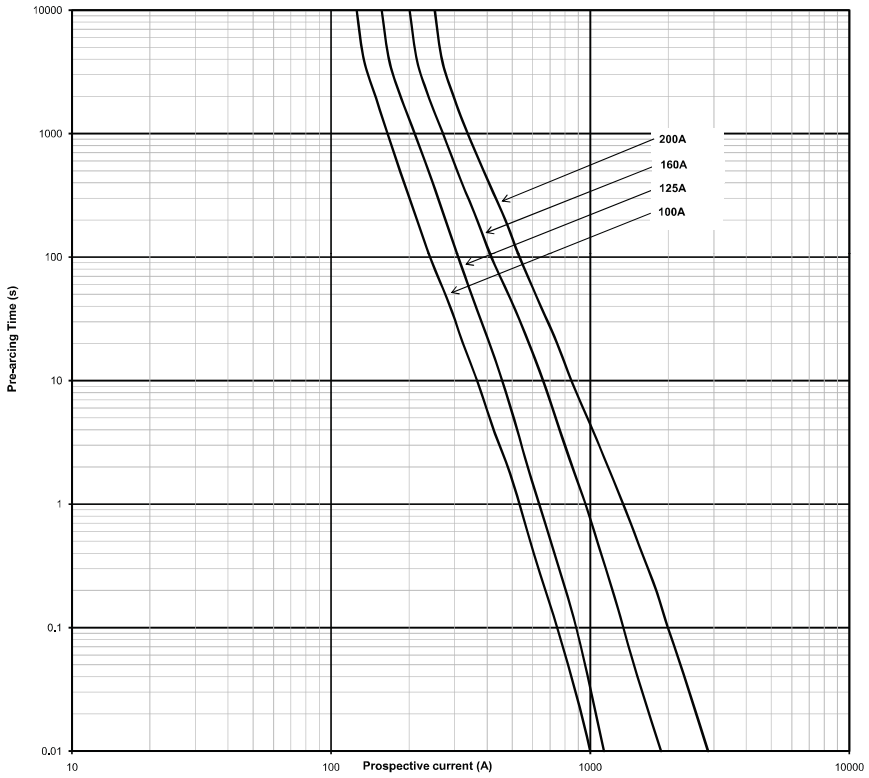
Time-current curve - Size 01XL, bladed and bolted, 1500 V d.c., 50 A to 125 A



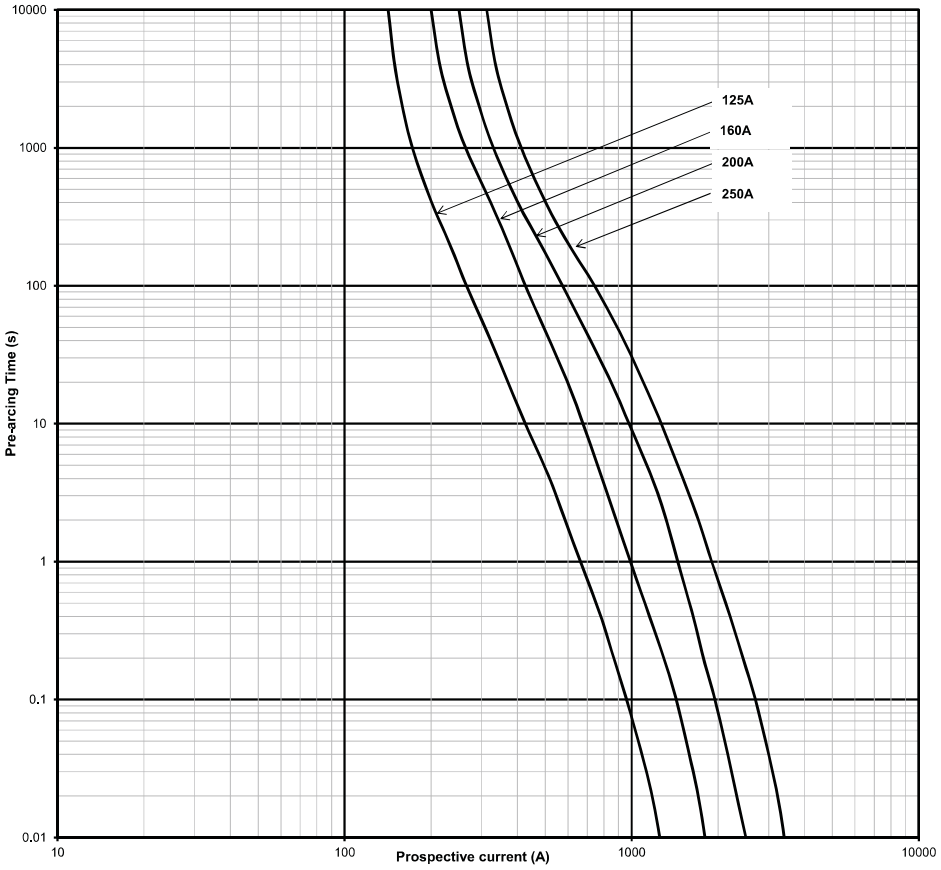
Data sheet: 10201

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Time-current curve - Size 1XL, bladed and bolted, 1500 V d.c., 100 A to 200 A



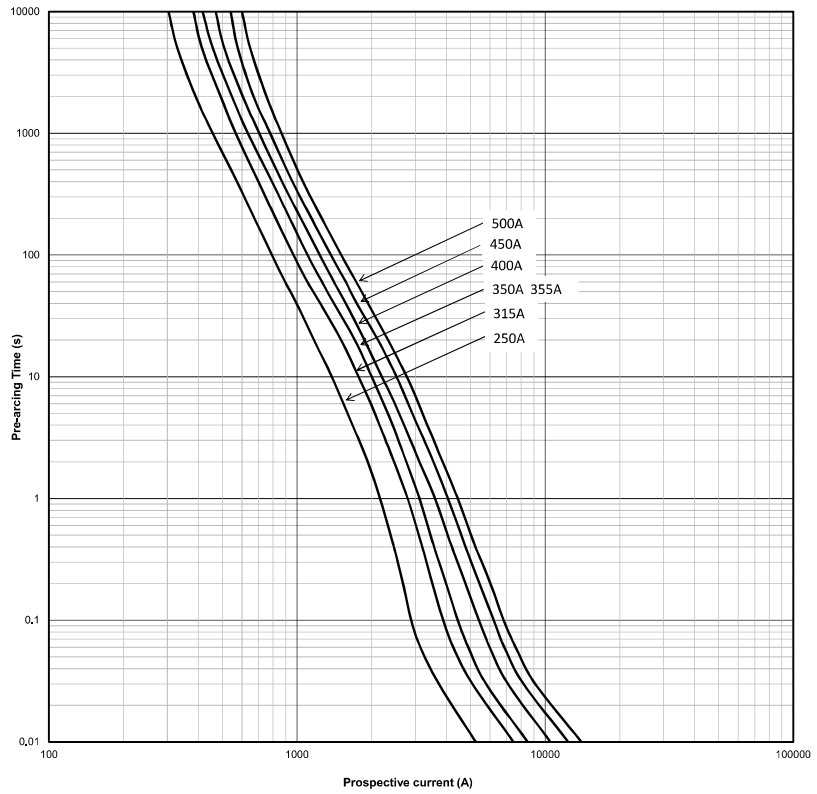
Time-current curve - Size 2XL, bladed and bolted, 1500 V d.c., 125 A to 250 A



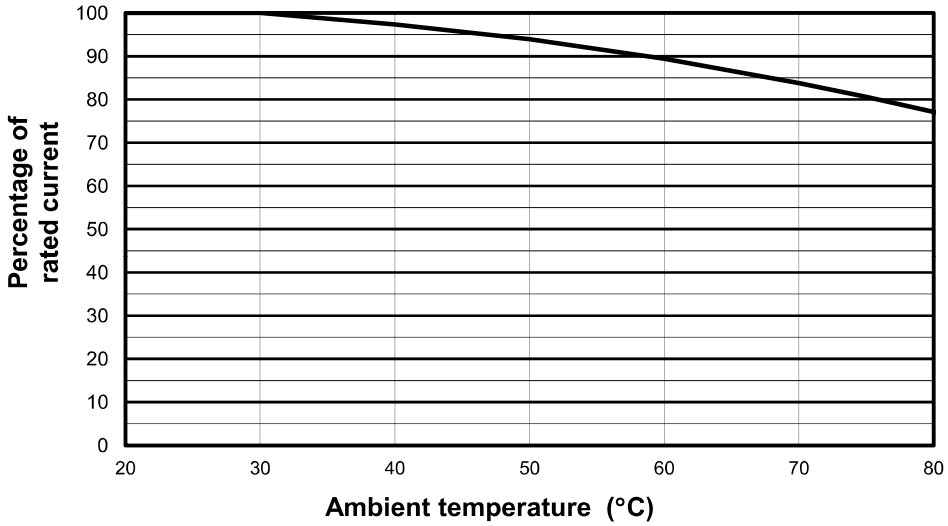
Data sheet: 10201

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Time-current curve - Size 3L, bladed and bolted, 1500 V d.c., 250 A to 500 A



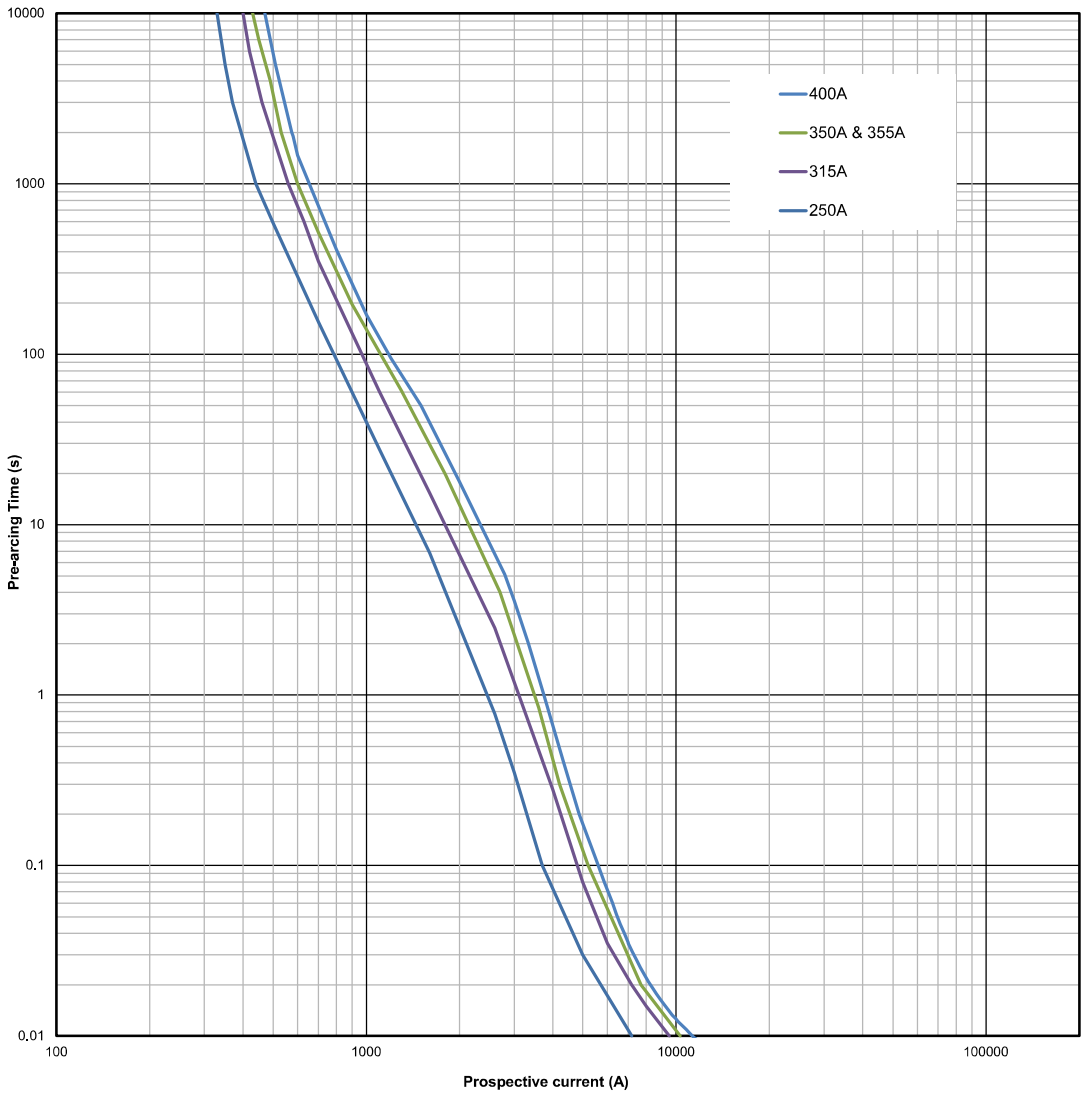
Temperature derating curve



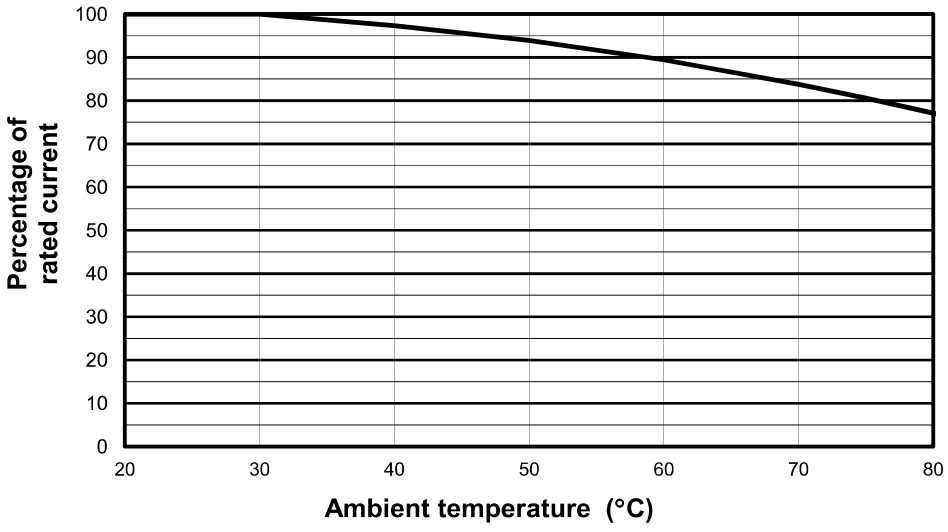
Data sheet: 10201

PV-XL and PVS-3L - XL and 3L Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Time-current curve



Temperature derating curve



Data sheet: TD135020EN

SD-S-PV - XL fuse bases, 1500 V d.c. (IEC), 200 A to 500 A, sizes 1 to 3

Specifications



Description

Sizes 1 to 3 XL Fuse bases specifically designed for use with the Bussmann series range of XL PV (Photovoltaic) fuse links.

Technical data

- Rated voltage: 1500 V d.c. (IEC)
- Rated current: 200 A, 400 A and 630 A
- Fuse base size: 1 to 3
- Compatible fuse links: PV XL

Standards / Agency information

- IEC 60269-1
- UL Listed (file number E348242)

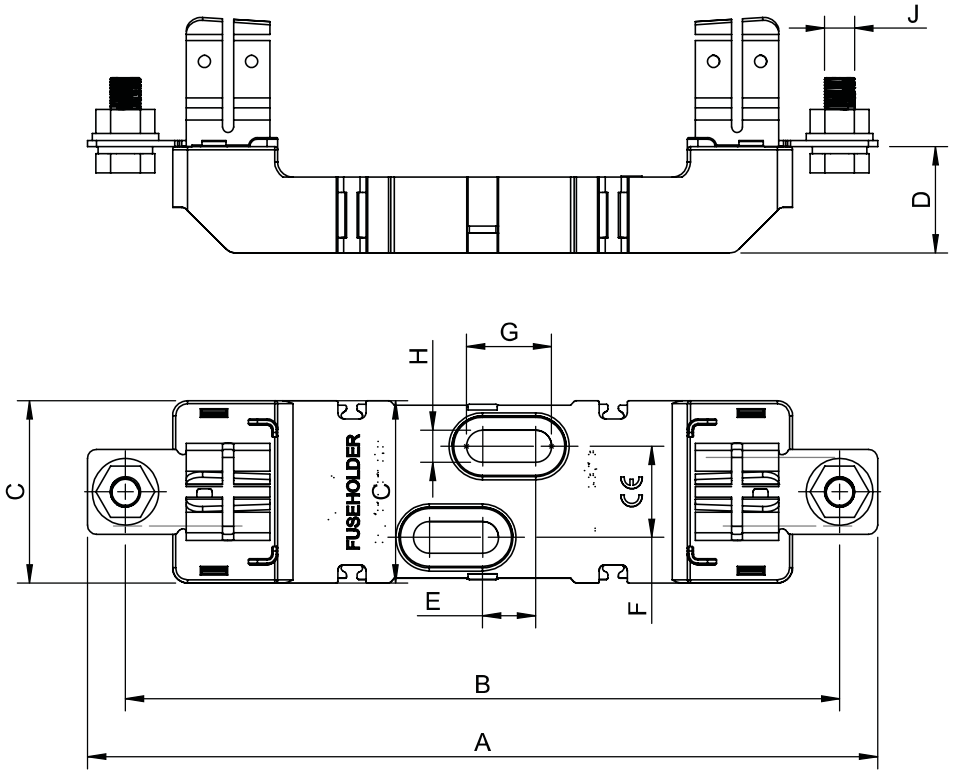
Accessories:

Fuse extraction handle available in sizes 01XL to 3L

Part numbers: FEH1500B

Unit packing: 1

Dimensions (mm)



Catalogue numbers	XL Style fuse link size	Maximum fuse rated current (Amps)	Power acceptance	A	B	C	D	E	F	G	H	J
SD1XL-S-PV	01XL, 1XL	200	57W	260	235	60	35	17.5	30	28	10.5	M10
SD2XL-S-PV	2XL	400	75W	285	260	60	35	17.5	30	28	10.5	M12
SD3L-S-PV	3L	500	108W	300	270	60	35	17.5	30	28	10.5	M12

Data sheet: 10066