Introduction

Characteristics and performance of Compact NSX circuit breakers from 100 to 250 A up to 690 V

Compact NSX100/160/250.

Compact NSX250 R.

Compact NSX250 HB2.

(1) OSN: Over Sized Neutral protection for neutrals carrying high currents (e.g. 3rd harmonics).
(2) ZSI: Zone Selective Interlocking using pilot wires.
(3) Vigi module is not available for breaking capacity levels HB1/HB2.
(4) There is no 160 A frame, use 250 A frame with lower rating trip units for R, HB1, HB2.
(5) 2P circuit breaker in 3P case for B and F types, only with thermal-magnetic trip unit.

Common characteristics

Rated voltages			
Insulation voltage (V)	Ui		800
Impulse withstand voltage (kV)	Uimp		8
Operational voltage (V)	Ue	AC 50/60 Hz	690
Suitability for isolation		IEC/EN 60947-2	yes
Utilisation category			A
Pollution degree		IEC 60664-1	3

Common characteristics

Control			
	Manual	With toggle	■
		With direct or extended rotary handle	■
	Electrical	With remote control	■
Versions			
	Fixed		■
	Withdrawable	Plug-in base	■
		Chassis	■

Circuit breakers

				NSX100									NSX160 (4)						NSX250								
				B	F	N	H	S	L	R	HB1	HB2	B	F	N	H	S	L	B	F	N	H	S	L	R	HB1	HB2
Breaking capacity levels																											
Electrical characteristics as per IEC 60947-2																											
Rated current (A)	In	40 °C		100						100			160						250						250		
Number of poles				2 (5), 3, 4						3, 4			2 (5), 3, 4						2 (5), 3, 4						3, 4		
Breaking capacity (kA rms)																											
	Icu	AC 50/60 Hz	220/240 V	40	85	90	100	120	150	200	-	-	40	85	90	100	120	150	40	85	90	100	120	150	200	-	-
			380/415 V	25	36	50	70	100	150	200	-	-	25	36	50	70	100	150	25	36	50	70	100	150	200	-	-
			440 V	20	35	50	65	90	130	200	-	-	20	35	50	65	90	130	20	35	50	65	90	130	200	-	-
			500 V	15	25	36	50	65	70	80	85	100	15	30	36	50	65	70	15	30	36	50	65	70	80	85	100
			525 V	-	22	35	35	40	50	65	80	100	-	22	35	35	40	50	-	22	35	35	40	50	65	80	100
			660/690 V	-	8	10	10	15	20	45	75	100	-	8	10	10	15	20	-	8	10	10	15	20	45	75	100
Service breaking capacity (kA rms)																											
	Ics	AC 50/60 Hz	220/240 V	40	85	90	100	120	150	200	-	-	40	85	90	100	120	150	40	85	90	100	120	150	200	-	-
			380/415 V	25	36	50	70	100	150	200	-	-	25	36	50	70	100	150	25	36	50	70	100	150	200	-	-
			440 V	20	35	50	65	90	130	200	-	-	20	35	50	65	90	130	20	35	50	65	90	130	200	-	-
			500 V	7.5	12.5	36	50	65	70	80	85	100	15	30	36	50	65	70	15	30	36	50	65	70	80	85	100
			525 V	-	11	35	35	40	50	65	80	100	-	22	35	35	40	50	-	22	35	35	40	50	65	80	100
			660/690 V	-	4	10	10	15	20	45	75	100	-	8	10	10	15	20	-	8	10	10	15	20	45	75	100
Durability (C-O cycles)		Mechanical		50000						20000			40000						20000						20000		
		Electrical	440 V In/2	50000						20000			40000						20000						20000		
			440 V In	30000						10000			20000						10000						10000		
			690 V In/2	20000						10000			15000						10000						10000		
			690 V In	10000						5000			7500						5000						5000		
Characteristics as per Nema AB1																											
Breaking capacity (kA rms)		AC 50/60 Hz	240 V	40	85	90	100	120	150	200	-	-	40	85	90	100	120	150	40	85	90	100	120	150	200	-	-
			480 V	20	35	50	65	90	130	150	85	100	20	35	50	65	90	130	20	35	50	65	90	130	150	85	100
			600 V	-	8	20	35	40	50	50	75	100	-	20	20	35	40	50	-	20	20	35	40	50	50	75	100
Characteristics as per UL 508																											
Breaking capacity (kA rms)		AC 50/60 Hz	240 V	-	85	85	85	-	-	-	-	-	-	85	85	85	-	-	-	85	85	85	-	-	-	-	-
			480 V	-	25	50	65	-	-	-	-	-	-	35	50	65	-	-	-	35	50	65	-	-	-	-	-
			600 V	-	10	10	10	-	-	-	-	-	-	10	10	10	-	-	-	15	15	15	-	-	-	-	-
Protection and measurements																											
Short-circuit protection	Magnetic only			■									■						■								
Overload / short-circuit protection	Thermal magnetic			■									■						■								
	Electronic			■									■						■								
		with neutral protection (Off-0.5-1-OSN) (1)		■									■						■								
		with ground-fault protection		■									■						■								
		with zone selective interlocking (ZSI) (2)		■									■						■								
Display / I, U, f, P, E, THD measurements / interrupted-current measurement				■									■						■								
Options	Power Meter display on door			■									■						■								
	Operating assistance			■									■						■								
	Counters			■									■						■								
	Histories and alarms			■									■						■								
	Metering Com			■									■						■								
	Device status/control Com			■									■						■								
Earth-leakage protection	By Vigi module (3)			■									■						■								
	By Vigirex relay			■									■						■								
Installation / connections																											
Dimensions and weights																											
Dimensions (mm) W x H x D	Fixed, front connections		2/3P	105 x 161 x 86						105 x 161 x 86			105 x 161 x 86						105 x 161 x 86								
			4P	140 x 161 x 86						140 x 161 x 86			140 x 161 x 86						140 x 161 x 86								
Weight (kg)	Fixed, front connections		2/3P	2.05						2.4			2.2						2.4								
			4P	2.4						2.8			2.6						2.8								
Connections																											
Connection terminals	Pitch		With/without spreaders	35/45 mm						35/45 mm			35/45 mm						35/45 mm								
Large Cu or Al cables	Cross-section		mm²	300						300			300						300								