

# HelioProtection® HP12NHXL

Photovoltaic fuse-links gPV 1250VDC

## SPECIAL PURPOSE FUSES

## PHOTOVOLTAIC FUSES



Mersen HP12NH photovoltaic (PV) fuse series was engineered and designed specifically for the protection of photovoltaic systems. Helio-Protection® HP12NH 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 a size having a worldwide acceptance. They are of the gPV type and comply with both IEC 60269-6 and UL 2579 PV standards.

They are also available with bolted type blades for direct mounting.

## TECHNICAL DATA OVERVIEW

Voltage DC	1250 VDC
Ampere Range (A)	125 ... 400 A
Speed/Characteristic	gPV
I.R. DC	50 kA (L/R = 1ms)
Product Size	NH1XL, NH2XL, NH3L

## 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 two versions: Plain Blade & Direct Mounting

## APPLICATIONS

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

## STANDARDS

- IEC 60269-6
- UL 2579
- RoHS compliance



MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

## PRODUCT RANGE



HP12NH1XLGPV160

### NH fuse links gPV 1250VDC Plain Blade size 1XL

Catalog number	Reference number	Rated current I <sub>n</sub>	Power dissipation at 0.7xI <sub>n</sub>	Power dissipation at I <sub>n</sub>	Weight	Package
HP12NH1XLGPV125	G1039744	125 A	11.5 W	29 W	0.435 kg	1
HP12NH1XLGPV160	H1039745	160 A	14.5 W	36 W	0.698 kg	1

### NH fuse links gPV 1250VDC Direct Mounting size 1XL

Catalog number	Reference number	Rated current I <sub>n</sub>	Power dissipation at 0.7xI <sub>n</sub>	Power dissipation at I <sub>n</sub>	Package
HP12NH1LGPV125B	K1048671	125 A	11.5 W	29 W	1
HP12NH1LGPV160B	L1048672	160 A	14.5 W	36 W	1



HP12NH2XLGPV200

### NH fuse links gPV 1250VDC Plain Blade size 2XL

Catalog number	Reference number	Rated current I <sub>n</sub>	Power dissipation at 0.7xI <sub>n</sub>	Power dissipation at I <sub>n</sub>	Weight	Package
HP12NH2XLGPV200	J1039746	200 A	16 W	40 W	1.054 kg	1
HP12NH2XLGPV250	K1039747	250 A	18 W	44 W	1.054 kg	1

### NH fuse links gPV 1250VDC Direct Mounting size 2XL

Catalog number	Reference number	Rated current I <sub>n</sub>	Power dissipation at 0.7xI <sub>n</sub>	Power dissipation at I <sub>n</sub>	Package
HP12NH2LGPV200B	M1048673	200 A	16 W	40 W	1
HP12NH2LGPV250B	N1048674	250 A	18 W	44 W	1

### NH fuse-links gPV 1250VDC Pain Blades size 3L

Catalog number	Reference number	Rated current I <sub>n</sub>	Power dissipation at 0.7xI <sub>n</sub>	Power dissipation at I <sub>n</sub>	Weight	Package
HP12NH3LGPV250	Z1033389	250 A	29 W	73 W	1.66 kg	1
HP12NH3LGPV315	A1033390	315 A	18 W	46 W	1.66 kg	1
HP12NH3LGPV350	B1033391	350 A	22 W	53 W	1.66 kg	1
HP12NH3LGPV400	C1033392	400 A	23 W	55 W	1.66 kg	1

### NH fuse-links gPV 1250VDC Direct Mounting size 3L

Catalog number	Reference number	Rated current I <sub>n</sub>	Power dissipation at 0.7xI <sub>n</sub>	Power dissipation at I <sub>n</sub>	Weight	Package
HP12NH3LGPV250B	P1048675	250 A	29 W	73 W	1.66 kg	1
HP12NH3LGPV315B	Q1048676	315 A	18 W	46 W	1.66 kg	1
HP12NH3LGPV350B	R1048677	350 A	22 W	53 W	1.66 kg	1
HP12NH3LGPV400B	S1048678	400 A	23 W	55 W	1.66 kg	1

## PRODUCT RANGE



SP36121



SP36122-123

### Open fuse-bases for NH fuse-links gPV HP12NHXL, single pole, 1500VDC, SCCR 50kA

Catalog number	Reference number	Rated current I <sub>n</sub>	Power acceptance	Rated impulse withstand voltage U <sub>imp</sub>	Design	Weight	Package
SP36121	B1026353	250 A	59 W	8 kV	open design, screw mounting, for NH fuse-links NH1XL and gPV fuse-link size 121 with blade contacts	1.34 kg	1
SP36122-123	P1025054	630 A	95 W	8 kV	open design, screw mounting, for NH fuse-links NH2XL and NH3L and gPV fuse-link size 122-123 with blade contacts	1.39 kg	1



HPBB1XL1PPFS



HPBB2XL3L1PPFS



HPBB2XL3L1PBFS

### Fuse-bases with touch protection for NH fuse-links gPV HP12NHXL, single pole, 1500VDC, SCCR 15kA

Catalog number	Reference number	Rated current I <sub>n</sub>	Power acceptance	Rated impulse withstand voltage U <sub>imp</sub>	Cable termination	Design	Weight	Package
HPBB1XL1PPFS	Y1039598	250 A	40 W	8 kV	M10 terminal screws M = 30Nm for cable lugs 150mm <sup>2</sup>	with touch protection, screw mounting (M10, M = 8-10Nm), for NH fuse-links NH1XL (can accept Mersen gPV fuse-links size 121 and NH2XL rated 250A with derating)	0.58 kg	3
HPBB2XL3L1PPFS	Z1039599	500 A	70 W	8 kV	M12 terminal screws M = 30Nm for cable lugs 300mm <sup>2</sup>	with touch protection, screw mounting (M10, M = 8-10Nm), for NH fuse-links NH2XL and NH3L	1.1033 kg	3
HPBB2XL3L1PBFS	A1039600	500 A	70 W	8 kV	M12 terminal screws M = 30Nm for cable lugs 300mm <sup>2</sup>	with touch protection screw mounting (M10, M = 8-10Nm), and busbar output (1x40x10 or 2x40x10) for NH fuse-links NH2XL and NH3L (can accept NH3L fuse-links up to 630 A with derating)	1.1333 kg	3

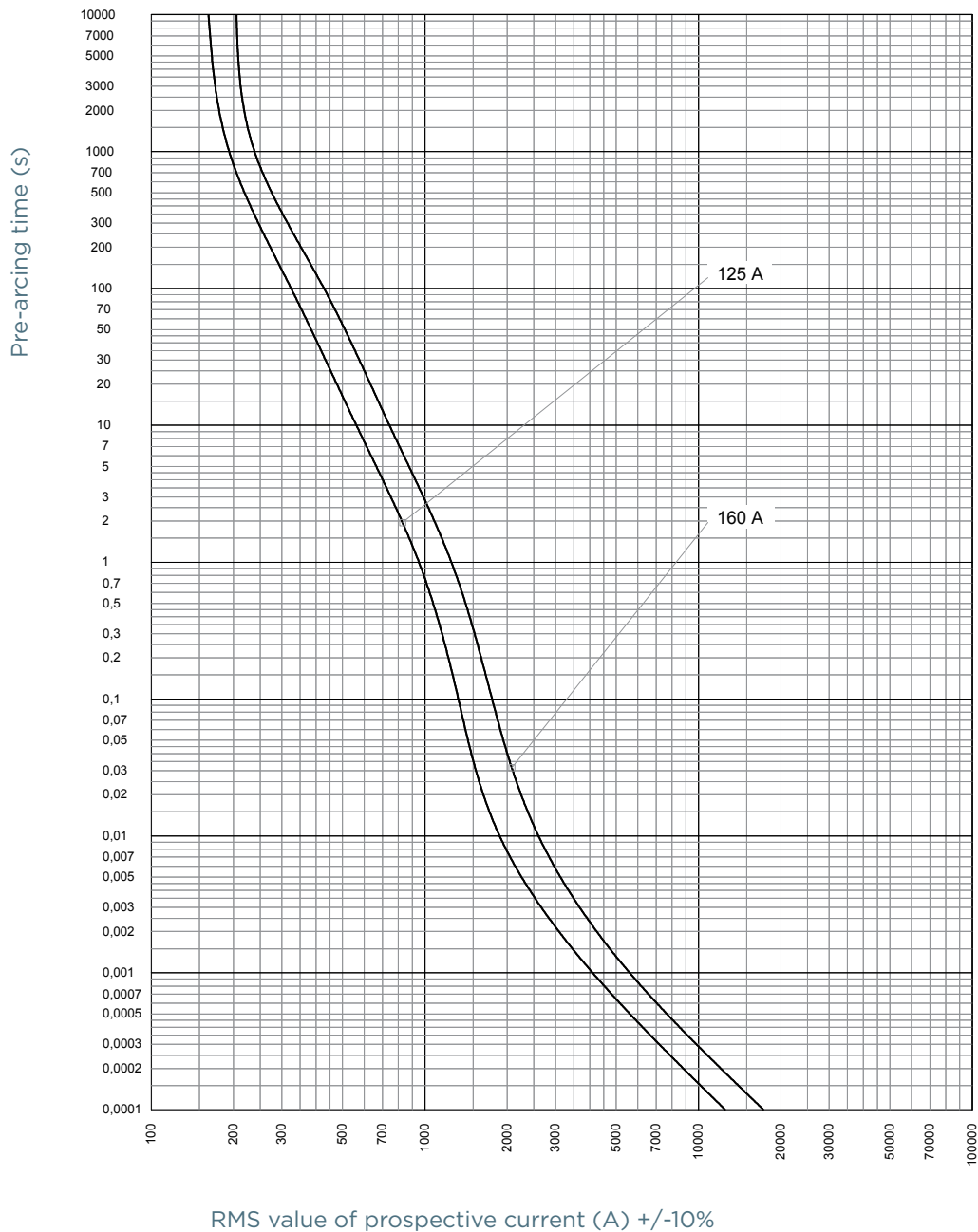
### NH Fuse handle for NH fuse links size 1XL, 2XL and 3L

Catalog number	Reference number	Design	Weight	Package
POIGNEPM12	Y210402	without arm protection	0.435 kg	1

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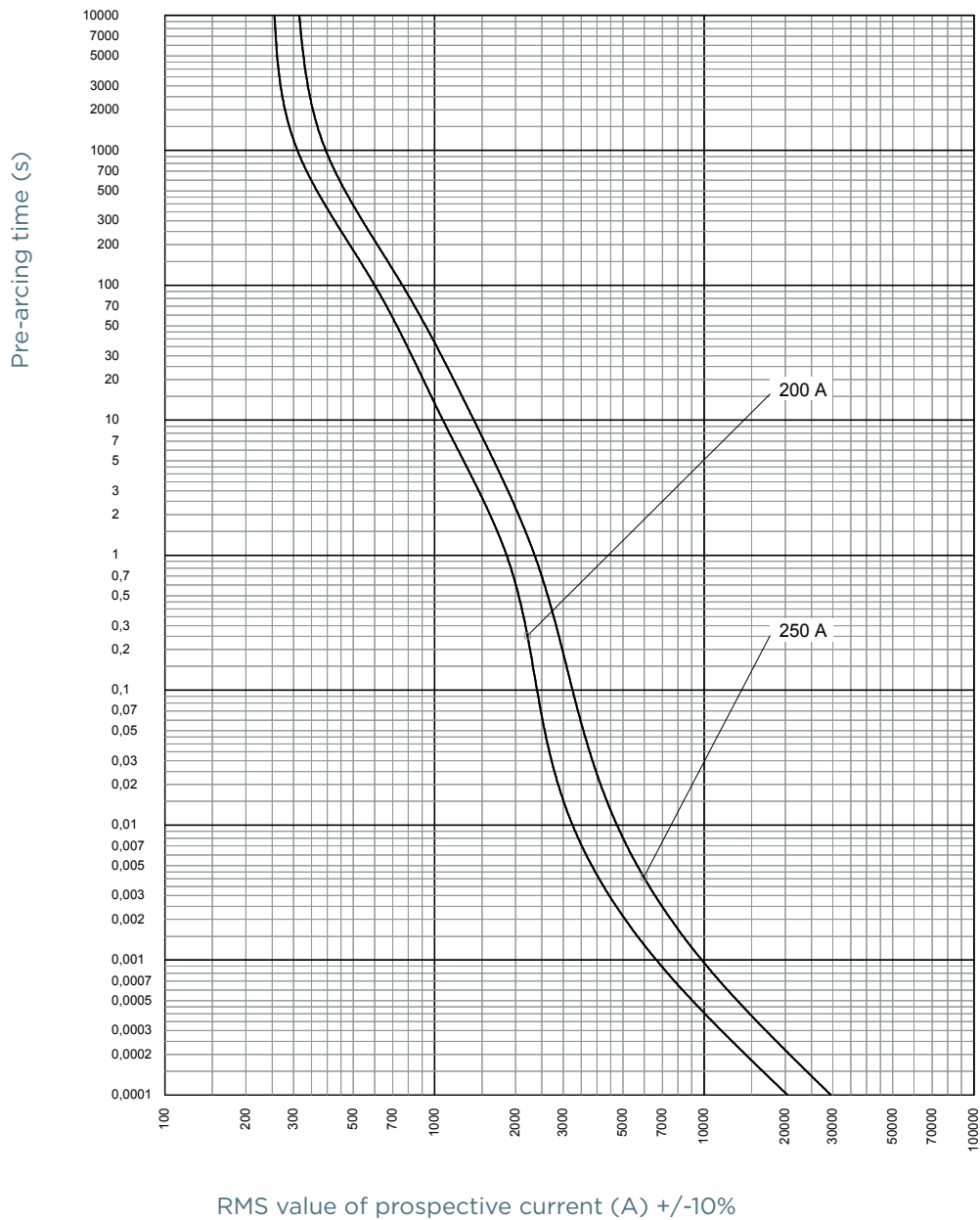
## TIME CURRENT CHARACTERISTIC CURVES

Special purpose gPV fuse link size 1XL 1250V 125-160A



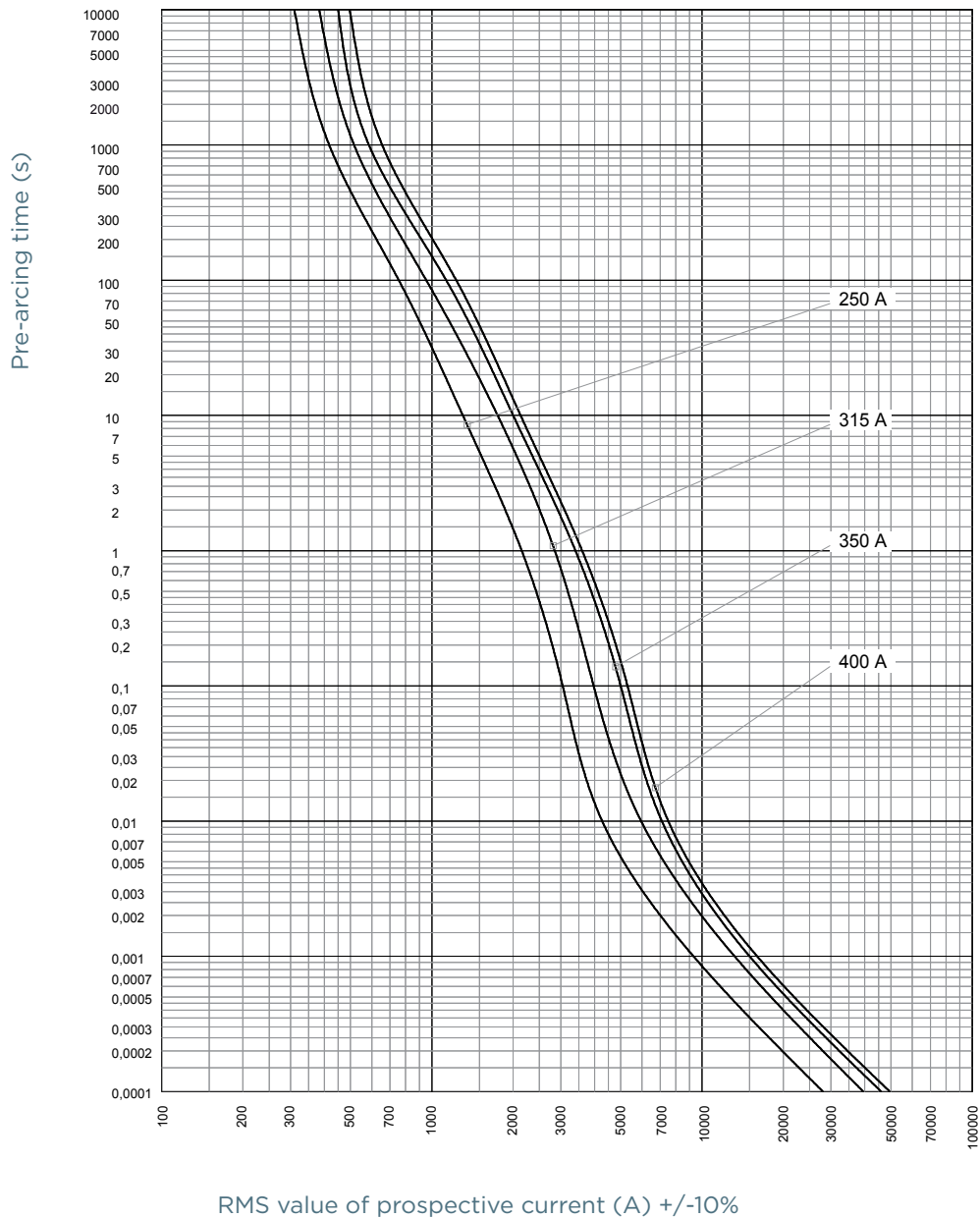
## TIME CURRENT CHARACTERISTIC CURVES

### Special purpose gPV fuse link size 2XL 1250V 200-250A



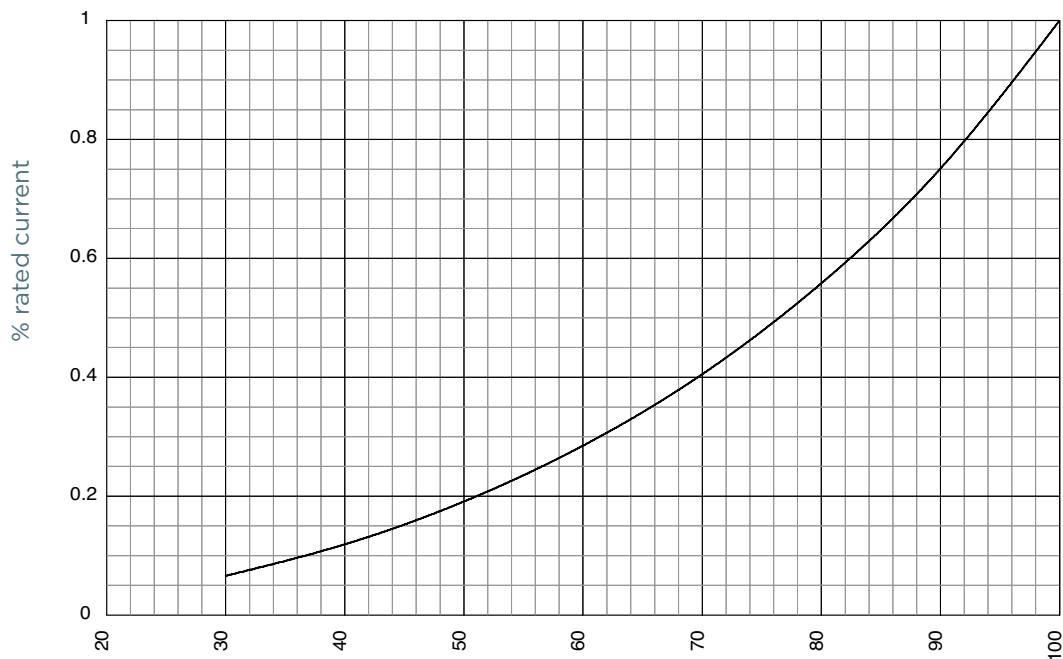
## TIME CURRENT CHARACTERISTIC CURVES

Special purpose gPV fuse link size 3L 1250V 250-400A



## CORRECTION FACTOR

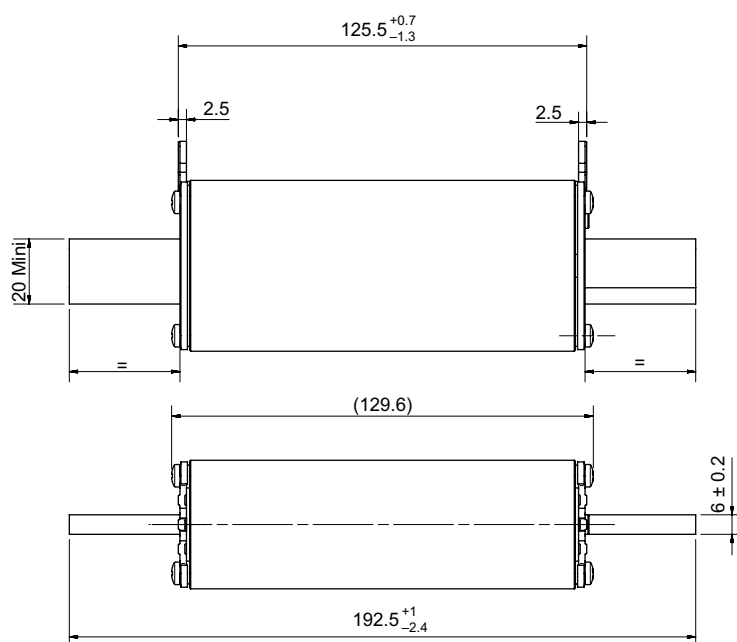
### Rated power dissipation at rated current fuse-link gPV 1XL 1250V 125-160A



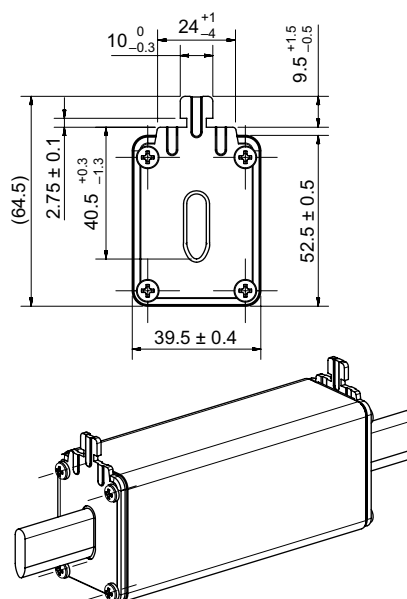
Correction factor for power dissipation

## DIMENSIONS

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

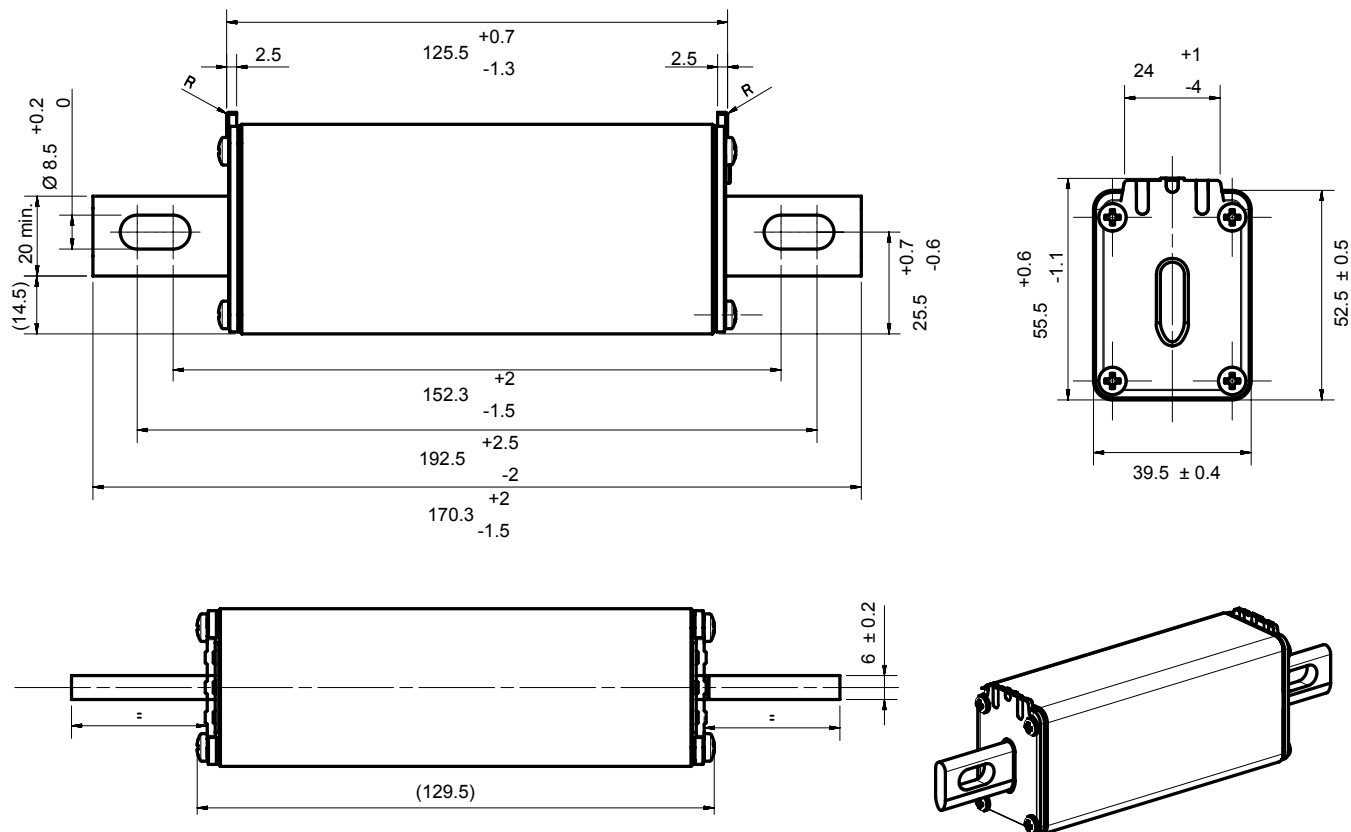


Dimensions in mm



## DIMENSIONS

Special purpose gPV fuse-link size 1XL Direct Mounting without trip indicator and without lugs

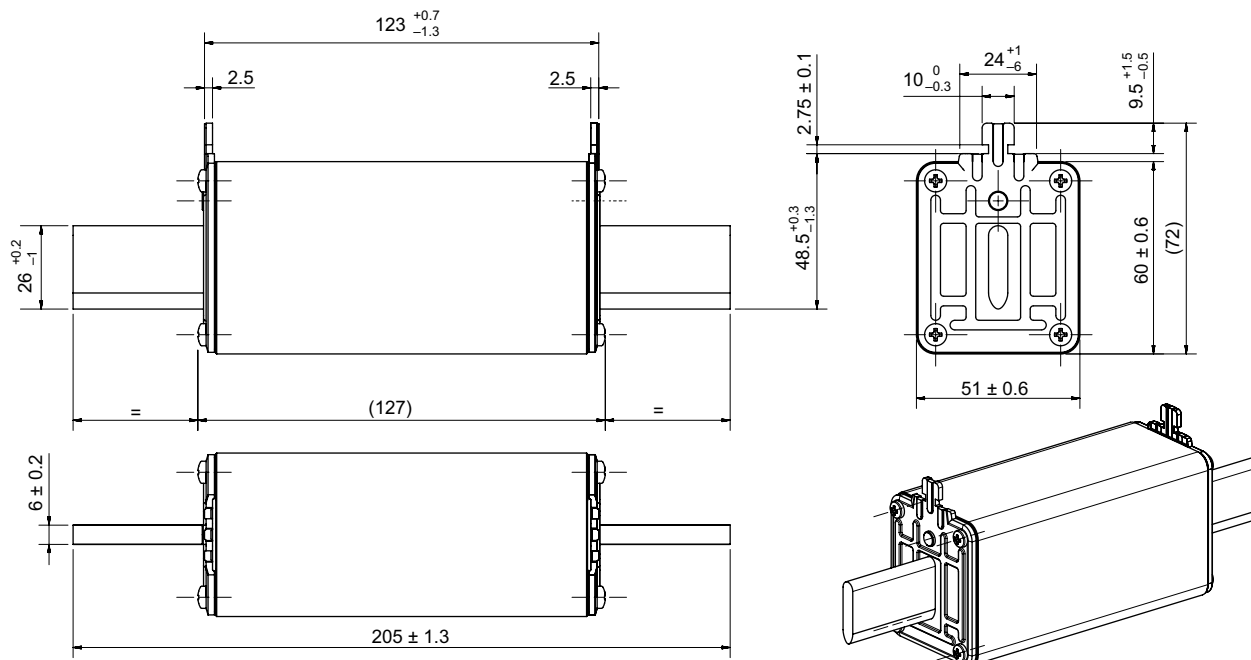


Dimensions in mm



## DIMENSIONS

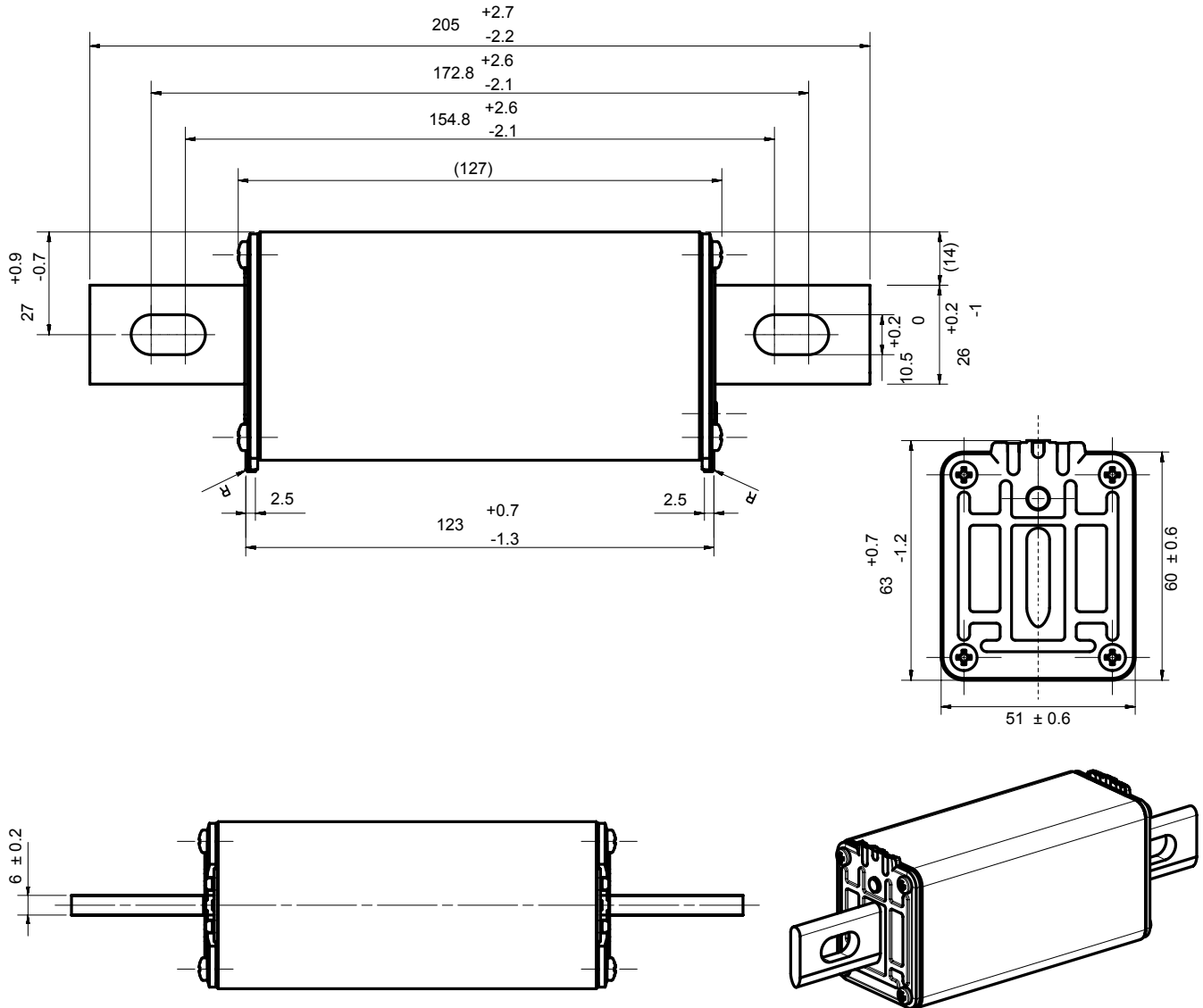
### Special purpose gPV fuse-link Plain Blade size 2XL



Dimensions in mm

## DIMENSIONS

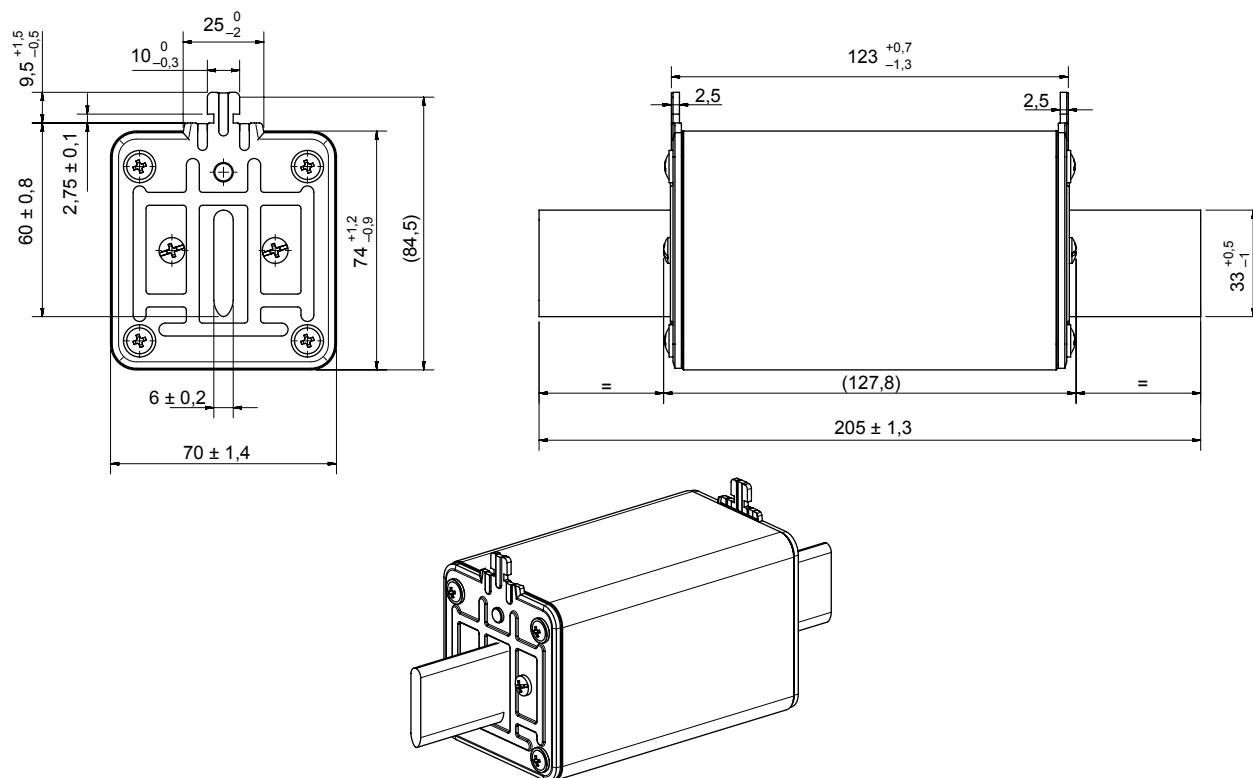
Special purpose gPV fuse-link size 2XL Direct Mounting without trip indicator and without lugs



Dimensions in mm

## DIMENSIONS

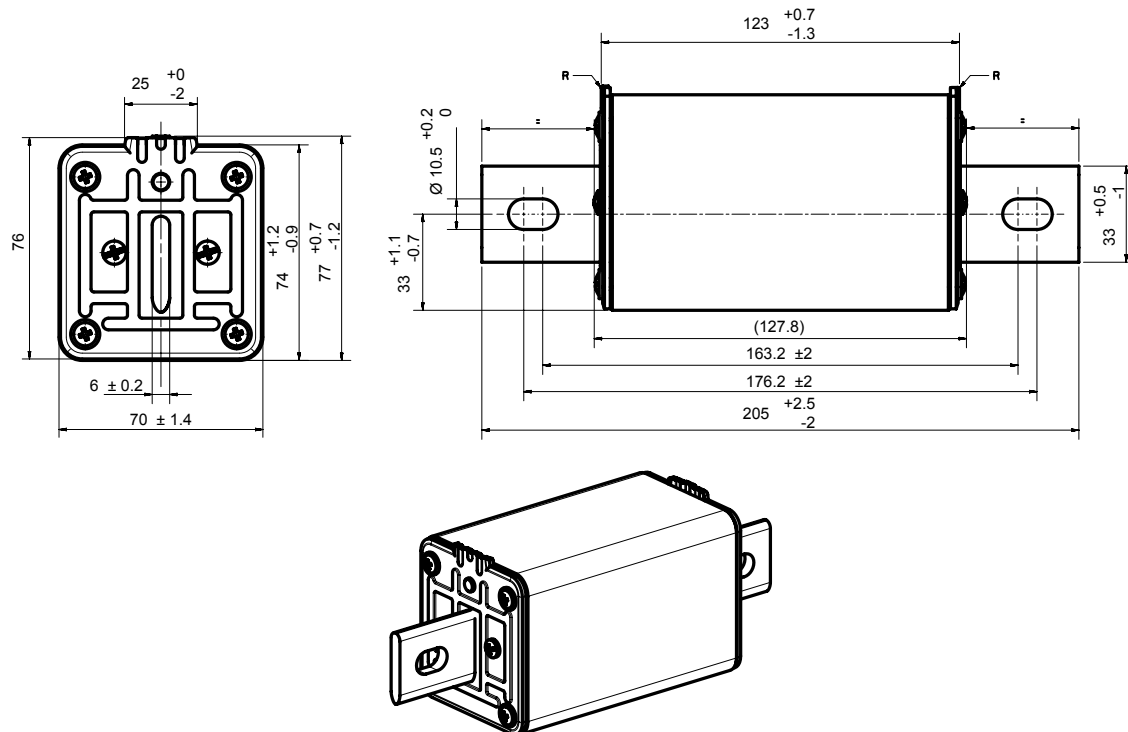
### Special purpose gPV fuse link Plain Blade size 3L



Dimensions in mm

## DIMENSIONS

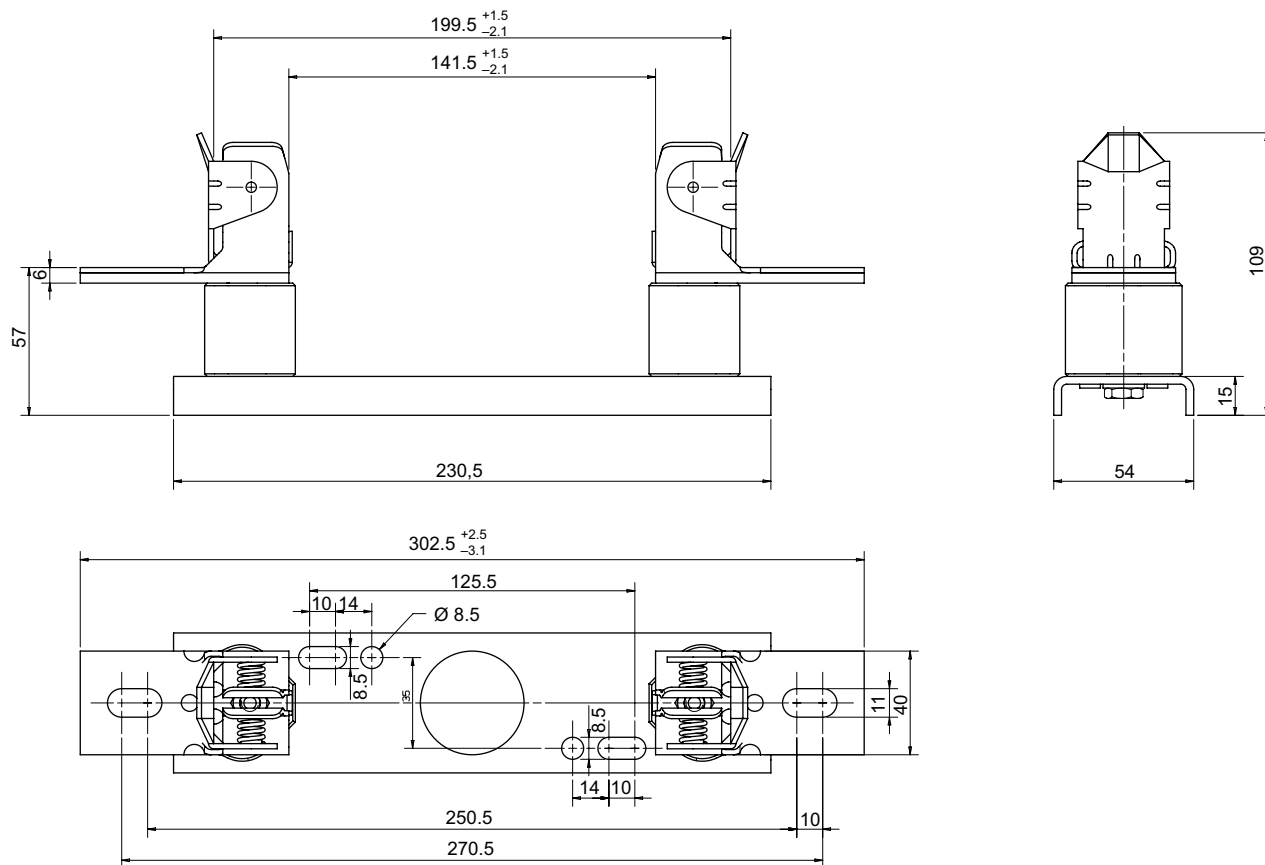
Special purpose gPV fuse link size 3L Direct Mounting without trip indicator and without lugs



Dimensions in mm

## DIMENSIONS

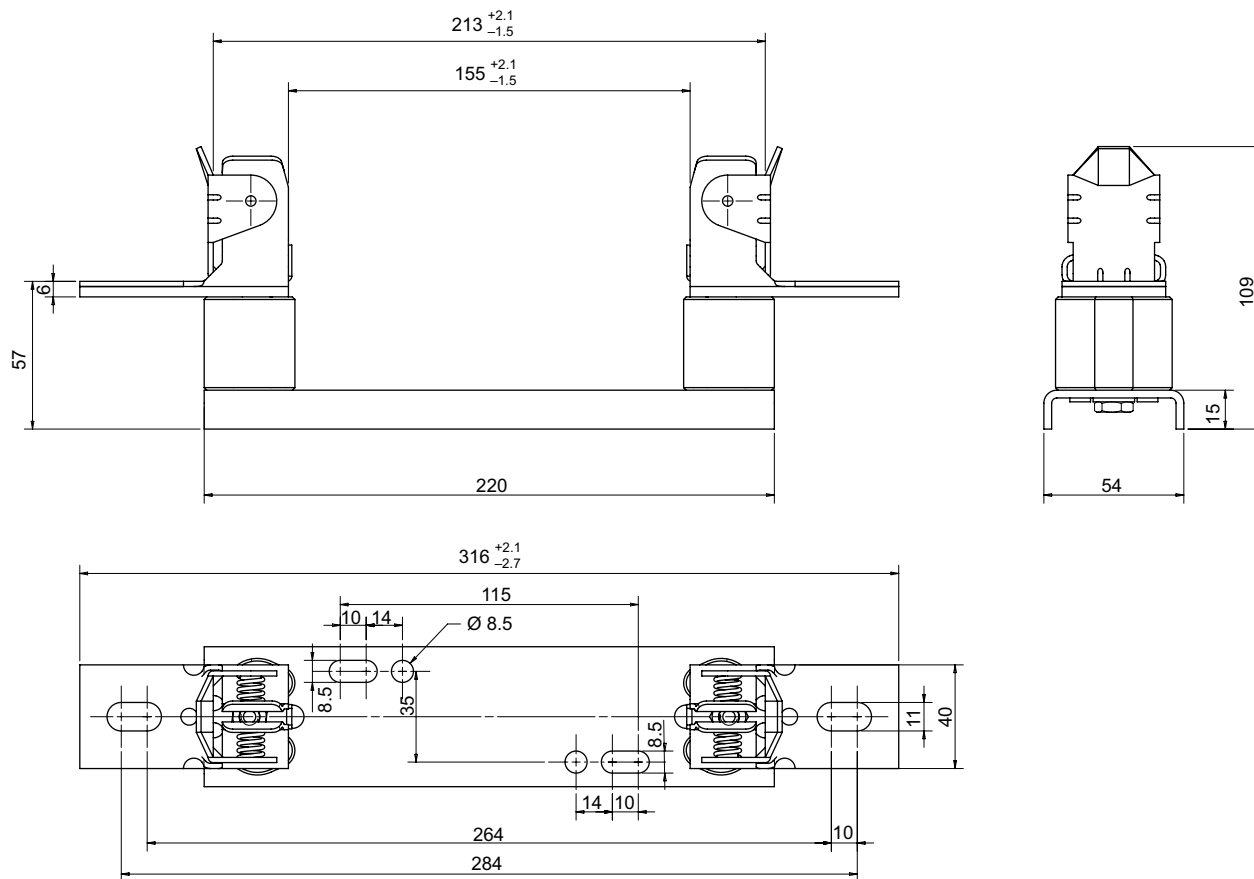
### NH fuse-base for NH fuse-links gPV size 2XL, open design



Dimensions in mm

## DIMENSIONS

### NH fuse-base for NH fuse-links gPV sizes 2XL and 3L, open design



For multi-pole applications:

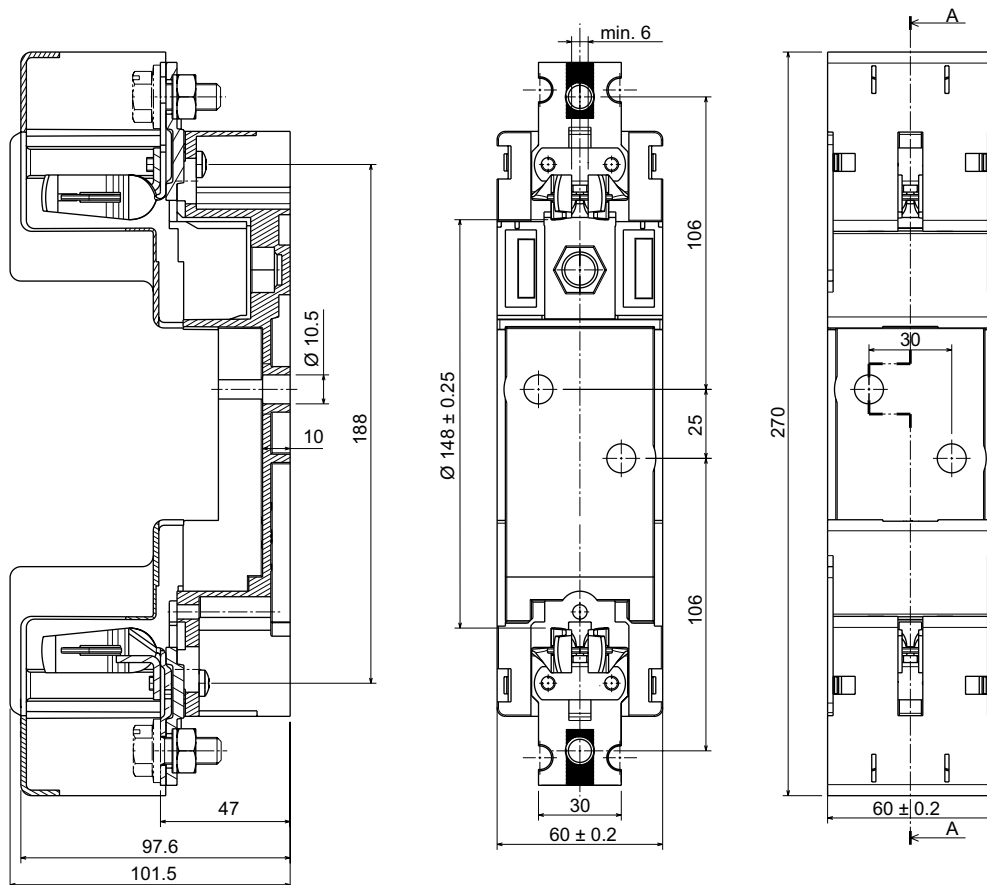
In case of installation of multi-pole units without phase barriers,

a distance of 8 mm must be considered between the live (current carrying) parts of the fuses (single units).

Dimensions in mm

## DIMENSIONS

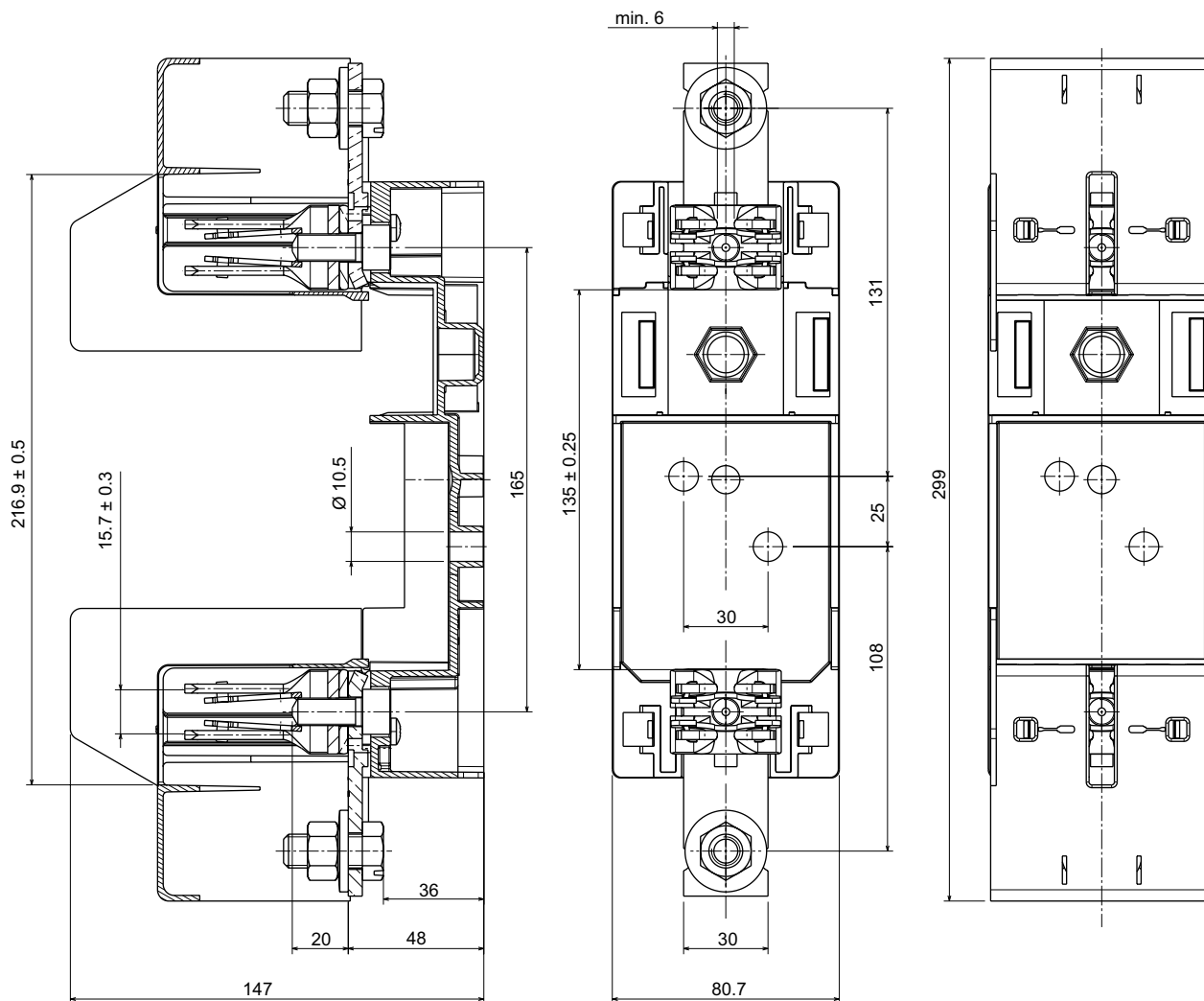
### NH fuse-base for NH fuse-links gPV size 1XL, with touch protection



Dimensions in mm

## DIMENSIONS

NH fuse-base for NH fuse-links gPV sizes 2XL and 3L, with touch protection

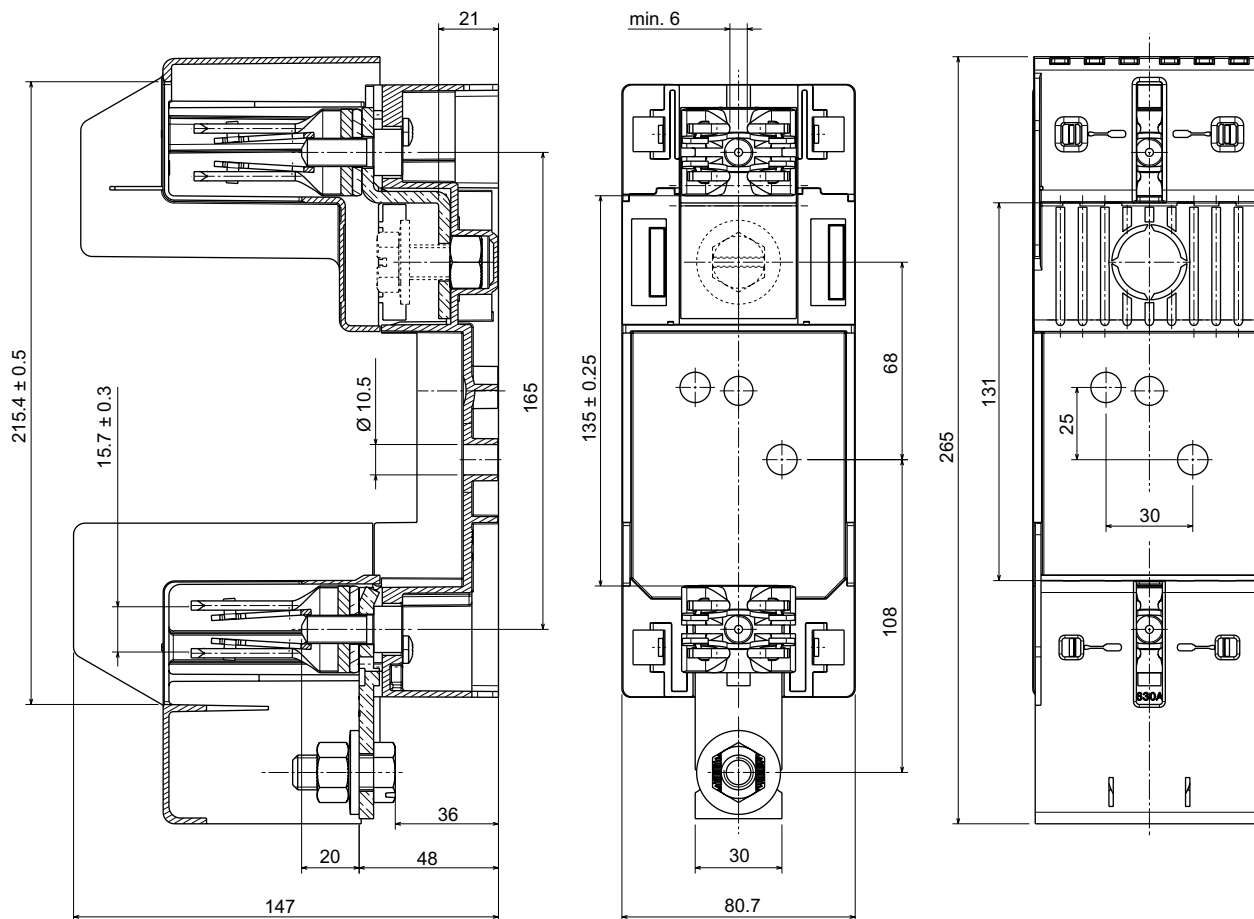


Dimensions in mm



## DIMENSIONS

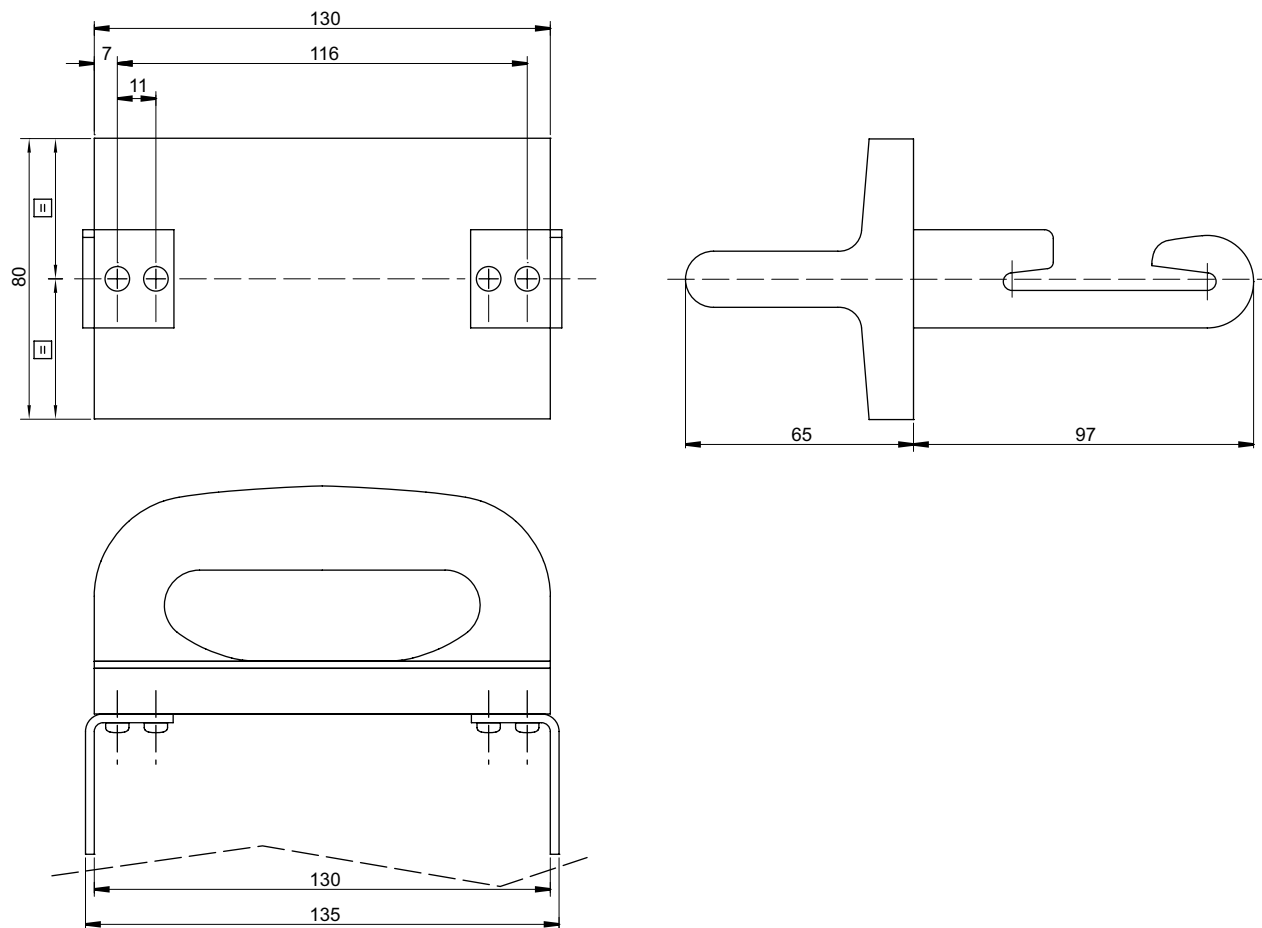
NH fuse base for sizes 2XL and 3L with touch protection and busbar output



Dimensions in mm

## DIMENSIONS

### NH fuse-handle for NH fus-links size 1XL 2XL and 3L



Dimensions in mm