ERITECH®

DSD

CRITEC® Dinline Surge Diverter

ERICO®

DSD1150 (150kA)

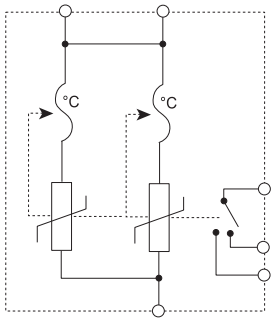
CRITEC® Dinline Surge Diverter

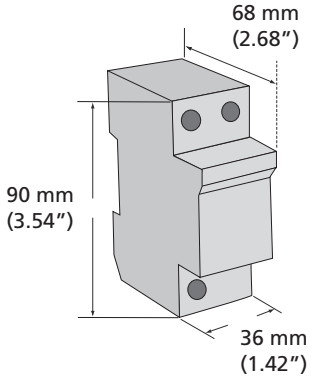
Features

- 150kA 8/20µs surge rating provides protection suitable for main distribution panels and provides a long operational life
- 35 mm DIN 43 880 profile – matches common circuit breakers
- Indication flag – provides clear visual indication of life status
- Remote contacts – provide remote status monitoring
- Various operating voltages – to suit most common power distribution systems*
- Simple combinations of the DSD and SGD series allow the protection of TT, TNC, TNC-S and IT systems

* Other operating voltages may be available upon application.

The DSD1150 series of surge suppressors provide economical and reliable protection to primary distribution panel boards and power distribution systems. They are intended for locations classified for devices tested to IEC61643-1 test class I (or VDE classification B). Internal thermal disconnect devices help ensure safe isolation during sustained and abnormal events on the distribution network, or at end-of-life. A visual indicator flag provides user-feedback in the event of such operation. In addition, a set of voltage-free contacts is provided for remote signaling if replacement is needed.





Model	DSD11502SR275
Item Number for Europe	702420
Nominal Voltage, U_n	220-240 V
Distribution System	TN-C, TN-C-S, TN-S, TT
Max Cont. Operating Voltage U_c	275VAC, 350VDC
Frequency	0-60Hz
Max Discharge Current, I_{max}	150kA 8/20µs
Nominal Discharge Current I_n	70kA 8/20µs
Impulse Current, I_{imp}	25kA 10/350µs
Protection Modes	Single mode
Technology	MOV with thermal disconnect
Short Circuit Current Rating I_{sc}	25kA
Voltage Protection Level U_p	850V @ 3kA 1.6kV @ I_n
Status	Mechanical flag Change-over contact (Form C Dry) 250V~/0.5A, max 1.5 mm² (#14 AWG) connecting wire
Dimensions H x D x W: mm (in)	90 x 68 x 36.0 (3.54 x 2.68 x 1.42)
Module Width	2 M
Weight: kg (lbs)	0.33 (0.73)
Enclosure	DIN 43 880, UL94V-0 thermoplastic, IP 20 (NEMA-1)
Connection	≤25 mm² (#4AWG) stranded ≤35 mm² (#2AWG) solid
Mounting	35 mm top hat DIN rail
Back-up Overcurrent Protection	250Agl if supply >250A
Temperature	-40°C to 80°C (-40°F to 176°F)
Humidity	0% to 90%
Approvals	CE, IEC® 61643-1
Surge Rated to Meet	ANSI®/IEEE® C62.41.2 Cat A, Cat B, Cat C ANSI®/IEEE® C62.41.2 Scenario II, Exposure 3, 100kA 8/20µs, 10kA 10/350µs IEC 61643-1 Class I, Class II

WARNING
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DSD1100 (100kA)

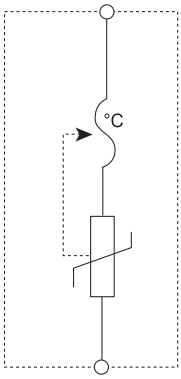
CRITEC® Dinline Surge Diverter

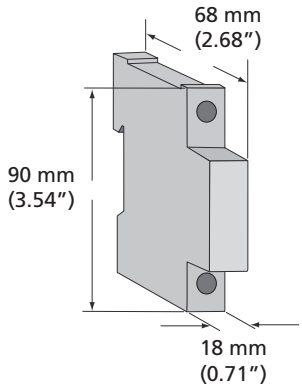
Features

- 100kA 8/20µs maximum surge rating provides protection suitable for smaller main-distribution panels and an extended operational life
- 35 mm DIN 43 880 profile – matches common circuit breakers
- Indication flag – provides clear visual indication of life status
- Various operating voltages – to suit most common power distribution systems*

* Other operating voltages may be available upon application.

The DSD1100 series of surge suppressors provide a high surge rating within an economical and reliable product for the protection of sub-distribution panel boards. The convenient compact enclosure provides a high level of protection in the smallest possible housing. Internal thermal disconnect devices help ensure safe isolation during sustained and abnormal events on the distribution network, or at end-of-life. A visual indicator flag provides user feedback in the event of such operation. They are intended for locations classified for devices tested to IEC61643-1 test class I.





Model	DSD11001S275
Item Number for Europe	702440
Nominal Voltage, U_n	220-240 V
Distribution System	TN-C, TN-C-S, TN-S, TT
Max Cont. Operating Voltage, U_c	275VAC, 350VDC
Frequency	0-60Hz
Operating Current @ U_n	1 mA
Max Discharge Current, I_{max}	100kA 8/20µs
Nominal Discharge Current I_n	40kA 8/20µs
Impulse Current, I_{imp}	12kA 10/350µs
Protection Modes	Single mode
Technology	MOV with thermal disconnect
Short Circuit Current Rating I_{sc}	25kAIC
Voltage Protection Level U_p	850V @ 3kA 1.6kV @ I_n
Status	Mechanical flag
Dimensions H x D x W: mm (in)	90 x 68 x 18.0 (3.54 x 2.68 x 0.71)
Module Width	1 M
Weight: kg (lbs)	0.12 (0.26)
Enclosure	DIN 43 880, UL94V-0 thermoplastic, IP 20 (NEMA-1)
Connection	≤25 mm² (#4AWG) stranded ≤35 mm² (#2AWG) solid
Mounting	35 mm top hat DIN rail
Back-up Overcurrent Protection	160Agl if supply >160A
Temperature	-40°C to 80°C (-40°F to 176°F)
Humidity	0% to 90%
Approvals	CE, IEC® 61643-1
Surge Rated to Meet	ANSI®/IEEE® C62.41-1991 Cat A, Cat B, Cat C ANSI®/IEEE® C62.41.2 Scenario II, Exposure 3, 100kA 8/20µs, 10kA 10/350µs IEC 61643-1 Class I, Class II

DSD160 (60kA)

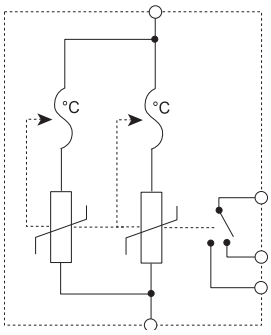
CRITEC® Dinline Surge Diverter

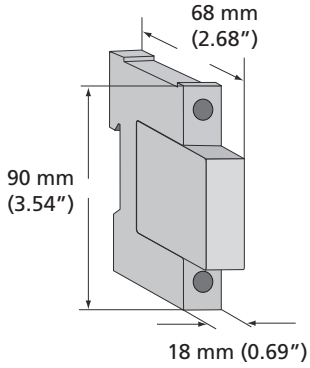
Features

- 60kA 8/20µs maximum surge rating provides protection suitable for sub-distribution panels and a long operational life
- 35 mm DIN 43 880 profile – matches common circuit breakers
- Indication flag – provides clear visual indication of life status
- Remote contacts – provide remote status monitoring
- Various operating voltages – to suit most common power distribution systems*

* Other operating voltages may be available upon application.

The DSD160 series of surge suppressors provide economical and reliable protection to sub-distribution panel boards. The convenient plug-in module and separate base design facilitates replacement of a failed surge module without needing to undo installation wiring. Internal thermal disconnect devices help ensure safe isolation during sustained and abnormal events on the distribution network, or at end-of-life. Visual indicator flags show 100% and 50% status with voltage-free contacts to provide user-feedback in the event of reduction of capacity.





Model	DSD1601SR275
Item Number for Europe	702460
Nominal Voltage, U_n	220-240 V
Distribution System	TN-C, TN-C-S, TN-S, TT
Max Cont. Operating Voltage, U_c	275VAC, 350VDC
Frequency	0-60Hz
Operating Current @ U_n	1 mA
Max Discharge Current, I_{max}	60kA 8/20µs
Nominal Discharge Current I_n	30kA 8/20µs
Impulse Current, I_{imp}	5kA 10/350µs
Protection Modes	Single mode
Technology	MOV with thermal disconnect
Short Circuit Current Rating I_{sc}	25kA
Voltage Protection Level U_p	850V @ 3kA 1.5kV @ I_n
Status	Mechanical flag with progressive indication Change-over contact (Form C dry) 250V~/0.5A, max 1.5 mm² (#14AWG) connecting wire
Dimensions H x D x W: mm (in)	90 x 68 x 17.5 (3.54 x 2.68 x 0.69)
Module Width	1 M
Weight: kg (lbs)	0.12 (0.26)
Enclosure	DIN 43 880, UL94V-0 thermoplastic, IP 20 (NEMA-1)
Connection	≤25 mm² (#4AWG) stranded ≤35 mm² (#2AWG) solid
Mounting	35 mm top hat DIN rail
Back-up Overcurrent Protection	160Agl if supply >160A
Temperature	-40°C to 80°C (-40°F to 176°F)
Humidity	0% to 90%
Approvals	CE, IEC® 61643-1
Surge Rated to Meet	ANSI®/IEEE® C62.41.2 Cat A, Cat B, Cat C ANSI®/IEEE® C62.41.2 Scenario II, Exposure 2, 50kA 8/20µs IEC 61643-1 Class I, Class II
Replacement Module	DSD160 1SR 275M
Replacement Module (Europe)	702465

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DSD140 (40kA)

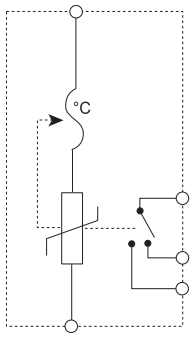
CRITEC® Dinline Surge Diverter

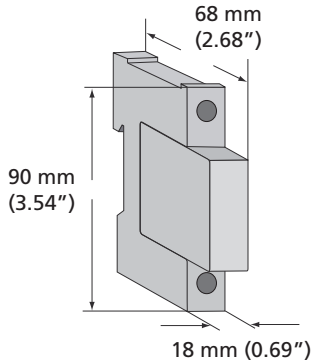
Features

- 40kA 8/20µs maximum surge rating provides protection suitable for sub-distribution panels and a long operational life
- 35 mm DIN 43 880 profile – matches common circuit breakers
- Indication flag – provides clear visual indication of life status
- Remote contacts – provide remote status monitoring
- Various operating voltages – to suit most common power distribution systems

The DSD140 series of surge suppressors provide economical protection to sub-distribution panel boards in locations classified for devices tested to IEC61643-1 test Class II (or VDE classification C). The convenient plug-in module and separate base design facilitates replacement of a failed surge module without needing to undo installation wiring.

A visual indicator flag provides user-feedback if the internal thermal disconnector operates. The "R" series provides a set of voltage-free contacts for remote signaling that maintenance is required.





Model	DSD1401S150	DSD1401S275	DSD1401SR150	DSD1401SR275	DSD1401SR440
Item Number for Europe	702480	702491	702510	702521	702530
Nominal Voltage, U_n	110-120 V	220-240 V	110-120 V	220-240 V	380 V
Distribution System	TN-C, TN-C-S, TN-S, TT				
Max Cont. Operating Voltage, U_c	150VAC 200VDC	275VAC 350VDC	150VAC 200VDC	275VAC 350VDC	440VAC 580VDC
Frequency	0-60Hz				
Operating Current @ U_n	1 mA				
Max Discharge Current, I_{max}	40kA 8/20µs				
Nominal Discharge Current I_n	20kA 8/20µs				
Protection Modes	Single mode				
Technology	MOV with thermal disconnect				
Short Circuit Current Rating I_{sc}	25kA				
Voltage Protection Level U_p	480V @ 3kA 550V @ 5kA 0.7kV @ I_n	850V @ 3kA 1kV @ 5kA 1.4kV @ I_n	480V @ 3kA 550V @ 5kA 0.7kV @ I_n	850V @ 3kA 1kV @ 5kA 1.4kV @ I_n	1.4kV @ 3kA 1.75kV @ 5kA 2.2kV @ I_n
Status	Mechanical flag		Mechanical flag Change-over contact (Form C dry) 250V~/0.5A, max 1.5 mm² (#14AWG) connecting wire		
Dimensions H x D x W: mm (in)	90 x 68 x 17.5 (3.54 x 2.68 x 0.69)				
Module Width	1 M				
Weight: kg (lbs)	0.12 (0.26)				
Enclosure	DIN 43 880, UL94V-0 thermoplastic, IP 20 (NEMA-1)				
Connection	≤25 mm² (#4AWG) stranded ≤35 mm² (#2AWG) solid				
Mounting	35 mm top hat DIN rail				
Back-up Overcurrent Protection	125Agl if supply >125A				
Temperature	-40°C to 80°C (-40°F to 176°F)				
Humidity	0% to 90%				
Approvals	CE, IEC® 61643-1				
Surge Rated to Meet	ANSI®/IEEE® C62.41.2 Cat A, Cat B, Cat C ANSI®/IEEE® C62.41.2 Scenario II, Exposure 1, 20kA 8/20µs IEC 61643-1 Class II				
Replacement Module	DSD140M150	DSD140M275	DSD140M150	DSD140M275	DSD140M440
Replacement Module (Europe)	702436	702496	702436	702496	702506

DSD340 (40kA)

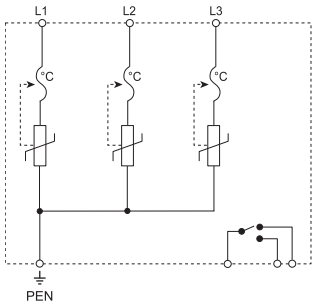
CRITEC® Dinline Surge Diverter

Features

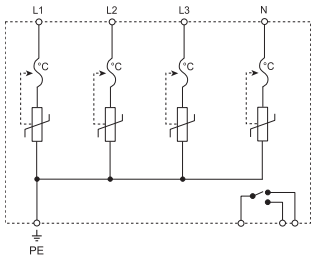
- 40kA 8/20µs maximum surge rating provides protection suitable for sub-distribution panels and a long operational life
- 35 mm DIN 43 880 profile – matches common circuit breakers
- Indication flag – provides clear visual indication of life status
- Remote contacts – provide remote status monitoring
- Various operating voltages – to suit most common power distribution systems

The DSD340 series of surge suppressors provide economical protection to sub-distribution panel boards in locations classified for devices tested to IEC61643-1 test Class II (or VDE Classification C). The single module units conveniently protect three phase systems with TNC, TNS and TT options.

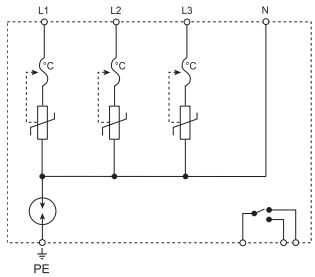
A visual indicator flag provides user-feedback if the internal thermal disconnector operates. The "R" series provides a set of voltage-free contacts for remote signaling that maintenance is required.



TNC Configuration



TNS Configuration



TT Configuration

Model	DSD340TNC275A	DSD340TNS275A	DSD340TT275A
Item Number for Europe	702581	702591	702601
Nominal Voltage, U_n	220/380 V - 240/415 V		
Distribution System	TN-C	TN-S	TT
Max Cont. Operating Voltage, U_c	275VAC, 350VDC		
Frequency	0-60Hz		
Max Discharge Current, I_{max}	40kA 8/20µs		
Nominal Discharge Current I_n	20kA 8/20µs		
Protection Modes	L-PE	L-PE, N-PE	L-N, N-PE
Technology	MOV (3+0)	MOV (4+0)	MOV GDT N-PE (3+1)
Short Circuit Current Rating I_{sc}	25kA		
Voltage Protection Level U_p	850V @ 3kA 1.4kV @ I_n	L-PE 850V @ 3kA 1.4kV @ I_n	L-N 850V @ 3kA 1.4kV @ I_n
Status	Mechanical flag Change-over contact (Form C dry) 250V~/0.5A, max 1.5 mm² (#14AWG) connecting wire		
Dimensions H x D x W: mm (in)	90 x 68 x 54.0 (3.54 x 2.68 x 2.13)	90 x 68 x 72.0 (3.54 x 2.68 x 2.83)	
Module Width	3 M	4 M	
Weight: kg (lbs)	0.8 (1.76)		
Enclosure	DIN 43 880, UL94V-0 thermoplastic, IP 20 (NEMA-1)		
Connection	≤25 mm² (#4AWG) stranded ≤35 mm² (#2AWG) solid		
Mounting	35 mm top hat DIN rail		
Back-up Overcurrent Protection	125Agl if supply >125A		
Temperature	-40°C to 80°C (-40°F to 176°F)		
Humidity	0% to 90%		
Approvals	CE, IEC® 61643-1		
Surge Rated to Meet	ANSI®/IEEE® C62.41.2 Cat A, Cat B, Cat C ANSI®/IEEE® C62.41.2 Scenario II, Exposure 2, 50kA 8/20µs, 5kA 10/350µs IEC 61643-1 Class II		
Replacement MOV Module	DSD140M275		
Replacement MOV Module (Europe)	702496		
Replacement GDT Module	-	-	SGD112M
Replacement GDT Module (Europe)	-	-	702403

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DSD130 (30kA)

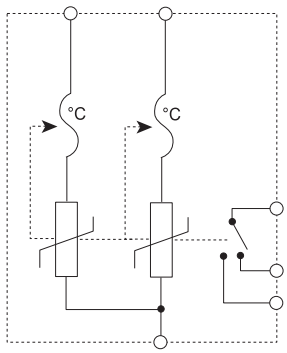
CRITEC® Dinline Surge Diverter

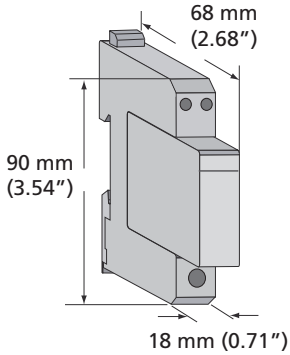
Features

- 15kA 8/20µs surge rating per mode
- Compact package, modular DIN rail mounting for limited space requirements
- Three modes of protection: L-N, L-PE & N-PE
- Indication flags and voltage-free contacts provide remote status monitoring
- Separate plug and base design facilitates replacement of a failed surge module

* Other operating voltages may be available upon application.

Surges and voltage transients are a major cause of expensive electronic equipment failure and business disruption. The DSD130 series of surge suppressors provide economical and reliable protection from voltage transients on power distribution systems. The DSD130 is specifically designed for the protection of single phase power supplies within instrumentation and control applications. They are conveniently packaged for easy installation on 35mm DIN rail within control panels. Internal thermal disconnect devices help ensure safe disconnection at end-of life. A visual indicator flag provides user-feedback in the event of such operation. The DSD130 provides a set of optional voltage-free contacts for remote signaling that maintenance is required. The convenient plug-in module and separate base design facilitates replacement of a failed surge module without needing to undo installation wiring.





Model	DSD1301BR275
Item Number for Europe	702720
Nominal Voltage, U_n	220-240 V
Distribution System	TN-C, TN-C-S, TN-S, TT
Max Cont. Operating Voltage, U_c	275VAC, 350VDC
Frequency	0-100Hz
Max Discharge Current, I_{max}	15kA 8/20µs L-N 15kA 8/20µs L-PE
Nominal Discharge Current I_n	8kA 8/20µs per mode
Protection Modes	L-G, L-N, N-G
Technology	MOV with thermal disconnect
Short Circuit Current Rating I_{sc}	25kAIC
Voltage Protection Level U_p	800V @ 3kA (L+N-G) 1500V @ 3kA (L-N)
Status	Mechanical flag / remote contacts N/O, N/C Change-over contact, 250V~/0.5A, max 1.5 mm² (#14AWG) terminals
Dimensions H x D x W: mm (in)	90 x 68 x 18.0 (3.54 x 2.68 x 0.71)
Module Width	1 M
Weight: kg (lbs)	0.12 (0.26)
Enclosure	DIN 43 880, UL94V-0 thermoplastic, IP 20 (NEMA-1)
Connection	1 mm² to 6 mm² (#18AWG to #10AWG) Line and Neutral Terminals ≤25 mm² (#4AWG) stranded ≤35 mm² (#2AWG) solid PE Terminal
Mounting	35 mm top hat DIN rail
Back-up Overcurrent Protection	63AgL, if supply > 63A
Temperature	-40°C to 80°C (-40°F to 176°F)
Humidity	0% to 90%
Approvals	CE, IEC® 61643-1
Surge Rated to Meet	ANSI®/IEEE® C62.41.2 Cat A, Cat B, Cat C IEC 61643-1 Class II IEC 61643-1 Class III
Replacement Module	DSD130M275
Replacement Module (Europe)	-

DSD110 (10kA)

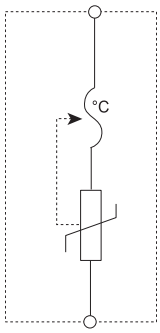
CRITEC® Dinline Surge Diverter

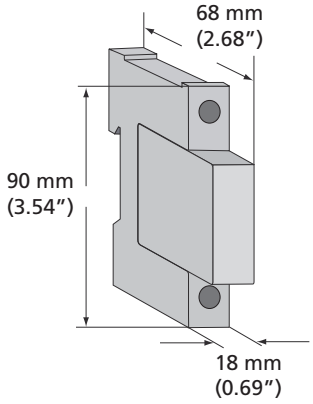
Features

- 10kA 8/20µs maximum surge rating – provides protection suitable for small sub-distribution panels or point-of-use applications
- 35 mm DIN 43 880 profile – matches common circuit breakers
- Indication flag – provides clear visual indication of life status
- Various operating voltages – to suit most common power distribution systems*

* Other operating voltages may be available upon application.

The DSD110 series of surge suppressors provide economical protection to small sub-distribution panel boards or locations classified for devices tested to IEC61643-1 test Class II or III (or VDE classification D). They are also ideal for the installation in wiring termination boxes at the equipment's final point-of-use.





Model	DSD1101S275
Item Number for Europe	702560
Nominal Voltage, U_n	220-240 V
Distribution System	TN-C, TN-C-S, TN-S, TT
Max Cont. Operating Voltage, U_c	275VAC, 350VDC
Frequency	0-60Hz
Max Discharge Current, I_{max}	10kA 8/20µs
Nominal Discharge Current I_n	5kA 8/20µs
Protection Modes	Single mode
Technology	MOV with thermal disconnect
Short Circuit Current Rating I_{sc}	25kA
Voltage Protection Level U_p	930V @ 3kA 1.0kV @ I_n
Status	Mechanical flag
Dimensions H x D x W: mm (in)	90 x 68 x 17.5 (3.54 x 2.68 x 0.69)
Module Width	1 M
Weight: kg (lbs)	0.12 (0.26)
Enclosure	DIN 43 880, UL94V-0 thermoplastic, IP 20 (NEMA-1)
Connection	≤25 mm² (#4AWG) stranded ≤35 mm² (#2AWG) solid
Mounting	35 mm top hat DIN rail
Back-up Overcurrent Protection	100Agl if supply >100A
Temperature	-40°C to 80°C (-40°F to 176°F)
Humidity	0% to 90%
Approvals	CE, IEC® 61643-1
Surge Rated to Meet	ANSI®/IEEE® C62.41.2 Cat A, Cat B IEC 61643-1 Class III
Replacement Module	DSD110M275
Replacement Module (Europe)	702566

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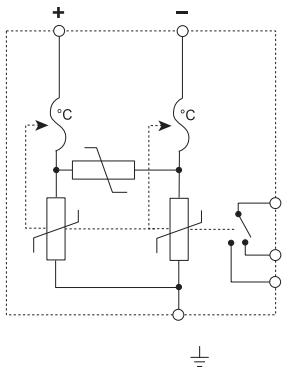
DSD140 (24/48V)

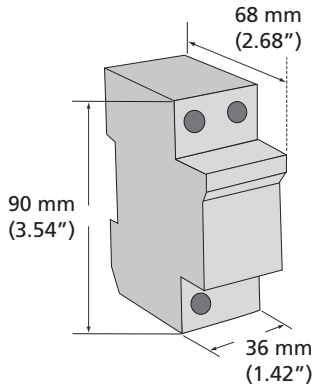
CRITEC® Dinline Surge Diverter

Features

- 40kA 8/20µs surge rating – suitable for exposed DC wiring
- 35 mm DIN 43 880 profile – matches common circuit breakers
- Indication flag – provides clear visual indication of life status
- Suitable for both 24VDC and 48VDC distribution systems

The DSD140 2BR 24/48 surge protection device provides economical and reliable protection to DC power systems used in such applications as photovoltaic and telepower distribution. It is intended for locations classified for devices tested to IEC61643-1 test Class II (or VDE Classification C). Internal thermal disconnect devices help ensure safe isolation at end-of-life. A visual indication flag provides user feedback in the event of such operation. In addition, a set of voltage-free contacts is provided for remote signaling if replacement is required.





Model	DSD1402BR24/48
Item Number for Europe	702750
Nominal Voltage, U_n	24 & 48 VDC
Max Cont. Operating Voltage, U_c	60VAC & 60VDC
Frequency	0-60Hz
Max Discharge Current, I_{max}	40kA 8/20µs
Nominal Discharge Current I_n	20kA 8/20µs
Protection Modes	Differential & Common Mode
Technology	MOV with thermal disconnect
Short Circuit Current Rating I_{sc}	25kA
Voltage Protection Level U_p	120V @ 3kA 300V @ I_n
Status	Mechanical flag Change-over contact (Form C Dry) 250V---/0.5A, max 1.5 mm² (#14AWG) connecting wire
Dimensions H x D x W: mm (in)	90 x 68 x 36.0 (3.54 x 2.68 x 1.42)
Module Width	2 M
Weight: kg (lbs)	0.15 (0.33)
Enclosure	DIN 43 880, UL94V-0 thermoplastic, IP 20 (NEMA-1)
Connection	≤25 mm² (#4AWG) stranded ≤35 mm² (#2AWG) solid
Mounting	35 mm top hat DIN rail
Back-up Overcurrent Protection	250Agl if supply >250A
Temperature	-40°C to 80°C (-40°F to 176°F)
Humidity	0% to 90%
Approvals	CE, IEC® 61643-1
Surge Rated to Meet	ANSI®/IEEE® C62.41.2 Cat A, Cat B, Cat C ANSI®/IEEE® C62.41.2 Scenario II, Exposure 1, 20kA 8/20µs IEC 61643-1 Class II

Power Distribution Systems and SPD Installation

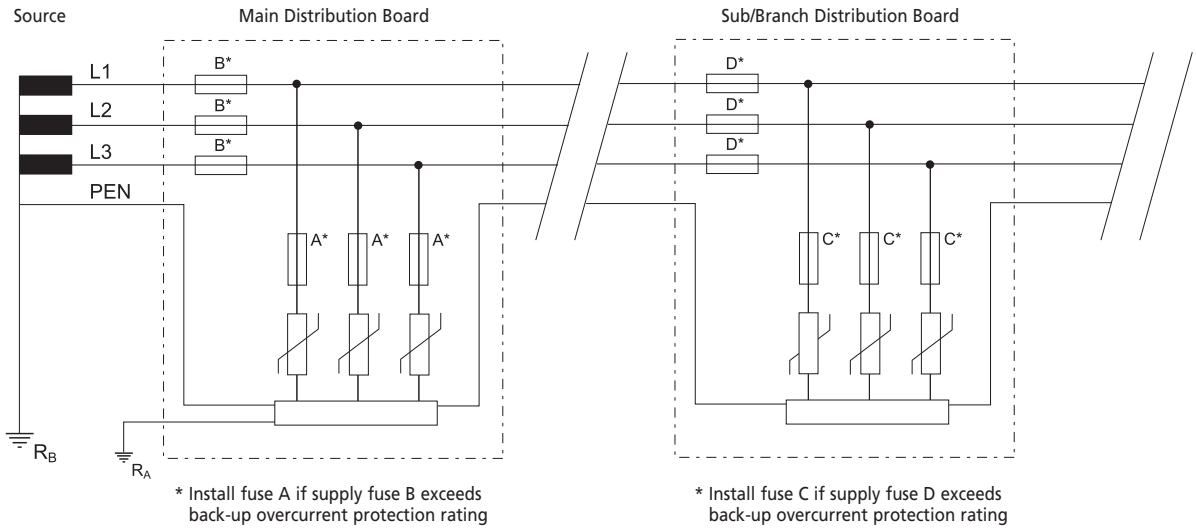
The IEC[SM] 60364 series of standards characterizes low-voltage distribution systems by their grounding method and the arrangement of the neutral and protective earth conductors. The selection of SPDs must consider among other issues, the level of over-voltage that may temporarily occur within the distribution system due to ground faults. IEC 61643-12 details the temporary over-voltages that may occur during fault conditions for these systems. To conform with European wiring rules an SPD with a Uc rating equal to, or greater than, this value should be selected. Effective protection does not require SPD's to be installed in all the modes detailed. The following diagrams provide guidance on the selection and installation of SPDs on the more common distribution systems. While three phase WYE systems are shown, similar logic can be applied to single phase, delta and other configuration sources.

Uo = Line to neutral voltage of the system

Un = Nominal country specific system voltage (typically Uo x 1.10)

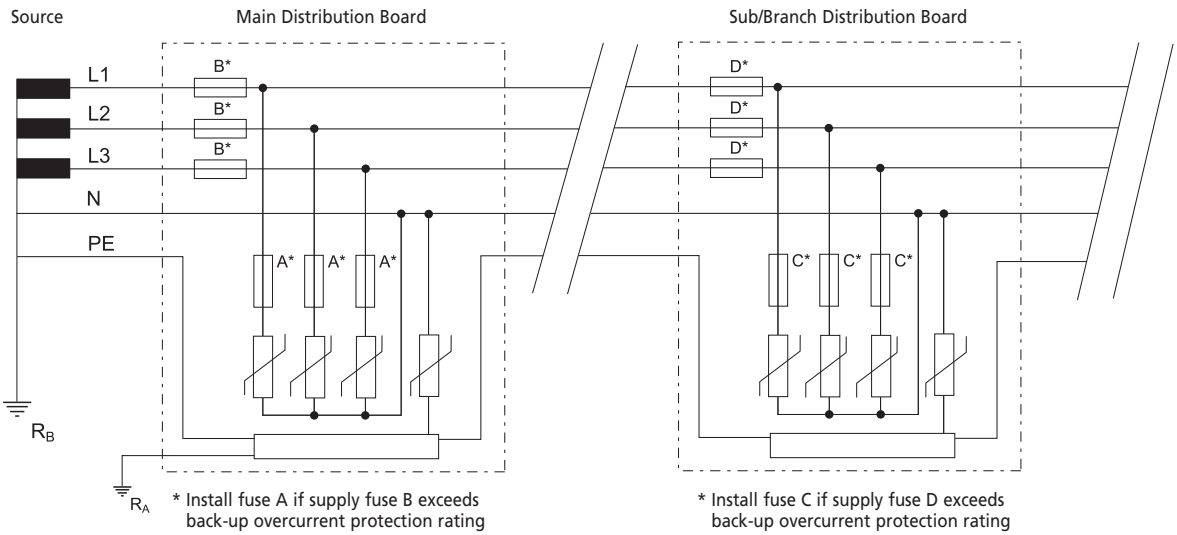
TN-C System

In this, the neutral and protective earth conductor combine in a single conductor throughout the system. All exposed-conductive-parts are connected to the PEN conductor.



TN-S System

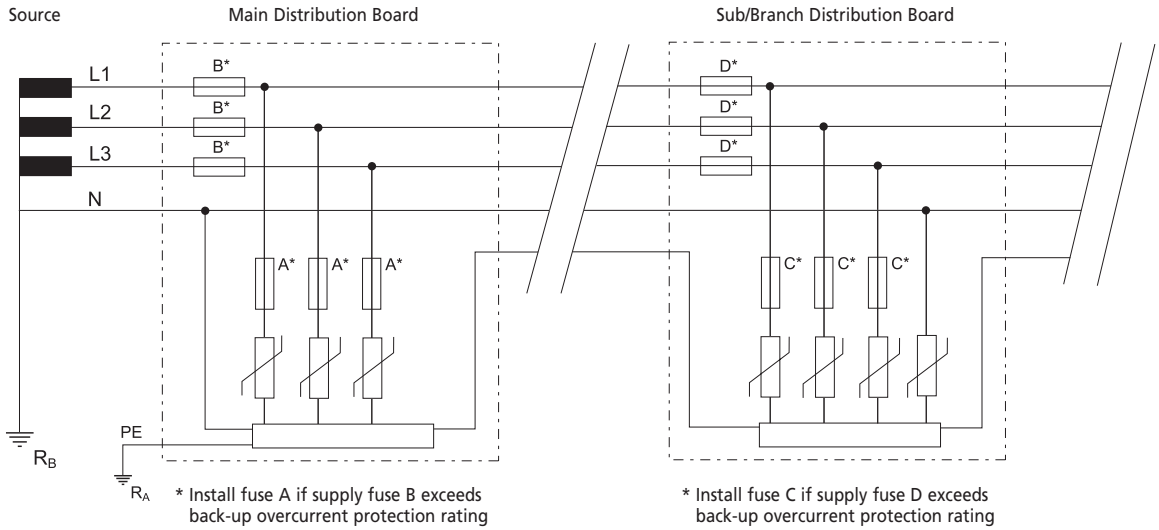
In this, a separate neutral and protective earth conductor are run throughout. The protective PE conductor can be the metallic sheath of the power distribution cable or a separate conductor. All exposed-conductive-parts of the installation are connected to this PE conductor.



SPDs shown connected L-N and N-PE.
May also be connected L-PE and N-PE.

TN-C-S System

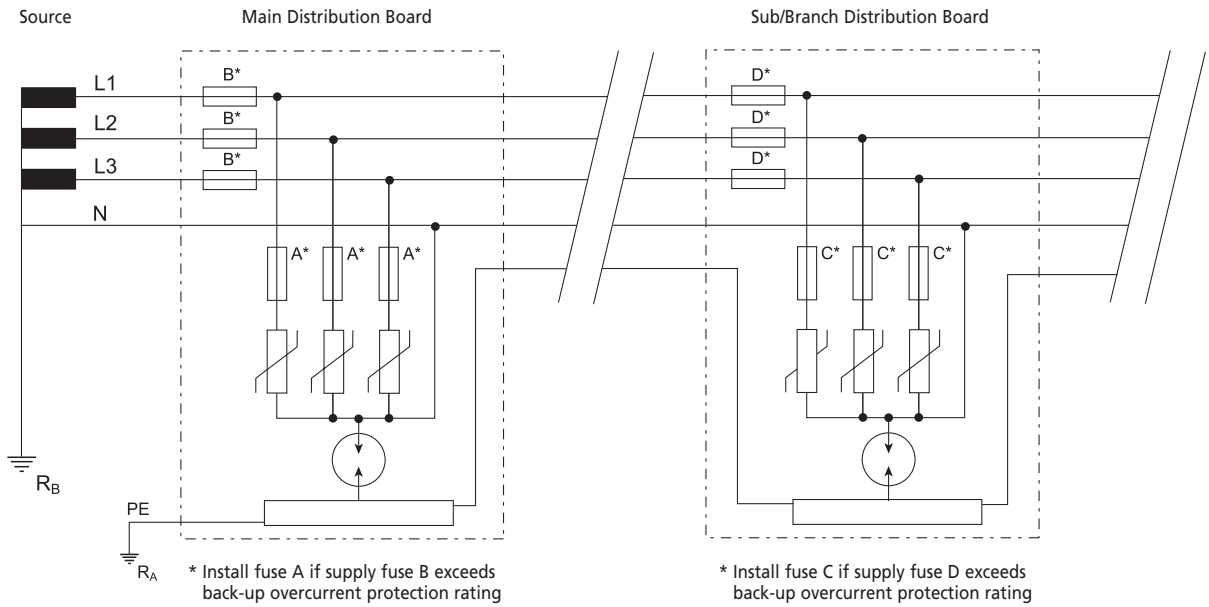
In this, a separate neutral and protective earth combine in a single PEN conductor. This system is also known as a Multiple Earthed Neutral (MEN) system and the protective conductor is referred to as the Combined Neutral Earth (CNE) conductor. The supply PEN conductor is earthed at a number of points throughout the network and generally as close to the consumer's point-of-entry as possible. All exposed-conductive-parts are connected to the CNE conductor.



SPDs shown connected L-PE and N-PE.
May also be connected L-N and N-PE.

TT System

A system having one point of the source of energy earthed and the exposed-conductive-parts of the installation connected to independent earthed electrodes.



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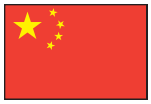

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