

# HelioProtection® HP15NH

Photovoltaic fuse-links gPV 1500VDC

## SPECIAL PURPOSE FUSES

## PHOTOVOLTAIC FUSES



Mersen HP15NH photovoltaic (PV) fuse serie was engineered and designed specifically for the protection of photovoltaic systems. Helio-Protection® HP15NH fuse links are designed for the protection of cables in a PV group of chains when a short circuit occurs in a panel (main fuse category). This HelioProtection® main fuse range enlarges our PV fuse links offering on 1XL/2XL/3L sizes having a worldwide acceptance. They are of the gPV type and comply with both IEC 60269-6 and UL 2579 PV standards.

They are available with bolted type blades for direct mounting and with striker.

## TECHNICAL DATA OVERVIEW

Voltage DC	1500 VDC
Ampere Range (A)	50 ... 400 A
Speed/Characteristic	gPV
I.R. DC (UL)	50 kA (L/R = 1ms)
Product Size	NH1XL, NH2XL, NH3L
Operating temperature	-40°C - +70°C

## FEATURES & BENEFITS

- Global acceptance
- Low fault current interrupting capability
- Temperature cycle withstand capability
- Durable construction for enhanced system longevity
- High efficiency with low power losses
- Available in 3 versions: plain blade, direct mounted, direct mounted with striker

## APPLICATIONS

- All photovoltaic applications
- Inverter DC input protection
- Re-combiner applications (sub combiner, array combiner, master combiner)

## STANDARDS

- IEC 60269-6
- RoHS compliance
- UL 248-19 for fuses (pending for 1XL, 2XL)  
(E358319, Volume 1, Section 1)
- UL 4248-19 for fuseholders, Photovoltaic  
(E362644 Volume 1)



## PRODUCT RANGE



HP15NH2XLGPV125



HP15NH3LGPV250



HP15NH2LGPV250B



HP15NH3LGPV400B



HP15NH3LPV400BI



MC3E1-5N

### NH-fuse-links gPV 1500VDC plain blade

Catalog number	Item number	Size	Rated current $I_n$	Power dissipation at $I_n$	Power dissipation at $0.7I_n$	Package	Weight
HP15NH1XLGPV50	A1061266	1XL	50 A	21 W	8.6 W	1	0.7 kg
HP15NH1XLGPV63	Z1064508	1XL	63 A	25 W	10.2 W	1	0.7 kg
HP15NH1XLGPV80	A1064509	1XL	80 A	25.5 W	10.3 W	1	0.7 kg
HP15NH1XLGPV100	B1064510	1XL	100 A	26 W	10.5 W	1	0.7 kg
HP15NH1XLGPV125	C1064511	1XL	125 A	30 W	12.2 W	1	0.7 kg
HP15NH2XLGPV125	H1064309	2XL	125 A	33.7 W	13.6 W	1	1.05 kg
HP15NH2XLGPV160	J1064310	2XL	160 A	38 W	15.4 W	1	1.05 kg
HP15NH2XLGPV200	K1064311	2XL	200 A	48 W	19.4 W	1	1.05 kg
HP15NH2XLGPV250	L1064312	2XL	250 A	51.7 W	20.9 W	1	1.05 kg
HP15NH3LGPV160	H1037859	3L	160 A	36 W	15 W	1	1.69 kg
HP15NH3LGPV200	J1037860	3L	200 A	44 W	18 W	1	1.69 kg
HP15NH3LGPV250	K1037861	3L	250 A	50 W	20 W	1	1.69 kg
HP15NH3LGPV315	L1037862	3L	315 A	57 W	23 W	1	1.69 kg
HP15NH3LGPV350	M1037863	3L	350 A	63 W	25 W	1	1.69 kg
HP15NH3LGPV400	N1037864	3L	400 A	71 W	28 W	1	1.69 kg

### NH-fuse-links gPV 1500VDC direct mounting

Catalog number	Item number	Size	Rated current $I_n$	Power dissipation at $I_n$	Power dissipation at $0.7I_n$	Package	Weight
HP15NH1LGPV50B	C1065431	1XL	50 A	21 W	8.6 W	1	0.69 kg
HP15NH1LGPV63B	D1065432	1XL	63 A	25 W	10.2 W	1	0.69 kg
HP15NH1LGPV80B	E1065433	1XL	80 A	25.5 W	10.3 W	1	0.69 kg
HP15NH1LGPV100B	F1065434	1XL	100 A	26 W	10.5 W	1	0.69 kg
HP15NH1LGPV125B	G1065435	1XL	125 A	30 W	12.2 W	1	0.69 kg
HP15NH2LGPV125B	M1064313	2XL	125 A	33.7 W	13.6 W	1	1.02 kg
HP15NH2LGPV160B	N1064314	2XL	160 A	38 W	15.4 W	1	1.02 kg
HP15NH2LGPV200B	P1064315	2XL	200 A	48 W	19.4 W	1	1.02 kg
HP15NH2LGPV250B	Q1064316	2XL	250 A	51.7 W	20.9 W	1	1.02 kg
HP15NH3LGPV160B	T1048679	3L	160 A	36 W	15 W	1	1.66 kg
HP15NH3LGPV200B	V1048680	3L	200 A	44 W	18 W	1	1.66 kg
HP15NH3LGPV250B	W1048681	3L	250 A	50 W	20 W	1	1.66 kg
HP15NH3LGPV315B	X1048682	3L	315 A	57 W	23 W	1	1.66 kg
HP15NH3LGPV350B	Y1048683	3L	350 A	63 W	25 W	1	1.66 kg
HP15NH3LGPV400B	Z1048684	3L	400 A	71 W	28 W	1	1.66 kg

### NH-fuse-links gPV 1500VDC direct mounting size 3L with striker

Catalog number	Item number	Rated current $I_n$	Power dissipation at $I_n$	Power dissipation at $0.7I_n$	Power dissipation at $0.8 I_n$	Package	Weight
HP15NH3LPV160BI	A1057218	160 A	36 W	15 W	20 W	1	1.66 kg
HP15NH3LPV200BI	B1057219	200 A	44 W	18 W	25 W	1	1.66 kg
HP15NH3LPV250BI	C1057220	250 A	50 W	20 W	28 W	1	1.66 kg
HP15NH3LPV315BI	D1057221	315 A	57 W	23 W	32 W	1	1.66 kg
HP15NH3LPV350BI	E1057222	350 A	63 W	25 W	35 W	1	1.66 kg
HP15NH3LPV400BI	F1057223	400 A	71 W	28 W	40 W	1	1.66 kg

### Microswitch for NH-fuse-link gPV 1500VDC size 3L (with striker)

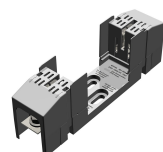
Catalog number	Item number	Rated current $I_n$	Rated impulse withstand voltage $U_{imp}$	Indication System	Package	Weight
MC3E1-5N	D310020	5 A	20 kV	standard	3	32 g

## PRODUCT RANGE

### Fuse-bases for NH gPV fuse-links, single pole, 1500VDC, SCCR 30kA



HP15FHNH1XLA



HP15FHNH1XLB



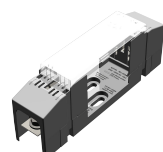
HP15FHNH3LA



HP15FHNH3LB

Catalog number	Item number	Size	Rated current I <sub>n</sub>	Power acceptance	Rated impulse withstand voltage U <sub>imp</sub>	Design	Cable termination	Package	Weight
HP15FHNH1XLA	J1064586	1XL	250 A	50 W	6 kV	open design, screw mounting, for NH1XL fuse-links with blade contacts	M10 terminal screws M = 32Nm for cable lugs 25-240 mm <sup>2</sup>	4	0.48 kg
HP15FHNH1XLB	K1064587	1XL	250 A	50 W	6 kV	with touch-safe protection, screw mounting, for NH1XL fuse-links with blade contacts	M10 terminal screws M = 32Nm for cable lugs 25-240 mm <sup>2</sup>	4	0.6 kg
HP15FHNH3LA	L1064588	2XL-3L	600 A	100 W	6 kV	open design, screw mounting, for NH2XL and NH3L fuse-links with blade contacts	M12 terminal screws M = 32Nm for cable lugs 25-300 mm <sup>2</sup>	4	0.78 kg
HP15FHNH3LB	M1064589	2XL-3L	600 A	100 W	6 kV	with touch-safe protection, screw mounting, for NH2XL and NH3L fuse-links with blade contacts	M12 terminal screws M = 32Nm for cable lugs 25-300 mm <sup>2</sup>	2	0.98 kg

### Cover for fuse-base with touch protection



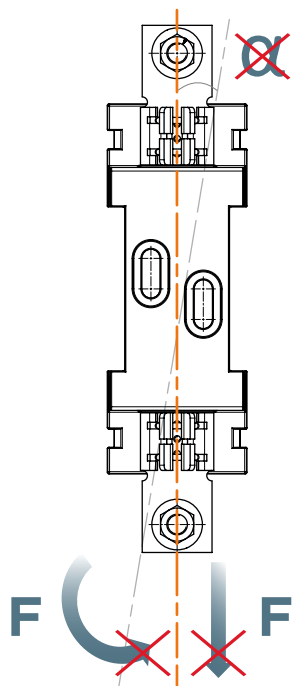
COVERFHNH1XL



COVERFHNH3L

Catalog number	Item number	Design	Package	Weight
COVERFHNH1XL	N1064590	pack of 4 gripping lug covers for NH1XL fuse-base with touch protection	1	0.1 kg
COVERFHNH3L	P1064591	pack of 2 gripping lug covers for NH3L fuse-base with touch protection	1	0.1 kg

## MOUNTING RECOMMENDATION

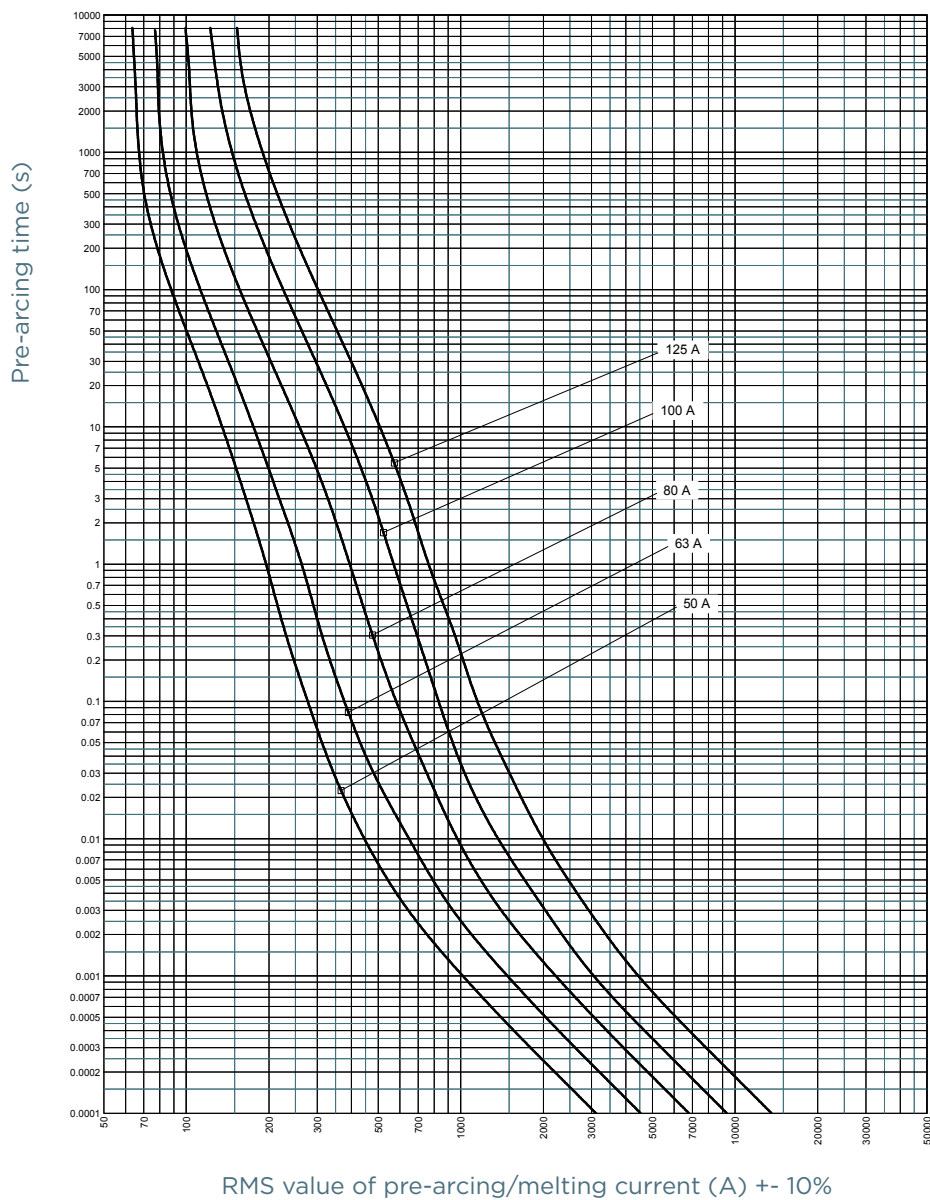


**Isostatic set-up :**

- the fuse-holder should be mounted vertically aligned,
- the cabling of the fuse and fuse-older system should not engender too heavy traction or flexion force

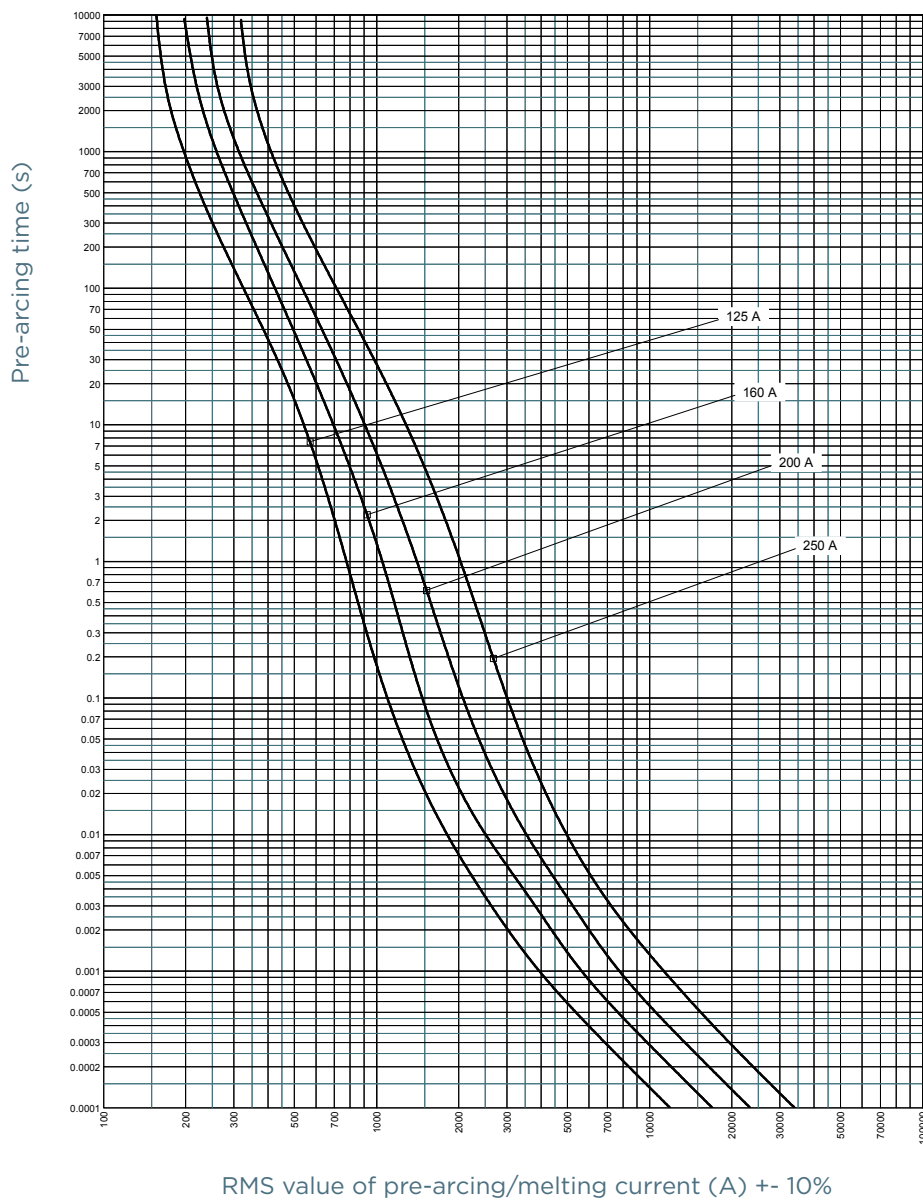
## TIME CURRENT CHARACTERISTIC CURVES

Special purpose gPV fuse link size 1XL 1500V 50-125A



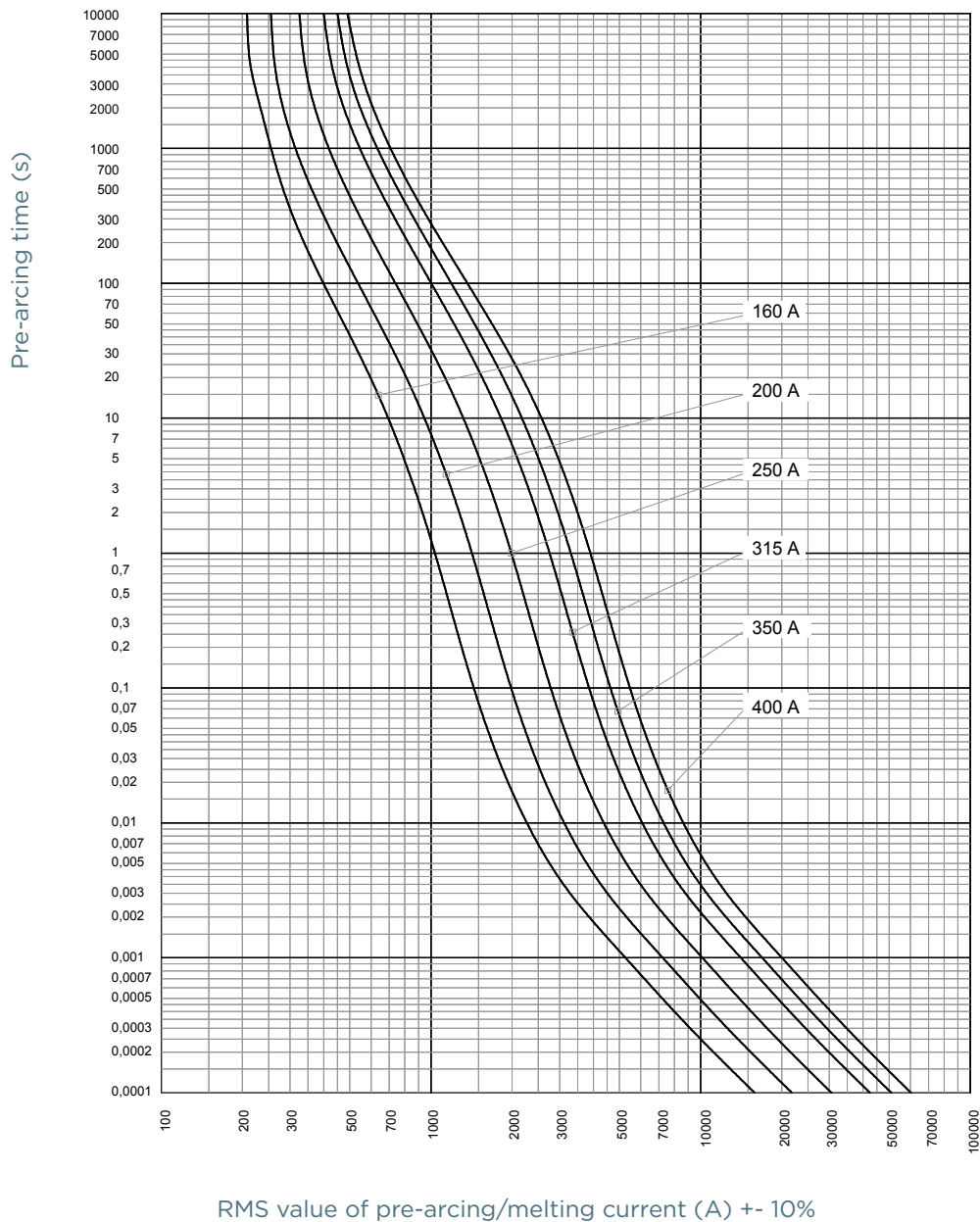
## TIME CURRENT CHARACTERISTIC CURVES

Special purpose gPV fuse link size 2XL 1500V 125-250A



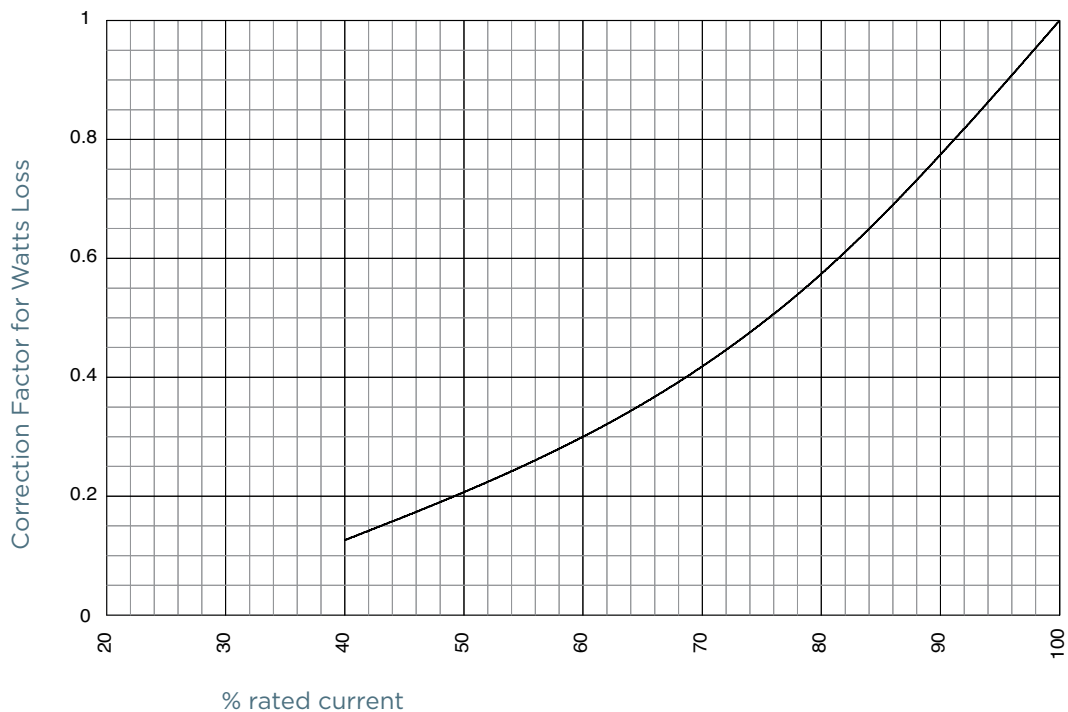
## TIME CURRENT CHARACTERISTIC CURVES

Special purpose gPV fuse link size 3L 1500V 160-400A



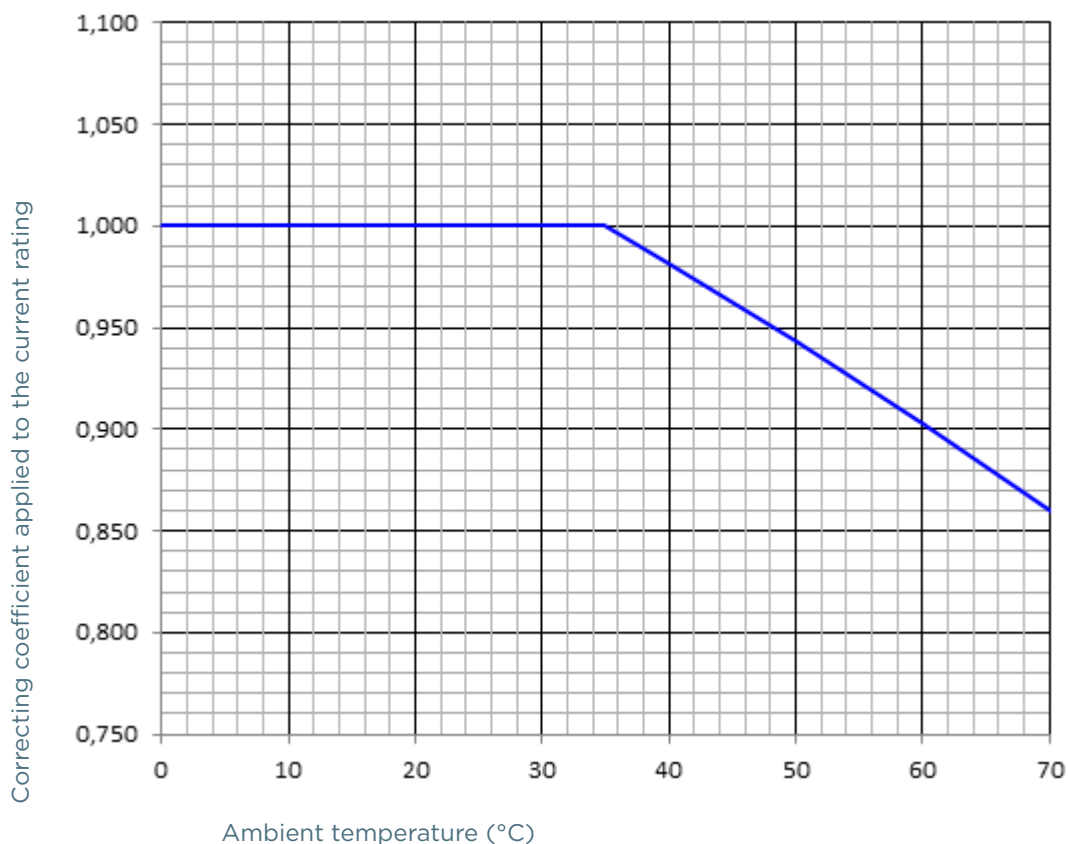
## CORRECTION FACTOR

### Watts loss vs % rated current



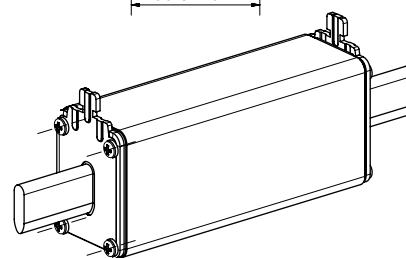
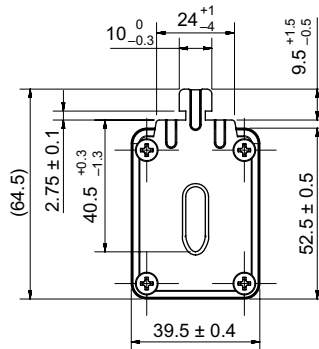
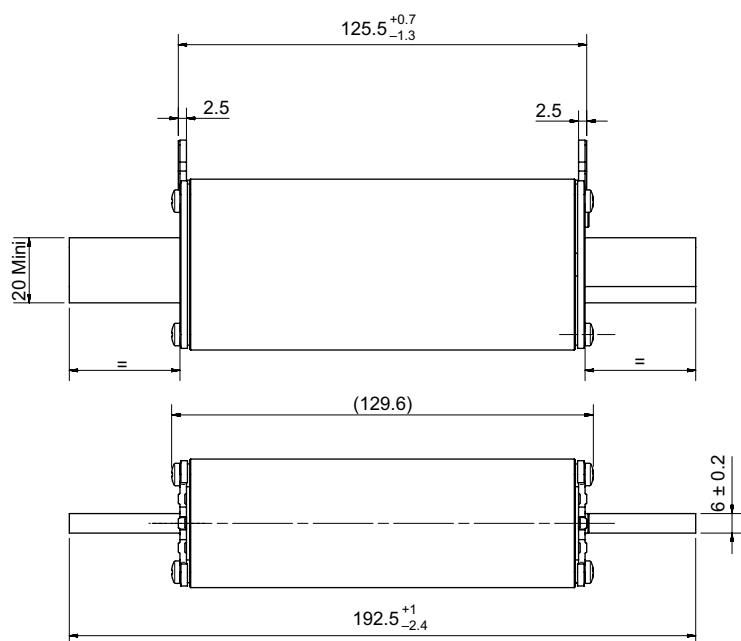


## TEMPERATURE DERATING



## DIMENSIONS

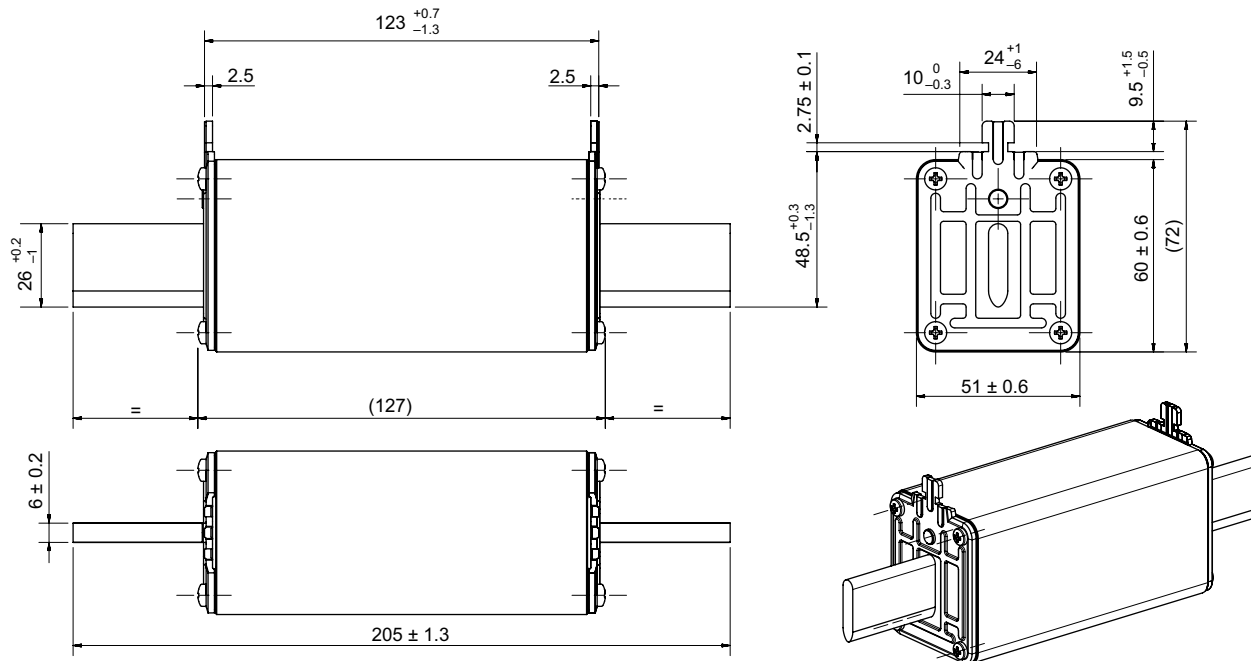
### Special purpose gPV fuse link Plain Blade size 1XL



Dimensions in mm

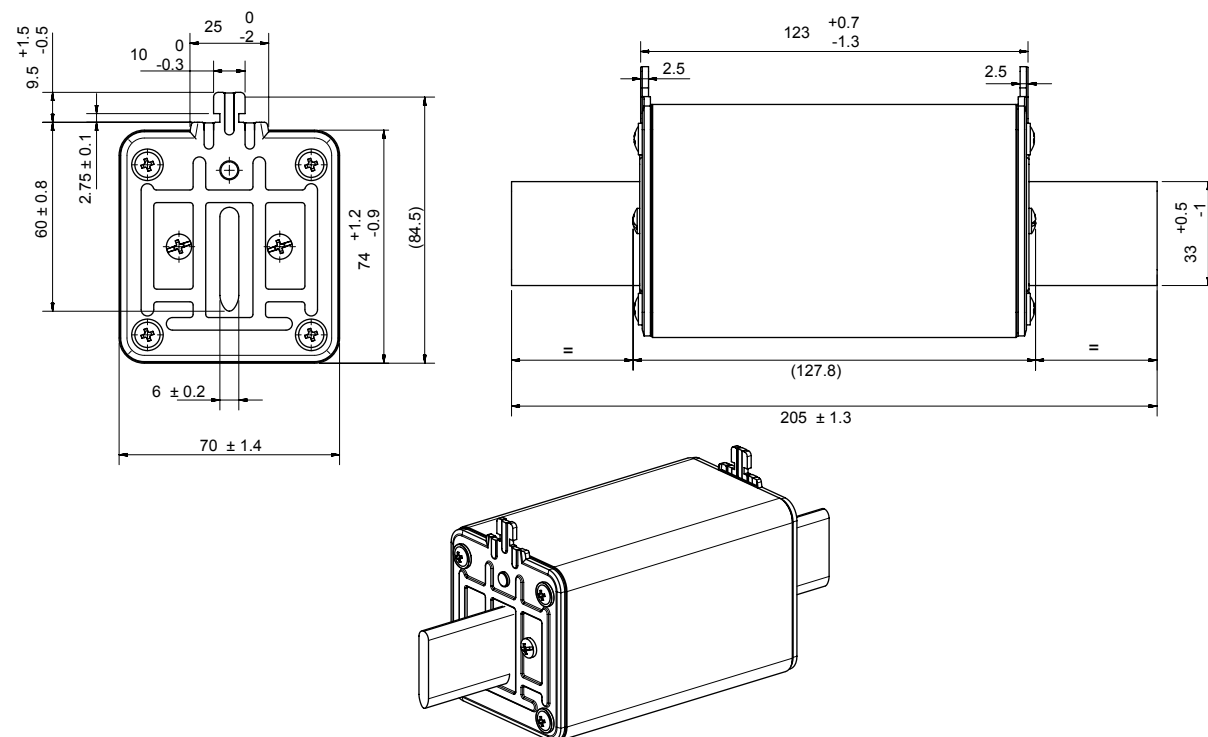
## DIMENSIONS

### Special purpose gPV fuse link Plain Blade size 2XL



Dimensions in mm

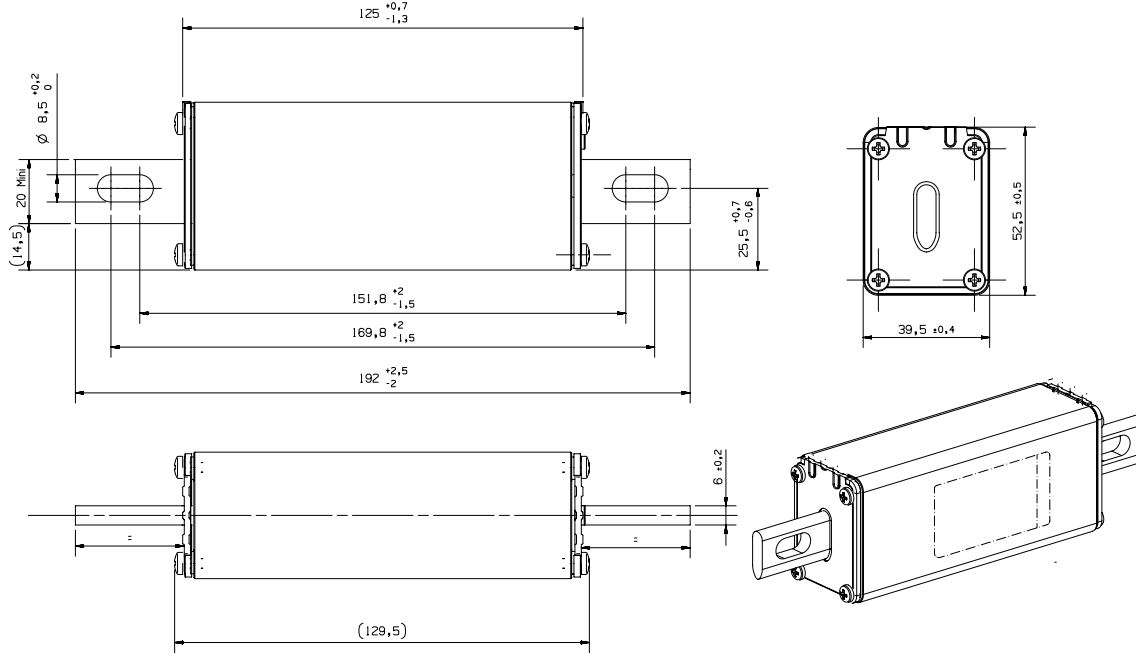
### Special purpose gPV fuse-link size 3L Plain Blade without striker



Dimensions in mm

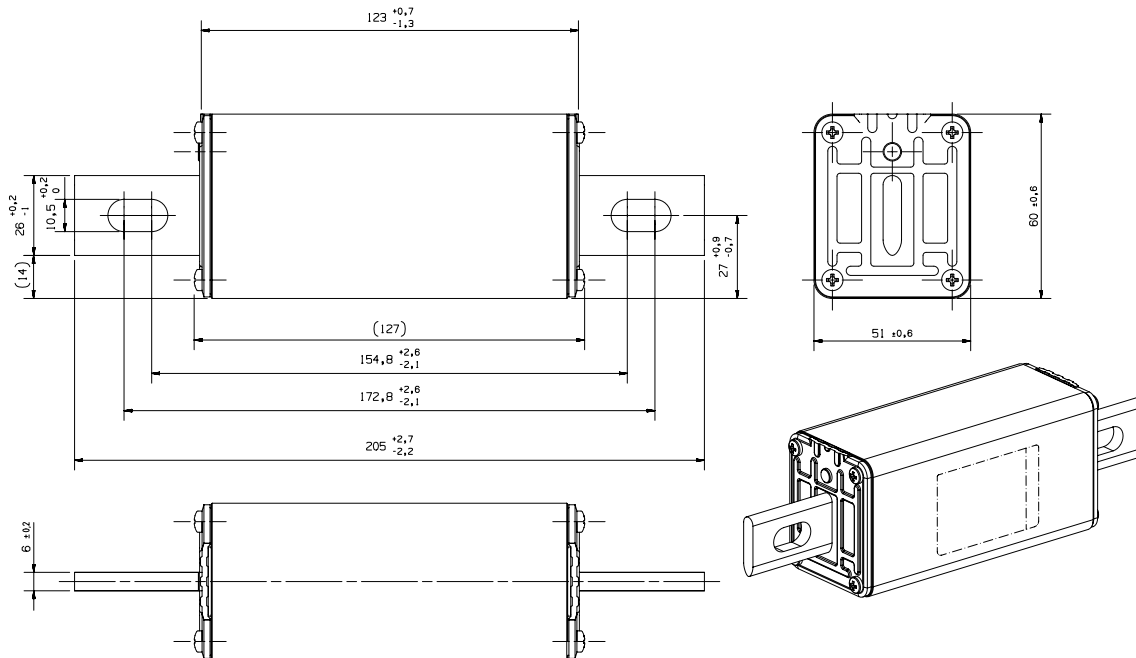
## DIMENSIONS

### Special purpose gPV fuse-link size 1XL Direct Mounting without striker and without lugs



Dimensions in mm

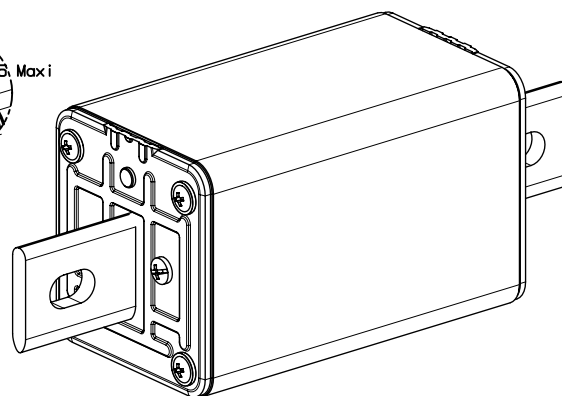
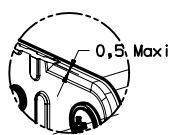
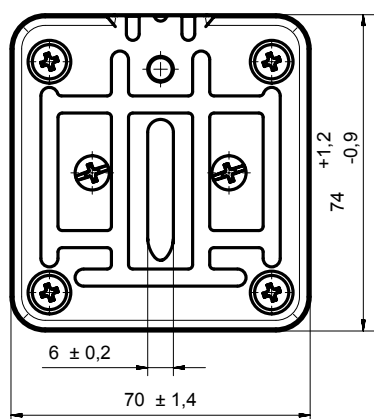
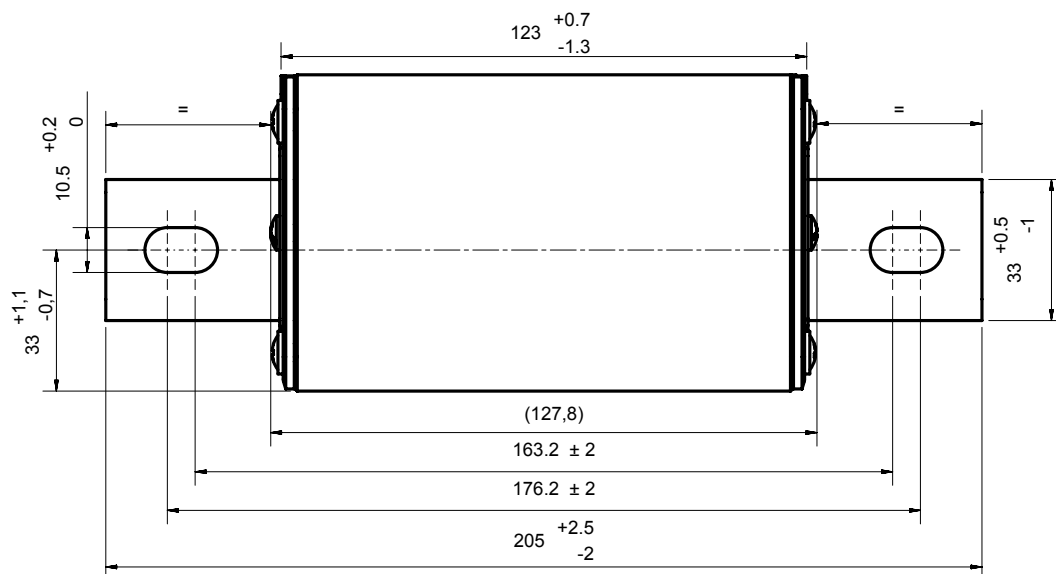
### Special purpose gPV fuse-link size 2XL Direct Mounting without striker and without lugs



Dimensions in mm

## DIMENSIONS

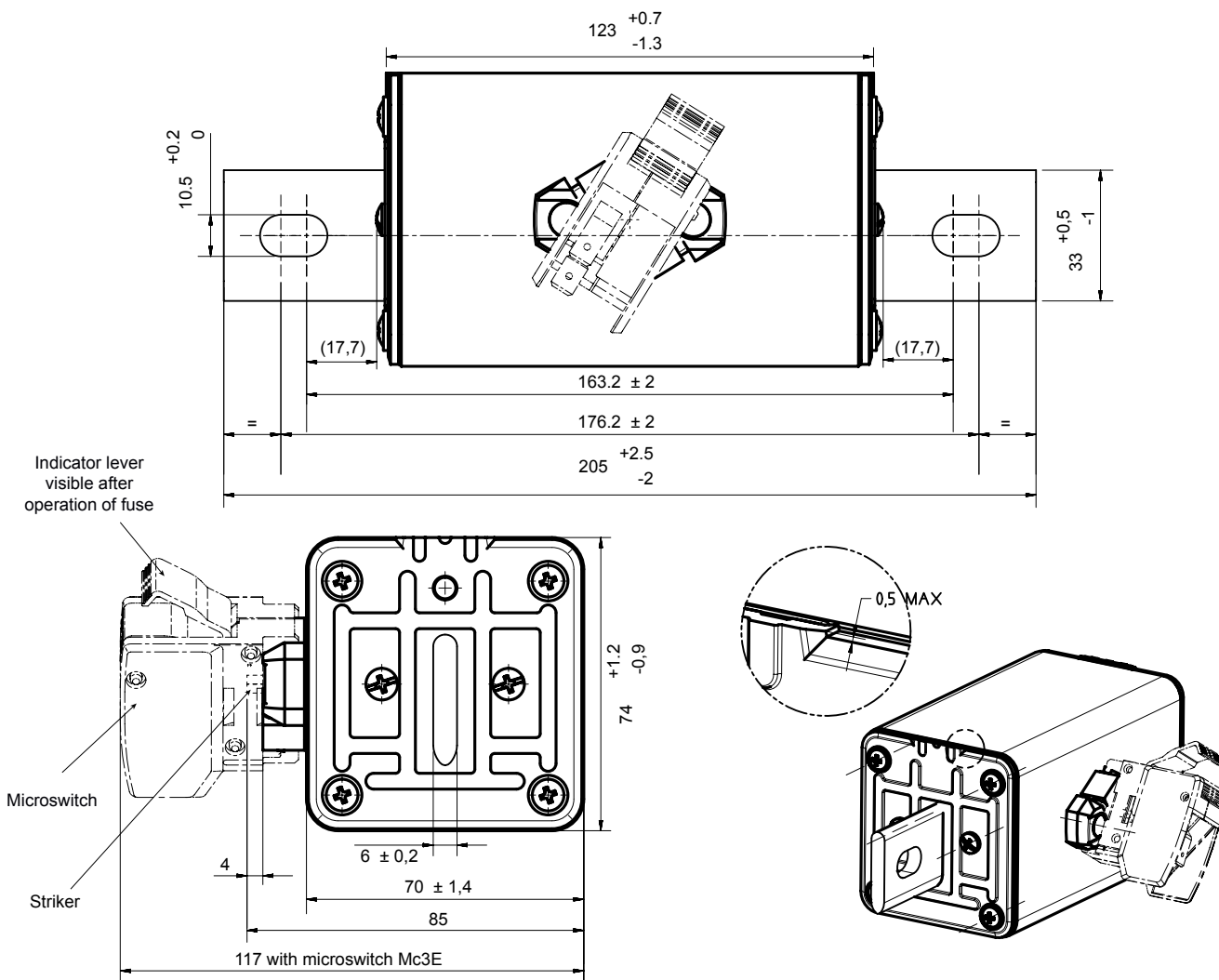
Special purpose gPV fuse-link size 3L Direct Mounting without striker and without lugs



Dimensions in mm

## DIMENSIONS

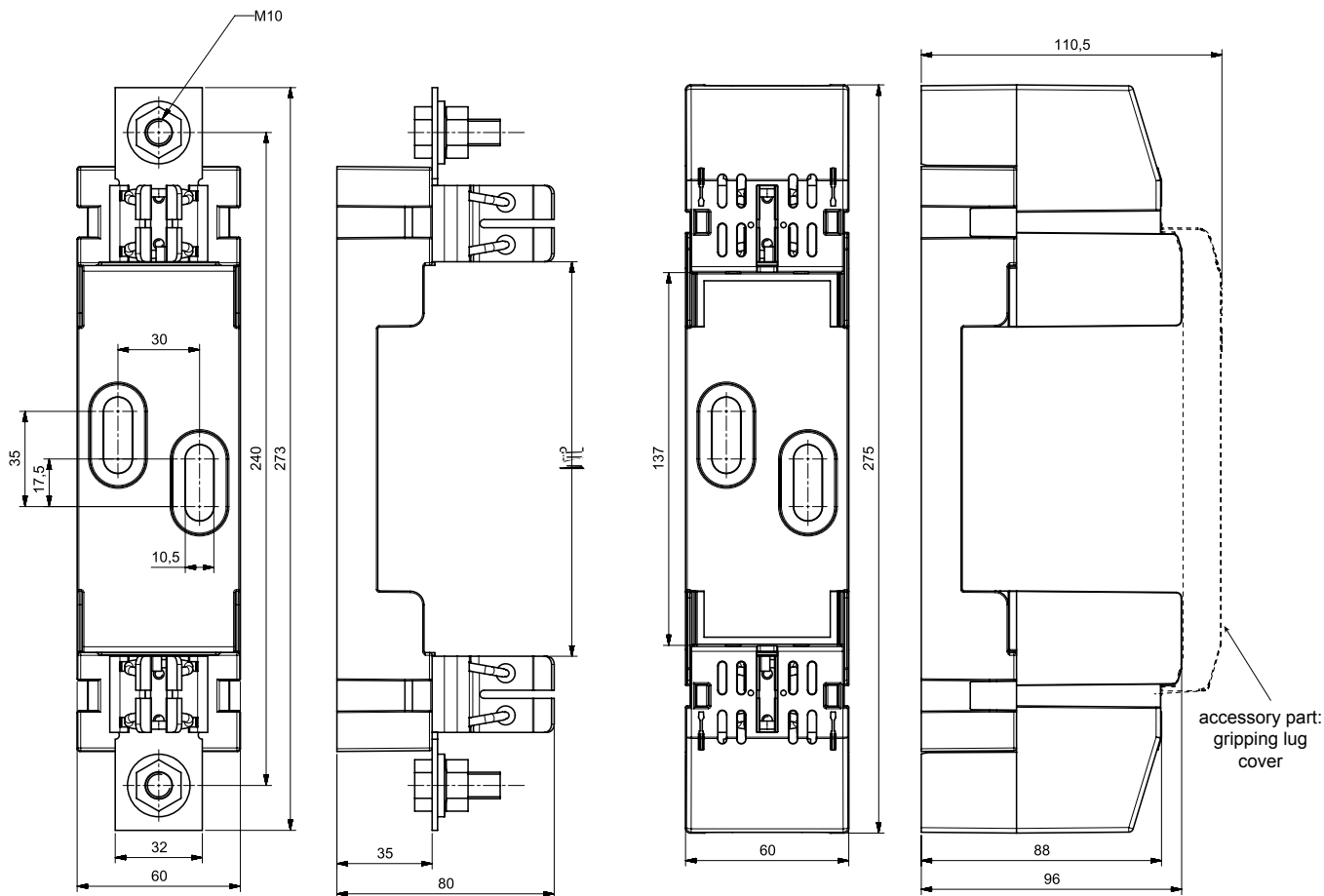
Special purpose gPV fuse-link size 3L Direct Mounting with striker and without lugs



Dimensions in mm

## DIMENSIONS

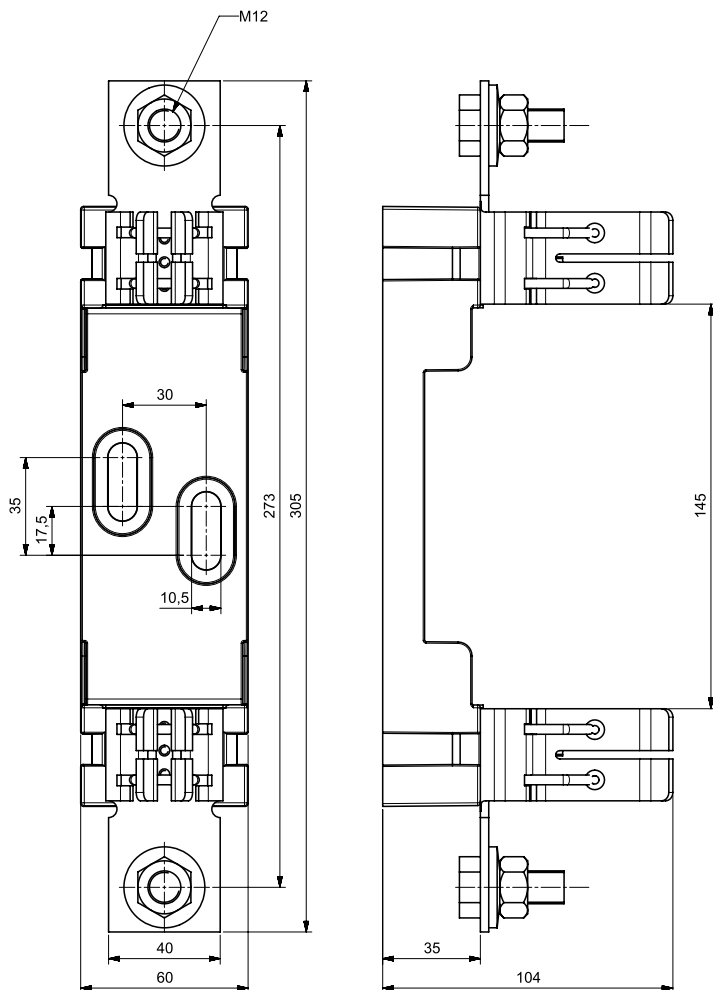
### NH fuse base for gPV fuse-link 1XL open design and with touch-safe protection



Dimensions in mm

## DIMENSIONS

NH fuse base for gPV fuse-link 2XL and 3L, open design



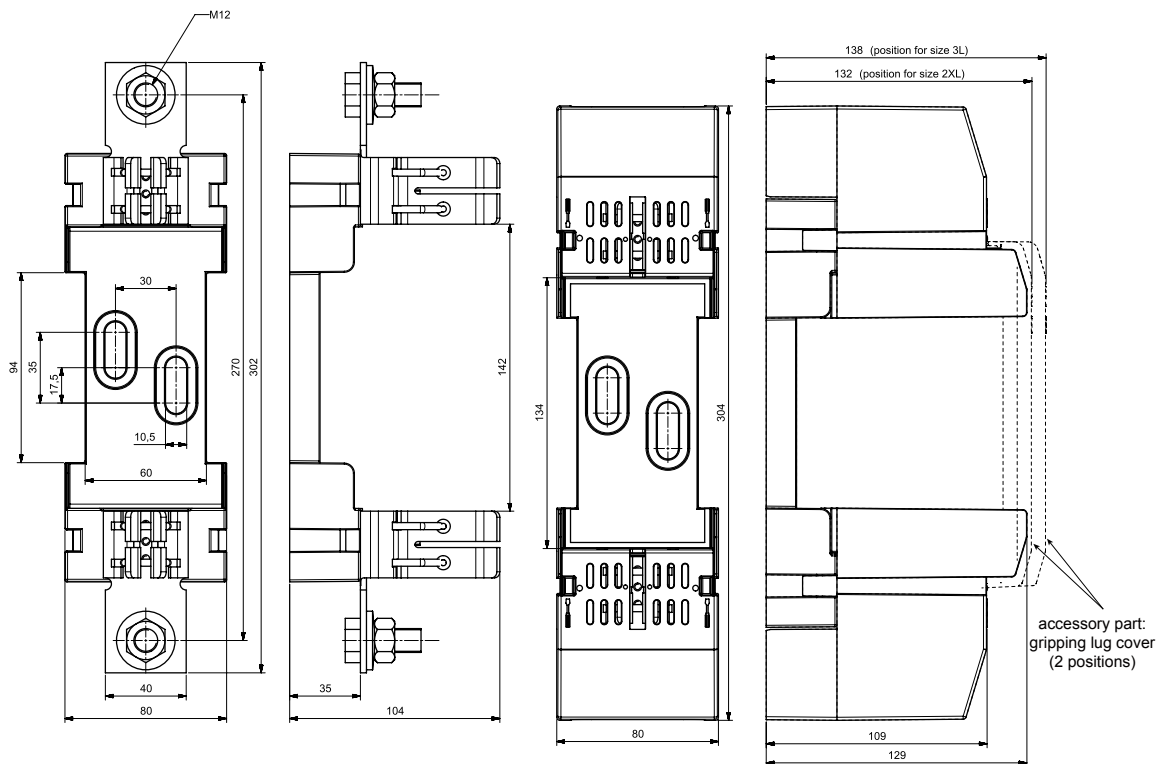
Dimensions in mm

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Photovoltaic fuse-links gPV 1500VDC

## DIMENSIONS

NH fuse base for gPV fuse-link 2XL and 3L, with touch-safe protection



Dimensions in mm