

Circuit breakers and switch-disconnectors characteristics

NW08 to NW63

PB100383A35.eps



PB100382A45.eps



Common characteristics

Number of poles		3/4	
Rated insulation voltage (V)	Ui	1000	1250 for H10, HA10
Impulse withstand voltage (kV)	Uimp	12	12
Rated operational voltage (V AC 50/60 Hz)	Ue	690	1150 for H10, HA10
Suitability for isolation	IEC 60947-2		
Degree of pollution	IEC 60664-1	4 (1000 V) / 3 (1250 V)	

Basic circuit breaker

Circuit breaker as per IEC 60947-2

Rated current (A)		at 40 °C / 50 °C ⁽¹⁾
Rating of 4th pole (A)		
Sensor ratings (A)		

Type of circuit breaker

Ultimate breaking capacity (kA rms) V AC 50/60 Hz	Icu	220/415/440 V 525 V 690 V 1150 V
Rated service breaking capacity (kA rms)	Ics	% Icu
Utilisation category		
Rated short-time withstand current (kA rms) V AC 50/60 Hz	Icw	1 s 3 s
Integrated instantaneous protection (kA peak ±10 %)		
Rated making capacity (kA peak) V AC 50/60 Hz	Icm	220/415/440 V 525 V 690 V 1150 V

Break time (ms) between tripping order and arc extinction

Closing time (ms)

Circuit breaker as per NEMA AB1

Breaking capacity (kA) V AC 50/60 Hz	240/480 V 600 V
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Unprotected circuit breaker

Tripping by shunt trip as per IEC 60947-2

Type of circuit breaker

Ultimate breaking capacity (kA rms) V AC 50/60 Hz	Icu	220...690 V
Rated service breaking capacity (kA rms)	Ics	% Icu
Rated short-time withstand current (kA rms)	Icw	1 s 3 s

Overload and short-circuit protection

External protection relay: short-circuit protection, maximum delay: 350 ms ⁽⁴⁾

Rated making capacity (kA peak) V AC 50/60 Hz	Icm	220...690 V
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Switch-disconnector as per IEC 60947-3 and Annex A

Type of switch-disconnector

Rated making capacity (kA peak) AC23A/AC3 category V AC 50/60 Hz	Icm	220...690 V 1150 V
Rated short-time withstand current (kA rms) AC23A/AC3 category V AC 50/60 Hz	Icw	1 s 3 s

Earthing switch

Latching capacity (kA peak)	135
Rated short time withstand (kA rms)	Icw 1 s 3 s

Mechanical and electrical durability as per IEC 60947-2/3 at In/Ie

Durability	Mechanical	with maintenance without maintenance
C/O cycles x 1000		

Type of circuit breaker

Rated current		In (A)
C/O cycles x 1000	Electrical	without maintenance 440 V ⁽⁵⁾ 690 V 1150 V
IE C 60947-2		

Type of circuit breaker or switch-disconnector

Rated operational current		Ie (A) AC23A
C/O cycles x 1000	Electrical	without maintenance 440 V ⁽⁵⁾ 690 V
IEC 60947-3		

Type of circuit breaker or switch-disconnector

Rated operational current		Ie (A) AC3 ⁽⁶⁾
Motor power		380/415 V (kW) 440 V ⁽⁵⁾ (kW) 690 V (kW)
C/O cycles x 1000	Electrical	without maintenance 440/690 V ⁽⁵⁾
IEC 60947-3 Annex M/IEC 60947-4-1		

⁽¹⁾ 50 °C: rear vertical connected. Refer to temperature derating tables for other connection types.

⁽²⁾ See the current-limiting curves in the "additional characteristics" section.

⁽³⁾ Equipped with a trip unit with a making current of 90 kA peak.

⁽⁴⁾ External protection must comply with permissible thermal constraints of the circuit breaker (please consult us). No fault-trip indication by the SDE or the reset button.

⁽⁵⁾ Available for 480 V NEMA.

⁽⁶⁾ Suitable for motor control (direct-on-line starting).

Sensor selection

Sensor rating (A)	250 ⁽¹⁾	400	630	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Ir threshold setting(A)	100 to 250	160 to 400	250 to 630	320 to 800	400 to 1000	500 to 1250	630 to 1600	800 to 2000	1000 to 2500	1250 to 3200	1600 to 4000	2000 to 5000	2500 to 6300

(1) For circuit breaker NW02, please consult us.

	NW08	NW10	NW12	NW16		NW20						NW25	NW32	NW40		NW40b	NW50	NW63
	800	1000	1250	1600		2000						2500	3200	4000		4000	5000	6300
	800	1000	1250	1600		2000						2500	3200	4000		4000	5000	6300
	400 to 800	400 to 1000	630 to 1250	800 to 1600		1000 to 2000						1250 to 2500	1600 to 3200	2000 to 4000		2000 to 4000	2500 to 5000	3200 to 6300
	N1	H1	H2	L1 ⁽²⁾	H10	N1	H1	H2	H3	L1 ⁽²⁾	H10	H1	H2	H3	H10	H1	H2	
	42	65	100	150	-	42	65	100	150	150	-	65	100	150	-	100	150	
	42	65	85	130	-	42	65	85	130	130	-	65	85	130	-	100	130	
	42	65	85	100	-	42	65	85	100	100	-	65	85	100	-	100	100	
	-	-	-	-	50	-	-	-	-	-	50	-	-	-	50	-	-	
	100 %					100 %						100 %				100 %		
	B					B						B				B		
	42	65	85	30	50	42	65	85	65	30	50	65	85	65	50	100	100	
	22	36	50	30	50	22	36	75	65	30	50	65	75	65	50	100	100	
	-	-	190	80	-	-	-	190	150	80	-	-	190	150	-	-	270	
	88	143	220	330	-	88	143	220	330	330	-	143	220	330	-	220	330	
	88	143	187	286	-	88	143	187	286	286	-	143	187	286	-	220	286	
	88	143	187	220	-	88	143	187	220	220	-	143	187	220	-	220	220	
	-	-	-	-	105	-	-	-	-	-	105	-	-	-	105	-	-	
	25	25	25	10	25	25	25	25	25	10	25	25	25	25	25	25	25	
	< 70					< 70 < 70						< 70				< 80		

42	65	100	150	-	42	65	100	150	150	-	65	100	150	-	100	150
42	65	85	100	-	42	65	85	100	100	-	65	85	100	-	100	100

HA	HF ⁽³⁾	HA	HF ⁽³⁾	HA	HF ⁽³⁾	HA
50	85	50	85	55	85	85
100 %		100 %		100 %		100 %
50	85	50	85	55	85	85
36	50	36	75	55	75	85
-	-	-	-	-	-	-
105	187	105	187	121	187	187

NW08/NW10/NW12/NW16				NW20			NW25/NW32/NW40			NW40b/NW50/NW63
NA	HA	HF	HA10	HA	HF	HA10	HA	HF	HA10	HA
88	105	187	-	105	187	-	121	187	-	187
-	-	-	105	-	-	105	-	-	105	-
42	50	85	50	50	85	50	55	85	50	85
-	36	50	50	36	75	50	55	75	50	85

60
50

	25				20						10		
	12.5				10						5		
	N1/H1/H2	L1	H10		N1/H1/H2	H3	L1	H10	H1/H2	H3	H10	H1	H2
	800/1000/1250/1600				2000				2500/3200/4000			4000b/5000/6300	
	10	3	-		8	2	3	-	5	1.25	-	1.5	1.5
	10	3	-		6	2	3	-	2.5	1.25	-	1.5	1.5
	-	-	0.5		-	-	-	0.5	-	-	0.5	-	-
	H1/H2/NA/HA/HF				H1/H2/H3/HA/HF				H1/H2/H3/HA/HF			H1/H2/HA	
	800/1000/1250/1600				2000				2500/3200/4000			4000b/5000/6300	
	10				8				5			1.5	
	10				6				2.5			1.5	
	H1/H2/NA/HA/HF				H1/H2/H3/HA/HF								
	800	1000	1250	1600	2000								
	335 to 450	450 to 560	560 to 670	670 to 900	900 to 1150								
	400 to 500	500 to 630	500 to 800	800 to 1000	1000 to 1300								
	≤ 800	800 to 1000	1000 to 1250	1250 to 1600	1600 to 2000								
	6												