

BUD

PV DC Surge Protection Device

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BUD-40/2 PV DC Surge Protection Device



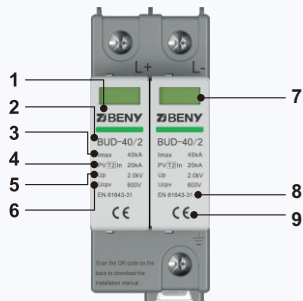
- 1 Brand
- 2 Type
- 3 Max. Discharge Current I_{max}
- 4 Nominal Discharge Current I_n
- 5 Voltage Protection Level U_p
- 6 Max. Continuous Operating Voltage U_{cpv}
- 7 Indicator
- 8 Standard Code
- 9 Certificate Symbol

- Suitable For Use in All Photovoltaic Systems
- Prewired Modular Complete Unit, Consisting of A Base Part and Plug-in Protection Modules
- Plug-in Protection Module, Easily Installation and Maintainance
- High Energy Varistor, Response Time Less Than 25 Nanosecond
- Optional Remote Signalling Contact(FM) for Monitoring Device (Floating Changeover Contact)
- Din Rail Mounting TH35-7.5/DIN35
- Comply with :EN 61643-31

Application

BENY PV DC BUD-40/2 Surge Protection Device was designed and manufactured, complying the PV standard EN61643-31, It widely used in PV DCcombiner box, inverter, controller and PV DC cabinet. Rated voltage 600V DC,Maximum discharge current 40KA,High Energy Varistor, high effective for lightning protection.

Appearance Introduction



Type Instruction

BUD	-	40	/	2	R	600V
↓		↓		↓	↓	↓
Product code		Max. discharge current		Pole	With Remote signalling contact	Rated Voltage
PV DC Surge Protection Device		40KA		2P	R: With Remote signalling contact Non: Without contact	600V

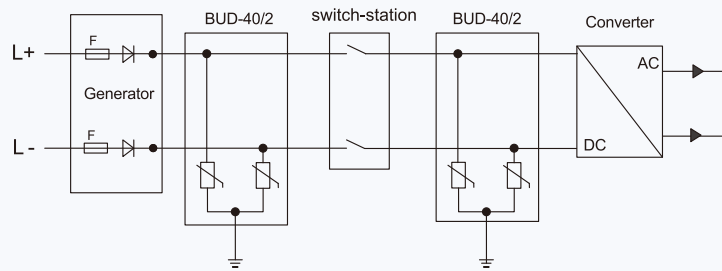
Parameter

PV DC BUD-40/2 Surge Protection Device		
Pole		2P
Standard		EN 61643-31
Electrical Characteristics		
Category IEC/EN		IEC II/EN2
Open Voltage	Uoc Max	600V DC
Max Continuous Operational Voltage	Ucpv	600V DC
Nominal Discharge Current	In(8/20)μs	20kA
Maximum Discharge Current	Imax(8/20)μs	40kA
Voltage Protection Level	Up	≤2.0kV
Response Time		≤25ns
Control and Indication		
Operating State/fault Indication		Green/Red
Plug-in Protection Module		■
Remote Signalling Contact(Optional)	Max. Working Voltage(V)	30V DC
	Max. Working Current	1A
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~+80°C
For Mounting on		TH35-7.5/DIN35
Relative Humidity		30%~90%
Weight kg		0.24

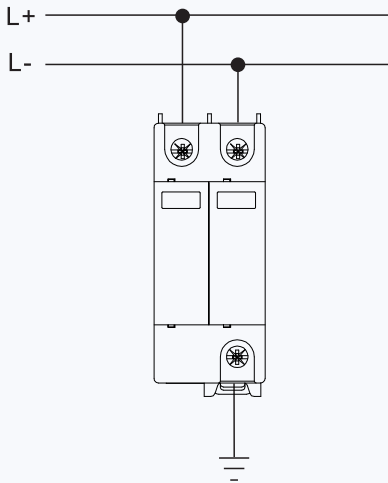
BUD-40/2
PV DC Surge
Protection Device



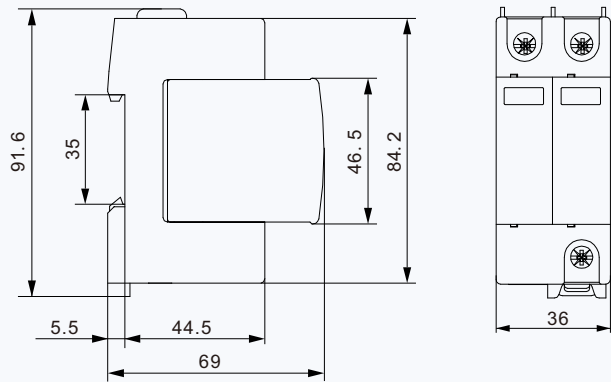
Principal Drawing



Wiring Method



Dimensions(mm)



BUD-40/3
PV DC Surge
Protection Device



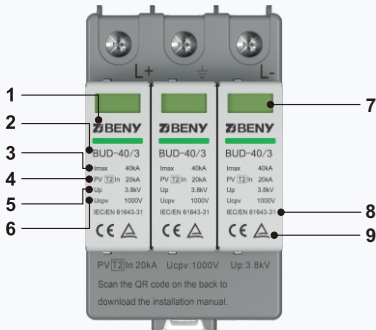
- 1 Brand
- 2 Type
- 3 Max. Discharge Current I_{max}
- 4 Nominal Discharge Current I_n
- 5 Voltage Protection Level U_p
- 6 Max. Continuous Operating Voltage U_{cpv}
- 7 Indicator
- 8 Standard Code
- 9 Certificate Symbol

- Suitable For Use in All Photovoltaic Systems
- Prewired Modular Complete Unit, Consisting of A Base Part and Plug-in Protection Modules
- Plug-in Protection Module, Easily Installation and Maintainance
- High Energy Varistor, Response Time Less Than 25 Nanosecond
- Optional Remote Signalling Contact(FM) for Monitoring Device (Floating Changeover Contact)
- Din Rail Mounting TH35-7.5/DIN35
- Comply with :IEC/EN 61643-31

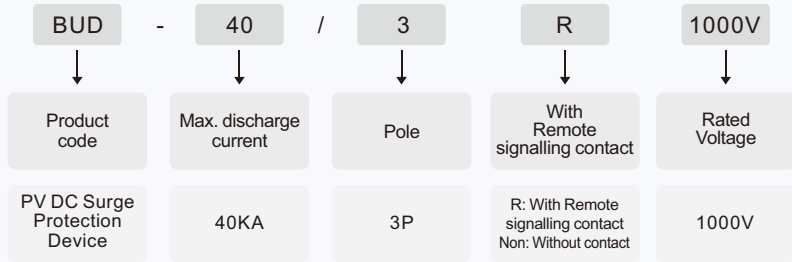
Application

BENY PV DC BUD-40/3 Surge Protection Device was designed and manufactured, complying the PV standard IEC/EN 61643-31, It widely used in PV DC combiner box, inverter, controller and PV DC cabinet. Rated voltage 1000V DC, Maximum discharge current 40KA,High Energy Varistor, high effective for lightning protection.

Appearance Introduction



Type Instruction



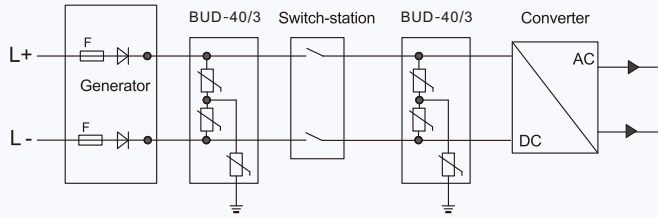
Parameter

PV DC BUD-40/3 Surge Protection Device		
Pole		3P
Standard		IEC/EN 61643-31
Electrical Characteristics		
Category IEC/EN		IEC II/EN2
Open Voltage	U_{oc} Max	1000V DC
Max Continuous Operational Voltage	U_c	1000V DC
Nominal Discharge Current	$I_n(8/20)\mu s$	20kA
Maximum Discharge Current	$I_{max}(8/20)\mu s$	40kA
Voltage Protection Level	U_p	$\leq 3.8kV$
Response Time		$\leq 25ns$
Control and Indication		
Operating State/fault Indication		Green/Red
Plug-in Protection Module		■
Remote Signalling Contact(Optional)	Max. Working Voltage(V)	30V DC
	Max. Working Current	1A
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~+80°C
For Mounting on		TH35-7.5/DIN35
Relative Humidity		30%~90%
Weight kg		0.36

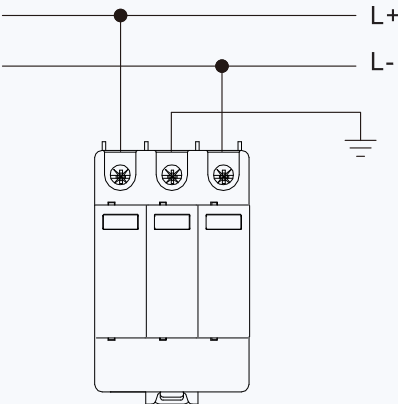
BUD-40/3
PV DC Surge
Protection Device



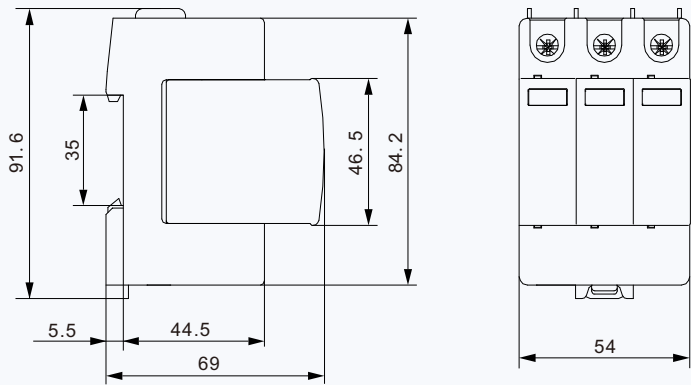
Principal Drawing



Wiring Method



Dimensions(mm)



BUD-40/3
PV DC Surge
Protection Device



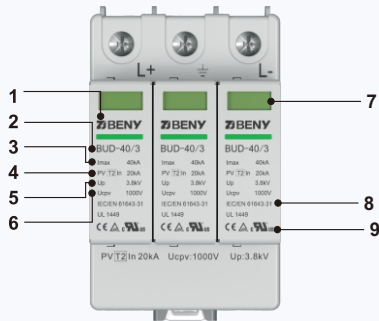
- 1 Brand
- 2 Type
- 3 Max. Discharge Current I_{max}
- 4 Nominal Discharge Current I_n
- 5 Voltage Protection Level U_p
- 6 Max. Continuous Operating Voltage U_{cpv}
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- Plug-in Protection Module, Easily Installation and Maintainance
- High Energy Varistor, Response Time Less Than 25 Nanosecond
- Optional Remote Signalling Contact(FM) for Monitoring Device (Floating Changeover Contact)
- Din Rail Mounting TH35-7.5/DIN35
- Comply with :IEC/EN 61643-31/UL 1449

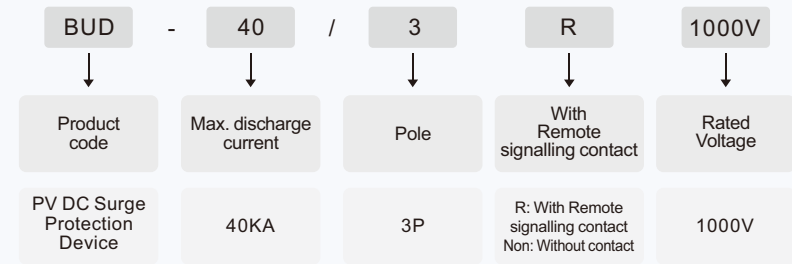
Application

BENY PV DC BUD-40/3 Surge Protection Device was designed and manufactured, complying the PV standard IEC/EN 61643-31/UL1449, It widely used in PV DC combiner box, inverter, controller and PV DC cabinet. Rated voltage 1000V DC, Maximum discharge current 40KA,High Energy Varistor, high effective for lightning protection.

Appearance Introduction



Type Instruction

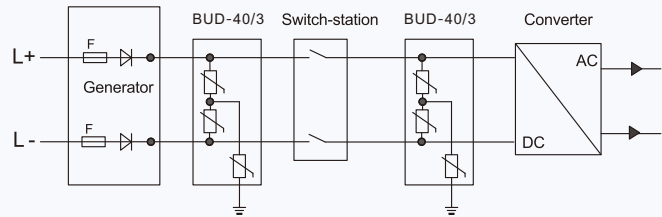


Parameter

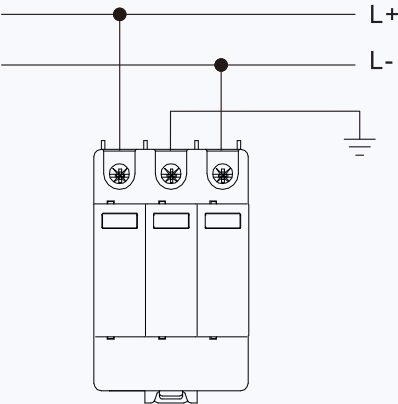
PV DC BUD-40/3 Surge Protection Device		
Pole		3P
Standard		IEC/EN 61643-31
Electrical Characteristics		
Category IEC/EN		IEC II/EN2
Open Voltage	Uoc Max	1000V DC
Max Continuous Operational Voltage	Uc	1000V DC
Nominal Discharge Current	In(8/20)μs	20kA
Maximum Discharge Current	I _{max} (8/20)μs	40kA
Voltage Protection Level	Up	≤3.8kV
Response Time		≤25ns
Control and Indication		
Operating State/fault Indication		Green/Red
Plug-in Protection Module		■
Remote Signalling Contact(Optional)	Max. Working Voltage(V)	30V DC
	Max. Working Current	1A
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℃~+80℃
For Mounting on		TH35-7.5/DIN35
Relative Humidity		30%~90%
Weight kg		0.36

BUD-40/3
PV DC Surge
Protection Device

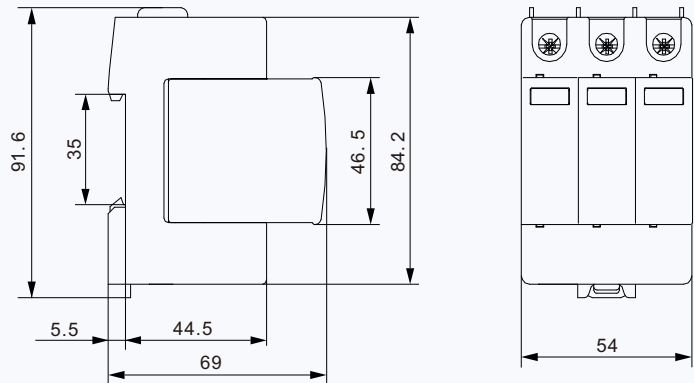
Principal Drawing



Wiring Method



Dimensions(mm)



BUD-1500
PV DC Surge
Protection Device



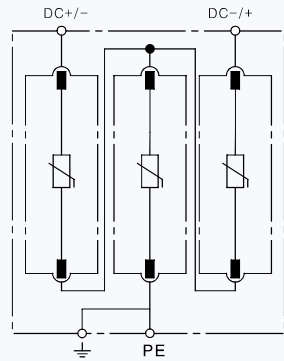
Application

BENY Developed and manufactured 1500V surge protector, in line with IEC/EN 616143-31, with a maximum continuous operating voltage of 1500V;High pressure Sensitive resistor, nanosecond response speed, high efficiency to prevent lightning voltage damage to photovoltaic power generation system.

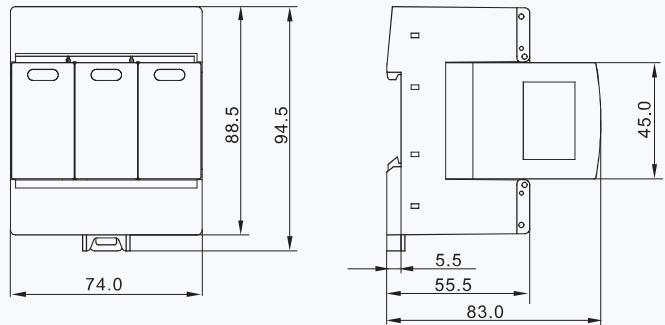
Parameter

Type	BUD-1500
Test standard	IEC/EN 61643-31
Type	T2
Max.PV voltage(U_{CPV})	1500V
Short-circuit current rating(I_{SCP})	10kA
Total discharge current (8/20 μ s) (I_{tot})	40kA
Nominal discharge current(8/20 μ s)(I_n)	20kA
Voltage protection level (U_p)	$\leq 5.5kV$
Response time(t_r)	$\leq 25ns$
Operating temperature range(T_u)	-40°C~+80°C
Operating state/fault indication	green/red
Number of ports	1
Cross-sectional area(min.)	1.5mm ² solid/ flexible
Cross-sectional area(max.)	35mm ² stranded/25mm ² flexible
For mounting on	TH35-7.5/DIN35
Place of installation	indoor installation
Degree of protection	IP20
Approvals	TUV,CE

Principal Drawing



Dimensions(mm)



BUD-1500 R
PV DC Surge
Protection Device



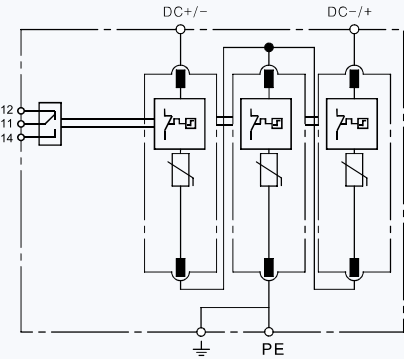
Application

BENY Developed and manufactured 1500V surge protector, in line with IEC/EN 616143-31, with a maximum continuous operating voltage of 1500V;High pressure Sensitive resistor, nanosecond response speed, high efficiency to prevent lightning voltage damage to photovoltaic power generation system.

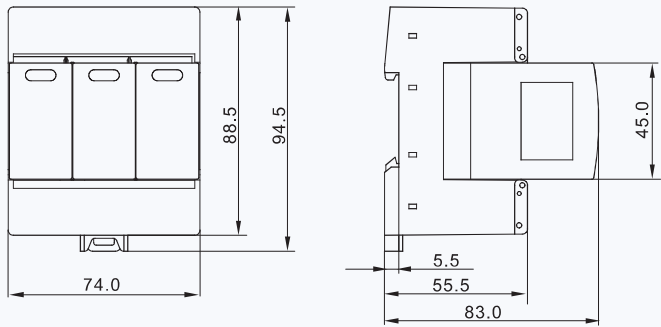
Parameter

Type	BUD-1500 R
Test standard	IEC/EN 61643-31
Type	T2
Max.PV voltage(U_{CPV})	1500V
Short-circuit current rating(I_{SCP})	10kA
Total discharge current (8/20 μ s) (I_{total})	40kA
Nominal discharge current(8/20 μ s)(I_n)	20kA
Voltage protection level (U_p)	$\leq 5.5kV$
Response time(t_A)	$\leq 25ns$
Operating temperature range(T_U)	-40°C~+80°C
Operating state/fault indication	green/red
Number of ports	1
Cross-sectional area(min.)	1.5mm ² solid/ flexible
Cross-sectional area(max.)	35mm ² stranded/25mm ² flexible
For mounting on	TH35-7.5/DIN35
Place of installation	indoor installation
Degree of protection	IP20
Approvals	TUV,CE

Principal Drawing



Dimensions(mm)



BUD-S1000
PV DC Surge
Protection Device



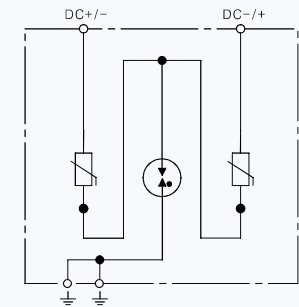
Application

BENY Developed and manufactured the T1+T2 complex surge protector, in line with IEC/EN 616143-31, with a maximum continuous operating voltage of 1000V; High pressure Sensitive resistor, nanosecond response speed, high efficiency to prevent lightning voltage damage to photovoltaic power generation system.

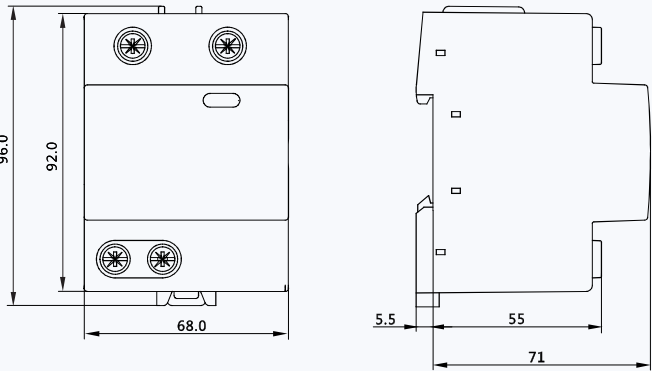
Parameter

Type	BUD-S1000
Test standard	IEC/EN 61643-31
EN Type	T1+T2
Max.PV voltage(DC+→DC-)(U_{CPV})	$\leq 1000V$
Max.PV voltage(DC+/DC-→PE)(U_{CPV})	$\leq 725V$
Short-circuit current rating(I_{SCP})	2kA
Total discharge current (8/20 μ s) (DC+/DC-→PE) (I_{total})	30kA
Total discharge current (10/350 μ s) (DC+/DC-→PE) (I_{total})	12.5kA
Nominal discharge current(8/20 μ s)(I_n)	15kA
Lightning impulse current (10/350 μ s) (DC+/DC-→PE) (I_{imp})	6.25kA
Voltage protection level (DC+/DC-→PE) (U_p)	2.5kV
Voltage protection level(DC+→DC-) (U_p)	4.75kV
Response time(t_A)	$\leq 25ns$
Operating temperature range(T_U)	-40°C~+80°C
Operating state/fault indication	green/red
Number of ports	1
Cross-sectional area(min.)	1.5mm ² solid/ flexible
Cross-sectional area(max.)	35mm ² stranded/25mm ² flexible
For mounting on	TH35-7.5/DIN35
Place of installation	indoor installation
Degree of protection	IP20
Approvals	TUV,CE

Principal Drawing



Dimensions(mm)





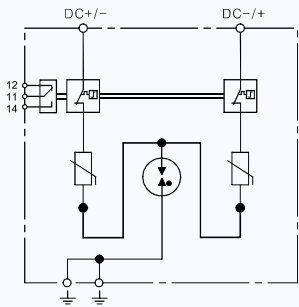
Application

ZBENY Developed and manufactured the T1+T2 complex surge protector, in line with IEC/EN 616143-31, with a maximum continuous operating voltage of 1000V; High pressure Sensitive resistor, nanosecond response speed, high efficiency to prevent lightning voltage damage to photovoltaic power generation system.

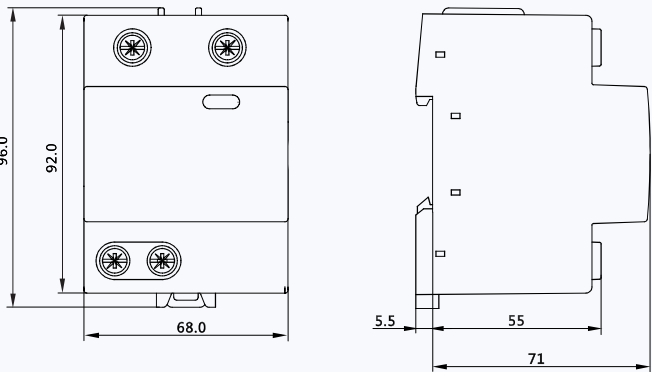
Parameter

Type	BUD-S1000 R
Test standard	IEC/EN 61643-31
EN Type	T1+T2
Max.PV voltage(DC+→DC-)(U _{CPV})	≤1000V
Max.PV voltage(DC+/DC-→PE)(U _{CPV})	≤725V
Short-circuit current rating(I _{SCPV})	2kA
Total discharge current (8/20μs) (DC+/DC-→PE) (I _{total})	30kA
Total discharge current (10/350μs) (DC+/DC-→PE) (I _{total})	12.5kA
Nominal discharge current(8/20μs)(I _n)	15kA
Lightning impulse current (10/350μs) (DC+/DC-→PE) (I _{imp})	6.25kA
Voltage protection level (DC+/DC-→PE) (U _p)	2.5kV
Voltage protection level(DC+→DC-) (U _p)	4.75kV
Response time(t _a)	≤25ns
Operating temperature range(T _u)	-40°C~+80°C
Operating state/fault indication	green/red
Number of ports	1
Cross-sectional area(min.)	1.5mm ² solid/ flexible
Cross-sectional area(max.)	35mm ² stranded/25mm ² flexible
For mounting on	TH35-7.5/DIN35
Place of installation	indoor installation
Degree of protection	IP20
Approvals	TUV,CE

Principal Drawing



Dimensions(mm)



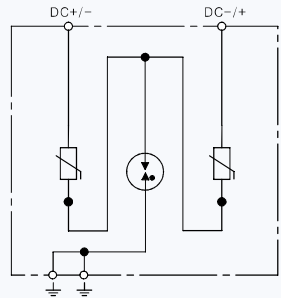
Application

ZBENY Developed and manufactured the T1+T2 complex surge protector, in line with IEC/EN 616143-31, with a maximum continuous operating voltage of 1500V; High pressure Sensitive resistor, nanosecond response speed, high efficiency to prevent lightning voltage damage to photovoltaic power generation system.

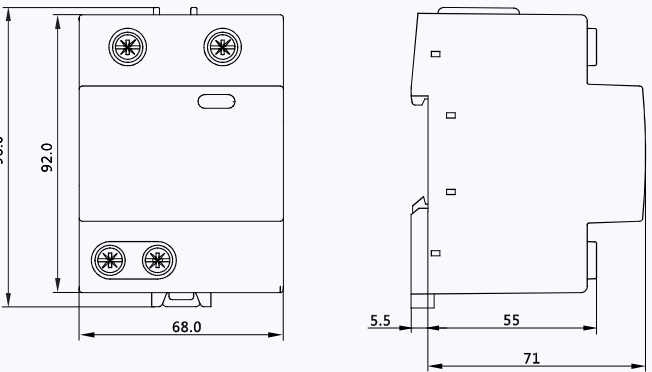
Parameter

Type	BUD-S1500
Test standard	IEC/EN 61643-31
EN Type	T1+T2
Max.PV voltage(DC+→DC-)(U _{CPV})	≤1500V
Max.PV voltage(DC+/DC-→PE)(U _{CPV})	≤1100V
Short-circuit current rating(I _{SCPV})	2kA
Total discharge current (8/20μs) (DC+/DC-→PE) (I _{total})	30kA
Total discharge current (10/350μs) (DC+/DC-→PE) (I _{total})	12.5kA
Nominal discharge current(8/20μs)(I _n)	15kA
Lightning impulse current (10/350μs) (DC+/DC-→PE) (I _{imp})	6.25kA
Voltage protection level (DC+/DC-→PE) (U _p)	3.75kV
Voltage protection level(DC+→DC-) (U _p)	7.25kV
Response time(t _a)	≤25ns
Operating temperature range(T _u)	-40°C~+80°C
Operating state/fault indication	green/red
Number of ports	1
Cross-sectional area(min.)	1.5mm ² solid/ flexible
Cross-sectional area(max.)	35mm ² stranded/25mm ² flexible
For mounting on	TH35-7.5/DIN35
Place of installation	indoor installation
Degree of protection	IP20
Approvals	TUV,CE

Principal Drawing



Dimensions(mm)





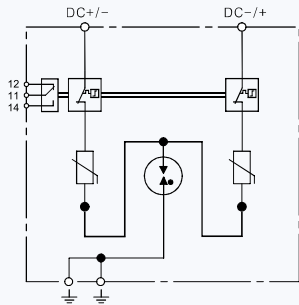
Application

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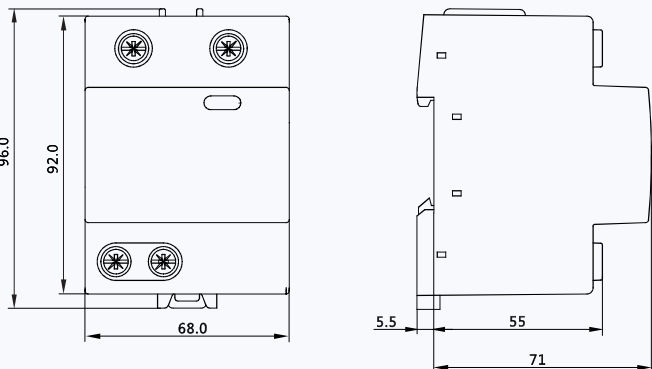
Parameter

Type	BUD-S1500 R
Test standard	IEC/EN 61643-31
EN Type	T1+T2
Max.PV voltage(DC+→DC-)(U _{CPV})	≤1500V
Max.PV voltage(DC+/DC-→PE)(U _{CPV})	≤1100V
Short-circuit current rating(I _{SCPV})	2kA
Total discharge current (8/20μs) (DC+/DC-→PE) (I _{total})	30kA
Total discharge current (10/350μs) (DC+/DC-→PE) (I _{total})	12.5kA
Nominal discharge current(8/20μs)(I _n)	15kA
Lightning impulse current (10/350μs) (DC+/DC-→PE) (I _{imp})	6.25kA
Voltage protection level (DC+/DC-→PE) (U _p)	3.75kV
Voltage protection level(DC+→DC-) (U _p)	7.25kV
Response time(t _r)	≤25ns
Operating temperature range(T _u)	-40°C~+80°C
Operating state/fault indication	green/red
Number of ports	1
Cross-sectional area(min.)	1.5mm ² solid/ flexible
Cross-sectional area(max.)	35mm ² stranded/25mm ² flexible
For mounting on	TH35-7.5/DIN35
Place of installation	indoor installation
Degree of protection	IP20
Approvals	TUV,CE

Principal Drawing



Dimensions(mm)



**BUA-40
Surge Protection
Device**



- 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

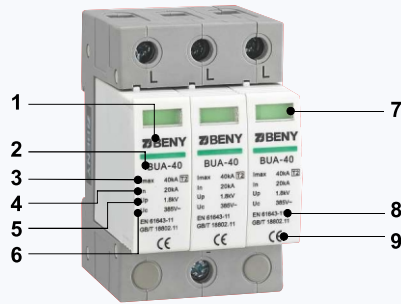
- Prewired Modular Complete Unit, Consisting of A Base Part and Plug-in Protection Modules
- Plug-in Protection Module, Easily Installation and Maintainance
- High Energy Varistor, Response Time Less Than 25 Nanosecond
- Optional Remote Signalling Contact(FM) for Monitoring Device (Floating Changeover Contact)
- Din Rail Mounting TH35-7.5/DIN35



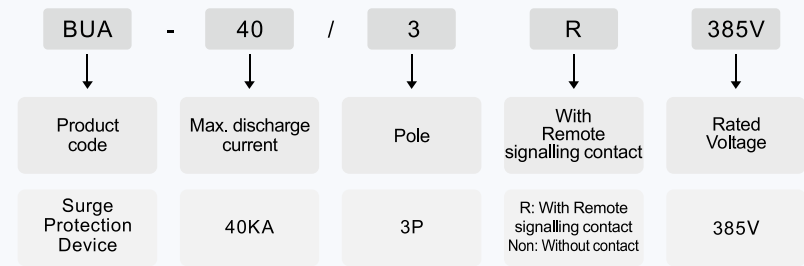
Application

ZBENY BUA-40 Surge Protection Device was designed and manufactured, complying standard GB/T 18802.11/EN 61643-11, Rated voltage 385V, Maximum discharge current 40KA,High Energy Varistor, high effective for lightning protection.

Appearance Introduction



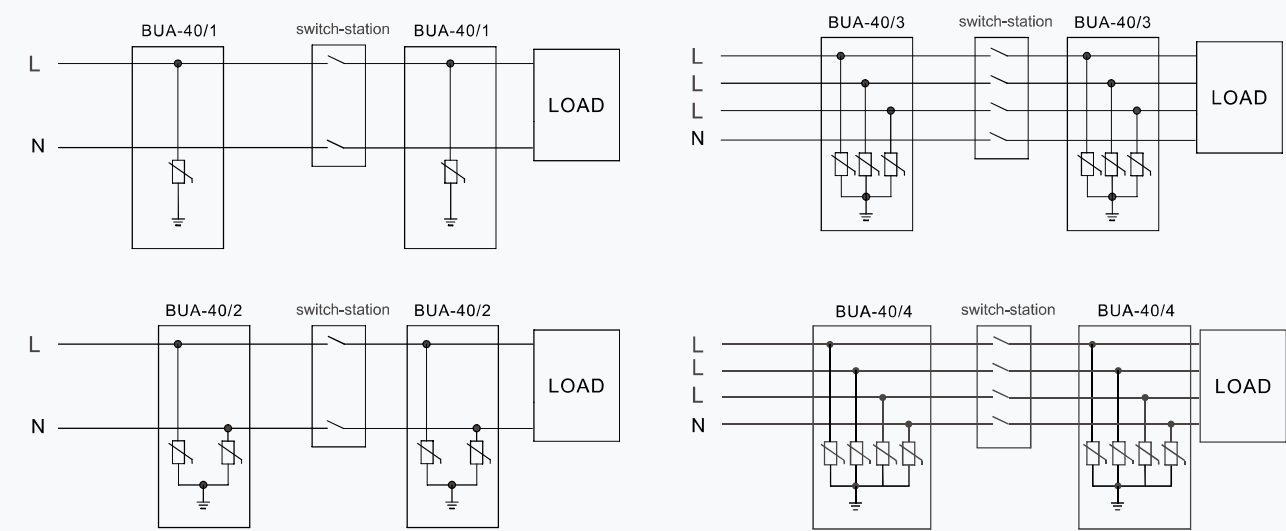
Type Instruction



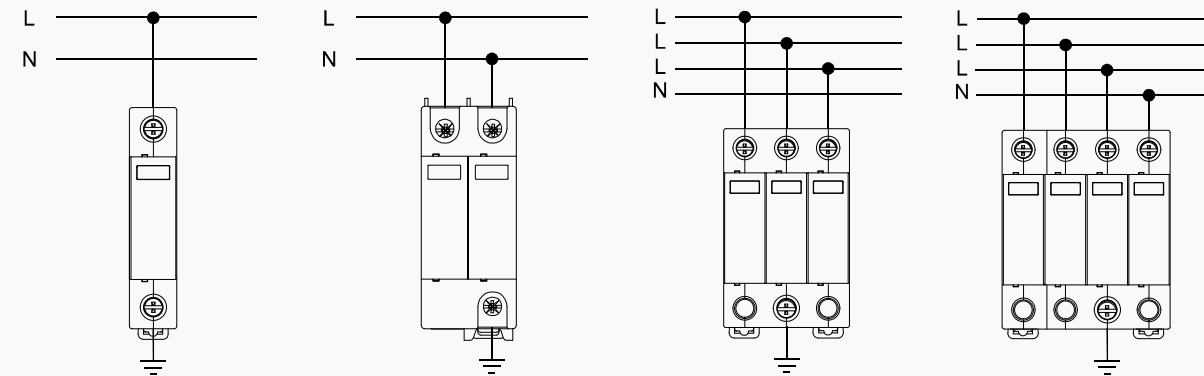
Parameter

BUA-40 Surge Protection Device		
Pole		1P/2P/3P/4P
Standard		GB/T 18802.11/EN 61643-11
Electrical Characteristics		
Category IEC/EN		IEC II/EN2
Max Continuous Operational Voltage U _c		385V AC
Nominal Discharge Current I _n (8/20)μs		20KA
Maximum Discharge Current I _{max} (8/20)μs		40KA
Voltage Protection Level U _p		≤1.8KV
Response Time		≤25ns
Control and Indication		
Operating State/fault Indication		Green/Red
Plug-in Protection Module		■
Remote Signalling Contact(Optional)	Max. Working Voltage(V)	30V DC
	Max. Working Current	1A
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~+80°C
For Mounting on		TH35-7.5/DIN35
Relative Humidity		30%~90%

Principal Drawing

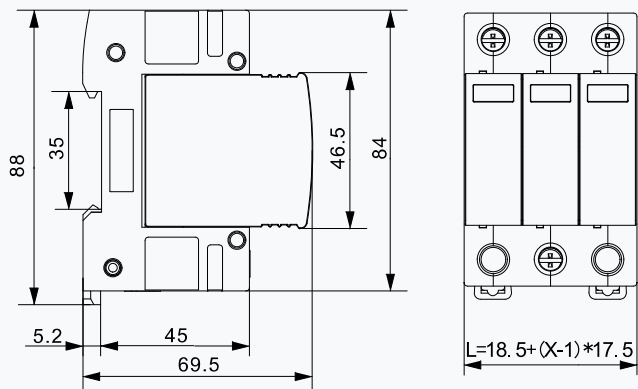


Wiring Method



Dimensions(mm)

X:number of poles (1P/3P/4P)



number of poles (2P)

