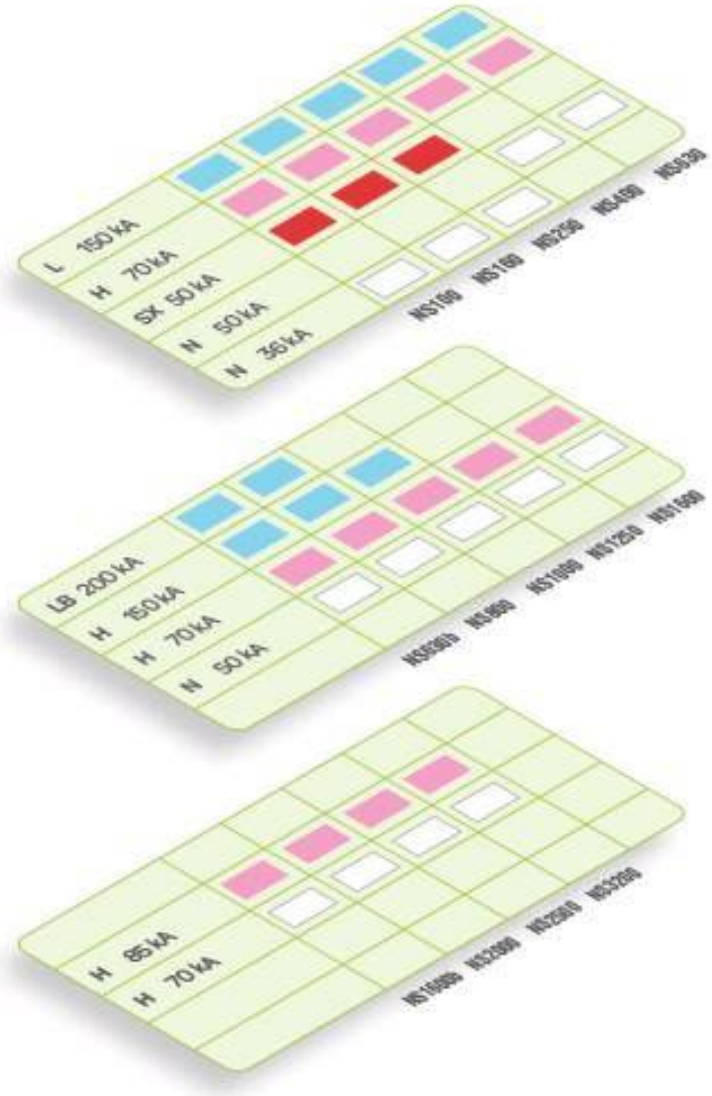
Compact NS

... ahead quite simply

The Compact NS range covers all ratings from 16 to 3200 A:

- Compact NS from 100 to 1600 A,fixed or withdrawable, front or rear connection, manual operating mechanism or motor mechanism.
  A new 200 kA performance now completes the Compact NS range.
- Compact NS from 1600 to 3200 A,fixed, front connection, with manual operating mechanism.



4 sizes:

from 16 to 3200 A

Compact NS100 to 250

Compact NS400 to 630

Compact NS630b to 1600

Compact NS1600b to 3200

A solution for all application types

DC applications

A specific range from 100 to 630 A with performance **up to 100 kA and 750 V** for battery or traction network type applications.

Source changeover

Compact NS proposes interlocking solutions between two devices to perform the source changeover switch function.
As from 100 A, a motor mechanism ensures automatic replacement of the main source by a secondary source in order to ensure permanent availability of energy.
Applications are numerous: operation theatres, emergency lighting systems, computer rooms, bank security, etc.

Motor applications

NS80H-MA: a product dedicated to motor protection for applications up to 37 kW.
For higher powers, the standard range associated with specific control units covers powers up to 750 kW.

1000 V / 400 Hz applications

The Compact NS range **covers 1000 V / 400 Hz applications up to 630 A:** road and rail tunnels, mines, wind turbines (1000 V) and aircraft facilities (400 Hz).

Compact NS Until 630 A

Compact circuit-breakers					NS80H-MA	NS100				NS160		
Number of poles					3	2(1), 3, 4				2(1), 3, 4		
Control	manual		toggle		•	•				•		
			direct or extended rotary handle		•	•				•		
	electric				-	•				•		
Connections	fixed			front connection	•	•				•		
				rear connection	-	•				•		
	plug-in (on base) /			front connection	-	•				•		
	withdrawable (on chassis)			rear connection	-	•				•		
Electrical characteristics as per IEC 60947-2 and EN 60947-2												
Rated current (A)		In	40 °C		-	100				160		
			65 °C		80	100				150		
Rated insulation voltage (V)		Ui			750	750				750		
Rated impluse withstand voltage (kV)		Uimp			8	8				8		
Rated operational voltage (V)		Ue	AC 50/60 Hz		690	690				690		
			DC		-	750				750		
Type of circuit-breaker					H	N	SX	H	L	N	SX	H
Ultimate breaking capacity (kA rms)		Icu	AC	220/240 V	100	85	90	100	150	85	90	100
			50/60 Hz	380/415 V	70	36	50	70	150	36	50	70
				440 V	65	35	50	65	130	35	50	65
				500 V	25	25	36	50	100	30	36	50
				525 V	25	22	35	35	100	22	35	35
				660/690 V	6	8	10	10	75	8	10	10
			DC solutions from 48 to 750 V and breaking capacity 85 and 100 kA									
Service breaking capacity (kA rms)		Ics	% Icu		100%	100% (3)				100%		
Suitability for isolation					•	•				•		
Utilisation category					A	A				A		
Durability (C-O cycles)	mechanical		440 V	Inv/2	20000	50000				40000		
	electrical			In	1000	50000				40000		
					7000	30000				20000		
Electrical characteristics as per NEMA AB1 (H.I.C.)					H	N	SX	H	L	N	SX	H
Breaking capacity (kA)			240 V		100	85	90	100	200	85	90	100
			480 V		65	35	50	65	130	35	50	65
			600 V		10	8	20	35	50	20	20	35
Electrical characteristics as per UL508					H	N	SX	H	L	N	SX	H
Breaking capacity (kA)			240 V		-	85	85	85	-	85	85	85
			480 V		-	25	50	65	-	35	50	65
			600 V		-	10	10	10	-	10	10	10

Other characteristics			NS80H-MA	NS100 - NS160 - NS250
Protection				
Trip units			magnetic only	TM (thermal-magnetic) / STR22 (elec
Overload protection		Ir (In x ...) long time	-	•
Short-circuit protection		Isd (Ir x ...) short time	•	- / •
		Ii (In x ...) instantaneous	-	•
Earth-fault protection		Ig (In x ...)	-	-
Add-on earth-leakage protection		add-on Vigi module	-	•
		combination with Vigirex relay	•	•
Current measurements			-	-
Additional measurement, indication and control auxiliaries				
Indication contacts			•	•
MX shunt and MN undervoltage releases			•	•
Voltage-presence indicator			-	•
Current-transformer module and ammeter module			-	•
Insulation-monitoring module			-	•
Remote communication by bus				
Device-status indication			-	•
Device remote operation			-	•
Transmission of settings			-	-
Transmission of measured current values			-	-
Installation				
Accessories		terminal extensions and spreaders	-	•
		terminal shields and interphase barriers	•	•
		escutcheons	-	•
Dimensions (mm)	W x H x D	fixed, front connect. 2-3 P	90 x 120 x 80	105 x 161 x 86
		4 P	-	140 x 161 x 86
Weight (kg)		fixed, front connect. 3 P	1.0	2.0 to 2.2
		4 P	-	2.6 to 2.8
Source changeover system				
Manual, remote-operated or automatic source changeover systems			-	•

(1) 2P in 3P case for type N only. - (2) Specific trip units are available for operational voltages > 525 V. - (3) NS100N and U ≥ 500 V: Ics = 50 % Icu. - (4) Operational voltage ≤ 500 V.

Compact NS From 630 to 320

	NS250				NS400			NS630		
	2 (1), 3, 4				3, 4			3, 4		
	•				•			•		
	•				•			•		
	•				•			•		
	•				•			•		
	•				•			•		
	•				•			•		
	•				•			•		
	250				400			630		
	220				320			500		
	750				750			750		
	8				8			8		
	690				690			690		
	750				750			750		
L	N	SX	H	L	N	H	L	N	H	L
150	85	90	100	150	85	100	150	85	100	150
150	36	50	70	150	50	70	150	50	70	150
130	35	50	65	130	42	65	130	42	65	130
70	30	36	50	70	30	50	100	30	50	70
50	22	35	35	50	22	35	100	22	35	50
20	8	10	10	20	10 (2)	20 (2)	75 (2)	10 (2)	20 (2)	35 (2)
	100%				100%			100% (4)		
	•				•			•		
	A				A			A		
	20000				15000			15000		
	20000				12000			8000		
	10000				6000			6000		
L	N	SX	H	L	N	H	L	N	H	L
200	85	90	100	200	85	100	200	85	100	200
130	35	50	65	130	42	65	130	42	65	130
50	20	20	35	50	20	35	50	20	35	50
L	N	SX	H	L	N	H	L	N	H	L
-	85	85	85	-	-	-	-	-	-	-
-	35	50	65	-	-	-	-	-	-	-
-	18	18	18	-	-	-	-	-	-	-

	NS400 - NS630	
tronic)	STR23 (electronic)	STR53 (electronic)
	•	•
	•	•
	•	•
	-	•
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	-	•
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	•	
	140 x 255 x 110 / 185 x 255 x 110	
	140 x 255 x 110 / 185 x 255 x 110	
	6.2 to 8.1	
	6.2 to 8.1	
	•	

Compact circuit-breakers

Number of pole

Control — manual — toggle; direct or extend

electric

Type of circuit-breaker

Connections — fixed

withdrawable (on chassis)

Electrical characteristics as per IEC 60947-2 and EN 60947-2

Rated current (A) — In — 50 °C; 65 °C (1)

Rated insulation voltage (V) — Ui

Rated impluse withstand voltage (kV) — Uimp

Rated operational voltage (V) — Ue — AC 50/60 Hz; DC

Type of circuit-breaker

Ultimate breaking capacity (kA rms) — Icu — AC 50/60 Hz

Service breaking capacity (kA rms) — Ics — Value or % Icu

Short-time withstand (kA rms) — Icw — 1 s

V AC 50/60 Hz — 3 s

Integrated instantaneous protection — kA peak ±10%

Suitability for isolation

Utilisation category

Durability (C-O cycles) — mechanical

electrical — 440 V; 690 V

Pollution degree

Electrical characteristics as per Nema AB1

Breaking capacity at 60 Hz (kA)

Additional indication and control auxiliaries

Indication contacts

Voltage releases — MX shunt relea; MN undervolta

Installation

Accessories — terminal extens; terminal shield; escutcheons

Dimensions fixed devices, front connections (mm) — 3P

W x H x D — 4P

Weight fixed devices, front connections (kg) — 3P; 4P

Source changeover system

Manual, remote-operated or automatic source changeover systems

Protection and measurements

Interchangeable control units

Overload protection — Ir (In x ...)

Short-circuit protection — Isd (Ir x ...)

Ii (In x ...)

Earth-fault protection — Ig (In x ...)

Residual earth-leakage protection — IΔn

Current measurements

Power measurements

Advanced protection

Remote communication by bus

Device-status indication

Device remote operation

Transmission of settings

Transmission of measured values

(1) 65 °C with vertical connections. - (2) Ics: 100 % Icu for breaking capacity 440V/500

	NS630b		NS800		NS1000			NS1250		NS1600		NS1600b		NS2000	NS2500	NS3200
	3, 4				3, 4			3, 4		3, 4		3, 4				
	•				•			•		•		•				
led rotary handle	•				•			•		•		-				
	• (except LB)				•			•		•		-				
	N	H	L	LB	N	H	L	N	H	N	H	N	H			
front connection	•	•	•	-	•	•	•	•	•	•	•	•	•			
rear connection	•	•	•	•	•	•	•	•	•	•	•	-	-			
front connection with bare cables	•	•	-	-	•	•	-	•	•	-	-	-	-			
front connection	•	•	•	•	•	•	•	•	•	•	•	-	-			
rear connection	•	•	•	•	•	•	•	•	•	•	•	-	-			
	630		800		1000			1250		1600		1600		2000	2500	3200
	630		800		1000			1250		1510		1550		1900	2500	2970
	800				800			800		800		800				
	8				8			8		8		8				
	690				690			690		690		690				
	500				500			500		500		500				
	N	H	L	LB	N	H	L	N	H	N	H	N	H			
220/240 V	50	70	150	200	50	70	150	50	70	50	70	85	125			
380/415 V	50	70	150	200	50	70	150	50	70	50	70	70	85			
440 V	50	65	130	200	50	65	130	50	65	50	65	65	85			
500/525 V	40	50	100	100	40	50	100	40	50	40	50	65	-			
660/690 V	30	42	-	75	30	42	-	30	42	30	42	65	-			
manual operation	100%	75%	100%	100%	100%	75%	100%	100%	75%	75%	50%	100% (2)	75%			
electrical operation	75%	50%	100%	-	75%	50%	100%	75%	50%	75%	50%	100% (2)	75%			
	19.2	19.2	-	-	19.2	19.2	-	19.2	19.2	19.2	19.2	-	-			
	-	-	-	-	-	-	-	-	-	-	-	32	32			
	40	40	-	-	40	40	-	40	40	40	40	130	130			
	•				•			•		•		•				
	B	B	A	A	B	B	A	B	B	B	B	B	B			
	10000				10000			10000		10000		5000				
Ir/2	6000	6000	4000	4000	6000	6000	4000	5000		5000		3000				
In	5000	5000	3000	3000	5000	5000	3000	4000		2000		2000				
Ir/2	4000	4000	3000	3000	4000	4000	3000	3000		2000		2000				
In	2000	2000	2000	2000	2000	2000	2000	2000		1000		1000				
	III				III			III		III		III				
	N	H	L	LB	N	H	L	N	H	N	H	N	H			
240 V	50	65	125	200	50	65	125	50	65	50	65	85	125			
480 V	35	50	100	200	35	50	100	35	50	35	50	65	85			
600 V	25	50	-	100	25	50	-	25	50	25	50	50	-			
	•											•				
se	•											•				
ge release	•											•				
ions and spreaders	•											-				
s and interphase barriers	•											•				
	•											•				
	210 x 327 x 147											420 x 350 x 160				
	210 x 327 x 147											535 x 350 x 160				
	14											24				
	18											36				
	•											-				
Micrologic	2.0		5.0		2.0 A		5.0 A		6.0 A		7.0 A		5.0 P (3)		6.0 P (3)	7.0 P (3)
long time	•		•		•		•		•		•		•		•	•
short time	-		•		-		•		•		•		•		•	•
instantaneous	•		•		•		•		•		•		•		•	•
	-		-		-		-		•		-		-		•	-
	-		-		-		-		-		•		•		•	•
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V/660 V / Ics: 75 % Icu for breaking capacity 220 V / 380 V. - (3) Except 1600b to 3200.