10x38mm photovoltaic fuses 1000Vdc, 1-30A

RoHS

Catalog symbols / mounting style:

- 1-20A*
  - PV-(amp)A10F (cylindrical)
  - PV-(amp)A10-T (bolt mounting)
  - PV-(amp)A10-1P (single PCB tab)
  - PV-(amp)A10-2P (dual PCB tab)
  - PV-(amp)10F-CT (in-line with crimp terminals)
- 25-30A** PV10M-(amp) (cylindrical)

* Ceramic tube construction.
** Melamine tube construction.

Description:

Eaton's Bussmann® series of 10x38mm, 1000Vdc PV fuses are for protecting and isolating photovoltaic strings. The fuses are specifically designed for use in PV systems with extreme ambient temperature, high cycling and low fault current conditions (reverse current, multi-array fault) string arrays.

Four styles available for application flexibility.

Specifications:

Basic fuse size

- 10x38mm

Ratings

- Volts 1000Vdc
- Amps 1-30A
- Interrupting Rating
  - 50kA (1-20A)
  - 20kA (25-30A)
- Time Constant:- 1-3ms

Operating class

- gPV and UL PV fuse links

PV fuse coordination

- With thin film cells and 4", 5" and 6" crystalline silicon cells

Agency information

- UL® Listed to 2579*, Guide JFGA, File E335324
- IEC® 60269-6 (gPV)
- CSA® File 53787, Class 1422-30 (1-15A), 20-30A pending
- CCC® (1-20A) (25-30A pending)
- RoHS compliant

* Except crimp terminal version that is UL Recognized to UL 2579, Guide JFGA2, File E335324.

Packaging (carton quantity)

- PV-(amp)A10F, PV-(amp)A10T, PV-(amp)A10-_P and PV10M-(amp): 10
- PV-(amp)10F-CT & PV10M-(amp)-CT in-line: 180

Features:

- Meets UL and IEC photovoltaic standards for global acceptance
- Low watts loss performance for energy efficiency
- Low temperature rise performance for more precise sizing
- In-line crimp terminal version is easy to apply in wire harness construction

Typical applications:

- Combiner boxes
- PV wire harnesses

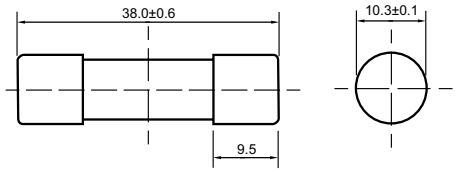
Specifications:

Catalog numbers / configurations					Current rating (amps)	Voltage rating (Vdc)	Energy integrals I^2t (A^2s)		Watts loss (W)	
		PCB fixing								
Cylindrical ferrule	Bolt fixing	Single pin	Double pin	In-line with crimp terminal			Pre-arcing	Total @ 1000V	$0.8I_n$	I_n
PV-1A10F	PV-1A10-T	PV-1A10-1P	PV-1A10-2P	PV-1A10F-CT	1	1000	0.15	0.4	0.8	1.5
PV-2A10F	PV-2A10-T	PV-2A10-1P	PV-2A10-2P	PV-2A10F-CT	2	1000	1.2	3.4	0.6	1.0
PV-3A10F	PV-3A10-T	PV-3A10-1P	PV-3A10-2P	PV-3A10F-CT	3	1000	4	11	0.8	1.3
PV-3-5A10F	PV-3-5A10-T	PV-3-5A10-1P	PV-3-5A10-2P	PV-3-5A10F-CT	3.5	1000	6.6	18	0.9	1.4
PV-4A10F	PV-4A10-T	PV-4A10-1P	PV-4A10-2P	PV-4A10F-CT	4	1000	9.5	26	1.0	1.5
PV-5A10F	PV-5A10-T	PV-5A10-1P	PV-5A10-2P	PV-5A10F-CT	5	1000	19	50	1.0	1.6
PV-6A10F	PV-6A10-T	PV-6A10-1P	PV-6A10-2P	PV-6A10F-CT	6	1000	30	90	1.1	1.8
PV-8A10F	PV-8A10-T	PV-8A10-1P	PV-8A10-2P	PV-8A10F-CT	8	1000	3	32	1.2	2.1
PV-10A10F	PV-10A10-T	PV-10A10-1P	PV-10A10-2P	PV-10A10F-CT	10	1000	7	70	1.2	2.3
PV-12A10F	PV-12A10-T	PV-12A10-1P	PV-12A10-2P	PV-12A10F-CT	12	1000	12	120	1.5	2.7
PV-15A10F	PV-15A10-T	PV-15A10-1P	PV-15A10-2P	PV-15A10F-CT	15	1000	22	220	1.7	2.9
PV-20A10F	PV-20A10-T	PV-20A10-1P	PV-20A10-2P	PV-20A10F-CT	20	1000	34	350	2.1	3.6
PV10M-25	—	—	—	—	25	1000	325	1860*	1.65	2.91
PV10M-30	—	—	—	—	30	1000	536	3360*	1.65	3.31

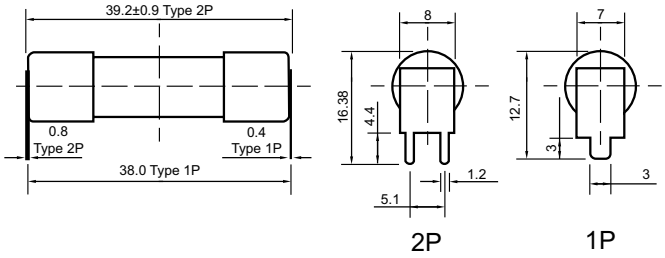
* Total I^2t @ 20kA IR.

Dimensions/configurations - mm:

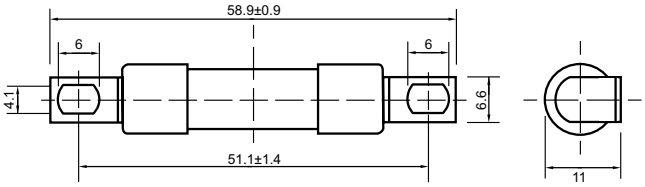
Cylindrical PV-(amp)A10F, PV10M-(amp)



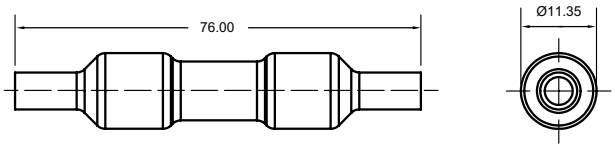
Cylindrical with PCB tabs PV-(amp)A10-1P (single pin), PV-(amp)A10-2P (double pin)



Cylindrical with bolt fixings PV-(amp)A10-T



In-line with crimp terminals PV-(amp)A10F-CT (1-20A)



The in-line crimp terminal version can be electrically insulated with customer supplied overmolding or approved heat-shrink.

Operating temperature range

- -40°C to 90°C

Wire range and type

- Single conductor, 12-10AWG 75°C/90°C Cu stranded PV

Overmolding temperature parameters

- 233°C for 180 sec Max

Terminals

- Crimp terminal for 12-10AWG PV copper conductors

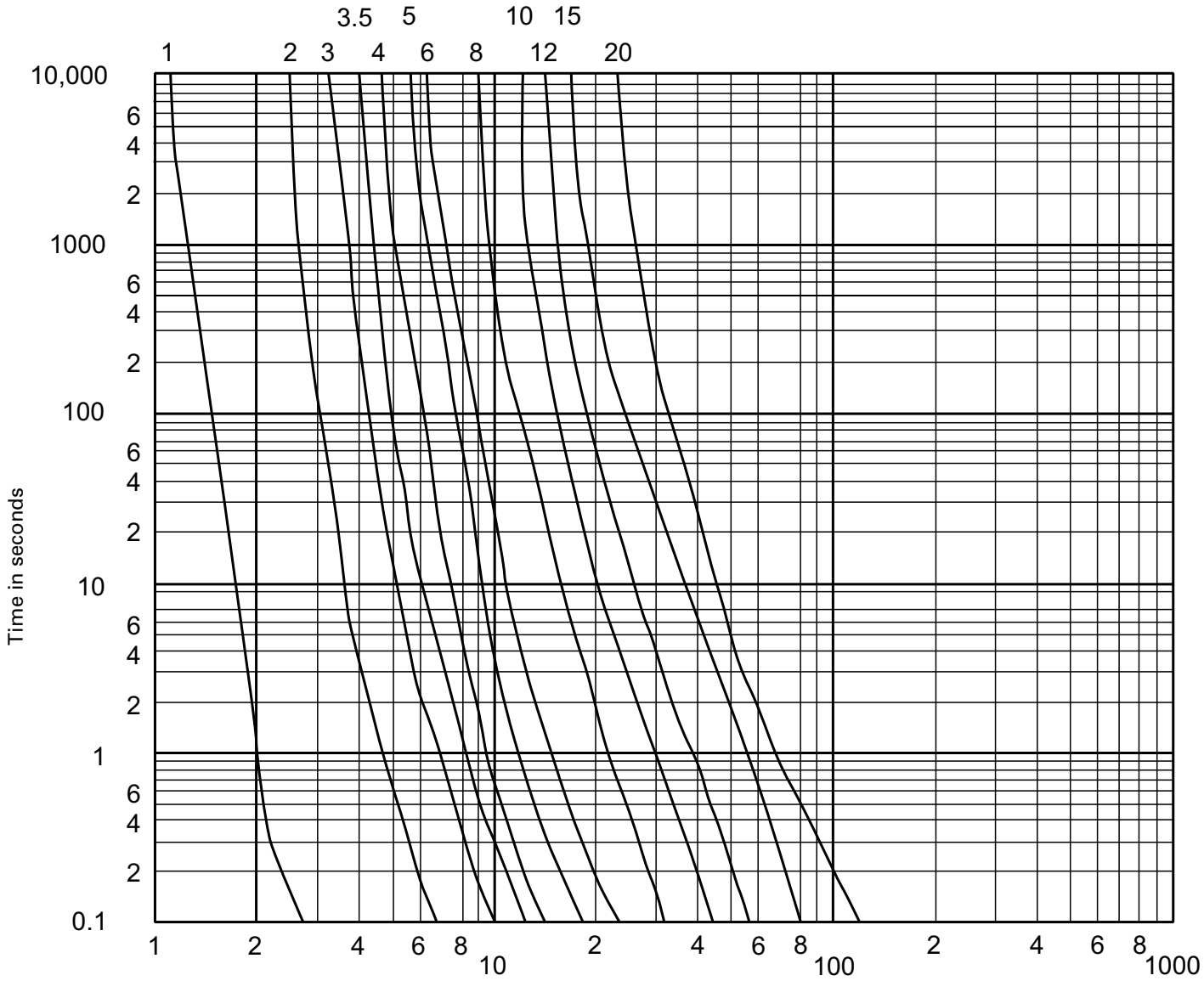
Recommended tools

- Sta-Kon® terminal crimping tool, catalog # ERG4002

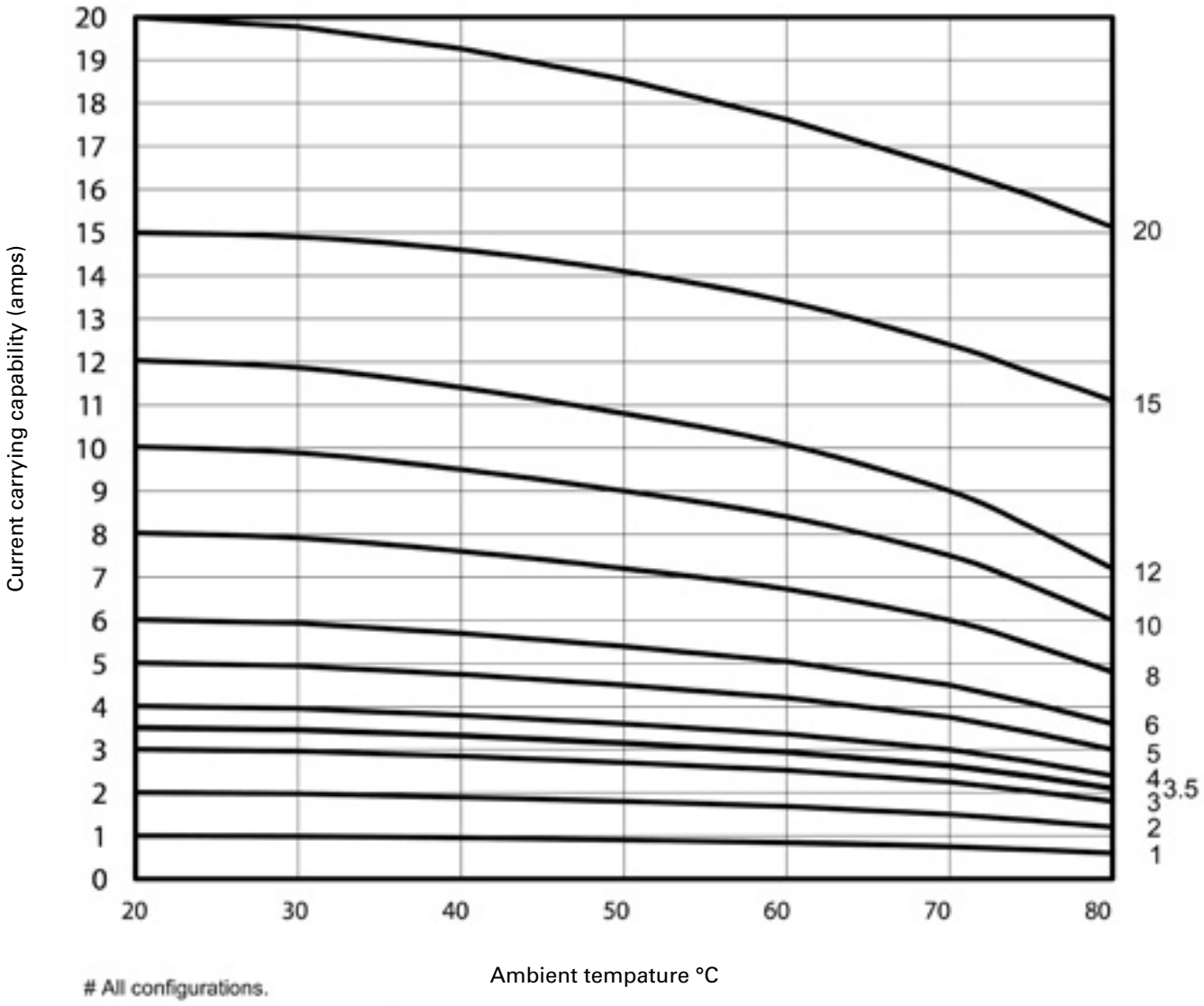
Recommended fuse holders and fuseclips:

Part number	Description and date sheet/brochure No.
CHPV1IU	1-Pole modular fuse holder with indication 3185
CHPV1U	1-Pole modular fuse holder without indication 3185
CHPV2IU	2-Pole modular fuse holder with indication 3185
CHPV2U	2-Pole modular fuse holder without indication 3185
1A3400-_	PCB Fuseclips 2131
HPV-DV-_A	In-line fuse holder assembly 2157

Time-current characteristics — 1-20A:

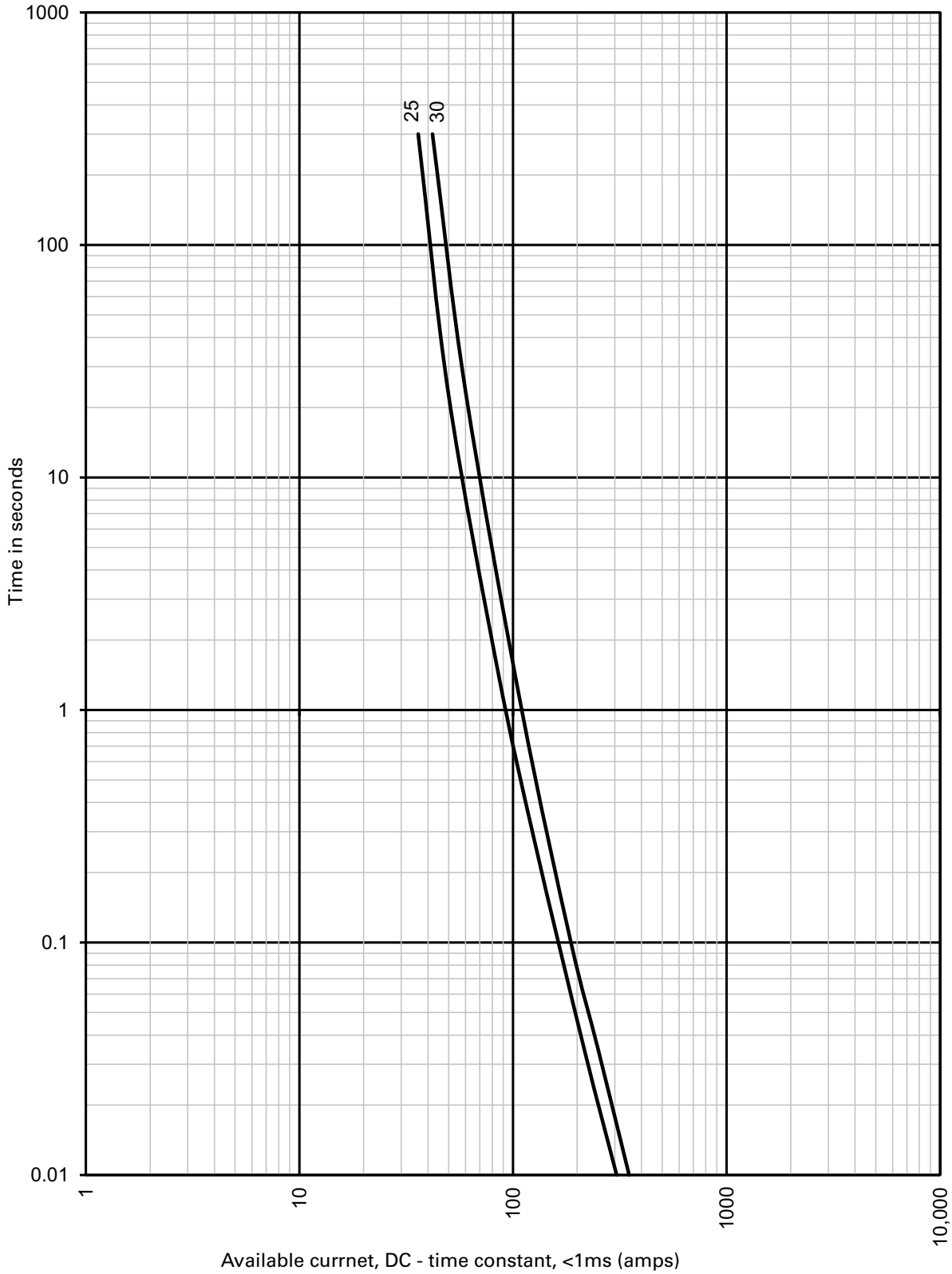


Temperature derating curves — 1-20A:

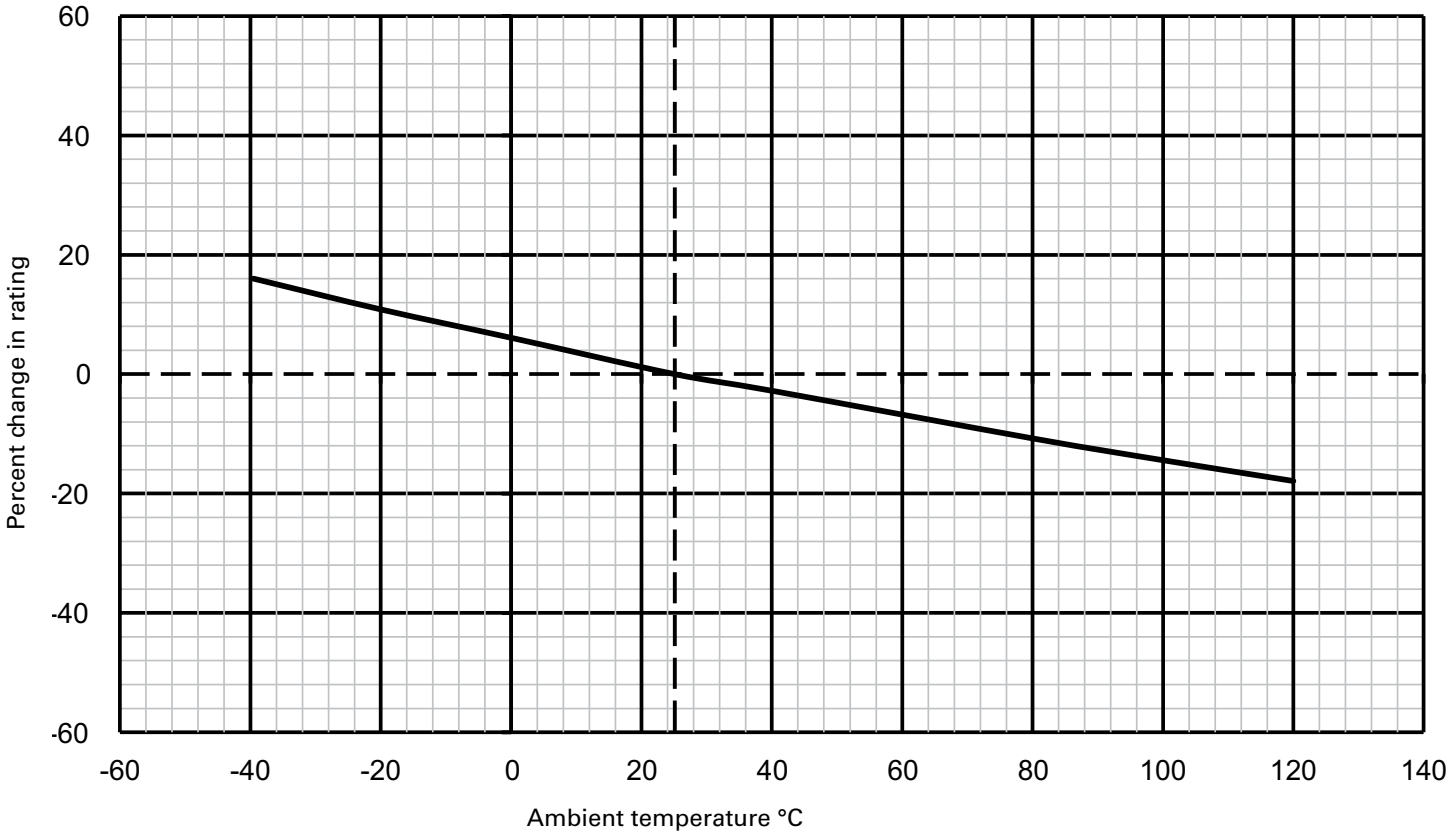


No additional derating is required for PV fuse links installed in ganged modular fuse holders without spacing between units, provided that the rating used is >1.56 x I_{sc}.

Time-current characteristics — 25-30A:



Temperature derating curves — 25-30A:



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Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

Bussmann Division
114 Old State Road
Ellisville, MO 63021
United States
Eaton.com/bussmannseries

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Телефон: 8 (812) 309-75-97 (многоканальный)
Факс: 8 (812) 320-03-32
Электронная почта: ocean@oceanchips.ru
Web: http://oceanchips.ru/
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А