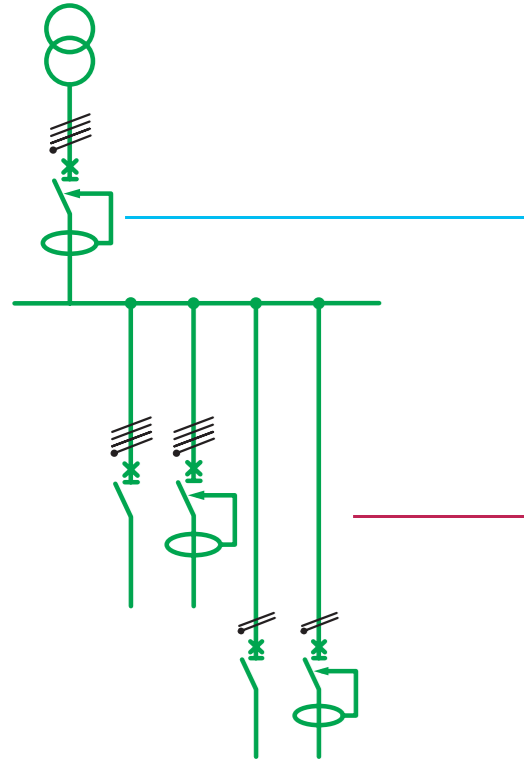


Technical advice

Isc max: 20 kA
Ue: 380-415V
In: 160 A to 250 A

Earthing system
TT - TN

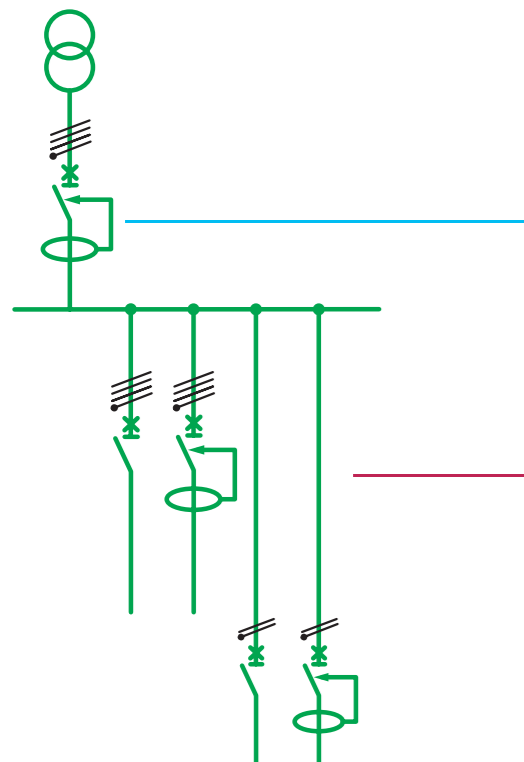


Type	Rating	MCCB	Trip unit
3P+N	≥ 200 A	NSX250B	TM-D
	All ratings		Micrologic 250

Downstream CB		Upstream CB	NSX250		
Type	Range	Trip unit	TM-D		
		I _r (A)	160	200	250
3P / 3P+N	iC60N	Rating of downstream CB	≤ 63 A		
1P / 1P+N					
3P / 3P+N	C120N	Rating of downstream CB	≤ 100 A	≤ 125 A	
1P / 1P+N					
Type	Range	Trip unit	Micrologic 250		
		I _r (A)	160	200	250
3P / 3P+N	iC60N	Rating of downstream CB	≤ 63 A		
1P / 1P+N					
3P / 3P+N	C120N	Rating of downstream CB	≤ 100 A	≤ 125 A	
1P / 1P+N					

Isc max: 20 kA
Ue: 380-415 V
In: 160 A to 400 A

Earthing system
TT - TN



Type	Rating	MCCB	Trip unit
3P+N	All ratings	NSX400F	Micrologic 400

Downstream CB		Upstream CB	NSX400				
Type	Range	Trip unit	Micrologic 400				
		I _r (A)	160	200	250	320	400
3P / 3P+N	iC60N	Rating of downstream CB	≤ 63 A				
1P / 1P+N							
3P / 3P+N	C120N	Rating of downstream CB	≤ 80 A	≤ 100 A	≤ 125 A		
1P / 1P+N							

Conclusion

Security and availability of energy are the primary requirements of the operator.

The solution "Continuity of Service" allows:

- To ensure total discrimination between NSX and the 1st level of circuit breakers Acti 9.
- To optimize the cost of the panel board by placing the circuit breakers Acti 9 with lower capacity.
- To facilitate the selection of circuit breakers by technical application commitment from Schneider Electric.

Solution 20 kA

How to ensure continuity of service in an electrical installation while optimizing its cost?

Continuity of service

Application flyer



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Capital social 896 313 776 €
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CA9AS001EN

As standards, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.

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Schneider
Electric

Introduction

The circuit breaker installed in an electrical network is design to avoid any dangers and damages associated with electrical hazards, overload short circuit and isolated fault, for the loads and people.

Description

This solution allows a continuity of service while optimizing the costs of the modular circuit breakers downstream.

- We use the technique of selectivity enhanced by cascading.
- We combine two techniques, selectivity and cascading.

> Selectivity (or discrimination)

Whatever the fault is (overload, short-circuit, isolation fault), only the upstream circuit breaker of the fault trips.

For a selectivity between Compact NSX and Acti 9, we use the ampero metric discrimination and the energy discrimination.

To ensure a good energy discrimination, we take benefit from the limitation of our circuit breaker.

The selectivity allows to limit the consequences of a fault or short-circuit only for the part of installation affected by this fault.

- We keep a continuity of service for the rest of installation.
- We can easier localise, the part of installation in default.

> Cascading

Ensure the same level of protection while substituting by a downstream circuit breaker of lower capacity.

How does it work?

Under effect of the short-circuit, the contacts of the two circuit breakers open simultaneously, leading to a very strong limitation of the current of short-circuit. This energy dissipated causes tripping reflex of the downstream unit close to the fault, to be as fast as possible, not to cause the tripping of the upstream device.

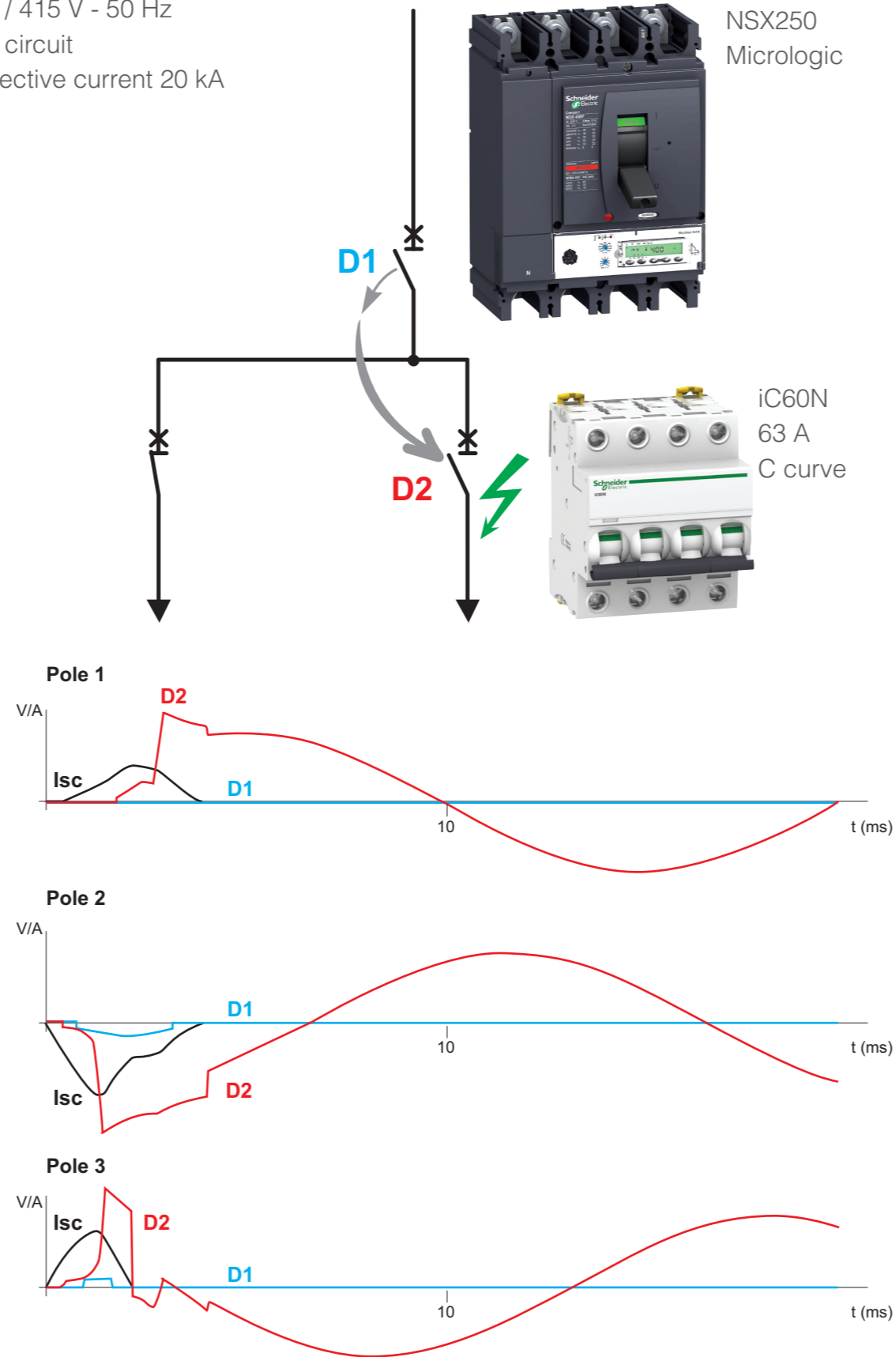
The limitation is also very interesting to limit the thermal stress for all elements in the electrical network.

The selectivity enhanced by cascading offers a very good compromise between security, continuity and cost of your installation.

Breaking details

Selectivity Enhanced by Cascading

240 V / 415 V - 50 Hz
3P+N circuit
Prospective current 20 kA



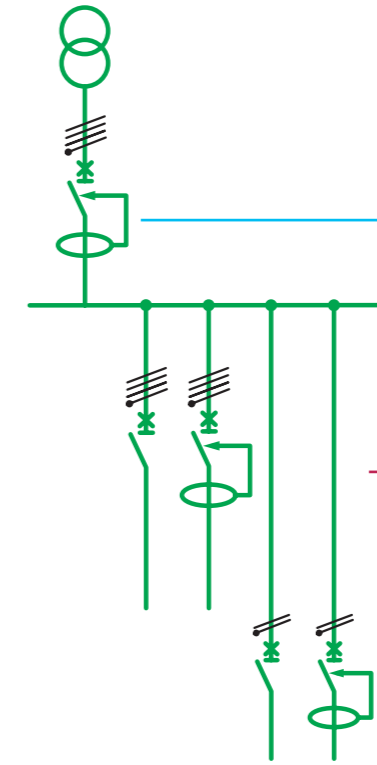
Comments:

Voltages of the upstream CB NSX250 (D1) in blue
Voltages of the downstream CB iC60N (D2) in red
Short circuit current in black

Technical advice

Isc max: 20 kA
Ue: 380-415 V
In: up to 100 A

Earthing system
TT - TN



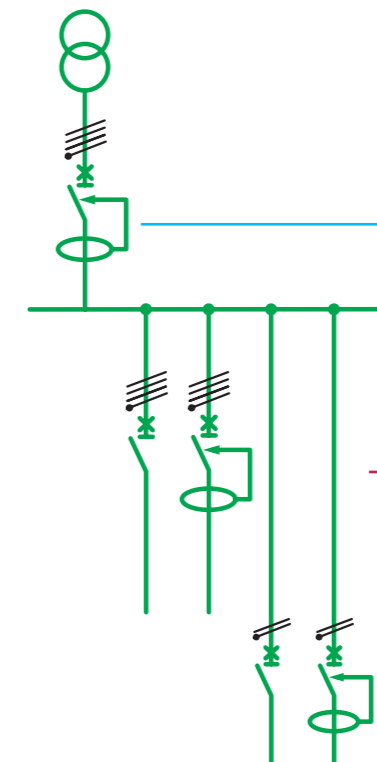
Type	Rating	MCCB	Trip unit
3P+N	≤ 40 A	NSX100B	Micrologic 40
	≤ 100 A		Micrologic 100

Downstream CB		Upstream CB	NSX100			
Type	Range	Trip unit	Micrologic 40			
		Ir (A)	16	25	32	40
3P / 3P+N	iC60N	Rating of downstream CB	≤ 10 A	≤ 16 A	≤ 20 A	≤ 25 A
1P / 1P+N						

Type		Trip unit	Micrologic 100			
		Ir (A)	40	63	80	100
3P / 3P+N	iC60N	Rating of downstream CB	≤ 25 A	≤ 40 A		
1P / 1P+N						

Isc max: 20 kA
Ue: 380-415 V
In: 80 A to 160 A

Earthing system
TT - TN



Type	Rating	MCCB	Trip unit
3P+N	≥ 125 A	NSX160B	TM-D
	All ratings		Micrologic 160

Downstream CB		Upstream CB	NSX160			
Type	Range	Trip unit	TM-D			
		Ir (A)	80	100	125	160
3P / 3P+N	iC60N	Rating of downstream CB			≤ 63 A	
1P / 1P+N						

Type		Trip unit	Micrologic 160			
		Ir (A)	80	100	125	160
3P / 3P+N	iC60N	Rating of downstream CB	≤ 50 A	≤ 63 A		
1P / 1P+N						