

# XL Photovoltaic fuse links



## Product description

Eaton's Bussmann® series XL fuse links are specifically designed to protect and isolate photovoltaic array combiners and disconnects. These fuse links are capable of interrupting low overcurrents associated with faulted PV systems (reverse current, multi-array fault).

## Standard features

- Global accreditations
- Compatible with Eaton's Bussmann series PV XL bases range (see data sheet 10685)

**Catalogue symbol**

1000 V d.c.	Fuse body size			
Fuse type	01	1	2	3
Bladed	PV-(amp rating)-01XL	PV-(amp rating)-1XL	PV-(amp rating)2XL	PV-(amp rating)-3L
Bolted	PV-(amp rating)-01XL-B	PV-(amp rating)-1XL-B	PV-(amp rating)2XL-B	PV-(amp rating)-3L-B
			PV-(amp rating)2XL-3B <sup>1</sup>	

1500 V d.c.	Fuse body size			
Fuse type	01	1	2	3
Bladed with top indicator	PV-(amp rating)-01XL-15	PV-(amp rating)-1XL-15	PV-(amp rating)-2XL-15	PV-(amp rating)-3L-15
Bladed without top indicator				PV-(amp rating)-3L-U-15
Bolted with side indicator	PV-(amp rating)-01XL-B-15	PV-(amp rating)-1XL-B-15	PV-(amp rating)-2XL-B-15	PV-(amp rating)-3L-B-15
			PV-(amp rating)-2XL-3B-15 <sup>1</sup>	
Bolted without side indicator				PV-(amp rating)-3L-BU-15

**Fuse size**

- 01XL, 1XL, 2XL and 3L

**Technical data**

Rated voltage: 1000, 1200, 1500 V d.c.

Rated current: 50 to 600 A

Breaking capacity: see details on page 3

Class of operation: gPV and UL PV fuse links

Minimum interrupting rating: 2 x I<sub>n</sub>

**Standards/Approvals**

- IEC 60269-6
- UL 248-19 (file number E335324)
- RoHS compliant

**Microswitches**

See table

**Fuse holders (ordered separately)**

See table

**Fuse extraction handle (ordered separately)**

- SD1XL-S-PV (suitable for fuse body size 01 and 1XL)

**Packaging**

- MOQ: 1

<sup>1</sup> 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.

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**Technical Data - 1000 V d.c. - Bladed**

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

**Compatible fuse bases and microswitches - 1000 V d.c.**

Fuse type	Fuse link body size	Rated voltage	Compatible Fuse bases	Compatible microswitches
Bladed version	01	1000 V d.c.	SD1XL-S-PV	170H0236/170H0238
	2	1000 V d.c.	SD2XL-S-PV	170H0236/170H0238
	3	1000 V d.c.	SD3L-S-PV	170H0236/170H0238

**Technical Data - 1000 V d.c. - Bolted version**

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

<sup>1</sup> - 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.  
<sup>2</sup> - 100 kA at time constant 6 mS.

**Compatible microswitches - 1000 V d.c. - Bolted version**

Fuse type	Fuse link body size	Rated voltage	Compatible Fuse bases	Compatible microswitches
Bolted version	01	1000 V d.c.		170H0069
	2	1000 V d.c.		170H0069
	3	1000 V d.c.		170H0069

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**Technical Data - 1500 V d.c. - Bladed version**

Fuse link body size	Rated voltage	Rated current (Amps)	Breaking capacity (IEC/UL) (kA)	I <sup>2</sup> t (A <sup>2</sup> Sec)		Watts loss (W)		Catalogue numbers	
				Pre-arcing	Total at 1500 V d.c.	0.7 I <sub>n</sub>	I <sub>n</sub>	Bladed with top indicator	Bladed without top indicator
01	1500 V d.c.	50	30	175	1000	10	25	PV-50A-01XL-15	
		63	30	362	2250	10	26	PV-63A-01XL-15	
		80	30	565	3300	14	35	PV-80A-01XL-15	
		100	30	1100	6600	16	40	PV-100A-01XL-15	
		125	30	2200	10,500	18	44	PV-125A-01XL-15	
1	1500 V d.c.	100	30	1250	6000	24	43	PV-100A-1XL-15	
		125	30	1950	9360	25	52	PV-125A-1XL-15	
		160	30	4200	20,160	26	54	PV-160A-1XL-15	
		200	30	9400	45,120	31	60	PV-200A-1XL-15	
2	1500 V d.c.	125	30	2200	15,000	18	44	PV-125A-2XL-15	PV-125A-2XL-U-15
		160	30	5000	32,000	19	48	PV-160A-2XL-15	PV-160A-2XL-U-15
		200	30	8800	51,000	23	57	PV-200A-2XL-15	PV-200A-2XL-U-15
		250	30	16,600	85,000	28	70	PV-250A-2XL-15	PV-250A-2XL-U-15
3	1500 V d.c.	250	100 <sup>2</sup>	74,000	263,000	20	49	PV-250A-3L-15	PV-250A-3L-U-15
		315	100 <sup>2</sup>	150,000	533,000	21	52	PV-315A-3L-15	PV-315A-3L-U-15
		350	100 <sup>2</sup>	195,000	693,000	24	59	PV-350A-3L-15	PV-350A-3L-U-15
		355	100 <sup>2</sup>	195,000	693,000	24	59	PV-355A-3L-15	PV-355A-3L-U-15
		400	100 <sup>2</sup>	296,000	1,060,000	24	61	PV-400A-3L-15	PV-400A-3L-U-15
		450	100 <sup>2</sup>	412,000	1,470,000	27	67	PV-450A-3L-15	PV-450A-3L-U-15
		500	100 <sup>2</sup>	532,000	1,890,000	29	73	PV-500A-3L-15	PV-500A-3L-U-15

**Compatible fuse bases and microswitches - 1500 V d.c.- Bladed version**

Fuse link body size	Rated voltage	Rated current (Amps)	Fuse type	Compatible XL Bases	Compatible micro-switches
01	1500 V d.c.	50	Bladed with top indicator	SD1XL-S-PV	170H0236/170H0238
1	1500 V d.c.	100		SD1XL-S-PV	170H0236/170H0238
2	1500 V d.c.	125		SD2XL-S-PV	170H0236/170H0238
3	1500 V d.c.	250		SD3L-S-PV	170H0236/170H0238
2	1500 V d.c.	125	Bladed without top indicator	SD2XL-S-PV	
3	1500 V d.c.	250		SD3L-S-PV	

**Technical Data - 1500 V d.c. - Bolted version**

Fuse link body size	Rated voltage	Rated current (Amps)	Breaking capacity (IEC/UL) (kA)	I <sup>2</sup> t (A <sup>2</sup> Sec)		Watts loss (W)		Catalogue numbers	
				Pre-arcing	Total at 1500 V d.c.	0.7 I <sub>n</sub>	I <sub>n</sub>	Bolted version with side indicator	Bolted without side indicator
01	1500 V d.c.	50	30	175	1000	10	25	PV-50A-01XL-B-15	
		63	30	362	2250	10	26	PV-63A-01XL-B-15	
		80	30	565	3300	14	35	PV-80A-01XL-B-15	
		100	30	1100	6600	16	40	PV-100A-01XL-B-15	
		125	30	2200	10,500	18	44	PV-125A-01XL-B-15	
1	1500 V d.c.	100	30	1250	6000	24	43	PV-100A-1XL-B-15	
		125	30	1950	9360	25	52	PV-125A-1XL-B-15	
		160	30	4200	20,160	26	54	PV-160A-1XL-B-15	
		200	30	9400	45,120	31	60	PV-200A-1XL-B-15	
2	1500 V d.c.	125	30	2200	15,000	18	44	PV-125A-2XL-B-15	
		160	30	5000	32,000	19	48	PV-160A-2XL-B-15	PV-160A-2XL-BU-15
		200	30	8800	51,000	23	57	PV-200A-2XL-B-15	PV-200A-2XL-BU-15
		250	30	16,600	85,000	28	70	PV-250A-2XL-B-15	PV-250A-2XL-BU-15
		125	30	2200	15,000	18	44	PV-125A-2XL-3B-15 <sup>1</sup>	PV-125A-2XL-3BU-15 <sup>1</sup>
		160	30	5000	32,000	19	48	PV-160A-2XL-3B-15 <sup>1</sup>	PV-160A-2XL-3BU-15 <sup>1</sup>
		200	30	8800	51,000	23	57	PV-200A-2XL-3B-15 <sup>1</sup>	PV-200A-2XL-3BU-15 <sup>1</sup>
		250	30	16,600	85,000	28	70	PV-250A-2XL-3B-15 <sup>1</sup>	PV-250A-2XL-3BU-15 <sup>1</sup>
3	1500 V d.c.	250	100 <sup>2</sup>	74,000	263,000	20	49	PV-250A-3L-B-15	PV-250A-3L-BU-15
		315	100 <sup>2</sup>	150,000	533,000	21	52	PV-315A-3L-B-15	PV-315A-3L-BU-15
		350	100 <sup>2</sup>	195,000	693,000	24	59	PV-350A-3L-B-15	PV-350A-3L-BU-15
		355	100 <sup>2</sup>	195,000	693,000	24	59	PV-355A-3L-B-15	PV-355A-3L-BU-15
		400	100 <sup>2</sup>	296,000	1,060,000	24	61	PV-400A-3L-B-15	PV-400A-3L-BU-15
		450	100 <sup>2</sup>	412,000	1,470,000	27	67	PV-450A-3L-B-15	PV-450A-3L-BU-15
		500	100 <sup>2</sup>	532,000	1,890,000	29	73	PV-500A-3L-B-15	PV-500A-3L-BU-15

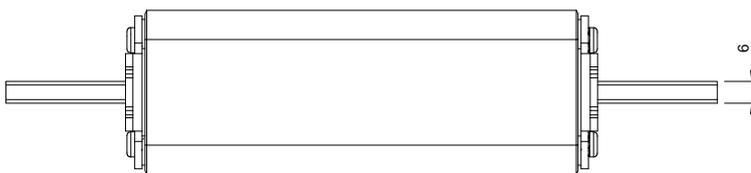
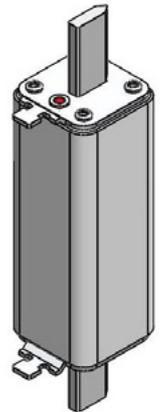
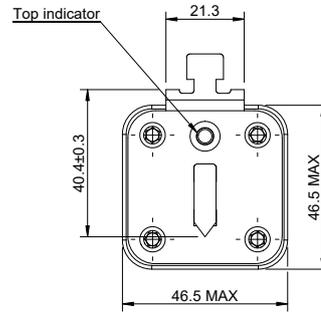
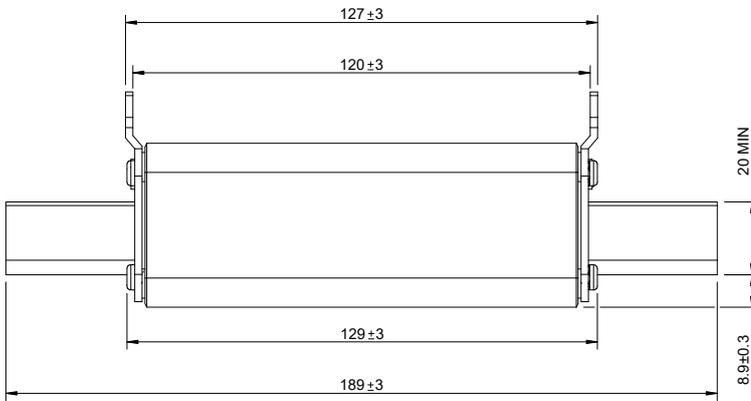
<sup>1</sup> - PV-\*A-2XL-3B and PV-\*A-2XL-3B-15 have revised bolting patterns, which are identical to size 3L bolting pattern. This allows utilisation of both size 2XL and size 3L fuse links without changing the dimensional layout of the inverter, combiners and disconnects.  
<sup>2</sup> - 100 kA at time constant 6 ms.

**Compatible microswitches - 1500 V d.c.- Bolted version**

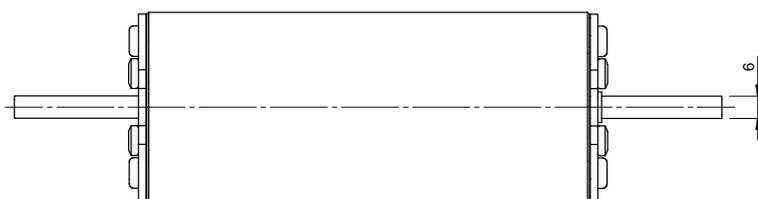
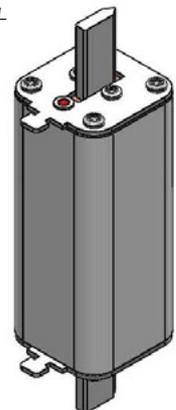
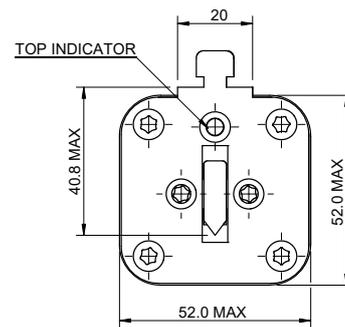
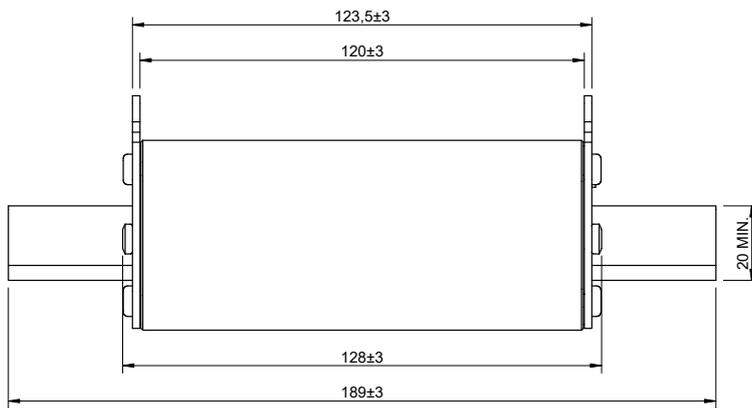
Fuse type	Fuse link body size	Rated voltage	Rated current (Amps)	Compatible microswitches
Bolted version with side indicator	01	1500 V d.c.	50	170H0069
	1	1500 V d.c.	100	170H0069
	2	1500 V d.c.	125	170H0069
	3	1500 V d.c.	250	170H0069

**Dimensions - mm**

Bladed - size 01XL

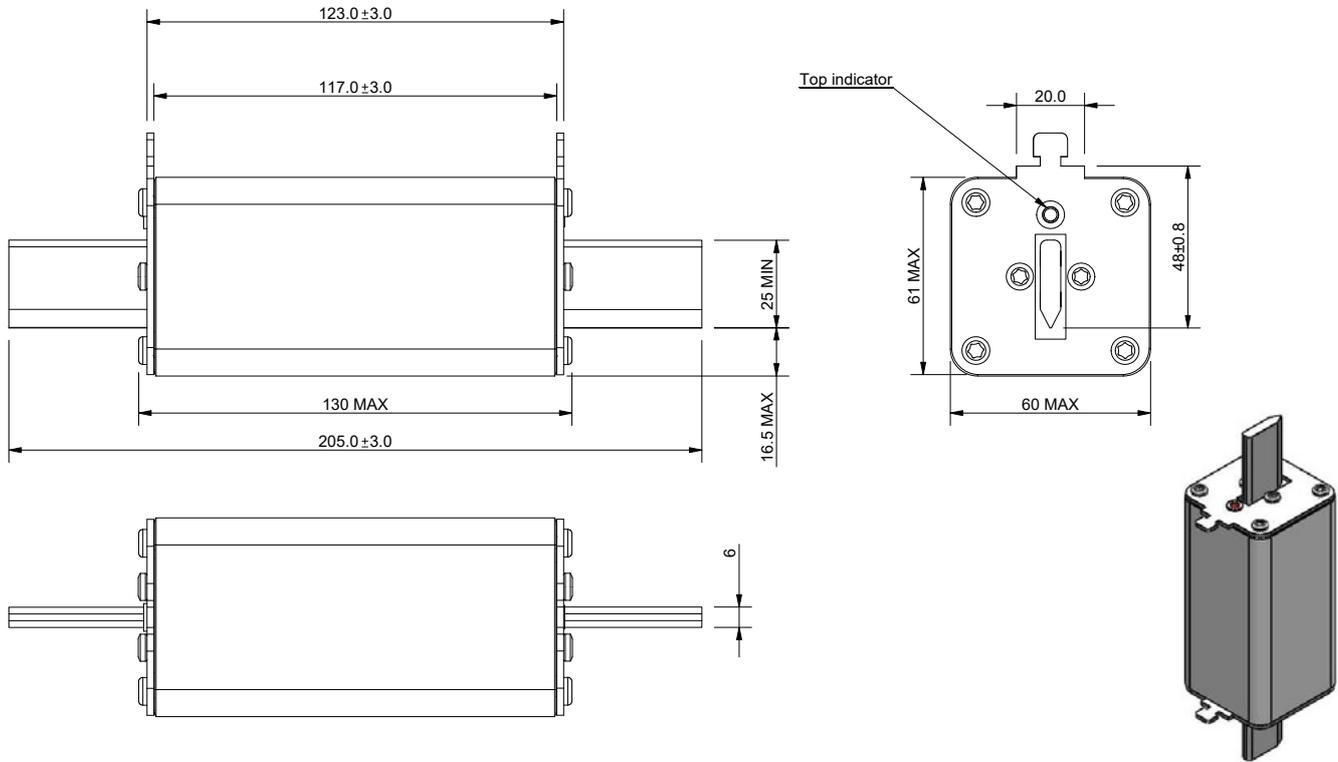


Bladed - size 1XL

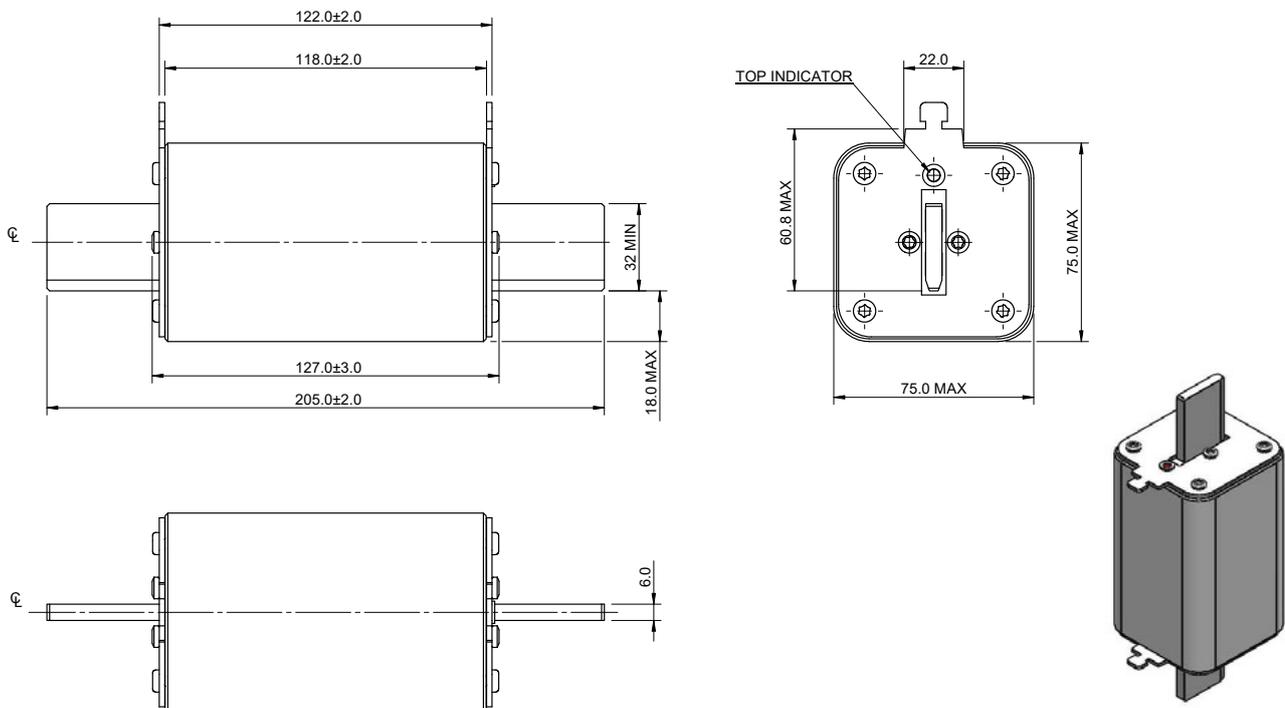


**Dimensions - mm**

Bladed - size 2XL



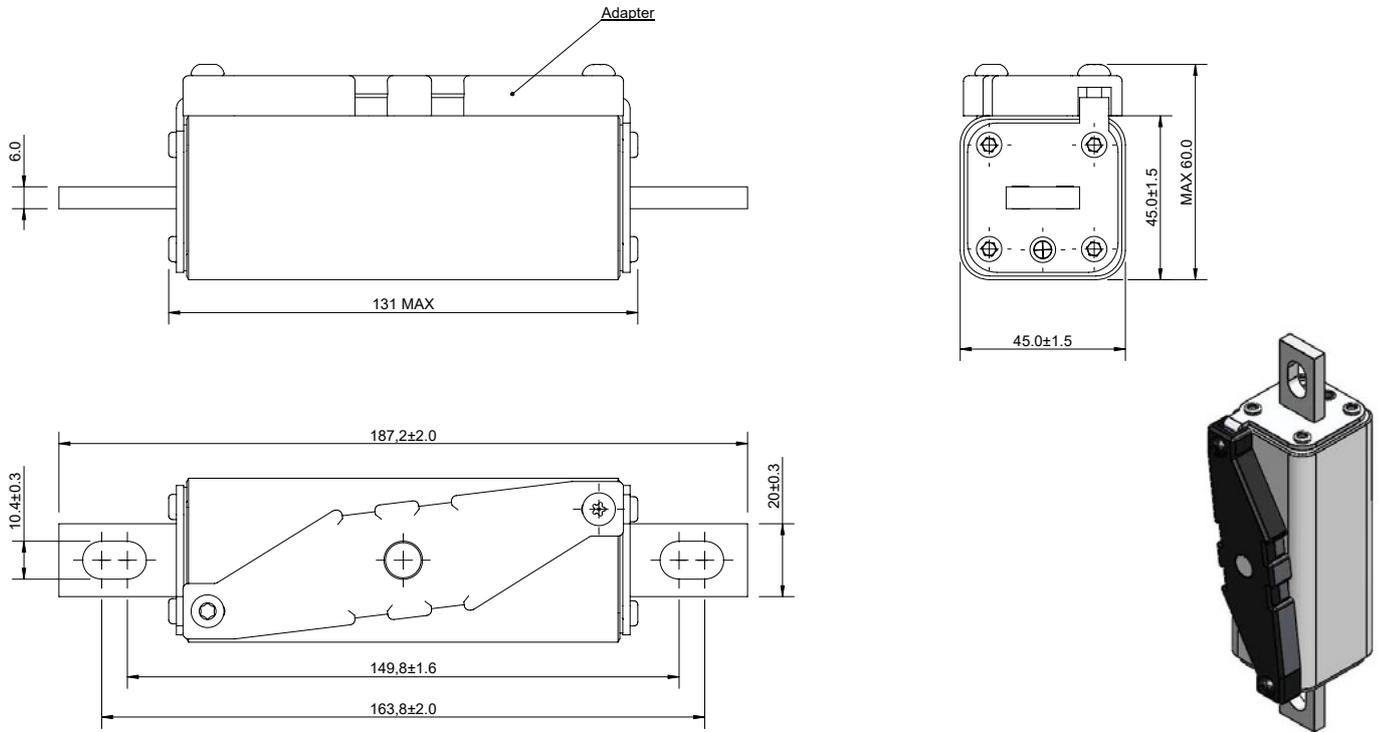
Bladed - size 3L



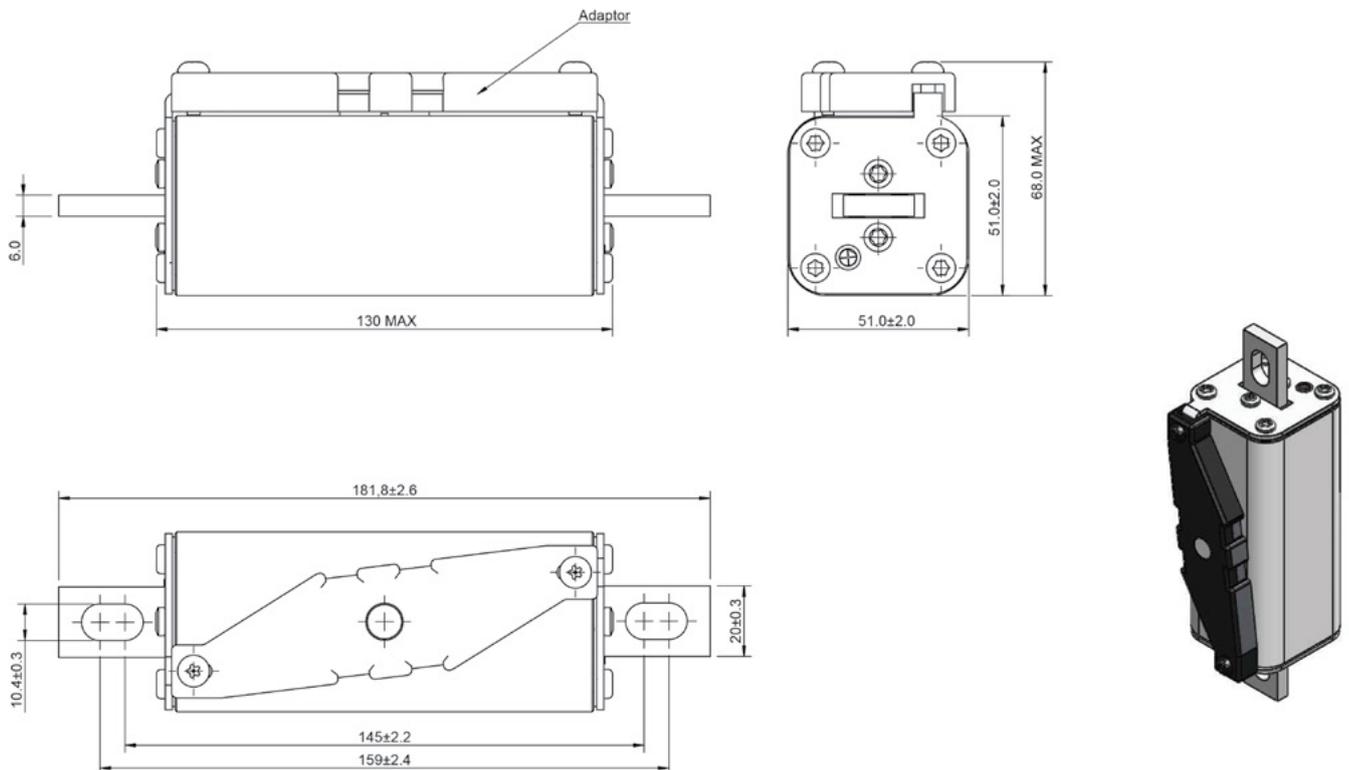
## XL Photovoltaic fuse links

### Dimensions - mm

Bolted - size 01XL

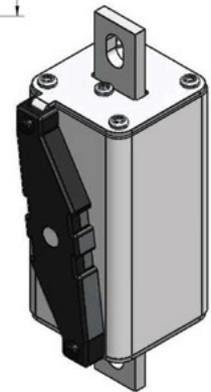
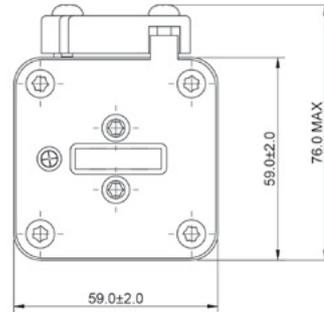
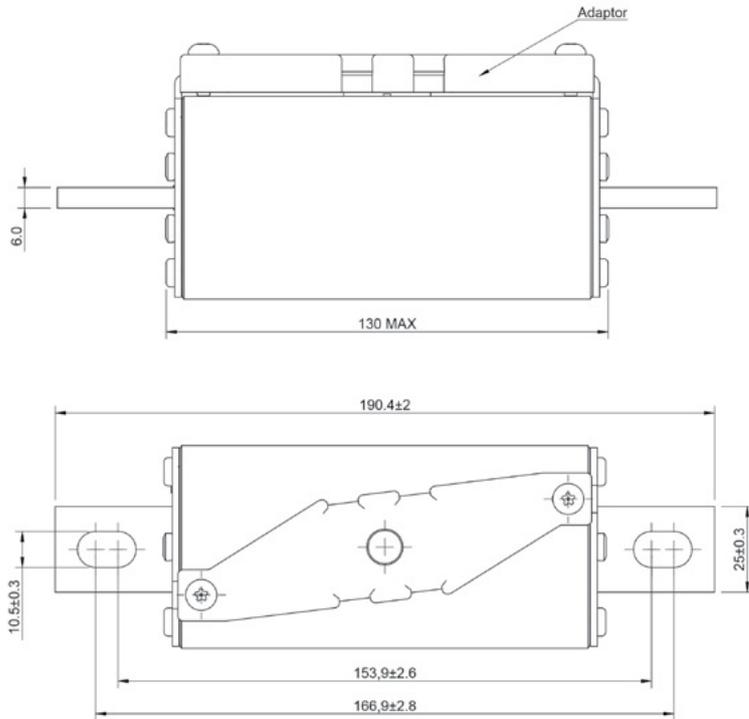


Bolted - size 1XL

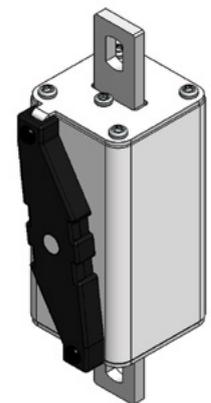
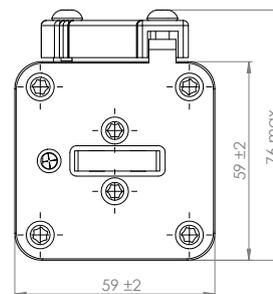
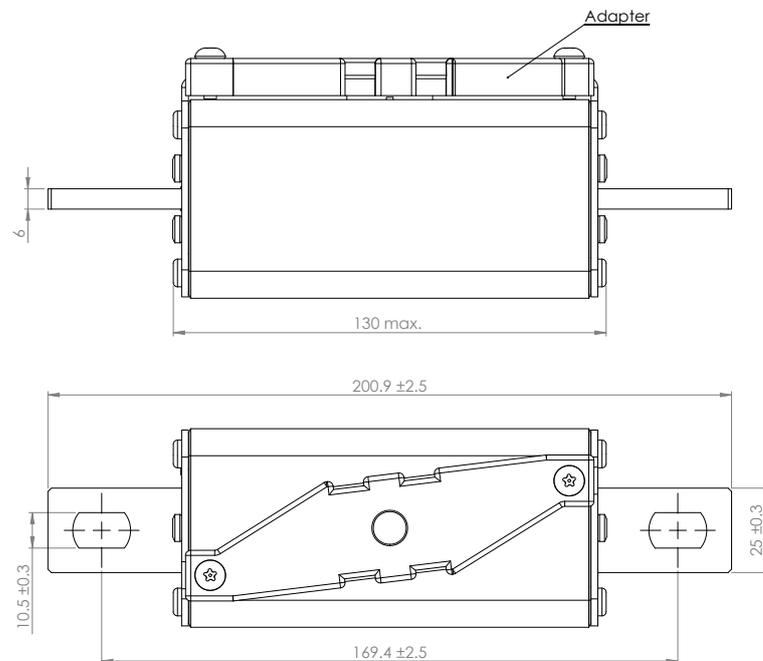


**Dimensions - mm**

Bolted - size 2XL



Bolted - size 2XL-3B<sup>1</sup>



<sup>1</sup> 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.

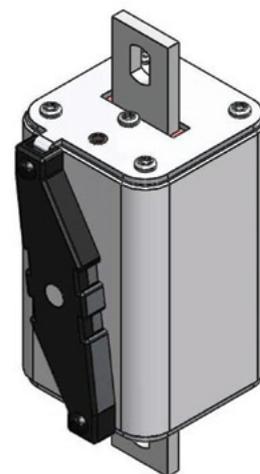
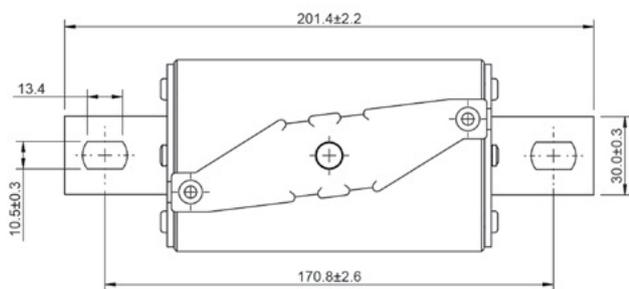
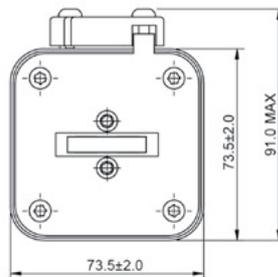
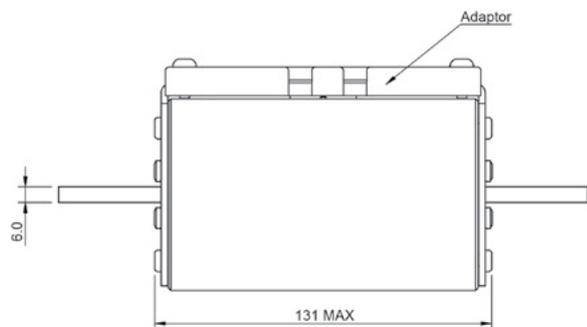
Mounting dimensions comparison

2XL-3B	3L
169.4	170.8

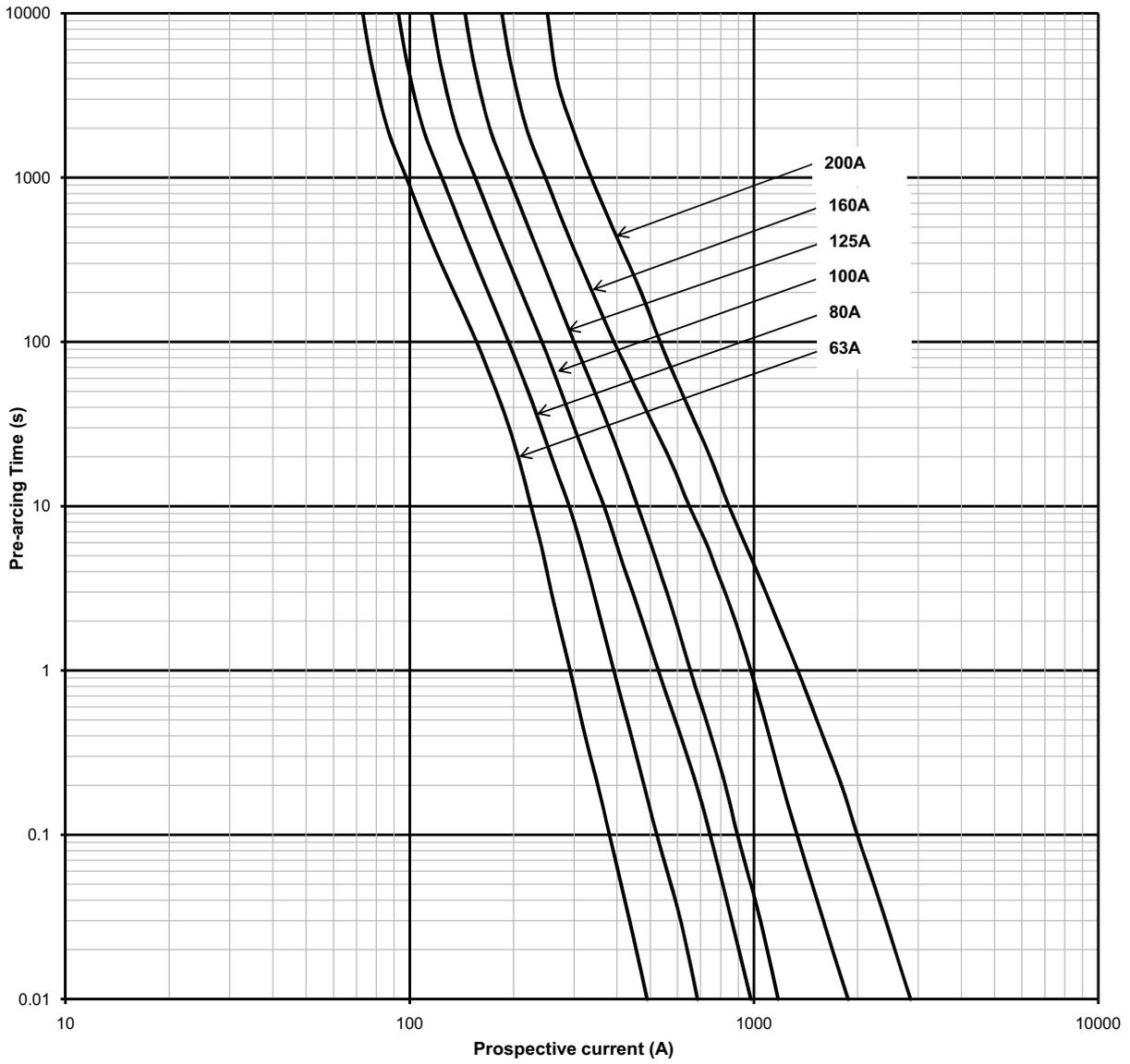
## XL Photovoltaic fuse links

### Dimensions - mm

Bolted - size 3L

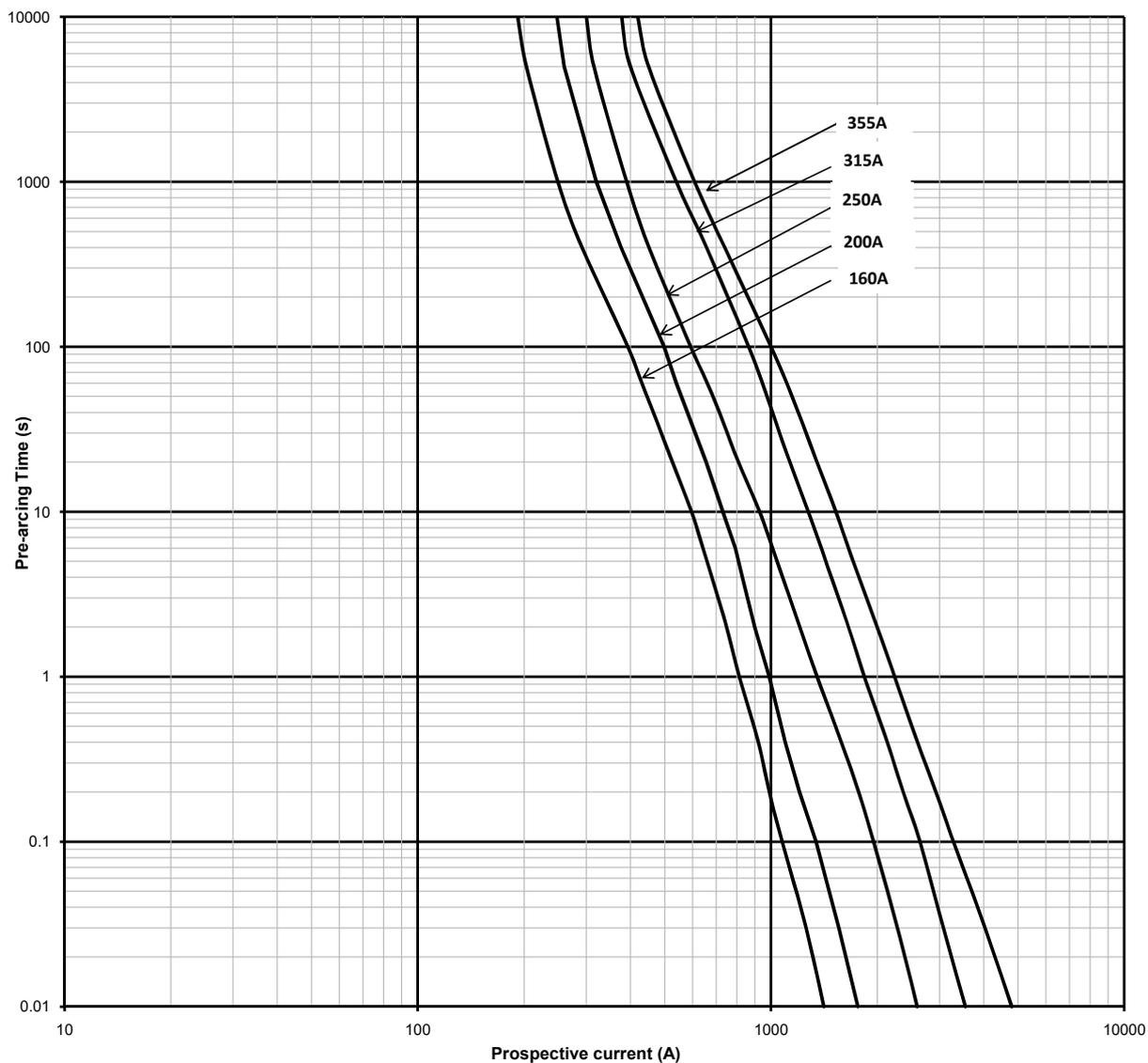


**Time current curve - 1000 V d.c. - 01XL - Bladed and bolted**

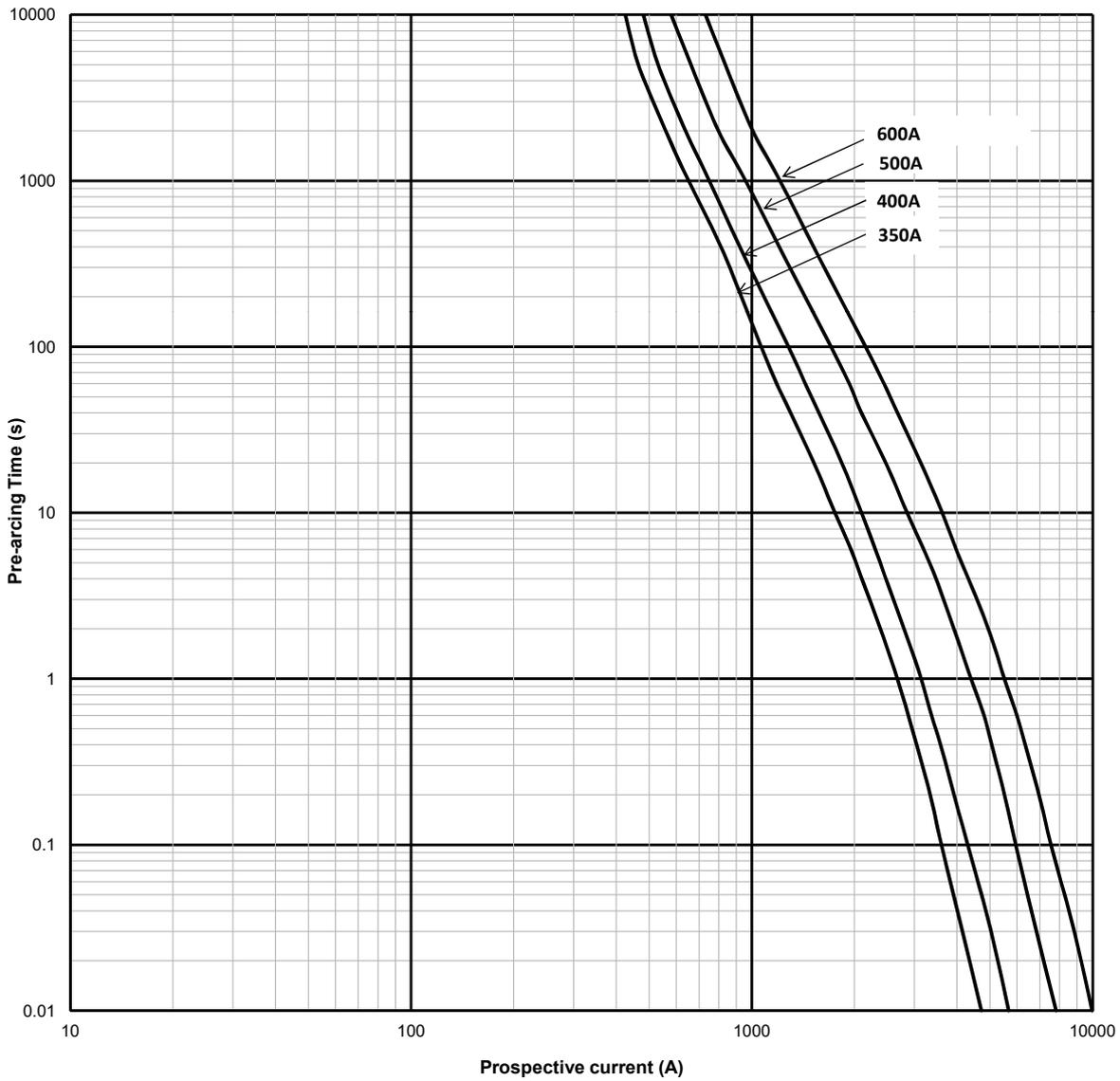


XL Photovoltaic fuse links

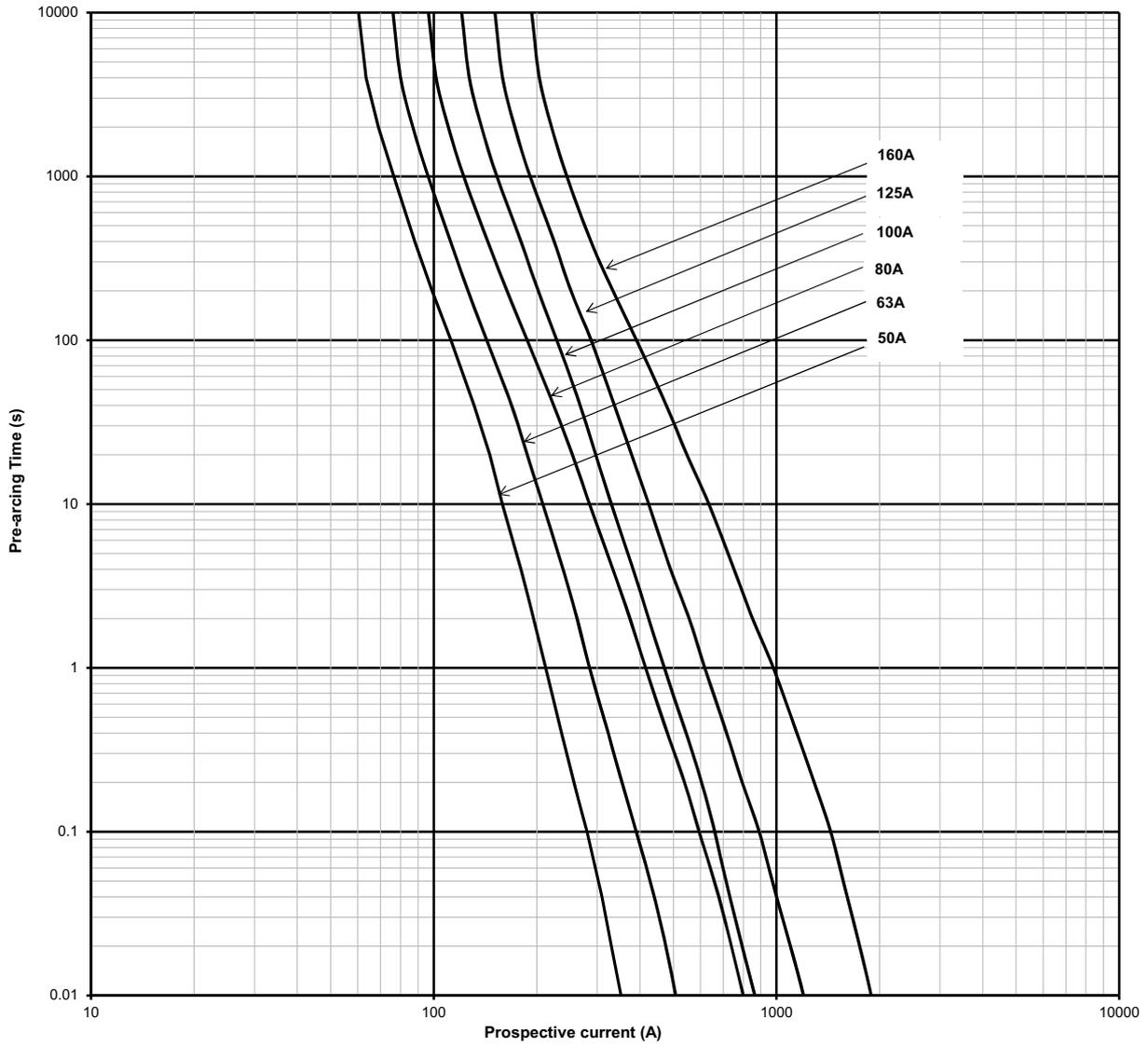
Time current curve - 1000 V d.c. - 2XL - Bladed and bolted



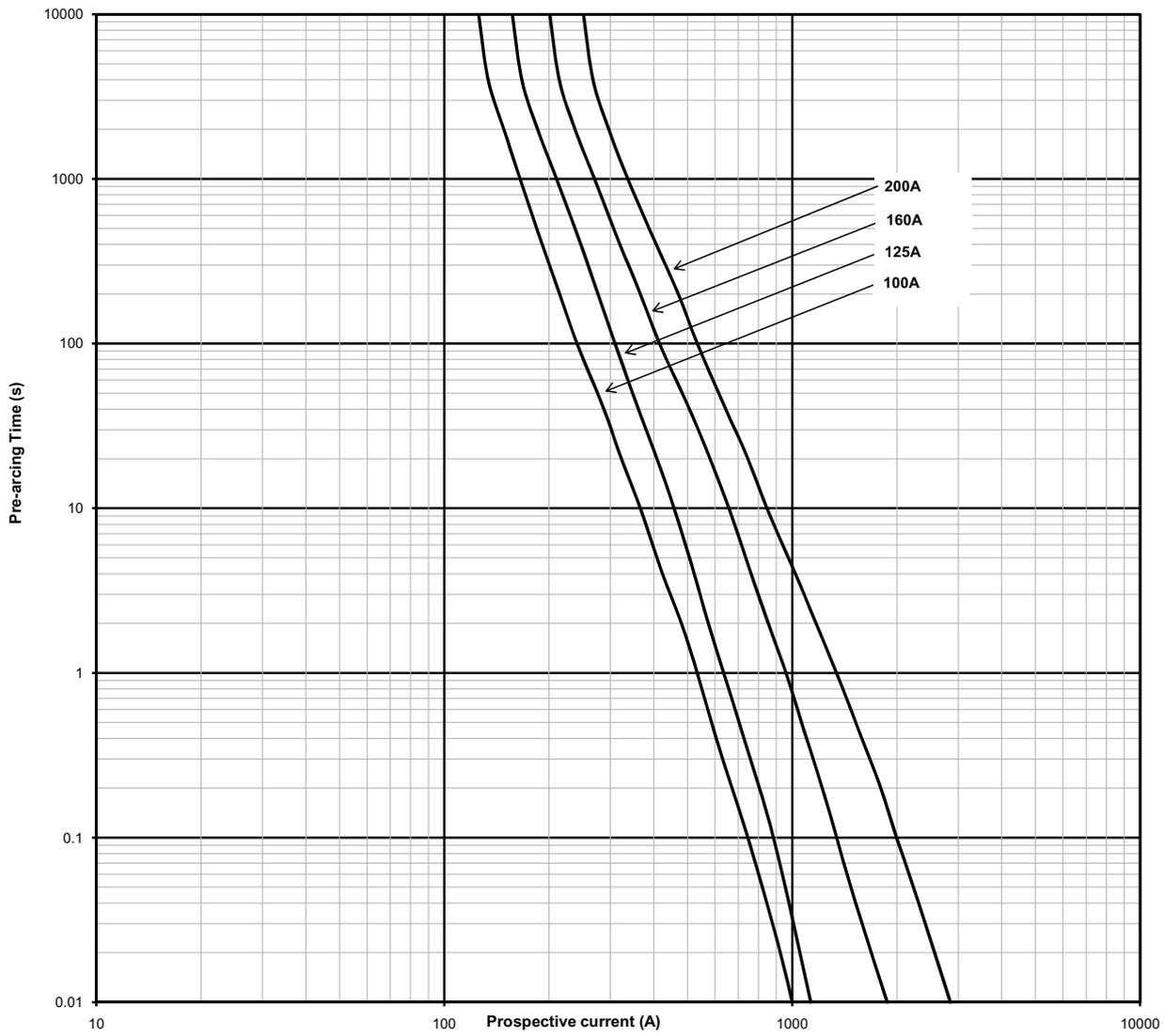
**Time current curve - 1000 V d.c. - 3L - Bladed and bolted**



**Time current curve - 1500 V d.c. - 01XL - Bladed and bolted**

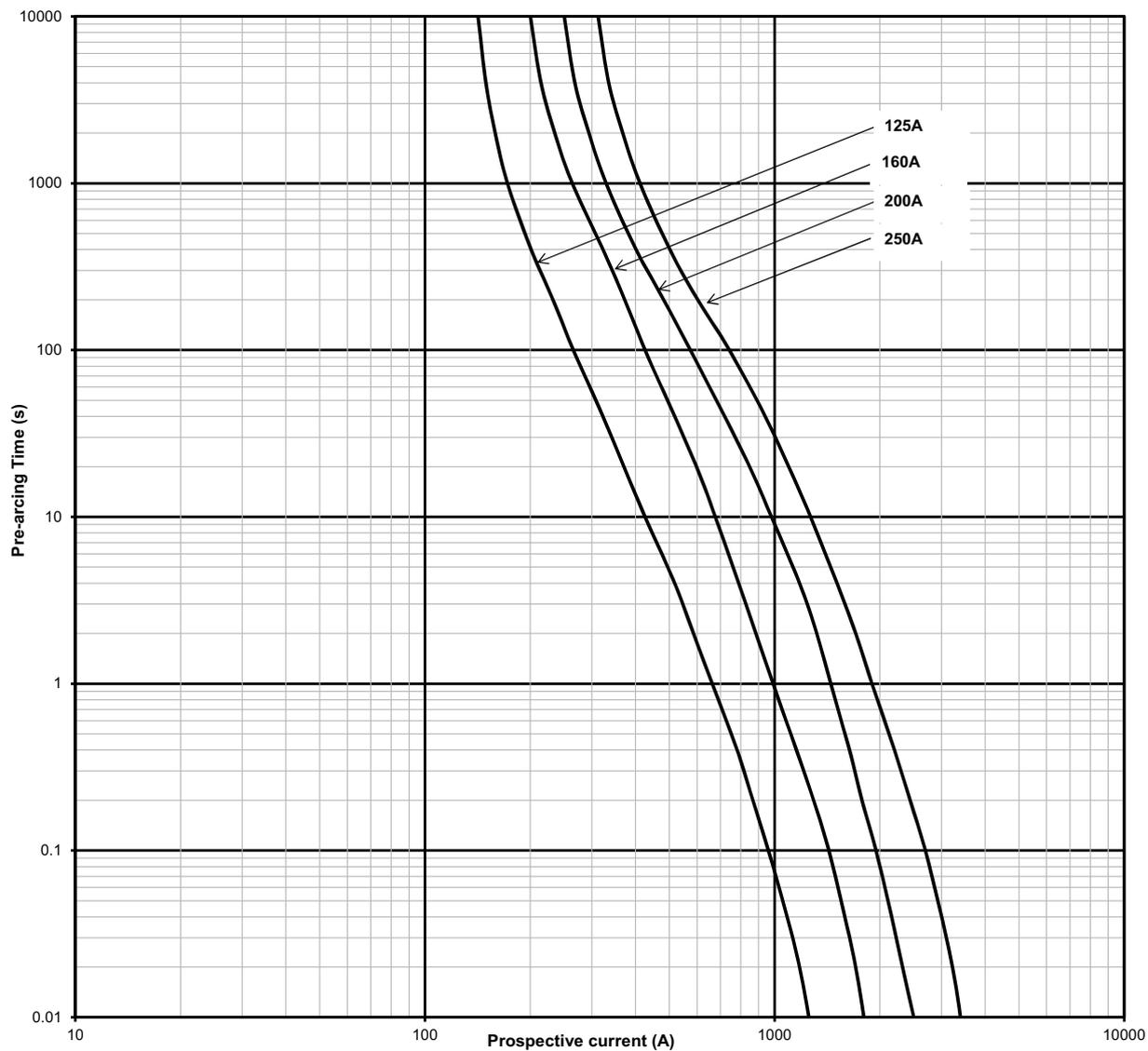


**Time current curve - 1500 V d.c. - 1XL - Bladed and bolted**

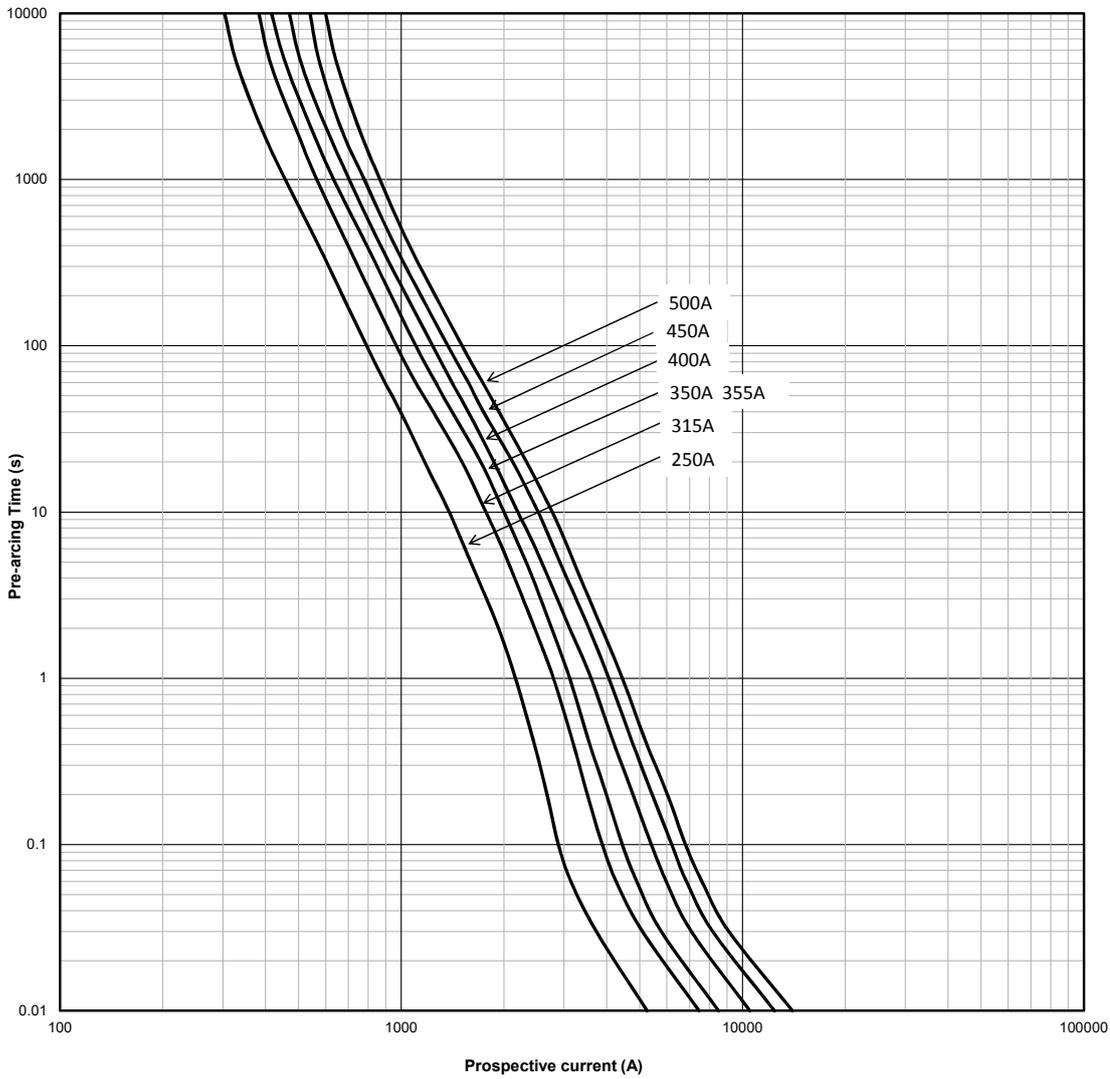


XL Photovoltaic fuse links

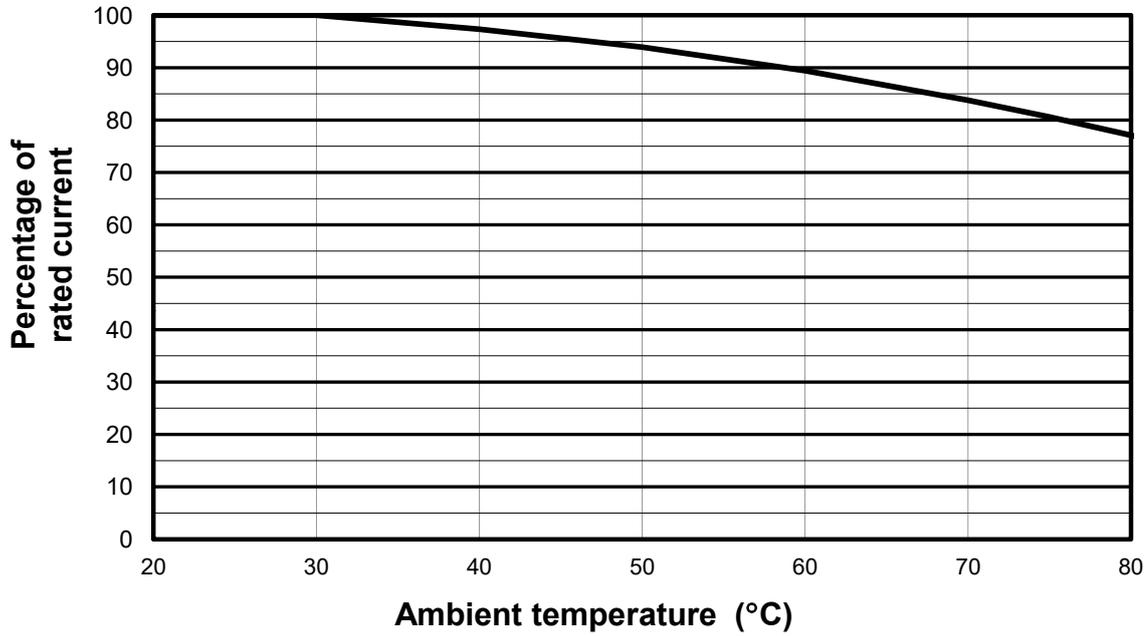
Time current curve - 1500 V d.c.- 2XL - Bladed and bolted



**Time current curve - 1500 V d.c. - 3L - Bladed and bolted**



**Temperature derating curve**



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