Electrical installation solutions for buildings – Technical details

Arc Fault Detection Devices

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DS-ARC1

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AFDD technical details

Functions and classification criteria for AFDD

Functions and classification criteria for AFDD
An AFDD (Arc Fault Detection Device) according to the product standard “IEC 62606 - General requirements for Arc Fault Detection Devices” is a device intended to mitigate the effects of arcing faults by disconnecting the circuit when an arc fault is detected: this product standard is partially derived from the UL 1699 standard.

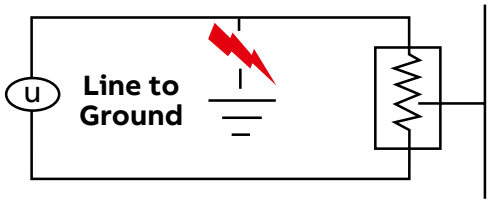
Three different type of products are described in IEC 62606 standard:

- **AFDD in series with protection device:**
  AFDD as one single device, comprising an AFD unit and opening means and intended to be connected in series with a suitable short circuit protective device declared by the manufacturer complying with one or more of the following standards IEC 60898-1, IEC 61009- 1 or IEC 60269 series.

- **Integrated solution:**
  AFDD as one single device, comprising an AFD unit integrated in a protective device complying with one or more of the following standards IEC 60898-1, IEC 61008-1, IEC 61009- 1 or IEC 62423.

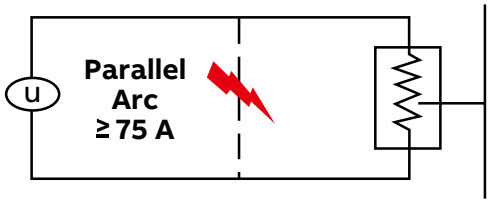
- **AFDD + protection device assembled on site:**
  AFDD according to Annex D, comprised of an AFD unit and a declared protective device, intended to be assembled on site.

AFDD can guarantee protection against all types of arc faults:



Eart arc fault
current is folowing from active conductor to the earth

Series arc fault
current is folowing within one conductor of the final circuit



Parallel arc fault
current is folowing between active conductors in parallel with the load of the circuit

Different levels of protection
RCDs are recognized efficient to reduce the risk of fire by detection of leakage current and arcing to ground as a consequence of tracking currents within an electrical installation. For this reason RCDs can detect only earth arc faults.

In case of parallel arc faults MCBs and fuses can trip only if their intervention time-current curves are compatible with the values of the current of the arc faults, thus the trip is not instantaneous.

Series arc faults are generally to weak to be detected by MCBs.

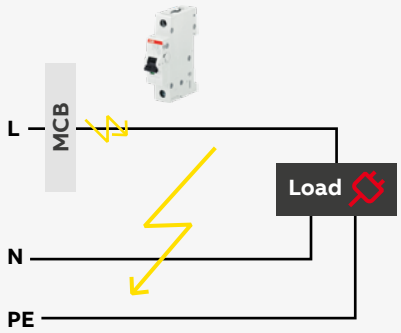
MCBs can not detect earth arc faults because the current values are in general rather low.

In order to ensure a complete protection against arc faults, it is required the installation of an AFDD.

AFDD technical details

Functions and classification criteria for AFDD

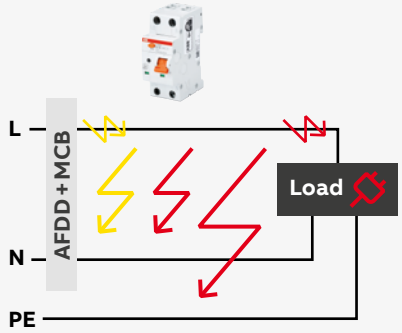
01 MCB



Protection against:

- Overcurrent (short circuits, overload)

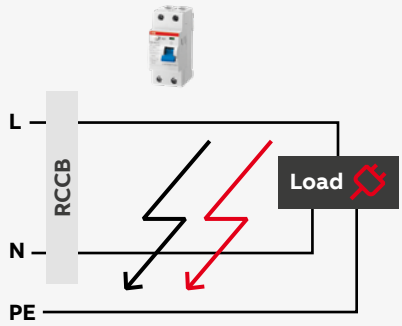
01 S-ARC1 AFDD with integrated MCB



Protection against:

- Overcurrent (short circuits, overload)
- Series, parallel and earth arc faults

02 RCCB

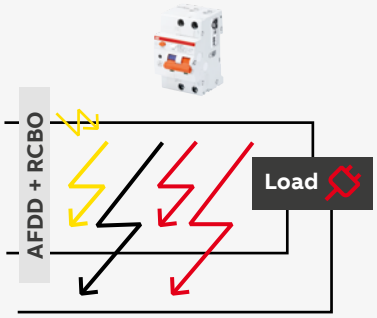


Protection against:

- Earth faults currents
- Earth arc faults

02 DS-ARC1 AFDD with integrated RCBO

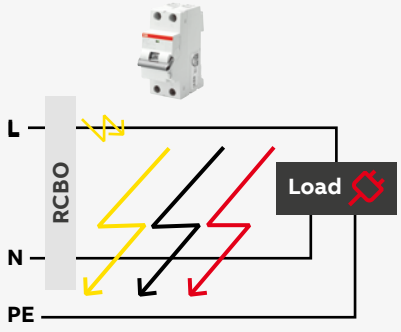
Maximum Protection



Protection against:

- Overcurrent (short circuits, overload)
- Earth fault currents
- Series, parallel and earth arc faults

03 RCBO



Protection against:

- Overcurrent (short circuits, overload)
- Earth fault currents
- Earth arc faults

AFDD technical details

Power loss, derating and performance in altitude

Voltage drop, Internal resistance, Power loss and own consumption for S-ARC1 series

In [A]	Voltage drop [mV]	Internal Resistance [mΩ]	Power loss [W]	Own consuption [W]
6	380	63,3	2,3	0,5
10	203	20,3	2	0,5
13	166	12,8	2,2	0,5
16	175	10,9	2,8	0,5
20	182	9,1	3,6	0,5

Derating in temperature for S-ARC1 series

Max operating current depending on the ambient temperature of a circuit breaker in load circuit of characteristics type B and C.
Daily average ambient temperature is intended to be ≤ +35 °C.

Curve B, C	Temperature [°C]									
In (A)	-25	-20	0	10	20	25	30	40	50	55
6	7,2	6,8	6,4	6,3	6,1	6	6	6	5,8	5,8
10	12,2	11,9	10,8	10,7	10,5	10,2	10	10	9,8	9,6
13	15,6	15,2	14,2	13,8	13,4	13,2	13	12,9	12,7	12,6
16	19,5	18,9	17,9	17,3	16,7	16,3	16	15,8	15,5	15,4
20	24,4	24	22,4	21,6	21	20,4	20	19,8	19,5	19,4

Performance in altitude for S-ARC1 series

Elevation	[m]	3000	4000	5000	6000
Rated Current	[A]	0,96 x In	0,94 x In	0,92 x In	0,90 x In
Rated Voltage	[V]	0,877 x Un	0,775 x Un	0,676 x Un	0,588 x Un

For altitude higher then 3.000 m the isolating characteristic is no longer available.

Influence of adjacent devices

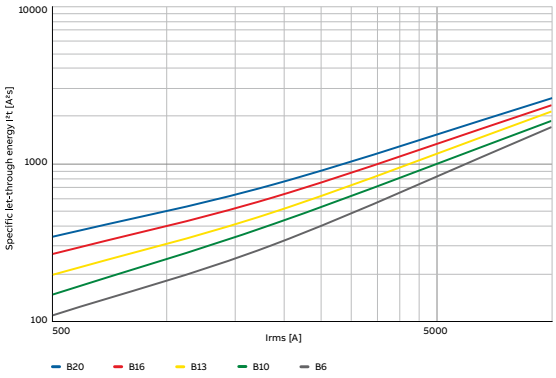
Number of devices	Correction factor
1	1
3	0,92
5	0,88
7	0,85
9	0,84

AFDD technical details

Specific let-through energy I^2t S-ARC1 and S-ARC1 M

—
01 I^2t
S-ARC1 Tripping
Characteristics B

—
02 I^2t
S-ARC1 Tripping
Characteristics C



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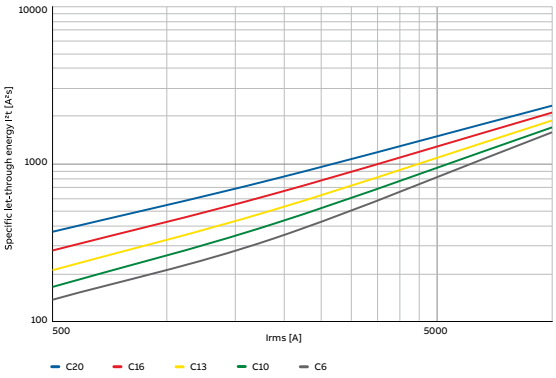
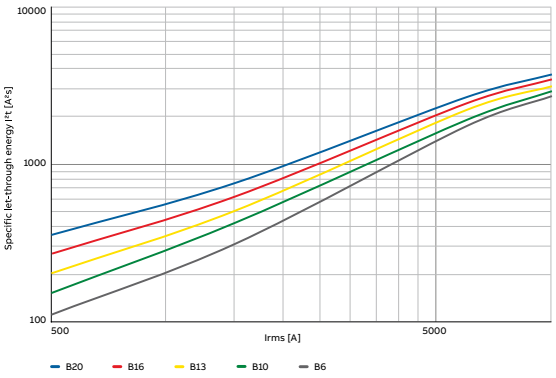
01



—
02

—
03 I^2t
S-ARC1 M Tripping
Characteristics B

—
04 I^2t
S-ARC1 M Tripping
Characteristics C



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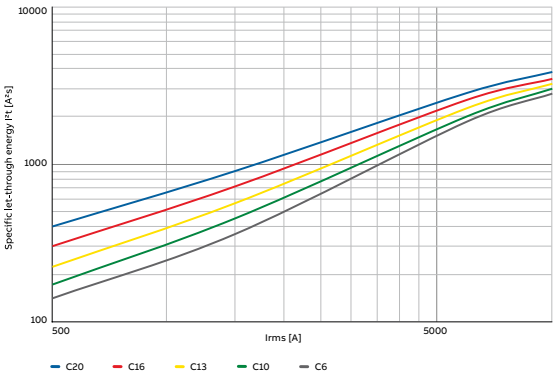
03



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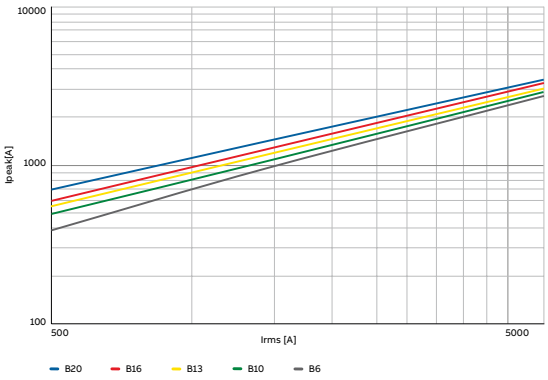
04

AFDD technical details

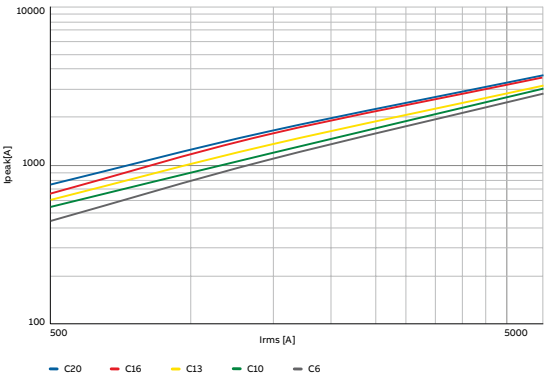
Ipeak S-ARC1 and S-ARC1 M

01 Ipeak
S-ARC1 Tripping
Characteristics B

02 Ipeak
S-ARC1 Tripping
Characteristics C



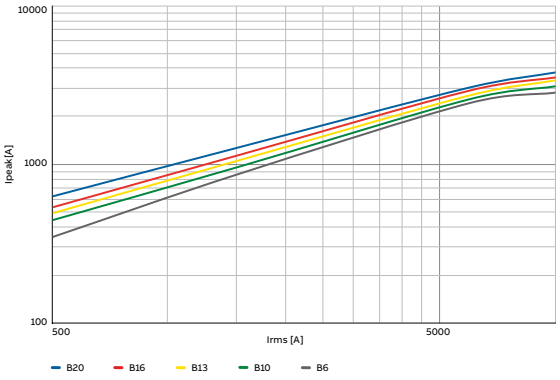
01



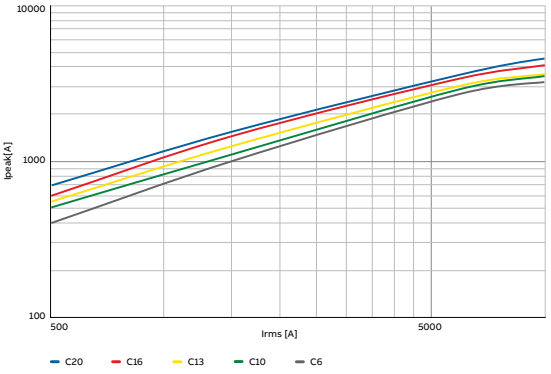
02

03 Ipeak
S-ARC1 M Tripping
Characteristics B

04 Ipeak
S-ARC1 M Tripping
Characteristics C



03



04

AFDD technical details

Coordination tables: S-ARC1, S-ARC1 M back-up

Fuses - S-ARC1 @ 230/240V

		Supply S.		gL/gG					
Load S.		Icu [kA]	In[A]	25	40	50	63	80	100
S-ARC1	B,C	7.5	6...20	35	25	20	15	10	10
S-ARC1 M	B,C	10	6...20	35	25	20	15	10	10

MCCB@415V - S-ARC1 @230/240V

		Upstream		XT1	XT1	XT1	XT2	XT3	XT4	XT1	XT2	XT3	XT4	XT1	XT2	XT4	XT2	XT4	XT2	XT4
	Char			B	C	N	N	N	N	S	S	S	S	H	H	H	L	L	V	V
Down-stream		Icu [kA]	In[A]	18	25	36	36	36	36	50	50	50	50	70	70	70	120	120	150	150
S-ARC1	B,C	7.5	6...20	16	16	16	20	10	10	16	20	10	10	16	20	10	20	10	20	10
S-ARC1 M	B,C	10	6...16	16	16	16	25	16	25	16	25	16	25	16	25	25	25	25	25	25
			20				25		16		25		16		25	16	25	16	25	16

MCCB @415V - S-ARC1 @230/240V

		Supply S.		T1	T1	T1	T2	T3	T4	T2	T3	T4	T2	T4	T2	T4	T4
	Char			B	C	N	N	N	N	S	S	S	H	H	L	L	V
Load S.		Icu [kA]	In[A]	16	25	36	36	36	36	50	50	50	70	70	85	120	200
S-ARC1	B,C	7.5	6...20	16	16	16	20	10	10	20	10	10	20	10	20	10	10
S-ARC1 M	B,C	10	6...20	16	16	16	25	16	25	25	16	16	25	16	25	16	16

S800S - S-ARC1 @ 230/240V

		Supply S.		S800S							
	Char			B,C,D,K							
Load S.		Icu [kA]		50							
			In[A]	25	32	40	50	63	80	100	125
S-ARC1	B,C	7.5	6...16	50	40	25	25	18	15	15	15
			20	-	40	25	25	18	15	15	15
S-ARC1 M	B,C	10	6...16	50	50	50	50	50	50	50	50
			20	-	50	50	50	50	50	50	50

S800N - S-ARC1 @ 230/240V

		Supply S.		S800N							
	Char			B,C,D							
Load S.		Icu [kA]		36							
			In[A]	25	32	40	50	63	80	100	125
S-ARC1	B,C	7.5	6...16	36	36	25	25	18	15	15	15
			20	-	36	25	25	18	15	15	15
S-ARC1 M	B,C	10	6...16	36	36	36	36	36	36	36	36
			20	-	36	36	36	36	36	36	36

AFDD technical details

Coordination tables: S-ARC1, S-ARC1 M back-up

S800C - S-ARC1 @ 230/240V

		Supply S.									
	Char						S800C				
Load S.		Icu [kA]					B,C,D,K				
							25				
S-ARC1	B,C	7.5	In[A]	25	32	40	50	63	80	100	125
			6...16	25	25	25	25	18	15	15	15
			20	-	25	25	25	18	15	15	15
S-ARC1M	B,C	10	6...16	25	25	25	25	25	25	25	25
			20	-	25	25	25	25	25	25	25

S800B - S-ARC1 @ 230/240V

		Supply S.					S800B			
	Char						B,C,D,K			
Load S.		Icu [kA]								
S-ARC1	B,C	7.5	In[A]	32	40	50	63	80	100	125*
			6...20	16	16	16	16	15	15	15
S-ARC1M	B,C	10	6...20	16	16	16	16	16	16	16

*Only S800B B,C

S200 - S-ARC1 @230/240V

		Supply S.		S200	S200M	S200P	S200P
	Char			B-C	B,C	B,C	B,C
Load S.		Icu [kA]		20	25	40	25
S-ARC1	B,C	7.5 and 10	In[A]	0.5..63	0.5...63	0.5...25	32
			6...20	20	25	40	25

DS201 - S-ARC1 @230/240V

		Supply S.		DS201
	Char			B,C
Load S.		In[A]		2...40
S-ARC1	B,C	6...20	Icu [kA]	10
			7.5 and 10	10

AFDD technical details

Coordination tables: S-ARC1, S-ARC1 M selectivity

Fuse gL/gG- S-ARC1 @ 230/240V

		Supply S.	Fuse gL/gG								
Load S.	Char	Icu [kA]	In[A]	25	32	40	50	63	80	100	125
S-ARC1	B,C	7.5	6	1	1.5	4	4.5	T	T	T	T
			10		1.2	3.5	4	T	T	T	T
			13		1	3	3.5	5	T	T	T
			16		1	3	3.5	5	T	T	T
			20		1	3	3.5	5	T	T	T
S-ARC1M	B,C	10	6	1	1.5	4	4.5	7	T	T	T
			10		1.2	3.5	4	6	T	T	T
			13		1	3	3.5	5	T	T	T
			16		1	3	3.5	5	T	T	T
			20		1	3	3.5	5	8	T	T

MCCB@415V - S-ARC1 @230/240V

			Supply S.	XT1										
			Version	B,C,N,S,H										
			Release	TM										
Load S.	Char	Icu [kA]	In[A]	16	20	25	32	40	50	63	80	100	125	160
S-ARC1	B,C	7.5	6	T	T	T	T	T	T	T	T	T	T	T
			10			3	3	3	4.5	T	T	T	T	T
			13					3	4.5	5	T	T	T	T
			16					3	4.5	5	T	T	T	T
			20						3	5	T	T	T	T
S-ARC1M	B,C	10	6	6	6	6	6	6	6	T	T	T	T	T
			10			3	3	3	4.5	7.5	8.5	T	T	T
			13					3	4.5	5	7.5	T	T	T
			16					3	4.5	5	7.5	T	T	T
			20						3	5	6	T	T	T

MCCB@415V - S-ARC1 @230/240V

			Supply S.	XT2															
			Version	N,S,H,L,V															
			Release	TM											EL				
Load S.	Char	Icu [kA]	In[A]	16	20	25	32	40	50	63	80	100	125	160	10	25	63	100	160
S-ARC1	B,C	7.5	6	T	T	T	T	T	T	T	T	T	T	T		T	T	T	T
			10		3[1]	3	3	3	4.5	T	T	T	T	T		T	T	T	T
			13				3[1]	3	4.5	5	T	T	T	T			T	T	T
			16				3[1]	3	4.5	5	T	T	T	T			T	T	T
			20				3[1]		3	5	T	T	T	T			T	T	T
S-ARC1M	B,C	10	6	T	T	T	T	T	T	T	T	T	T	T		T	T	T	T
			10		3[1]	3	3	3	4.5	7.5	8.5	T	T	T		T	T	T	T
			13				3[1]	3	4.5	5	7.5	T	T	T			T	T	T
			16				3[1]	3	4.5	5	7.5	T	T	T			T	T	T
			20				3[1]		3	5	6	T	T	T			T	T	T

[1] Value valid in case of Supply S. breaker only magnetic

AFDD technical details

Coordination tables: S-ARC1, S-ARC1 M selectivity

MCCB@415V - S-ARC1 @230/240V

			Supply S.	XT3						
			Version	N,S						
			Release	TM						
Load S.	Char	Icu [kA]	In[A]	63	80	100	125	160	200	250
S-ARC1	B,C	7.5	6	T	T	T	T	T	T	T
			10	T	T	T	T	T	T	T
			13	5	T	T	T	T	T	T
			16	5	T	T	T	T	T	T
			20	5	T	T	T	T	T	T
S-ARC1 M	B,C	10	6	T	T	T	T	T	T	T
			10	7.5	8.5	T	T	T	T	T
			13	5	7.5	T	T	T	T	T
			16	5	7.5	T	T	T	T	T
			20	5	6	T	T	T	T	T

MCCB@415V - S-ARC1 @230/240V

			Supply S.	XT4																	
			Version	N,S,H,L,V																	
			Release	TM													EL				
Load S.	Char	Icu [kA]	In[A]	20	25	32	40	50	63	80	100	125	160	200	225	250	40	63	100	160	250
S-ARC1	B,C	7.5	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			10	3[1]	3	3	3	4.5	T	T	T	T	T	T	T	T	3	T	T	T	T
			13			3[1]	3	4.5	5	T	T	T	T	T	T	T	3	T	T	T	T
			16			3[1]	3	4.5	5	T	T	T	T	T	T	T	3	T	T	T	T
			20			3[1]		3	5	T	T	T	T	T	T	T		T	T	T	T
S-ARC1 M	B,C	10	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			10	3[1]	3	3	3	4.5	7.5	8.5	T	T	T	T	T	T	3	T	T	T	T
			13			3[1]	3	4.5	5	7.5	T	T	T	T	T	T	3	T	T	T	T
			16			3[1]	3	4.5	5	7.5	T	T	T	T	T	T	3	T	T	T	T
			20			3[1]		3	5	6	T	T	T	T	T	T		T	T	T	T

[1] Value valid in case of Supply S. breaker only magnetic

AFDD technical details

Coordination tables: S-ARC1, S-ARC1 M selectivity

MCCB@415V - S-ARC1 @230/240V

			Supply S.	T1										
			Version	B,C,N										
			Release	TMD										
			Iu[A]	160										
Load S.	Char	Icu [kA]	In[A]	16	20	25	32	40	50	63	80	100	125	160
S-ARC1	B,C	7.5	6	T	T	T	T	T	T	T	T	T	T	T
			10			3	3	3	4.5	T	T	T	T	T
			13					3	4.5	5	T	T	T	T
			16					3	4.5	5	T	T	T	T
			20						3	5	T	T	T	T
S-ARC1 M	B,C	10	6	6	6	6	6	6	6	T	T	T	T	T
			10			3	3	3	4.5	7.5	8.5	T	T	T
			13					3	4.5	5	7.5	T	T	T
			16					3	4.5	5	7.5	T	T	T
			20						3	5	6	T	T	T

MCCB@415V - S-ARC1 @230/240V

			Supply S.	T2														
			Version	N,S,H,L														
			Release	TMD										EL				
			Iu[A]	160										160				
Load S.	Char	Icu [kA]	In[A]	16	20	25	32	40	50	63	80	100	125	160	25	63	100	160
S-ARC1	B,C	7.5	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			10		3	3	3	3	4.5	T	T	T	T	T	T	T	T	T
			13				3	3	4.5	5	T	T	T	T		T	T	T
			16				3	3	4.5	5	T	T	T	T		T	T	T
			20				3		3	5	T	T	T	T		T	T	T
S-ARC1 M	B,C	10	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			10		3	3	3	3	4.5	7.5	8.5	T	T	T	T	T	T	T
			13				3	3	4.5	5	7.5	T	T	T		T	T	T
			16				3	3	4.5	5	7.5	T	T	T		T	T	T
			20				3		3	5	6	T	T	T		T	T	T

AFDD technical details

Coordination tables: S-ARC1, S-ARC1M selectivity

MCCB@415V - S-ARC1@230/240V

			Supply S.	T3						
			Version	N,S						
			Release	TMD, MA						
			Iu[A]	250						
Load S.	Char	Icu [kA]	In[A]	63	80	100	125	160	200	250
S-ARC1	B,C	7.5	6	T	T	T	T	T	T	T
			10	T	T	T	T	T	T	T
			13	5	T	T	T	T	T	T
			16	5	T	T	T	T	T	T
			20	5	T	T	T	T	T	T
S-ARC1M	B,C	10	6	T	T	T	T	T	T	T
			10	7.5	8.5	T	T	T	T	T
			13	5	7.5	T	T	T	T	T
			16	5	7.5	T	T	T	T	T
			20	5	6	T	T	T	T	T

S800N/S - S-ARC1 @230/240V

			Supply S.	S800N-S					
	Char			B					
Load S.		Icu [kA]		36-50					
			In[A]	50	63	80	100	125	
S-ARC1, S-ARC1M	B,C	7.5 and 10	6	0.6	1.2	1.6	2.6	3.8	
			10	0.5	1.1	1.4	2	3	
			13		0.8	1.2	1.7	2.5	
			16		0.8	1.2	1.7	2.5	
			20			1	1.5	2.1	

S800N/S - S-ARC1 @230/240V

			Supply S.	S800N-S					
	Char			C					
Load S.		Icu [kA]		36-50					
			In[A]	40	50	63	80	100	125
S-ARC1, S-ARC1M	B,C	7.5 and 10	6	0.55	1.1	1.5	2.5	3.6	5.5
			10	0.45	1	1.3	1.9	2.8	4.2
			13		0.75	1.1	1.6	2.3	3.6
			16		0.75	1.1	1.6	2.3	3.6
			20			0.9	1.4	1.9	3.3

AFDD technical details

Coordination tables: S-ARC1, S-ARC1 M selectivity

S800N/S - S-ARC1 @230/240V

			Supply S.	S800 N-S							
	Char			D							
Load S.		Icu [kA]		36-50							
			In[A]	25	32	40	50	63	80	100	125
S-ARC1	B,C	7.5	6	0.6	1.3	2	3.2	3.9	T	T	T
			10	0.5	1.2	1.65	2.6	3.1	T	T	T
			13		0.9	1.4	1.8	2.6	5	T	T
			16		0.9	1.4	1.8	2.6	5	T	T
S-ARC1 M	B,C	10	20			1.3	1.6	2.2	4.2	5.4	T
			6	0.6	1.3	2	3.2	3.9	8	T	T
			10	0.5	1.2	1.65	2.6	3.1	6.2	8.6	T
			13		0.9	1.4	1.8	2.6	5	6.3	8.8
			16		0.9	1.4	1.8	2.6	5	6.3	8.8
			20			1.3	1.6	2.2	4.2	5.4	7.6

S700 - S-ARC1 @230/240V

			Supply S.	S700							
	Char			E							
Load S.		Icu [kA]		25							
			In[A]	20	25	35	40	50	63	80	100
S-ARC1, S-ARC1 M	B,C	7.5 and 10	6	T	T	T	T	T	T	T	T
			10	T	T	T	T	T	T	T	T
			13		T	T	T	T	T	T	T
			16		T	T	T	T	T	T	T
			20			T	T	T	T	T	T

AFDD technical details

Power loss, derating and performance in altitude

Derating

Influence of adjacent devices	Number of devices	1	3	5	7	9
	Correction factor	1	0.95	0.92	0.9	0.9

Derating in temperature	**In [A]**	**Temperature [°C]**										
		-25	**-20**	**-10**	**0**	**10**	**20**	**25**	**30**	**40**	**50**	**55**
Max operating current depending on the ambient temperature (daily average ≤ +35 °C) of characteristics type B and C.	**6**	7.9	7.8	7.7	7.3	6.9	6.3	6.1	6.0	5.9	5.8	5.7
	10	13.3	13.1	12.8	12.3	11.5	10.6	10.3	10.0	9.9	9.8	9.8
	13	17.0	16.7	16.2	15.5	14.5	13.6	13.3	13.0	12.7	12.6	12.5
	16	19.6	19.2	18.5	18.0	17.2	16.7	16.4	16.0	15.9	15.7	15.6
	20	24.3	23.8	23.2	22.3	21.4	20.7	20.3	20.0	19.8	19.5	19.3

Voltage Drop. power loss. internal resistance. own consumption	**In [A]**	**Voltage drop [mV]**	**Internal resistance [mΩ]**	**Power loss [W]**	**Own consumption [W]**
	6	408	68	2.5	0.5
	10	183	18	1.8	0.5
	13	195	20	2.0	0.5
	16	194	12	3.1	0.5
	20	212	11	4.2	0.5

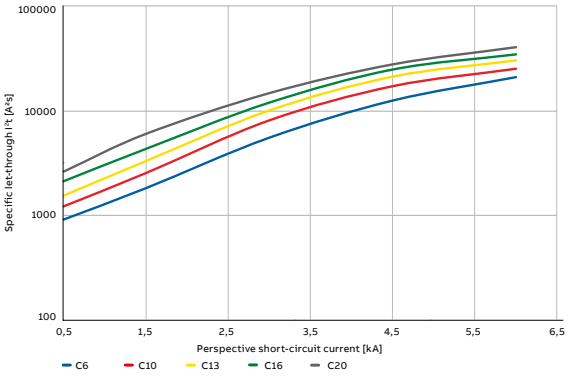
Performance in altitude	**Elevation [m]**	**3000**	**4000**	**5000**	**6000**
	Rated Current [A]	0.96 × In	0.94 × In	0.92 × In	0.90 × In
	Rated Voltage [V]	0.877 × Un	0.775 × Un	0.676 × Un	0.588 × Un

AFDD technical details

Specific let-through energy I^2t DS-ARC1 and DS-ARC1 M

—
01 I^2t
DS-ARC1
Characteristics C

—
02 I^2t
DS-ARC1 M
Characteristics C



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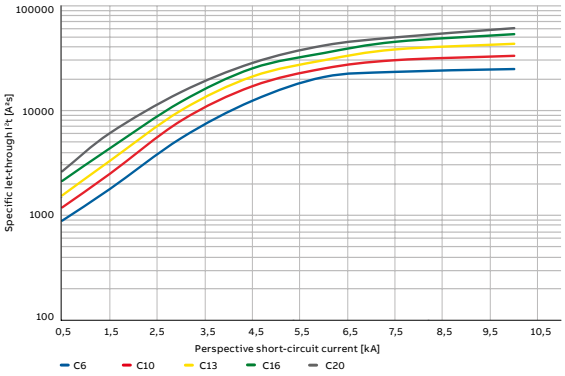

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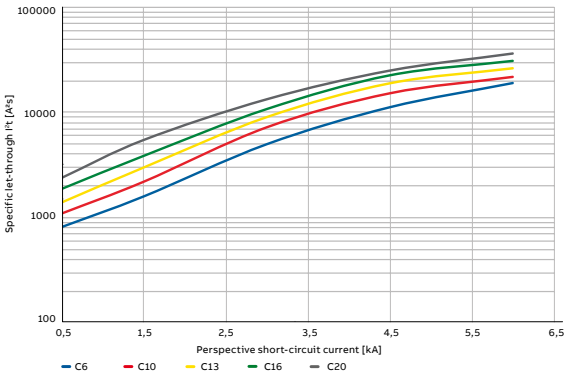
02

—
03 I^2t
DS-ARC1
Characteristics B

—
04 I^2t
DS-ARC1 M
Characteristics B



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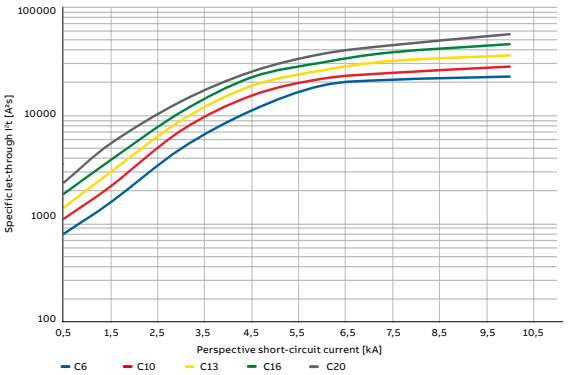

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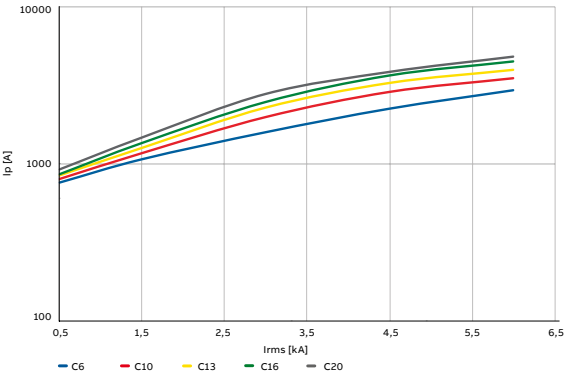
04

AFDD technical details

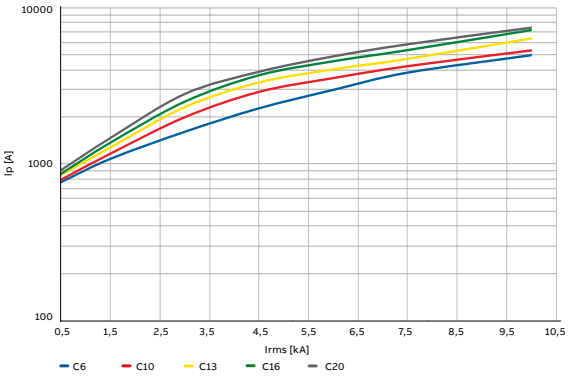
Ipeak DS-ARC1 and DS-ARC1 M

01 Ipeak
DS-ARC1,
Characteristic C

02 Ipeak
DS-ARC1 M
Characteristics C



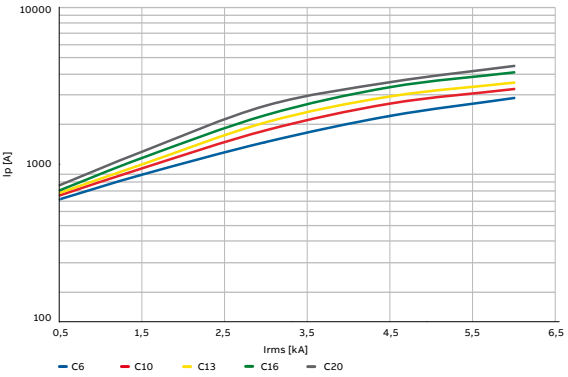
01



02

03 Ipeak
DS-ARC1
Characteristics B

04 Ipeak
DS-ARC1 M
Characteristics B



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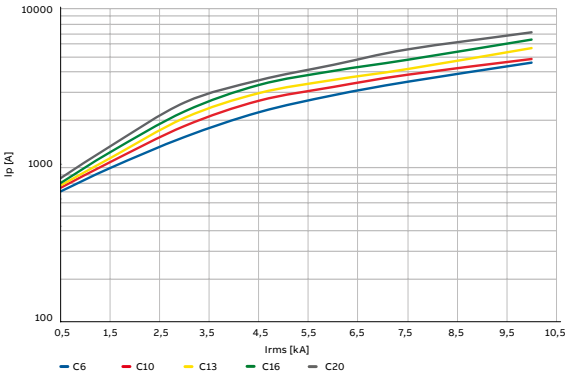

04

AFDD technical details

Coordination tables: DS-ARC1, DS-ARC1 M back-up

Fuses - DS-ARC1, DS-ARC1 M@230/230/240V

		Supply S.		gL/gG					
Load S.		Icu [kA]	In[A]	25	40	50	63	80	100
DS-ARC1, DS-ARC1 M	B,C	7.5 and 10	6...20	35	25	20	15	10	10

MCCB@415V - DS-ARC1, DS-ARC1 M@230/240V

		Upstream		XT1	XT1	XT1	XT2	XT3	XT4	XT1	XT2	XT3	XT4	XT1	XT2	XT4	XT2	XT4	XT2	XT4
	Char			B	C	N	N	N	N	S	S	S	S	H	H	H	L	L	V	V
Down-stream		Icu [kA]	In[A]	18	25	36	36	36	36	50	50	50	50	70	70	70	120	120	150	150
DS-ARC1	B,C	7.5	6...20	16	16	16	20	10	10	16	20	10	10	16	20	10	20	10	20	10
DS-ARC1M	B,C	10	6...16	16	16	16	25	16	25	16	25	16	25	16	25	25	25	25	25	25
			20				25		16		25		16		25	16	25	16	25	16

MCCB @415V - DS-ARC1 , DS-ARC1 M@230/240V

		Supply S.		T1	T1	T1	T2	T3	T4	T2	T3	T4	T2	T4	T2	T4	T4
	Char			B	C	N	N	N	N	S	S	S	H	H	L	L	V
Load S.		Icu [kA]	In[A]	16	25	36	36	36	36	50	50	50	70	70	85	120	200
DS-ARC1	B,C	7.5	6...20	16	16	16	20	10	10	20	10	10	20	10	20	10	10
DS-ARC1M	B,C	10	6...20	16	16	16	25	16	25	25	16	16	25	16	25	16	16

S800S - DS-ARC1, DS-ARC1 M@ 230/240V

		Supply S.		S800S							
	Char			B,C,D,K							
Load S.		Icu [kA]		50							
			In[A]	25	32	40	50	63	80	100	125
DS-ARC1	B,C	7.5	6...16	50	40	25	25	18	15	15	15
			20	-	40	25	25	18	15	15	15
DS-ARC1M	B,C	10	6...16	50	50	50	50	50	50	50	50
			20	-	50	50	50	50	50	50	50

S800N - DS-ARC1, DS-ARC1 M@ 230/240V

		Supply S.		S800N							
	Char			B,C,D							
Load S.		Icu [kA]		36							
			In[A]	25	32	40	50	63	80	100	125
DS-ARC1	B,C	7.5	6...16	36	36	25	25	18	15	15	15
			20	-	36	25	25	18	15	15	15
DS-ARC1M	B,C	10	6...16	36	36	36	36	36	36	36	36
			20	-	36	36	36	36	36	36	36

AFDD technical details

Coordination tables: DS-ARC1, DS-ARC1 M back-up

S800C - DS-ARC1, DS-ARC1 M@ 230/240V

		Supply S.					S800C			
	Char						B,C,D,K			
Load S.		Icu [kA]					25			
DS-ARC1	B,C	7.5	In[A]	25	32	40	50	63	80	100	125
			6...16	25	25	25	25	18	15	15	15
			20	-	25	25	25	18	15	15	15
DS-ARC1M	B,C	10	6...16	25	25	25	25	25	25	25	25
			20	-	25	25	25	25	25	25	25

S800B - DS-ARC1, S-ARC M@ 230/240V

		Supply S.					S800B			
	Char						B,C,D,K			
Load S.		Icu [kA]								
DS-ARC1	B,C	7.5	In[A]	32	40	50	63	80	100	125*
			6...20	16	16	16	16	15	15	15
DS-ARC1M	B,C	10	6...20	16	16	16	16	16	16	16

*Only S800B B,C

S200 - DS-ARC1, DS-ARC1 M@230/240V

		Supply S.		S200	S200M	S200P	S200P
	Char			B-C	B,C	B,C	B,C
Load S.		Icu [kA]		20	25	40	25
DS-ARC1	B,C	7.5 and 10	In[A]	0.5..63	0.5...63	0.5...25	32
			6...20	20	25	40	25

DS201 - DS-ARC1, DS-ARC1 M @230/240V

		Supply S.		DS201
	Char			B,C
Load S.		In[A]		2...40
DS-ARC1	B,C	6...20	Icu [kA]	10
			7.5 and 10	10

AFDD technical details

Coordination tables: DS-ARC1, DS-ARC1 M selectivity

Fuse gL/gG- DS-ARC1, S-ARC M @ 230/400V

		Supply S.	Fuse gL/gG								
Load S.	Char	Icu [kA]	In[A]	25	32	40	50	63	80	100	125
DS-ARC1	B,C	7.5	6	1	1.5	4	4.5	T	T	T	T
			10		1.2	3.5	4	T	T	T	T
			13		1	3	3.5	5	T	T	T
			16		1	3	3.5	5	T	T	T
			20		1	3	3.5	5	T	T	T
DS-ARC1M	B,C	10	6	1	1.5	4	4.5	7	T	T	T
			10		1.2	3.5	4	6	T	T	T
			13		1	3	3.5	5	T	T	T
			16		1	3	3.5	5	T	T	T
			20		1	3	3.5	5	8	T	T

MCCB@415V - DS-ARC1, DS-ARC1 M @230/240V

			Supply S.	XT1										
			Version	B,C,N,S,H										
			Release	TM										
Load S.	Char	Icu [kA]	In[A]	16	20	25	32	40	50	63	80	100	125	160
DS-ARC1	B.C	7.5	6	T	T	T	T	T	T	T	T	T	T	T
			10			3	3	3	4.5	T	T	T	T	T
			13					3	4.5	5	T	T	T	T
			16					3	4.5	5	T	T	T	T
			20						3	5	T	T	T	T
DS-ARC1M	B.C	10	6	6	6	6	6	6	6	T	T	T	T	T
			10			3	3	3	4.5	7.5	8.5	T	T	T
			13					3	4.5	5	7.5	T	T	T
			16					3	4.5	5	7.5	T	T	T
			20						3	5	6	T	T	T

MCCB@415V - DS-ARC1, DS-ARC1 M @230/240V

			Supply S.	XT2																
			Version	N,S,H,L,V																
			Release	TM											EL					
Load S.	Char	Icu [kA]	In[A]	16	20	25	32	40	50	63	80	100	125	160	10	25	63	100	160	
DS-ARC1	B.C	7.5	6	T	T	T	T	T	T	T	T	T	T	T		T	T	T	T	
			10		3[1]	3	3	3	4.5	T	T	T	T	T		T	T	T	T	
			13				3[1]	3	4.5	5	T	T	T	T			T	T	T	
			16				3[1]	3	4.5	5	T	T	T	T			T	T	T	
			20				3[1]		3	5	T	T	T	T			T	T	T	
DS-ARC1M	B.C	10	6	T	T	T	T	T	T	T	T	T	T	T		T	T	T	T	
			10		3[1]	3	3	3	4.5	7.5	8.5	T	T	T		T	T	T	T	
			13				3[1]	3	4.5	5	7.5	T	T	T			T	T	T	
			16				3[1]	3	4.5	5	7.5	T	T	T			T	T	T	
			20				3[1]		3	5	6	T	T	T			T	T	T	

[1] Value valid in case of Supply S. breaker only magnetic

AFDD technical details

Coordination tables: DS-ARC1, DS-ARC1 M selectivity

MCCB@415V - DS-ARC1. DS-ARC1 M @230/240V

			Supply S.	XT3						
			Version	N,S						
			Release	TM						
Load S.	Char	Icu [kA]	In[A]	63	80	100	125	160	200	250
DS-ARC1	B.C	7.5	6	T	T	T	T	T	T	T
			10	T	T	T	T	T	T	T
			13	5	T	T	T	T	T	T
			16	5	T	T	T	T	T	T
			20	5	T	T	T	T	T	T
DS-ARC1M	B.C	10	6	T	T	T	T	T	T	T
			10	7.5	8.5	T	T	T	T	T
			13	5	7.5	T	T	T	T	T
			16	5	7.5	T	T	T	T	T
			20	5	6	T	T	T	T	T

MCCB@415V - DS-ARC1, DS-ARC1 M @230/240V

			Supply S.	XT4																	
			Version	N,S,H,L,V																	
			Release	TM													EL				
Load S.	Char	Icu [kA]	In[A]	20	25	32	40	50	63	80	100	125	160	200	225	250	40	63	100	160	250
DS-ARC1	B,C	7.5	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			10	3[1]	3	3	3	4.5	T	T	T	T	T	T	T	T	3	T	T	T	T
			13			3[1]	3	4.5	5	T	T	T	T	T	T	T	3	T	T	T	T
			16			3[1]	3	4.5	5	T	T	T	T	T	T	T	3	T	T	T	T
			20			3[1]		3	5	T	T	T	T	T	T	T		T	T	T	T
DS-ARC1M	B,C	10	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			10	3[1]	3	3	3	4.5	7.5	8.5	T	T	T	T	T	T	3	T	T	T	T
			13			3[1]	3	4.5	5	7.5	T	T	T	T	T	T	3	T	T	T	T
			16			3[1]	3	4.5	5	7.5	T	T	T	T	T	T	3	T	T	T	T
			20			3[1]		3	5	6	T	T	T	T	T	T		T	T	T	T

[1] Value valid in case of Supply S. breaker only magnetic

AFDD technical details

Coordination tables: DS-ARC1, DS-ARC1 M selectivity

MCCB@415V - DS-ARC1, DS-ARC1 M @230/240V

			Supply S.	T1										
			Version	B,C,N										
			Release	TMD										
			Iu[A]	160										
Load S.	Char	Icu [kA]	In[A]	16	20	25	32	40	50	63	80	100	125	160
DS-ARC1	B,C	7.5	6	T	T	T	T	T	T	T	T	T	T	T
			10			3	3	3	4.5	T	T	T	T	T
			13					3	4.5	5	T	T	T	T
			16					3	4.5	5	T	T	T	T
			20						3	5	T	T	T	T
DS-ARC1M	B,C	10	6	6	6	6	6	6	6	T	T	T	T	T
			10			3	3	3	4.5	7.5	8.5	T	T	T
			13					3	4.5	5	7.5	T	T	T
			16					3	4.5	5	7.5	T	T	T
			20						3	5	6	T	T	T

MCCB@415V - DS-ARC1, DS-ARC1 M @230/240V

			Supply S.	T2														
			Version	N,S,H,L														
			Release	TMD										EL				
			Iu[A]	160										160				
Load S.	Char	Icu [kA]	In[A]	16	20	25	32	40	50	63	80	100	125	160	25	63	100	160
DS-ARC1	B,C	7.5	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			10		3	3	3	3	4.5	T	T	T	T	T	T	T	T	T
			13				3	3	4.5	5	T	T	T	T		T	T	T
			16				3	3	4.5	5	T	T	T	T		T	T	T
			20				3		3	5	T	T	T	T		T	T	T
DS-ARC1M	B,C	10	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
			10		3	3	3	3	4.5	7.5	8.5	T	T	T	T	T	T	T
			13				3	3	4.5	5	7.5	T	T	T		T	T	T
			16				3	3	4.5	5	7.5	T	T	T		T	T	T
			20				3		3	5	6	T	T	T		T	T	T

AFDD technical details

Coordination tables: DS-ARC1, DS-ARC1 M selectivity

MCCB@415V - DS-ARC1@230/240V

			Supply S.	T3						
			Version	N,S						
			Release	TMD, MA						
			Iu[A]	250						
Load S.	Char	Icu [kA]	In[A]	63	80	100	125	160	200	250
DS-ARC1	B,C	7.5	6	T	T	T	T	T	T	T
			10	T	T	T	T	T	T	T
			13	5	T	T	T	T	T	T
			16	5	T	T	T	T	T	T
			20	5	T	T	T	T	T	T
DS-ARC1 M	B,C	10	6	T	T	T	T	T	T	T
			10	7.5	8.5	T	T	T	T	T
			13	5	7.5	T	T	T	T	T
			16	5	7.5	T	T	T	T	T
			20	5	6	T	T	T	T	T

S800N/S - DS-ARC1 , S- ARC 1 M @230/240V

			Supply S.	S800N-S				
	Char			B				
Load S.		Icu [kA]		36-50				
			In[A]	50	63	80	100	125
DS-ARC1, DS-ARC1M	B,C	7.5 and 10	6	0.6	1.2	1.6	2.6	3.8
			10	0.5	1.1	1.4	2	3
			13		0.8	1.2	1.7	2.5
			16		0.8	1.2	1.7	2.5
			20			1	1.5	2.1

S800N/S-DS-ARC1 , S-ARC 1 M @230/240V

			Supply S.	S800N-S					
	Char			C					
Load S.		Icu [kA]		36-50					
			In[A]	40	50	63	80	100	125
DS-ARC1, DS-ARC1M	B,C	7.5 and 10	6	0.55	1.1	1.5	2.5	3.6	5.5
			10	0.45	1	1.3	1.9	2.8	4.2
			13		0.75	1.1	1.6	2.3	3.6
			16		0.75	1.1	1.6	2.3	3.6
			20			0.9	1.4	1.9	3.3

AFDD technical details

Coordination tables: DS-ARC1, DS-ARC1 M selectivity

S800N/S-DS-ARC1, DS-ARC1 M @230/240V

			Supply S.	S800 N-S							
	Char			D							
Load S.		Icu [kA]		36-50							
			In[A]	25	32	40	50	63	80	100	125
DS-ARC1	B,C	7.5	6	0.6	1.3	2	3.2	3.9	T	T	T
			10	0.5	1.2	1.65	2.6	3.1	T	T	T
			13		0.9	1.4	1.8	2.6	5	T	T
			16		0.9	1.4	1.8	2.6	5	T	T
DS-ARC1 M	B,C	10	20			1.3	1.6	2.2	4.2	5.4	T
			6	0.6	1.3	2	3.2	3.9	8	T	T
			10	0.5	1.2	1.65	2.6	3.1	6.2	8.6	T
			13		0.9	1.4	1.8	2.6	5	6.3	8.8
			16		0.9	1.4	1.8	2.6	5	6.3	8.8
			20			1.3	1.6	2.2	4.2	5.4	7.6