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version

Edition  
2022-R1

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# Air Circuit Breakers

สารบัญ

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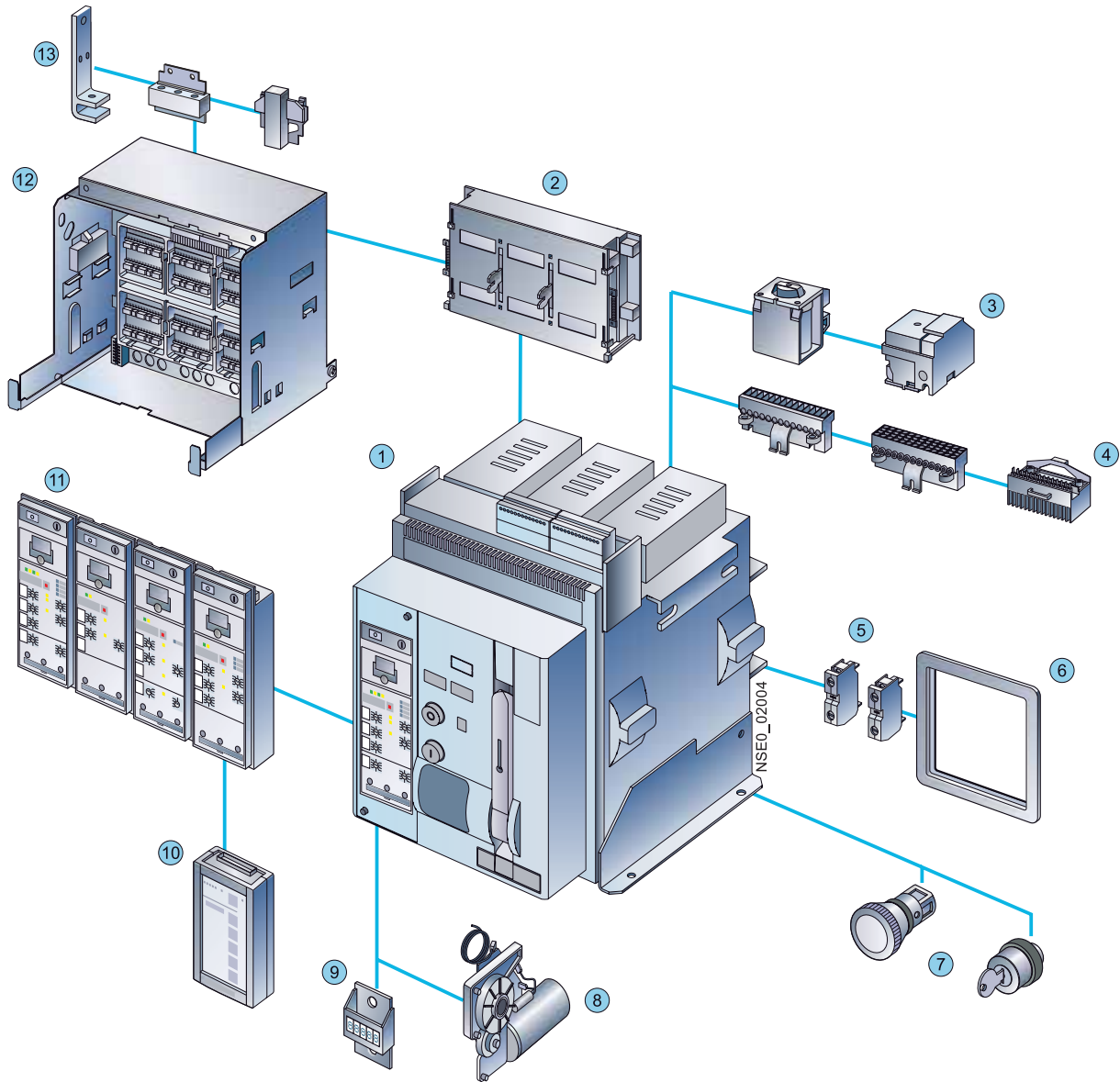




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## 3WT Air Circuit Breakers

## 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

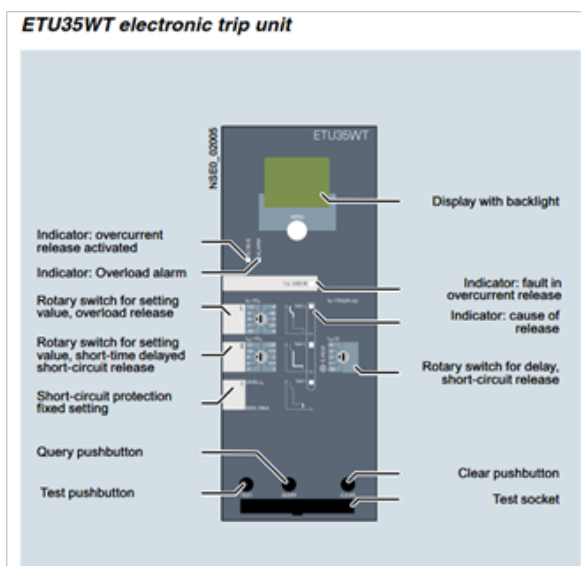
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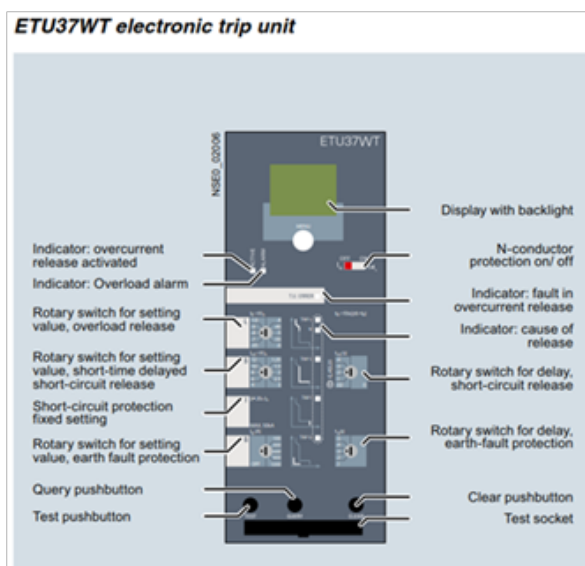
3WT Air Circuit Breakers  
Flexibility and reliability up to 66kV 4000A

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



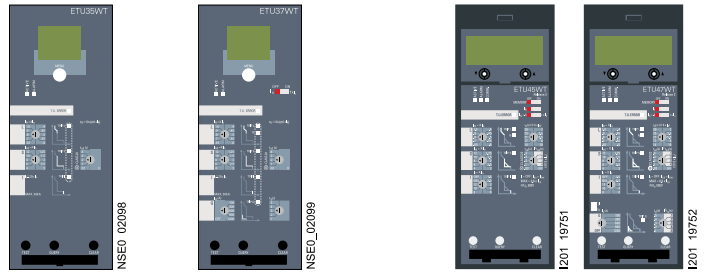
ETU37WT ฟังก์ชัน LSING

# 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><b>L</b> Overload protection Function can be switched on/off Setting range <math>I_R = I_n \times \dots</math> Setting range for time-lag class <math>t_R</math> at <math>I^2t</math> Thermal image can be switched on/off Phase failure sensitivity at <math>t_{sd} = 20</math> ms (M)</p> <p><b>N</b> Neutral conductor protection Function can be switched on/off N conductor setting range <math>I_N = I_n \times \dots</math></p> <p><b>S</b> Short-time delayed short-circuit protection Function can be switched on/off Setting range <math>I_{sd} = I_n \times \dots</math> Setting range for delay time <math>t_{sd}</math> Switchable short-time delayed short-circuit protection (<math>I^2t</math>-dependent function) Setting range for delay time <math>t_{sd}</math> at <math>I^2t</math></p> <p><b>I</b> Instantaneous short-circuit protection Function can be switched on/off Setting range <math>I_i = I_n \times \dots</math></p>	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
	✓	✓	✓
<p><b>G</b> Ground-fault protection Tripping function can be switched on/off Detection of the ground-fault current through summation current formation with internal or external neutral conductor transformer Detection of ground-fault current through external transformer Setting range of the operating current <math>I_g</math> for release Setting range of the delay time <math>t_g</math> Switchable ground-fault protection characteristic curve (<math>I^2t</math>-dependent function) Setting range for delay time <math>t_g</math> at <math>I^2t</math></p>	--	✓	✓ (only ETU47WT)
	--	✓	✓ (only ETU47WT)
	--	3	✓ (only ETU47WT)
	--	--	3 (only ETU47WT)
	--	OFF-100-300-600-900-1200	OFF-100-300-600-900-1200 (only ETU47WT)
--	100-200-300-400-500 ms	100-200-300-400-500 ms (only ETU47WT)	
--	--	✓ (only ETU47WT)	
--	--	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	II							
Type			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.

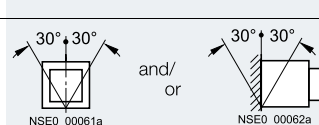
3) The temperatures apply to the air surrounding the upper third of the circuit breaker.

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 × 100 × 10	3 × 100 × 10	3 × 100 × 10	4 × 120 × 10	4 × 120 × 10
	Copper bars, painted black	Qty. mm <sup>2</sup>	2 × 80 × 10	2 × 100 × 10	3 × 100 × 10	4 × 100 × 10	4 × 100 × 10
Auxiliary conductors (Cu) 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>				
Weights	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	630 800 1000 1250 1600	55	50kA*	3WT80 60-5AA00-0AA2	87,490	3WT80 60-5AA04-5AA2	105,930
				3WT80 80-5AA00-0AA2	90,230	3WT80 80-5AA04-5AA2	109,170
				3WT81 00-5AA00-0AA2	92,600	3WT81 00-5AA04-5AA2	111,330
				3WT81 20-5AA00-0AA2	96,340	3WT81 20-5AA04-5AA2	115,660
				3WT81 60-5AA00-0AA2	108,920	3WT81 60-5AA04-5AA2	130,790
Horizontal main circuit connection							
I	630 800 1000 1250 1600	66	50kA	3WT80 61-5AA00-0AA2	93,680	3WT80 61-5AA04-5AA2	117,700
				3WT80 81-5AA00-0AA2	96,560	3WT80 81-5AA04-5AA2	121,300
				3WT81 01-5AA00-0AA2	99,200	3WT81 01-5AA04-5AA2	123,700
				3WT81 21-5AA00-0AA2	103,160	3WT81 21-5AA04-5AA2	128,500
				3WT81 61-5AA00-0AA2	116,620	3WT81 61-5AA04-5AA2	145,320
II	2000 2500 3200	66	66	3WT82 02-5AA00-0AA2	133,310	3WT82 02-5AA04-5AA2	166,930
				3WT82 52-5AA00-0AA2	174,140	3WT82 52-5AA04-5AA2	217,380
				3WT83 22-5AA00-0AA2	214,970	3WT83 22-5AA04-5AA2	266,620
Vertical main circuit connection							
II	4000	66	66	3WT84 02-5AA01-0AA2	347,930	3WT84 02-5AA05-5AA2	435,180
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	53,930	UA3	53,930
Under-voltage release (ตำแหน่งที่ 10)							
Under voltage Release instantaneous							
V AC 50/60 Hz		V DC					
208-240		220-250		N		7,360	
380-415		-		P		7,360	
Under voltage Release with time delay							
V AC 50/60 Hz		V DC					
208-240		220-250		V		10,540	
380-415		-		W		10,540	

\*  $I_{cw}/500V$  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	128,090 130,830 133,200 136,940 149,520	3WT80 60-6AA04-5AA2 3WT80 80-6AA04-5AA2 3WT81 00-6AA04-5AA2 3WT81 20-6AA04-5AA2 3WT81 60-6AA04-5AA2	146,530 149,770 151,930 156,260 171,390
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	134,280 137,160 139,800 143,760 157,220	3WT80 61-6AA04-5AA2 3WT80 81-6AA04-5AA2 3WT81 01-6AA04-5AA2 3WT81 21-6AA04-5AA2 3WT81 61-6AA04-5AA2	158,300 161,900 164,300 169,100 185,920
II	2000 2500 3200	66	66	3WT82 02-6AA00-0AA2 3WT82 52-6AA00-0AA2 3WT83 22-6AA00-0AA2	173,910 214,740 255,570	3WT82 02-6AA04-5AA2 3WT82 52-6AA04-5AA2 3WT83 22-6AA04-5AA2	207,530 257,980 307,220
Vertical main circuit connection							
II	4000	66	66	3WT84 02-6AA01-0AA2	388,530	3WT84 02-6AA05-5AA2	475,780
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	53,930	UA3	53,930
Under-voltage release (ตำแหน่งที่ 10)							
Under voltage Release instantaneous							
V AC 50/60 Hz		V DC					
208-240		220-250		N	7,360	N	7,360
380-415		-		P	7,360	P	7,360
Under voltage Release with time delay							
V AC 50/60 Hz		V DC					
208-240		220-250		V	10,540	V	10,540
380-415		-		W	10,540	W	10,540

\* I<sub>cw</sub>/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	9,000			
2 NC and 2 NO	3WT9816-1CD00	10,900			
<b>Auxiliary release</b>					
	Rated control	Supply voltage			
	AC 50/60 Hz V	DC V			
Shunt release "r" 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	7,360	
Undervoltage release "r" (F3) instantaneous 0 ms, short-delay 200 ms	-- 220 ... 240 380 ... 415	24 220 ... 250 --	3WT9853-1JB00 3WT9853-1JK00 3WT9853-1JM00	7,360	
Undervoltage release "rc" (F8) can be delayed 0.2 ... 3.2 s	220 ... 240 380 ... 415	220 ... 250 --	3WT9854-1JK00 3WT9854-1JM00	10,560	
<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	39,220	
<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	46,950	
<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	9,230	
<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	35,300	
	Interlocking of three circuit breakers additional Bowden wire required for each circuit breaker Bowden wire (2 m)		3WT9866-8JA00	8,540	
	Bowden wire (3 m)		3WT9866-8JA01	10,920	
	Bowden wire (4.5 m)		3WT9866-8JA02	15,000	
<b>5-digit operating cycles counter</b>			3WT9864-0CA00	27,280	
<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	4,040	
<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	16,110 18,700
<b>Door sealing frame IP40</b>				3WT9886-0JA00	4,550
<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-□JA00		Mechanical interlocking	2 ตัว		
ราคาอุปกรณ์ 3WT (ไม่รวม CB,ATS)			179,200 บาท		
ชุดประกอบเบรคเกอร์		3WT8□□□-□UA3□-0AC2	Fix type		
ชุดประกอบเบรคเกอร์		3WT8□□□-□UA3□-5AC2	Withdraw		



SENTRON

## 3WL Air Circuit Breakers

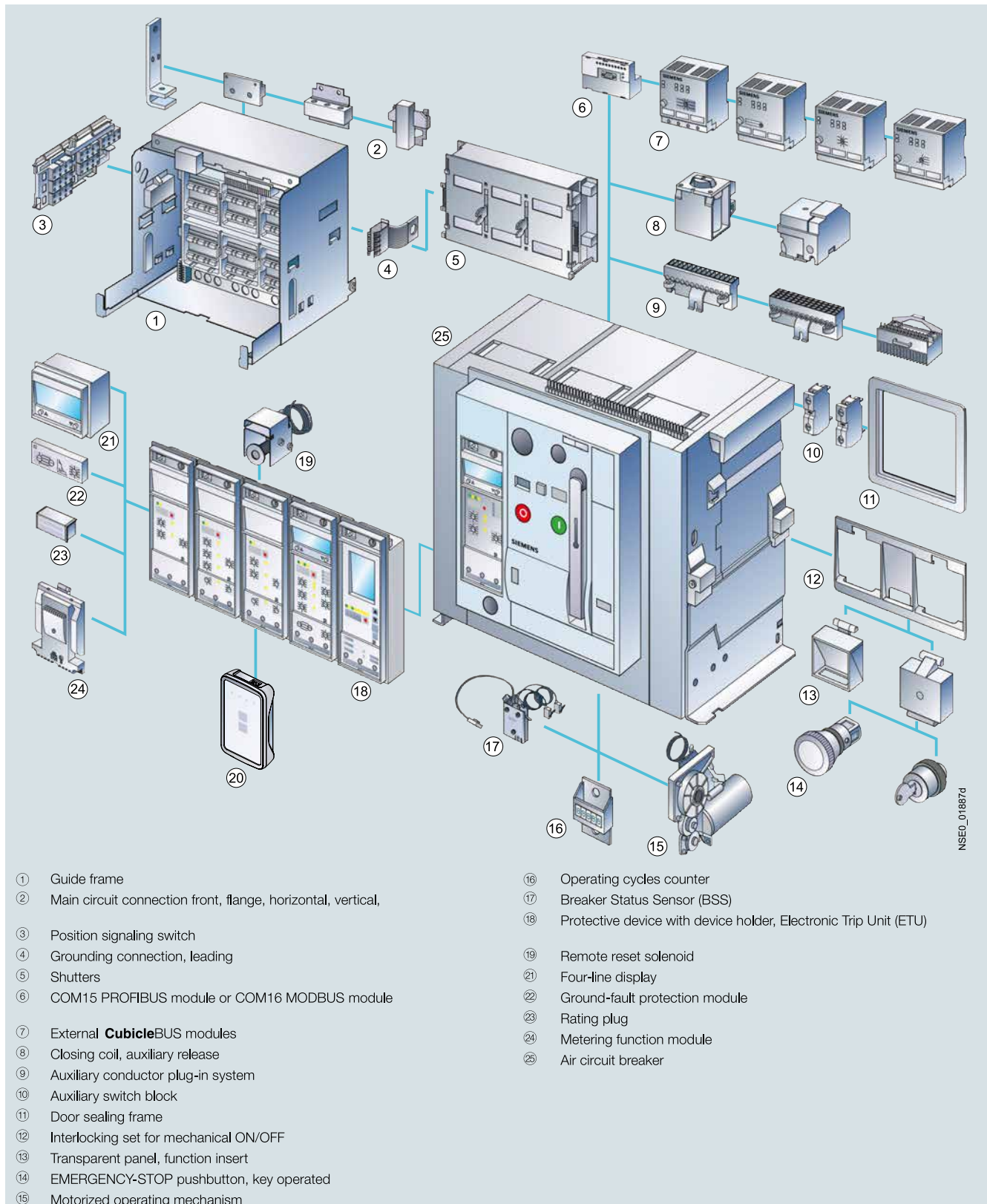
# 3WL Air Circuit Breakers up to 6300 A

## ข้อมูลผลิตภัณฑ์

### General data

#### ภาพรวมผลิตภัณฑ์

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



NSE0\_01887d

- |  |  |
|--|--|
| 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>CubicleBUS</b> 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

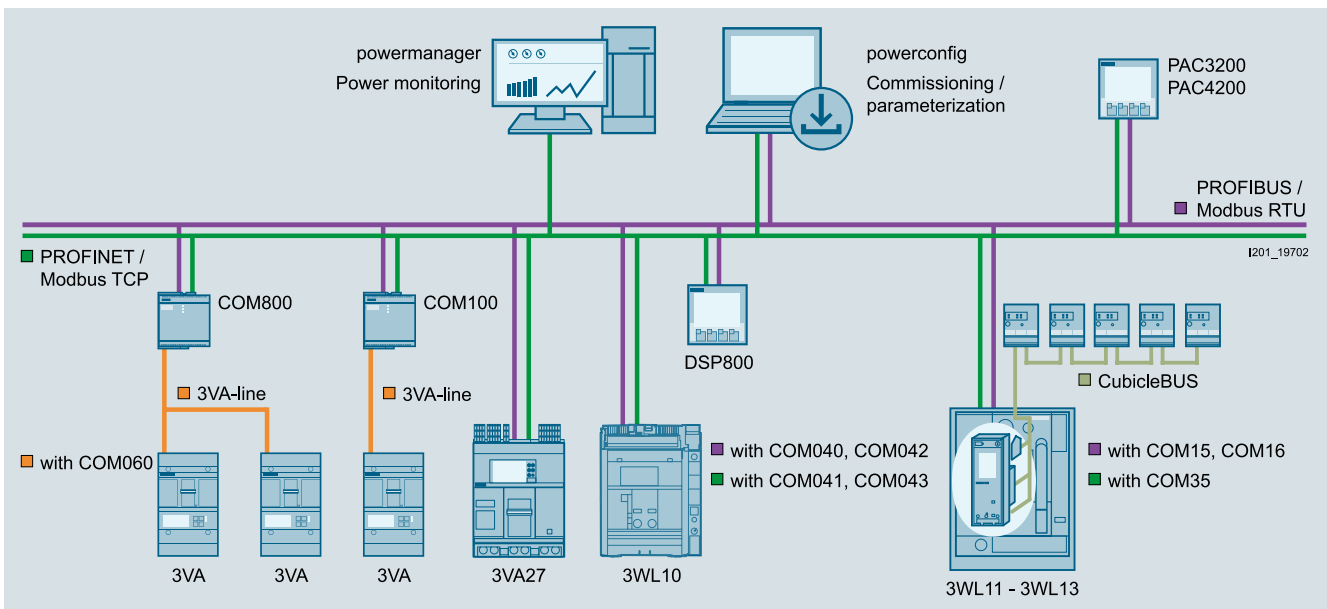


3WL Air Circuit Breakers

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.

#### 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.

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

- 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 Parameterization by	ETU15B D	ETU25B D	ETU27B D & S	
<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	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	117,260 119,680 126,670 141,030 162,620	3WL11 06-2CB66-1AA2 3WL11 08-2CB66-1AA2 3WL11 10-2CB66-1AA2 3WL11 12-2CB66-1AA2 3WL11 16-2CB66-1AA2	161,860 165,170 176,600 194,390 210,900
<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	130,740 133,400 134,670 144,470 164,050	3WL11 06-3CB66-1AA2 3WL11 08-3CB66-1AA2 3WL11 10-3CB66-1AA2 3WL11 12-3CB66-1AA2 3WL11 16-3CB66-1AA2	171,770 175,330 181,680 199,470 219,800
II	2000 2500 3200 4000**	66	66	3WL12 20-2CB62-1AA2 3WL12 25-2CB62-1AA2 3WL12 32-2CB62-1AA2 3WL12 40-2CB61-1AA2	197,090 250,730 315,590 471,510	3WL12 20-2CB66-1AA2 3WL12 25-2CB66-1AA2 3WL12 32-2CB66-1AA2 3WL12 40-2CB67-1AA2	266,810 334,140 426,890 608,570
<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	138,230 141,030 144,840 152,460 184,220	3WL11 06-4CB66-1AA2 3WL11 08-4CB66-1AA2 3WL11 10-4CB66-1AA2 3WL11 12-4CB66-1AA2 3WL11 16-4CB66-1AA2	176,600 180,410 182,950 203,280 238,850
II	2000 2500 3200 4000**	85	85	3WL12 20-3CB62-1AA2 3WL12 25-3CB62-1AA2 3WL12 32-3CB62-1AA2 3WL12 40-3CB61-1AA2	234,150 306,190 353,700 528,150	3WL12 20-3CB66-1AA2 3WL12 25-3CB66-1AA2 3WL12 32-3CB66-1AA2 3WL12 40-3CB67-1AA2	292,220 368,450 442,130 628,900
<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	243,940 318,900 368,450 550,130	3WL12 20-4CB66-1AA2 3WL12 25-4CB66-1AA2 3WL12 32-4CB66-1AA2 3WL12 40-4CB67-1AA2	304,920 383,690 461,190 655,580
III	4000 5000 6300**	100	100	3WL13 40-4CB62-1AA2 3WL13 50-4CB62-1AA2 3WL13 63-4CB61-1AA2	638,890 735,850 1,009,470	3WL13 40-4CB66-1AA2 3WL13 50-4CB66-1AA2 3WL13 63-4CB67-1AA2	782,340 848,760 1,164,880
III	4000 5000 6300**	150	100	3WL13 40-5CB62-1AA2 3WL13 50-5CB62-1AA2 3WL13 63-5CB61-1AA2	713,280 955,020 1,192,770	3WL13 40-5CB66-1AA2 3WL13 50-5CB66-1AA2 3WL13 63-5CB67-1AA2	856,730 1,111,750 1,510,230

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

\*\* All ACBs are with Horizontal terminals except 4000A (Size II) &amp; 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	171,590 174,010 181,000 195,360 216,950	3WL11 06-2DG66-1AA2 3WL11 08-2DG66-1AA2 3WL11 10-2DG66-1AA2 3WL11 12-2DG66-1AA2 3WL11 16-2DG66-1AA2	216,190 219,500 230,930 248,720 265,230
<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	185,070 187,730 189,000 198,800 218,380	3WL11 06-3DG66-1AA2 3WL11 08-3DG66-1AA2 3WL11 10-3DG66-1AA2 3WL11 12-3DG66-1AA2 3WL11 16-3DG66-1AA2	226,100 229,660 236,010 253,800 274,130
II	2000 2500 3200 4000**	66	66	3WL12 20-2DG62-1AA2 3WL12 25-2DG62-1AA2 3WL12 32-2DG62-1AA2 3WL12 40-2DG62-1AA2	251,420 305,060 369,920 525,840	3WL12 20-2DG66-1AA2 3WL12 25-2DG66-1AA2 3WL12 32-2DG66-1AA2 3WL12 40-2DG66-1AA2	321,140 388,470 481,220 662,900
<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	192,560 195,360 199,170 206,790 238,550	3WL11 06-4DG66-1AA2 3WL11 08-4DG66-1AA2 3WL11 10-4DG66-1AA2 3WL11 12-4DG66-1AA2 3WL11 16-4DG66-1AA2	230,930 234,740 237,280 257,610 293,180
II	2000 2500 3200 4000**	85	85	3WL12 20-3DG62-1AA2 3WL12 25-3DG62-1AA2 3WL12 32-3DG62-1AA2 3WL12 40-3DG62-1AA2	288,480 360,520 408,030 582,480	3WL12 20-3DG66-1AA2 3WL12 25-3DG66-1AA2 3WL12 32-3DG66-1AA2 3WL12 40-3DG66-1AA2	346,550 422,780 496,460 683,230
<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 40-4DG62-1AA2	298,270 373,230 422,780 604,460	3WL12 20-4DG66-1AA2 3WL12 25-4DG66-1AA2 3WL12 32-4DG66-1AA2 3WL12 40-4DG66-1AA2	359,250 438,020 515,520 709,910
III	4000 5000 6300**	100	100	3WL13 40-4DG62-1AA2 3WL13 50-4DG62-1AA2 3WL13 63-4DG62-1AA2	693,220 790,180 1,063,800	3WL13 40-4DG66-1AA2 3WL13 50-4DG66-1AA2 3WL13 63-4DG66-1AA2	836,670 903,090 1,219,210
III	4000 5000 6300**	150	150	3WL13 40-5DG62-1AA2 3WL13 50-5DG62-1AA2 3WL13 63-5DG62-1AA2	767,610 1,009,350 1,247,100	3WL13 40-5DG66-1AA2 3WL13 50-5DG66-1AA2 3WL13 63-5DG66-1AA2	911,060 1,166,080 1,565,560
				ราคาเพิ่มเติม (บาท)		ราคาเพิ่มเติม (บาท)	
<b>ETU45B with Ground Fault (ตำแหน่งที่ 9 และ 10) ***</b>				3WL1-----FG	7,630	3WL1-----FG	7,630

\* 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
		49,610
<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
		8,090
<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
		8,350
<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
		30,010
		30,010
		33,120
<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
		8,090
^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
		10,610
<b>ATS Set 630-6300A</b>	<b>Breaker 3WL</b>	2 ตัว
3WA9111-0AD06	Shunt release & Closing coil	4 ตัว
3WA9111-0AF06	Motorized operating	2 ตัว
3WL9111-0AH02-0AA0	Signaling switches	2 ตัว
3WL9111-0BB2□-0AA0	Mechanical interlocking	2 ตัว
ราคาอุปกรณ์ 3WL (ไม่รวม CB,ATS)		176,040 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

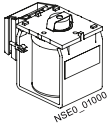
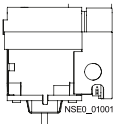
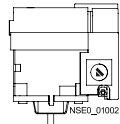
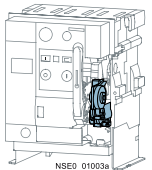
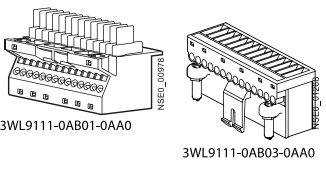


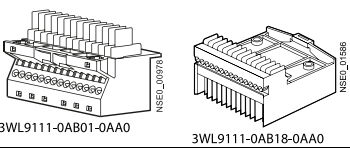
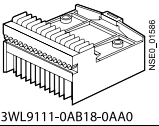
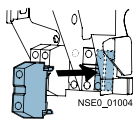

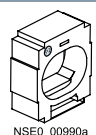
### Price List

#### 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	8,940
Transparent Cover for ETU25-45B (Not applicable for ACBs without ETU)	F40	3WL9111-0AT45-0AA0	1,940
Transparent Cover for above ETU45B (Not applicable for ACBs without ETU)		3WL9111-0AT46-0AA0	1,940
<b>Indication / operator control elements</b>			
5 digit mechanical operating cycle counter - only with motorised breakers	C01	3WL9111-0AH07-0AA0	12,710
Spring charge signal switch	C20	3WL9111-0AH08-0AA0	4,290
Electrical On button on front panel	C11	3WL9111-0AJ02-0AA0	2,190
Electrical on button on front panel with CES lock	C12	3WL9111-0AJ03-0AA0	7,880
EMERGENCY-STOP pushbuttons	S24	3WL9111-0BA72-0AA0	11,760
Motor shutdown switch in operator panel-only with motorised breakers	S25	3WL9111-0AJ06-0AA0	12,290
Ready to close signal switch	C22	3WL9111-0AH01-0AA0	5,820
Auxiliary switch for the first auxiliary release	C26	3WL9111-0AH02-0AA0	2,190
Auxiliary switch for the second auxiliary release	C27		
<b>Lockout device and remote reset</b>			
Trip signal switch	K07	3WL9111-0AH14-0AA0	3,620
Automatic reset of the reclosing lockout only for ACBs with ETU	K01	3WL9111-0AK21-0AA0	3,230
<b>Remote reset displays &amp; buttons with automatic reset of reclosing lockout</b>			
Remote reset solenoid 24 V DC	K10	3WA9111-0EM42	16,050
Remote reset solenoid 120 V AC/125 V DC	K12	3WA9111-0EM45	
Remote reset solenoid 208 ... 250 V AC/DC	K13	3WA9111-0EM46	
<b>Internal current sensor for N-conductor only for 4Pole circuit breaker</b>			
Size I	F23	3WL9111-0AA14-0AA0	5,820
Size II		3WL9111-0AA15-0AA0	7,060
Size III		3WL9111-0AA16-0AA0	10,580
<b>Communication</b>			
Breaker status sensor (BSS)	F01	3WL9111-0AT16-0AA0	21,760
Profibus communication connection (COM15+BSS)	F02	3WL9111-0AT12-0AA0	51,390
Modbus communication connection (COM16+BSS)	F12	3WL9111-0AT18-0AA0	
Profinet communication connection (COM35+BSS)	F35	3WL9111-0AT66-0AA0	67,030
<b>Measurement Function</b>			
Metering function Plus with internal lower	F36	-	51,360
Metering function Plus with internal upper	F37		
Metering function Plus with external voltage	F38		
<b>Safety Shutter for Guide (Drawout type)</b>			
Size I	R21	3WL9111-0AP04-0AA0	12,290
Size II		3WL9111-0AP06-0AA0	13,880
Size III		3WL9111-0AP07-0AA0	24,050
<b>Position signal switch for Guide Frame (Drawout type)</b>			
Connected ,Test ,Disconnected 1CO, 1CO, 1CO	R15	3WL9111-0AH11-0AA0	7,880
Connected ,Test ,Disconnected 3CO, 2CO, 1CO	R16	3WL9111-0AH12-0AA0	13,710
<b>Locking Device</b>			
Locking devices for operating mechanism handle with padlock	S33	3WL9111-0BA71-0AA0	7,120
Assembly kit for padlocks (Locking bracket for "OFF")	S07	3WL9111-0BA41-0AA0	4,270
Locking device on the front panel - Mounting Kit for Castell lock	S05	3WL9111-0BA31-0AA0	6,080
Against opening of the cubicle door in ON condition (Fixed type)	S30	3WL9111-0BB12-0AA0	7,880
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	9,050
To prevent movement of the withdrawable ACB (Ronis) (Drawout type)	S76	3WL9111-0BA77-0AA0	25,220
<b>Mechanical interlocking</b>			
Mutual mechanical interlocking (bowden wire) (Fixed type)	S55	3WL9111-0BB21-0AA0	28,110
Mutual mechanical interlocking (bowden wire) (Drawout type)	R55	3WL9111-0BB24-0AA0	
<b>Arc Chute Covers (Drawout type)</b>			
Size I	R10	3WL9111-0AS32-0AA0	15,650
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>		3WA9111-0AD02 3WA9111-0AD05 3WA9111-0AD06 8,100					
	<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>		3WA9111-0AE02 3WA9111-0AE05 3WA9111-0AE06 3WA9111-0AE07 8,350					
	<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>		3WA9111-0AF02 3WA9111-0AF05 3WA9111-0AF06 41,520					
	<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  NSE0_00979 3WL9111-0AB03-0AA0  NSE0_00980 3WL9111-0AB07-0AA0	<b>Fixed Version</b>		3WA9111-0AB01 + 3WA9111-0AB03 + 3WA9111-0AB07 3,760 3,060 2,580					
 NSE0_00978 3WL9111-0AB01-0AA0  NSE0_00986 3WL9111-0AB18-0AA0	<b>Withdrawable Version</b>		3WA9111-0AB01 + 3WL9111-0AB18-0AA0 3,760 6,240					
<b>Auxiliary contacts</b>								
 NSE0_01004 3WL9111-0AG03-0AA0	<b>Auxiliary switch blocks</b>		3WL9111-0AG01-0AA0 3WL9111-0AG02-0AA0 3WL9111-0AG03-0AA0 11,530 5,820 5,820					
	<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 2,190					
<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 3WL9111-0AA22-0AA0 3WL9111-0AA23-0AA0 16,110 18,700 23,990		
Size								
I								
II								
III								



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