

HIGH SPEED FUSES AND SYSTEM PROTECTION


for Photovoltaic Systems and Installations



2019 / 2020 Photovoltaic Portfolio

Ihr Rundumschutz für starke Ströme
All-round protection for strong currents



 HIGH SPEED FUSES
AND SYSTEM PROTECTION



1

ADLER TEAM

P05

ADLER Company Introduction
Mission Statement
ADLER Global Network

2

Product Selection Guides

P07-08

PV-Fuse Selection Guide
Application Example

3

Photovoltaic Fuses and Protection

P06-30

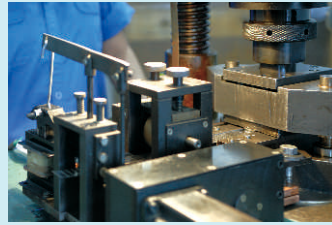
PV Cylindrical Fuse Links
PV NH Type Fuses
DC Surge Protection Devices

4

Photovoltaic System Components

P31-49

PV Fuse Holders and Accessories
DC Isolator Switches
DC Circuit Breakers, MCBs, MCCBs



High Speed Fuses
And System Protection





ADLER-Your All-round Protection for Strong Currents!



ADLER Elektrotechnik Leipzig GmbH has a professional team with wide knowledge, skill and experience to provide both best technical expertise and

customer service at one stop. With know-how from a long-time history of fuse development and distribution we establish ourselves as your contact point for photovoltaic, industrial and electric vehicle fuses and accessories.



Based on our strong foundations and innovative spirit we strive to achieve robust growth. Our diversified and dedicated team of sales people, product technicians and field application engineers supplies top quality products and superior customer support.

Our Products are Designed for Following Applications:

- Photovoltaic midget and medium fuse links (gPV)
- Photovoltaic NH fuses in various sizes (gPV)
- DIN-Rail mount fuse holder cartridges for cylindrical fuses and NH blade type fuse bases
- Photovoltaic system components, combiner boxes and Accessories
- Many types of DC Isolators Switches(up to 63A) & Circuit Breakers up to 630A
- Photovoltaic surge protection devices (SPD)
- Cylindrical fuse links for industrial applications (gG)
- All standard DIN-Rail NH blade fuses for general industrial application (gG)
- Fuse holders for cylindrical fuses, fuse mounts and NH blade type fuse bases
- HV fast acting semiconductor fuses
- Automotive grade EV main fuses for electric vehicles up to 1000VDC
- EV fuses for auxiliary protection for 500VDC and 800VDC up to 50A
- Bolt mounted type Fuses & holders
- Automotive Mini and Midi blade fuses
- Special fuses for battery ESS protection

Across all of our product range, we are proud to offer well established, certified products that have developed a reputation in the market for quality, Reliability and innovation.

As a market leader and pioneer, Adler regularly extends and improves its product portfolio and informs about news on the company website.

We provide our customers with expertise solutions, a high standard of professional services, availability of stock and "easy to deal with" experience.



Our Mission Statement

We add value to our customer's business by supplying sophisticated, high quality electrical products, solutions-focused

expertise, personal service and genuine customer care at highest possible standards in our industry.

ADLER Global Network:

- 📍 ADLER Elektrotechnik Leipzig GmbH (Headquarters)
- 📍 ADLER Regensburg (Engineering)
- 📍 ADLER Elektrotechnik Xi'an Co.,Ltd. (Manufacturing)
- 📍 ADLER Songshan Lake Dongguan (Testing center)

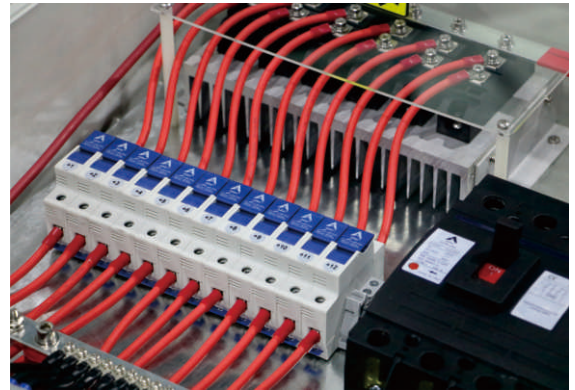




Product Selection Guides

PV – Fuse Selection Guide

- In PV systems consisting of arrays with $N > 4$ module strings fault current can easily exceed the operating current. The current can reach a level that can cause overheating and damage of wire insulation.
- To ensure the best possible protection for the system and people working on the equipment, each string of solar panels MUST be protected with one fuse on each “+” and “-” terminal.
- These fuses will only isolate the fault string. So the rest of the PV system can continuously generate electricity.



When a fault occurs in the DC circuit of the PV system the absence of natural zero crossing makes the interruption of DC fault more difficult than the interruption of AC faults as only the fuse arc will force the current to decrease to zero.

The Network interruption depends on three parameters:

- The value of the DC voltage
- The value of the ratio L/R (time constant) of the fault path
- The value of the fault current

Due to the unique requirement in PV systems of having to clear a very low level fault, it is important to use "Full Range" capability type fuses. This means that the fuse is designed for clearing overloads as well as short circuit faults and requires the use of a fuse with a gPV characteristic.



In order to calculate the best fuse for a general recommendation, the following information is required:

- Number of strings connected in parallel (N)
- $N > 4$: PV system needed Fuse protection
- Number of solar modules connected in series per string (M)
- The ambient temperature

From the solar module specifications:

- Short circuit current of the string “Isc”
- Open circuit voltage U_{oc}
- Conditions: $U_{oc stc}$

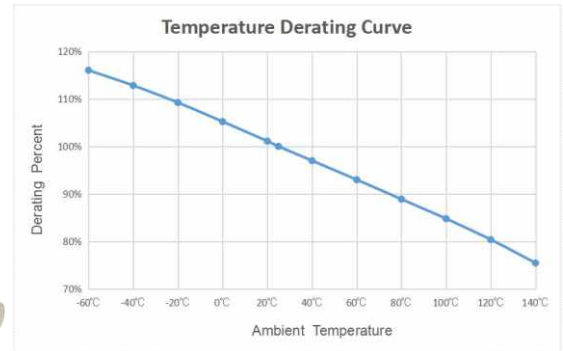


Checklist:

- Taking into account that neither the “+” nor the “-” terminals are connected to ground, each string of modules has to be equipped with two fuses: one fuse for the “Positive” and one for the “Negative” output.
- When the number of Strings(Chains) in parallel(N) is equal to or higher than 4, the first rule has to be applied. (for less than 4 chains in parallel no fuse protection is needed)
- The maximum DC operating voltage of the fuse must be higher than or equal to $1.20 \times M \times (U_{oc stc})$.



In normal operation, fuse links, like thermal devices, are influenced by ambient temperature. The current capability of the PV fuse links shall therefore be derated according to the corresponding correction factor in the PV temperature derating curve.



Calculation method to choose the correct fuse for a PV power system:

Rated Voltage of the Fuse U_n :

The rated voltage of the fuse must be higher than the maximum open-circuit voltage of the PV string. To determine the maximum value, the open-circuit voltage U_{oc} must be adjusted to the lowest possible ambient air temperature of the solar panel. In most cases, the rated voltage can be calculated as follows, taking into consideration the lowest temperature of -25 °C and the corresponding temperature coefficient:

$$U_n \geq 1.2 \times M \times (U_{oc\text{STC}})$$

Rated current of the fuse I_n :

The rated current of the fuse must be higher than the maximum value of the current generated by the solar module.

- I_{sc} is the "Maximum Short circuit current" under short circuit condition solar module can generate.

Rated current of the fuse in in grouping conditions:

For non-STC ambient temperatures, operations under fluctuating current loads and side-by-side mounting of several fuse holders, derating factors must be considered. These factors can be obtained from the datasheets of the fuse links and holders.

- K_T : Fuse-link temperature correction factor (see diagram above)
- K_C Fuse-link derating factor for current variation ($K_C = 0.85$ for PV applications)
- K_G : Grouping factor (see table on the right)



Number of units n	K_G grouping factor
$1 \leq n < 4$	1
$4 \leq n < 7$	0.8
$7 \leq n < 10$	0.7
$10 \leq n$	0.6

This table considers the proximity "heating effect". (If fuse holders are mounted in groups and are operated at nominal load) Depending on the fuse link there is a certain power loss from each fuse which may increase the ambient air temperature around the holder within the equipment enclosure.

The formula is as follows: $I_n \geq I_{sc} / (K_T \times 0.85 \times K_G)$

Installation example:

Number of strings connected in parallel	N=5
Number of solar modules connected in series per string	M=4
Ambient temperature	50 °C

Solar module specifications:

Short circuit current of the string	$I_{sc} = 5.5\text{ A}$
Open circuit voltage under Standard Test Conditions:	$U_{oc\text{STC}} = 44.5\text{ V}$

Determine rated voltage of the fuse:

$$U_n \geq 1.2 \times M \times (U_{oc\text{STC}})$$

$$U_n \geq 1.2 \times 4 \times 44.5 = 213.6\text{ V}$$

Determine rated nominal current of the fuse:

Ambient temperature derating: 50 °C, $K_T = 0.87$ As the fuse holders are grouped in units of five, a grouping factor of $K_G = 0.8$ shall be applied

$$I_n \geq I_{sc} / (K_T \times 0.85 \times K_G) \quad I_n \geq 1.7 \times I_{sc}$$

$$I_n \geq I_{sc} / (0.87 \times 0.85 \times 0.8) \quad I_n \geq 9.35\text{ A}$$

For the protection PV fuse rated current, possible next higher rated current above 9.35A must be chosen. According to common practice, next higher rated current is 10A.

$$I_n = 10\text{ A}$$



adler
AX6 gPV
200A
1500V DC
IR10kA

adler
AX7 gPV
250A
1500V DC
IR10kA

adler
AX8 gPV
400A
1500V DC
IR10kA





A73 gPV 1000 VDC Fuse 10x38 mm



FEATURES:

- 1000 VDC, 10x38 mm PV fuse link
- Rated Current: 1-30 A
- Rated Breaking Capacity: 30 kA
- Time Constant: 1-3 ms
- Special design with silver plated caps for high-power PV applications
- Standard: UL 248-19
- Approval: UL (File: E490190)
- BH100-01, BH100-02 holders for DIN rail mounting

ELECTRICAL SPECIFICATIONS

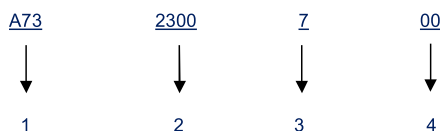
Part Number				Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)		Certifications
Cartridge	Central Mount	Level Mount	PCB Mount				Pre-Arcing	Total at 1000 V	80 % I _n	100 % I _n	UL
A731100700	A731100701	A731100702	A731100703	1 A	1100	30 kA @1000 VDC	0.15	0.4	0.8	1.5	●
A731200700	A731200701	A731200702	A731200703	2 A	1200		1.3	3.4	0.7	1.1	●
A731300700	A731300701	A731300702	A731300703	3 A	1300		4	12	0.8	1.3	●
A731400700	A731400701	A731400702	A731400703	4 A	1400		10	28	1.1	1.4	●
A731500700	A731500701	A731500702	A731500703	5 A	1500		19	50	1.1	1.4	●
A731600700	A731600701	A731600702	A731600703	6 A	1600		32	93	1.2	1.8	●
A731800700	A731800701	A731800702	A731800703	8 A	1800		85	205	1.2	2.2	●
A732100700	A732100701	A732100702	A732100703	10 A	2100		30	70	1.3	2.3	●
A732120700	A732120701	A732120702	A732120703	12 A	2120		98	150	1.5	2.8	●
A732150700	A732150701	A732150702	A732150703	15 A	2150		149	230	1.8	3.0	●
A732200700	A732200701	A732200702	A732200703	20 A	2200		229	330	2.4	3.6	●
A732250700	A732250701	A732250702	A732250703	25 A	2250		411	500	2.6	4.1	●
A732300700	A732300701	A732300702	A732300703	30 A	2300		1200	2500	4.3	5.7	●

Note: (1) DC cold resistance are measured at <10 % of rated current in ambient temperature of 25±5 °C
 (2) Typical pre-arcing I²t measured at 10*I_n current

TIME VS CURRENT CHARACTERISTIC

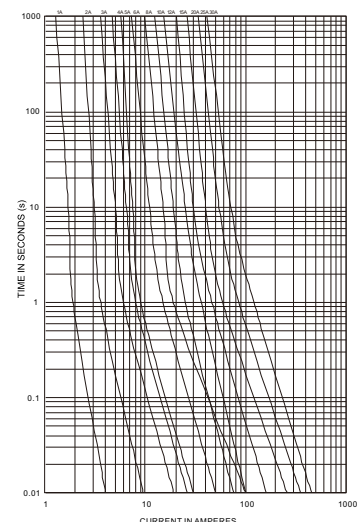
Rated Current	100%	135%	200%
1-30 A	>4 h	< 1 h	< 4 min

PART NUMBER SYSTEM



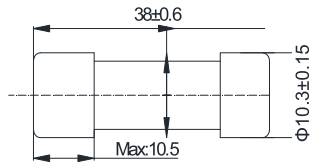
- 1 Product Series A73
- 2 Ampere Code 30 A (see Ampere code column of electrical specifications)
- 3 Rated Voltage 7: 1000V
- 4 Supplementary Code 00: Cartridge; 01: Central Mount;
02: Level Mount; 03: PCB Mount;

TIME CURRENT CURVE(REFERENCE)

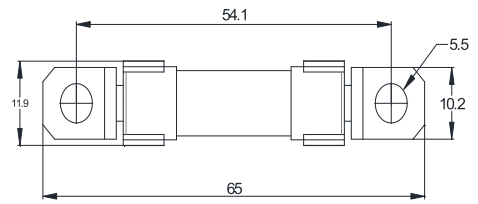
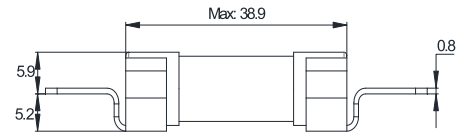


DIMENSIONS (mm)

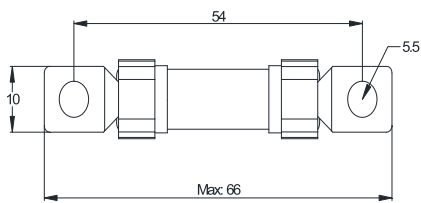
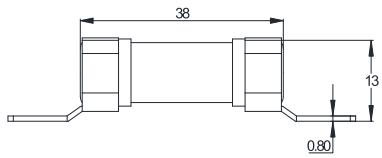
A73xxxx700



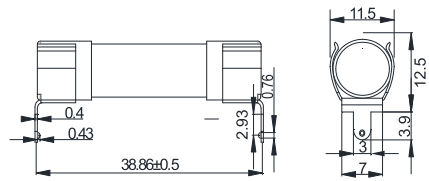
A73xxxx701



A73xxxx702



A73xxxx703



A83 gPV 1100 VDC Fuse 10x38 mm



FEATURES:

- 1100 VDC, 10x38 mm PV fuse link with glass-fiber body
- Rated Current: 1-30 A
- Rated Breaking Capacity: 30 kA at 1100 VDC(1-20 A), 30 kA at 1000 VDC(25-30 A)
- Time Constant: 1-3 ms
- Special design with silver plated caps for high-power PV applications
- Standard: UL 248-19
- Approvals: UL (File: E490190)
- BH100-01, BH100-02 holders for DIN rail mounting

ELECTRICAL SPECIFICATIONS

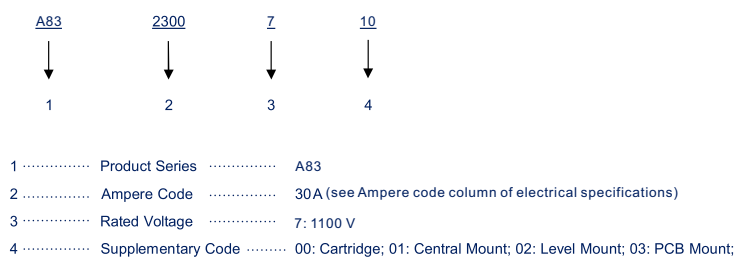
Part Number				Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)		Certifications
Cartridge	Level Mount	Central Mount	PCB Mount				Pre-Arcing	Total at 1000 V	80 % I _n	100 % I _n	UL
A831100710	A831100711	A831100712	A831100713	1 A	1100	30 kA @1100 VDC	20	110	0.1	0.1	●
A831200710	A831200711	A831200712	A831200713	2 A	1200		40	220	0.2	0.3	●
A831300710	A831300711	A831300712	A831300713	3 A	1300		60	330	0.3	0.4	●
A831400710	A831400711	A831400712	A831400713	4 A	1400		80	440	0.4	0.6	●
A831500710	A831500711	A831500712	A831500713	5 A	1500		100	550	0.5	0.7	●
A831600710	A831600711	A831600712	A831600713	6 A	1600		120	660	0.6	0.9	●
A831800710	A831800711	A831800712	A831800713	8 A	1800		160	880	0.9	1.1	●
A832100710	A832100711	A832100712	A832100713	10 A	2100		200	1100	1.1	1.4	●
A832120710	A832120711	A832120712	A832120713	12 A	2120		240	1320	1.3	1.7	●
A832150710	A832150711	A832150712	A832150713	15 A	2150		300	1650	1.6	2.2	●
A832160710	A832160711	A832160712	A832160713	16 A	2160		310	1660	1.6	2.2	●
A832200710	A832200711	A832200712	A832200713	20A	2200		400	2200	2.1	2.9	●
A832250710	A832250711	A832250712	A832250713	25 A	2250		30 kA @1000 VDC	500	2750	2.7	3.6
A832300710	A832300711	A832300712	A832300713	30 A	2300	600		3300	3.2	4.3	●

Note: (1) DC cold resistances are measured at <10 % of rated current in ambient temperature of 25±5 °C
 (2) Typical pre-arcing I²t measured at 10*I_n current

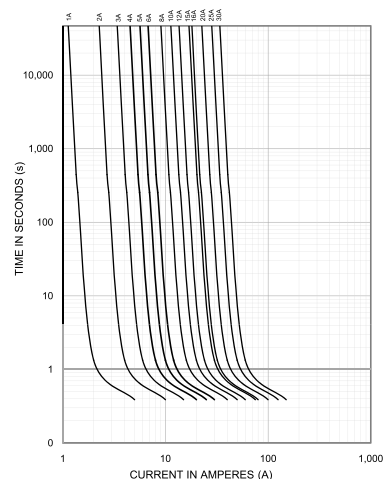
TIME VS CURRENT CHARACTERISTIC

Rated Current	100%	135%	200%
1-30 A	>4 h	< 1 h	< 4 min

PART NUMBER SYSTEM

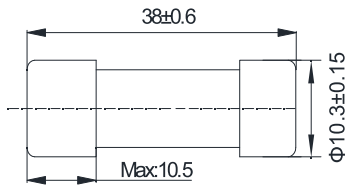


TIME CURRENT CURVE(REFERENCE)

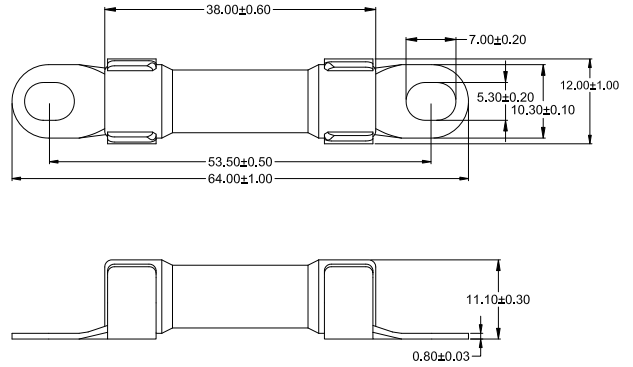


DIMENSIONS (mm)

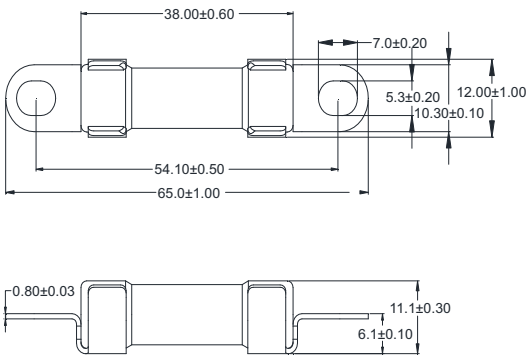
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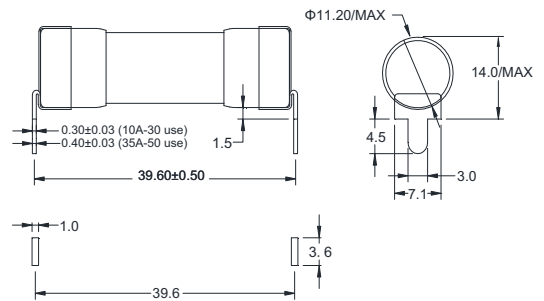
A83xxxx701



A83xxxx702



A83xxxx703



A74 gPV 1500 VDC Fuse 14x51mm



FEATURES:

- 1500 VDC, 14x51 mm PV fuse link
- Rated Current: 4-30 A
- Rated Breaking Capacity: 10 kA
- Time Constant: ≤ 1 ms
- Special design with silver plated caps for high-power PV applications
- Standard: UL 248-19
- Approval: UL (File: E490190)
- BH200, BH201 holders for DIN rail mounting

ELECTRICAL SPECIFICATIONS

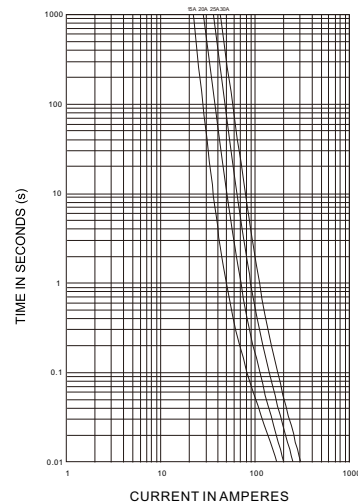
Part Number	Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)			Certifications	
				Pre-Arcing	Total at 1500 V	70 % I _n	80 % I _n	100 % I _n		UL
A741400b00	A741400b01	4 A	1400	10 kA@1500 VDC	8	60	0.9	1.25	2.2	●
A742150b00	A742150b01	15 A	2150		310	900	1.6	2.3	3.9	●
A742200b00	A742200b01	20 A	2200		200	340	2.4	3.5	6.1	●
A742250b00	A742250b01	25 A	2250		295	400	2.75	3.8	7.0	●
A742300b00	A742300b01	30 A	2300		380	450	2.95	3.85	7.3	●

Note: (1) DC cold resistance are measured at <10 % of rated current in ambient temperature of 25±5°C
 (2) Typical pre-arcing I²t measured at 10*I_n current

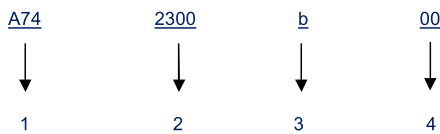
TIME VS CURRENT CHARACTERISTIC

Rated Current	100%	135%	200%
4-30 A	>4 h	<1 h	<4 min

TIME CURRENT CURVE(REFERENCE)

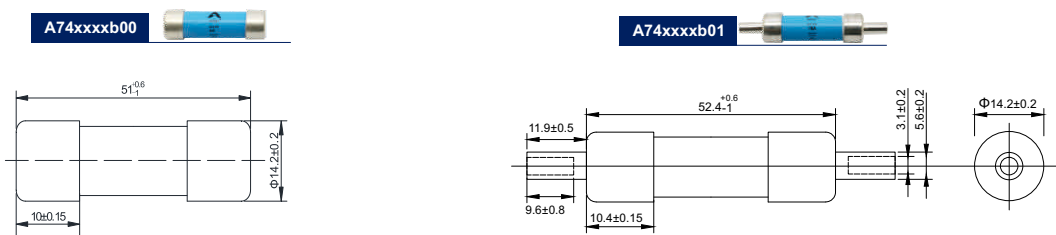


PART NUMBER SYSTEM



- 1 ProductSeries A74
- 2 Ampere Code 30 A (see Ampere code column of electrical specifications)
- 3 Rated Voltage b: 1500 V
- 4 Supplementary Code 00: Cylindrical; 01: In-Line Terminal

DIMENSIONS (mm)



A84 gPV 1500 VDC Fuse 14x51 mm



FEATURES:

- 1500 VDC, 14x51 mm PV fuse link with glass-fiber body
- Rated Current: 1-32 A (regular use)
1-50 A (single mount inline fuse)
- Breaking Capacity: 10 kA at 1500 VDC
- Time Constant: 1-3 ms
- Special design with silver plated caps for high-power PV applications
- Standard: UL 248-19
- Approvals: UL (File: E490190)

ELECTRICAL SPECIFICATIONS

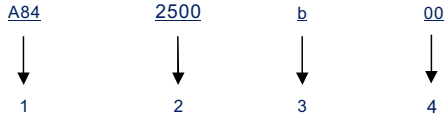
Part Number		Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)		Certifications
Cartridge	In-Line				Pre-Arcing	Total	0.8 I _n	1.0 I _n	UL
A841100b00	A841100b11	1 A	1100	10 kA@1500 VDC	20	110	0.1	0.1	●
A841200b00	A841200b11	2 A	1200		40	220	0.2	0.3	●
A841300b00	A841300b11	3 A	1300		60	330	0.3	0.4	●
A841400b00	A841400b11	4 A	1400		80	440	0.4	0.6	●
A841500b00	A841500b11	5 A	1500		100	550	0.5	0.7	●
A841600b00	A841600b11	6 A	1600		120	660	0.6	0.9	●
A841800b00	A841800b11	8 A	1800		160	880	0.9	1.1	●
A842100b00	A842100b11	10 A	2100		200	1100	1.1	1.4	●
A842120b00	A842120b11	12 A	2120		240	1320	1.3	1.7	●
A842150b00	A842150b11	15 A	2150		300	1650	1.6	2.2	●
A842160b00	A842160b11	16 A	2160		320	1760	1.7	2.4	●
A842200b00	A842200b11	20 A	2200		400	2200	2.1	2.9	●
A842250b00	A842250b11	25 A	2250		500	2750	2.7	3.6	●
A842300b00	A842300b11	30 A	2300		600	3300	3.2	4.3	●
A842320b00	A842320b11	32 A	2320		640	3520	3.4	4.6	●
-	A842350b11	35 A	2350		700	3850	3.7	5	●
-	A842400b11	40 A	2400		800	4400	4.3	5.7	●
-	A842450b11	45 A	2450		900	4950	4.8	6.5	●
-	A842500b11	50 A	2500		1000	5500	5.3	7.2	●

Note: (1) Typical pre-arcing I²t measured at 10*I_n current

TIME VS CURRENT CHARACTERISTIC

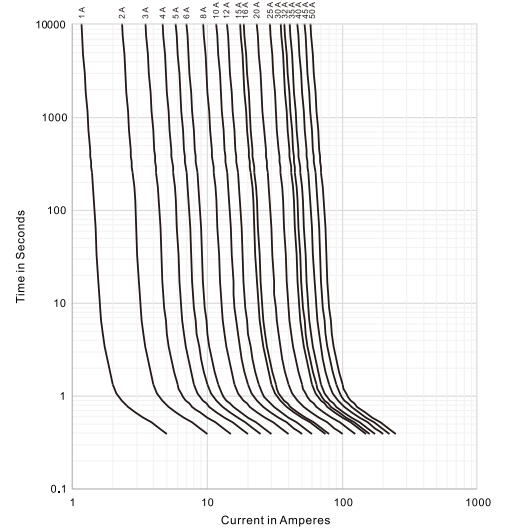
Rated Current	100%	135%	200%
1-50 A	>4 h	< 1 h	< 4 min

PART NUMBER SYSTEM



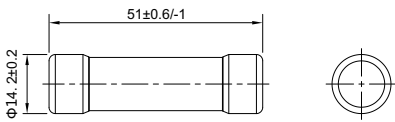
- 1..... Product Series A84
- 2..... Ampere Code 50 A (see Ampere code column of electrical specifications)
- 3..... Rated Voltage b: 1500 V
- 4..... Supplementary Code 00: Cartridge; 11: In-Line

TIME CURRENT CURVE(REFERENCE)

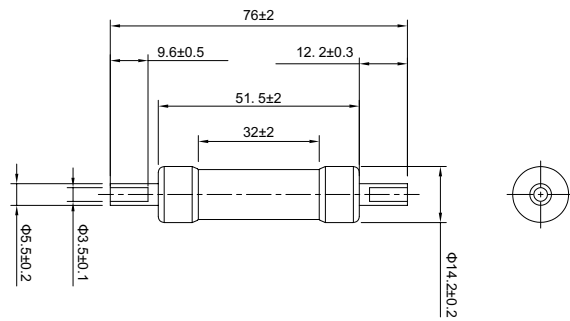


DIMENSIONS (mm)

A84xxxxb00



A84xxxxb01-b04



A75 / A78 qPV 1500 VDC Fuse 10x85 mm



FEATURES:

- 1500 VDC, 10x85 mm PV fuse link
- Rated Current: 2-32 A
- Rated Breaking Capacity: 30 kA at 1500 VDC
- Time Constant: ≤ 1 ms
- Special design with silver plated caps for high-power PV applications
- Standard: UL 248-19
- Approval: UL (File: E490190)
- BH300 Holder for DIN rail mounting

ELECTRICAL SPECIFICATIONS

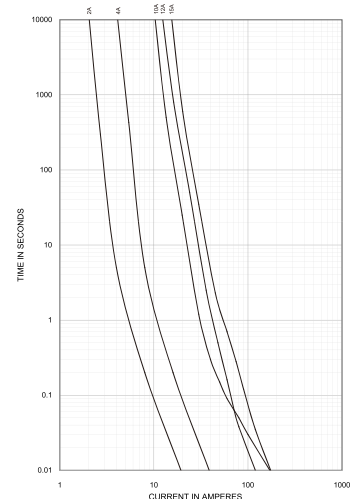
Part Number		Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)		Certifications
Cartridge	In-Line				Pre-Arcing	Total	0.8 I _n	1.0 I _n	UL
A751200b00	A781200b00	2 A	1200	30 kA@1500 VDC	3.5	10	1.45	2.6	•
A751400b00	A781400b00	4 A	1400		15	50	1.55	2.8	•
A752100b00	A782100b00	10 A	2100		300	1100	2.3	4.2	•
A752120b00	A782120b00	12 A	2120		20	60	2.4	4.2	•
A752150b00	A782150b00	15 A	2150		35	95	2.8	5.0	•
A752300b00	-	30 A	2300		241	1950	4.5	7.5	○
A752320b00	-	32 A	2320		283	2190	4.9	8.5	○

Note: (1) Typical pre-arcing I²t measured at 10*I_n current

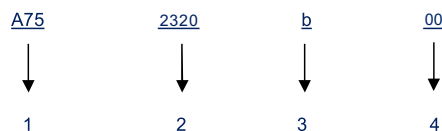
TIME VS CURRENT CHARACTERISTIC

Rated Current	100%	135%	200%
2-32 A	>4 h	< 1 h	< 4 min

TIME CURRENT CURVE(REFERENCE)

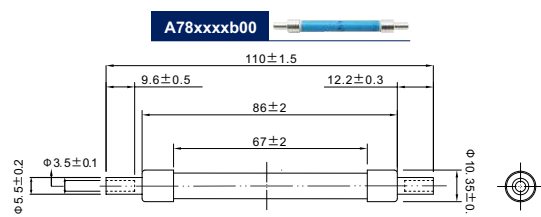
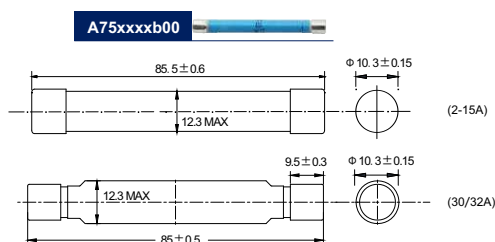


PART NUMBER SYSTEM



- 1 Product Series A75
- 2 Ampere Code 32 A (see Ampere code column of electrical specifications)
- 3 Rated Voltage b: 1500V
- 4 Supplementary Code 00: Cartridge

DIMENSIONS (mm)



A85 gPV 1500 VDC Fuse 10x85 mm



FEATURES:

- 1500 VDC, 10x85 mm PV fuse link with glass-fiber body
- Rated Current: 1-30 A
- Rated Breaking Capacity: 30 kA
- Time Constant: 1-3 ms
- Special design with silver plated caps for high-power PV applications
- Standard: UL 248-19
- Approvals: UL (File: E490190)

ELECTRICAL SPECIFICATIONS

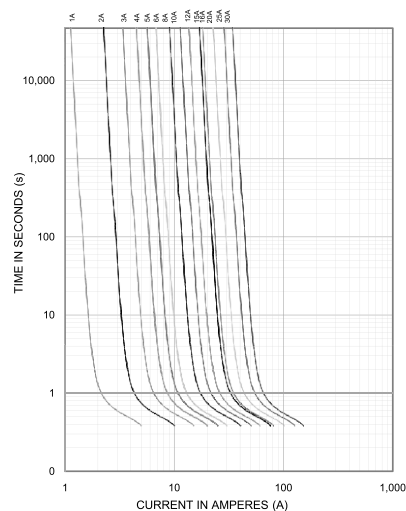
Part Number		Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)		Certifications
Cartridge	In-Line				Pre-Arcing	Total	0.8 I _n	1.0 I _n	UL
A851100b00	A851100b11	1 A	1100	30 kA@1500 VDC	59.15	125	0.4	0.7	●
A851200b00	A851200b11	2 A	1200		118.3	250	0.7	1.3	●
A851300b00	A851300b11	3 A	1300		177.5	375	0.8	1.4	●
A851400b00	A851400b11	4 A	1400		236.7	500	1.2	1.5	●
A851500b00	A851500b11	5 A	1500		295.8	625	1.3	1.6	●
A851600b00	A851600b11	6 A	1600		355.0	750	1.5	3.1	●
A851800b00	A851800b11	8 A	1800		473.3	1000	1.5	3.1	●
A852100b00	A852100b11	10 A	2100		591.7	1250	1.6	3.2	●
A852120b00	A852120b11	12 A	2120		710.0	1500	3.1	5.3	●
A852150b00	A852150b11	15 A	2150		887.5	1875	3.1	5.3	●
A852160b00	A852160b11	16 A	2160		946.4	2000	5.6	10.4	●
A852200b00	A852200b11	20 A	2200		710.0	1500	3.2	5.5	●
A852250b00	A852250b11	25 A	2250		887.5	1875	3.3	5.6	●
A852300b00	A852300b11	30 A	2300		1183.3	2500	3.6	6.0	●

Note: (1) Typical pre-arcing I²t measured at 10*I_n current

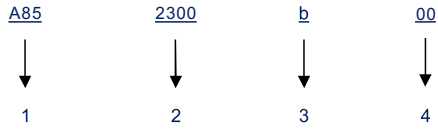
TIME VS CURRENT CHARACTERISTIC

Rated Current	100%	135%	200%
1-30 A	>4 h	< 1 h	< 4 min

TIME CURRENT CURVE(REFERENCE)

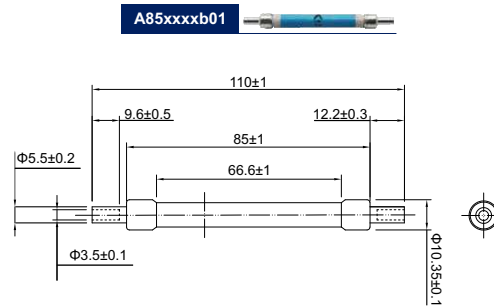
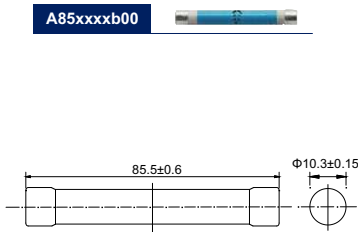


PART NUMBER SYSTEM



- 1 ProductSeries A85
- 2 Ampere Code 30 A (see Ampere code column of electrical specifications)
- 3 Rated Voltage b: 1500V
- 4 Supplementary Code 00: Cartridge; 11: In-Line

DIMENSIONS (mm)



A76 / A79 gPV 1500 VDC Fuse



FEATURES:

- 1500 VDC, 10x57 mm PV fuse link
- Rated Current: 2.5-6A
- Rated Breaking Capacity: 10 kA at 1500 VDC, 20 kA at 1500 VDC (Adler Lab Tested)
- Time Constant: ≤ 1 ms
- Special design with silver plated caps for high-power PV applications
- Standard: UL 248-19
- Approval: UL (File: E490190)

ELECTRICAL SPECIFICATIONS

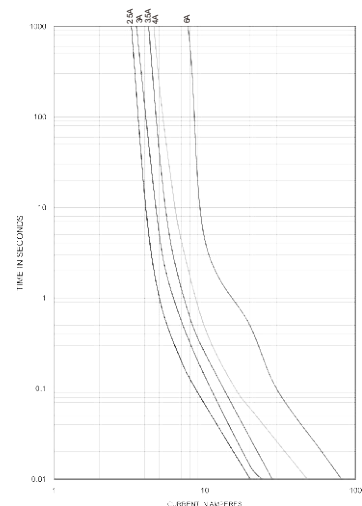
Part Number		Rated Current	Ampere Code	Breaking Capacity	Nom Cold Resistance (m Ω)	I ² t (A ² s)		Dissipation (W) 1.0 I _n	Certifications UL
Cartridge	In-Line					Pre-Arcing	Total		
A761250b00	A791250b00	2.5 A	1250	10 kA@1500 VDC 20 kA@1500VDC (Adler Lab Tested)	186	3	15	2.1	●
A761300b00	A791300b00	3.0 A	1300		140	5	21	2.1	●
A761400b00	A791400b00	4.0 A	1400		85.5	18	68	1.85	●
A761600b00	A791600b00	6.0 A	1600		40	60	200	2.1	●

Note: (1) Typical pre-arcing I²t measured at 10*I_n current

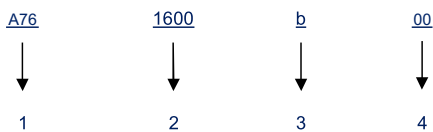
TIME VS CURRENT CHARACTERISTICS

Rated Current	100%	135%	200%
2.5-6 A	>4 h	< 1 h	< 4min

TIME CURRENT CURVE(REFERENCE)

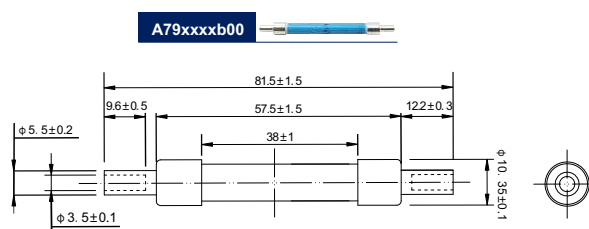
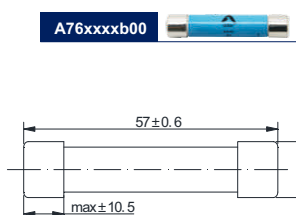


PART NUMBER SYSTEM



- 1 ProductSeries A76
- 2 Ampere Code 6 A (see Ampere code column of electrical specifications)
- 3 Rated Voltage b: 1500 V
- 4 Supplementary Code 00: Cartridge

DIMENSIONS (mm)



A89 gPV 1500 VDC Fuse 10x57 mm



FEATURES:

- 1500 VDC, 10x57 mm PV fuse link with glass-fiber body
- Rated Current: 1-20 A
- Rated Breaking Capacity: 30 kA at 1500 VDC
- Time Constant: ≤1 ms
- Special design with silver plated caps for high-power PV applications
- Standard: UL 248-19
- Approval: UL (File: E490190)

ELECTRICAL SPECIFICATIONS

Part Number	Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)	Certifications
				Pre-Arcing	Total	1.0 I _n	UL
A891100b00	1 A	1100	30 kA@1500 VDC	10	33.3	0.4	●
A891200b00	2 A	1200		20	66.7	0.7	●
A891300b00	3 A	1300		30	100.0	1.1	●
A891400b00	4 A	1400		40	133.3	1.4	●
A891500b00	5 A	1500		50	166.7	1.8	●
A891600b00	6 A	1600		60	200.0	2.1	●
A891800b00	8 A	1800		80	266.7	2.8	●
A892100b00	10 A	2100		100	333.3	3.5	●
A892120b00	12 A	2120		120	400.0	4.2	●
A892150b00	15 A	2150		150	500.0	5.3	●
A892160b00	16 A	2160		160	533.3	5.6	●
A892200b00	20 A	2200		200	666.7	7.0	●

Note: (1) Typical pre-arcing I²t measured at 10*I_n current

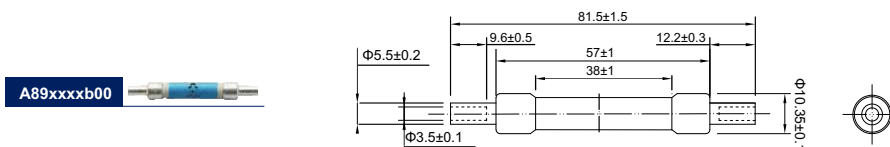
TIME VS CURRENT CHARACTERISTICS

Rated Current	100%	135%	200%
1-20 A	>4 h	<1 h	<4 min

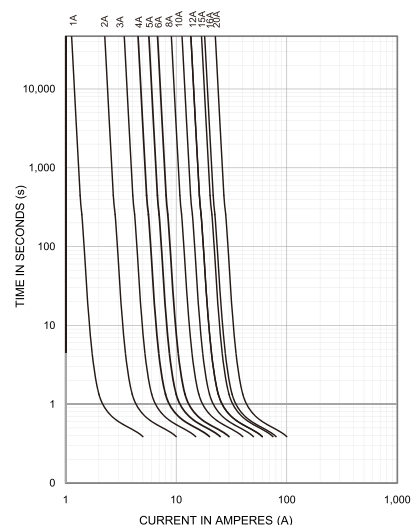
PART NUMBER SYSTEM

<u>A89</u>	<u>2200</u>	<u>b</u>	<u>00</u>
↓	↓	↓	↓
1	2	3	4
1	ProductSeries	A89	
2	Ampere Code	20 A (see Ampere code column of electrical specifications)	
3	Rated Voltage	b: 1500 V	
4	Supplementary Code	00: In-Line	

DIMENSIONS (mm)



TIME CURRENT CURVE(REFERENCE)



A94 gPV 1500 VDC Fuse 22x58 mm



FEATURES:

- 1500 VDC, 22x58 mm PV fuse link with glass-fiber body
- Rated Current: 1-80 A
- Breaking Capacity: 10 kA at 1500 VDC (1-65 A)
- 10 kA at 1300 VDC (70 A, 80 A)
- Time Constant: 1-3 ms
- Special design with silver plated caps for high-power PV applications
- Standards: UL 248-19; IEC 60269-6
- Approvals: UL (File: E490190)
- BH400, BH401 holders for DIN rail mounting

ELECTRICAL SPECIFICATIONS

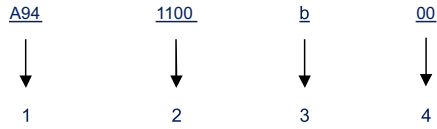
Part Number			Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)		Certifications
Cartridge	Central Mount	Level Mount				Pre-Arcing	Total	0.8 In	1.0 In	UL
A941100b00	A941100b01	A941100b02	1 A	1100	10 kA@1500 VDC	20	110	0.2	0.3	•
A941200b00	A941200b01	A941200b02	2 A	1200		40	220	0.5	0.6	•
A941300b00	A941300b01	A941300b02	3 A	1300		60	330	0.5	0.6	•
A941400b00	A941400b01	A941400b02	4 A	1400		80	440	0.7	0.8	•
A941500b00	A941500b01	A941500b02	5 A	1500		100	550	0.7	0.8	•
A941600b00	A941600b01	A941600b02	6 A	1600		120	660	1.2	1.5	•
A941800b00	A941800b01	A941800b02	8 A	1800		160	880	1.2	1.5	•
A942100b00	A942100b01	A942100b02	10 A	2100		200	1100	1.5	1.9	•
A942120b00	A942120b01	A942120b02	12 A	2120		240	1320	2.0	2.5	•
A942150b00	A942150b01	A942150b02	15 A	2150		300	1650	2.9	3.6	•
A942160b00	A942160b01	A942160b02	16 A	2160		320	1760	3.9	4.8	•
A942200b00	A942200b01	A942200b02	20 A	2200		400	2200	4.2	5.2	•
A942250b00	A942250b01	A942250b02	25 A	2250		500	2750	5.1	6.3	•
A942300b00	A942300b01	A942300b02	30 A	2300		600	3300	5.1	6.3	•
A942320b00	A942320b01	A942320b02	32 A	2320		640	3520	6.0	7.5	•
A942350b00	A942350b01	A942350b02	35 A	2350		700	3850	6.0	7.5	•
A942400b00	A942400b01	A942400b02	40 A	2400		800	4400	7.2	9.0	•
A942450b00	A942450b01	A942450b02	45 A	2450		900	4950	7.2	9.0	•
A942500b00	A942500b01	A942500b02	50 A	2500		1000	5500	7.2	9.0	•
A942550b00	A942550b01	A942550b02	55 A	2550		1100	6050	8.0	10.0	•
A942600b00	A942600b01	A942600b02	60 A	2600		1200	6600	8.0	10.0	•
A942650b00	A942650b01	A942650b02	65 A	2650		1300	7150	9.5	12.0	•
A942700b00	A942700b01	A942700b02	70 A	2700		1400	7700	9.5	12.0	•
A942800b00	A942800b01	A942800b02	80 A	2800		1600	8800	9.5	12.0	•

Note: (1) Typical pre-arcing I²t measured at 10*I_n current.

TIME VS CURRENT CHARACTERISTIC

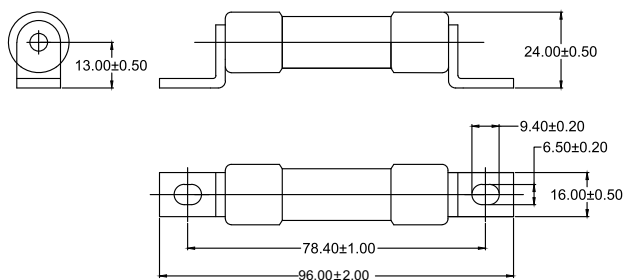
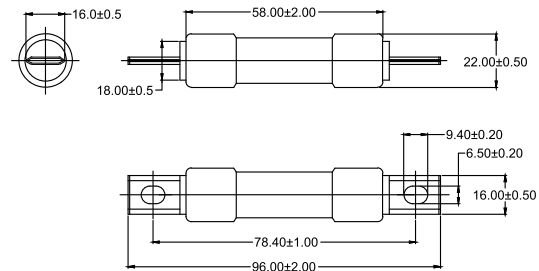
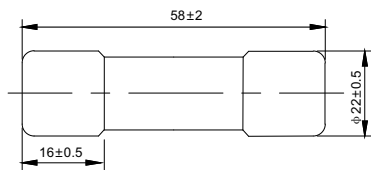
Standard	UL		IEC	
	135%	200%	113%	145%
1-80 A	< 1 h	< 4 min	> 1 h	< 1 h

PART NUMBER SYSTEM

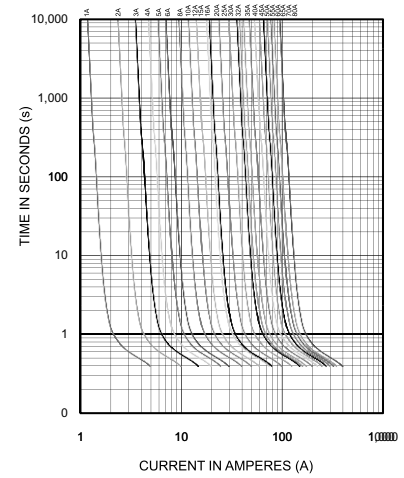


- 1 ProductSeries A94
- 2 Ampere Code 1 A (see Ampere code column of electrical specifications)
- 3 Rated Voltage b: 1500 VDC / 1300 VDC
- 4 Supplementary Code 00: Cartridge; 01: Central Mount; 02: Level Mount

DIMENSIONS (mm)



Time Current Curve (reference)



AX6 gPV 1000/1500VDC Fuse



FEATURES:

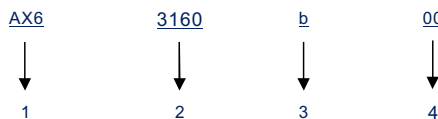
- 1000 / 1500 VDC, PV fuse link
- Rated Current: 100-160 A
- Rated Breaking Capacity: 10 kA
- Time Constant: 1-3 ms
- Standard: Ref. to UL 248-19
- Approval: UL (pending)
- BH1XL Fuse base

ELECTRICAL SPECIFICATIONS

Part Number	Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)		Certifications
				Pre-Arcing	Total	80% I _n	100% I _n	UL
AS63100700	100 A	3100	10 kA@1000 VDC	1195	4374	15	27.2	●
AS63125700	125 A	3125		1696	7960	16	30	●
AS63160700	160 A	3160		3052	18723	20	36	●
AS63160700	200A	3200		3530	21844	40	54	●
AX63100b00	100 A	3100	10 kA@1500 VDC	1494	5468	18	34	●
AX63125b00	125 A	3125		2120	9950	20	37	●
AX63160b00	160 A	3160		3340	23404	25	45	●
AX63200b00	200 A	3200		5480	24800	39	55	●

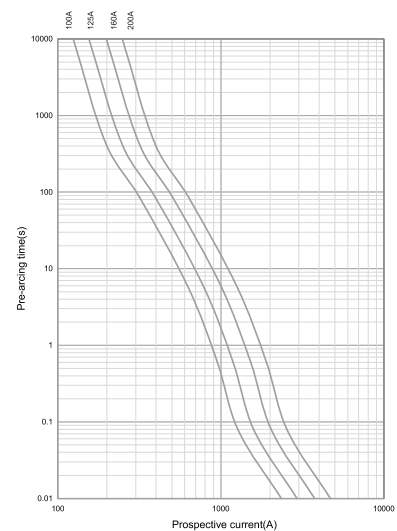
Note: (1) DC cold resistances are measured at <10% of rated current in ambient temperature of 20±5 °C

PART NUMBER SYSTEM

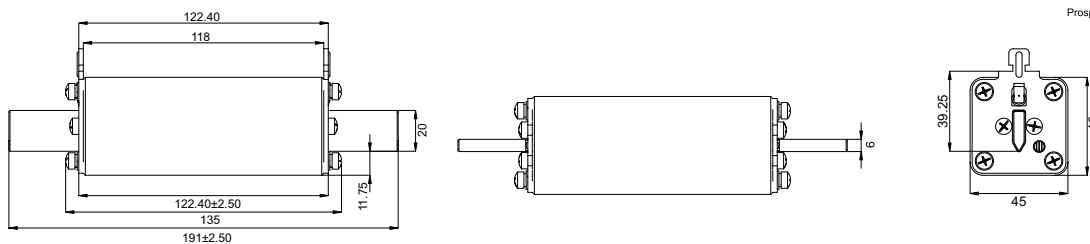


- | | | |
|--------|--------------------------|---|
| 1..... | Product Series | AX6 |
| 2..... | Ampere Code | 160 A (see ampere code column of electrical specifications) |
| 3..... | Rated Voltage | 7: 1000 V; b: 1500 V |
| 4..... | Supplementary Code | 00: default size |

Time Current Curve (reference)



DIMENSIONS (mm)



AX7 gPV 1000/1500VDC Fuse

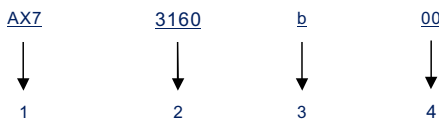

FEATURES:

- 1000 / 1500 VDC, PV fuse link
- Rated Current: 125-250 A
- Rated Breaking Capacity: 10 kA
- Time Constant: 1-3 ms
- Standard: Ref. to UL 248-19
- Approval: UL(pending)
- BH03L Fuse base

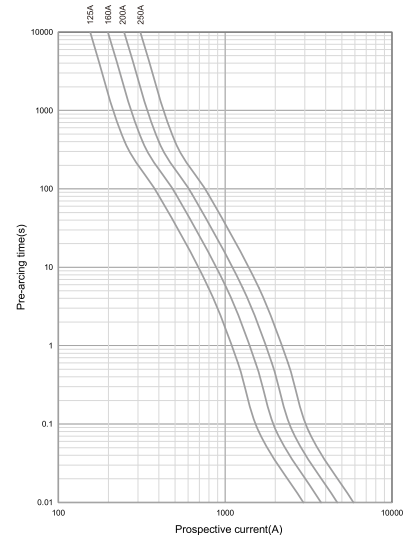
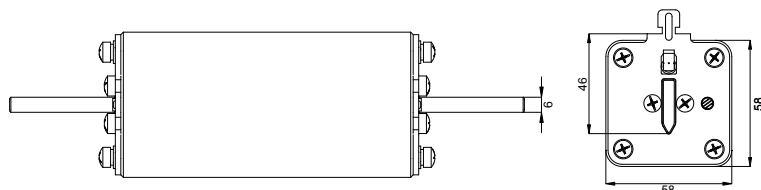
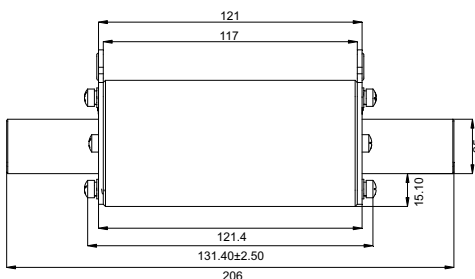
ELECTRICAL SPECIFICATIONS

Part Number	Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)		Certifications
				Pre-Arcing	Total	80% I _n	100% I _n	UL
AX73125700	125 A	3125	10 kA@1000 VDC	1975.2	12516	18.4	32.8	●
AX73160700	160 A	3160		3333.6	20985.6	22.4	38.4	●
AX73200700	200 A	3200		7986.4	48375.2	25.6	45.6	●
AX73250700	250 A	3250		1975.2	12516	18.4	32.8	●
AX73125b00	125 A	3125	10 kA@1500 VDC	2469	15645	23	41	●
AX73160b00	160 A	3160		4167	26232	28	48	●
AX73200b00	200 A	3200		9983	60469	32	57	●
AX73250b00	250 A	3250		18078	101563	39	68	●

Note: DC cold resistances are measured at <10% of rated current in ambient temperature of 20±5 °C

PART NUMBER SYSTEM


- 1..... Product Series AX7
- 2..... Ampere Code 160 A (see ampere code column of electrical specifications)
- 3..... Rated Voltage 7:1000 V; b: 1500 V
- 4..... Supplementary Code 00: default

Time Current Curve (reference)

DIMENSIONS (mm)


AX8 gPV 1000/1500VDC Fuse



FEATURES:

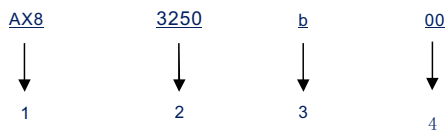
- 1000 / 1500 VDC, PV fuse link
- Rated Current: 250-400 A
- Rated Breaking Capacity: 10 kA
- Time Constant: 1-3 ms
- Standard: Ref. to UL 248-19
- Approval: UL (pending)
- BH03L Fuse base

ELECTRICAL SPECIFICATIONS

Part Number	Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)		Certifications
				Pre-Arcing	Total	80% I _n	100% I _n	UL
AX83250700	250A	3250	10 kA@1000 VDC	14432.8	81143.2	28	52.8	○
AX83315700	315A	3315		33245.6	133088	33.6	62.4	○
AX83355700	355A	3355		32942.4	145278.4	35.2	68	○
AX83400700	400A	3400		14432.8	81143.2	28	52.8	○
AX83250b00	250A	3250	10 kA@1500 VDC	18041	101429	35	66	○
AX83315b00	315A	3315		41557	166360	42	78	○
AX83355b00	355A	3355		41178	181598	44	85	○
AX83400b00	400A	3400		53391	247188	46	88	○

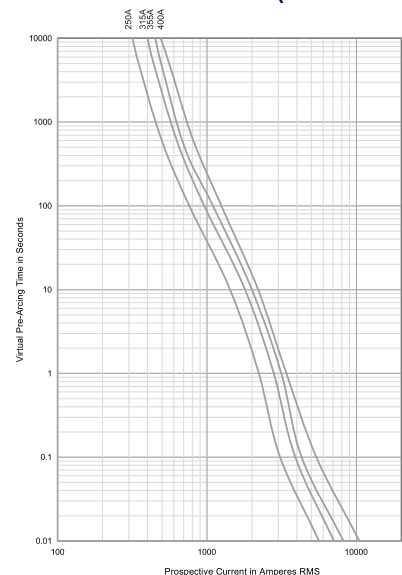
Note: DC cold resistances are measured at <10% of rated current in ambient temperature of 20±5 °C

PART NUMBER SYSTEM

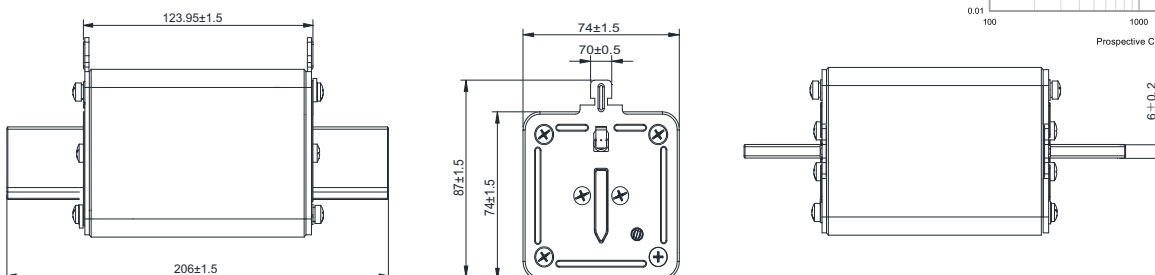


- 1 Product Series AX8
- 2 Ampere Code 250 A (see ampere code column of electrical specifications)
- 3 Rated Voltage 7:1000 V; b: 1500 V
- 4 Supplementary Code 00: default size

Time Current Curve (reference)



DIMENSIONS (mm)



ASPD 1000VDC PV Surge Protection Device



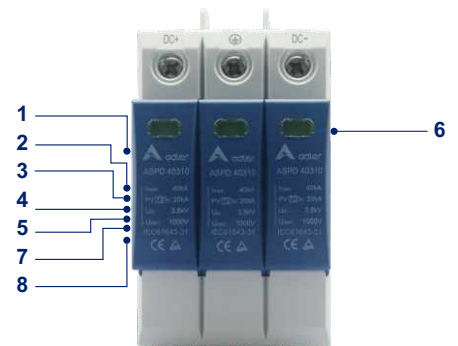
FEATURES:

- Type 2 DC power surge protector for PV systems
- Integrated status indicator window
- Pre wired complete modular unit (consists of base unit and replaceable protection modules)
- Maintenance-free, easily replaceable protection modules
- High energy MOV's response time less than 25 Nano-seconds
- Optional remote signal contacts for monitoring device (floating changeover contacts FM can be installed)
- DIN Rail mounting TH35- 7.5 / DIN35
- Compatible with IEC 61643-31

PRODUCT SPECIFICATIONS

ASPD PV DC Surge Protection Device		
Poles		3
Standard		IEC 61643-31
Electrical Characteristics		
Category IEC / EN		Type 2
Max Continuous Operational Voltage	U_{CPV}	1000 VDC
Nominal Discharge Current	$I_n(8/20)\mu s$	20 kA
Maximum Discharge Current	$I_{max}(8/20)\mu s$	40 kA
Voltage Protection Level Up	U_p	≤ 3.8 kV
Response Time		≤ 25 ns
Control and Indication		
Operating State/fault Indication		Green/Red
Replaceable Plug in type Protection Module		■
Remote Signalling Max. Working Voltage(V)		30 VDC
Contact (Optional) Max. Working Current		1 A
Connection And Installation		
Wire	Hard cable mm ²	4-25
	Flexible cable mm ²	4-16
Terminal Screws		M5
Torque(Nm)	Main Circuit	2.5
	Remote Contact	0.25
Degree of Protection		IP20
Installation Environment		
Operating Temperature Range (TU)		-40°C to +80°C
For Mounting on		TH35-7.5/DIN35
Relative Humidity		30% to 90%
Weight kg		0.36

PRODUCT ARCHITECTURE

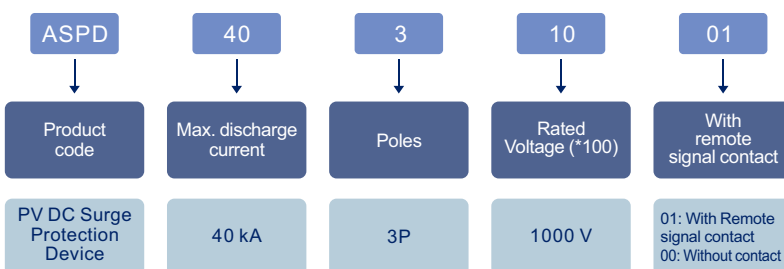


- 1 Brand
- 2 Max. Discharge Current I_{max}
- 3 Nominal Discharge Current I_n
- 4 Voltage Protection Level U_p
- 5 Max. Continuous Operating Voltage U_{cpv}
- 6 Indicator
- 7 Standard Code
- 8 Certificate Symbol

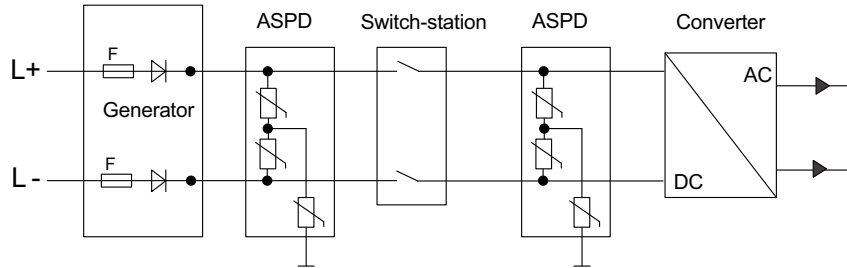
APPLICATION

ADLER's ASPD Series PV DC Surge Protection Devices are designed and manufactured complying to PV standard IEC 61643-31. It is widely used in PV DC combiner boxes, inverters, controllers and DC cabinets. With a rated voltage of 1000 VDC and a maximum discharge current of 40 kA, the integrated high-energy varistor provides highly effective protection against lightning and surge voltages.

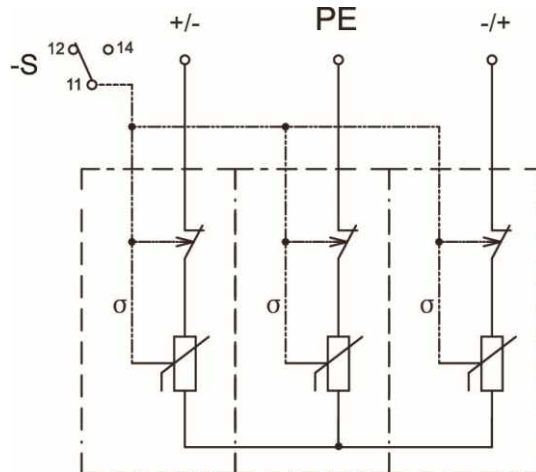
MODEL NUMBERING DEFINITIONS



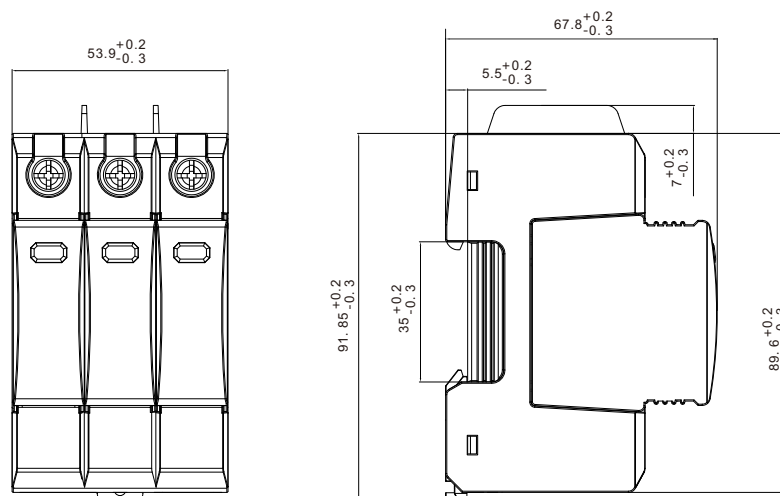
CONNECTION DIAGRAM



ELECTRICAL PRINCIPLE



DIMENSIONS (mm)



ASPD 1500VDC PV Surge Protection Device



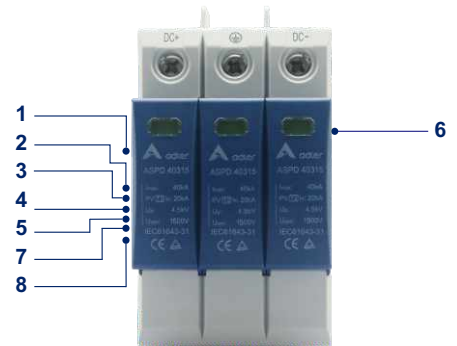
FEATURES:

- Type 2 DC power surge protector for PV systems
- Integrated status indicator window
- Pre wired complete modular unit (consists of base unit and replaceable protection modules)
- Maintenance-free, easily replaceable protection modules
- High energy MOV's response time less than 25 Nano-seconds
- Optional remote signal contacts for monitoring device (floating changeover contacts FM can be installed)
- DIN Rail mounting TH35- 7.5 / DIN35
- Compatible with IEC 61643-31

PRODUCT SPECIFICATIONS

ASPD PV DC Surge Protection Device		
Poles		3
Standard		IEC 61643-31
Electrical Characteristics		
Maximum operational continuous voltage	U_{CPV}	1500 VDC
Nominal Discharge Current	$I_n(8/20)\mu s$	20 kA
Maximum Discharge Current	$I_{max}(8/20)\mu s$	40 kA
Voltage Protection Level Up	U_p	≤ 4.5 kV
Response Time		≤ 25 ns
Thermal Protection Function		Yes
Remote Signal Output Function		Yes
Mode of Protection		+/-PE, -/PE, +/-
Connection And Installation		
Wire	Hard cable mm ²	4-25
	Flexible cable mm ²	4-16
Terminal Screws		M5
Torque(Nm)	Main Circuit	2.5
	Remote Contact	0.25
Degree of Protection		IP20
Installation Environment		
Operating Temperature		-40°C to +80°C
Humidity		5% to 95%
Air Pressure		70 - 106 KPA

PRODUCT ARCHITECTURE

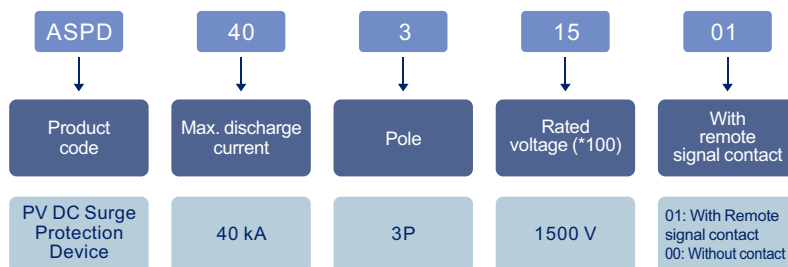


- 1 Brand
- 2 Max. Discharge Current I_{max}
- 3 Nominal Discharge Current I_n
- 4 Voltage Protection Level U_p
- 5 Max. Continuous Operating Voltage U_{CPV}
- 6 Indicator
- 7 Standard Code
- 8 Certificate Symbol

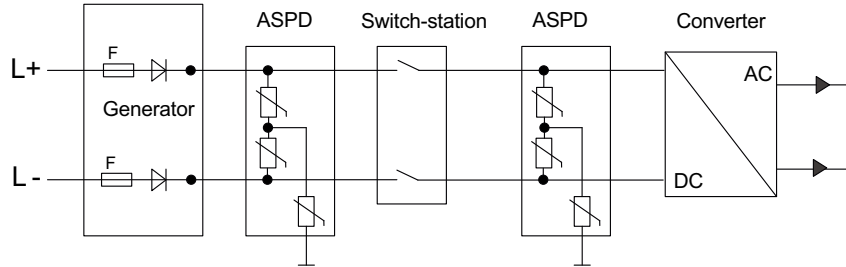
APPLICATION

ADLER's ASPD Series PV DC Surge Protection Devices are designed and manufactured complying to PV standard IEC 61643-31. It is widely used in PV DC combiner boxes, inverters, controllers and DC cabinets. With a rated voltage of 1500 VDC and a maximum discharge current of 40 kA, the integrated high-energy varistor provides highly effective protection against lightning and surge voltages.

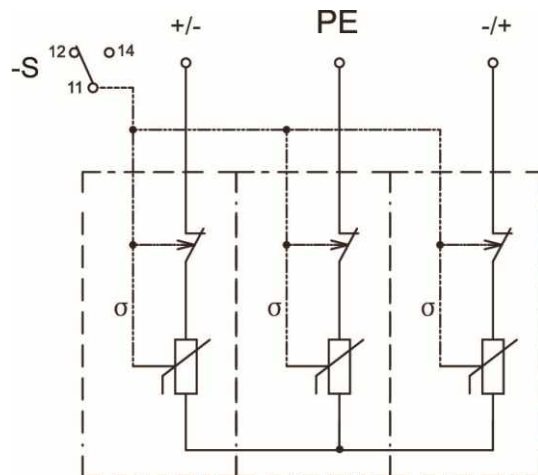
MODEL NUMBERING DEFINITIONS



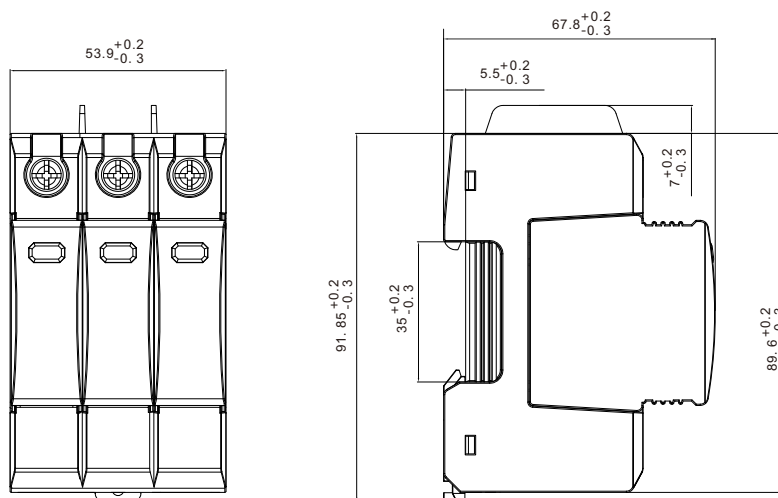
CONNECTION DIAGRAM



WIRING INSTRUCTIONS



DIMENSIONS(mm)





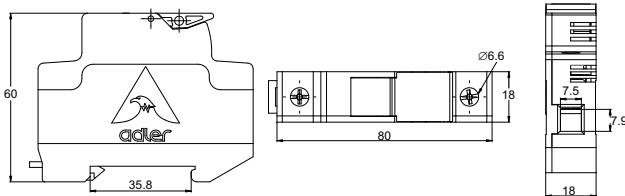
4 Photovoltaic System Components

- PV Fuse Holders and Accessories
- DC Isolator Switches
- DC Circuit Breakers, MCBs, MCCBs

BH100-01 1000V/1100V Fuse Holder



DIMENSIONS(mm)



DESCRIPTION:

The BH100-01 touch safe holder is designed for 10x38mm Cartridge midget fuses, designed for use with photovoltaic equipment.

SPECIFICATIONS:

- Rated Voltage: 1000 VDC / 1100 VDC
- Rated Current: 32A / 30A
- Short Circuit Current Rating(SCCR): 30kA@1000VDC / 20kA@1100 VDC
- Standards: UL 4248-18, EN 60947-3
- Wire Range: 18-8 AWG(1.5-10 mm²)
- Max. Torque: 3.4 N·m
- Maximum heat dissipation: 6W
- Operation Temperature: -40°C - +130°C
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Degree of protection IP20
- UL Listed File: E486822
- TUV File: R 50393963

FEATURES:

ADLER's BH100-01 touch safe fuse holder is designed for all standard 10x38 mm PV fuses such as ADLER A73/A83 series.

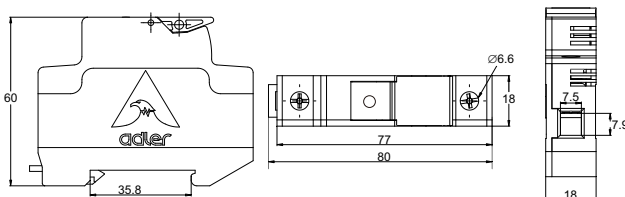
Note:

SCCR is limited to the interrupting rating of the installed fuse or 30 kA, which ever is less.

BH100-02 1000V/1100V Fuse Holder



DIMENSIONS(mm)



DESCRIPTION:

The BH100-02 touch safe holder is designed for 10x38mm fuse links and is equipped with a red indicator light. It will light up when the circuit is interrupted.

SPECIFICATIONS:

- Rated Voltage: 1000 VDC / 1100VDC
- Rated Current: 32A / 30A
- Short Circuit Current Rating(SCCR): 30kA@1000VDC / 20kA@1100VDC
- Standards: UL 4248-18, EN 60947-3
- Wire Range: 18-8 AWG(1.5-10 mm²)
- Max. Torque: 3.4 N·m
- Maximum heat dissipation: 6W
- Operation Temperature: -40°C - +130°C
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Degree of protection IP20
- UL Listed File: E486822

FEATURES:

ADLER's BH100-02 touch safe fuse holder is designed for all standard 10x38 mm PV fuses such as ADLER A73 A83 series.

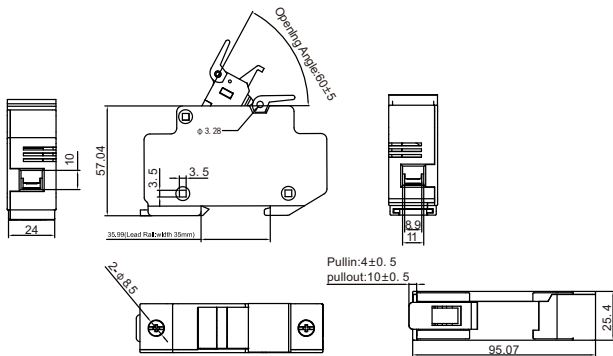
Note:

SCCR is limited to the interrupting rating of the installed fuse or 30 kA, which ever is less.

BH200 1500V Fuse Holder



DIMENSIONS(mm)



DESCRIPTION:

The BH200 touch safe holder is designed for 14x51mm fuse links, especially for use with photovoltaic equipment.

SPECIFICATIONS:

- Rated Voltage: 1500 VDC
- Rated Current: up to 30 A
- Short Circuit Current Rating(SCCR): 10 kA (DC current)
- Standards: UL 4248-18, EN 60947-3(10 kA@1500 VDC)
- Maximum heat Dissipation: 8 W
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Wire Range: 13-5 AWG(2.5-16 mm²)
- Operation Temperature: -40°C to +150°C
- UL Listed File: E486822
- TUV File: R 50393975

FEATURES:

ADLER's BH200 touch safe fuse holder is designed for all standard 14x51 mm PV fuses such as ADLER A74 series. With current ratings up to 30 A@1500 VDC, this holder provides the most compact and effective solution to protect 1500 VDC circuits and equipment in photovoltaic applications.

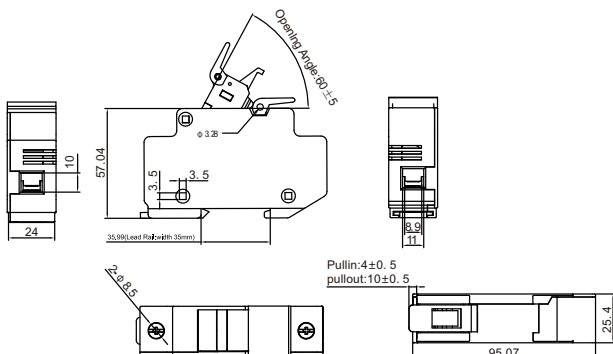
Note:

SCCR is limited to the interrupting rating of the installed fuse or 10 kA, whichever is less.

BH201 1500V Fuse Holder



DIMENSIONS(mm)



SPECIFICATIONS:

- Rated Voltage: 1500 VDC
- Rated Current: up to 30 A
- Short Circuit Current Rating(SCCR): 10 kA (DC current)
- Standards: UL 4248-18, EN 60947-3(10 kA@1500 VDC)
- Maximum heat Dissipation: 8 W
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Wire Range: 13-5 AWG(2.5-16 mm²)
- Operation Temperature: -40°C to +150°C
- UL Listed File: E486822
- TUV File: R 50393975

FEATURES:

ADLER's BH201 touch safe fuse holder is designed for all standard 14x51 mm PV fuses such as ADLER A74 series. With current ratings up to 30 A@1500 VDC, this holder provides the most compact and effective solution to protect 1500 VDC circuits and equipment in photovoltaic applications.

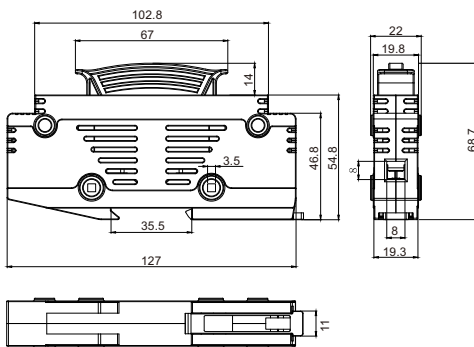
Note:

SCCR is limited to the interrupting rating of the installed fuse or 10 kA, whichever is less.

BH300 1500V Fuse Holder



DIMENSIONS(mm)



DESCRIPTION:

The BH300 touch safe holder is designed for 10x85mm fuse links, especially for use with photovoltaic equipment.

SPECIFICATIONS:

- Rated Voltage: 1500 VDC
- Rated Current: up to 30 A
- Short Circuit Current Rating(SCCR): 50 kA
- Standards: UL 4248-18, EN 60947-3 (30 kA@1500 VDC)
- Maximum heat Dissipation: 8 W
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Wire Range: 14-6 AWG(2.5-16 mm²)
- Operation Temperature: -40°C to +150°C
- UL Listed File: E486822
- TUV File: R 50394043

FEATURES:

ADLER's BH300 touch safe fuse holder is designed for standard 10x85 mm PV fuses such as ADLER A75/A85 series and other cylindrical fuses up to Ø10 x 85 mm. With current ratings up to 30 A@1500 VDC, it can effectively protect 1500 VDC circuits and equipment in photovoltaic applications.

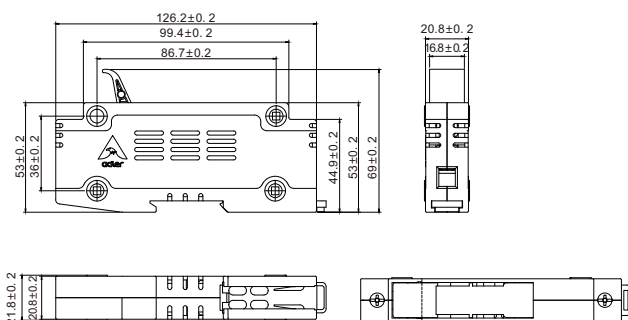
Note:

SCCR is limited to the interrupting rating of the installed fuse or 50 kA, whichever is less.

BH300-01 1500V Fuse Holder



DIMENSIONS(mm)



DESCRIPTION:

The BH300-01 touch safe holder is designed for 10x85 mm fuse links, especially for use with photovoltaic equipment.

SPECIFICATIONS:

- Rated Voltage: 1500 VDC
- Rated Current: 32 A
- Short Circuit current (SCCR): 50kA @1500VDC
- Standards: UL 4248-18 and EN 60947-3
- Maximum heat Dissipation: 8 W
- Wire Range: 18-8 AWG(1.5-10 mm²)
- Max. Torque: 3.4 N·m
- Operation Temperature: -40°C to +150°C
- Material Flammability: UL 94-V0 (PENDING)
- Mounting: DIN Rail mounting
- Degree of protection: IP20
- UL Listed File: E486822
- TUV File: R 50393963

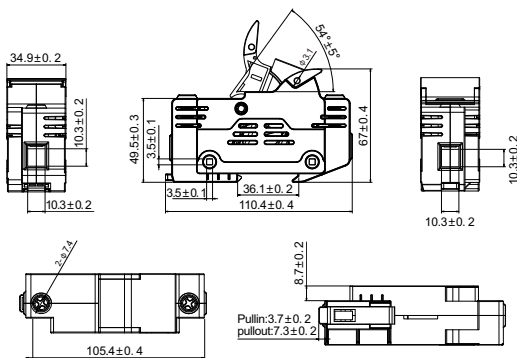
FEATURES:

ADLER's BH300-01 touch safe fuse holder is designed for all standard 10x85 mm PV fuses such as ADLER A75 / A85 series and other cylindrical fuses up to Φ10x85 mm, With current ratings up to 30 A@1500 VDC, it can effectively protect 1500 VDC circuits and equipment in photovoltaic applications.

BH400 1500V Fuse Holder



DIMENSIONS(mm)



DESCRIPTION:

The BH400 touch safe holder is designed for 22x58 mm fuse link, especially for use with photovoltaic equipment.

SPECIFICATIONS:

- Rated Voltage: 1500 VDC
- Rated Current: up to 80 A
- Short Circuit Current Rating(SCCR): 10kA (DC current)
- Standards: UL 4248-18, EN 60947-3(10 kA@1500 VDC)
- Maximum heat Dissipation: 8 W
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Max. Torque: 4 N.m
- Wire Range: 11-1 AWG(4-50 mm²)
- Operation Temperature: -40°C to +150°C

FEATURES:

ADLER'S BH400 touch safe fuse holder is designed for all standard 22x58 mm PV fuses such as ADLER A94 series. With current ratings up to 80 A at 1500 VDC, this holder provides the most compact and effective solution to protect 1500 VDC circuits and equipment in photovoltaic applications.

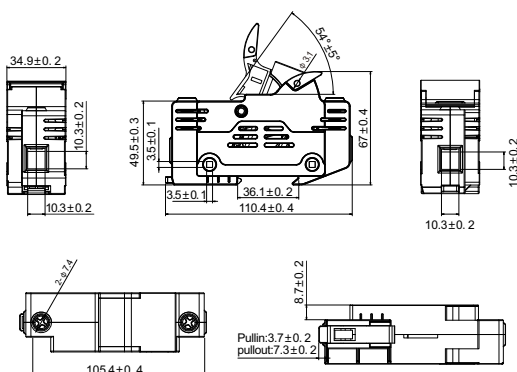
Note:

SCCR is limited to the interrupting rating of the installed fuse or 10kA, whichever is less.

BH401 1500V Fuse Holder



DIMENSIONS(mm)



DESCRIPTION:

The BH401 touch safe holder is designed for 22x58 mm fuse link and is equipped with a red indicator light. It will light up when the circuit is interrupted.

SPECIFICATIONS:

- Rated Voltage: 1500 VDC
- Rated Current: up to 80 A
- Short Circuit Current Rating(SCCR): 10kA (DC current)
- Standards: UL 4248-18, EN 60947-3(10 kA@1500 VDC)
- Maximum heat Dissipation: 8 W
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Max. Torque: 4 N.m
- Wire Range: 11-1 AWG(4-50 mm²)
- Operation Temperature: -40°C to +150°C

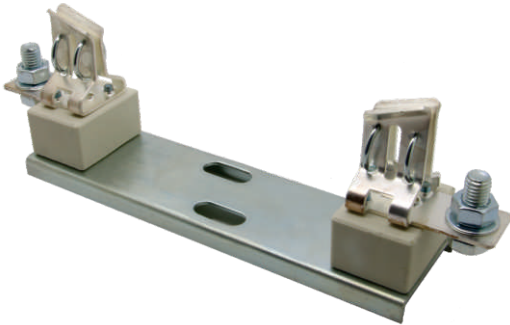
FEATURES:

ADLER'S BH401 touch safe fuse holder is as ADLER A94 series. With current ratings up to 80A @1500VDC, this holder provides the most compact and effective solution to protect 1500 VDC circuits and equipment in photovoltaic applications.

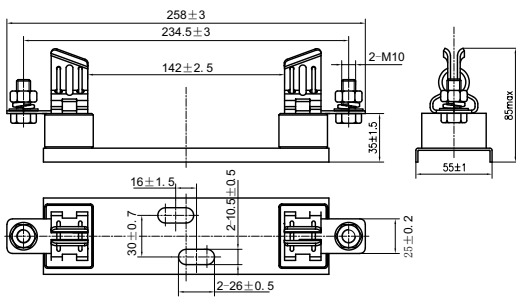
Note:

SCCR is limited to the interrupting rating of the installed fuse or 10kA, whichever is less.

BH1XL Fuse Holder



DIMENSIONS(mm)



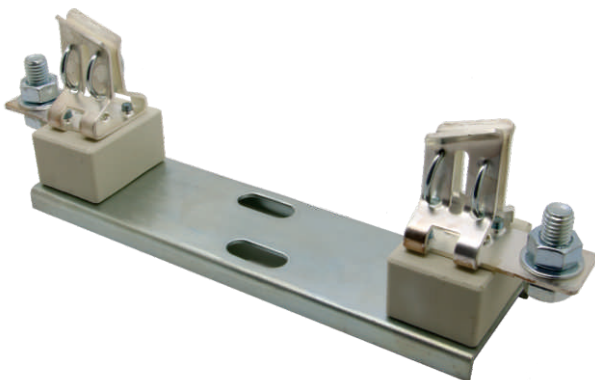
FEATURES:

- Rated Voltage : 1500 VDC
- Rated Current : 200 A
- Short Circuit Current Rating (SCCR): 50 kA
- Uimp: 3.8 kV
- Maximum Heat dissipation: 40W
- Standard: Reference to UL4248
- Material: Fuse Clip- Silver Plated copper
- Spring- Zinc plated Steel
- Mounting plate- Zinc plated Steel
- Insulator: Ceramic
- Designed for ADLER AX6 (NH1XL) fuse links

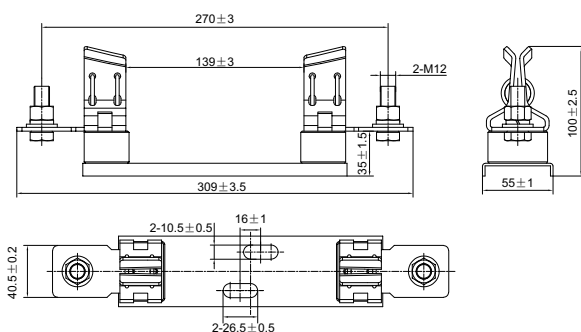
INSTALLATION :

- Ref. Torque: Mounting Plate: 15 N·m
- Screw size (M10): 32 N·m
- Operating Temperature: -40°C to $+90^{\circ}\text{C}$
- Storage Temperature: -40°C to $+70^{\circ}\text{C}$
- Be aware of surface condensation phenomenon in case of temperature changes !
- Class III pollution index for fuse links
- Avoid exposure to gas or oxidizing chemicals that could cause metal corrosions and accumulation of dust particles, which may affect the insulation material.

BH03L Fuse Holder



DIMENSIONS(mm)



FEATURES:

- Rated Voltage: 1500 VDC
- Rated Current: 500 A
- Short Circuit Current Rating (SCCR): 50 kA
- Uimp: 3.8 kV
- Maximum Heat Dissipation: 90W
- Standard: Reference to UL4248
- Material: Fuse Clip- Silver Plated copper
- Spring- Zinc plated Steel
- Mounting plate- Zinc plated Steel
- Insulator: Ceramic
- Designed for ADLER AX7, AX8 fuse links

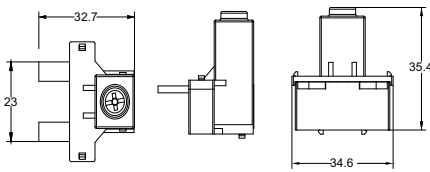
INSTALLATION :

- Ref. Torque: Mounting Plate: 15 N·m
- Screw size (M10): 32 N·m
- Operating Temperature: -40°C to $+90^{\circ}\text{C}$
- Storage Temperature: -40°C to $+70^{\circ}\text{C}$
- Be aware of surface condensation phenomenon in case of temperature changes !
- Class III pollution index for fuse links
- Avoid exposure to gas or oxidizing chemicals that could cause metal corrosions and accumulation of dust particles, which may affect the insulation material.

BHT100 1000V Double Pole Busbar Link BusBar



DIMENSIONS(mm)



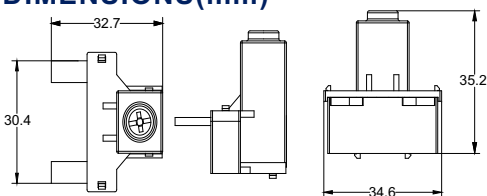
SPECIFICATIONS:

- Rated Voltage: 1000 VDC
- Rated Current: 60 A
- Torque: 3.0 N·m
- Wire Range: 13 - 5 AWG (2.5-16 mm²)
- Operation Temperature: -40°C to +130°C

BHT200 1500V BusBar Link



DIMENSIONS(mm)



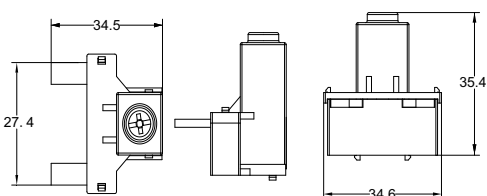
SPECIFICATIONS:

- Rated Voltage: 1500 VDC
- Rated Current: 60 A
- Torque: 3.0 N·m
- Wire Range: 13 - 5 AWG (2.5-16 mm²)
- Operation Temperature: -40°C to +130°C

BHT300 1500V BusBar Link



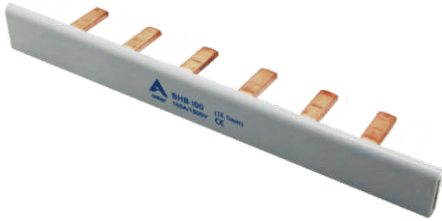
DIMENSIONS(mm)



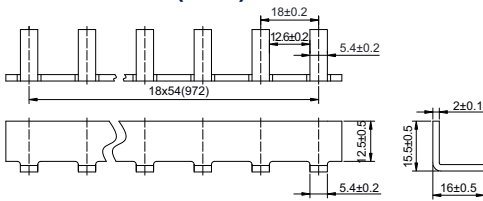
SPECIFICATIONS:

- Rated Voltage: 1500 VDC
- Rated Current: 60 A
- Torque: 3.0 N·m
- Wire Range: 13 - 5 AWG (2.5-16 mm²)
- Operation Temperature: -40°C to +130°C

BHB100 1000V Busbar



DIMENSIONS(mm)



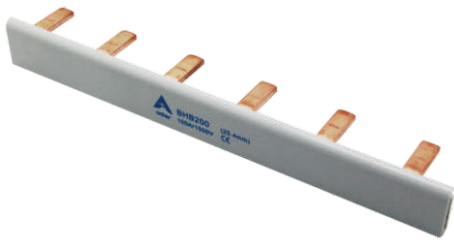
FEATURES:

The insulated BHB100 comb bar is suited for PV installations using ADLER BH100-01, BH100-02 fuse holders.

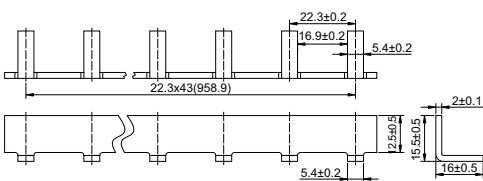
SPECIFICATIONS:

- Insulated Bus Bar Link
- Rated Voltage: 1000 VDC
- Rated Current: 100 A
- Pitch: 18.0mm, Width: 1.7 mm
- Operation Temperature: -40 °C - +130 °C
- Standard: EN 61439-6: 2012

BHB200 1500V Busbar



DIMENSIONS(mm)



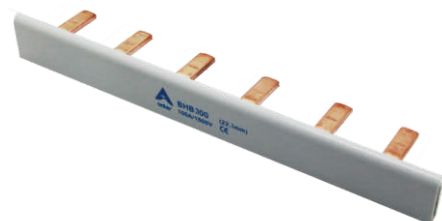
FEATURES:

The insulated BHB200 comb bar is suited for PV installations using ADLER BH200 and BH201 fuse holders.

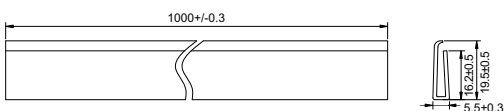
SPECIFICATIONS:

- Insulated Bus Bar Link
- Rated Voltage: 1500 VDC
- Rated Current: 100 A
- Pitch: 25.4mm, Width: 5.4 mm
- Operation Temperature: -40 °C - +130 °C
- Standard: EN 61439-6: 2012

BHB300 1500V Busbar



DIMENSIONS(mm)



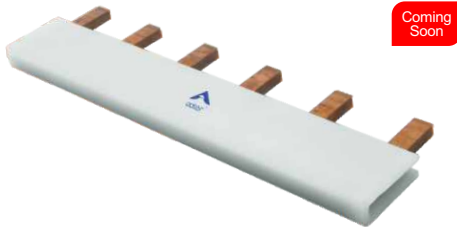
FEATURES:

The insulated BHB300 comb bar is suited for PV installations using ADLER BH300 fuse holder.

SPECIFICATIONS:

- Insulated Bus Bar Link
- Rated Voltage: 1500 VDC
- Rated Current: 100 A
- Pitch: 22.3mm, Width: 2.0 mm
- Operation Temperature: -40 °C - +130 °C
- Standard: EN 61439-6: 2012

BHB400 1000V Busbar



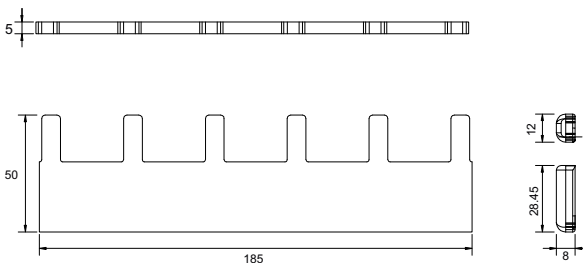
FEATURES:

The insulated BHB400 comb bar is suited for PV installations using ADLER BH400 and BH401 fuse holders.

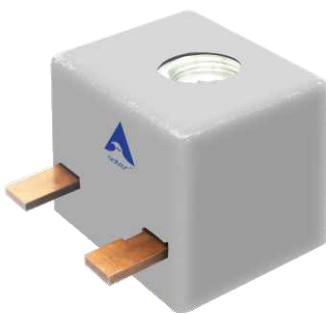
SPECIFICATIONS:

- Insulated Bus Bar Link
- Rated Voltage: 1500 VDC
- Rated Current: 300 A
- Pitch: 35 mm, Width: 8 mm
- Operation Temperature: -40 °C - +130 °C
- Standard: EN 61439-6: 2012

DIMENSIONS(mm)



BHT400 1500V BusBar Link



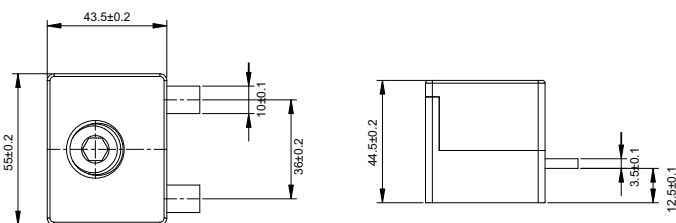
FEATURES:

The insulated BHT400 terminal block is fitting for PV installations using 22x58 mm ADLER BH400 and BH401 fuse holders.

SPECIFICATIONS:

- Rated Voltage: 1500 VDC
- Rated Current: 300 A
- Torque: 4.0 N · m
- Wire Range: 12-1 AWG
- Operation Temperature: -40°C to +130°C

DIMENSIONS(mm)



ADIS Series PV DC Isolator Switch

ADIS-2



ADIS-3



- ADIS-2: DIN Rail Mounting;
- ADIS-3: DIN Rail Mounting Door Clutch
- OFF Lockable
- Flame-Retardant
- Arcing Time <3 ms
- IEC 60947-3
- 4Poles (Single|Double Strings Available)
- DC-21B: 16 A, 25 A, 32 A up to 1200 VDC

APPLICATION:

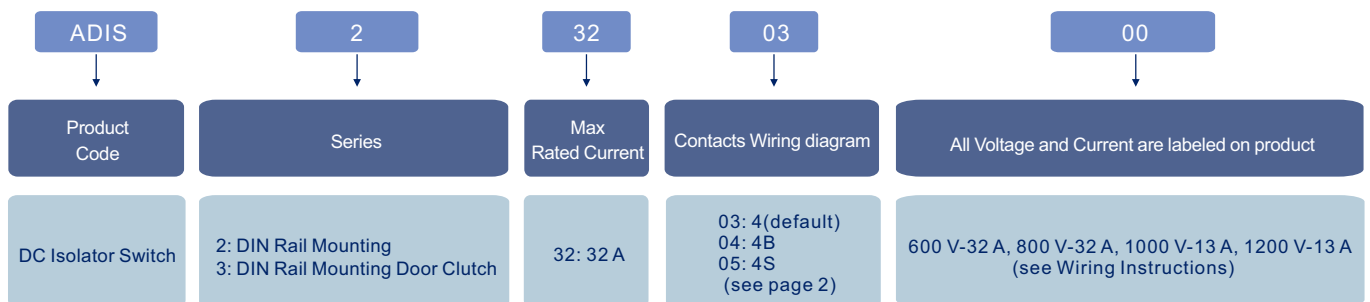
ADLER's ADIS series DC Isolator Switches are designed for installation in 1-20 kW Inverters, Controller and DC Combiner Boxes.

They are used for Residential or Commercial PV solar power system (on-grid/off-grid). With their arcing time of less than 3 ms they effectively disconnect all standard PV solar systems.



PARAMETER

Electrical Characteristics		
Type		ADIS-2, ADIS-3
Function		Isolator, Control
Utilization category		DC-21B / DC-PV1
Pole		4P
Max Rated Current		32 A
Rated Working Voltage	U _e	600 VDC, 800 VDC, 1000 VDC, 1200 VDC
Rated Current	I _n	see Wiring Instructions
Rated Insulated Voltage	U _i	1200 VDC
Rated Impulsed Voltage	U _{imp}	8 kV
Service Life/Cycle Operation		
Mechanical		15000
Electrical		1000
Installation Environment		
Ingress Protection		IP20
Storage Temperature		-40 °C to +85 °C

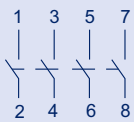
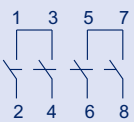
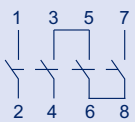
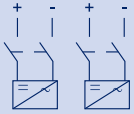
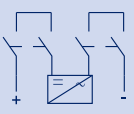
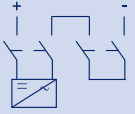
MODEL NUMBERING DEFINITIONS



WIRING INSTRUCTIONS

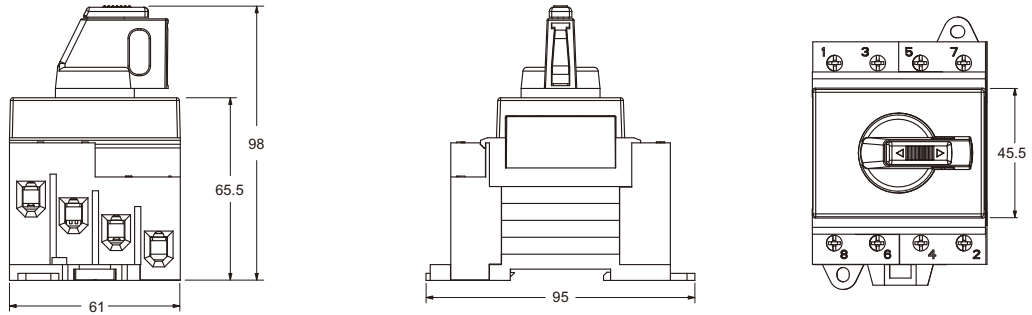
Product Picture	Part Number	All Voltage and Current are labeled on product				Pole in series	Number of Strings	Weight
		600 V	800 V	1000 V	1200 V			
	ADIS2320300	32 A	32 A	13 A	13 A	2	2	0.70
	ADIS2320400	32 A	32 A	32 A	32 A	2	1	0.70
	ADIS2320500	32 A	32 A	32 A	32 A	4	1	0.70
	ADIS3320300	32 A	32 A	13 A	13 A	2	2	0.70
	ADIS3320400	32 A	32 A	32 A	32 A	2	1	0.70
	ADIS3320500	32 A	32 A	32 A	32 A	4	1	0.70

SWITCHING CONFIGURATIONS

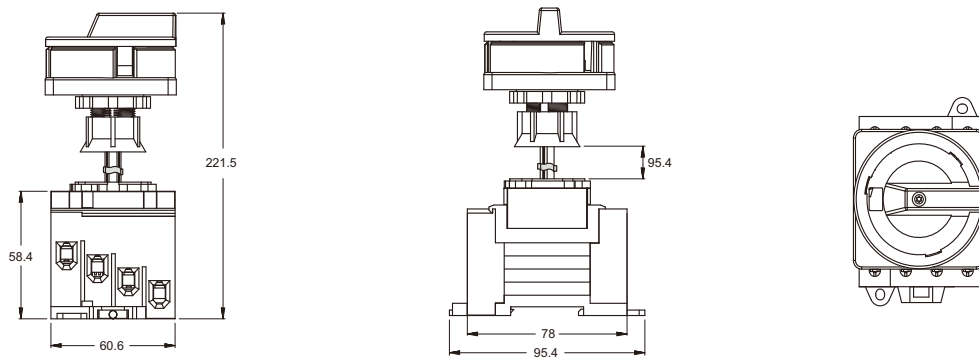
Contacts Wiring diagram	03: 4 (default)	04: 4B	05: 4S
			
Switching example			

Dimensions(mm)

ADIS-2
DIN Rail Mounting



ADIS-3
DIN Rail Mounting,
Door Mounting Handle



ADII Series PV Inverter DC Isolator Switch

ADII-2



- DIN Rail Mounting And Fixed Mounting
- Compact Structure
- Arcing Time < 3 ms
- Busbar Design, Easy Installation
- Flame-retardant
- Special Modular Design
- IEC 60947-3 Standard






PARAMETER

Electrical Characteristics		
Type		ADII-2
Conventional free air thermal current	I _{th}	50 A
Rated Impulsed Voltage	U _{imp}	8 kV
Rated short-time withstand current (1s)	I _{cw}	1.5 kA
Rated short-circuit making capacity	I _{cm}	2.0 kA
Rated conditional short-circuit current		8 kA
Installation Environment		
Utilization category DC		DC-21B
Number of cycles of operation(With current)		300
Number of cycles of operation(Without current)		10000
Pole		2, 4, 6, 8
Mounting		Standard DIN Rail
Tightening torque terminal screws M4, min. - max.	3.0 N.m	3.5 N.m
Tightening torque panel mounting nut, min. - max.	0.5 N.m	0.7 N.m
Ambient temperature allowed between		-40 °C - +85 °C
Storage temperature allowed between		-40 °C - +85 °C
Relative Humidity		90%
Pollution degree		2
IP rating terminals		IP66




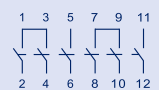






APPLICATION

ADLER's ADII series DC Isolator Switches are designed for PV solar power systems, in applications between 1-200 kW, especially for use in inverters, controllers and solar DC combiner boxes. The ADII can operate at a maximum Voltage of 1500 VDC, with rated current of 50 A, combining innovative design with a compact structure.

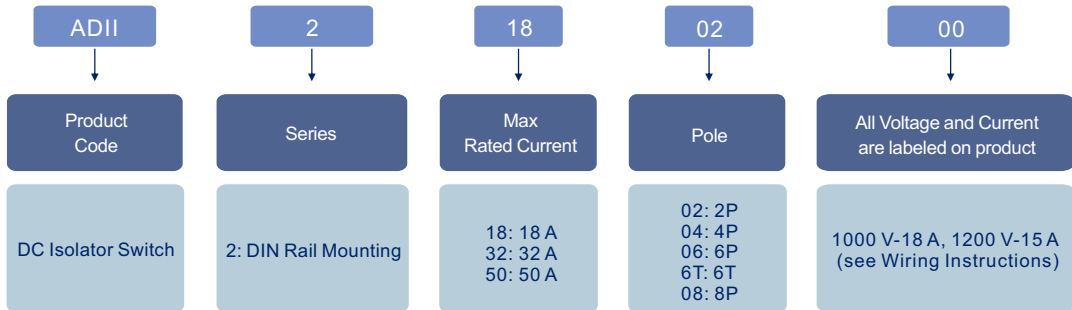
WIRING INSTRUCTIONS

Product Picture	Part Number	All Voltage and Current are labeled on product			Pole in series	Number of Strings
		1000V	1200V	1500V		
	ADII2180200	18A	15A	/	2	1
	ADII2320200	32A	25A	/	2	1
	ADII2500200	50A	40A	16A	2	1
	ADII2180400	18A	15A	/	2	2
	ADII2320400	32A	25A	/	2	2
	ADII2500400	50A	40A	16A	2	2
	ADII2180600	18A	15A	/	2	3
	ADII2320600	32A	25A	/	2	3
	ADII2500600	50A	40A	16A	2	3
	ADII2506T00	/	50A	40A	3	2
	ADII2180800	18A	15A	/	2	4
	ADII2320800	32A	25A	/	2	4
	ADII2500800	50A	40A	16A	2	4

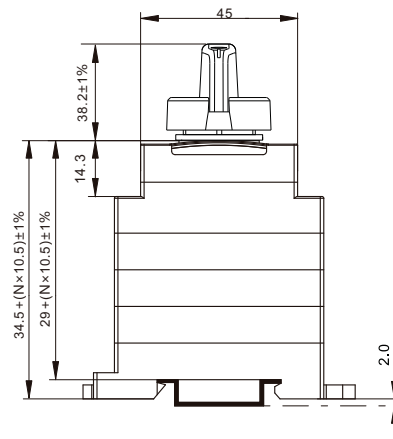
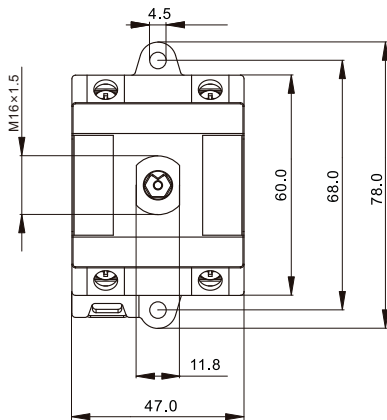
SWITCHING CONFIGURATIONS

Pole	02: 2P	04: 4P	06: 6P	6T: 6T	08: 8P
Contacts Wiring diagram					
Switching example					

MODEL NUMBERING DEFINITIONS



DIMENSIONS (mm)



ADCR Series PV Rail-Mount DC Circuit Breakers



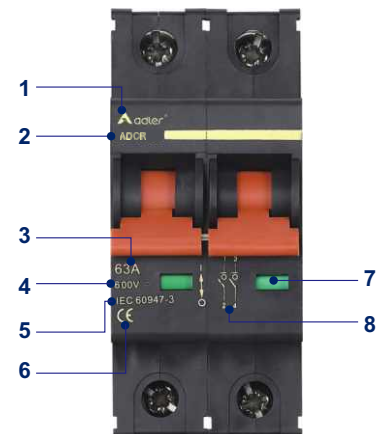
FEATURES:

- Nonpolarity
- High Short-Circuit / Breaking Capacity
- Functions: Overload, Short Circuit, Unfrequent Operation and, Anti-reflux Protection
- Rated Voltage: 1200 V, Ultimate
- Breaking Capacity: 6 kA
- Rated Current: 63 A
- Comply with: IEC 60947-2 and GB 14048-2

PARAMETER

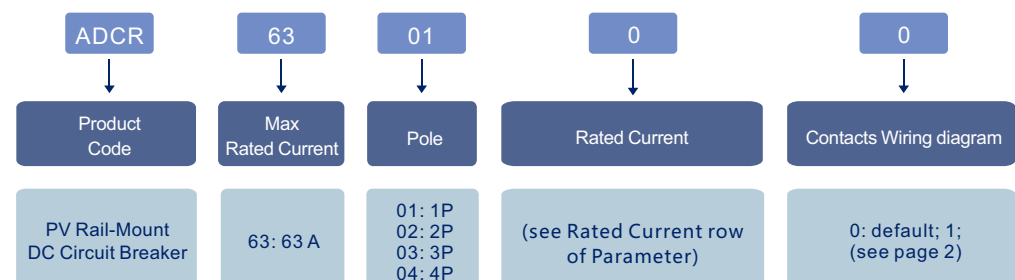
Type	ADCR			
Max Rated Current	63A			
Pole	1P	2P	3P	4P
Rated Working Voltage U _e	300 VDC	600 VDC	900 VDC	1200 VDC
Rated Current I _n	3 A; 4 A; 6 A; 10 A; 13 A; 16 A; 20 A; 25 A; 32 A; 40 A; 50 A; 63 A (twelve current)			
Rated Insulated Voltage U _i	1200 VDC			
Rated Impulsed Voltage U _{imp}	6 kV			
Ultimate Breaking Capacity I _{cu}	6 kA			
Run Breaking Capacity I _{cs}	3 kA			
Tripping Type	Thermal Magnetic Type			
Service Life/cycle Operation				
Mechanical	Actual Value	20000		
	Standard Value	8500		
Electrical	Actual Value	4000		
	Standard Value	1500		
Installation Environment				
Ingress Protection	All Sides IP40, Connection Terminal IP20			
Terminal Cross Section	2.5-25 mm ²			
Working Temperature	-25 °C to +70 °C			
Storage Temperature	-40 °C to +85 °C			
Resistance to Humidity and Heat	II (when Temperature arrived to 55 °C, Relative Humidity up to 95 %)			
Resistance to Shock	2.6 IEC 60068			
Resistance to Impact	2.27 IEC 60068			

PRODUCT ARCHITECTURE



- 1 Brand
- 2 Type
- 3 Rated Current
- 4 Rated Voltage
- 5 Ultimate Breaking Capacity
- 6 Certificate Symbol
- 7 Standard Code
- 8 Indicator
- 9 Wiring Diagram





MODEL NUMBERING DEFINITIONS



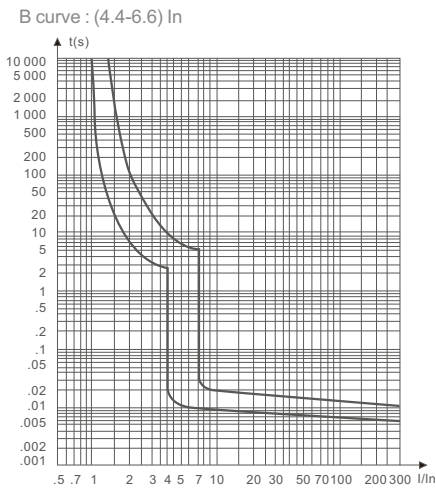
APPLICATION

ADLER's ADCR Series PV Circuit Breakers are mainly applied to DC solar combiner box, Controller etc. The main function include overload protection, Anti-reflux protection and short-circuit protection. The scientific design of the arc-extinguishing system increase the safety of the solar system. They support the rated working voltage up to 1200 VDC and rated current up to 63 A.

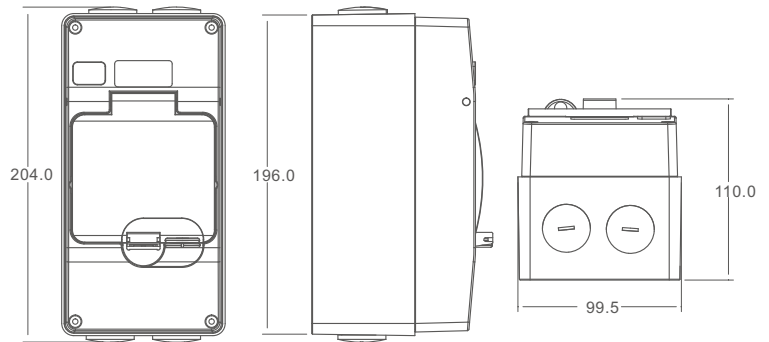
WIRING METHOD

Pole	01: 1P		02: 2P		03: 3P		04: 4P	
Type								
Contacts Wiring diagram	0: default		0: default		0: default		0: default	
	1		1		1		1	

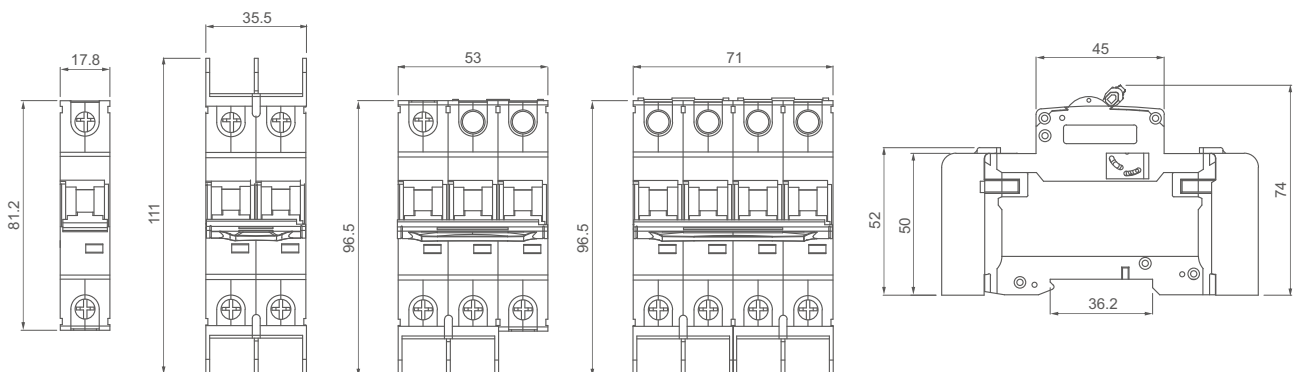
CHARACTERISTIC CURVE



DIMENSIONS (mm)



DIMENSIONS (mm)



ADCM Series PV Moulded Case DC Circuit Breakers



FEATRUES:

- High Short-Circuit/Breaking Capacity
- Protection Functions: Overload, Short circuit, Unfrequent Operation
- Rated Voltage up to 1000 VDC
- Rated Current 125 A, 250 A, 400 A
- IEC 60947-2 and GB 14048-2
- Easy Installation

PARAMETER

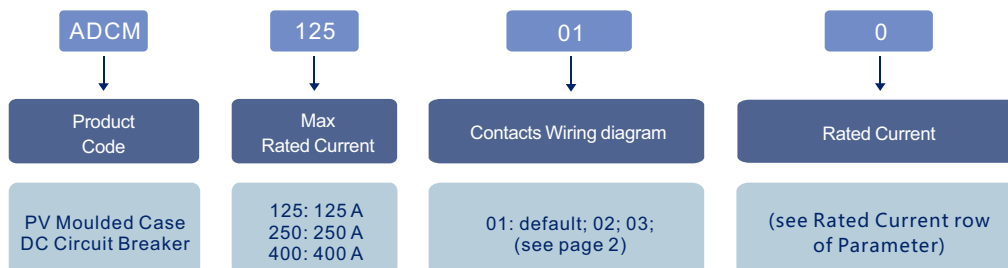
ADCM Series		ADCM-125	ADCM-250	ADCM-400
Type				
Max Rated Current		125 A	250 A	400 A
Pole		4P		
Rated Working Voltage	Ue	1000 VDC		
Rated Current	In	63 A; 80 A; 100 A; 125 A (four current)	125 A; 160 A; 200 A; 250 A (four current)	250 A; 300 A; 315 A; 350 A; 400 A (five current)
Rated Insulated Voltage	Ui	1000 VDC		
Rated Impulsed Voltage	Uimp	8 kV		
1 Min Power Frequency Withstand Voltage		3.8 kV	3.8 kV	3.8 kV
Ultimate Breaking Capacity	Icu	20 kA	20 kA	20 kA
Run Breaking Capacity	Ics	15 kA	15 kA	15 kA
Protection				
Tripping Type		Thermal Magnetic Type		
Control and Indication				
Control Mode	Manual	Direct (RHD)	Optional	
		Extended(ERH)	Optional	
		MOD	Optional	
Shunt Release (SHT)			Optional	
Auxiliary Release			Optional	
Terminal End Cover			Yes	
Interphase Barriers			Yes	
Service Life/Cycle Operation				
Mechanical		14000	14000	5000
Electrical		5000	5000	1500
Size (L x W x H)		150.5x122x92.5	165x140x88	258x198x107
Ingress Protection		All Sides IP40, Connection Terminal IP20		
Installation Environment				
Storage Temperature		-40 °C to +85 °C		

PRODUCT ARCHITECTURE



- 1 Brand
- 2 Type
- 3 Rated Current
- 4 Rated Voltage
- 5 Breaking Capacity
- 6 Operation Breaking Capacity
- 7 Standard Code
- 8 Certificate Symbol
- 9 Wiring Diagram
- 10 Characteristic Curve

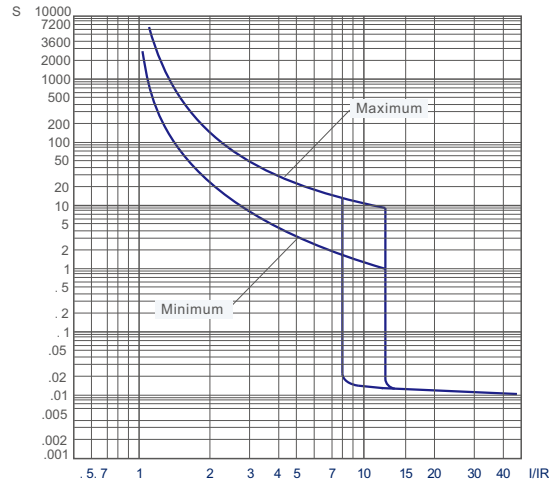
MODEL NUMBERING DEFINITIONS



APPLICATION

ADLER's ADCM series PV DC Moulded Case Circuit Breakers are mainly used in large scale solar power systems, and are installed in DC combiner boxes, inverter equipment and DC power distribution cabinets. They support the rated working voltage up to 1000 VDC, and rated current up to 400 A, for optimal protection against overloads and short circuit protection.

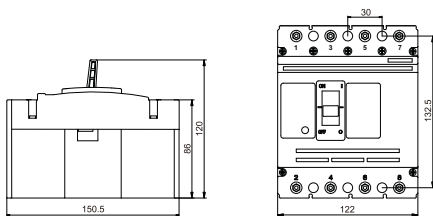
CHARACTERISTIC CURVE



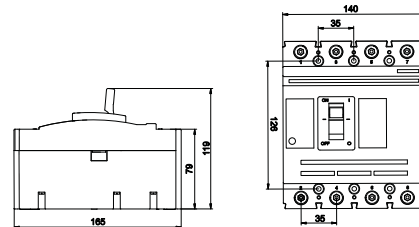
Type	ADCM-125	ADCM-250	ADCM-400
Picture			
Contacts Wiring diagram	<p>01: default</p> 	<p>02</p> 	<p>03</p> 

DIMENSIONS (mm)

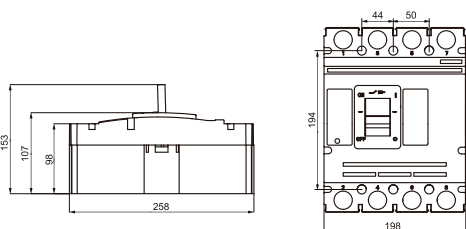
125A



250A



400A





HIGH SPEED FUSES
AND SYSTEM PROTECTION



IATF 16949
ISO 9001-2015

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ADLER global network

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- 📍 ADLER Elektrotechnik Xi'an Co.,Ltd.(Manufacturing)
- 📍 ADLER Songshan Lake Dongguan (Testing center)