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# Air Circuit Breakers

สารบัญ

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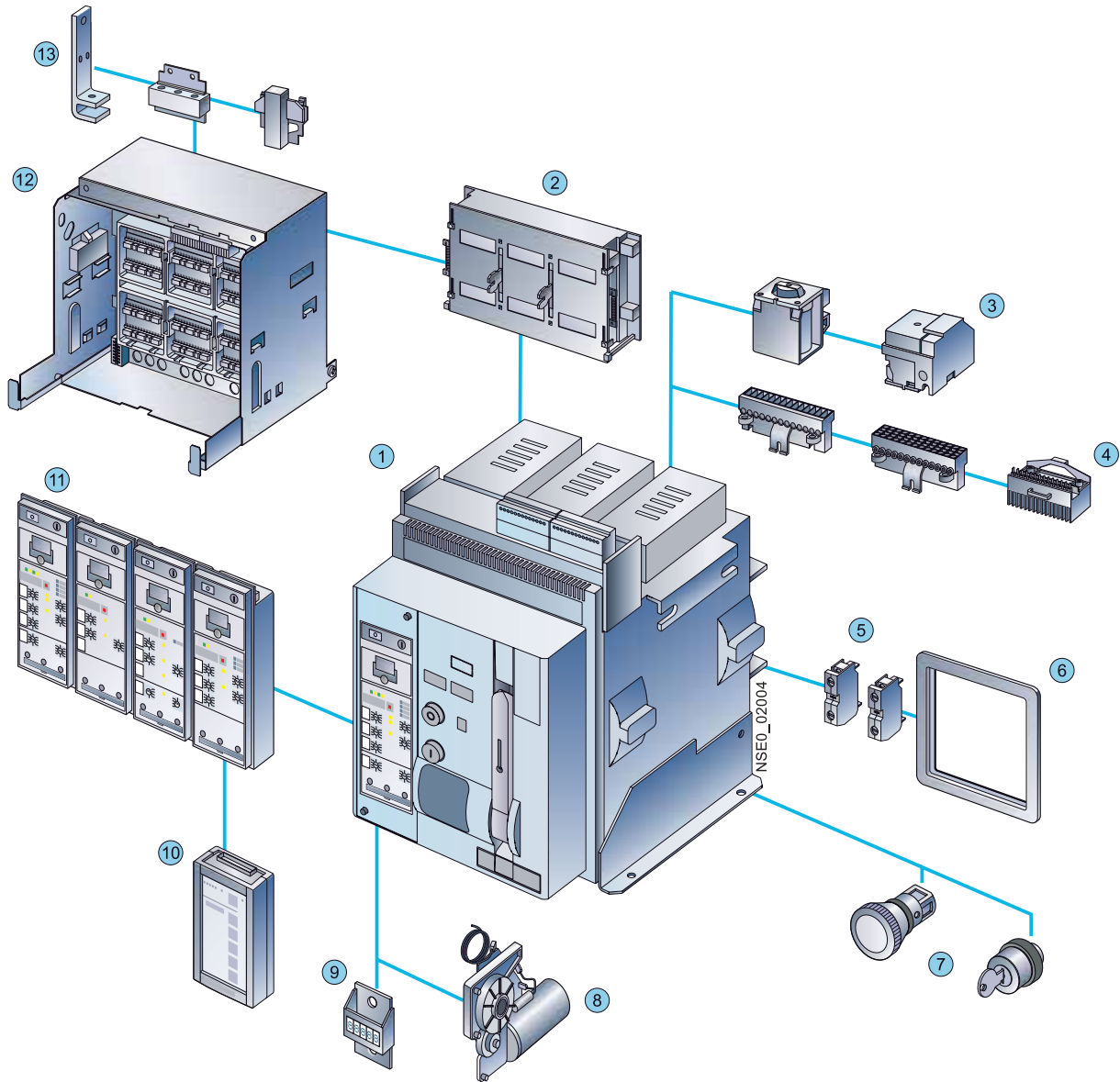


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## 3WT Air Circuit Breakers



## Overview



- ① Air circuit breaker
- ② Shutter
- ③ Closing solenoid, auxiliary trip unit
- ④ Auxiliary conductor plug-in system
- ⑤ Auxiliary switch block
- ⑥ Door sealing frame
- ⑦ EMERGENCY-STOP pushbutton, key-operated
- ⑧ Motorized operating mechanism
- ⑨ Operating cycles counter
- ⑩ Manual tester for electronic trip unit (ETU)
- ⑪ Microprocessor based electronic trip unit (ETU)
- ⑫ Guide frame
- ⑬ Main connection, front, horizontal, vertical

### Highlights at a glance

#### Flexibility

- New electronic trip units (ETUs) with outstanding features
- Only two frame sizes cover a broad range of applications up to 66 kA at 500 V, 3- or 4-pole version, fixed-mounted or withdrawable design

#### Ease of use

- User-friendliness in planning, configuration, installation and operation
- Wide range of same accessories for both frame sizes can be easily retrofitted
- Displays for all electronic trip units (ETUs)

#### Safety and reliability

- Global and standardized processes ensure highest product quality
- Conforms to international standards and approvals

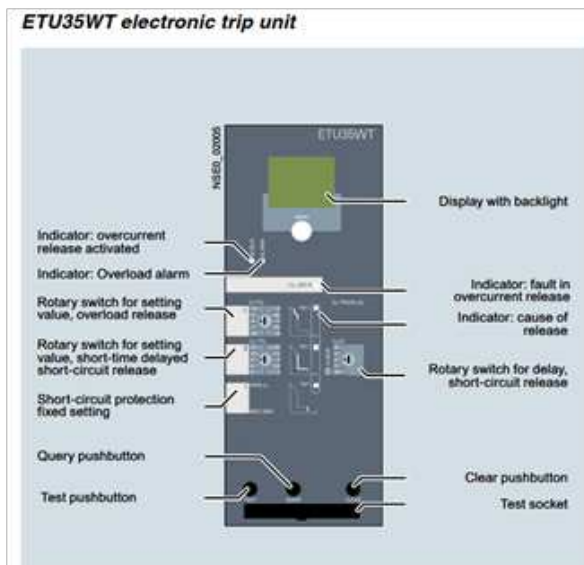
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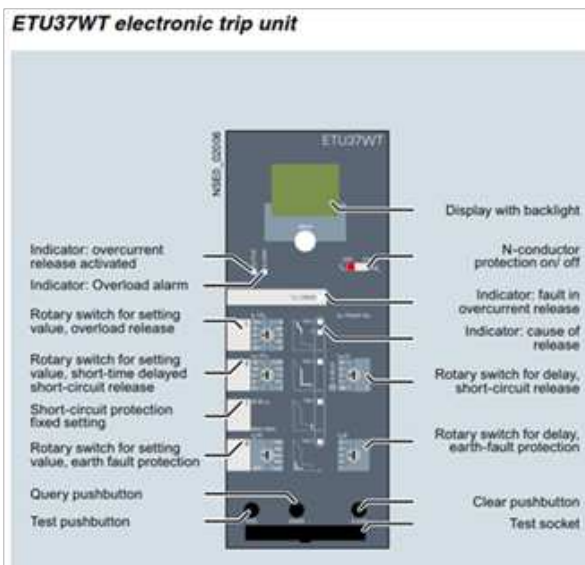
3WT Air Circuit Breakers  
Flexibility and reliability up to 66kV 4000A

เซอร์กิตเบรกเกอร์รุ่น 3WT เป็นผลิตภัณฑ์จากซีเมนส์ที่ออกแบบมาให้มีฟังก์ชันการใช้งานที่ง่ายดาย มีประสิทธิภาพสูง โดยมาพร้อมกับหน้าจอแสดงผลแบบ LCD Display และมีไฟแบบ LED สำหรับแสดงสถานะการทำงานของเบรกเกอร์ รวมถึงสามารถติดตั้งอุปกรณ์เสริมต่างๆ เพิ่มเติมได้ เพื่อเพิ่มความปลอดภัยแก่ผู้ใช้งานและเพิ่มเสถียรภาพในระบบไฟฟ้า นอกจากนี้ 3WT ยังเป็นเบรกเกอร์ที่มีคุณภาพสูง เหมาะกับการใช้งานได้หลากหลายประเภท ครอบคลุมผู้ใช้งานหลายกลุ่ม ทั้งโรงงาน อาคารสำนักงาน รวมถึงที่พักอาศัย โดยสามารถรองรับการใช้งาน ตั้งแต่ 400A จนถึง 4000A ด้วยค่า breaking capacity (Icu) ที่สูงถึง 66kA ที่ 690V โดยมีทั้งแบบ 3 โพล และ 4 โพล Fixed-mounted version และ Withdrawable version

Electric Trip Unit แสดงผลด้วยจอ LCD Display และใช้ไฟแบบ LED สำหรับแสดงสถานะการทำงาน



ETU35WT ฟังก์ชัน LSI



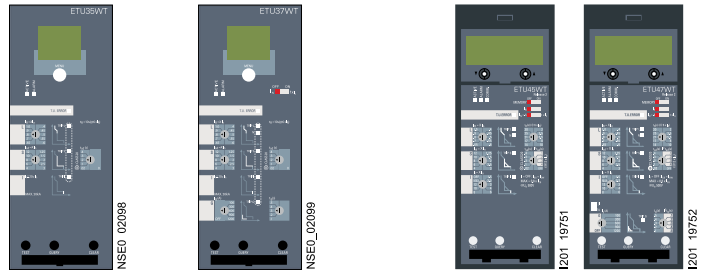
ETU37WT ฟังก์ชัน LSING

# 3WT Air Circuit Breakers up to 4000 A

ข้อมูลผลิตภัณฑ์

General Data

## Technical Specifications



Protection functions Parameterization by	ETU35WT D	ETU37WT D & S	ETU45WT/ETU47WT D & S		
<b>Functional overview of the electronic trip unit system</b>					
<p>NSE0_00888b</p>	<b>L Overload protection</b> Function can be switched on/off	✓	✓	✓	
	Setting range $I_R = I_n \times \dots$	0.4-0.45-0.5-0.55-0.6-0.65-0.7-0.8-0.9-1	0.4-0.45-0.5-0.55-0.6-0.65-0.7-0.8-0.9-1	0.4-0.45-0.5-0.55-0.6-0.65-0.7-0.8-0.9-1	
	Setting range for time-lag class $t_R$ at $I^2t$	10 s fixed	10 s fixed	2-3-5-5.5-8-10-14-17-21-25-30 s	
	Thermal image can be switched on/off	--	--	✓	
	Phase failure sensitivity	at $t_{sd} = 20$ ms (M)	at $t_{sd} = 20$ ms (M)	at $t_{sd} = 20$ ms (M)	
	<b>N Neutral conductor protection</b> Function can be switched on/off	--	✓	✓	
		N conductor setting range $I_N = I_n \times \dots$	--	1	0.5-1
	<b>S Short-time delayed short-circuit protection</b> Function can be switched on/off	✓	✓	✓	
		Setting range $I_{sd} = I_n \times \dots$	1.25-1.5-2-2.5-3-4-6-8-10-12	1.25-1.5-2-2.5-3-4-6-8-10-12	1.25-1.5-2-2.5-3-4-6-8-10-12
		Setting range for delay time $t_{sd}$	0-M-100-200-300-400 ms	0-M-100-200-300-400 ms	M-100-200-300-400 ms
Switchable short-time delayed short-circuit protection ( $I^2t$ -dependent function)		--	--	✓	
<b>I Instantaneous short-circuit protection</b> Function can be switched on/off	✓	✓	✓		
	Setting range $I_I = I_n \times \dots$	fixed for $I_I \geq 20 \geq I_n$ , max. 50 kA	fixed for $I_I \geq 20 \geq I_n$ , max. 50 kA	1.5-2.2-3-4-6-8-10-12-0.8 $\times I_{CS}$	
	<b>G Ground-fault protection</b> Tripping function can be switched on/off	--	✓	✓ (only ETU47WT)	
Detection of the ground-fault current through summation current formation with internal or external neutral conductor transformer		--	3	✓ (only ETU47WT)	
Detection of ground-fault current through external transformer		--	--	3 (only ETU47WT)	
Setting range of the operating current $I_g$ for release		--	OFF-100-300-600-900-1200	OFF-100-300-600-900-1200 (only ETU47WT)	
Setting range of the delay time $t_g$		--	100-200-300-400-500 ms	100-200-300-400-500 ms (only ETU47WT)	
Switchable ground-fault protection characteristic curve ( $I^2t$ -dependent function)	--	--	✓ (only ETU47WT)		
Setting range for delay time $t_g$ at $I^2t$	--	--	100-200-300-400-500 ms (only ETU47WT)		
<b>LCD</b>	LCD, with backlight	✓	✓		
<b>Watchdog</b>	Watchdog	✓	✓		
<b>Communication</b>	Modbus RTU with COM16WT	--	✓		
<b>Metering</b>	Metering with internal voltage tap	--	✓		
<b>LED display</b>	Electronic trip unit active	✓	✓		
	Alarm	✓	✓		
	ETU fault	✓	✓		
	L-release	✓	✓		
	S-release	✓	✓		
	I-release	✓	✓		
	N-release	--	✓	✓	
	G-release	--	✓	✓	

Delay time figures given in ms. ✓ Available. -- Not available.  
 M = Motor protection, corresponds to 20 ms.  
 D = Rotary coding switch.  
 D & S = Rotary coding and slide switch.



## Technical specifications

Size	Type		I						
			3WT804	3WT806	3WT808	3WT810	3WT812	3WT816	
Rated current $I_n$ at 50 °C, at 50/60 Hz	Main conductor	A	400	630	800	1000	1250	1600	
	Neutral conductor (only on 4-pole version)	A	400	630	800	1000	1250	1600	
Rated operating voltage $U_e$ at 50/60 Hz		AC V	up to 690						
Rated impulse withstand voltage $U_{imp}$	Main circuits <sup>1)</sup>	kV	12						
	Auxiliary circuits	kV	4						
Utilization category			B						
Rated short-circuit making capacity $I_{cm}$ (peak value)	Breaking capacity up to								
	N 500 V AC	kA	121						
	S 500 V AC	kA	145						
	S 690 V AC	kA	105						
Rated service short-circuit breaking capacity $I_{cs}$ (rms value)	Breaking capacity up to								
	N 500 V AC	kA	55						
	S 500 V AC	kA	66						
	Z-Opt. A04 690 V AC	kA	50						
Rated ultimate short-circuit breaking capacity $I_{cu}$ (rms value)	Breaking capacity up to								
	N 500 V AC	kA	55						
	S 500 V AC	kA	66						
	Z-Opt. A04 690 V AC	kA	50						
Permissible ambient temperatures	Operation	°C	-20 ... +70						
	Storage	°C	-40 ... +80						
Rated short-time withstand current $I_{cw}$ at 50/60 Hz. At a rated voltage of 690 V, the $I_{cw}$ value of the circuit breaker cannot be greater than the $I_{cu}$ or $I_{cs}$ value at 690 V.	0.5 s	kA	50						
	1 s	kA	35 <sup>2)</sup> /50						
Permissible load for fixed-mounted and withdrawable circuit breakers at cabinet interior temperature <sup>3)4)</sup>	up to 50 °C	A	400	630	800	1000	1250	1600	
Rated rotor operating voltage $U_{er}$		V	2000						
Power loss at $I_n$ with 3-phase symmetr. load (without line-side busbars and metal components <sup>4)</sup> )	Fixed-mounted circuit breaker	W	25	40	60	90	120	140	
	Withdrawable circuit breaker including guide frame	W	50	80	130	205	255	310	
Endurance with maintenance <sup>5)</sup>	mechanical electrical up to 690 V AC <sup>6)</sup>	Operating cycles	18000 12000						
Operating frequency	mechanical	1/h	60						
	electrical	1/h	60						
Minimum interval between tripping operation by electronic trip unit and next making operation of the circuit breaker (only with automatic mechanical resetting of the lock-out device)		ms	80						
Service position									
Degree of protection	Circuit breaker IP20, when fitted in cabinet or frame Operator panel with door sealing frame IP41								
Main conductor minimum cross-sections	Copper bars, bare	Qty, mm <sup>2</sup>	1 x 50 x 10	1 x 50 x 10	1 x 60 x 10	2 x 40 x 10	2 x 60 x 10	2 x 60 x 10	
	Copper bars, painted black	Qty, mm <sup>2</sup>	1 x 40 x 10	1 x 40 x 10	1 x 50 x 10	1 x 60 x 10	2 x 40 x 10	2 x 50 x 10	
Auxiliary conductors (Cu) Max. no. of aux. conductors x cross-section	solid and finely stranded with end sleeves		1 x 0.5 ... 2,5 mm <sup>2</sup> ; 1 x AWG 14 2 x 1.0 mm <sup>2</sup>						
Weights	3-pole circuit breakers								
	• Fixed-mounted circuit breaker	approx. kg	34	34	34	34	34	36	
	• Withdrawable circuit breaker	approx. kg	36	36	36	36	36	38	
	• Guide frame	approx. kg	22	22	22	22	22	23	
	4-pole circuit breakers								
	• Fixed-mounted circuit breaker	approx. kg	47	47	47	47	47	49	
	• Withdrawable circuit breaker	approx. kg	49	49	49	49	49	51	
	• Guide frame	approx. kg	27	27	27	27	27	28	
	<sup>1)</sup> Rated insulation voltage $U_i = 1000$ V AC. <sup>2)</sup> Breaking capacity N. <sup>3)</sup> The temperatures apply to the air surrounding the upper third of the circuit breaker. <sup>4)</sup> These values apply in the case of sinusoidal current (50/60 Hz). The heating/losses increase in the event of harmonics and higher frequencies. <sup>5)</sup> Maintenance: replacement of the contact set and arc chute. <sup>6)</sup> Per contact set. Disconnect. of the rated current $I_n$ and power factor = 0.8.								

# 3WT Air Circuit Breakers up to 4000 A

ข้อมูลผลิตภัณฑ์

## General Data

### Technical specifications

Size Type	II						
	3WT806	3WT808	3WT810	3WT812	3WT816		
<b>Rated current <math>I_n</math></b> at 50 °C, at 50/60 Hz <sup>1)</sup>	Main conductor	A	630	800	1000	1250	1600
	Neutral conductor (only on 4-pole version)	A	630	800	1000	1250	1600
<b>Rated operating voltage <math>U_e</math></b> at 50/60 Hz		AC V	up to 690				
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>	Main circuits <sup>2)</sup>	kV	12				
	Auxiliary circuits	kV	4				
<b>Utilization category</b>			B				
<b>Rated short-circuit making capacity <math>I_{cm}</math></b> (peak value)	Breaking capacity up to						
	N	500 V AC	kA	--			
	S	500 V AC	kA	145			
		690 V AC	kA	105			
<b>Rated service short-circuit breaking capacity <math>I_{cs}</math></b> (rms value)	Breaking capacity up to						
	N	500 V AC	kA	--			
	S	500 V AC	kA	66			
	Z-Opt. A04 / A08	690 V AC	kA	50/66			
<b>Rated ultimate short-circuit breaking capacity <math>I_{cu}</math></b> (rms value)	Breaking capacity						
	N	500 V AC	kA	--			
	S	500 V AC	kA	66			
	Z-Opt. A04 / A08	690 V AC	kA	50/66			
<b>Permissible ambient temperatures</b>	Operation	°C	-20 ... +70				
	Storage	°C	-40 ... +80				
<b>Rated short-time withstand current <math>I_{cw}</math></b> at 50/60 Hz. At a rated voltage of 690 V, the $I_{cw}$ value of the circuit breaker cannot be greater than the $I_{cu}$ or $I_{cs}$ value at 690 V.	0.5 s		66				
	1 s	kA	66				
<b>Permissible load</b> for fixed-mounted and withdrawable circuit breakers at cabinet interior temperature <sup>3)4)</sup>	up to 50 °C <sup>1)</sup>	A	630	800	1000	1250	1600
<b>Rated rotor operating voltage <math>U_{er}</math></b>		V	2000				
<b>Power loss at <math>I_n</math></b> with 3-phase symmetr. load (without line-side busbars and metal components <sup>4)</sup> )	Fixed-mounted circuit breaker	W	20	30	45	70	110
	Withdrawable circuit breaker including guide frame	W	40	60	90	140	225
<b>Endurance</b> with maintenance <sup>5)</sup>	mechanical		12000				
	electrical up to 690 V AC <sup>6)</sup>	Oper. cycles	12000				
<b>Operating frequency</b>	mechanical	1/h	60				
	electrical up to 690 V AC <sup>6)</sup>	1/h	20				
<b>Minimum interval</b> between tripping operation by electro nic trip unit and next making operation of the circuit breaker (only with automatic mechanical resetting of the lockout device)		ms	80				
<b>Service position</b>							
<b>Degree of protection</b>	Circuit breaker IP20, when fitted in cabinet or frame Operator panel with door sealing frame IP41						
<b>Main conductor minimum cross-sections</b>	Copper bars, bare	Qty. mm <sup>2</sup>	1 × 50 × 10	1 × 60 × 10	2 × 40 × 10	2 × 60 × 10	2 × 60 × 10
	Copper bars, painted black	Qty. mm <sup>2</sup>	1 × 40 × 10	1 × 50 × 10	1 × 60 × 10	2 × 40 × 10	2 × 50 × 10
<b>Auxiliary conductors (Cu)</b> Max. no. of aux. conductors × cross-section	solid and finely stranded with end sleeves		1 × 0.5 ... 2.5 mm <sup>2</sup> ; 1 × AWG 14 2 × 1.0 mm <sup>2</sup>				
<b>Weights</b>							
3-pole circuit breakers							
• Fixed-mounted circuit breaker	approx. kg		57				
• Withdrawable circuit breaker	approx. kg		59				
• Guide frame	approx. kg		35				
4-pole circuit breakers							
• Fixed-mounted circuit breaker	approx. kg		70				
• Withdrawable circuit breaker	approx. kg		72				
• Guide frame	approx. kg		46				

1) At 3WT840: 40 °C.

2) Rated insulation voltage  $U_i = 1000$  V AC.

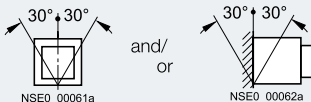
3) The temperatures apply to the air surrounding the upper third of the circuit breaker.

4) These values apply in the case of sinusoidal current (50/60 Hz). The heating/losses increase in the event of harmonics and higher frequencies.

5) Maintenance (see Operating Manual)

6) Per contact set. Disconnect. of the rated current  $I_n$  and power factor = 0.8.

## Technical specifications

Size Type	II						
	3WT820	3WT825	3WT832	3WT840			
Rated current $I_n$ at 50 °C, at 50/60 Hz <sup>1)</sup>	Main conductor	A	2000	2500	3200	3800 (withdrawable)	4000 (fixed-mounted)
	Neutral conductor (only on 4-pole version)	A	2000	2500	3200	3800 (withdrawable)	4000 (fixed-mounted)
Rated operating voltage $U_e$ at 50/60 Hz		AC V	up to 690				
Rated impulse withstand voltage $U_{imp}$	Main circuits <sup>2)</sup>	kV	12				
	Auxiliary circuits	kV	4				
Utilization category			B				
Rated short-circuit making capacity $I_{cm}$ (peak value)	Breaking capacity up to						
	N	500 V AC	kA	--			
	S	500 V AC	kA	145			
	Z-Opt. A04 / A08	690 V AC	kA	105/145			
Rated service short-circuit breaking capacity $I_{cs}$ (rms value)	Breaking capacity up to						
	N	500 V AC	kA	--			
	S	500 V AC	kA	66			
	Z-Opt. A04 / A08	690 V AC	kA	50/66	50/66	50	--
Rated ultimate short-circuit breaking capacity $I_{cu}$ (rms value)	Breaking capacity						
	N	500 V AC	kA	--			
	S	500 V AC	kA	66			
	Z-Opt. A04 / A08	690 V AC	kA	50/66	50/66	50	--
Permissible ambient temperatures	Operation	°C	-20 ... +70				
	Storage	°C	-40 ... +80				
Rated short-time withstand current $I_{cw}$ at 50/60 Hz. At a rated voltage of 690 V, the $I_{cw}$ value of the circuit breaker cannot be greater than the $I_{cu}$ or $I_{cs}$ value at 690 V.	0.5 s		66				
	1 s	kA	66				
Permissible load for fixed-mounted and withdrawable circuit breakers at cabinet interior temperature <sup>3)4)</sup>	up to 50 °C <sup>1)</sup>	A	2000	2500	3200	3800 <sup>5)</sup>	4000 <sup>6)</sup>
Rated rotor operating voltage $U_{er}$		V	2000				
Power loss at $I_n$ with 3-phase symmetr. load (without line- side busbars and metal components <sup>4)</sup> )	Fixed-mounted circuit breaker	W	170	325	420	--	902
	Withdrawable circuit breaker including guide frame	W	310	535	760	1050	--
Endurance with maintenance <sup>7)</sup>	mechanical		12000				
	electrical up to 690 V AC <sup>8)</sup>	Oper. cycles	12000		10000	4000 <sup>10)</sup>	4000 <sup>10)</sup>
Operating frequency	mechanical	1/h	60				
	electrical up to 690 V AC <sup>8)</sup>	1/h	20	20	10	60	60
Minimum interval between tripping operation by electronic trip unit and next making operation of the circuit breaker (only with automatic mechanical resetting of the lockout device)		ms	80				
Service position							
Degree of protection	Circuit breaker IP20, when fitted in cabinet or frame Operator panel with door sealing frame IP41						
Main conductor minimum cross-sections	Copper bars, bare	Qty. mm <sup>2</sup>	2 x 100 x 10	3 x 100 x 10	3 x 100 x 10	4 x 120 x 10	4 x 120 x 10
	Copper bars, painted black	Qty. mm <sup>2</sup>	2 x 80 x 10	2 x 100 x 10	3 x 100 x 10	4 x 100 x 10	4 x 100 x 10
Auxiliary conductors (Cu) Max. no. of aux. conductors x cross-section	solid and finely stranded with end sleeves		1 x 0.5 ... 2.5 mm <sup>2</sup> ; 1 x AWG 14 2 x 1.0 mm <sup>2</sup>				
<b>Weights</b>							
3-pole circuit breakers							
• Fixed-mounted circuit breaker		approx. kg	57	57	61	--	92 <sup>9)</sup>
• Withdrawable circuit breaker		approx. kg	59	59	63	64	--
• Guide frame		approx. kg	35	35	37	54 <sup>9)</sup>	--
4-pole circuit breakers							
• Fixed-mounted circuit breaker		approx. kg	70	70	74	--	106 <sup>9)</sup>
• Withdrawable circuit breaker		approx. kg	72	72	76	77	--
• Guide frame		approx. kg	46	46	48	64 <sup>9)</sup>	--

1) At 3WT840: 40 °C.

2) Rated insulation voltage  $U_i = 1000$  V AC.

3) The temperatures apply to the air surrounding the upper third of the circuit breaker.

4) These values apply in the case of sinusoidal current (50/60 Hz). The heating/losses increase in the event of harmonics and higher frequencies.

5) Withdrawable circuit breakers.

6) Fixed-mounted circuit breakers.

7) Maintenance: replacement of the contact set and arc chute.

8) Per contact set. Disconnect. of the rated current  $I_n$  and power factor = 0.8.

9) Including vertical busbars.

10) At 3WT840 applicable up to 500V AC only.

# 3WT Air Circuit Breakers up to 4000 A

ราคาผลิตภัณฑ์

## Price List

ข้อมูลของผลิตภัณฑ์และการสั่งซื้อสินค้า

Option	
Electronic Trip Unit / ETU	ETU35WT: protection function LSI with LCD display
Following accessories are included	Manual operated mechanism, with mechanical closing Ready to closed indicator with signaling switch With auxiliary switch 2 NO + 2 NC, with shutter tripped signaling trip (1NO)

Size	Rated Current $I_n$	Breaking capacity $I_{cu} = I_{cs}$	short-time withstand current $I_{cw} / 1s, 500V$	Fixed mounted version 3-pole		Withdrawable version 3-pole	
				รุ่นสินค้า	ราคา (บาท)	รุ่นสินค้า	ราคา (บาท)
	A	kA	kA				

ETU35WT							
Horizontal main circuit connection							
I	630	55	50kA*	3WT80 60-5AA00-0AA2	77,220	3WT80 60-5AA04-5AA2	97,020
	800			3WT80 80-5AA00-0AA2	79,640	3WT80 80-5AA04-5AA2	99,990
	1000			3WT81 00-5AA00-0AA2	81,730	3WT81 00-5AA04-5AA2	101,970
	1250			3WT81 20-5AA00-0AA2	85,030	3WT81 20-5AA04-5AA2	105,930
	1600			3WT81 60-5AA00-0AA2	96,140	3WT81 60-5AA04-5AA2	119,790

Horizontal main circuit connection							
I	630	66	50kA	3WT80 61-5AA00-0AA2	85,800	3WT80 61-5AA04-5AA2	107,800
	800			3WT80 81-5AA00-0AA2	88,440	3WT80 81-5AA04-5AA2	111,100
	1000			3WT81 01-5AA00-0AA2	90,860	3WT81 01-5AA04-5AA2	113,300
	1250			3WT81 21-5AA00-0AA2	94,490	3WT81 21-5AA04-5AA2	117,700
	1600			3WT81 61-5AA00-0AA2	106,810	3WT81 61-5AA04-5AA2	133,100
II	2000	66	66	3WT82 02-5AA00-0AA2	122,100	3WT82 02-5AA04-5AA2	152,900
	2500			3WT82 52-5AA00-0AA2	159,500	3WT82 52-5AA04-5AA2	199,100
	3200			3WT83 22-5AA00-0AA2	196,900	3WT83 22-5AA04-5AA2	244,200

Vertical main circuit connection							
II	4000	66	66	3WT84 02-5AA01-0AA2	293,700	3WT84 02-5AA05-5AA2	367,400

Operating mechanism, auxiliary release, auxiliary switch (ตำแหน่งที่ 9 - 11)		ราคาเพิ่มเติม (บาท)		ราคาเพิ่มเติม (บาท)	
Manual operating mechanism, with mechanical closing, without 1st and 2nd auxiliary releases, with auxiliary switch 2 NO + 2 NC	A A 0	0	A A 0	0	
Motor operated mechanism, with mechanical and electrical closing, motor and closing solenoid 220-240 V AC 50/60 Hz, 220-250 V DC, Shunt release "F" 220-240 V AC 50/60 Hz, 220-250 V DC without 2nd auxiliary release, with auxiliary switch 2 NO + 2 NC	U A 3	46,750	U A 3	46,750	
<b>Under-voltage release (ตำแหน่งที่ 10)</b>					
Under voltage Release instantaneous					
V AC 50/60 Hz	V DC				
208-240	220-250	N	6,380	N	6,380
380-415	-	P	6,380	P	6,380
Under voltage Release with time delay					
V AC 50/60 Hz	V DC				
208-240	220-250	V	9,130	V	9,130
380-415	-	W	9,130	W	9,130

\*  $I_{cw}/500V$  0.5 s for breaking capacity N

ข้อมูลของผลิตภัณฑ์และการสั่งซื้อสินค้า

Option	
<b>Electronic Trip Unit / ETU</b>	ETU37WT: protection function LSING with LCD display
<b>Following accessories are included</b>	Manual operated mechanism, with mechanical closing Ready to closed indicator with signaling switch With auxiliary switch 2 NO + 2 NC, with shutter tripped signaling trip (1NO)

Size	Rated Current $I_n$	Breaking capacity $I_{cu} = I_{cs}$	short-time withstand current $I_{cw}$ 1s, 500V	Fixed mounted version 3-pole		Withdrawable version 3-pole	
				รุ่นสินค้า	ราคา (บาท)	รุ่นสินค้า	ราคา (บาท)
	A	kA	kA				

ETU37WT							
Horizontal main circuit connection							
I	630 800 1000 1250 1600	55	50kA*	3WT80 60-6AA00-0AA2 3WT80 80-6AA00-0AA2 3WT81 00-6AA00-0AA2 3WT81 20-6AA00-0AA2 3WT81 60-6AA00-0AA2	112,420 114,840 116,930 120,230 131,340	3WT80 60-6AA04-5AA2 3WT80 80-6AA04-5AA2 3WT81 00-6AA04-5AA2 3WT81 20-6AA04-5AA2 3WT81 60-6AA04-5AA2	132,220 135,190 137,170 141,130 154,990
Horizontal main circuit connection							
I	630 800 1000 1250 1600	66	50kA	3WT80 61-6AA00-0AA2 3WT80 81-6AA00-0AA2 3WT81 01-6AA00-0AA2 3WT81 21-6AA00-0AA2 3WT81 61-6AA00-0AA2	121,000 123,640 126,060 129,690 142,010	3WT80 61-6AA04-5AA2 3WT80 81-6AA04-5AA2 3WT81 01-6AA04-5AA2 3WT81 21-6AA04-5AA2 3WT81 61-6AA04-5AA2	143,000 146,300 148,500 152,900 168,300
II	2000 2500 3200	66	66	3WT82 02-6AA00-0AA2 3WT82 52-6AA00-0AA2 3WT83 22-6AA00-0AA2	157,300 194,700 232,100	3WT82 02-6AA04-5AA2 3WT82 52-6AA04-5AA2 3WT83 22-6AA04-5AA2	188,100 234,300 279,400
Vertical main circuit connection							
II	4000	66	66	3WT84 02-6AA01-0AA2	328,900	3WT84 02-6AA05-5AA2	402,600
Operating mechanism, auxiliary release, auxiliary switch (ตำแหน่งที่ 9 - 11)							
Manual operating mechanism, with mechanical closing, without 1st and 2nd auxiliary releases, with auxiliary switch 2 NO + 2 NC				AA0	0	AA0	0
Motor operated mechanism, with mechanical and electrical closing, motor and closing solenoid 220-240 V AC 50/60 Hz, 220-250 V DC, Shunt release "F" 220-240 V AC 50/60 Hz, 220-250 V DC without 2nd auxiliary release, with auxiliary switch 2 NO + 2 NC				UA3	46,750	UA3	46,750
Under-voltage release (ตำแหน่งที่ 10)							
Under voltage Release instantaneous							
V AC 50/60 Hz		V DC					
208-240		220-250		N	6,380	N	6,380
380-415		-		P	6,380	P	6,380
Under voltage Release with time delay							
V AC 50/60 Hz		V DC					
208-240		220-250		V	9,130	V	9,130
380-415		-		W	9,130	W	9,130

\*  $I_{cw}/500V$  0.5 s for breaking capacity N



# 3WT Air Circuit Breakers up to 4000 A

## ราคา Accessories

### Price List

#### ข้อมูลของผลิตภัณฑ์และการสั่งซื้อสินค้า

Designation	รุ่นสินค้า	ราคา (บาท)			
<b>For fixed-mounted and withdrawable circuit breakers</b>					
<b>Auxiliary switches</b>					
2 CO	3WT9816-1CE00	7,800			
2 NC and 2 NO	3WT9816-1CD00	9,450			
<b>Auxiliary release</b>					
	Rated control	Supply voltage			
	AC 50/60 Hz V	DC V			
Shunt release "I" for 1st and 2nd auxiliary release (F1 and F2) and closing solenoid (Y1)	-- 110 ... 127 220 ... 240	24 110 ... 125 220 ... 250	3WT9851-1JB00 3WT9851-1JH00 3WT9851-1JK00	6,380	
Undervoltage release "r" (F3) instantaneous 0 ms, short-delay 200 ms	-- 220 ... 240 380 ... 415	24 220 ... 250 --	3WT9853-1JB00 3WT9853-1JK00 3WT9853-1JM00	6,380	
Undervoltage release "rc" (F8) can be delayed 0.2 ... 3.2 s	220 ... 240 380 ... 415	220 ... 250 --	3WT9854-1JK00 3WT9854-1JM00	9,150	
<b>Motorized operating mechanism</b>					
	AC 50/60 Hz V	DC V			
	-- 110 ... 127 220 ... 240	24 110 ... 125 220 ... 250	3WT9832-1JB00 3WT9832-1JH00 3WT9832-1JK00	34,000	
<b>Motorized operating mechanism and electrical closing</b>					
	AC 50/60 Hz V	DC V			
	110 ... 127 220 ... 240	110 ... 125 220 ... 250	3WT9831-1JH00 3WT9831-1JK00	40,700 40,700	
<b>Electrical closing</b>					
	AC 50/60 Hz V	DC V			
	-- 110 ... 127 220 ... 240	24 110 ... 125 220 ... 250	3WT9833-1JB00 3WT9833-1JH00 3WT9833-1JK00	8,000	
<b>Mutual mechanical interlock</b>	An interlock module with a Bowden wire (2 m) for one fixed-mounted circuit breaker for one withdrawable circuit breaker		3WT9866-3JA00 3WT9866-4JA00	30,600	
	Interlocking of three circuit breakers additional Bowden wire required for each circuit breaker Bowden wire (2 m)		3WT9866-8JA00	7,400	
	Bowden wire (3 m)		3WT9866-8JA01	9,460	
	Bowden wire (4.5 m)		3WT9866-8JA02	13,000	
<b>5-digit operating cycles counter</b>			3WT9864-0CA00	23,650	
<b>Locking device consisting of safety locks or padlocks to prevent unauthorized closing of the circuit breaker</b>	Safety lock (3SB1) instead of the OFF button	Made by CES Normal lock no. SSG 10	3WT9863-1JA00	3,500	
<b>Vectorial summation with current transformer in the neutral conductor</b>					
	Rated current $I_n$	Size	Number of poles		
<b>Current transformers external neutral conductor without copper busbar</b>		I II	3-pole and 4-pole 3-pole and 4-pole	3WL9111-0AA21-0AA0 3WL9111-0AA22-0AA0	13,700 15,900
<b>Door sealing frame IP40</b>				3WT9886-0JA00	3,950
<b>Vectorial summation with current transformer in the neutral conductor</b>					
	Rated current $I_n$	Size	Number of poles		
<b>Current transformers external neutral conductor without copper busbar</b>		I II	3-pole and 4-pole 3-pole and 4-pole	3WL9111-0AA21-0AA0 3WL9111-0AA22-0AA0	13,700 15,900
<b>Door sealing frame IP40</b>				3WT9886-0JA00	3,950
<b>ATS Set 800-4000A</b>		<b>Breaker 3WT</b>	2 ตัว		
3WT9831-1JK00		Motorized & Closing	2 ตัว		
3WT9851-1JK00		Shut release	2 ตัว		
3WT9866-0JA00		Mechanical interlocking	2 ตัว		
ราคาอุปกรณ์ 3WT (ไม่รวม CB,ATS)			167,960 บาท		
ชุดประกอบเมครเกอร์		3WT8000-0UA30-0AC2	Fix type		
ชุดประกอบเมครเกอร์		3WT8000-0UA30-5AC2	Withdraw		



SENTRON

## 3WL Air Circuit Breakers

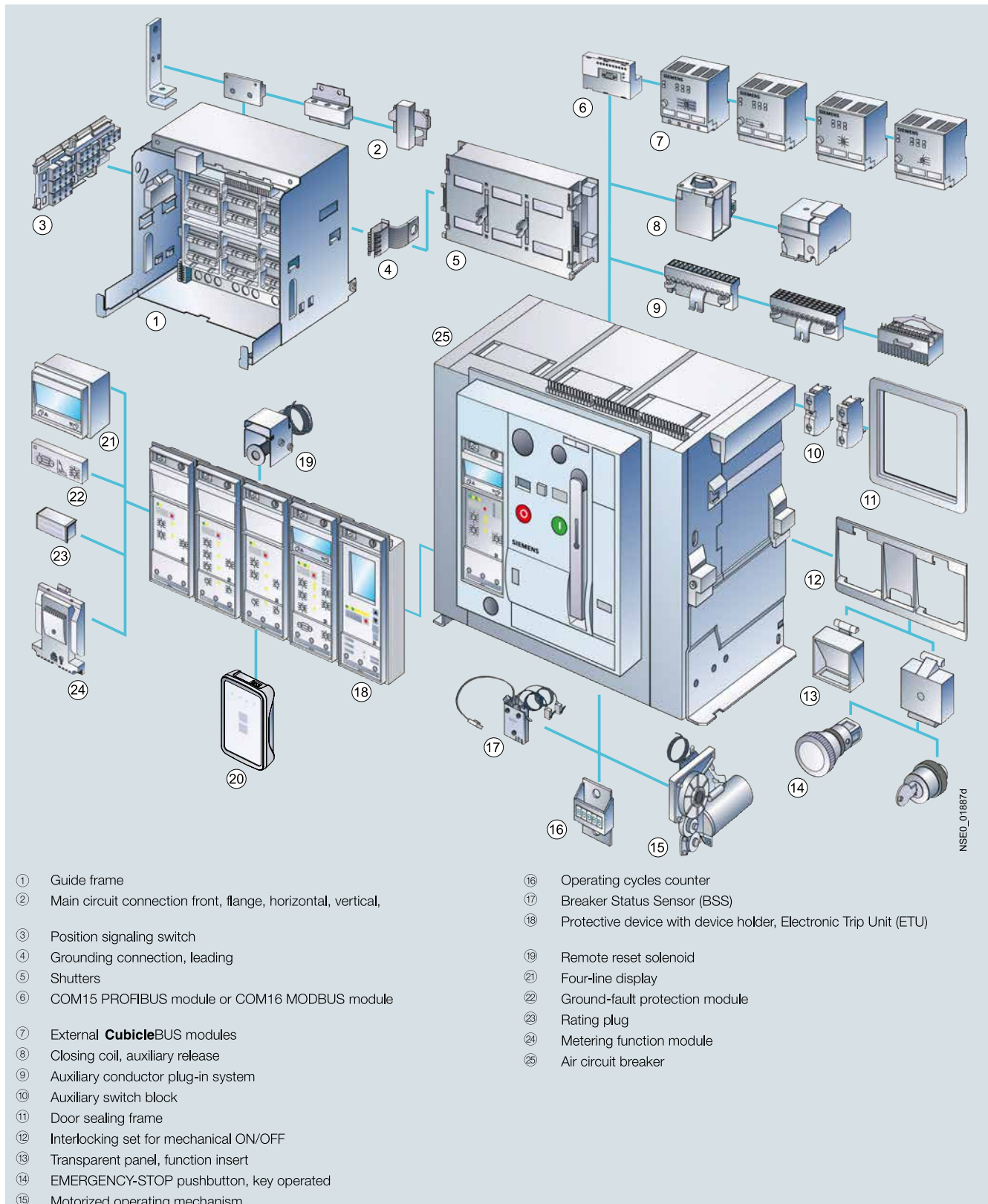
# 3WL Air Circuit Breakers up to 6300 A

## ข้อมูลผลิตภัณฑ์

### General data

#### ภาพรวมผลิตภัณฑ์

เซอร์กิตเบรกเกอร์รุ่น 3WL มีความยืดหยุ่นในการใช้งานสูงและมีความสามารถในการสื่อสารที่แม่นยำ โดยมีขนาดตั้งแต่ 630 A ถึง 6300 A และทุกรุ่นมีการออกแบบในลักษณะเดียวกัน มีการทำงานและมีอุปกรณ์เสริมที่ครบครันเช่นเดียวกัน



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- |  |  |
|--|--|
| ① Guide frame  | ⑩ Auxiliary switch block   |
| ② Main circuit connection front, flange, horizontal, vertical, | ⑪ Door sealing frame   |
| ③ Position signaling switch                                    | ⑫ Interlocking set for mechanical ON/OFF                           |
| ④ Grounding connection, leading                                | ⑬ Transparent panel, function insert                               |
| ⑤ Shutters   | ⑭ EMERGENCY-STOP pushbutton, key operated                          |
| ⑥ COM15 PROFIBUS module or COM16 MODBUS module                 | ⑮ Motorized operating mechanism                                    |
| ⑦ External <b>Cubicle</b> BUS modules                          | ⑯ Operating cycles counter   |
| ⑧ Closing coil, auxiliary release                              | ⑰ Breaker Status Sensor (BSS)                                      |
| ⑨ Auxiliary conductor plug-in system                           | ⑱ Protective device with device holder, Electronic Trip Unit (ETU) |
| ⑩ Auxiliary switch block                                       | ⑲ Remote reset solenoid  |
| ⑪ Door sealing frame   | ⑳ Four-line display  |
| ⑫ Interlocking set for mechanical ON/OFF                       | ㉑ Ground-fault protection module                                   |
| ⑬ Transparent panel, function insert                           | ㉒ Rating plug  |
| ⑭ EMERGENCY-STOP pushbutton, key operated                      | ㉓ Metering function module   |
| ⑮ Motorized operating mechanism                                | ㉔ Air circuit breaker  |

ภาพรวมผลิตภัณฑ์

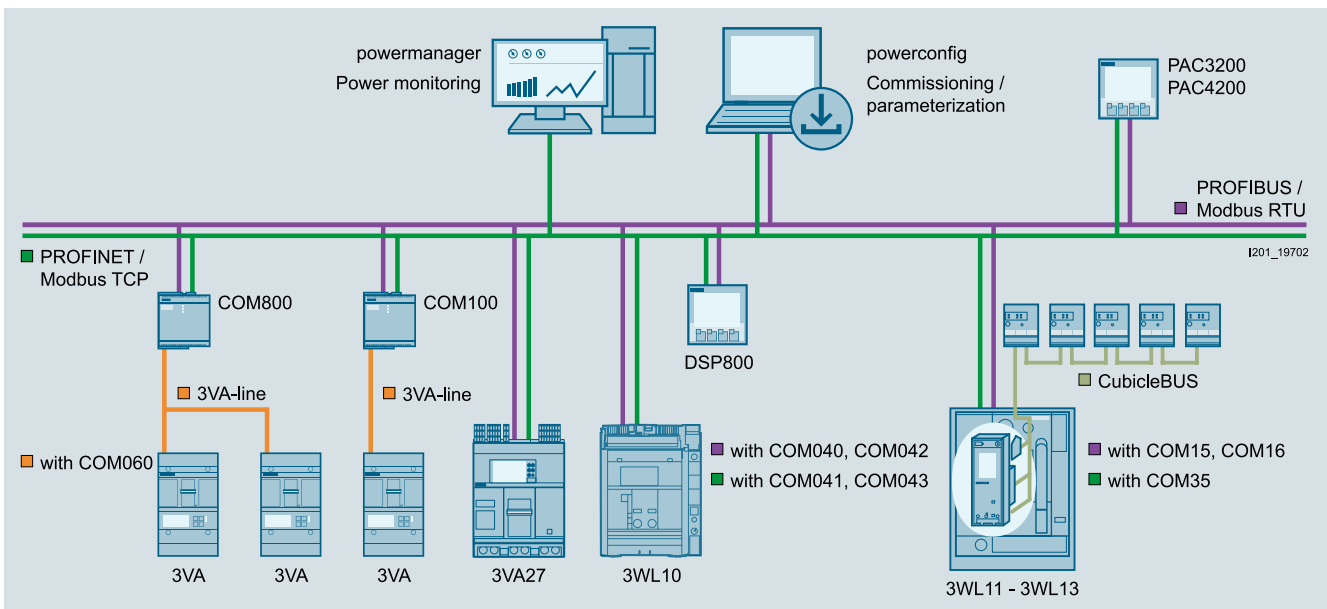


3WL Air Circuit Breakers

High Quality Smart Circuit Breakers up to 150kA 6300A

เซอร์กิตเบรกเกอร์รุ่น 3WL เป็นผลิตภัณฑ์ที่มีคุณภาพสูง โดยซีเมนส์ได้มีการวิจัยพัฒนาและออกแบบอย่างพิถีพิถัน ด้วยนวัตกรรมระดับสูงที่เน้นเรื่องเทคโนโลยีเป็นสำคัญ จึงทำให้ 3WL เป็นเบรกเกอร์ที่มีประสิทธิภาพและเทคโนโลยีที่สูงที่สุด ทั้งในแง่ของการป้องกันระบบไฟฟ้าและระบบการสื่อสาร โดยมีการออกแบบระบบการสื่อสารให้สามารถรองรับได้ทั้งในปัจจุบันและอนาคต จึงสามารถตอบสนองความต้องการของผู้ใช้งานได้หลากหลายรูปแบบ ซึ่งเซอร์กิตเบรกเกอร์ 3WL สามารถรองรับการใช้งาน ตั้งแต่ 630A จนถึง 6300A ด้วยค่า breaking capacity (Icu) ที่สูงถึง 150kA ที่ 690V มีทั้งแบบ 3 โพล และ 4 โพล Fixed-mounted version และ Withdrawable version รวมถึงมีอุปกรณ์เสริมที่หลากหลาย สามารถรองรับทุกความต้องการของผู้ใช้งาน จึงทำให้ผลิตภัณฑ์ 3WL ได้รับความไว้วางใจในการใช้งานอย่างกว้างขวางทั่วโลก

Communication-capable circuit breakers (with ETU45B or ETU76B Electronic Trip Unit)





# 3WL Air Circuit Breakers up to 6300 A

ข้อมูลผลิตภัณฑ์

General data

## Technical specifications

Size		I	II							
Type		... 3WL11 10	3WL11 12	3WL11 16	3WL11 20	3WL12 08	3WL12 10	3WL12 12	3WL12 16	
<b>Number of poles</b>		3-pole, 4-pole								
<b>Rated current <math>I_n</math></b> at 40 °C, at 50/60 Hz										
Main conductor	A	... 1000	1250	1600	2000	800	1000	1250	1600	
N conductor (only on 4-pole versions)	A	... 1000	1250	1600	2000	800	1000	1250	1600	
<b>Rated operational voltage <math>U_e</math></b> at 50/60 Hz (1000 V version, "Options")	V AC	... 690/1000	... 690/1000	... 690/1000	... 690/1000	... 690/1000	... 690/1000	... 690/1000	... 690/1000	
<b>Rated insulation voltage <math>U_i</math></b>	V AC	1000	1000	1000	1000	1000	1000	1000	1000	
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>										
• Main conducting paths	kV	12	12	12	12	12	12	12	12	
• Auxiliary circuits	kV	4	4	4	4	4	4	4	4	
• Control circuits <sup>9)</sup>	kV	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
<b>Isolating function acc. to EN 60947-2</b>		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
<b>Utilization category</b>		B								
<b>Permissible ambient temperature</b>										
• During operation (in operation with LCD max. 55 °C) <sup>1)</sup>	°C	-25/+70	-25/+70	-25/+70	-25/+70	-25/+70	-25/+70	-25/+70	-25/+70	
• Storage	°C	-40/+70	-40/+70	-40/+70	-40/+70	-40/+70	-40/+70	-40/+70	-40/+70	
<b>Permissible load for withdrawable versions</b> at rear horizontal main connections	• Up to 55 °C (Cu, bare)	A	1000	1250	1600	2000	800	1000	1250	1600
<b>Rated rotor operational voltage <math>U_{er}</math></b>	V	2000	2000	2000	2000	2000	2000	2000	2000	
<b>Power loss at <math>I_n</math></b>										
With three-phase symmetrical load										
• Fixed-mounted circuit breakers	W	100	105	150	240	40	45	80	85	
• Withdrawable circuit breakers	W	195	205	350	440	85	95	165	175	
<b>Switching times</b>										
• Make time	ms	35	35	35	35	35	35	35	35	
• Opening time	ms	38	38	38	38	34	34	34	34	
• Electrical make time (through closing coil) <sup>4)</sup>	ms	80	80	80	80	100	100	100	100	
• Electrical opening time (through shunt release)	ms	73	73	73	73	73	73	73	73	
• Electrical opening time (instantaneous undervoltage release)	ms	73	73	73	73	73	73	73	73	
• Opening time due to ETU, instantaneous short-circuit release	ms	50	50	50	50	50	50	50	50	
<b>Service life: Breaking capacity N and S, 3/4-pole</b>										
• Mechanical (with maintenance) <sup>5)</sup>	Operating cycles	25 000	25 000	25 000	25 000	17 500	17 500	17 500	17 500	
• Electrical (with maintenance) <sup>5)</sup>	Operating cycles	25 000	25 000	25 000	25 000	17 500	17 500	17 500	17 500	
<b>Service life: Breaking capacity H, 3-pole</b>										
• Mechanical (with maintenance) <sup>5)</sup>	Operating cycles	15 000	15 000	15 000	15 000	15 000	15 000	15 000	15 000	
• Electrical (with maintenance) <sup>5)6)</sup>	Operating cycles	15 000	15 000	15 000	15 000	15 000	15 000	15 000	15 000	
<b>Service life: Breaking capacity H, 4-pole</b>										
• Mechanical (with maintenance) <sup>5)</sup>	Operating cycles	15 000	15 000	15 000	15 000	15 000	15 000	15 000	15 000	
• Electrical (with maintenance) <sup>5)6)</sup>	Operating cycles	10 000	10 000	10 000	10 000	15 000	15 000	15 000	15 000	
<b>Service life: Breaking capacity C</b>										
• Mechanical (with maintenance) <sup>5)</sup>	Operating cycles	--	--	--	--	10 000	10 000	10 000	10 000	
• Electrical (with maintenance) <sup>5)</sup>	Operating cycles	--	--	--	--	10 000	10 000	10 000	10 000	
<b>Switching frequency<sup>7)</sup></b>										
• 690 V version	1/h	60 <sup>8)</sup>	60 <sup>8)</sup>	60 <sup>8)</sup>	60	60 <sup>8)</sup>	60 <sup>8)</sup>	60 <sup>8)</sup>	60 <sup>8)</sup>	
• 1000 V version	1/h	--	--	--	20	20	20	20	20	
• 1150 V version	1/h	--	--	--	--	20	20	20	20	
<b>Minimum interval</b> between tripping operation by Electronic Trip Unit and next making operation of the circuit breaker (only with automatic mechanical resetting of the lockout device).	ms	80	80	80	80	80	80	80	80	
Minimum interval between On-Off or Off-On switching operations.										
<b>Dimensions</b>		W mm	320/410			460/590				
<b>3/4-pole</b>		H mm	434			434				
	Fixed-mounted	D mm	291			291				
	Withdrawable	H mm	465.5			465.5				
		D mm	471			471				

1) Use of trip units from -20 °C.

2) ETU76B with graphics display can be used up to max. 55 °C.

3) At breaking capacity H: 1600 A to 70 °C.

4) Make time through closing coil for synchronization purposes (short-time excited) 50 ms.

5) Maintenance (see Operating Manual)

6) Replacement of the main contact elements of circuit breakers size I with breaking capacity H is only possible at the factory.

7) Minimum interval time between 2 tripping operations.

8) 3-pole switching with breaking capacity N and S: 45/h.

9) Motorized operating mechanism  $U_{imp} = 1.2$  kV



## Technical specifications

Size	II				III			
Type	3WL12 20	3WL12 25	3WL12 32	3WL12 40	3WL13 40	3WL13 50	3WL13 63	
<b>Number of poles</b>	3-pole, 4-pole							
<b>Rated current <math>I_n</math></b> at 40 °C, at 50/60 Hz								
Main conductor	A 2000	2500	3200	4000	4000	5000	6300	
N conductor (only on 4-pole versions)	A 2000	2500	3200	4000	4000	5000	6300	
<b>Rated operational voltage <math>U_e</math></b> at 50/60 Hz (1000 V version, "Options")	V AC ...	...	...	...	...	...	...	
	690/1000	690/1000	690/1000	690/1000	690/1000	690/1000	690/1000	
<b>Rated insulation voltage <math>U_i</math></b>	V AC 1000	1000	1000	1000	1000	1000	1000	
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>								
• Main conducting paths	kV 12	12	12	12	12	12	12	
• Auxiliary circuits	kV 4	4	4	4	4	4	4	
• Control circuits <sup>10)</sup>	kV 2.5	2.5	2.5	2.5	2.5	2.5	2.5	
<b>Isolating function acc. to EN 60947-2</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
<b>Utilization category</b>	B							
<b>Permissible ambient temperature</b>								
• During operation (in operation with LCD max. 55 °C) <sup>1)</sup>	°C -25/+70	-25/+70	-25/+70	-25/+70	-25/+70	-25/+70	-25/+70	
• Storage	°C -40/+70	-40/+70	-40/+70	-40/+70	-40/+70	-40/+70	-40/+70	
<b>Permissible load for withdrawable versions<sup>2) 4)</sup></b>	A 2000	2500	3200	3950	4000	5000	5920	
<b>Rated rotor operational voltage <math>U_{er}</math></b>	V 2000	2000	2000	2000	2000	2000	2000	
<b>Power loss at <math>I_n</math></b>								
With three-phase symmetrical load								
• Fixed-mounted circuit breakers	W 180	270	410	750	520	630	900	
• Withdrawable circuit breakers	W 320	520	710	925	810	1050	1600	
<b>Switching times</b>								
• Make time	ms 35	35	35	35	35	35	35	
• Opening time	ms 34	34	34	34	34	34	34	
• Electrical make time (through closing coil) <sup>5)</sup>	ms 100	100	100	100	100	100	100	
• Electrical opening time (through shunt release)	ms 73	73	73	73	73	73	73	
• Electrical opening time (instantaneous undervoltage release)	ms 73	73	73	73	73	73	73	
• Opening time due to ETU, instantaneous short-circuit release	ms 50	50	50	50	50	50	50	
<b>Service life: Breaking capacity N, S and H<sup>11)</sup></b>								
• Mechanical (with maintenance) <sup>6)</sup>	Operating cycles 17 500	17 500	17 500	17 500	10 000	10 000	10 000	
• Electrical (with maintenance) <sup>6)</sup>	Operating cycles 17 500	17 500	17 500	17 500	10 000	10 000	10 000	
<b>Service life: Breaking capacity C</b>								
• Mechanical (with maintenance) <sup>6)</sup>	Operating cycles 10 000	10 000	10 000	--	10 000	10 000	10 000	
• Electrical (with maintenance) up to 690 V <sup>6)</sup>	Operating cycles 10 000	10 000	8 000	--	--	--	--	
<b>Switching frequency<sup>8)</sup></b>								
• 690 V version	1/h 60 <sup>9)</sup>	60 <sup>9)</sup>	60 <sup>9)</sup>	60 <sup>9)</sup>	60	60	60	
• 1000 V version	1/h 20	20	20	20	20	20	20	
• 1150 V version <sup>7)</sup>	1/h 20	20	20	20	20	20	20	
<b>Minimum interval</b> between tripping operation by Electronic Trip Unit and next making operation of the circuit breaker (only with automatic mechanical resetting of the lockout device).	ms 80	80	80	80	80	80	80	
Minimum interval between On-Off or Off-On switching operations.								
<b>Dimensions</b>	W mm 460/590				704/914			
<b>3/4-pole</b>	H mm 434				434			
	D mm 291				291			
<b>Fixed-mounted</b>	H mm 465.5				465.5			
	D mm 471				471			
<b>Withdrawable</b>								

<sup>1)</sup> Use of trip units from -20 °C.

<sup>2)</sup> 4000 A, size II in fixed-mounted version, 3-pole.

<sup>4)</sup> ETU76B with graphics display can be used up to max. 55 °C.

<sup>5)</sup> Make time through closing coil for synchronization purposes (short-time excited) 50 ms.

<sup>6)</sup> Maintenance (see Operating Manual)

<sup>7)</sup> Size II with order code "A15" and size III: data for very high breaking capacity.

<sup>8)</sup> Minimum interval time between 2 tripping operations.

<sup>9)</sup> 3-pole switching with breaking capacity N and S: 45/h.

<sup>10)</sup> Motorized operating mechanism  $U_{imp} = 1.2$  kV

<sup>11)</sup> 1000 V and 1150 V versions only in the case of H breaking capacity

# 3WL Air Circuit Breakers up to 6300 A

ข้อมูลผลิตภัณฑ์

## General data

### Technical specifications

Size	I				II				III			
Type	3WL11				3WL12				3WL13			
Version	N	S	H	C <sup>7)</sup>	N	S	H	C <sup>7)</sup>	H	C	C	C
<b>Breaking capacity</b>												
<b>Rated operational voltage <math>U_e</math> up to 415 V AC</b>												
$I_{cu}$	kA	55	66	85	66	85	100	130	100	150	130	
$I_{cs}$	kA	55	66	85	66	85	100	130	100	150	130	
$I_{cm}$	kA	121	145	187	145	187	220	286	220	330	286	
<b>Rated operational voltage <math>U_e</math> up to 500 V AC</b>												
$I_{cu}$	kA	55	66	85	66	85	100	130	100	150	130	
$I_{cs}$	kA	55	66	85	66	85	100	130	100	150	130	
$I_{cm}$	kA	121	145	187	145	187	220	286	220	330	286	
<b>Rated operational voltage <math>U_e</math> up to 690 V AC</b>												
$I_{cu}$	kA	42	50	66	50	75	85	100	85	150	130	
$I_{cs}$	kA	42	50	66	50	75	85	100	85	150	130	
$I_{cm}$	kA	88	105	145	105	165	187	220	187	330	286	
<b>Rated operational voltage <math>U_e</math> up to 1000 V AC</b>												
$I_{cu}$	kA	--	--	--	--	--	--	--	--	--	--	--
$I_{cs}$	kA	--	--	--	--	--	--	--	--	--	--	--
$I_{cm}$	kA	--	--	--	--	--	--	--	--	--	--	--
<b>Rated operational voltage <math>U_e</math> up to 1150 V AC</b>												
$I_{cu}$	kA	--	--	--	--	--	--	--	--	--	--	--
$I_{cs}$	kA	--	--	--	--	--	--	--	--	--	--	--
$I_{cm}$	kA	--	--	--	--	--	--	--	--	--	--	--
<b>Rated short-time withstand current <math>I_{cw}</math></b>												
<b>Rated short-time withstand current <math>I_{cw}</math> at <math>U_e</math> up to 500 V AC</b>												
0.5 s	kA	55	66	85	66	85	100	100	100	130	120	
1 s	kA	50	66	85	66	85	85	100	100	130	120	
2 s	kA	35 <sup>1)/42<sup>2)</sup></sup>	45	70	66	66 <sup>3)/85<sup>4)</sup></sup>	66 <sup>3)/85<sup>4)</sup></sup>	85	100	130	120	
3 s	kA	30 <sup>1)/35<sup>2)</sup></sup>	35	60	55 <sup>3)/66<sup>4)</sup></sup>	55 <sup>3)/75<sup>4)</sup></sup>	55 <sup>3)/75<sup>4)</sup></sup>	75	100	130	120	
<b>Rated short-time withstand current <math>I_{cw}</math> at <math>U_e</math> up to 690 V AC</b>												
0.5 s	kA	42	50	66	50	75	85	100	85	130	120	
1 s	kA	42	50	66	50	75	85	100	85	130	120	
2 s	kA	35 <sup>1)/42<sup>2)</sup></sup>	45	66	50	66 <sup>3)/75<sup>4)</sup></sup>	66 <sup>3)/85<sup>4)</sup></sup>	85	85	130	120	
3 s	kA	30 <sup>1)/35<sup>2)</sup></sup>	35	60	50	55 <sup>3)/75<sup>4)</sup></sup>	55 <sup>3)/75<sup>4)</sup></sup>	75	85	130	120	
<b>Rated short-time withstand current <math>I_{cw}</math> at <math>U_e</math> up to 1000 V AC</b>												
0.5 s	kA	--	--	--	--	--	--	--	--	--	--	--
1 s	kA	--	--	--	--	--	--	--	--	--	--	--
2 s	kA	--	--	--	--	--	--	--	--	--	--	--
3 s	kA	--	--	--	--	--	--	--	--	--	--	--
<b>Rated short-time withstand current <math>I_{cw}</math> at <math>U_e</math> up to 1150 V AC</b>												
0.5 s	kA	--	--	--	--	--	--	--	--	--	--	--
1 s	kA	--	--	--	--	--	--	--	--	--	--	--
2 s	kA	--	--	--	--	--	--	--	--	--	--	--
3 s	kA	--	--	--	--	--	--	--	--	--	--	--
<b>Rated conditional short-circuit current <math>I_{cc}</math> (0.5 s) of the circuit breakers<sup>6)</sup></b>												
Up to 500 V AC	kA	55	66	85	66	85	100	130	100	130	120	
Up to 690 V AC	kA	42	50	66	50	75	85	100	85	130	120	
Up to 1000 V AC	kA	--	--	--	--	--	--	--	--	--	--	--
Up to 1150 V AC	kA	--	--	--	--	--	--	--	--	--	--	--

- N** Circuit breakers with ECO breaking capacity N
  - S** Circuit breakers with standard breaking capacity S
  - H** Circuit breakers with high breaking capacity H
  - C** Circuit breakers with very high breaking capacity C
  - DC** Non-automatic air circuit breakers with DC breaking capacity
- These breaking capacities are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Abbreviations* (functions)	English long text	Explanation
L	Long Time Delay	Overload protection
S	Short Time Delay	Short-circuit protection (short-time delayed)
I	Instantaneous	Short-circuit protection (instantaneous)
N	Neutral Protection	Neutral conductor protection
G	Ground Fault	Ground-fault protection

\* Designations according to IEC 60947-2

#### Note:

- For further technical specifications, see the Configuration Manual "Air Circuit Breakers" ([www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals)).

- 1) Size II with  $I_{n \max} \leq 2500$  A.
- 2) Size II with  $I_{n \max} = 3200$  A and  $I_{n \max} = 4000$  A.
- 3) At a rated voltage  $\geq 690$  V, the  $I_{cw}$  value of the circuit breaker cannot be greater than the  $I_{cu}$  or  $I_{cs}$  value at 690 V.

- 4) Rated operational voltage  $U_e = 1150$  V.
- 5) Values also apply to 690 V + 20% version with Z option "A16".
- 6) Rated operational voltage  $U_e = 1000$  V.
- 7) Up to 3200 A rated current.

Technical specifications



Protection functions	ETU15B D	ETU25B D	ETU27B D & S	
<b>Parameterization by</b>				
<b>Function overview of the electronic trip system</b>				
<p><b>L</b> <b>Overload protection</b> Function can be switched on/off Setting range <math>I_R = I_n \times \dots</math></p> <p><b>N</b> <b>N conductor protection</b> Function can be switched on/off N conductor setting range <math>I_N = I_n \times \dots</math></p> <p><b>S</b> <b>Short-time delayed short-circuit protection</b> Function can be switched on/off Setting range <math>I_{sd} = I_n \times \dots</math> Setting range of delay time <math>t_{sd}</math> Switchable short-time delayed short-circuit protection (<math>I^2t</math>-dependent function) Setting range of delay time <math>t_{sd}</math> at <math>I^2t</math></p> <p><b>I</b> <b>Instantaneous short-circuit protection</b> Function can be switched on/off Setting range <math>I_i = I_n \times \dots</math></p> <p><b>G</b> <b>Ground-fault protection</b> Tripping and alarm functions Tripping function can be switched on/off Alarm function can be switched on/off Detection of the ground-fault current through summation current formation with internal or external N conductor transformer Detection of ground-fault current through external current transformer Setting range of the operating current <math>I_g</math> for tripping Setting range of the operating current <math>I_g</math> for alarm Setting range of the delay time <math>t_g</math> Switchable ground-fault characteristic (<math>I^2t</math>-dependent function) Setting range of delay time <math>t_g</math> at <math>I^2t</math> ZSI-G function</p>	✓	✓	✓	
	Function can be switched on/off	--	--	--
	Setting range $I_R = I_n \times \dots$	0.5-0.55-0.6-0.65-0.7-0.75-0.8-0.85-0.9-1	0.4-0.45-0.5-0.55-0.6-0.65-0.7-0.8-0.9-1	0.4-0.45-0.5-0.55-0.6-0.65-0.7-0.8-0.9-1
	Switchable overload protection ( $I^2t$ - or $I^4t$ -dependent function)	--	--	--
	Setting range for time-lag class $t_R$ at $I^2t$	10 s fixed	10 s fixed	10 s fixed
	Setting range for time-lag class $t_R$ at $I^4t$	--	--	--
	Thermal memory can be enabled/disabled	--	--	--
	Phase failure sensitivity	--	At $t_{sd} = 20$ ms (M)	At $t_{sd} = 20$ ms (M)
	Function can be switched on/off	--	--	✓
	N conductor setting range $I_N = I_n \times \dots$	--	--	1
	Function can be switched on/off	--	✓	✓
	Setting range $I_{sd} = I_n \times \dots$	--	1.25-1.5-2-2.5-3-4-6-8-10-12	1.25-1.5-2-2.5-3-4-6-8-10-12
	Setting range of delay time $t_{sd}$	--	0-M-100-200-300-400 ms	0-M-100-200-300-400 ms
	Switchable short-time delayed short-circuit protection ( $I^2t$ -dependent function)	--	--	--
	Setting range of delay time $t_{sd}$ at $I^2t$	--	--	--
	ZSI function	--	--	--
	Function can be switched on/off	✓	✓	✓
	Setting range $I_i = I_n \times \dots$	2-3-4-5-6-7-8	Fixed for $I_i \geq 20 \times I_n$ , max. 50 kA	Fixed for $I_i \geq 20 \times I_n$ , max. 50 kA
	Tripping and alarm functions	--	--	✓ permanently installed
	Tripping function can be switched on/off	--	--	✓
Alarm function can be switched on/off	--	--	--	
Detection of the ground-fault current through summation current formation with internal or external N conductor transformer	--	--	✓	
Detection of ground-fault current through external current transformer	--	--	--	
Setting range of the operating current $I_g$ for tripping	--	--	A-B-C-D-E	
Setting range of the operating current $I_g$ for alarm	--	--	--	
Setting range of the delay time $t_g$	--	--	100-200-300-400-500 ms	
Switchable ground-fault characteristic ( $I^2t$ -dependent function)	--	--	--	
Setting range of delay time $t_g$ at $I^2t$	--	--	--	
ZSI-G function	--	--	--	
<b>Parameter set changeover</b>				
Switchable between parameter set A and B	--	--	--	
<b>LCD</b>				
Alphanumeric LCD (4-line)	--	--	--	
Graphical LCD (24 V, external power supply required)	--	--	--	
<b>Self-monitoring / communication</b>				
Watchdog-monitored	✓	✓	✓	
Communication-capable	--	--	--	
<b>Metering function</b>				
Metering capability with metering function <i>Plus</i>	--	--	--	
<b>LED display</b>				
Electronic Trip Unit active	✓	✓	✓	
Alarm	✓	✓	✓	
ETU fault	✓	✓	✓	
L tripping operation	✓	✓	✓	
S tripping operation	--	✓	✓	
I tripping operation	--	✓	✓	
N tripping operation	--	✓	✓	
G tripping operation	--	--	✓	
G alarm	--	--	--	
Tripping operation as a result of extended prot. function	--	--	--	
Communication	--	--	--	

Delay time figures given in ms.  
M = Motor protection, corresponds to 20 ms.  
D = Rotary switch  
D & S = Rotary coding and slide switch  
K = Communication  
M/K = Menu/Communication

✓ Available.  
-- Not available.  
□ Optional.

# 3WL Air Circuit Breakers up to 6300 A

## ข้อมูลผลิตภัณฑ์

### General Data

#### Technical specifications



Protection functions Parameterization by	ETU45B D & S	ETU76B M/K
<b>Function overview of the electronic trip system</b>		
<b>Overload protection</b>	✓	✓
Function can be switched on/off	--	✓
Setting range $I_R = I_n \times \dots$	0.4-0.45-0.5-0.55-0.6-0.65-0.7-0.8-0.9-1	0.4 ... 1
Switchable overload protection ( $I^2t$ - or $I^4t$ -dependent function)	✓	✓
Setting range for time-lag class $t_R$ at $I^2t$	2-3.5-5.5-8-10-14-17-21-25-30 s	2 ... 30 s
Setting range for time-lag class $t_R$ at $I^4t$	1-2-3-4-5 s	1 ... 5 s
Thermal image can be switched on/off	✓	✓
Phase failure sensitivity	At $t_{sd} = 20$ ms (M)	✓ (on/off)
<b>N conductor protection</b>	✓	✓
Function can be switched on/off	✓	✓
N conductor setting range $I_N = I_n \times \dots$	0.5 ... 1	0.2 ... 2
<b>Short-time delayed short-circuit protection</b>	✓	✓
Function can be switched on/off	✓	✓
Setting range $I_{sd} = I_n \times \dots$	1.25-1.5-2-2.5-3-4-6-8-10-12	$1.25 \times I_n \dots 0.8 \times I_{cw}$
Setting range of delay time $t_{sd}$	M-100-200-300-400 ms	M-80 ... 4000 ms
Switchable short-time delayed short-circuit protection ( $I^2t$ -dependent function)	✓	✓
Setting range of delay time $t_{sd}$ at $I^2t$	100-200-300-400 ms	100 ... 400 ms
ZSI function	By <b>CubicleBUS</b> module	By <b>CubicleBUS</b> module
<b>Instantaneous short-circuit protection</b>	✓	✓
Function can be switched on/off	✓	✓
Setting range $I_i = I_n \times \dots$	1.5-2-2.3-4-6-8-10-12-0.8 $\times I_{cs}$	$1.5 \times I_n \dots 0.8 \times I_{cs}$
<b>Ground-fault protection</b>	□ Module can be retrofitted	□ Module can be retrofitted
Tripping and alarm functions	✓	✓
Tripping function can be switched on/off	✓	✓
Alarm function can be switched on/off	--	✓
Detection of the ground-fault current through summation current formation with internal or external N conductor transformer	✓	✓
Detection of ground-fault current through external current transformer	✓	✓
Setting range of the operating current $I_g$ for tripping	A-B-C-D-E	A ... E
Setting range of the operating current $I_g$ for alarm	A-B-C-D-E	A ... E
Setting range of the delay time $t_g$	100-200-300-400-500 ms	100 ... 500 ms
Switchable ground-fault characteristic ( $I^2t$ -dependent function)	✓	✓
Setting range of delay time $t_g$ at $I^2t$	100-200-300-400-500 ms	100 ... 500 ms
ZSI-G function	By <b>CubicleBUS</b> module	By <b>CubicleBUS</b> module
<b>Parameter set changeover</b>		
Switchable between parameter set A and B	--	✓
<b>LCD</b>		
Alphanumeric LCD (4-line)	□	–
Graphical LCD (24 V, external power supply required)	--	✓
<b>Self-monitoring / communication</b>		
Watchdog-monitored	✓	✓
Communication-capable		
<b>Metering function</b>		
Metering capability with metering function <i>Plus</i>	✓	✓
<b>LED display</b>		
Electronic Trip Unit active	✓	✓
Alarm	✓	✓
ETU fault	✓	✓
L tripping operation	✓	✓
S tripping operation	✓	✓
I tripping operation	✓	✓
N tripping operation	✓	✓
G tripping operation	✓ (Only with ground-fault protection module)	✓ (Only with ground-fault protection module)
G alarm	✓ (Only with ground-fault protection module)	✓ (Only with ground-fault protection module)
Tripping operation as a result of extended prot. function	✓	✓
Communication	✓	✓

Setting range of the operating current $I_g$		
	Size I and size II	Size III
A	100 A	400 A
B	300 A	600 A
C	600 A	800 A
D	900 A	1000 A
E	1200 A	1200 A

Increment size when settings are made for the ETU76B using the menu			
From ... to	Increment size	From ... to	Increment size
0 ... 1	0.1	1000 ... 1600	50
1 ... 100	1	1600 ... 10000	100
100 ... 500	5	10000 ... max.	1000
500 ... 1000	10		

ข้อมูลผลิตภัณฑ์และการตั้งชื่อสินค้า

Option							
Electronic Trip Unit / ETU		ETU25B: protection function LSI					
Size	Rated Current $I_n$	Breaking capacity $I_{cu} = I_{cs}$	short-time withstand current $I_{cw}/1s, 500V$	Fixed mounted version 3-pole		Withdrawable version 3-pole	
				รุ่นสินค้า	ราคา (บาท)	รุ่นสินค้า	ราคา (บาท)
	A	kA	kA				
<b>ETU25B</b>							
<b>Horizontal main circuit connection</b>							
I	630 800 1000 1250 1600	55	55*	3WL11 06-2CB62-1AA2 3WL11 08-2CB62-1AA2 3WL11 10-2CB62-1AA2 3WL11 12-2CB62-1AA2 3WL11 16-2CB62-1AA2	101,530 103,620 109,670 122,100 140,800	3WL11 06-2CB66-1AA2 3WL11 08-2CB66-1AA2 3WL11 10-2CB66-1AA2 3WL11 12-2CB66-1AA2 3WL11 16-2CB66-1AA2	140,140 143,000 152,900 168,300 182,600
<b>Horizontal main circuit connection</b>							
I	630 800 1000 1250 1600	66	66	3WL11 06-3CB62-1AA2 3WL11 08-3CB62-1AA2 3WL11 10-3CB62-1AA2 3WL11 12-3CB62-1AA2 3WL11 16-3CB62-1AA2	113,190 115,500 121,000 129,800 147,400	3WL11 06-3CB66-1AA2 3WL11 08-3CB66-1AA2 3WL11 10-3CB66-1AA2 3WL11 12-3CB66-1AA2 3WL11 16-3CB66-1AA2	148,720 151,800 157,300 172,700 190,300
II	2000 2500 3200 4000**	66	66	3WL12 20-2CB62-1AA2 3WL12 25-2CB62-1AA2 3WL12 32-2CB62-1AA2 3WL12 40-2CB61-1AA2	173,800 221,100 278,300 415,800	3WL12 20-2CB66-1AA2 3WL12 25-2CB66-1AA2 3WL12 32-2CB66-1AA2 3WL12 40-2CB67-1AA2	231,000 289,300 369,600 526,900
<b>Horizontal main circuit connection</b>							
I	630 800 1000 1250 1600	85	85	3WL11 06-4CB62-1AA2 3WL11 08-4CB62-1AA2 3WL11 10-4CB62-1AA2 3WL11 12-4CB62-1AA2 3WL11 16-4CB62-1AA2	119,680 122,100 125,400 132,000 159,500	3WL11 06-4CB66-1AA2 3WL11 08-4CB66-1AA2 3WL11 10-4CB66-1AA2 3WL11 12-4CB66-1AA2 3WL11 16-4CB66-1AA2	152,900 156,200 158,400 176,000 206,800
II	2000 2500 3200 4000**	85	85	3WL12 20-3CB62-1AA2 3WL12 25-3CB62-1AA2 3WL12 32-3CB62-1AA2 3WL12 40-3CB61-1AA2	202,730 265,100 306,240 457,270	3WL12 20-3CB66-1AA2 3WL12 25-3CB66-1AA2 3WL12 32-3CB66-1AA2 3WL12 40-3CB67-1AA2	253,000 319,000 382,800 544,500
<b>Horizontal main circuit connection</b>							
II	2000 2500 3200 4000**	100	100*	3WL12 20-4CB62-1AA2 3WL12 25-4CB62-1AA2 3WL12 32-4CB62-1AA2 3WL12 40-4CB61-1AA2	211,200 276,100 319,000 476,300	3WL12 20-4CB66-1AA2 3WL12 25-4CB66-1AA2 3WL12 32-4CB66-1AA2 3WL12 40-4CB67-1AA2	264,000 332,200 399,300 567,600
III	4000 5000 6300**	100	100	3WL13 40-4CB62-1AA2 3WL13 50-4CB62-1AA2 3WL13 63-4CB61-1AA2	529,100 609,400 836,000	3WL13 40-4CB66-1AA2 3WL13 50-4CB66-1AA2 3WL13 63-4CB67-1AA2	647,900 702,900 964,700
III	4000 5000 6300**	150	100	3WL13 40-5CB62-1AA2 3WL13 50-5CB62-1AA2 3WL13 63-5CB61-1AA2	590,700 790,900 987,800	3WL13 40-5CB66-1AA2 3WL13 50-5CB66-1AA2 3WL13 63-5CB67-1AA2	709,500 920,700 1,250,700

\*  $I_{cw}/500 V 0.5 s.$

\*\* All ACBs are with Horizontal terminals except 4000A (Size II) & 6300A which have only Vertical termination



# 3WL Air Circuit Breakers up to 6300 A

## ราคาผลิตภัณฑ์

### Price List

#### ข้อมูลผลิตภัณฑ์และการตั้งชื่อสินค้า

Option							
Electronic Trip Unit / ETU		ETU27B: protection function LING *** ETU45B: protection function LSING with display ***					
Size	Rated Current $I_n$	Breaking capacity $I_{cu} = I_{cs}$	short-time withstand current $I_{cw}/ 1s, 500V$	Fixed mounted version 3-pole		Withdrawable version 3-pole	
	A	kA	kA	รุ่นสินค้า	ราคา (บาท)	รุ่นสินค้า	ราคา (บาท)
<b>ETU27B</b>							
<b>Horizontal main circuit connection</b>							
I	630 800 1000 1250 1600	55	55*	3WL11 06-2DG62-1AA2 3WL11 08-2DG62-1AA2 3WL11 10-2DG62-1AA2 3WL11 12-2DG62-1AA2 3WL11 16-2DG62-1AA2	147,730 149,820 155,870 168,300 187,000	3WL11 06-2DG66-1AA2 3WL11 08-2DG66-1AA2 3WL11 10-2DG66-1AA2 3WL11 12-2DG66-1AA2 3WL11 16-2DG66-1AA2	186,340 189,200 199,100 214,500 228,800
<b>Horizontal main circuit connection</b>							
I	630 800 1000 1250 1600	66	66	3WL11 06-3DG62-1AA2 3WL11 08-3DG62-1AA2 3WL11 10-3DG62-1AA2 3WL11 12-3DG62-1AA2 3WL11 16-3DG62-1AA2	159,390 161,700 167,200 176,000 193,600	3WL11 06-3DG66-1AA2 3WL11 08-3DG66-1AA2 3WL11 10-3DG66-1AA2 3WL11 12-3DG66-1AA2 3WL11 16-3DG66-1AA2	194,920 198,000 203,500 218,900 236,500
II	2000 2500 3200 4000**	66	66	3WL12 20-2DG62-1AA2 3WL12 25-2DG62-1AA2 3WL12 32-2DG62-1AA2 3WL12 40-2DG61-1AA2	220,000 267,300 324,500 462,000	3WL12 20-2DG66-1AA2 3WL12 25-2DG66-1AA2 3WL12 32-2DG66-1AA2 3WL12 40-2DG67-1AA2	277,200 335,500 415,800 573,100
<b>Horizontal main circuit connection</b>							
I	630 800 1000 1250 1600	85	85	3WL11 06-4DG62-1AA2 3WL11 08-4DG62-1AA2 3WL11 10-4DG62-1AA2 3WL11 12-4DG62-1AA2 3WL11 16-4DG62-1AA2	165,880 168,300 171,600 178,200 205,700	3WL11 06-4DG66-1AA2 3WL11 08-4DG66-1AA2 3WL11 10-4DG66-1AA2 3WL11 12-4DG66-1AA2 3WL11 16-4DG66-1AA2	199,100 202,400 204,600 222,200 253,000
II	2000 2500 3200 4000**	85	85	3WL12 20-3DG62-1AA2 3WL12 25-3DG62-1AA2 3WL12 32-3DG62-1AA2 3WL12 40-3DG61-1AA2	248,930 311,300 352,440 503,470	3WL12 20-3DG66-1AA2 3WL12 25-3DG66-1AA2 3WL12 32-3DG66-1AA2 3WL12 40-3DG67-1AA2	299,200 365,200 429,000 590,700
<b>Horizontal main circuit connection</b>							
II	2000 2500 3200 4000**	100	100 *	3WL12 20-4DG62-1AA2 3WL12 25-4DG62-1AA2 3WL12 32-4DG62-1AA2 3WL12 40-4DG61-1AA2	257,400 322,300 365,200 522,500	3WL12 20-4DG66-1AA2 3WL12 25-4DG66-1AA2 3WL12 32-4DG66-1AA2 3WL12 40-4DG67-1AA2	310,200 378,400 445,500 613,800
III	4000 5000 6300**	100	100	3WL13 40-4DG62-1AA2 3WL13 50-4DG62-1AA2 3WL13 63-4DG61-1AA2	575,300 655,600 882,200	3WL13 40-4DG66-1AA2 3WL13 50-4DG66-1AA2 3WL13 63-4DG67-1AA2	694,100 749,100 1,010,900
III	4000 5000 6300**	150	150	3WL13 40-5DG62-1AA2 3WL13 50-5DG62-1AA2 3WL13 63-5DG61-1AA2	636,900 837,100 1,034,000	3WL13 40-5DG66-1AA2 3WL13 50-5DG66-1AA2 3WL13 63-5DG67-1AA2	755,700 966,900 1,296,900
				ราคาเพิ่มเติม (บาท)		ราคาเพิ่มเติม (บาท)	
<b>ETU45B with Ground Fault (ตำแหน่งที่ 9 และ 10) ***</b>				3WL1-----FG	6,490	3WL1-----FG	6,490

\* I<sub>cw</sub>/500 V 0.5 s.

\*\* All ACBs are with Horizontal main terminals except 4000A (Size II) & 6300A which have only Vertical main termination

\*\*\* Current transformer for overload protection in the neutral conductor and for ground-fault protection must be ordered separately.

## ข้อมูลผลิตภัณฑ์และการสั่งซื้อสินค้า

ในกรณีที่ต้องการติดตั้งอุปกรณ์เสริมเพิ่มเติม สามารถทำได้โดยการเปลี่ยนรหัสสินค้าใน ตำแหน่งที่ 13-16 ตามรหัสสินค้าในตารางด้านล่าง

Design	รุ่นสินค้า	ราคาเพิ่มเติม (บาท)
	ตำแหน่งที่ 13-16 3WL □□□□ - □□□□□ - □□□□□	
<b>Auxiliary releases</b> <b>Operating Mechanism (ตำแหน่งที่ 13)</b>		
Electrical operating mechanism (motorised) with mechanical & electrical closing		
Motor	Closing Solenoid	
AC 50/60Hz V	DC V	AC 50/60Hz
208-240	220-250	230
110-127	110-125	110
	24	220
		110-125
		24
		4
		5
		6
		42,185
<b>1st Auxiliary Release (ตำแหน่งที่ 14)</b>		
Without 1st auxiliary release		A
		0
<b>Shunt Release</b> suitable for continuous operation		
AC 50/60Hz V	DC V	
-	24	B
110 - 127	110 - 125	F
208 - 240	220 - 250	G
		6,875
<b>2nd Auxiliary Release ( ตำแหน่งที่ 15)</b>		
Without 2nd auxiliary release		A
		0
<b>Under Voltage Release instantaneous</b>		
AC 50/60Hz V	DC V	
-	24	J
110-127	110-125	M
208-240	220-250	N
380-415	-	P
		7,095
<b>Under Voltage Release with time delay</b>		
AC 50/60Hz V	DC V	
110-127	110-125	R
208-240	220-250	S
380-415	-	T
		25,520
		28,160
<b>^ Shunt Release</b> suitable for continuous operation		
AC 50/60Hz V	DC V	
-	24	B
110-127	110 - 125	F
208 - 240	220 - 250	G
		6,875
^ - to be ordered only if 2nd Shunt Release is required in addition to 1st Shunt Release		
<b>Auxiliary Switch Block (ตำแหน่งที่ 16)</b>		
1st auxiliary switch 2NO+2NC given as standard		2
		0
1st + 2nd auxiliary switch 4NO+4NC		4
1st + 2nd auxiliary switch 6NO+2NC		7
1st + 2nd auxiliary switch 5NO+3NC		8
		9,020
<b>ATS Set 630-6300A</b>	<b>Breaker 3WL</b>	2 ตัว
3WL9111-0AD06-0AA0	Shunt release & Closing coil	4 ตัว
3WL9111-0AF04-0AA0	Motorized operating	2 ตัว
3WL9111-0AH02-0AA0	Signaling switches	2 ตัว
3WL9111-0BB2□-0AA0	Mechanical interlocking	2 ตัว
ราคาอุปกรณ์ 3WL (ไม่รวม CB,ATS)		152,080 บาท
ชุดประกอบเบรกเกอร์	3WL1□□□-□□□□□-4GA2+T40+K07+S55	Fix type
ชุดประกอบเบรกเกอร์	3WL1□□□-□□□□□-4GA2+T40+K07+R55	Withdraw

# 3WL Air Circuit Breakers up to 6300 A

## ราคาผลิตภัณฑ์

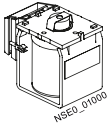
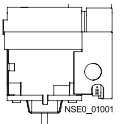
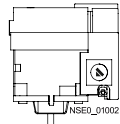
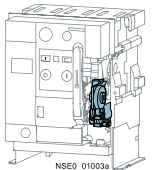
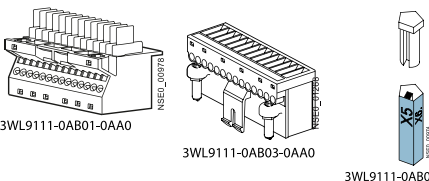
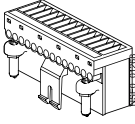

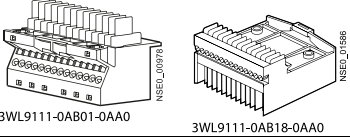
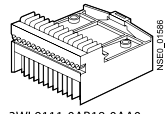
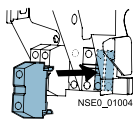


### Price List

#### ข้อมูลผลิตภัณฑ์และการสั่งซื้อสินค้า

ในกรณีที่ต้องการเพิ่ม option การใช้งานให้ใส่ -z ด้านหลังรุ่นสินค้า ตามด้วย รหัสสินค้า เช่น 3WL.....-.....-Z T40 + F40

อุปกรณ์เสริม	รหัสสั่งประกอบ (Option)	รุ่นสินค้า (กรณีสั่งแยก)	ราคาเพิ่มเติม (บาท)
Door sealing frame	T40	3WL9111-0AP01-0AA0	7,600
Transparent Cover for ETU25-45B (Not applicable for ACBs without ETU)	F40	3WL9111-0AT45-0AA0	1,650
Transparent Cover for above ETU45B (Not applicable for ACBs without ETU)		3WL9111-0AT46-0AA0	1,650
<b>Indication / operator control elements</b>			
5 digit mechanical operating cycle counter - only with motorised breakers	C01	3WL9111-0AH07-0AA0	10,800
Spring charge signal switch	C20	3WL9111-0AH08-0AA0	3,650
Electrical On button on front panel	C11	3WL9111-0AJ02-0AA0	1,870
Electrical on button on front panel with CES lock	C12	3WL9111-0AJ03-0AA0	6,700
EMERGENCY-STOP pushbuttons	S24	3WL9111-0BA72-0AA0	10,000
Motor shutdown switch in operator panel-only with motorised breakers	S25	3WL9111-0AJ06-0AA0	10,450
Ready to close signal switch	C22	3WL9111-0AH01-0AA0	4,950
Auxiliary switch for the first auxiliary release	C26	3WL9111-0AH02-0AA0	1,870
Auxiliary switch for the second auxiliary release	C27		
<b>Lockout device and remote reset</b>			
Trip signal switch	K07	3WL9111-0AH14-0AA0	3,080
Automatic reset of the reclosing lockout only for ACBs with ETU	K01	3WL9111-0AK21-0AA0	2,750
<b>Remote reset displays &amp; buttons with automatic reset of reclosing lockout</b>			
Remote reset solenoid 24 V DC	K10	3WL9111-0AK03-0AA0	13,650
Remote reset solenoid 120 V AC/125 V DC	K12	3WL9111-0AK05-0AA0	
Remote reset solenoid 208 ... 250 V AC/DC	K13	3WL9111-0AK06-0AA0	
<b>Internal current sensor for N-conductor only for 4Pole circuit breaker</b>			
	Size I	3WL9111-0AA14-0AA0	4,950
	Size II	3WL9111-0AA15-0AA0	6,000
	Size III	3WL9111-0AA16-0AA0	9,000
<b>Communication</b>			
Breaker status sensor (BSS)	F01	3WL9111-0AT16-0AA0	18,500
Profibus communication connection (COM15+BSS)	F02	3WL9111-0AT12-0AA0	43,700
Modbus communication connection (COM16+BSS)	F12	3WL9111-0AT18-0AA0	
Profinet communication connection (COM35+BSS)	F35	3WL9111-0AT66-0AA0	57,000
<b>Measurement Function</b>			
Metering function Plus with internal lower	F36	-	43,670
Metering function Plus with internal upper	F37		
Metering function Plus with external voltage	F38		
<b>Safety Shutter for Guide (Drawout type)</b>			
	Size I	3WL9111-0AP04-0AA0	10,450
	Size II	3WL9111-0AP06-0AA0	11,800
	Size III	3WL9111-0AP07-0AA0	20,450
<b>Position signal switch for Guide Frame (Drawout type)</b>			
Connected ,Test ,Disconnected 1CO, 1CO, 1CO	R15	3WL9111-0AH11-0AA0	6,700
Connected ,Test ,Disconnected 3CO, 2CO, 1CO	R16	3WL9111-0AH12-0AA0	11,660
<b>Locking Device</b>			
Locking devices for operating mechanism handle with padlock	S33	3WL9111-0BA71-0AA0	6,050
Assembly kit for padlocks (Locking bracket for "OFF")	S07	3WL9111-0BA41-0AA0	3,630
Locking device on the front panel - Mounting Kit for Castell lock	S05	3WL9111-0BA31-0AA0	5,170
Against opening of the cubicle door in ON condition (Fixed type)	S30	3WL9111-0BB12-0AA0	6,700
Against opening of the cubicle door in connected position (Drawout type)	R30	3WL9111-0BB13-0AA0	
To prevent movement with the cabinet door open (Drawout type)	R50	3WL9111-0BB15-0AA0	
Against unauthorized closing, in the operator panels made by CES	S01	3WL9111-0BA36-0AA0	7,700
To prevent movement of the withdrawable ACB (Ronis) (Drawout type)	S76	3WL9111-0BA77-0AA0	21,450
<b>Mechanical interlocking</b>			
Mutual mechanical interlocking (bowden wire) (Fixed type)	S55	3WL9111-0BB21-0AA0	23,900
Mutual mechanical interlocking (bowden wire) (Drawout type)	R55	3WL9111-0BB24-0AA0	
<b>Arc Chute Covers (Drawout type)</b>			
	Size I	3WL9111-0AS32-0AA0	13,300
	Size II	3WL9111-0AS36-0AA0	
	Size III	3WL9111-0AS38-0AA0	

ข้อมูลผลิตภัณฑ์และการสั่งซื้อสินค้า

	Designation	รุ่นสินค้า	ราคา (บาท)					
<b>Auxiliary releases</b>								
 NSE0_01000 3WL9111-0AD06-0AA0	<b>Closing coils/shunt releases</b>		3WL9111-0AD01-0AA0 3WL9111-0AD05-0AA0 3WL9111-0AD06-0AA0 6,880					
	<table border="1"> <thead> <tr> <th>Versions</th> <th>Voltage</th> </tr> </thead> <tbody> <tr> <td>100% OP</td> <td>24 V DC 110 ... 125 V DC/110 ... 127 V AC 220 ... 250 V DC/208 ... 240 V AC</td> </tr> </tbody> </table>	Versions		Voltage	100% OP	24 V DC 110 ... 125 V DC/110 ... 127 V AC 220 ... 250 V DC/208 ... 240 V AC		
Versions	Voltage							
100% OP	24 V DC 110 ... 125 V DC/110 ... 127 V AC 220 ... 250 V DC/208 ... 240 V AC							
 NSE0_01001 3WL9111-0AE0-0AA0   NSE0_01002 3WL9111-0AE1-0AA0	<b>Undervoltage releases</b>		3WL9111-0AE01-0AA0 3WL9111-0AE04-0AA0 3WL9111-0AE05-0AA0 3WL9111-0AE06-0AA0 7,100					
	<table border="1"> <thead> <tr> <th>Versions</th> <th>Voltage</th> </tr> </thead> <tbody> <tr> <td>Instantaneous</td> <td>24 V DC 110 ... 125 V DC/110 ... 127 V AC 220 ... 250 V DC/208 ... 240 V AC 380 ... 415 V AC</td> </tr> <tr> <td>Delayed</td> <td>110 ... 125 V DC/110 ... 127 V AC 220 ... 250 V DC/208 ... 240 V AC 380 ... 415 V AC</td> </tr> </tbody> </table>	Versions		Voltage	Instantaneous	24 V DC 110 ... 125 V DC/110 ... 127 V AC 220 ... 250 V DC/208 ... 240 V AC 380 ... 415 V AC	Delayed	110 ... 125 V DC/110 ... 127 V AC 220 ... 250 V DC/208 ... 240 V AC 380 ... 415 V AC
Versions	Voltage							
Instantaneous	24 V DC 110 ... 125 V DC/110 ... 127 V AC 220 ... 250 V DC/208 ... 240 V AC 380 ... 415 V AC							
Delayed	110 ... 125 V DC/110 ... 127 V AC 220 ... 250 V DC/208 ... 240 V AC 380 ... 415 V AC							
<b>Operating mechanisms</b>								
 NSE0_01003a 3WL9111-0AF0-0AA0	<b>Motorized operating mechanisms</b>		3WL9111-0AF01-0AA0 3WL9111-0AF03-0AA0 3WL9111-0AF04-0AA0 35,300					
	<table border="1"> <thead> <tr> <th>Versions</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>• 24 ... 30 V DC</li> <li>• 110 ... 125 V DC/110 ... 127 V AC</li> <li>• 220 ... 250 V DC/208 ... 240 V AC</li> </ul> </td> </tr> </tbody> </table>	Versions		<ul style="list-style-type: none"> <li>• 24 ... 30 V DC</li> <li>• 110 ... 125 V DC/110 ... 127 V AC</li> <li>• 220 ... 250 V DC/208 ... 240 V AC</li> </ul>				
Versions								
<ul style="list-style-type: none"> <li>• 24 ... 30 V DC</li> <li>• 110 ... 125 V DC/110 ... 127 V AC</li> <li>• 220 ... 250 V DC/208 ... 240 V AC</li> </ul>								
<b>Additional Connector for Motorized</b>								
 NSE0_00978 3WL9111-0AB01-0AA0  3WL9111-0AB03-0AA0  NSE0_00979 3WL9111-0AB07-0AA0	<b>Fixed Version</b>		3WL9111-0AB01-0AA0 3,200 + 3WL9111-0AB03-0AA0 2,600 + 3WL9111-0AB07-0AA0 2,200					
 NSE0_00978 3WL9111-0AB01-0AA0  NSE0_00986 3WL9111-0AB18-0AA0	<b>Withdrawable Version</b>		3WL9111-0AB01-0AA0 3,200 + 3WL9111-0AB18-0AA0 5,300					
<b>Auxiliary contacts</b>								
 NSE0_01004 3WL9111-0AG03-0AA0	<b>Auxiliary switch blocks</b>		3WL9111-0AG01-0AA0 9,800 3WL9111-0AG02-0AA0 4,950 3WL9111-0AG03-0AA0 4,950					
	<table border="1"> <thead> <tr> <th>Versions</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>• 2 NO contacts + 2 NC contacts</li> <li>• 2 NO contacts</li> <li>• 1 NO contact + 1 NC contact</li> </ul> </td> </tr> </tbody> </table>	Versions		<ul style="list-style-type: none"> <li>• 2 NO contacts + 2 NC contacts</li> <li>• 2 NO contacts</li> <li>• 1 NO contact + 1 NC contact</li> </ul>				
Versions								
<ul style="list-style-type: none"> <li>• 2 NO contacts + 2 NC contacts</li> <li>• 2 NO contacts</li> <li>• 1 NO contact + 1 NC contact</li> </ul>								
<b>Signaling switches</b>								
 NSE0_00946 3WL9111-0AH02-0AA0			3WL9111-0AH02-0AA0 1,870					
<b>External current transformers for N conductor</b>								
 NSE0_00990a 3WL9111-0AA2-0AA0	<table border="1"> <thead> <tr> <th>Size</th> </tr> </thead> <tbody> <tr> <td>I</td> </tr> <tr> <td>II</td> </tr> <tr> <td>III</td> </tr> </tbody> </table>	Size	I	II	III	3WL9111-0AA21-0AA0 13,700 3WL9111-0AA22-0AA0 15,900 3WL9111-0AA23-0AA0 20,400		
Size								
I								
II								
III								



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