

HIGH SPEED FUSES AND SYSTEM PROTECTION

for Photovoltaic Systems and Installations



2018 Photovoltaic Portfolio

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



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DC Circuit Breakers, MCBs, MCCBs



ADLER-Your All-round Protection for Strong Currents!



ADLER Elektrotechnik Leipzig GmbH is a professional team which unites knowledge, skill and experience to provide both best technical expertise as well as 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 midjet and medium fuse links (gPV)
- Photovoltaic NH fuses in various sizes (gPV)
- Rail-mount fuse holder cartridges for cylindrical fuses and NH blade type fuse bases
- Photovoltaic system components, combiner boxes and parts
- DC switches, isolators, disconnects, circuit breakers
- Photovoltaic surge protection devices (SPD)
- Cylindrical fuse links for industrial applications (gG)
- All standard DIN-sized 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 700VDC up to 50A
- EV fuse bolt mounts and holders
- Automotive Mini and Midi blade fuses
- Special fuses for battery storage protection

Across all of our product range, we are proud to offer established, certified products that have developed a reputation for quality, reliability and innovation. We provide our customers with solutions expertise, a high standard of personalized service, availability of stock and an '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)

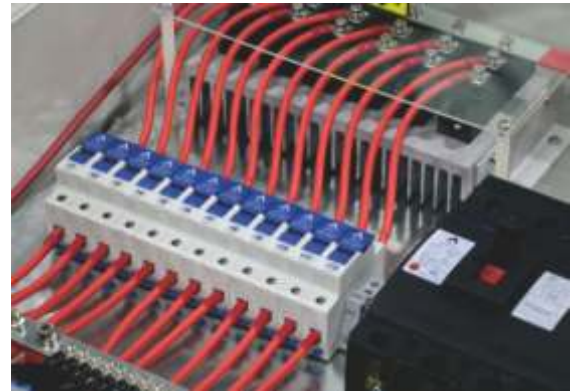




Product Selection Guides

PV – Fuse Selection Guide

- In PV systems consisting of arrays with >4 module strings the 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 also isolate the faulted string so that the rest of the PV system can continue to generate electricity.



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

The correct 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 that a fuse with full range capability is used. 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 fuse protection needed!
- Number of solar modules connected in series per string M
- The ambient temperature

From the solar module specifications:

- Short circuit current of the string I_{sc}
- Open circuit voltage U_{oc}
- Conditions: $U_{oc\ sc}$

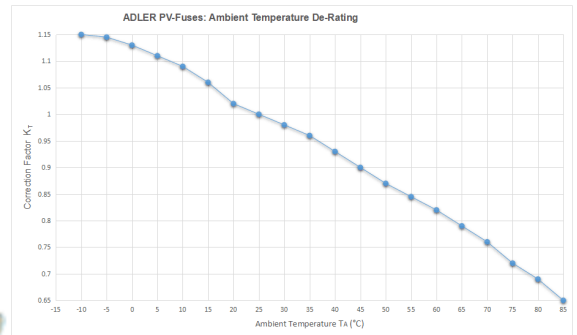


Checklist:

- 1) 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.
The first rule has to be applied when the number of chains in parallel (N) is equal to or higher than 4. (for less than 4 parallel chains, fusing is not necessary).
- 3) The maximum DC operating voltage of the fuse must be higher than or equal to $1.20 \times M \times (V_{oc\ sc})$.



In 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 current that a module can generate.

Rated current of the fuse I_n 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 ≤ n < 4	1
4 ≤ n < 7	0.8
7 ≤ n < 10	0.7
10 ≤ 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 above the ambient air temperature 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 A
Open circuit voltage under Standard Test Conditions:	U _{OC STC} = 44.5 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

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

$$I_n \geq 1.7 \times I_{sc}$$

$$I_n \geq I_{sc} / (0.87 \times 0.85 \times 0.8)$$

$$I_n \geq 9.35 \text{ A}$$

From the range of possible rated currents the next higher rated current above 9.35 A must be chosen. Accordingly, this value is

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



3

P photovoltaic Fuses and Protection Components

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

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	
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 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

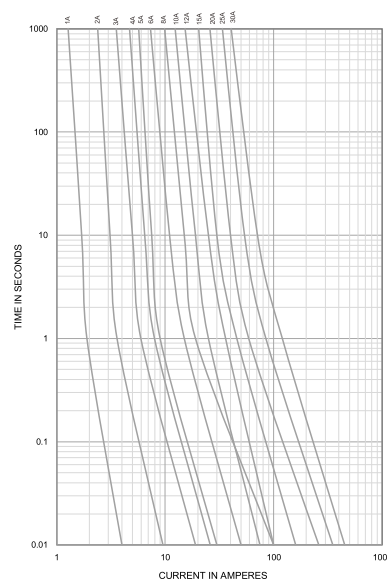
Rated Current	100%	135%	200%
10-30 A	>4 h	< 1 h	< 4 min

PART NUMBER SYSTEM

A73	2300	7	00
↓	↓	↓	↓
1	2	3	4

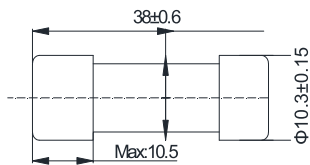
1	Product Series	A73
2	Ampere Code	30 A (see ampere code column of electrical specifications)
3	Rated Voltage	7: 1000V
4	Supplementary Code	00: Cartridge; 01: Central Mount; 02: Level Mount; 03: PCB Mount;

Time Current Curve (reference)

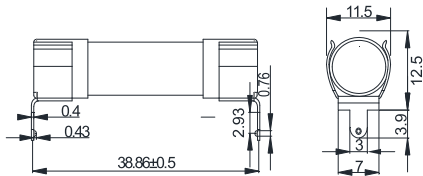


DIMENSIONS (mm)

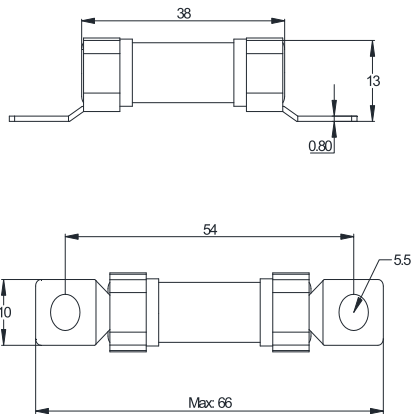
A73xxx700



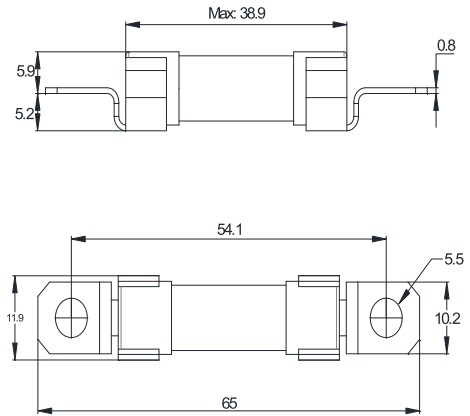
A73xxx703



A73xxx702



A73xxx701



A83 gPV 1100 VDC Fuse 10x38 mm



FEATURES:

- 1100 VDC, 10x38 mm PV fuse link
- Rated Current: 10-30 A
- Breaking Capacity: 30 kA @ 1100 VDC(2-20 A),
30 kA @ 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	I²t (A²s)		Dissipation (W)		Certification
Cartridge	Level	Central	PCB				Pre-Arcing	Total	80% I _n	100% I _n	UL
A831200710	A831200711	A831200712	A831200713	2A	1200	30 kA@ 1100 VDC	40	220	0.2	0.3	●
A831300710	A831300711	A831300712	A831300713	3A	1300		60	330	0.3	0.4	●
A831400710	A831400711	A831400712	A831400713	4A	1400		80	440	0.4	0.6	●
A831500710	A831500711	A831500712	A831500713	5A	1500		100	550	0.5	0.7	●
A831600710	A831600711	A831600712	A831600713	6A	1600		120	660	0.6	0.9	●
A831800710	A831800711	A831800712	A831800713	8A	1800		160	880	0.9	1.1	●
A832100710	A832100711	A832100712	A832100713	10A	2100		200	1100	1.1	1.4	●
A832120710	A832120711	A832120712	A832120713	12A	2120		240	1320	1.3	1.7	●
A832150710	A832150711	A832150712	A832150713	15A	2150		300	1650	1.6	2.2	●
A832200710	A832200711	A832200712	A832200713	20A	2200		400	2200	2.1	2.9	●
A832250710	A832250711	A832250712	A832250713	25A	2250	30 kA@ 1000 VDC	500	2750	2.7	3.6	●
A832300710	A832300711	A832300712	A832300713	30A	2300		600	3300	3.2	4.3	●

Note: (1) DC cold resistances are measured at <10% of rated current in ambient temperature of 25°C

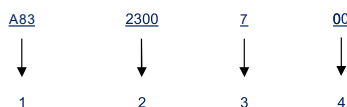
(2) Temperature rise: $\leq 70\text{K}$ at rated current

(3) Typical pre-arcing I^2t measured at 10In current

TIME VS CURRENT CHARACTERISTIC

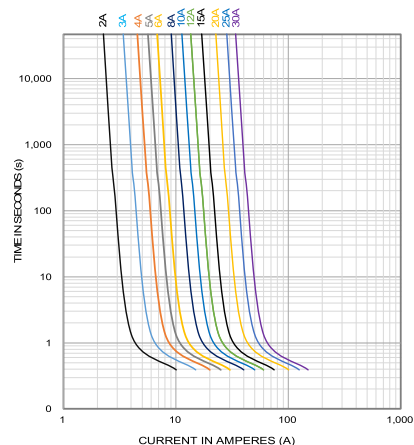
Rated Current	100%	135%	200%
2-30 A	>4 h	<1 h	<4 min

PART NUMBER SYSTEM



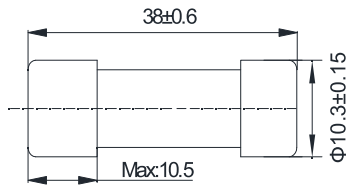
1	Product Series	A83
2	Ampere Code	30 A(see ampere code column of electrical specifications)
3	Rated Voltage	7: 1000 / 1100 V
4	Supplementary Code	10: Cartridge; 11: Level Mount; 12: Central Mount; 13: PCB Mount;

Time Current Curve (reference)

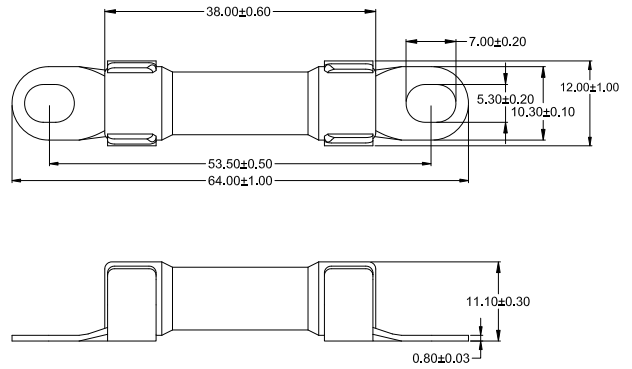


DIMENSIONS (mm)

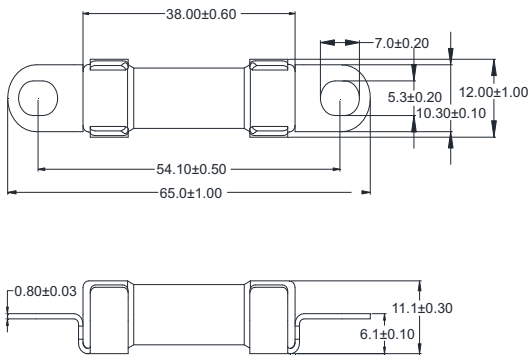
A83xxxx700



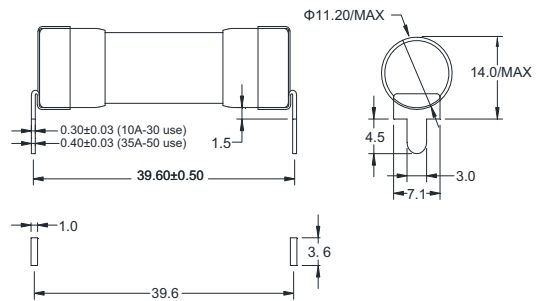
A83xxxx701



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

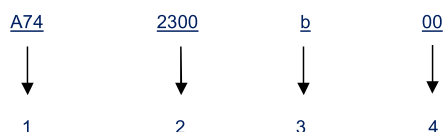
Part Number		Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)			Certifications
Cylindrical	In-Line Terminal				Pre-Arcing	Total at 1500 V	70 % I _n	80 % I _n	100 % I _n	UL
A741400b00	A741400b01	4 A	1400	10 kA@1500 VDC	8	60	0.9	1.25	2.2	•
A742150b00	A742150b01	15 A	2150		310	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 resistances are measured at $<10\%$ of rated current in ambient temperature of $25 \pm 5^\circ\text{C}$
(2) Typical pre-arcing I²t measured at $10 \cdot I_n$ current

TIME VS CURRENT CHARACTERISTIC

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

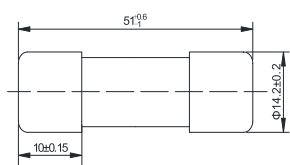
PART NUMBER SYSTEM



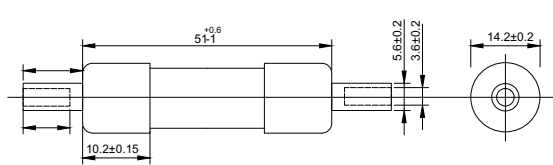
- 1 ProductSeries A74
2 Ampere Code 30 A (see ampere code column of electrical specifications)
3 Rated Voltage b: 1500 V
4 Supplementary Code 00: Cylindrical; 01: In-Line Terminal

DIMENSIONS (mm)

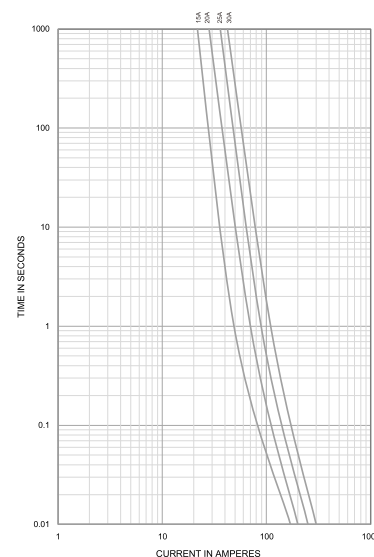
A74xxxxb00



A74xxxxb01



Time Current Curve (reference)



A75 / A78 gPV 1500 VDC Fuse 10x85 mm



FEATURES:

- 1500 VDC, 10x85 mm PV fuse link
- Rated Current: 2-15 A
- Rated Breaking Capacity: 30 kA
- 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
Cylindrical	In-Line Terminal				Pre-Arcing	Total at 1500 V	70 % I _n	80 % I _n	100 % I _n	UL
A751200b00	A781200b00	2 A	1200	30 kA@1500 VDC	3.5	10	1.1	1.45	2.6	•
A751400b00	A781400b00	4 A	1400		15	50	1.2	1.55	2.8	•
A751500b00	A781500b00	5 A	1500		22	75	1.4	1.8	3.2	•
A752100b00	A782100b00	10 A	2100		300	1100	1.7	2.3	4.2	•
A752120b00	A782120b00	12 A	2120		20	60	1.8	2.4	4.2	•
A752150b00	A782150b00	15 A	2150		35	95	2	2.8	5	•

Note: (1) DC cold resistances are measured at $<10\%$ of rated current in ambient temperature of $25 \pm 5^\circ\text{C}$

(2) For A78 use 10-12 AWG (6-4 mm²) lead wire; recommended crimping tool: T&B Sta-Kon ERG4002 or equivalent.

TIME VS CURRENT CHARACTERISTIC

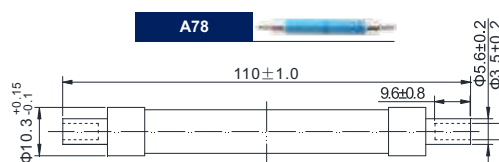
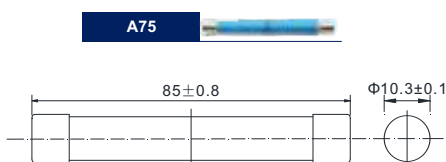
Rated Current	100%	135%	200%
2-15 A	>4 h	<1 h	<4 min

PART NUMBER SYSTEM

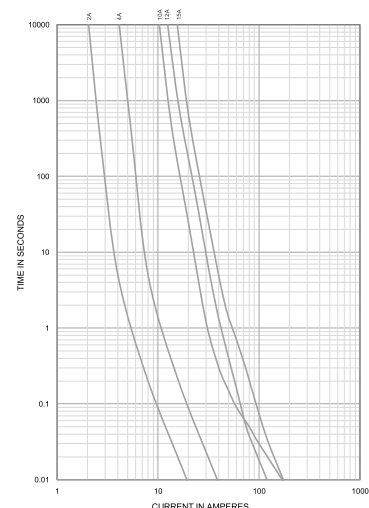
A75	2150	b	00
↓	↓	↓	↓
1	2	3	4

1	ProductSeries	A75
2	Ampere Code	15 A(see ampere code column of electrical specifications)
3	Rated Voltage	b: 1500 V
4	Supplementary Code	00: default

DIMENSIONS (mm)



Time Current Curve (reference)



A85 gPV 1500 VDC Fuse 10x85 mm



FEATURES:

- 1500 VDC, 10x85 mm PV fuse link with glass-fiber
- Rated Current: 2-30 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)
- 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
Cylindrical	In-Line Terminal				Pre-Arcing	Total	80% I _n	100% I _n	UL
A851200b00	A851200b01	2 A	1200	30 kA@1500 VDC	118.3	250	0.7	1.3	•
A851300b00	A851300b01	3 A	1300		177.5	375	0.8	1.4	•
A851400b00	A851400b01	4 A	1400		236.7	500	1.2	1.5	•
A851500b00	A851500b01	5 A	1500		295.8	625	1.3	1.6	•
A851600b00	A851600b01	6 A	1600		355.0	750	1.5	3.1	•
A851800b00	A851800b01	8 A	1800		473.3	1000	1.5	3.1	•
A852100b00	A852100b01	10 A	2100		591.7	1250	1.6	3.2	•
A852120b00	A852120b01	12 A	2120		710.0	1500	3.1	5.3	•
A852150b00	A852150b01	15 A	2150		887.5	1875	3.1	5.3	•
A852200b00	A852200b01	20 A	2200		710.0	1500	3.2	5.5	•
A852250b00	A852250b01	25 A	2250		887.5	1875	3.3	5.6	•
A852300b00	A852300b01	30 A	2300		1183.3	2500	3.6	6.0	•

Note : (1) DC cold resistances are measured at <10 % of rated current in ambient temperature of 25±5 °C

(2) For A85 use 10-12 AWG (6-4mm²) lead wire; recommended crimping tool: T&B Sta-Kon ERG4002 or equivalent.

TIME VS CURRENT CHARACTERISTIC

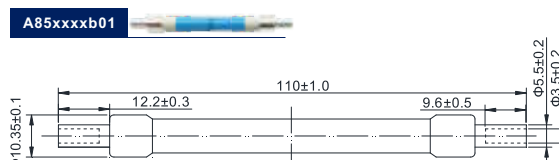
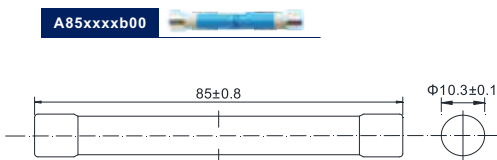
Rated Current	100%	135%	200%
2-30 A	>4 h	<1 h	<4 min

PART NUMBER SYSTEM

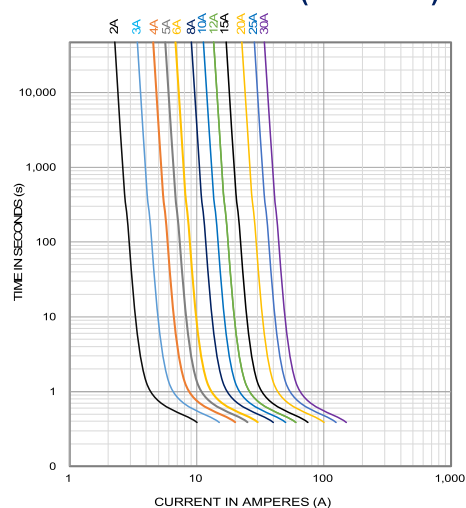
A85	2150	b	00
↓	↓	↓	↓
1	2	3	4

- 1 ProductSeries A85
- 2 Ampere Code 15 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)



Time Current Curve (reference)



A76 / A79 gPV 1500 VDC Fuse



FEATURES:

- 1500 VDC, 10x57 mm PV fuse link
- Rated Current: 1-6 A
- Max. 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)

ELECTRICAL SPECIFICATIONS

Part Number		Rated Current	Ampere Code	Breaking Capacity	I ² t (A ² s)		Dissipation (W)	Certifications
Cylindrical	In-Line Terminal				Pre-Arcing	Total at 1500 V	100% I _n	UL
A761100b00	A791100b00	1.0A	1100	10 kA@1500 VDC 20 kA@1500 VDC (self-tested)	2	12	2.1	●
A761250b00	A791250b00	2.5A	1250		3	15	2.1	●
A761300b00	A791300b00	3.0A	1300		5	21	2.1	●
A761350b00	A791350b00	3.5A	1350		15	56	2.2	●
A761400b00	A791400b00	4.0A	1400		18	68	1.8	●
A761600b00	A791600b00	6.0A	1600		60	200	2.1	●

Note: (1) DC cold resistance are measured at $<10\%$ of rated current in ambient temperature of 25 ± 5 °C

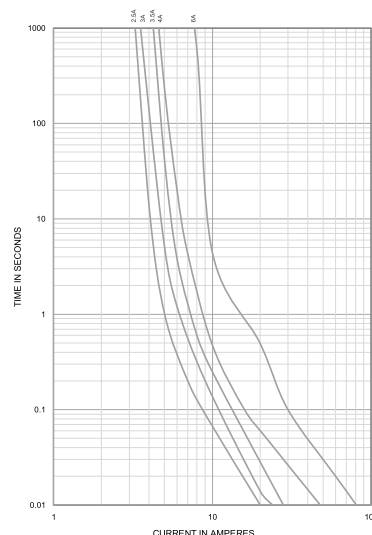
(2) Typical pre-arcing I²t measured at $10 \cdot I_n$ current

(3) For A79 use 10-12 AWG (6-4 mm²) wire range cu only (solid/stranded); recommended crimping tool: T&B Sta-Kon ERG4002 or equivalent.

TIME VS CURRENT CHARACTERISTICS

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

Time Current Curve (reference)

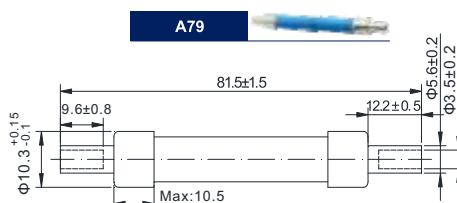
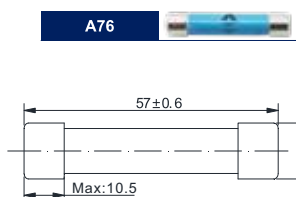


PART NUMBER SYSTEM

A76	1600	b	0
↓	↓	↓	↓
1	2	3	4

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

DIMENSIONS (mm)



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
AX63100700	100 A	3100	10 kA@1000 VDC	1195.2	4374.4	14.4	27.2	o
AX63125700	125 A	3125		1696	7960	16	29.6	o
AX63160700	160 A	3160		3152	18723.2	20	36	o
AX63100b00	100 A	3100	10 kA@1500 VDC	1494	5468	18	34	o
AX63125b00	125 A	3125		2120	9950	20	37	o
AX63160b00	160 A	3160		3940	23404	25	45	o

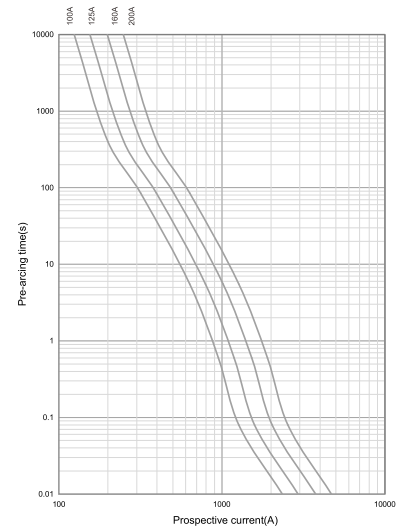
Note: (1) DC cold resistances are measured at <10% of rated current in ambient temperature of 20±5

PART NUMBER SYSTEM

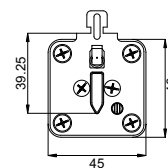
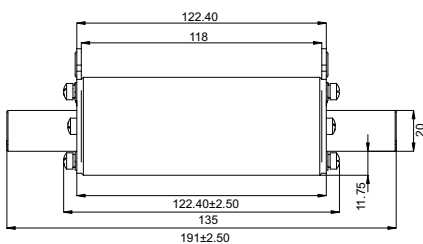
AX6 3160 b 00
↓ ↓ ↓ ↓
1 2 3 4

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	o
AX73160700	160 A	3160		3333.6	20985.6	22.4	38.4	o
AX73200700	200 A	3200		7986.4	48375.2	25.6	45.6	o
AX73250700	250 A	3250		1975.2	12516	18.4	32.8	o
AX73125b00	125 A	3125	10 kA@1500 VDC	2469	15645	23	41	o
AX73160b00	160 A	3160		4167	26232	28	48	o
AX73200b00	200 A	3200		9983	60469	32	57	o
AX73250b00	250 A	3250		18078	101563	39	68	o

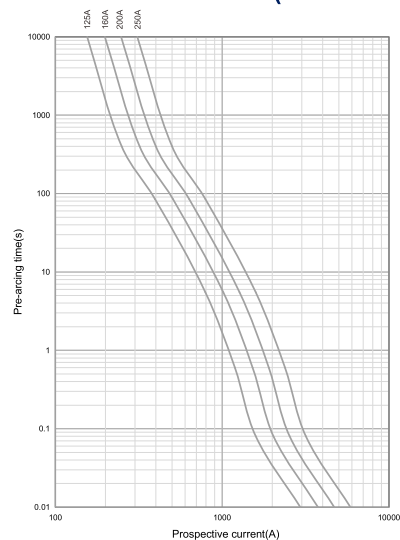
Note: DC cold resistances are measured at <10% of rated current in ambient temperature of 20±5

PART NUMBER SYSTEM

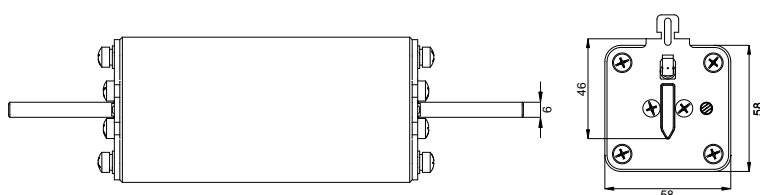
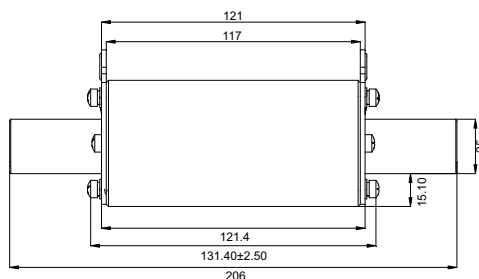
AX7 3160 b 00
 ↓ ↓ ↓ ↓
 1 2 3 4

- 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:

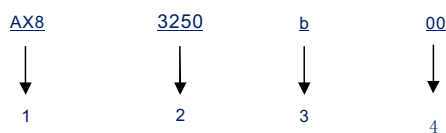
- 1000 / 1500 VDC, PV fuse link
- Rated Current: 250-400 A
- Rated Breaking Capacity: 10 kA
- Time Constant: 1-3 ms
- Standard: Ref. to UL 248-19
- Approval: UL (pending)
- BH03L Fuse base

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	o
AX83315700	315A	3315		33245.6	133088	33.6	62.4	o
AX83355700	355A	3355		32942.4	145278.4	35.2	68	o
AX83400700	400A	3400		14432.8	81143.2	28	52.8	o
AX83250b00	250A	3250	10 kA@1500 VDC	18041	101429	35	66	o
AX83315b00	315A	3315		41557	166360	42	78	o
AX83355b00	355A	3355		41178	181598	44	85	o
AX83400b00	400A	3400		53391	247188	46	88	o

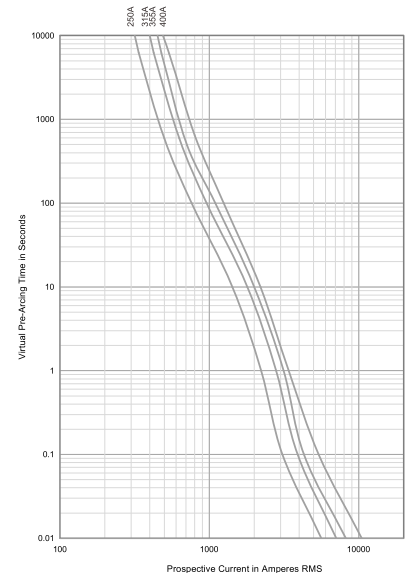
Note: DC cold resistances are measured at <10% of rated current in ambient temperature of 20±5

PART NUMBER SYSTEM

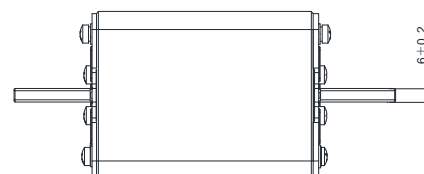
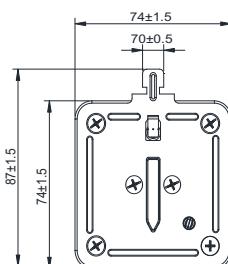
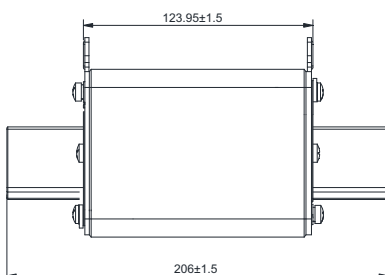


- 1..... Product Series AX8
- 2..... Ampere Code 250 A (see ampere code column of electrical specifications)
- 3..... Rated Voltage 7:1000 V; b: 1500 V
- 4..... Supplementary Code 00: default size

Time Current Curve (reference)



DIMENSIONS (mm)



ASPD 1000VDC PV Surge Protection Device



FEATURES:

- Suitable For Use in All Photovoltaic Systems
- Pre-wired Modular Complete Unit, Consisting of A Base Part and Plug-in Protection Modules
- Plug-in Protection Module, easy Installation and Maintenance
- High Energy Varistor, Response Time Less Than 25 Nanoseconds
- Optional Remote Signal Contact(FM) for Monitoring Device (Floating Changeover Contact)
- Din Rail Mounting TH35-7.5/DIN35
- In Compliance with :EN 50539-11

PRODUCT SPECIFICATIONS

ASPD PV DC Surge Protection Device		
Poles		3P
Standard		EN 50539-11
Electrical Characteristics		
Category IEC/EN		IEC II/EN2
Open Voltage	Uoc Max	1000 VDC
Max Continuous Operational Voltage	Uc	1000 VDC
Nominal Discharge Current	In(8/20)μs	20 kA
Maximum Discharge Current	I _{max} (8/20)μs	40 kA
Voltage Protection Level Up	Up	≤3.8 kV
Response Time	tA	≤25 ns
Control and Indication		
Operating State / Fault Indication		Green/Red
Plug-in Protection Module		Yes
Remote Signalling Contact (Optional)	Max. Working Voltage(V)	30 VDC
	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 (T _u)		-40°C to +80°C
For Mounting on		TH35-7.5/DIN35
Relative Humidity		30% to 90%
Weight kg		0.36

PRODUCT ARCHITECTURE

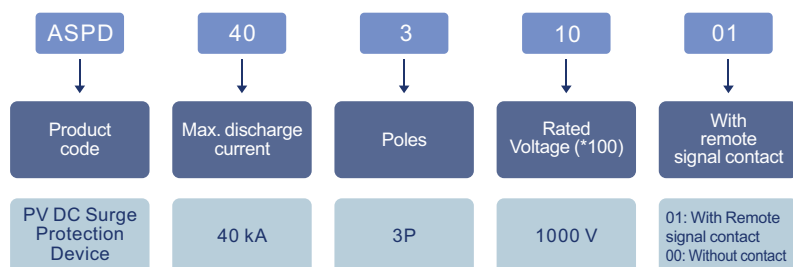


- 1 Brand
- 2 Type
- 3 Max. Discharge Current I_{max}
- 4 Nominal Discharge Current I_n
- 5 Voltage Protection Level U_p
- 6 Max. Continuous Operating Voltage U_{cpv}
- 7 Indicator
- 8 Standard Code
- 9 Certificate Symbol

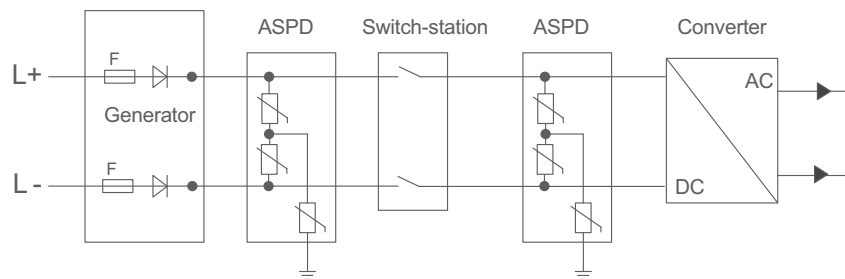
Application

ADLER's ASPD Series PV DC Surge Protection Devices are designed and manufactured complying to PV standard EN50539-11. 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.

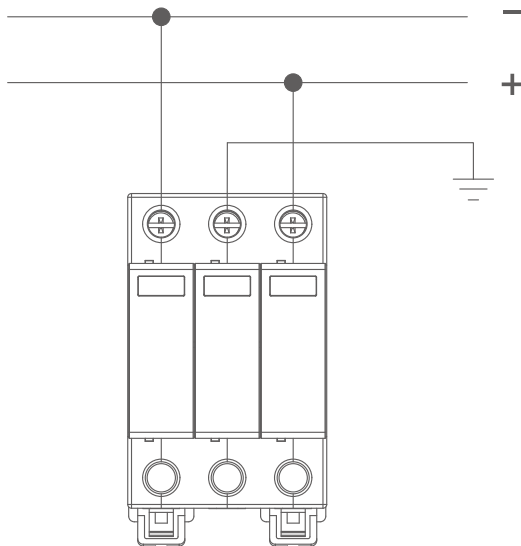
Model Numbering Definitions



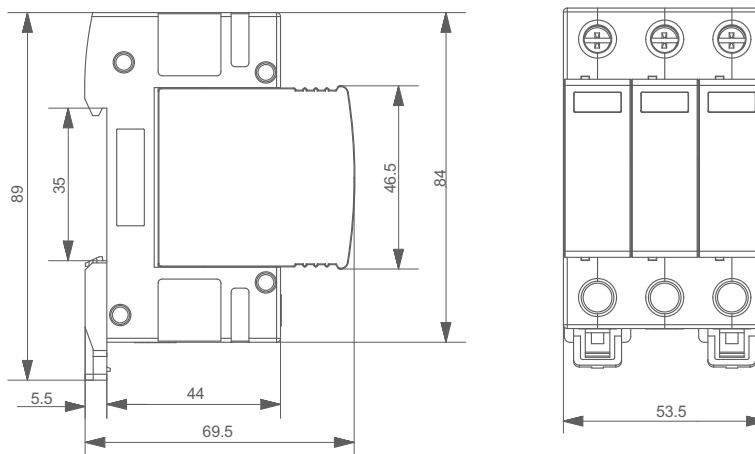
CONNECTION DIAGRAM



WIRING INSTRUCTIONS



DIMENSIONS(mm)



ASPD 1500VDC PV Surge Protection Device



FEATURES:

- Suitable For Use in All Photovoltaic Systems
- Pre-wired Modular Complete Unit, Consisting of A Base Part and Plug-in Protection Modules
- Plug-in Protection Module, easy Installation and Maintainance
- High Energy Varistor, Response Time Less Than 25 Nanoseconds
- Optional Remote Signal Contact(FM) for Monitoring Device (Floating Changeover Contact)
- Ref. to EN 50539-11, GB/T 18802.31

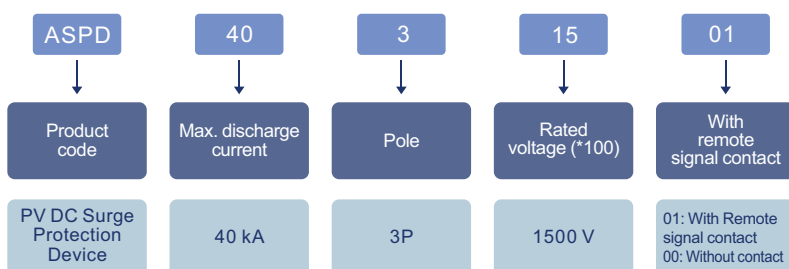
PRODUCT SPECIFICATIONS

ASPD PV DC Surge Protection Device		
Pole		3P
Standard		EN 50539-11 , GB/T 18802.31
Electrical Characteristics		
Open Voltage	Uoc Max	1500 VDC
Max Continuous Operational Voltage	Uc	1800 VDC
Nominal Discharge Current	In(8/20)μs	20 kA
Maximum Discharge Current	I _{max} (8/20)μs	40 kA
Voltage Protection Level Up	Up	≤4.5 kV
Response Time		≤25 ns
Short-circuit Current Rating-Iscpv		220A
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

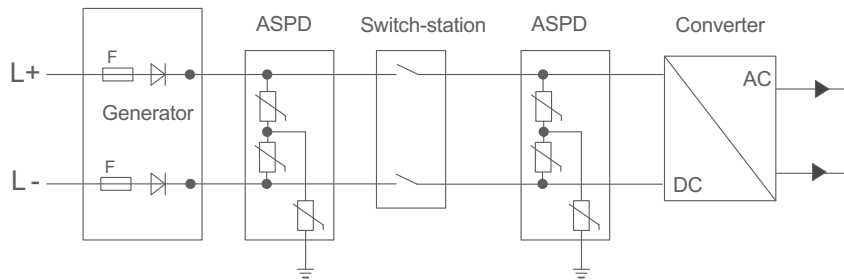
Application

ADLER's ASPD Series PV DC Surge Protection Devices are designed and manufactured complying to PV standard EN50539-11. 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.

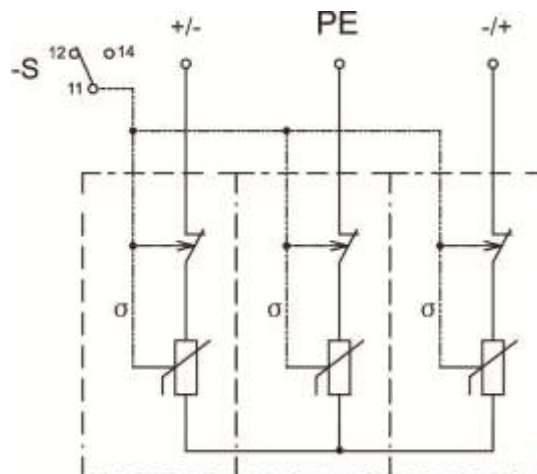
Model Numbering Definitions



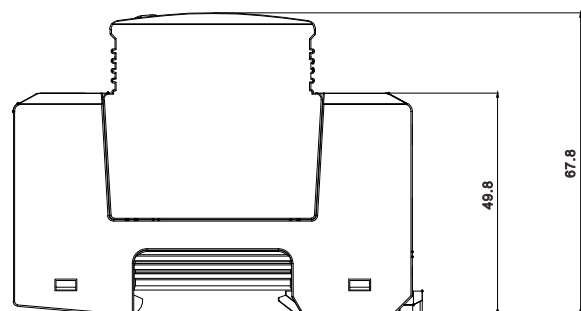
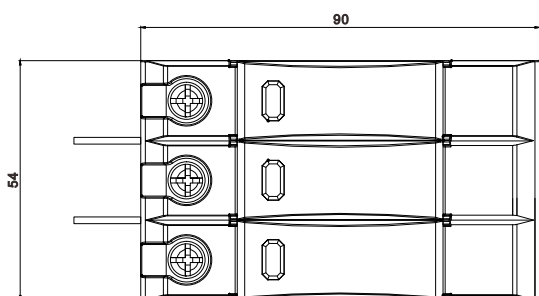
CONNECTION DIAGRAM



Electrical Principle



DIMENSIONS(mm)





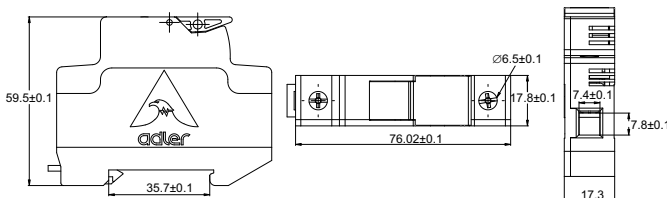
4 Photovoltaic System Components

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

BH100-01 1000V/1100V Fuse Holder



DIMENSIONS: mm



DESCRIPTION:

BH100-01 touch safe holders are designed for 10x38mm DC midjet fuses, especially for use with photovoltaic equipment.

SPECIFICATIONS:

- Rated Voltage: 1000 VDC / 1100 VDC
- Rated Current: up to 30 A / 32 A
- Short Circuit Current Rating (SCCR): DC 30kA@1000VDC / 20kA@1100VDC
- Standards: UL 4248-18, EN 60947-3
- Wire Range: 18 - 8 AWG
- Max. Torque: 3.4 N·m
- Max. Dissipation: 6W
- Operation Temperature: -40°C to +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 BH100-01 touch safe fuse holders are designed for all standard 10x38mm PV fuses such as ADLER A73/A83 series.

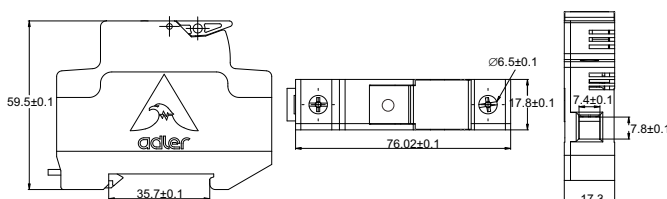
Note:

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

BH100-02 1000V/1100V Fuse Holder



DIMENSIONS: mm



DESCRIPTION:

BH100-02 touch safe holders are 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 / 1100 VDC
- Rated Current: up to 30 A / 32 A
- Short Circuit Current Rating (SCCR): DC 30kA@1000VDC / 20kA@1100VDC
- Standards: UL 4248-18, EN 60947-3
- Wire Range: 18 - 8 AWG
- Max. Torque: 3.4 N·m
- Max. Dissipation: 6W
- Operation Temperature: -40°C to +130°C
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Degree of protection IP20
- UL Listed File: E486822

FEATURES:

ADLER BH100-02 touch safe fuse holders are designed for all standard 10x38mm PV fuses such as ADLER A73/A83 series.

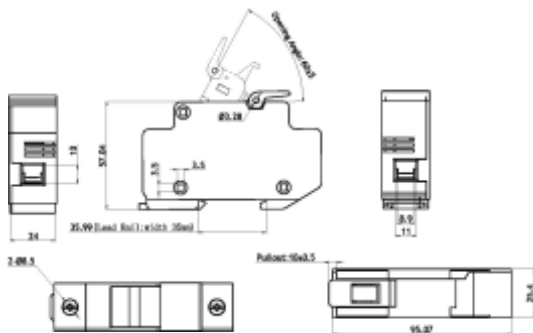
Note:

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

BH200 1500V Fuse Holder



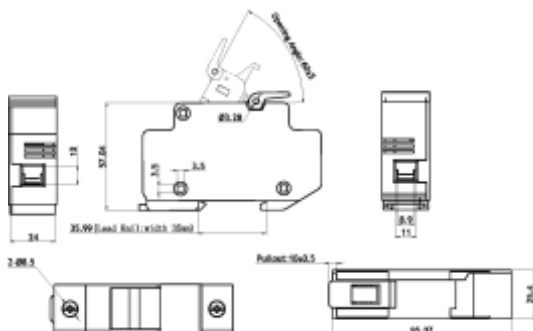
DIMENSIONS: mm



BH201 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): DC 10kA
- Standards: UL 4248-18, EN 60947-3 (10kA@1500V DC)
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Wire Range: 5-13 AWG
- Operation Temperature: -40°C to +150°C
- UL Listed File: E486822
- TUV File: R 50393975

FEATURES:

ADLER BH200 touch safe fuse holders are designed for all standard 14x51mm PV fuses such as ADLER A74 series. With current ratings up to 30A at 1500V DC, this holder provides the most compact and effective solution to protect 1500V DC circuits and equipment in photovoltaic applications.

Note:

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

DESCRIPTION:

The BH201 touch safe holder is designed for 14x51mm fuse links 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 30 A
- Short Circuit Current Rating(SCCR): DC 10kA
- Standards: UL 4248-18, EN 60947-3 (10 kA@1500 VDC)
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Wire Range: 5-13 AWG
- Operation Temperature: -40°C to +150°C
- UL Listed File: E486822
- TUV File: R 50393975

FEATURES:

ADLER BH201 touch safe fuse holders are designed for all standard 14x51mm PV fuses such as ADLER A74 series. With current ratings up to 30A at 1500V DC, this holder provides the most compact and effective solution to protect 1500V DC circuits and equipment in photovoltaic applications.

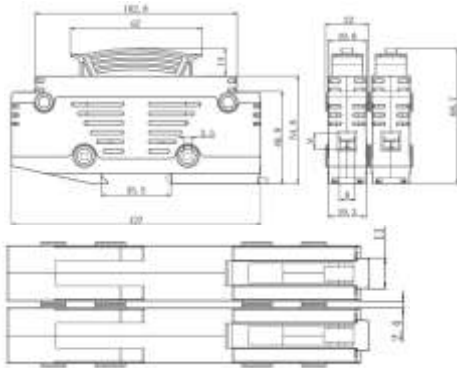
Note:

SCCR is limited to the interrupting rating of the installed fuse or 10kA, which ever 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 (10 kA@1500 VDC)
- Material Flammability: UL 94-V0
- Mounting: DIN Rail mounting
- Wire Range: 6-14 AWG
- Operation Temperature: -40°C to +150°C
- UL Listed File: E486822
- TUV File: R 50394043

FEATURES:

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

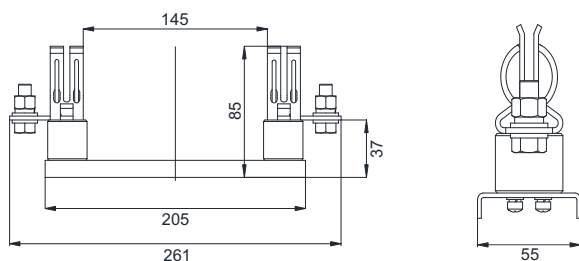
Note:

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

BH1XL Fuse Holder



DIMENSIONS: mm



FEATURES:

- Rated Voltage: 1500 VDC
- Rated Current: 200 A
- Torque: Mounting Plate: 15 N.m
- Terminal Screw(M10): 32 N.m
- Material: Fuse Clip: Silver Plated Copper
- Spring: Zinc Plated Steel
- Mounting Plate: Zinc Plated Steel
- Insulator: Ceramic
- Recommend Fuse: AX6

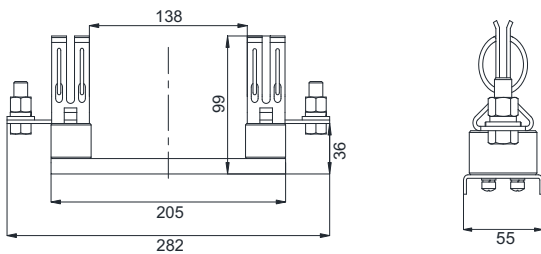
BH03L Fuse Holder



FEATURES:

- Rated Voltage: 1500 VDC
- Rated Current: 630 A
- Torque: Mounting Plate: 15 N.m
- Terminal Screw(M10): 32 N.m
- Material: Fuse Clip: Silver Plated Copper
- Spring: Zinc Plated Steel
- Mounting Plate: Zinc Plated Steel
- Insulator: Ceramic
- Recommend Fuse: AX7, AX8

DIMENSIONS: mm



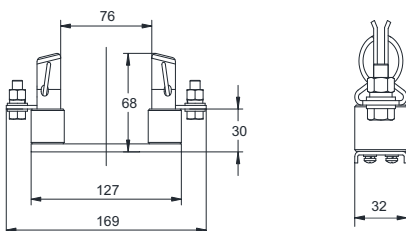
BH03L Fuse Holder



FEATURES:

- Rated Voltage: 1500 VDC
- Rated Current: 200 A
- Torque: Mounting Plate: 15 N.m
- Terminal Screw(M8): 10 N.m
- Material: Fuse Clip: Silver Plated Copper
- Spring: Zinc Plated Steel
- Mounting Plate: Zinc Plated Steel
- Insulator: Ceramic
- Working Temperature: -40 to +90
- Storage Temperature: -40 to +70

DIMENSIONS: mm



BHT100 1000V Terminal Block



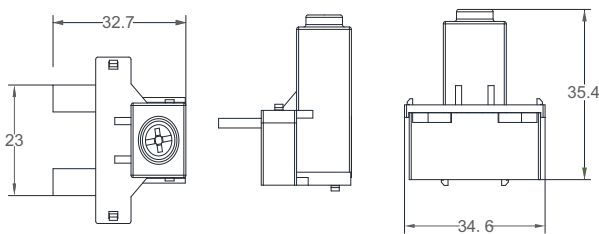
FEATURES:

The insulated BHT100 terminal block is suited for PV installations using ADLER BH100-01, BH100-02 fuse holders.

SPECIFICATIONS:

- Rated Voltage: 1000 VDC
- Rated Current: 60 A
- Torque: 3.0 N.m
- Wire Range: 13-5 AWG
- Operation Temperature: -40°C to +130°C

DIMENSIONS: mm



APPLICATIONS:

At practical application, the module -photovoltaic and combiner box has distance so far, every road wire is longer, at large-scale application, that use a mount of wire, in order reduce use a mount of wire and confirm every road can be protection, use BHT100 connection terminal, parallel of two fuses.

BHT200 1500V Terminal Block



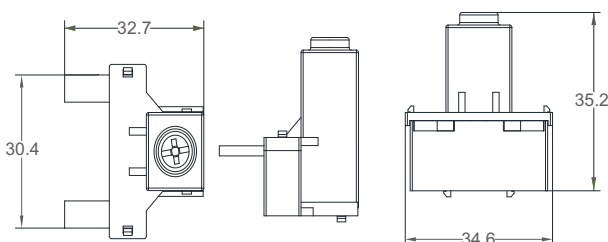
FEATURES:

The insulated BHT200 terminal block is suited for PV installations using ADLER BH200, BH201 fuse holders.

SPECIFICATIONS:

- Rated Voltage: 1500 VDC
- Rated Current: 60 A
- Torque: 3.0 N.m
- Wire Range: 13-5 AWG
- Operation Temperature: -40°C to +130°C

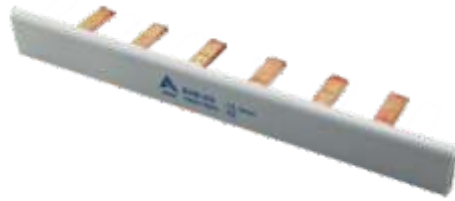
DIMENSIONS: mm



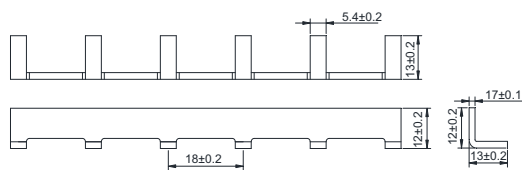
APPLICATIONS:

At practical application, the module -photovoltaic and combiner box has distance so far, every road wire is longer, at large-scale application, that use a mount of wire, in order reduce use a mount of wire and confirm every road can be protection, use BHT200 connection terminal, parallel of two fuses.

BHB100 1000V Busbar



DIMENSIONS: mm



FEATURES:

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

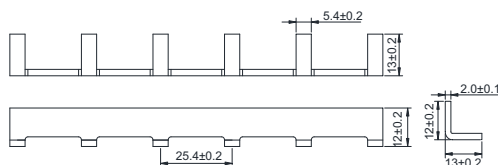
SPECIFICATIONS:

- Insulated 1-pole comb bar, bridge type
- Rated Voltage: 1000 VDC
- Rated Current: 100 A
- Pitch: 18.0mm, Width: 1.7 mm
- Operation Temperature: -40 °C to +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.

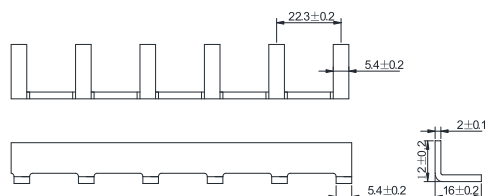
SPECIFICATIONS:

- Insulated 1-pole comb bar, bridge type
- Rated Voltage: 1500 VDC
- Rated Current: 100 A
- Pitch: 25.4mm, Width: 5.4 mm
- Operation Temperature: -40 °C to +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 1-pole comb bar, bridge type
- Rated Voltage: 1500 VDC
- Rated Current: 100 A
- Pitch: 22.3mm, Width: 2.0 mm
- Operation Temperature: -40 °C to +130 °C
- Standard: EN 61439-6: 2012

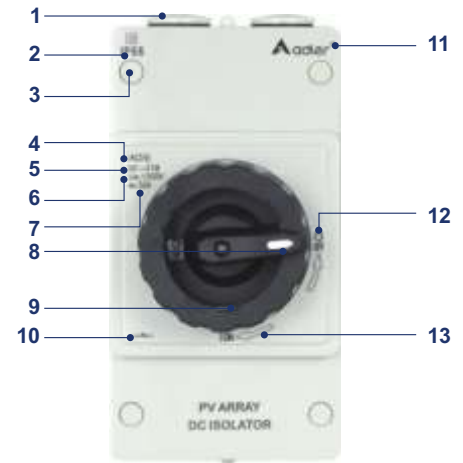


ADIE Series Enclosed PV DC Isolator Switch



FEATURES:

- Compact structure
- Pre-wired DC Main Switch with MC4(optional)
- UV resistant, IP66 enclosure
- Arcing time < 3ms
- "OFF" position Lockable
- IEC60947-3 Standard
- 2P, 3P, 4P, 6P
- DC-21B
- Ui:1500V/Uimp:8kV



Model Numbering Definitions

ADIE	63	4T	15	16	00
Product Code	Conventional free air thermal current	Type Number	Rated Voltage(*100)	Rated Current	Assembly
DC Isolator Switch with Enclosure	63 A	2-pole with Input and Output on top	06: 600V 08: 800V 10: 1000V 12: 1200V 15: 1500V	16 A	00: Standard

- 1 Waterproof Plug
- 2 IP66 Ingress Protection
- 3 Sealed Plug
- 4 Type
- 5 Application Category
- 6 Rated Voltage
- 7 Rated Current
- 8 Knob
- 9 Lockable
- 10 Electrical Diagram
- 11 Brand
- 12 OFF
- 13 ON











Technical Specifications

Technical date	Symbol	Merit	Unit
Rated operational voltage(DC poles)	Ue		VDC
Rated operational current(DC poles)	Ie		VDC
Conventional free air thermal current	Ith	63	A
Rated impulse withstand voltage	Uimp	8	kV
Rated short-time withstand current(1s)	Icw	8	kA
Rated short-circuit making capacity	Icm	8	kA
Rated conditional short-circuit current		8	kA
Standard Short Circuit Rating		5	kA
High-Fault Short Circuit Rating		8	kA
Insulation voltage	Ui	1500	V
Category DC		DC-21B	
Number of cycles of operation(With current)		3000times(6T Type is 2200 times only)	
Number of cycles of operation(With current)		7000	
Number of DC poles		4/6	
Method of mounting		Standard TH35-7.5 DIN rail mounting	
Method of operating		independent manual operation	
Knob operation force	max	1.4	N.m
Tightening torque terminal screws M4,-max.M4	1.2	1.8	N.m
Tightening torque panel mounting nut,min.-max.	2.5	3.0	N.m
Tightening torque M3 screw in the standard black knob,min.-max.	0.5	0.7	N.m
Ambient temperature allowed between		-40 to +70	°C
Storage temperature allowed between		-40 to +85	°C
Maximum relative humidity,without condensation at 20°C		90	%
Pollution degree		2	
IP rating terminals		IP66	





















Application:

ADLER's ADIE Series DC Isolator Switch with plastic enclosure is designed for 1-20 kw residential and commercial PV systems, it is usually installed between solar panels and inverter. With an arcing time of less than 3 ms the switch provides highest precision and safety. Using highest quality materials and designed to gPV test standards this isolator switch will ensure best accuracy and a long working life.

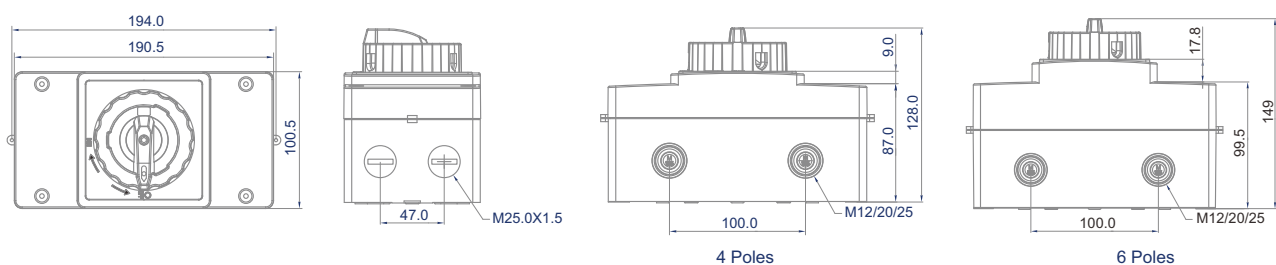
Wiring Instructions

Contact Configuration	DC-21B Rating						Poles in series	Number of Strings	Type Number	Weight kg/pcs
	600V	800V	900V	1000V	1200V	1500V				
	50A						2	1	2H	0.91
	32A	23A 30A		16A 20A	10A	5A	2	2	04	0.91
				40A	32A	16A	4	1	4S	0.91
				40A	32A	16A	4	1	4B	0.91
					32A	16A	4	1	4T	0.91
	32A	23A 30A		16A 20A	10A	5A	2	3	06	1.05
	63A						2	1	3H	1.05
						32A	6	1	6S	1.05
						32A	6	1	6B	1.05
				40A			3	2	6T	1.05

Switching Configurations

Type	2-pole 4Parlleled poles	4-pole	2-pole with Input on top Output bottom	2-pole with Input and Output bottom	2-pole with Input and Output on top	6-pole	2-pole 6Parlleled poles	2-pole with Input on top Output bottom	2-pole with Input and Output bottom	4-pole with Input and Output bottom
Part Number	2H	04	4S	4B	4T	06	3H	6S	6B	6T
Contacts Wiring diagram										
Switching example										

Dimensions(mm)



ADIS Series PV DC Isolator Switch



ADIS-1

ADIS-1 1200 VDC Isolator Switch

- Rated Voltage 1200 VDC
- Single Hole Mounting Ø22 mm
- Flame-Retardant
- Arcing Time <3 ms
- IEC60947-3
- 4 poles(Single|Double Strings Available)
- DC-21B: 16 A,25 A,32 A up to 1200 VDC



ADIS-3

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.



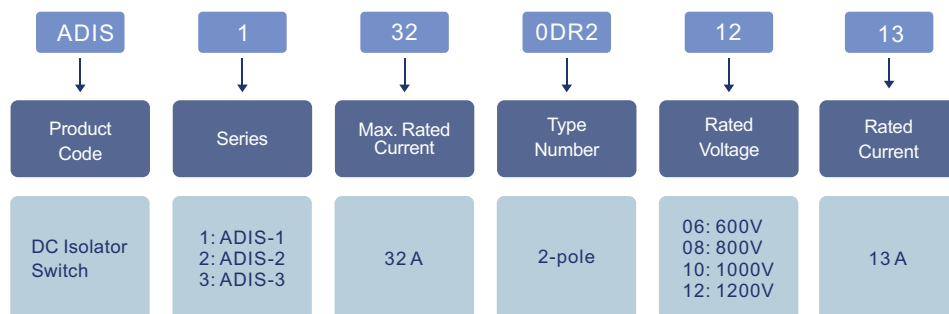
ADIS-2

- ADIS-2: DIN Rail Mounting;
- ADIS-3: DIN Rail Mounting Door Clutch
- OFF - Lock
- Flame-Retardant
- Arcing Time <3 ms
- IEC60947-3
- 4Poles(Single|Double Strings Available)
- DC-21B: 16 A,25 A,32 A up to 1200 VDC


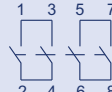

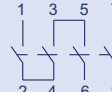
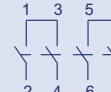
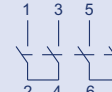

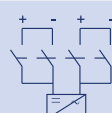
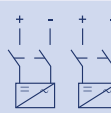
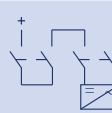
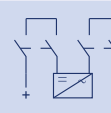
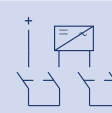
Product Specifications

Electrical Characteristics		
Function		Isolator, Control
Compliance		IEC60947-3
Poles		4P
Max Rated Current		32 A
Rated Operational Voltage	Ue	1200 VDC
Rated Current	In	16 A/25 A/32 A
Rated Insulated Voltage	Ui	1200 VDC
Rated Impulsed Withstand Voltage	Uimp	8 kV
Service Life/Cycle Operation		
Mechanical		20000
Electrical		500
Installation Environment		
Size of Terminal Screw		M4
Tightening Torque	Nm	2.5
Maximum Cable Cross Sections	mm ²	4-16
Ingress Protection		IP20
Storage Temperature		-25°C to +85°C







Model Numbering Definitions



Switching Configurations

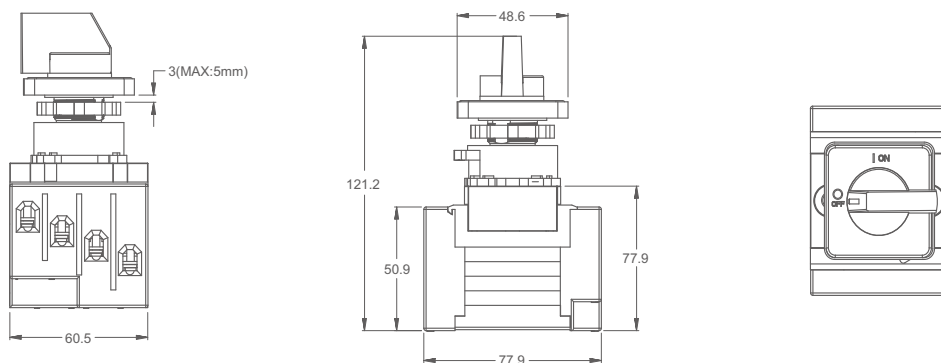
Model	2-pole	2-pole 4 Paralleled Poles	4-pole	4-pole with Input on top Output bottom	4-pole with Input and Output bottom	4-pole with Input and Output on top
ADIS-1/2/3 16 A	2	2H	4	4S	4B	4T
ADIS-1/2/3 25 A	2	2H	4	4S	4B	4T
ADIS-1/2/3 32 A	2	2H	4	4S	4B	4T
Contacts Wiring graph						
Switching example						

Wiring Instructions

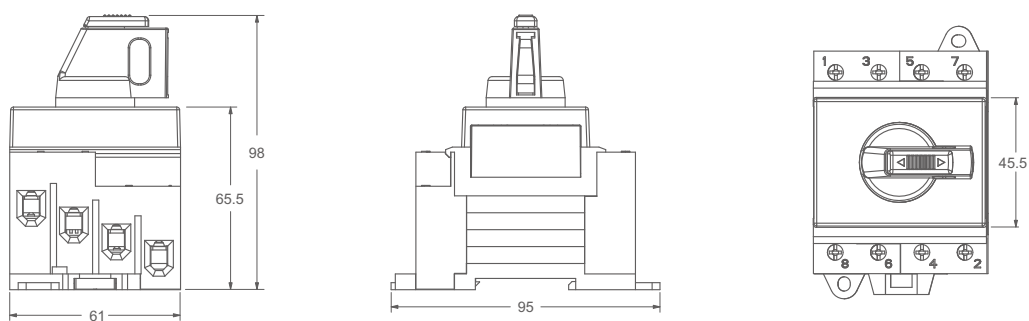
Contacts Configuration	600V	800V	1000V	1200V	Poles in series	Number of Strings	Code	Weight kg/PCS
	16A	16A	9A		2	1	DR2	0.23
	25A	20A	11A	9A	2	1	DR2	0.23
	32A	23A	13A	13A	2	1	DR2	0.23
	29A	16A	9A		2	1	DR2H	0.25
	45A	20A	11A	9A	2	1	DR2H	0.25
	50A	23A	13A	13A	2	1	DR2H	0.25
	16A	16A	9A		2	2	DR4	0.23
	25A	20A	11A	9A	2	2	DR4	0.23
	32A	23A	13A	13A	2	2	DR4	0.23
	16A	16A	16A	16A	4	1	DR4S	0.24
	25A	25A	25A	25A	4	1	DR4S	0.24
	32A	32A	32A	32A	4	1	DR4S	0.24
	16A	16A	16A	16A	4	1	DR4B	0.24
	25A	25A	25A	25A	4	1	DR4B	0.24
	32A	32A	32A	32A	4	1	DR4B	0.24
	16A	16A	16A	16A	4	1	DR4T	0.24
	25A	25A	25A	25A	4	1	DR4T	0.24
	32A	32A	32A	32A	4	1	DR4T	0.24

Dimensions(mm)

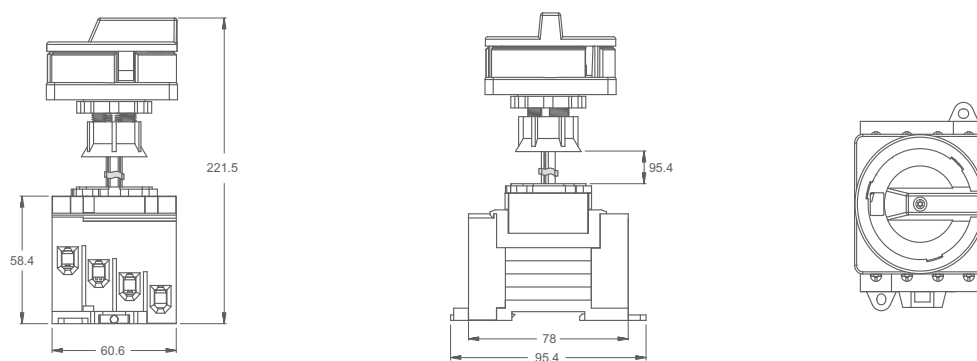
ADIS-1



ADIS-2 DIN Rail Mounting



ADIS-3 DIN Rail Mounting, Door Clutch



ADII Series PV Inverter DC Isolator Switch



ADII-1 63 A DC Isolator Switch

- Panel Mounting
- Compact Structure
- Arcing time < 3 ms
- Busbar Design, Easy Installation
- Flame-Retardant
- Special Modular Design
- IEC60947-3 Standard
- DC-21B: 3 A, 16 A, 32 A up to 1500 VDC



ADII-2 63 A DC Isolator Switch

- Din Rail Mounting And Fixed Mounting
- Compact Structure
- Arcing Time < 3 ms
- Busbar Design, Easy Installation
- Flame-retardant
- Special Modular Design
- IEC60947-3 Standard
- DC-21B: 3 A, 16 A, 32 A up to 1500 VDC

Product Specifications

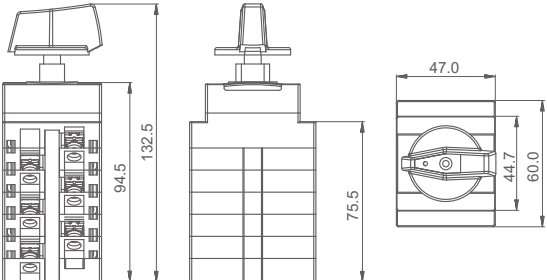
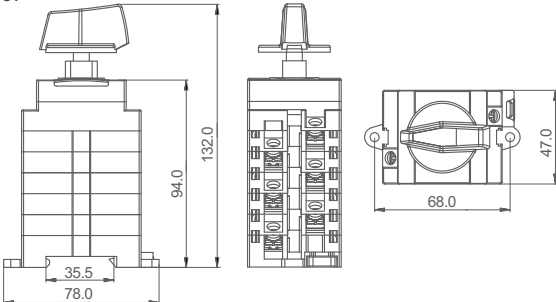
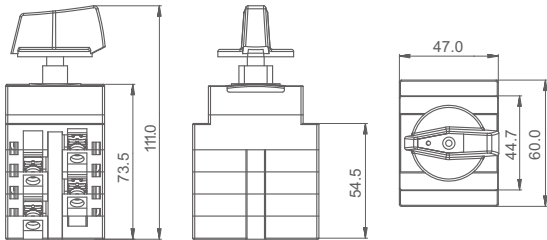
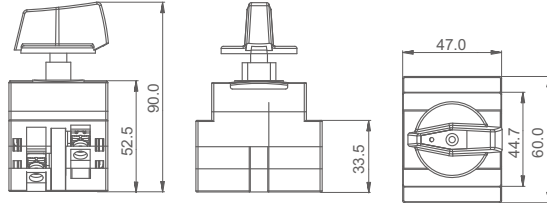
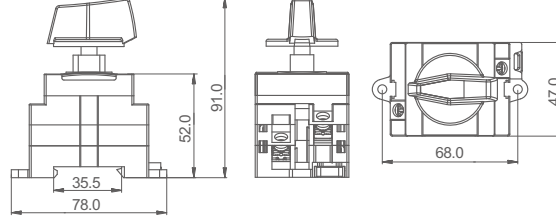
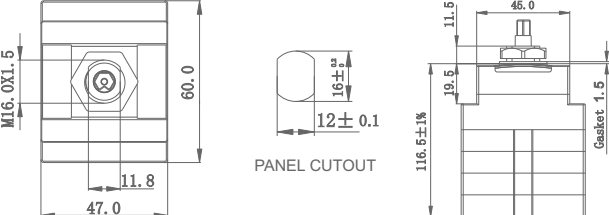
Technical data	Symbol	Merit	Unit
Rated operational voltage (DC poles)	Ue		
Rated operational current (DC poles)	Ie		
Conventional free air thermal current	Ith	63	A
Rated impulse withstand voltage	Uimp	8	kV
Rated short-time withstand current (1s)	Icw	8	kA
Rated short-circuit making capacity	Icm	8	kA
Rated conditional short-circuit current		8	kA
Standard Short Circuit Rating		5	kA
High-Fault Short Circuit Rating		8	kA
Insulation voltage	Ui	1500	V
Installation Environment			
Utilization category DC		DC-21B	
Number of cycles of operation (With current)		3000 times (6T Type is 2200 times only)	
Number of cycles of operation (Without current)		7000 times	
Number of DC poles		1/2/3/4/6/8	
Method of mounting		Panel mounting Standard TH35-7.5 DIN rail mounting	
Method of operation		independent manual operation	
Knob operation force	max.	1.4	Nm
Tightening torque terminal screws M4, min. - max. M4	1.2	1.8	Nm
Tightening torque panel mounting nut, min. - max.	2.5	3.0	Nm
Tightening torque M3 screw in the standard black knob, min. - max.	0.5	0.7	Nm
Ambient temperature allowed between		-40 °C - +70 °C	
Storage temperature allowed between		-40 °C - +85 °C	
Maximum relative humidity, without condensation at 20 °C		90%	
Pollution degree		2	
IP rating terminals		IP20	
IP rating gland of the shaft in case of single hole panel mounting		IP66	

Application

ADLER's ADII series DC Isolator Switches are designed for PV solar power systems, in applications between 1 kW to 20 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 currents of 32 A, combining innovative design with a compact structure.

Model Numbering Definitions

ADII	1	63	02	12	10
↓	↓	↓	↓	↓	↓
Product Code	Series	Max. Rated Current	Type Number	Rated Voltage	Rated Current
DC Isolator Switch	1: Panel mounting 2: DIN rail mounting	63 A	2-pole	05: 500V 06: 600V 08: 800V 09: 900V 10: 1000V 12: 1200V 15: 1500V	10 A

ADII-1	ADII-2
<p>6P</p>  <p>6P</p> 	<p>6P</p> 
<p>4P</p> 	<p>4P</p> 
<p>2P</p> 	<p>2P</p> 
<p>8P</p> 	

Switching Configurations


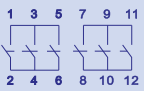





Type	1-pole	2-pole	3-pole	2-pole 4Parlleled poles	4-pole	2-pole with Input on top Output bottom	2-pole with Input and Output bottom	2-pole with Input and Output on top
Part Number	01	02	03	2H	04	4S	4B	4T
Contacts Wiring diagram								
Switching example								

Type	6-pole	2-pole 6Parlleled poles	2-pole with Input on top Output bottom	2-pole with Input and Output bottom	4-pole with Input and Output bottom	8-pole	2-pole 8Parlleled poles
Part Number	06	3H	6S	6B	6T	08	4H
Contacts Wiring diagram							
Switching example							

Wiring Instructions

Contact Configuration	DC-21B Rating							Poles in series	of Strings	Type Number	Weight kg/pcs
	500V	600V	800V	900V	1000V	1200V	1500V				
		12A	8A	6A	4A			2	1	02	0.18
	32A	32A	25A	20A	16A	16A	5A	2	1	02	0.18
			30		20A						
		20A	16A	13A	11A	9A	3A	2	2	03	0.18
		50A						2	1	2H	0.26
	32A	32A	23A		16A	10A	5A	2	2	04	0.26
			30		20A						
					40A	32A	16A	4	1	4S	0.26
					40A	32A	16A	4	1	4B	0.26
						32A	16A	4	1	4T	0.26

Wiring Instructions

Contact Configuration	DC-21B Rating							Poles in series	Number of Strings	Type Number	Weight kg/pcs
	500V	600V	800V	900V	1000V	1200V	1500V				
	32A	32A	23A 30A		16A 20A	10A	5A	2	3	06	0.33
	63A	63A						2	1	3H	0.33
							32A	6	1	6S	0.33
							32A	6	1	6B	0.33
					40A			3	2	6T	0.33
	32A	32A	23A	20A	16A	10A	5A	2	4	08	0.4
			63A					4	1	4H	0.4

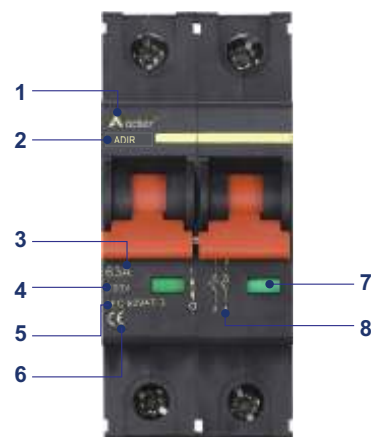
ADIR Series PV Rail-Mount DC Isolator Switch



Features

- Non-polar design
- Functions: Unfrequent operation and Isolation
- Rated Current: Up to 63 A
- Rated Voltage: 1200 VDC
- Flash Barrier for better system safety
- In Compliance with: IEC60947-3/GB14048-3

Product Architecture



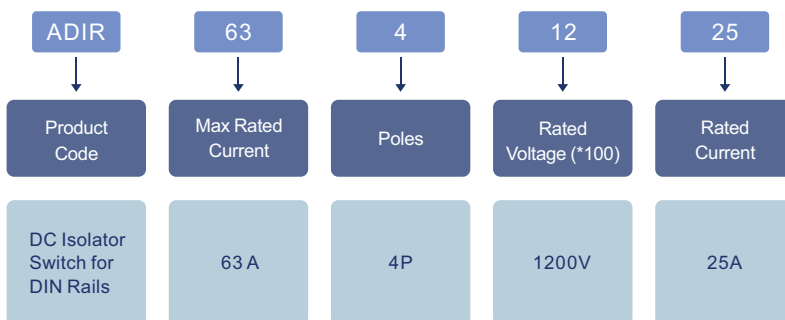
- 1 Brand
- 2 Type
- 3 Rated Current
- 4 Rated Voltage
- 5 Standard Code
- 6 Certificate Symbol
- 7 Indicator
- 8 Wiring Diagram

Product Specifications

Electrical Characteristics					
Model		ADIR			
Comply With		IEC60947-3/GB14048.3			
Poles		1P	2P	3P	4P
Rated Working Voltage	Ue	300 VDC	600 VDC	900 VDC	1200 VDC
Max Rated Current		63 A			
Rated Current	In	25 A,40 A,63 A			
Rated Insulated Voltage	Ui	1200 VDC			
Rated Impulsed Voltage	Uimp	6 kv			
Service Life/cycle Operation					
Mechanical	Actual Value	20000			
	Standard Value	8500			
Electrical	Actual Value	4000			
	Standard Value	1500			
Isolator Function		6KY			
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 (at humidity level of 55 %, relative humidity 95 %)			
Resistance to Shock		2.6 IEC60068			
Resistance to Impact		2.27 IEC60068			








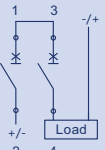
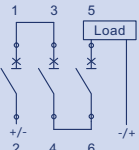
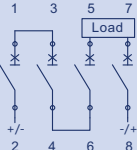
Model Numbering Definitions



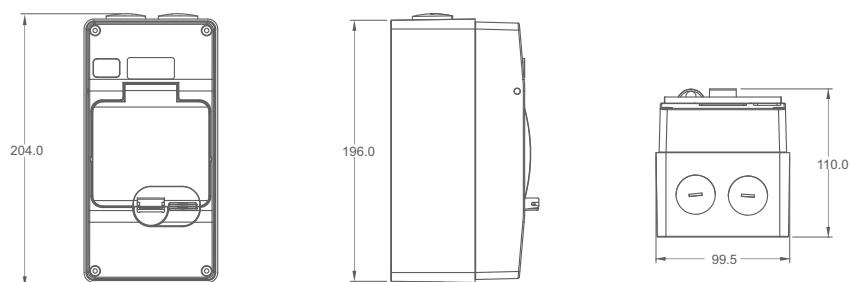
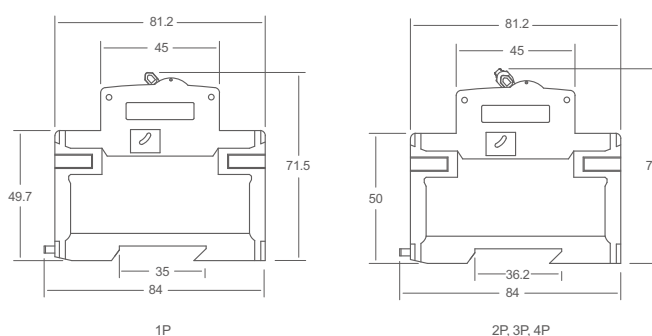
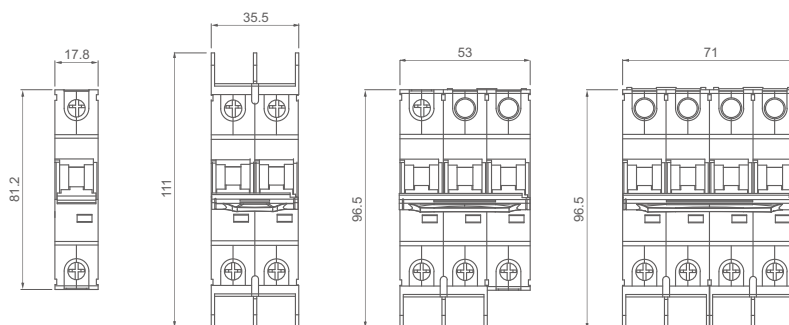
Application

ADLER's ADIR Series PV Rail-Mounted DC Isolator switches are mainly used in PV solar power systems, applied in DC solar combiner box, controller etc. At operational voltage of up to 1200 VDC and currents of up to 63 A, they provide effective disconnection and Anti-reflux protection. The scientific design of the arc-extinguishing system increases the safety of the PV system.

Wiring Instructions

Poles	1P	2P	3P	4P
Type				
Contacts Wiring graph				

Dimensions(mm)



ADIM Series PV Moulded Case DC Isolator Switch



Features

- High Insulation Performance
- Ideal for random operation and DC isolation
- Rated Voltage up to 1200 VDC
- Rated Current: 125 A, 250 A, 400 A, 630 A
- IEC60947-3, GB14048-3

Product Specifications

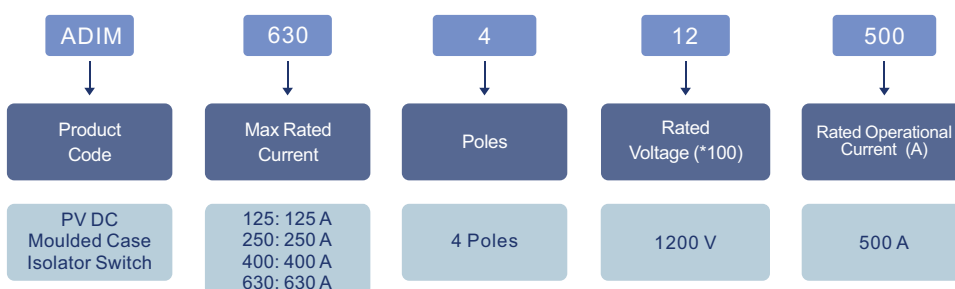
ADIM series PV DC Moulded Case Isolator Switch					
Type	ADIM-125		ADIM-250	ADIM-400	ADIM-630
Poles	4P				
Max Rated Current	125 A	250 A	400 A	630 A	
Electrical Characteristics					
Rated Operational Voltage	Ue	1200 VDC			
Rated Operational Current	In(A)	60/80 100/125	125/160 200/250	250/300/315 350/400	400/500/630
Rated Insulated Voltage	Ui	1200 VDC			
Impulsed Withstand Voltage	Uimp	8 kV			
1 Min Power Frequency Withstand Voltage		3.8 kV			
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	5000
Electrical		5000	5000	1500	1500
Size (L x W x H)		150x122x92	165x140x89	258x198x107	282x282x115
Ingress Protection		All Sides IP40 ,Connection Terminal IP20			
Installation Environment					
Comply with		IEC60947-3/GB14048.3			
Storage Temperature		-45°C to +70°C			

Product Architecture



- 1 Brand
- 2 Type
- 3 Rated Current
- 4 Rated Voltage
- 5 Rated Short-time Withstand Current
- 6 Standard Code
- 7 Certificate Symbol
- 8 Wiring Diagram

Model Numbering Definitions

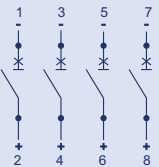
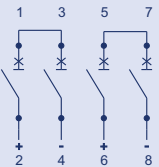
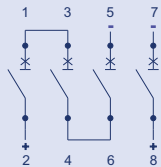
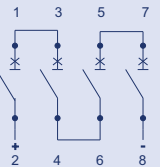
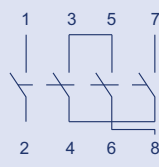


Application

ADLER's ADIM PV DC Isolator Switches are designed for protection in large scale solar power systems and for operation in DC combiner boxes , inverter equipment and DC power distribution cabinets. They support an operational voltage of up to 1200 VDC and rated currents of up to 630 A to effectively isolate DC current.

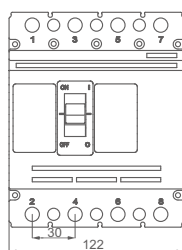
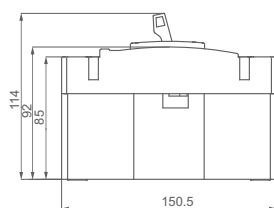
Type	ADIM-125A	ADIM-250A	ADIM-400A	ADIM-630A
Picture				

Wiring Instructions

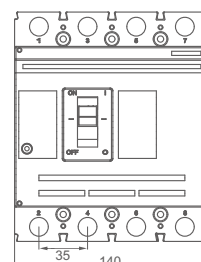
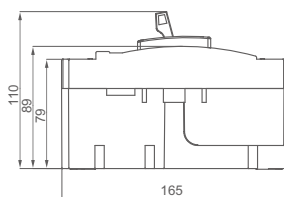
	Type Y				Type S
Connection Wiring graph					

Dimensions(mm)

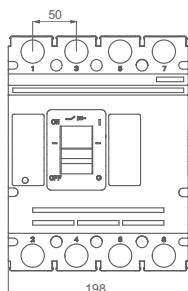
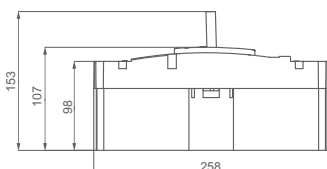
125 A



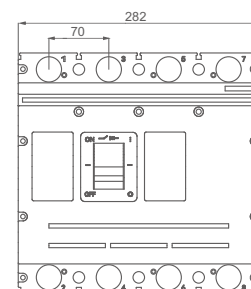
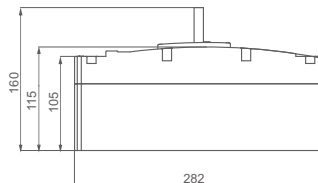
250 A



400 A



630 A



ADCR Series PV Rail-Mount DC Circuit Breakers



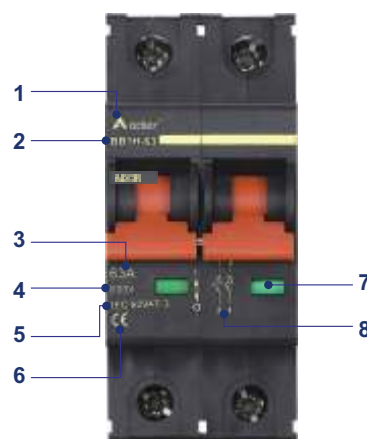
Features

- 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 : IEC60947-2/GB14048-2

Parameter

Electrical Characteristics					
Type		ADCR			
Comply with		IEC60947-2/GB14048.2			
Poles		1P	2P	3P	4P
Rated Working Voltage	Ue	300 VDC	600 VDC	900 VDC	1200 VDC
Max Rated Current		63A			
Rated Current	In	4 A, 6 A, 10 A, 13 A, 16 A, 20 A, 25 A, 32 A, 40 A, 50 A, 63 A			
Rated Insulated Voltage	Ui	1200 VDC			
Rated Impulsed Voltage	Uimp	4 kV			
Ultimate Breaking Capacity	Icu	6 kV			
Run Breaking Capacity	Ics	100 %			
Curve Type		B			
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℃ to +70℃			
Storage Temperature		-40℃ to +85℃			
Resistance to Humidity And Heat		II (at humidity levels up to 55 % , Relative Humidity 95 %)			
Resistance to Shock		2.6 IEC60068			
Resistance to Impact		2.27 IEC60068			

Product Architecture



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







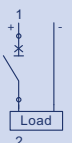
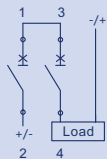
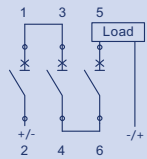
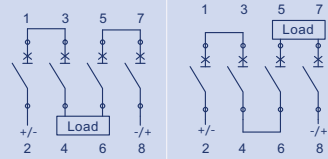
Model Numbering Definitions

ADCR	63	4	12	03
Product Code	Max Rated Current	Poles	Rated Voltage (*100)	Rated Current
PV Rail Mount Circuit Breaker	63 A	1: 1 Pole 2: 2 Poles 3: 3 Poles 4: 4 Poles	03: 300 V 06: 600 V 09: 900 V 12: 1200 V	3 A

Application

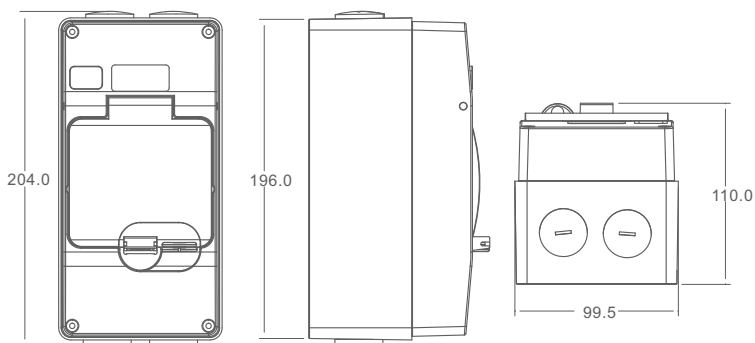
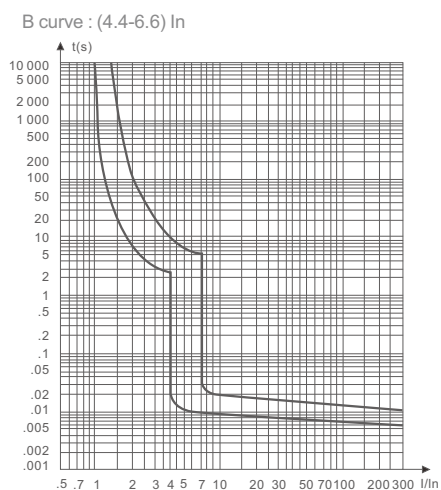
ADLER's ADCR Series PV Circuit Breakers are mainly applied to DC solar combiner box ,Controller etc. The main function include overload protection, Anti-reflux protection and short-circuit protection. The scientific design of the arc-extinguishing system increase the safety of the solar system.They support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

Wiring Method

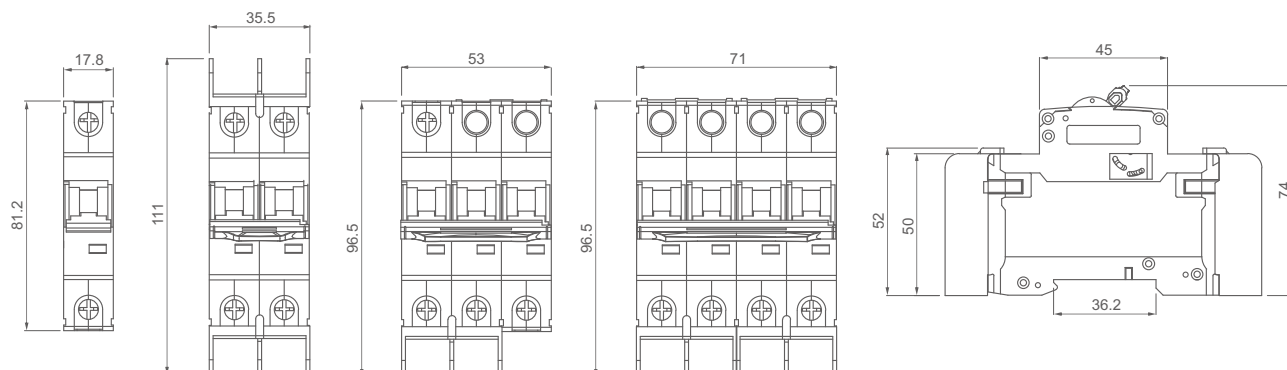
Poles	1P	2P	3P	4P
Type				
Contacts Wiring graph				

Characteristic Curve

Dimensions(mm)



Dimensions(mm)



ADCM Series PV Moulded Case DC Circuit Breakers



Features

- 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, 630 A
- IEC60947-2, GB14048-2
- Easy Installation

Product Specifications

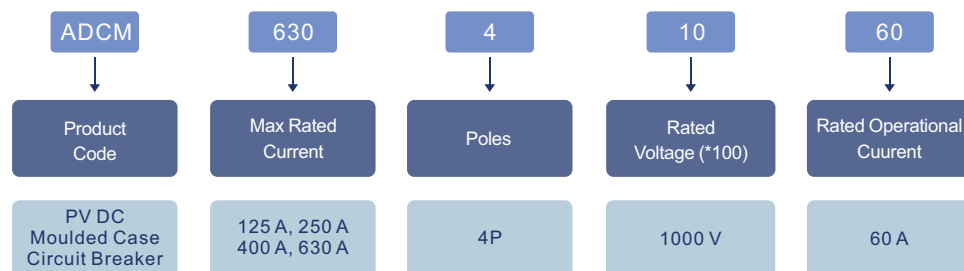
ADCM Series					
Type		ADCM-125	ADCM-250	ADCM-400	ADCM-630
Poles		4P	4P	4P	4P
Max Rated Current		125 A	250 A	400 A	630 A
Electrical Characteristics					
Rated Operational Voltage		Ue	1000 VDC	1000 VDC	1000 VDC
Rated Operational Current		In(A)	63/80 100/125	125/160 200/250	250/300/315 350/400
Rated Insulation Voltage		Ui	1000 VDC		
Impulsed Withstand 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	5000
Electrical		5000	5000	1500	1500
Size (L x W x H)		150x122x92	165x140x89	257x198x107	282x282x115
Ingress Protection		All Sides IP40 ,Connection Terminal IP20			
Installation Environment					
Comply With		IEC60947-2/GB14048.2			
Storage Temperature		-25°C~+70°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

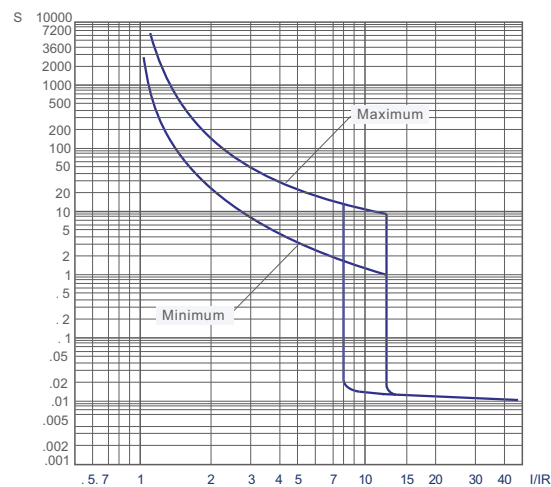
Model Numbering Definitions



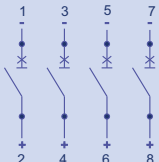
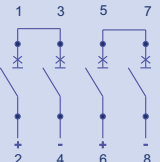
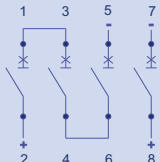
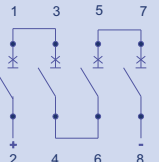
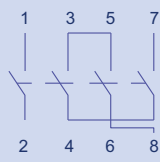
Application

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 a voltage of up to 1000 VDC, and rated currents of up to 630 A, for optimal protection against overloads and short circuit protection.

Characteristic Curve

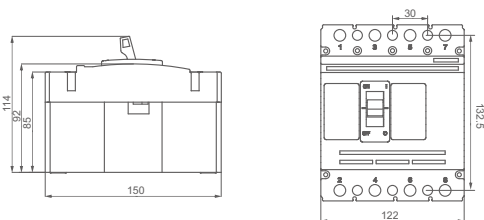


Type	ADCM-125	ADCM-250	ADCM-400	ADCM-630
Picture				

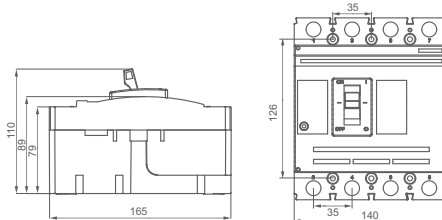
	Type Y MCCB				Type S MCCB
Contacts Wiring graph					

Dimensions(mm)

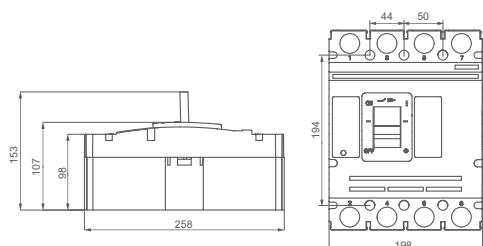
125A



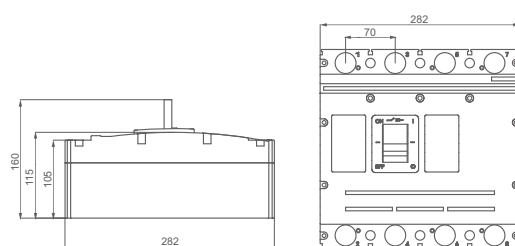
250A



400A



630A





HIGH SPEED FUSES
AND SYSTEM PROTECTION



IATF 16949
ISO 9001-2015

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