Dual HP10M

1000V DC Midget Photovoltaic Fuses

SPECIAL PURPOSE

INDUSTRY'S FIRST EXTENDED RANGE IN-LINE STRING FUSE ENGINEERED TO PROTECT PHOTOVOLTAIC APPLICATIONS

HelioProtection®

Mersen's innovative dual HP10M photovoltaic (PV) fuse series was designed specifically for the protection of enhanced photovoltaic systems employing increased string current aggregation. Its precision resistance matched fuse construction ensures balanced load sharing, making it ideal for continuous temperature and current cycling withstand adding to system longevity. The 1000VDC rated HP10M, designed for low minimum breaking capacity capabilities of 1.35 times the fuse rated current value, allows for safe circuit interruption under typical low fault current conditions produced by PV arrays.

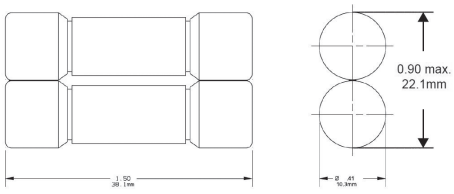
CATALOG NUMBERS - AMPS

Catalog Number	Rated Current In (Amps)	Power Dissipation at 0.7xin (Watts)	Power Dissipation at 0.8xin (Watts)	Power Dissipation at 1.0xin (Watts)	Package
HP10M36	36	1.9	2.6	4.5	Refer to notes
HP10M45	45	2.1	2.9	5.2	
HP10M60	60	3.8	5.3	8.0	

Notes: 1. HP10M(Amp): 2 piece standard pack; 88 piece bulk pack (-B suffix).

DIMENSIONS

Ferrule



RATINGS:

- **Volts:** 1000VDC
- **Amps:** 36, 45, 60A
- **IR:** 50kA I.R. DC
- **MBC:** 1.35 x In
- Photovoltaic Fuse, gPV

SP

FEATURES/BENEFITS:

- Low fault current interrupting capability
- Durable construction for enhanced system longevity
- Available in solderable ferrule, and solderable & crimpable wire terminals
- Temperature cycle withstand capability
- Guaranteed operation at temperature extremes
- Industry's first UL Listed extended range in-line fuse solution
- Globally accepted

APPLICATIONS:

- All photovoltaic applications
- PV string/array level protection
- In-line PV module protection
- Inverters
- Battery charge controllers

APPROVALS:

- UL Listed to Standard UL-248-19
- CSA Component Certified C22.2
- IEC 60269-6 Approved (Self Certified)

UL LISTED RoHS 2002/95/EC

Dual HP15M

1500V DC Midget Photovoltaic Fuses

SPECIAL PURPOSE

INDUSTRY'S FIRST EXTENDED RANGE IN-LINE STRING FUSE ENGINEERED TO PROTECT PHOTOVOLTAIC APPLICATIONS

SP

HelioProtection®

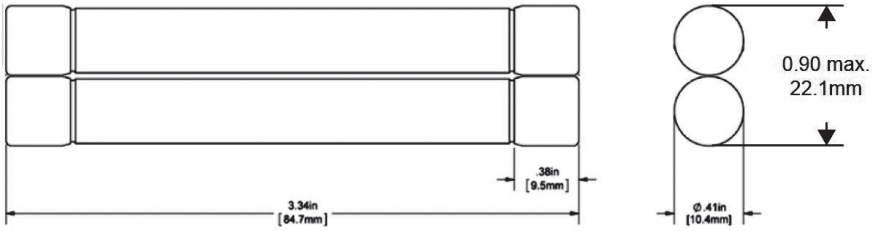
Mersen's innovative dual HP15M photovoltaic (PV) fuse series was designed specifically for the protection of enhanced photovoltaic systems employing increased string current aggregation. Its precision resistance matched fuse construction ensures balanced load sharing, making it ideal for continuous temperature and current cycling withstand adding to system longevity. The 1500VDC rated HP15M, designed for low minimum breaking capacity capabilities of 1.35 times the fuse rated current value, allows for safe circuit interruption under typical low fault current conditions produced by PV arrays.

CATALOG NUMBERS - AMPS

Catalog Number	Rated Current In (Amps)	Power Dissipation at 0.7xin (Watts)	Power Dissipation at 0.8xin (Watts)	Power Dissipation at 1.0xin (Watts)	Package
HP15M36	36	3.19	4.41	7.80	25
HP15M50	50	3.8	5.2	9.3	25

Notes: 1. HP15M(Amp): 2 piece standard pack; 44 piece bulk pack (-B suffix).

DIMENSIONS



RATINGS:

- **Volts:** 1500VDC
- **Amps:** 36, 50A
- **IR:** 50kA I.R. DC
- Photovoltaic Fuse

FEATURES/BENEFITS:

- Low fault current interrupting capability
- Durable construction for enhanced system longevity
- Available in solderable ferrule, and solderable & crimpable wire terminals
- Temperature cycle withstand capability
- Guaranteed operation at temperature extremes
- Industry's first UL Listed extended range in-line fuse solution
- Globally accepted

APPLICATIONS:

- All photovoltaic applications
- PV string/array level protection
- In-line PV module protection
- Inverters
- Battery charge controllers

APPROVALS:

- UL Listed to Standard UL-248-19
- •CSA Component Certified C22.2
- IEC 60269-6 Approved (Self Certified)

UL LISTED CSA RoHS 2002/95/EC

HP10J

1000V DC Class J Photovoltaic Fuses

SPECIAL PURPOSE

FOR ARRAY PROTECTION

HelioProtection®

Mersen's HP10J photovoltaic (PV) fuse series is designed specifically for DC Recombiner Boxes in the protection of 1000VDC photovoltaic systems. Its robust construction makes it ideal for continuous temperature and current cycling withstand adding to system longevity. The 1000VDC rated HP10J designed for low minimum breaking capacity capabilities of 1.35 times the fuse rated current value, allows for safe circuit interruption under typical low fault current conditions produced by PV arrays. Protect your off-grid or grid tied PV system from unexpected ground faults and line faults using Mersen's HelioProtection® fuse line.

APPLICATIONS:

- Re-combiner box (sub-combiner, array combiner, master combiner) applications
- Inverter DC input
- Battery charge controllers

CATALOG NUMBERS (AMPS)

Frame Size 1		Frame Size 2		Frame Size 3
HP10J70	HP10J125	HP10J250	HP10J350	HP10J450
HP10J80	HP10J160	HP10J300	HP10J400	HP10J500
HP10J100	HP10J200			HP10J600

- *For NH3 mounting on 200A to 400A, add suffix "XL" to catalog number (ex. HP10J400XL). 200A part number is HP10J200/400XL.*
- *For mechanical blown fuse indication, add suffix "EI" to the catalog number (ex. HP10J200EI).*
- *When using the EI Indicator, if remote blown fuse signal is desired, select AOS-Q (quick connect terminal) or AOS-S (screw terminal).*
- *Mersen AOS (Add-on switches) contain one single-pole double-throw (NO-NC) contact rated 4 amperes resistive and 1 ampere inductive at 250VAC maximum.*

RATINGS:

- **Volts:** 1000VDC (70A to 600A), 600VAC (70A to 400A)
- **Amps:** 70A to 600A
- **IR:** 65kA @ 1000VDC, 200kA@ 600VAC
- **MBC:** 1.35 x In
- Photovoltaic Fuse

SP

FEATURES/BENEFITS:

- UL Listed to standard 2579 – Photovoltaic Fuses
- Smallest available footprint in the industry
- Enlarged mounting holes
- Low fault current interrupting capability
- Durable construction for enhanced system longevity
- Temperature cycle withstand capability
- Guaranteed operation at temperature extremes
- Blown fuse indicator options available (EI option)
- 200A to 400A available in NH3 mounting

APPROVALS:

- UL listed to Standard 248
  - File E333668 (70A to 600A)
  - File E2137 (70A to 400A)
- CSA Component Certified C22.2 (70A to 400A)

UL LISTED CSA RoHS 2002/95/EC

Class J PV Fuse, 1000VDC, 65kA IR DC, Frame Size 1

Catalog Number	Reference Number	Rated Current I^n (Amps)	Power Dissipation at 0.7xI_n (Watts)	Power Dissipation at 0.8xI_n (Watts)	Power Dissipation at 1.0xI_n (Watts)	Package
HP10J70	Z1040749	70	3	5	10	1
HP10J80	A1040750	80	4	5	10	1
HP10J100	B1040751	100	6	7	15	1
HP10J125	C1040752	125	5	7	14	1
HP10J160	D1040753	160	6	8	16	1
HP10J200	E1040754	200	10	15	27	1

Class J PV Fuse, 1000VDC, 65kA IR DC, Frame Size 2

Catalog Number	Reference Number	Rated Current I_n (Amps)	Power Dissipation at 0.7xI_n (Watts)	Power Dissipation at 0.8xI_n (Watts)	Power Dissipation at 1.0xI_n (Watts)	Package
HP10J250	F1040755	250	13	18	34	1
HP10J300	G1040756	300	16	22	37	1
HP10J350	H1040757	350	17	24	45	1
HP10J400	J1040758	400	19	27	52	1

Class J PV Fuse, 1000VDC, 65kA IR DC, Frame Size 3

Catalog Number	Reference Number	Rated Current I_n (Amps)	Power Dissipation at 0.7xI_n (Watts)	Power Dissipation at 0.8xI_n (Watts)	Power Dissipation at 1.0xI_n (Watts)	Package
HP10J450	K1040759	450	22	27	56	1
HP10J500	K1047107	500	22	31	58	1
HP10J600	L1047108	600	30	43	82	1

Fuse Blocks for Class J PV Fuse, Frame Size 1, 1-Pole, 1000VDC, 100kA SCCR

Catalog Number	Reference Number	Rated Current I_n (Amps)	Terminal Configuration	Wire Range	Wire Insulation Rating	Package
62001HPJ	S1037385	200	Box-Box	350kcmil - #6	90°C	1
62041HPJ	Q1043961	200	Box-Stud	350kcmil - #6	90°C	1
62011HPJ	Q1033680	200	Stud-Stud	350kcmil - #6	90°C	1

Fuse Blocks for Class J PV Fuse, Frame Size 2, 1-Pole, 1000VDC, 100kA SCCR

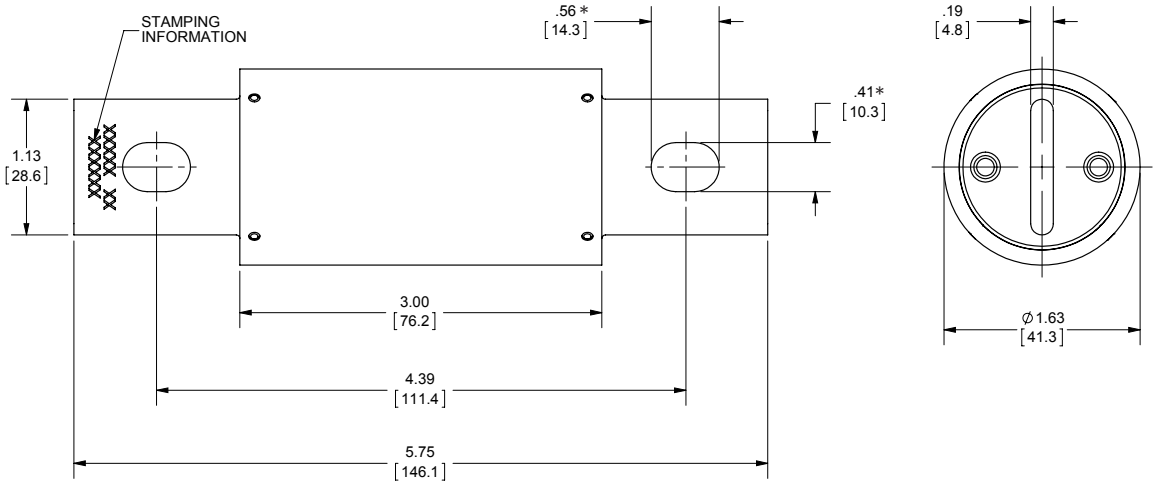
Catalog Number	Reference Number	Rated Current I_n (Amps)	Terminal Configuration	Wire Range	Wire Insulation Rating	Package
64031HPJ	T1037386	400	Box-Box	(2) 350kcmil - #6	90°C	1
64041HPJ	R1043962	400	Box-Stud	(2) 350kcmil - #6	90°C	1
64011HPJ	S1043963	400	Stud-Stud	(2) 350kcmil - #6	90°C	1

Fuse Blocks for Class J PV Fuse, Frame Size 3, 1-Pole, 1000VDC, 100kA SCCR

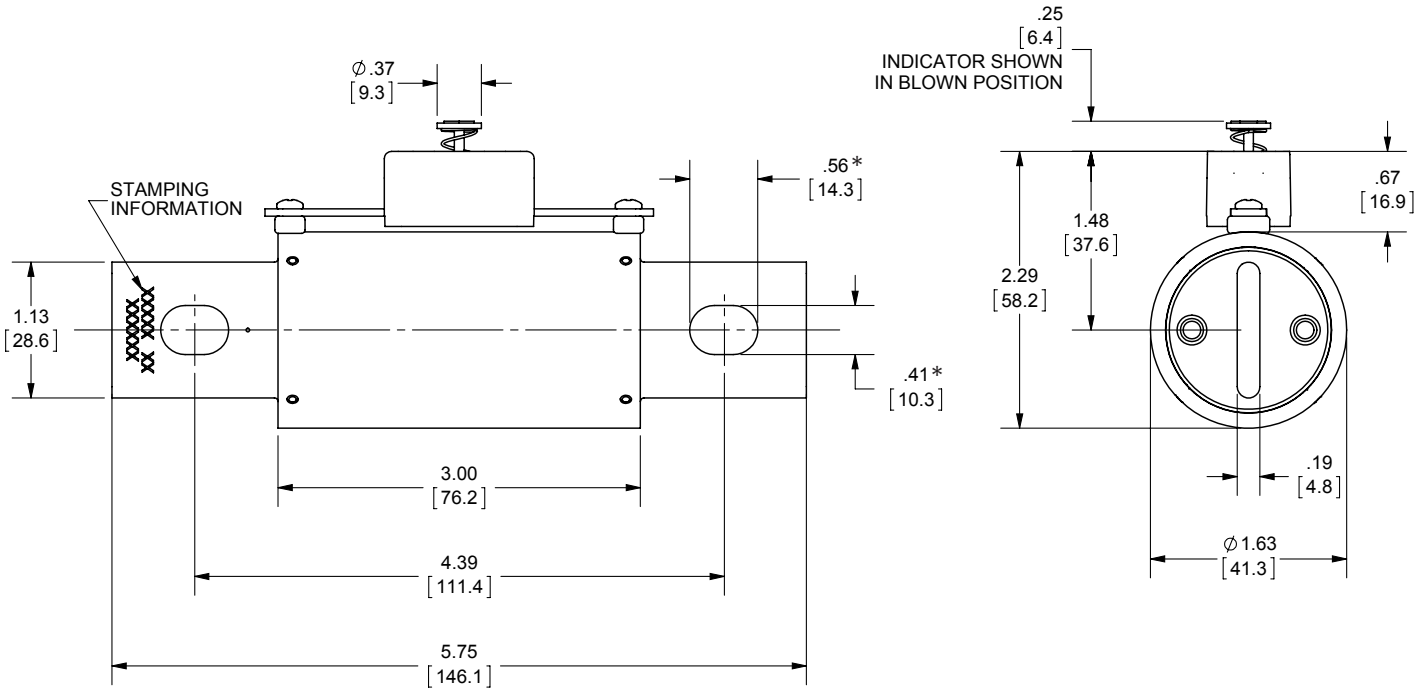
Catalog Number	Reference Number	Rated Current I_n (Amps)	Terminal Configuration	Wire Range	Wire Insulation Rating	Package
6631HPJ		600	Box-Box	(2) 350kcmil - #6	90°C	1
6641HPJ		600	Box-Stud	(2) 350kcmil - #6	90°C	1
6611HPJ		600	Stud-Stud	(2) 350kcmil - #6	90°C	1

DIMENSIONS

Class J (70-200A, 1000V DC)



Class J EI (70-200A, 1000V DC)



** Enlarged mounting holes designed to accept 5/16" DIA bolt sizes.*

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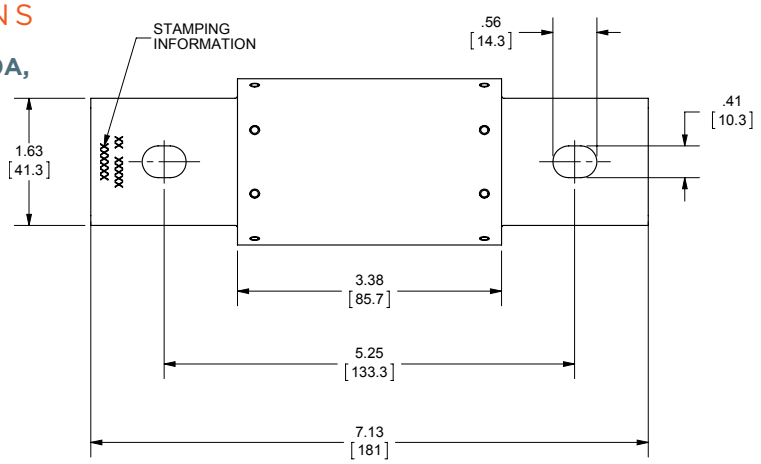
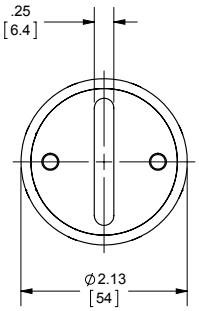
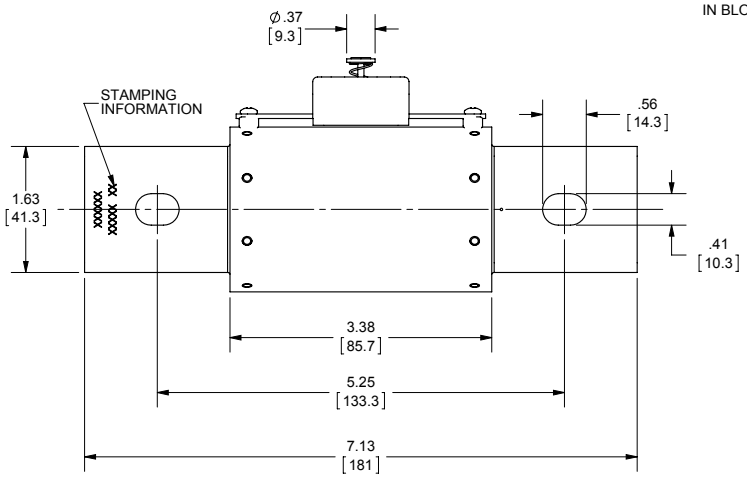
DIMENSIONS

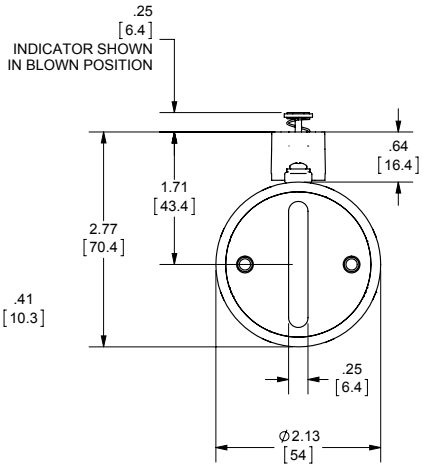
Class J (250-400A, 1000V DC)



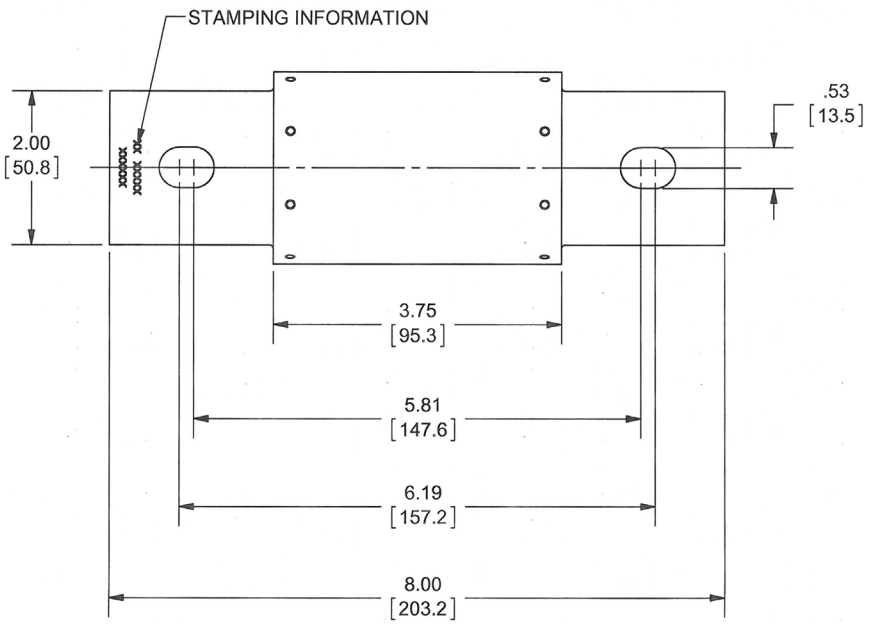


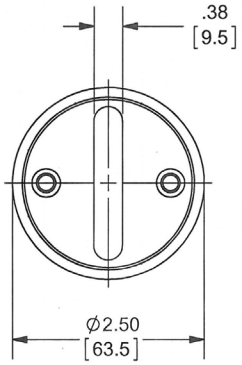
Class J EI (250-400A, 1000V DC)





Class J (450-600A, 1000V DC)





HP10M

1000V DC Midget (10x38mm) Photovoltaic Fuses

SPECIAL PURPOSE

FOR STRING PROTECTION

HelioProtection®

Mersen's HP10M photovoltaic (PV) fuse series was developed specifically for the protection of PV string wiring for 1000VDC industrial rooftop and utility scale photovoltaic systems. Its robust construction makes it ideal for continuous temperature and current cycling withstand adding to system longevity. The 1000VDC rated HP10M, designed for low minimum breaking capacity capabilities of 1.35 times the fuse rated current value, allows for safe circuit interruption under typical low fault current conditions produced by PV arrays. In addition to the standard ferrule terminal, parts are available with Crimp Cap terminals for in-line fuse applications. The unique wire crimp terminal (CC option) permits solderless wire-to-fuse connection for overmold encapsulation of fuse and wiring. Protect your off-grid or grid tied PV system from unexpected string faults using Mersen's HelioProtection® fuse line.

CATALOG NUMBERS - FUSE HOLDER

	UltraSafe™ Non-Indicating	UltraSafe™ Indicating
Screw Type	USM1HEL	USM1IHEL
Spring Type	USGM1HEL	USGM1IHEL

For additional information, view catalog page for USCC & USM UltraSafe™ Fuse holders.

RATINGS:

- **Volts:** 1000VDC
- **Amps:** 1 to 32A
- **IR:** 50kA I.R. DC
- **MBC:** 1.35 x In
- Photovoltaic Fuse, gPV

SP

FEATURES/BENEFITS:

- Low fault current interrupting capability
- Durable construction for enhanced system longevity
- Temperature cycle withstand capability
- Guaranteed operation at temperature extremes
- Industry's first UL Listed Solution
- Globally accepted

APPLICATIONS:

- All photovoltaic applications
- PV string/array level protection
- Combiner box applications
- In-line PV module protection
- Inverters
- Battery charge controllers

APPROVALS:

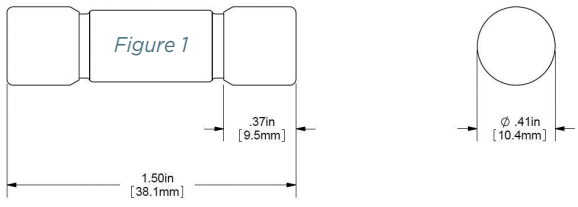
- UL Listed to Standard UL2579 File E333668
- CSA Component Certified C22.2
- IEC 60269-6 Approved (CB Tested)

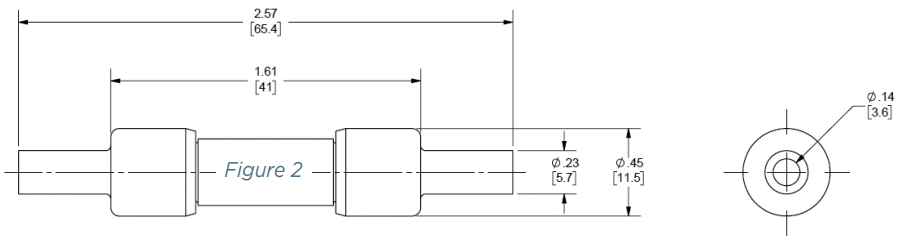
CATALOG NUMBERS AND ELECTRICAL CHARACTERISTICS

Voltage (VDC)	Amperage (A)	Catalog Number	Reference Number	Watts Loss @ 70% x I_n (W)	Watts Loss @ 80% x I_n (W)	Watts Loss @ 100% x I_n (W)	Interrupting Rating (kA)	Size (mm)
1000	1	HP10M1	B1018579	0.13	0.18	0.25	50	10x38 (Figure 1)
	2	HP10M2*	C1018580	0.16	0.25	0.32		
	3	HP10M3*	D1018581	0.66	0.87	1.36		
	3.5	HP10M3-1/2	H1043977	0.67	0.84	1.31		
	4	HP10M4*	E1018582	0.69	0.80	1.25		
	5	HP10M5*	F1018583	0.59	0.73	1.12		
	6	HP10M6	G1018584	0.42	0.67	1.05		
	7	HP10M7	H1018585	0.40	0.64	1.00		
	8	HP10M8	J1018586	0.77	0.88	1.48		
	10	HP10M10*	L1018588	0.67	0.9	1.5		
	12	HP10M12*	M1018589	0.72	1.0	1.8		
	15	HP10M15*	N1018590	0.9	1.3	2.2		
	20	HP10M20*	P1018591	1.1	1.5	2.8		
	25	HP10M25*	D1023825	1.3	1.8	3.0		
	30	HP10M30*	E1023826	1.63	2.12	3.93		
	32	HP10M32*	H1062170	1.7	2.3	4.0		
	1	HP10M1CC	F1061616	0.14	0.19	0.27	50	10 x 65 (Figure 2)
	2	HP10M2CC	G1061617	0.17	0.27	0.35		
	3	HP10M3CC	H1061618	0.72	0.95	1.49		
	3.5	HP10M3-1/2CC	J1061619	0.74	0.92	1.43		
	4	HP10M4CC	K1061620	0.76	0.88	1.38		
	5	HP10M5CC	L1061621	0.65	0.80	1.23		
	6	HP10M6CC	J1061527	0.46	0.74	1.15		
	7	HP10M7CC	K1061528	0.44	0.70	1.1		
	8	HP10M8CC	L1061529	0.85	0.97	1.63		
	10	HP10M10CC	M1061530	0.74	0.99	1.65		
	12	HP10M12CC	N1061531	0.79	1.1	1.98		
	15	HP10M15CC	P1061532	0.99	1.43	2.42		
	20	HP10M20CC	Q1061533	1.21	1.65	3.08		
	25	HP10M25CC	R1061534	1.43	1.98	3.3		
	30	HP10M30CC	S1061535	1.63	2.12	3.93		
	32	HP10M32CC	T1061536	1.7	2.3	4.0		

** Available in 176-piece bulk pack (add -B suffix to Catalog Number). Order quantity of one (1) -B suffix Catalog Number yields 176 fuses.*

DIMENSIONS





CC terminal (Fig. 2): Recommended crimping tool: T & B Sta-Kon ERG4002 #10 -12 AWG (6-4 mm²)

HelioProtection® HP10NH

Photovoltaic fuse-links gPV 1000VDC

SPECIAL PURPOSE FUSES

PHOTOVOLTAIC FUSES

Mersen HP10NH photovoltaic (PV) fuse series was engineered and designed specifically for the protection of photovoltaic systems. Helio-Protection® HP10NH 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	1000 VDC
Ampere Range (A)	50 ... 250 A
Size per Standard	NH1 and NH2
Speed/Characteristic	gPV
I.R. DC (UL)	kA (L/R = 1ms)

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
- Small footprint
- 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

HelioProtection® HP10NH

Photovoltaic fuse-links gPV 1000VDC

PRODUCT RANGE

HP10NH1GPV125

NH fuse links gPV 1000VDC Plain Blade size 1

Catalog number	Item number	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_n	Width	Package	Weight
HP10NH1GPV50	Z1028283	50 A	11 W	4.6 W	39.5 mm	3	0.3 kg
HP10NH1GPV63	A1028284	63 A	13 W	5.4 W	39.5 mm	3	0.3 kg
HP10NH1GPV80	B1028285	80 A	15 W	6.1 W	39.5 mm	3	0.3 kg
HP10NH1GPV100	C1028286	100 A	17 W	7.2 W	39.5 mm	3	0.3 kg
HP10NH1GPV125	D1028287	125 A	18 W	7.4 W	39.5 mm	3	0.3 kg
HP10NH1GPV160	E1028288	160 A	23 W	9.6 W	39.5 mm	3	0.3 kg

HP10NH1GPV160B

NH fuse links gPV 1000VDC Direct Mounting size 1

Catalog number	Item number	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_n	Width	Package	Weight
HP10NH1GPV50B	B1048663	50 A	11 W	4.6 W	39.5 mm	3	0.4 kg
HP10NH1GPV63B	C1048664	63 A	13 W	5.4 W	39.5 mm	3	0.4 kg
HP10NH1GPV80B	D1048665	80 A	15 W	6.1 W	39.5 mm	3	0.4 kg
HP10NH1GPV100B	E1048666	100 A	17 W	7.2 W	39.5 mm	3	0.4 kg
HP10NH1GPV125B	F1048667	125 A	18 W	7.4 W	39.5 mm	3	0.4 kg
HP10NH1GPV160B	G1048668	160 A	23 W	9.6 W	39.5 mm	3	0.4 kg

HP10NH2GPV250

NH fuse-links gPV 1000VDC Plain Blade size 2

Catalog number	Item number	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_n	Width	Package	Weight
HP10NH2GPV200	X1037619	200 A	27 W	11.3 W	51 mm	3	0.6 kg
HP10NH2GPV250	Y1037620	250 A	31 W	12.9 W	51 mm	3	0.6 kg

HP10NH2GPV200B

NH fuse-links gPV 1000VDC Direct Mounting size 2

Catalog number	Item number	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_n	Width	Package	Weight
HP10NH2GPV200B	H1048669	200 A	27 W	11.3 W	51 mm	3	0.63 kg
HP10NH2GPV250B	J1048670	250 A	31 W	12.9 W	51 mm	3	0.63 kg

HPBB11PPR

HPBB11PPRFS

NH fuse-bases for NH fuse-links gPV 1000VDC, size 1, 250A, single pole

Catalog number	Item number	Power acceptance	Rated impulse withstand voltage U_{imp}	Design	Cable termination	Package	Weight
HPBB11PPR	A1030607	32 W	8 kV	open design, for DIN-rail or screw mounting (M8/M10, M = 14/17 Nm), for NH fuse links size 1	M10 terminal screw M = 27-32Nm	3	0.44 kg
HPBB11PPRFS	K1032916	32 W	8 kV	with touch protection, for DIN-rail or screw mounting (M8/M10, M = 14/17 Nm), for NH fuse links size 1	M10 terminal screw M = 27-32Nm	3	0.71 kg

PRODUCT RANGE

HPBB21PPR

HPBB21PPRFS

NH fuse-bases for NH fuse-links gPV 1000VDC, size 2, 315A, single pole

Catalog number	Item number	Power accep-tance	Rated impulse withstand voltage U_{imp}	Design	Cable termi-nation	Package	Weight
HPBB21PPR	C1037509	45 W	8 kV	open design, for DIN-rail or screw mounting (M8/M10, M = 14/17 Nm), for NH fuse links size 1 and 2	%sM10 terminal screw M = 27-32Nm	3	0.54 kg
HPBB21PPRFS	D1037510	45 W	8 kV	with touch protection, for DIN-rail or screw mounting (M8/M10, M = 14/17 Nm), for NH fuse links size 2	M10 terminal screw M = 27-32Nm	3	0.81 kg

NHHANDLE

08024.000000

NH Fuse handle for NH fuse links size 00-4

Catalog number	Item number	Size	Design	Package	Weight
NHHANDLE	P215592	00 to 4	without arm protection to DIN VDE 0636-2, DIN VDE 608-4	5/25	0.16 kg
08024.000000	X216105	00 to 4	with fire proof arm protection to DIN VDE 0636-2, DIN VDE 608-4	1	0.43 kg

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 (UL)	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 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
- UL 2579
- RoHS compliance

HelioProtection® HP12NHXL

Photovoltaic fuse-links gPV 1250VDC

PRODUCT RANGE

HP12NH1XLGPV160

NH fuse links gPV 1250VDC Plain Blade size 1XL

Catalog number	Item number	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_n	Package	Weight
HP12NH1XLGPV125	G1039744	125 A	29 W	11.5 W	1	0.44 kg
HP12NH1XLGPV160	H1039745	160 A	36 W	14.5 W	1	0.70 kg

NH fuse links gPV 1250VDC Direct Mounting size 1XL

Catalog number	Item number	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_n	Package
HP12NH1LGPV125B	K1048671	125 A	29 W	11.5 W	1
HP12NH1LGPV160B	L1048672	160 A	36 W	14.5 W	1

HP12NH2XLGPV200

NH fuse links gPV 1250VDC Plain Blade size 2XL

Catalog number	Item number	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_n	Package	Weight
HP12NH2XLGPV200	J1039746	200 A	40 W	16 W	1	1.05 kg
HP12NH2XLGPV250	K1039747	250 A	44 W	18 W	1	1.05 kg

NH fuse links gPV 1250VDC Direct Mounting size 2XL

Catalog number	Item number	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_n	Package
HP12NH2LGPV200B	M1048673	200 A	40 W	16 W	1
HP12NH2LGPV250B	N1048674	250 A	44 W	18 W	1

HP12NH3LGPV315

NH fuse-links gPV 1250VDC Plain Blades size 3L

Catalog number	Item number	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_n	Package	Weight
HP12NH3LGPV250	Z1033389	250 A	53 W	18 W	1	1.66 kg
HP12NH3LGPV315	A1033390	315 A	55 W	22 W	1	1.66 kg
HP12NH3LGPV350	B1033391	350 A	53 W	23 W	1	1.66 kg
HP12NH3LGPV400	C1033392	400 A	55 W	29 W	1	1.66 kg

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

Catalog number	Item number	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_n	Package	Weight
HP12NH3LGPV250B	P1048675	250 A	55 W	18 W	1	1.66 kg
HP12NH3LGPV315B	Q1048676	315 A	73 W	22 W	1	1.66 kg
HP12NH3LGPV350B	R1048677	350 A	55 W	23 W	1	1.66 kg
HP12NH3LGPV400B	S1048678	400 A	73 W	29 W	1	1.66 kg

HP15M

1500VDC Midget (10x85mm) Photovoltaic Fuses

SPECIAL PURPOSE

FOR STRING PROTECTION

SP

HelioProtection®

Mersen's HP15M photovoltaic (PV) fuse series is designed specifically for the protection of PV string wiring for 1500VDC utility scale photovoltaic systems. Its robust construction makes it ideal for continuous temperature and current cycling withstand adding to system longevity. The 1500VDC rated HP15M, designed for low minimum breaking capacity capabilities of 1.35 times the fuse rated current value, allows for safe circuit interruption under typical low fault current conditions produced by PV arrays and meets the trend for increased voltage for higher efficiency. In addition to the standard ferrule terminal, parts are available with Crimp Cap terminals for in-line fuse applications. The unique wire crimp terminal (CC option) permits solderless wire-to-fuse connection for overmold encapsulation of fuse and wiring. Protect your off-grid or grid tied PV system from unexpected line faults using Mersen's HelioProtection® fuse line.

APPLICATIONS:

- All photovoltaic applications
- PV string/array level protection
- Combiner box applications
- In-line PV module protection
- Inverters
- Battery charge controllers

RATINGS:

- **Volts:** 1500VDC
- **Amps:** 4A - 32A
- **SCCR:** 50kA

Photovoltaic Fuse

FEATURES/BENEFITS:

- Low fault current interrupting capability
- Durable construction for enhanced system longevity
- Temperature cycle withstand capability
- Guaranteed operation at temperature extremes
- Globally accepted
- Recommended fuse holders: HP15FHM32A, US15M1HEL

APPROVALS:

- UL Listed to Standard UL2579
- CSA Component Pending
- IEC 60269-6

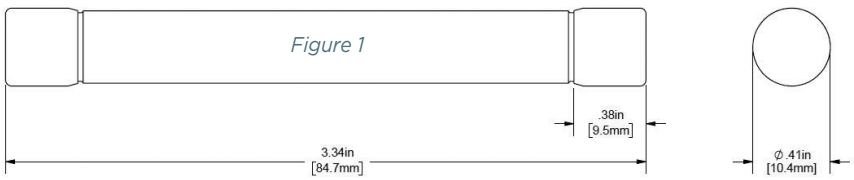
UL LISTED CSA CE RoHS 2002/95/EC

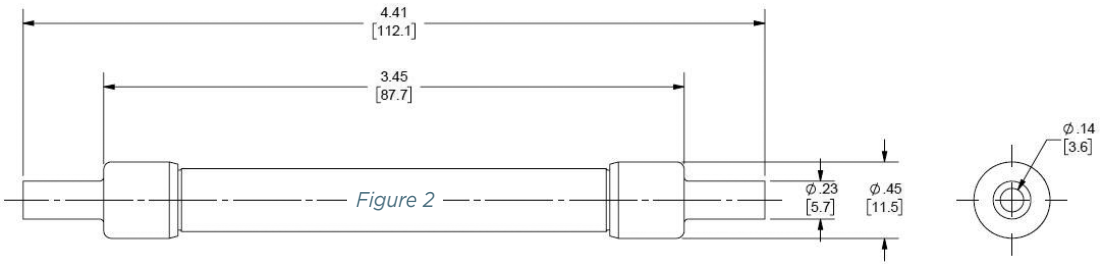
CATALOG NUMBERS AND ELECTRICAL CHARACTERISTICS

Voltage (VDC)	Amperage (A)	Catalog Number	Reference Number	Watts Loss @ 70% x I_n (W)	Watts Loss @ 80% x I_n (W)	Watts Loss @ 100% x I_n (W)	Interrupting Rating (kA)	Size (mm)
1500	4	HP15M4*	F1059569	1.03	1.43	2.58	50	10x85 (Figure 1)
	5	HP15M5*	X1055053	0.83	1.14	1.97		
	6	HP15M6*	Q1053667	0.96	1.36	2.44		
	7	HP15M7	R1053668	0.98	1.38	2.46		
	8	HP15M8	S1053669	1.03	1.50	2.60		
	10	HP15M10*	T1053670	1.24	1.79	3.10		
	12	HP15M12	V1053671	1.16	1.71	2.90		
	15	HP15M15*	W1053672	1.28	1.78	3.20		
	20	HP15M20*	X1053673	1.72	2.49	4.30		
	25	HP15M25*	Y1053674	2.14	3.10	5.40		
	30	HP15M30*	Z1053675	2.58	3.60	6.46		
	32	HP15M32*	G1059570	2.84	3.94	7.12		
	4	HP15M4CC**	A1061542	1.03	1.43	2.58		10 x 112 (Figure 2)
	5	HP15M5CC**	B1061543	0.83	1.14	1.97		
	6	HP15M6CC**	D1061545	0.96	1.36	2.44		
	7	HP15M7CC	E1061546	0.98	1.38	2.46		
	8	HP15M8CC	F1061547	1.03	1.50	2.60		
	10	HP15M10CC**	G1061548	1.24	1.79	3.10		
	12	HP15M12CC	H1061549	1.16	1.71	2.90		
	15	HP15M15CC**	J1061550	1.28	1.78	3.20		
	20	HP15M20CC**	K1061551	1.72	2.49	4.30		
	25	HP15M25CC**	L1061552	2.14	3.10	5.40		
	30	HP15M30CC**	M1061553	2.58	3.60	6.46		
	32	HP15M32CC**	N1061554	2.84	3.94	7.12		

** Available in 88-piece bulk pack (add -B suffix to Catalog Number). Order quantity of one (1) -B suffix Catalog Number yields 88 fuses.*
*** Available in 50-piece bulk pack (add -B suffix to Catalog Number). Order quantity of one (1) -B suffix Catalog Number yields 50 fuses.*

DIMENSIONS





CC terminal (Fig. 2): Recommended crimping tool: T & B Sta-Kon ERG4002 #10 -12 AWG (6-4 mm²)

SP

HP15MxxR

1500VDC Midget (10x85mm) Photovoltaic Fuses

SPECIAL PURPOSE

FOR STRING PROTECTION

HP15M GEN 2

HelioProtection®

Mersen's GEN2 of the HP15M photovoltaic (PV) fuse series is designed specifically to meet the severe temperature and current cycling of a PV system. Subjected to stringent cycle testing, the GEN2 provides enhanced reliability. These 1500VDC rated fuses are designed for low minimum breaking capacity capabilities of 1.35 times the fuse rated current value, which allows for safe circuit interruption under typical low fault current conditions. In addition to the standard ferrule terminal, parts are also available with Crimp Cap terminals for in-line fuse applications. The unique wire crimp terminal (CC option) permits solderless wire-to-fuse connection for overmold encapsulation of fuse and wiring. Protect your off-grid or grid tied PV system from unexpected line faults using Mersen's HelioProtection® fuse line.

APPLICATIONS:

- All photovoltaic applications
- PV string/array level protection
- Combiner box applications
- In-line PV module protection
- Inverters
- Battery charge controllers

RATINGS:

- **Volts:** 1500VDC
- **Amps:** 4A - 32A
- **SCCR:** 50kA

Photovoltaic Fuse

SP

FEATURES/BENEFITS:

- Low fault current interrupting capability
- Durable construction for enhanced system longevity
- Temperature and load cycling capability
- Certified to global standards
- Recommended fuse holders: HP15FHM32A, HP15FHM32B, US15M1HEL

APPROVALS:

- UL Listed to Standard UL 248-19
- CSA Component Certified C22.2
- IEC 60269-6

UL LISTED CSA CE RoHS 2002/95/EC

CATALOG NUMBERS AND ELECTRICAL CHARACTERISTICS

Voltage (VDC)	Amperage (A)	Catalog Number	Watts Loss @ 70% x I_n (W)	Watts Loss @ 80% x I_n (W)	Watts Loss @ 100% x I_n (W)	Interrupting Rating (kA)	Size (mm)
1500	4	HP15M4R*	1.03	1.43	2.58	50	10x85 (Figure 1)
	5	HP15M5R*	0.83	1.14	1.97		
	6	HP15M6R*	0.96	1.36	2.44		
	7	HP15M7R	0.98	1.38	2.46		
	8	HP15M8R	1.03	1.50	2.60		
	10	HP15M10R*	1.24	1.79	3.10		
	12	HP15M12R	1.30	1.79	3.08		
	15	HP15M15R*	1.30	1.76	2.95		
	20	HP15M20R*	1.77	2.36	4.27		
	25	HP15M25R*	2.21	3.07	5.54		
	30	HP15M30R*	2.63	3.62	6.42		
	32	HP15M32R*	3.18	4.22	7.14		
	4	HP15M4RCC**	1.03	1.43	2.58		10 x 112 (Figure 2)
	5	HP15M5RCC**	0.83	1.14	1.97		
	6	HP15M6RCC**	0.96	1.36	2.44		
	7	HP15M7RCC	0.98	1.38	2.46		
	8	HP15M8RCC	1.03	1.50	2.60		
	10	HP15M10RCC**	1.24	1.79	3.10		
	12	HP15M12RCC	1.30	1.79	3.08		
	15	HP15M15RCC**	1.30	1.76	2.95		
	20	HP15M20RCC**	1.77	2.36	4.27		
	25	HP15M25RCC**	2.21	3.07	5.54		
	30	HP15M30RCC**	2.63	3.62	6.42		
	32	HP15M32RCC**	3.18	4.22	7.14		

Catalog Number with CC suffix = Product with Crimp Cap terminals for in-line fuse applications.
** Available in 88-piece bulk pack (add -B suffix to Catalog Number). Order quantity of one (1) -B suffix Catalog Number yields 88 fuses.*
*** Available in 50-piece bulk pack (add -B suffix to Catalog Number). Order quantity of one (1) -B suffix Catalog Number yields 50 fuses.*

DIMENSIONS

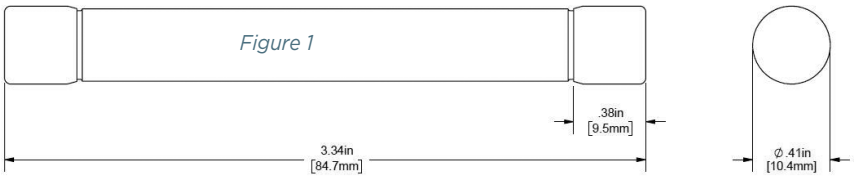


Figure 1

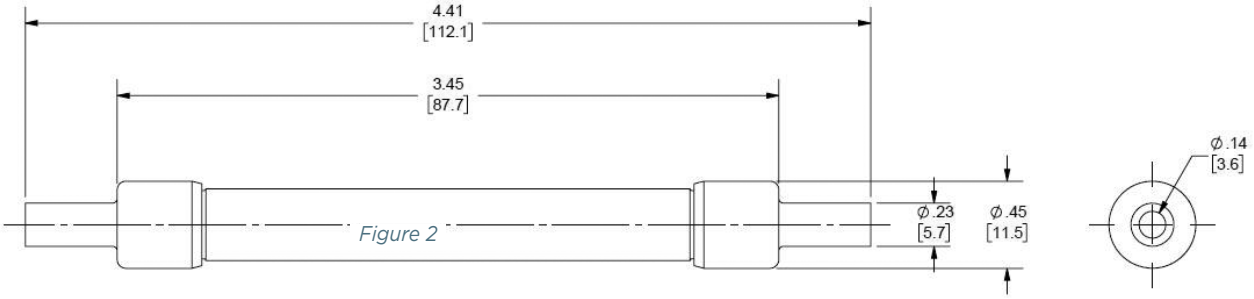


Figure 2

CC terminal (Fig. 2): Recommended crimping tool: T & B Sta-Kon ERG4002 #10 -12 AWG (6-4 mm²)

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
Product Size	NH1XL, NH2XL, NH3L
Operating temperature	-40°C - +70°C
I.R. DC (UL)	1XL/2XL 50kA@L/R=1ms 3L 150kA@L/R=3ms

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 (E358319, Volume 1, Section 1)
- UL 4248-19 for fuseholders, Photovoltaic (E362644 Volume 1)

HelioProtection® HP15NH

Photovoltaic fuse-links gPV 1500VDC

PRODUCT RANGE

HP15NH2XLGPV125

HP15NH3LGPV250

NH-fuse-links gPV 1500VDC plain blade

Catalog number	Item number	Size	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_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

HP15NH2LGPV250B

HP15NH3LGPV400B

NH-fuse-links gPV 1500VDC direct mounting

Catalog number	Item number	Size	Rated current I_n	Power dissipation at I_n	Power dissipation at 0.7xI_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

HP15NH3LPV400BI

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 0.7xI_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

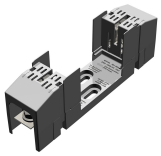
MC3E1-5N

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

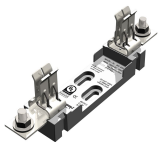
Catalog number	Item number	Rated current I_n	Rated impulse withstand voltage U_{imp}	Indication System	Package	Weight
MC3E1-5N	D310020	5 A	20 kV	standard	3	32 g

PRODUCT RANGE

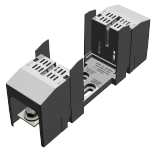
HP15FHNH1XLA



HP15FHNH1XLB



HP15FHNH3LA



HP15FHNH3LB

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

Catalog number	Item number	Size	Rated current I_n	Power acceptance	Rated impulse withstand voltage U_{imp}	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 mm²	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 mm²	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 mm²	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 mm²	2	0.98 kg

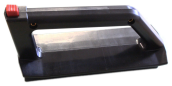
COVERFHNH1XL

COVERFHNH3L

Cover for fuse-base with touch protection

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

PRODUCT RANGE

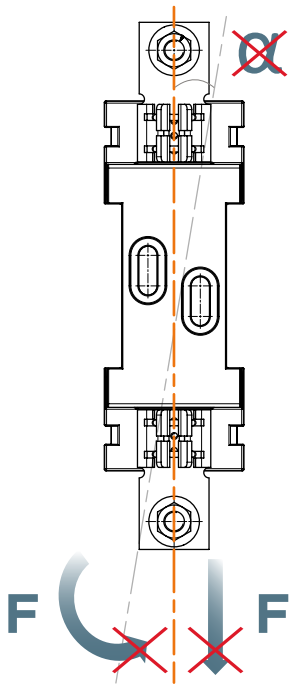


NHHANDLE-1500

NH Fuse handle for NH fuse links HP15NHXL

Catalog number	Item number	Size	Design	Package
NHHANDLE-1500	S1069815	1XL, 2XL, 3L	without arm protection to DIN VDE 0636-2, DIN VDE 608-4	1

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

HP6J

600V DC Class J Photovoltaic Fuses

SPECIAL PURPOSE

FOR ARRAY PROTECTION

HelioProtection®

S
P

Mersen's HP6J photovoltaic (PV) fuse series was engineered specifically for DC Recombiner Boxes in the protection of 600VDC photovoltaic systems. Its enhanced construction makes it ideal for continuous temperature and current cycling withstand adding to system longevity. The 600VDC rated HP6J designed for low minimum breaking capacity capabilities of 1.35 times the fuse rated current value allows for safe circuit interruption under typical low fault current conditions produced by PV arrays. Protect your off-grid or grid tied PV system from unexpected ground faults and line faults using Mersen's HelioProtection® fuse line.

CATALOG NUMBERS (AMPS)

Frame Size 1		Frame Size 2		Frame Size 3		Frame Size 4
HP6J70	HP6J90	HP6J110	HP6J175	HP6J225	HP6J350	HP6J450
HP6J80	HP6J100	HP6J125	HP6J200	HP6J250	HP6J400	HP6J500
		HP6J150		HP6J300		HP6J600

CATALOG NUMBERS - FUSE HOLDER

Box Terminal to Box Terminal Configuration, 1-Pole						
Ampere Rating	Clip Configuration	Wire Range	Wire Type	Stud Type	Catalog No.	Temperature Rating of Wire Terminal
100	In-line	2/0 - #6	Cu	-	61006HPJ	90° C
200	Side	350kcmil - #6	Al/Cu	-	62001HPJ	
400	In-line	(2) 350kcmil - #6		-	64031HPJ	
600	In-line	(2) 500kcmil - #4		-	6631HPJ	75° C

For additional configurations and information view Mersen's Solar Power Solutions Guide at http://ep-us.mersen.com/solarpower

RATINGS:

- **Volts:** 600VDC
- **Amps:** 70 to 600A
- **IR:** 10kA I.R. DC
- **MBC:** 1.35 x In
- Photovoltaic Fuse

FEATURES/BENEFITS:

- Smallest footprint in the industry
- UL class J dimensions
- Low fault current interrupting capability
- Durable construction for enhanced system longevity
- Temperature cycle withstand capability
- Guaranteed operation at temperature extremes
- Industry's first UL Listed Solution
- Globally accepted

APPLICATIONS:

- Re-combiner (sub-combiner, array combiner, master combiner) applications
- Inverter DC input protection
- Battery charge controllers

APPROVALS:

- UL Listed to Standard 248 File E333668
- CSA Component Certified C22.2

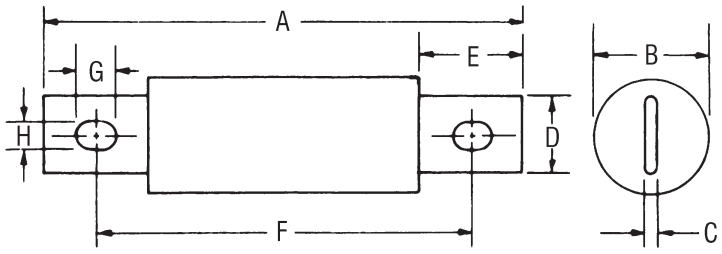
UL LISTED CSA RoHS 2002/95/EC

ELECTRICAL SPECIFICATIONS

Catalog Number	Ampere Rating (A)	Voltage (VDC)	Interrupting Rating (kA)	Watts Loss @ 80% x In (W)	Watts Loss @ 100% x In (W)
HP6J70	70	600	10	5.8	10
HP6J80	80	600	10	6.4	11
HP6J90	90	600	10	7.5	13
HP6J100	100	600	10	8.1	14
HP6J110	110	600	10	10.4	18
HP6J125	125	600	10	11	19
HP6J150	150	600	10	12.8	22
HP6J175	175	600	10	13.9	24
HP6J200	200	600	10	15.1	26
HP6J225	225	600	10	17.4	30
HP6J250	250	600	10	20.9	36
HP6J300	300	600	10	22	38
HP6J350	350	600	10	23.2	40
HP6J400	400	600	10	24.4	42
HP6J450	450	600	10	33.6	58
HP6J500	500	600	10	34.2	59
HP6J600	600	600	10	39.4	68

SP

DIMENSIONS



Frame Size	Ampere Rating	A		B		C		D		E		F		G		H	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1	70-100	4-5/8	117	1-1/16	27	1/8	3.2	3/4	19	1	25	3-5/8	92	3/8	10	9/32	7
2	110-200	5-3/4	146	1-5/8	41	3/16	4.8	1-1/8	29	1-3/8	35	4-3/8	111	17/32	14	9/32	7
3	225-400	7-1/8	181	2-1/8	54	1/4	6.3	1-7/8	41	1-7/8	48	5-1/4	133	17/32	14	13/32	10
4	450-600	8	203	2-1/2	64	3/8	9.5	2	51	2-1/8	54	6	152	11/16	18	17/32	13

HP6M

600V DC Midget (10x38mm) Photovoltaic Fuses

SPECIAL PURPOSE

FOR STRING PROTECTION

HelioProtection®

Mersen's HP6M photovoltaic (PV) fuse series is designed specifically for the protection of PV string wiring for 600VDC residential and commercial rooftop photovoltaic systems. Its enhanced construction makes it ideal for continuous temperature and current cycling withstand adding to system longevity. The 600VDC rated HP6M, designed for low minimum breaking capacity capabilities of 1.35 times the fuse rated current value, allows for safe circuit interruption under typical low fault current conditions produced by PV arrays. Protect your rooftop PV system from unexpected ground faults and string faults using Mersen's HelioProtection® fuse line.

APPLICATIONS:

- All photovoltaic applications
- PV string/array level protection
- Combiner box applications
- In-line PV module protection
- Inverters
- Battery charge controllers

CATALOG NUMBERS - FUSE HOLDER

	UltraSafe™ Non-Indicating	UltraSafe™ Indicating
Screw Type	USM1HEL	USM1IHEL
Spring Type	USGM1HEL	USGM1IHEL

For additional information, view catalog page for USCC & USM UltraSafe™ Fuse holders.

RATINGS:

- **Volts:** 600VDC
- **Amps:** 1 to 30A
- **IR:** 10kA I.R. DC
- **MBC:** 1.35 x In
- Photovoltaic Fuse, gPV

SP

FEATURES/BENEFITS:

- Low fault current interrupting capability
- Durable construction for enhanced system longevity
- Temperature cycle withstand capability
- Guaranteed operation at temperature extremes
- Industry's first UL Listed Solution
- Globally accepted

APPROVALS:

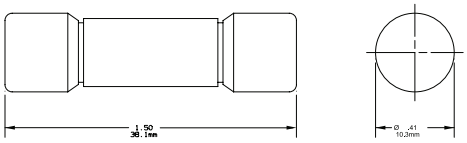
- UL Listed to Standard UL2579 File E333668
- CSA Component Certified C22.2
- IEC 60269-6 Approved

UL LISTED CSA CE RoHS 2002/95/EC

CATALOG NUMBERS AND ELECTRICAL CHARACTERISTICS

Voltage (VDC)	Amperage (A)	Catalog Number	Reference Number	Watts Loss @ 70% x I_n (W)	Watts Loss @ 80% x I_n (W)	Watts Loss @ 100% x I_n (W)	Interrupting Rating (kA)	Size (mm)
600	1	HP6M1	L1018565	0.14	0.19	0.31	10	10x38
	2	HP6M2	M1018566	0.19	0.26	0.43		
	3	HP6M3	N1018567	0.64	0.85	1.4		
	4	HP6M4	Q1018569	0.58	0.77	1.3		
	5	HP6M5	R1018570	0.65	0.87	1.4		
	6	HP6M6	S1018571	0.69	0.92	1.5		
	7	HP6M7	T1018572	0.83	1.11	1.8		
	8	HP6M8	V1018573	0.92	1.23	2.0		
	10	HP6M10	X1018575	0.96	1.28	2.1		
	12	HP6M12	Y1018576	1.12	1.49	2.5		
	15	HP6M15	Z1018577	0.99	1.32	2.2		
	20	HP6M20	A1018578	1.25	1.67	2.8		
	25	HP6M25	K1018610	1.38	1.84	3.1		
	30	HP6M30	L1018611	1.50	2.00	3.3		

DIMENSIONS



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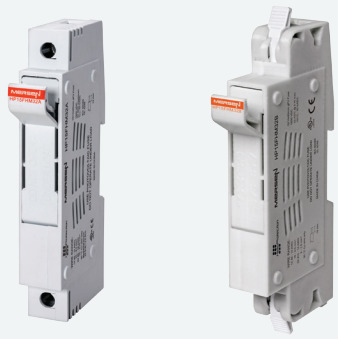
HP15FHM32

HelioProtection® Fuse Holders for PV Applications

FUSE BLOCKS & HOLDERS

TOUCH-SAFE DESIGN INCREASES USER SAFETY



HelioProtection®

Mersen's 1500 VDC HelioProtection fuse holders for 10/14x85mm gPV fuses introduce the next level of safety for Utility scale photovoltaic applications. The HP15FHM32 fuse holders are finger safe (IP20 ingress protection rated), featuring a rotating fuse carrier, similar to the Mersen UltraSafe® fuse holders.

The HP15FHM32 series input and output terminals accept standard PV rated wiring and comb bus bars, providing added versatility for end-use installations. The body features high performance UL 94 V-0 rated polymer material, providing superior flammability rating, with exceptional durability and dielectric withstand properties.

RATINGS:

- **Volts:** 1500VDC Maximum
- **Amps:** 32ADC Maximum
- **Power Dissipation:** 6.0 W Maximum
- **SCCR:** 50kA DC

APPLICATIONS:

- All Utility scale photovoltaic applications
- 1500VDC Combiner Boxes

APPROVALS:

- UL 4248-19
- CSA 22.2 No. 4248.19
- IEC 60269-2

F
B

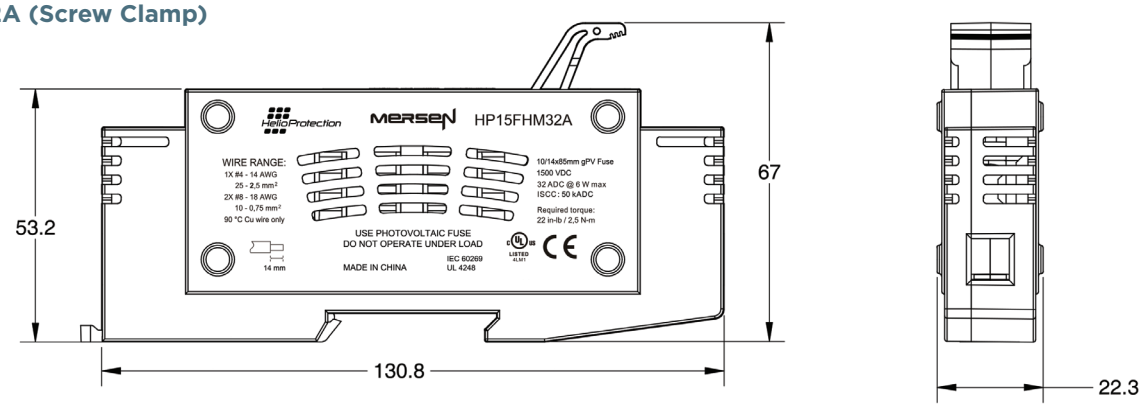
FEATURES/BENEFITS:

- Wire in/out terminals
- Clamping:
  - HP15FHM32A: Screw clamp, #2 combo head
  - HP15FHM32B: tool-less spring clamp (screw-less, spring pressure, wire termination technology)
- UL 94 V-0 rated
- Use with PV-rated copper wire
- Wire range:
  -HP15FHM32A: 1X #4 - #14 AWG (25 - 2.5 mm^2); 2X #8 - 18 AWG (10 - 0.75 mm^2)
  -HP15FHM32B: 1X #6 - #14 AWG (18 - 2.6 mm^2); 2X #10-14 AWG (8 - 2.5 mm^2)
- Required terminal torque (HP15FHM32A only): 22 in-lb/2.5N-m
- IP20 rated (finger safe)
- 35 mm DIN Rail Mounting
- Lock Out/Tag Out feature
- Area for customer-applied labeling
- Digital Multimeter (DMM) probe access
- Accepts 10/14 x 85mm gPV fuses
- Recommended gPV fuses: HP15M
- Operating Temperature: -40 to +125°C
- Front loading of the fuse - allows for ease of installation and removal of fuse

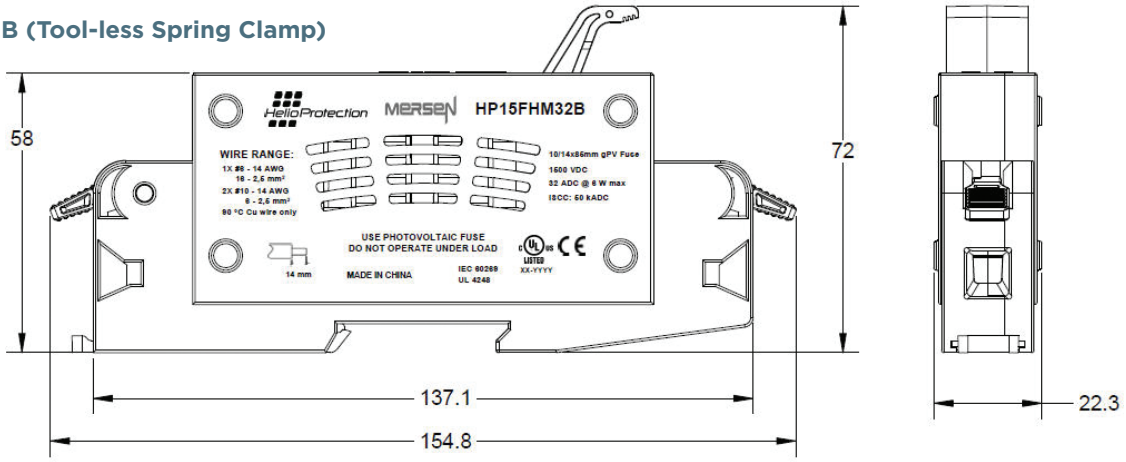
FB

DIMENSIONS (MM):

HP15FHM32A (Screw Clamp)



HP15FHM32B (Tool-less Spring Clamp)



HP15G

1500VDC Class G (10x57mm) Photovoltaic Fuses

SPECIAL PURPOSE

FOR INLINE PV MODULE PROTECTION

HelioProtection®

Mersen's HP15G photovoltaic (PV) fuse series was engineered specifically for PV module ground fault protection of photovoltaic systems. Its enhanced construction makes it ideal for continuous temperature and current cycling withstand adding to system longevity. The 1500VDC rated HP15G, designed for low minimum breaking capacity capabilities of 1.35 times the fuse rated current value, allows for safe circuit interruption under typical low ground fault current conditions produced by PV arrays. In addition to the standard ferrule terminal, these products are available with Crimp Cap terminals for in-line fuse applications. The unique wire crimp terminal (CC option) permits solderless wire-to-fuse connection for overmold encapsulation of fuse and wiring. Protect your off-grid or grid tied PV system from unexpected ground faults and string faults using Mersen's HelioProtection® fuse line.

APPLICATIONS:

- In-line PV module protection

RATINGS:

- **Volts:** 1500VDC
- **Amps:** 2½A-5A
- **IR:** HP15G2½ to 4A, Self Certified to 50kA I.R.; HP15G5, 10kA I.R.
- **MBC:** 1.35 x In

Photovoltaic Fuse, gPV

FEATURES/BENEFITS:

- Low fault current interrupting capability
- Durable construction for enhanced system longevity
- Temperature cycle withstand capability
- Guaranteed operation at temperature extremes
- Industry's first UL Listed Solution
- Globally accepted
- Available in standard and bulk packaging options

APPROVALS:

- UL Listed to Standard UL2579 File E333668
- IEC 60269-6

UL LISTED CE RoHS 2002/95/EC

SP

CATALOG NUMBERS AND ELECTRICAL CHARACTERISTICS

Voltage (VDC)	Amperage (A)	Catalog Number	Interrupting Rating (kA)	Size (mm)
1500	2½	HP15G2½*	50	10 x 57 (Figure 1)
	3	HP15G3*		
	3½	HP15G3½*		
	4	HP15G4*		
	5	HP15G5*	10	
	2½	HP15G2½CC**	50	10 x 85 (Figure 2)
	3	HP15G3CC**		
	3½	HP15G3½CC**		
	4	HP15G4CC**		
	5	HP15G5CC**	10	

** Standard package: 5 fuses. Bulk package (-B suffix) quantity: 88 fuses. Ordering one (1) -B suffixed Catalog Number will yield 88 fuses.*
*** Standard package: 4 fuses. Bulk package (-B suffix) quantity: 70 fuses. Ordering one (1) -B suffixed Catalog Number will yield 70 fuses.*

DIMENSIONS

SP

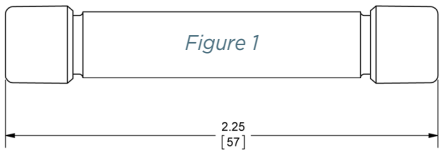
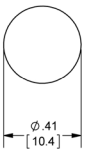


Figure 1



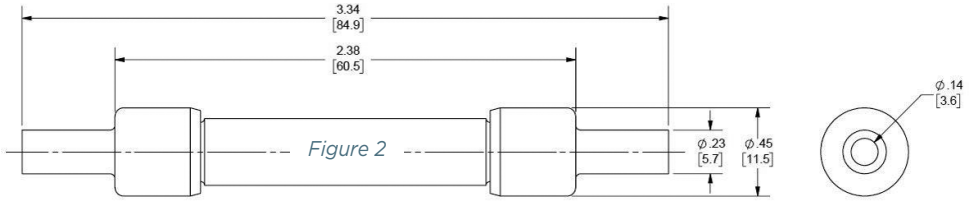


Figure 2

CC terminal (Fig. 2): Recommended crimping tool: T & B Sta-Kon ERG4002 #10 -12 AWG (6-4 mm²)

PV Modular fuse-holder CUS101HEL

FUSE HOLDERS, FUSE BASES AND SUPPORTS

IEC+UL/CSA FUSE HOLDERS

The innovative and comprehensive Modulostar® range of Mersen fuse-holders.

CUS101HEL series are specially designed for the protection of PV systems.

Modular fuse-holders are finger-safe under IEC and UL standards to an IP20 grade of protection, including fuse changing (with the flick of a finger). Modular fuse-holders CUS101HEL are available in 1 pole, with or without visual blown fuse indicator.

Modulostar® range is made of tough and durable thermoplastic material.

They are especially recommended to be used in combination with Mersen fuse-links HP6M and HP10M.

TECHNICAL DATA OVERVIEW

Voltage DC	1000 VDC
Amper (A)	32 A
SCCR	100kA
Mounting	Installation on to DIN rails to EN 60715
Product Size	For cylindrical fuse links 10x38 gPV fuses
Number of Poles	1-pole

FEATURES & BENEFITS

- Modular design
- Compact design for space saving
- DIN rail mounting
- Degree of protection: IP20
- Finger safe
- Easy access to the fuse
- Lockable without accessory
- Sealable in closed & open position
- Optional visual blown fuse indicator
- Plastic material UL94V2 mini
- Flame retardant materials with glow wire flammability index to 960°C
- Very low power dissipation

APPLICATIONS

- All photovoltaic applications up to 1000V
- Combiner box applications
- PV string/array level protection
- Inverters

STANDARDS

- IEC60269-1&2
- UL listed UL4248/19
- CSA Certified
- RoHS, Reach compliant

PV Modular fuse-holder CUS101HEL

PRODUCT RANGE

CUS101HEL

CUS101IHEL

PV Modular fuse-holder CUS101HEL

Catalog number	Item number	Number of poles/ phases	Design	Voltage limit for blown fuse indicator	Package
CUS101HEL	K1062724	1	CUS101HEL single pole	-	12
CUS101IHEL	X1062758	1	CUS101IHEL single pole	220 - 1000V	12

TECHNICAL DATA

	CUS101HEL
Size	10x38
Number of poles/phases	1
Conventional free air thermal current with fuse links I_{th}	32 A
Max. power dissipation of fuse links P_n	3W
Max. power dissipation	4 W
Power dissipation of fuse-holder	0.4 W
Rated insulation voltage U_i	1000 V
Degree of protection	IP 20
Operating temperature	-40°C to 70°C with carrier operation -50°C to 90°C without carrier operation
Storage temperature	-40°C to 70°C
Connection	Max. tightening torque: 2Nm (17.7lbs.-in) Rigid / Multistrand wire = 1-16mm² (16-6AWG) Max.2x6mm² PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)

SPECIFIC USAGE CONDITIONS

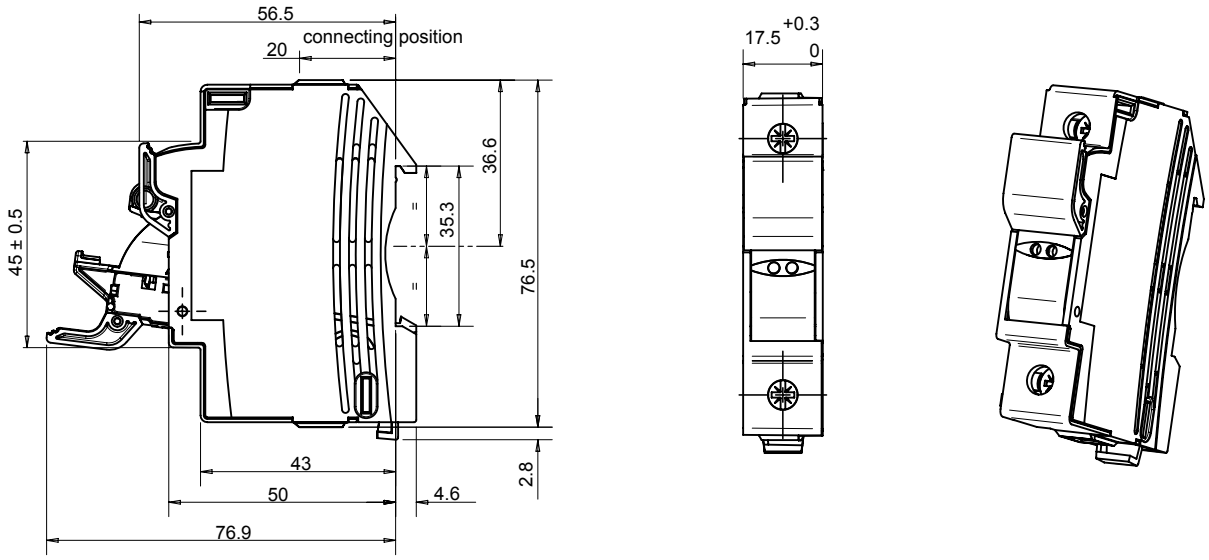
Ambient temperature	-40° to 20°C	30°C	40°C	50°C	60°C	70°C	80°C	90°C
Derating factor (I_e)	1	1	1	0.92	0.83	0.73	0.62	0.48
Humidity	95%	90%	80%	50%	-	-	-	-
Dampness derating	1	0.95	0.90	-	-	-	-	-

No of poles (side by side)	1 to 3	>/= 4
Derating factor of current (I_{th})	1	0.9

PV Modular fuse-holder CUS101HEL

DIMENSIONS

MODULOSTAR® CUSCC fuse-holders for cylindrical fuse-links class 10x38mm



Dimensions in mm

ACCESSORIES

CMS810PAK

Kit for multi phase connection

Catalog number	Item number	Features	Package	Weight
CMS810PAK	Z233725	Links for connection of multipole units	12	0.5 g

LOCK

Locking devices

Catalog number	Item number	Features	Package	Weight
LOCK	M223525	Padlock	1	0.48 kg

PV Modular fuse-holder CUS101HEL

ACCESSORIES

TBB1A

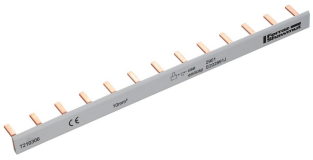
TBB1C

TBB23A

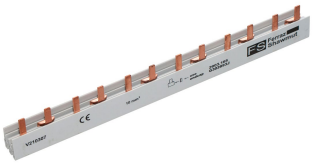
TBB23C

Power supply

Catalog number	Item number	Application	Features	Package	Weight
TBB1A	D210315	Max. rms current 90A	1 phase axial incoming power supply	50	10.1 g
TBB1C	E210316	Max. rms current 90A	1 phase lateral incoming power supply	50	10 g
TBB23A	F210317	Max. rms current 90A	2 & 3 phases axial incoming power supply	50	23.3 g
TBB23C	G210318	Max. rms current 90A	2 & 3 phases lateral incoming power supply	50	23.1 g



CMS810BB1F13



CMS810BB2F6

Wiring bars / Insulated bus bars

Catalog number	Item number	Application	Features	Package	Weight
CMS810BB1F13	T210306	Max. rms current 63A, for installation of 13 modules	single pole, 10 mm², partition 17,5 mm (distance of poles), peg design, L-shaped	10	33.5 g
CMS810BB2F6	V210307	Max. rms current 63A, for installation of 6 modules	double pole, 10 mm², partition 17,5 mm (distance of poles), peg design, L-shaped	10	80 g
CMS810BB3F4	W210308	Max. rms current 100A, for installation of 4 modules	triple pole, 10 mm² partition 17,5 mm (distance of poles), peg design, L-shaped	10	84 g
CMS810BB4F3	X210309	Max. rms current 100A, for installation of 3 modules	quadruple pole, 10 mm², partition 17,5 mm (distance of poles), peg design, L-shaped	10	0.12 kg