

SIEMENS

SINOVA 3WJ **Air Circuit Breakers**

Efficient. Adaptable. Reliable



Overview

SINOVA 3WJ Air Circuit Breakers offer a comprehensive range of protection features for safe and reliable low voltage power distribution. Designed to comply with the latest international standards, providing a cost-efficient solution for infrastructure, buildings, utilities, and industrial applications – today and over the entire life cycle.



Key Features



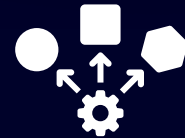
Adaptable

Common footprints for simple and quick integration.



Comprehensive

Available up to 4000A to cater to all your standard application needs.



Customizable

Complete flexibility for users to choose the right features ensuring cost-efficient performance.

Safe

Ensuring the safety of people and plants

- ✓ **Plant safety**
Precise protection for installations preventing from developing ground faults.
Less thermal stresses on busbar and cables.
- ✓ **People safety**
Closer protection for installations preventing ground faults.

Plant Safety

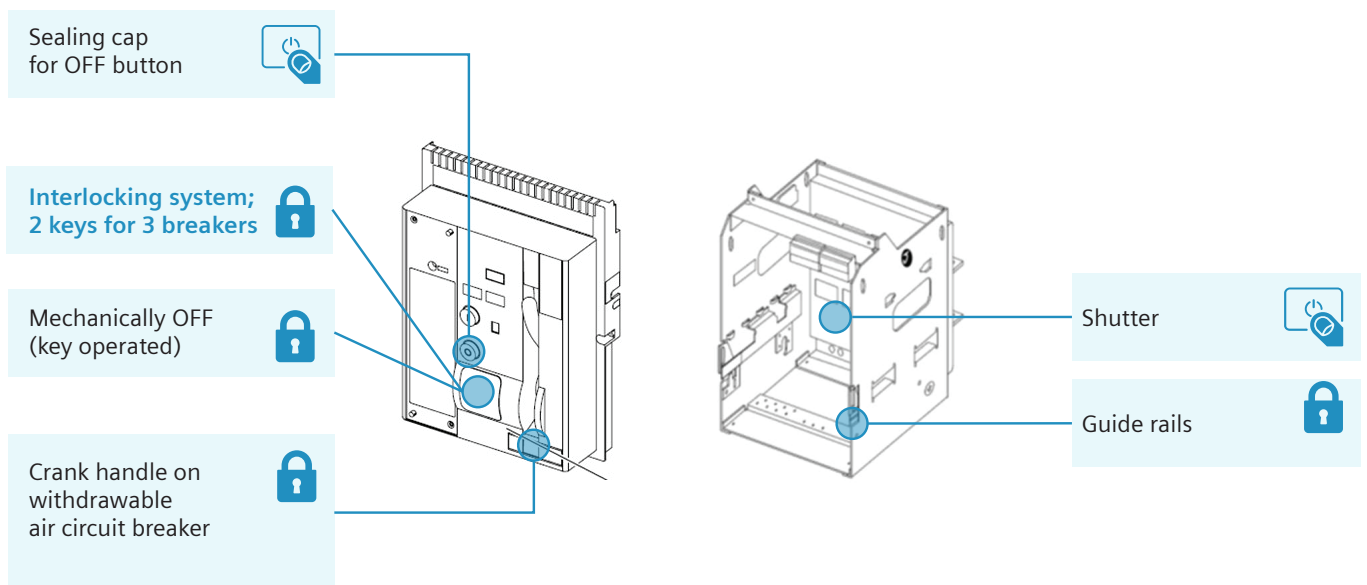
The ground fault current is depending on the Line to Neutral Voltage and fault loop impedance. Absolute settings are required so the G settings can be adjusted to the value closest to the calculated values in respective applications.

To solve this, the SINOVA 3WJ Air Circuit Breakers were designed to have settings that are available in absolute values.



People Safety

- ✓ Multiple standard features and optional features for safe operation



Efficient

Increased plant efficiency with reduced down time



Mechanical Contact Erosion Indicator

Plant operators are able to easily check the health of the air circuit breakers via the contact erosion indicators at periodic intervals enabling plant maintenance to be scheduled in advance.

This reduces the frequency of unplanned shutdowns and increases operation efficiency.

Unique Ready To Close Indicator



Facilitates start-up



Safe switching on

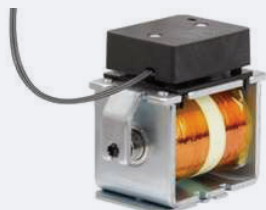


Faster fault analysis

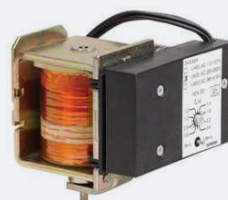
Customizable

Flexibility to select from a variety of accessories.

Shunt release



Undervoltage release



Motor for motorized operating mechanism



Switching cycle counter



Combination current sensor

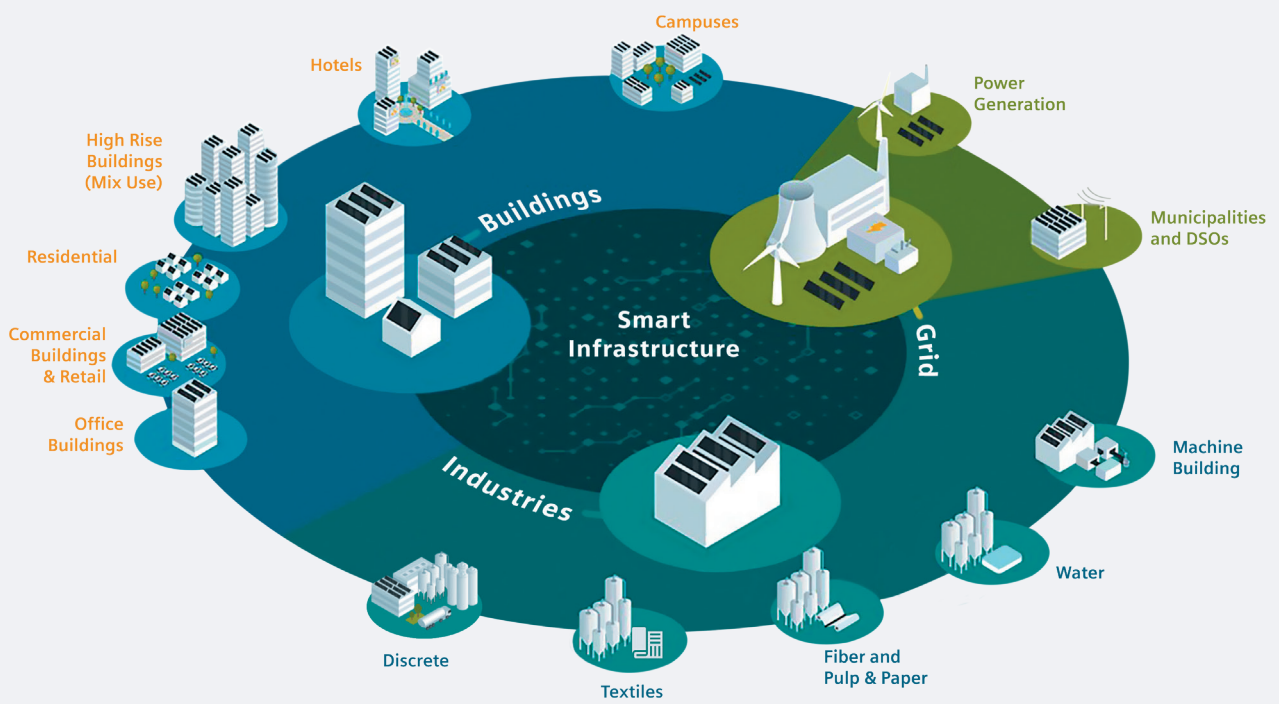


External current transformer for neutral



Subsequent retrofitting is possible at any time

Key Applications



Designed to address the pressing needs of all stakeholders in the project value chain

Power distribution is going through a paradigm shift as cost-efficiency is of paramount importance in today's building and industrial projects.

The fast pace of changing application requirements continues to escalate daily. This requires products and solutions that cater to the specific needs of each stakeholder in the value chain, starting from the project inception phase through to the operation and maintenance phase of projects.



Consultant

Cost-efficient solutions, delivered with shorter lead times are the top priority of consultants today.

Our range of SINOVA 3WJ Air Circuit Breakers provides cost-efficiency by offering consultants the flexibility of configuring each product to meet specific application needs.



Panel Builders

SINOVA 3WJ is a comprehensive range of air circuit breakers that caters to all standard applications up to 4000A. Designed with common footprints to existing air circuit breaker portfolios enabling simple and quick adaptation.

These features allow panel builders to deliver cost-efficient solutions to customers with short-lead times.



Contractors (EPC)

The demand for more cost-efficient, safe and adaptable solutions is ever increasing for contractors in the installations and commissioning phase of projects.

The pre-readiness for installation at the commissioning phase is a crucial time for contractors to ensure cost optimization and manage risk.

The SINOVA 3WJ Air Circuit Breakers allows time saving during installation and enables faster commissioning with:





- The availability of how-to videos and a comprehensive CAx library.
- Common footprints and complete flexibility in product selection.



End User



Designed for today's power requirements of safety, reliability and cost-efficiency that are of paramount importance for facility teams, the SINOVA 3WJ Air Circuit Breakers adheres to the latest international standards (IEC 604947-2). The common footprint feature helps to reduce OPEX by minimizing inventory and allowing for easy periodic upgrades with the availability of a wide range of accessories.

Product Range

	Rated currents In max (A)	Short Circuit breaking capacity I_{cu} / I_{cs} I_{cw} for 1s (kA)
Frame size II 	<ul style="list-style-type: none"> 4000A 3200A 2500A 2000A 	
Frame size I 	<ul style="list-style-type: none"> 1600A 1250A 1000A 800A 	

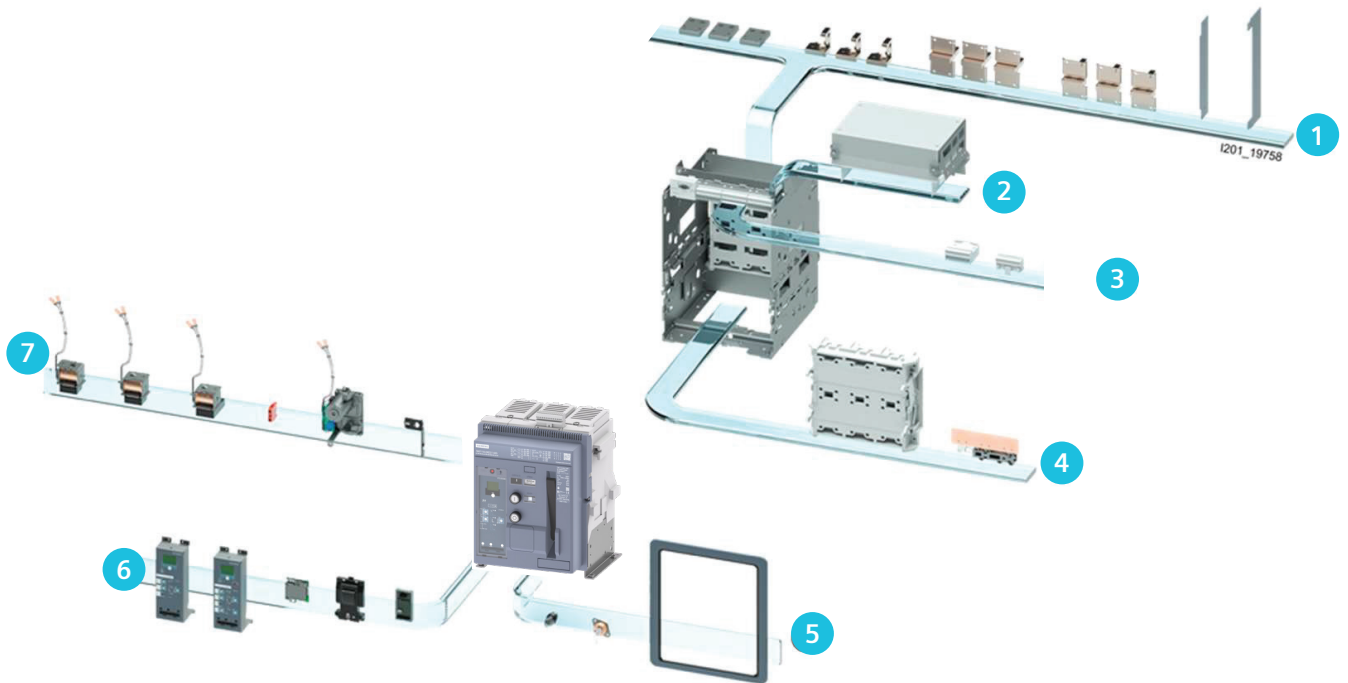
- ✓ 2 frame sizes
- ✓ 800A to 4000A
- ✓ Breaking capacity up to 55kA
- ✓ Suitable for Up to 440V AC
- ✓ 3-pole and 4-pole
- ✓ Fixed-mounted and withdrawable design
- ✓ Withdrawable version in various termination options e.g., H-H (as standard) / H-V / V-V / V-H

ETU variants to suit all standard applications

		
Type	ETU350WJ	ETU360WJ
Protective functions	L-S-I	L-S-I-N-G
LCD Display	✓	✓
Neutral conductor protection	-	✓
LEDs for fault annunciation	✓	✓
Overload (L)	✓	✓
Short Time Delayed Short Circuit (S)	✓	✓
Instantaneous Short Circuit (I)	✓	✓
Ground Fault (G)	-	✓

Accessories

Extensive, consistent and modular accessories to easily expand functions



- 1 Main connection, phase barrier
- 2 Arc chute cover
- 3 Auxiliary conductor plug-in system
- 4 Guide frame, shutter, position indicator switch
- 5 Door sealing frame, locks
- 6 Electronic trip unit (ETU)
- 7 Closing solenoid, auxiliary trip unit

MLFB Structure

Basic configuration for AC circuit breakers and AC non-automatic circuit breakers

3WJ1	5	6	7	8	9	10	11	12	13	14	15	16	Z
Closing coil													
without closing coil													A
Closing coil (CC)													
Closing coil	24V DC												B
Closing coil	110-127 V AC / 110-125 V DC												C
Closing coil	220-240 VAC / 220-250 VDC												D
1st Auxiliary release													
without 1st Auxiliary release													A
Shunt trip (ST)													
Shunt trip	24 V DC -- 100% OP												B
Shunt trip	110 ... 125 DC 110 ... 127 AC 100% OP												C
Shunt trip	220 ... 250 DC 220 ... 240 AC 100% OP												D
Undervoltage release (UVR), instantaneous (≤ 80 ms), short-delay (≤ 200 ms)													
UVR	24 V DC												E
UVR	110-127 V AC / 110-125 V DC												F
UVR	220-240 VAC / 220-250 VDC												G
UVR	380-415 V AC												H
Undervoltage release (UVR-t), can be delayed between 0.2 s and 3.2 s													
UVR-t	110-127 V AC / 110-125 V DC												J
UVR-t	220-240 VAC / 220-250 VDC												K
UVR-t	380-415 V AC												L
2nd Auxiliary release													
without 2nd Auxiliary release													0
Shunt trip (ST), suitable for continuous duty													
Shunt trip	24 VDC -- 100% OP												1
Shunt trip	110 ... 125 DC 110 ... 127 AC 100% OP												3
Shunt trip	220 ... 250 DC 220 ... 240 AC 100% OP												4
Z options													
Door Sealing Frame (IP41)													T40
Trip Unit Cover													F40
Position Signal Switch (1x connected, 1x test, 1x disconnected)													R15
Position Signal Switch (3x connected, 2x test, 1x disconnected)													R16
Neutral CT for 4th Pole ⁽²⁾													F23
Mutual Mechanical Interlock - Bowden for fixed breakers with 2m bowden cable													S55
Mutual Mechanical Interlock - Bowden for drawout breakers with 2m bowden cable													R55
Locking systems - Castell													S05
Door interlock - To prevent opening of the control cabinet door in ON position													S30
Door interlock - To prevent opening of the control cabinet door in Connected position													R30
5 digit operating counter													C01
Ready to Close													C22
Trip Signal Switch													K07
Special packaging													P61

Note: 4000A is available for fixed-mounted vertical ⁽¹⁾ and withdrawal vertical ⁽¹⁾
 4 Pole ACB doesn't include Neutral CT as standard ⁽²⁾

Technical specifications

Frame Size			
Type: Circuit Breaker according to IEC 60947-2, Non-Automatic according to IEC60947-2 CBI-Y			
Rated Current I_n at 40°C, at 50/60 Hz	Main conductor		A
	Neutral conductor (only 4P)		A
Rated operating voltage U_e at 50/60 Hz			AC V
Rated impulse	Main circuits		KV
	Auxiliary circuits		KV
Utilization category			
Rated short-circuit making capacity I_{cm} (peak value)	Breaking capacity	up to	
	S	440V AC	KA
Rated service short-circuit Breaking capacity I_{cs} (rms value)	Breaking capacity	up to	
	S	440V AC	KA
Rated ultimate short-circuit . Breaking capacity I_{cu} (rms value)	Breaking capacity	up to	
	S	440V AC	KA
Permissible ambient temperatures	Operation		°C
	Storage		°C
Rated short-time withstand current I_{cw} at 50/60 Hz		1 secs	KA
Power loss at I_n with 3-phase symmetric load	Fixed-mounted		W
	Withdrawable including Guide-frame		W
Endurance	mechanical		Operating cycle
	electrical up to 440V AC		
Operating Frequency	mechanical		1/h
Main conductor minimum cross-section	Copper bars, bare		Qty mm ²
	Copper bars, bare		Qty mm ²
Auxiliary conductors (Cu)	solid and		
max no of aux conductors x cross-section	finely stranded with end sleeves		



I



II

3WJ1108	3WJ1110	3WJ1112	3WJ1116	3WJ1220	3WJ1225	3WJ1232	3WJ1240
800	1000	1250	1600	2000	2500	3200	4000
100%							
440							
8							
4							
B							
105	105	105	105	121	121	121	121
50	50	50	50	55	55	55	55
50	50	50	50	55	55	55	55
-20...+70							
-40...+80							
50	50	50	50	55	55	55	55
60	90	122	170	216	338	420	750
130	205	255	392	493	563	760	960
12000	12000	12000	12000	10000	10000	10000	10000
8000	8000	8000	8000	4000	4000	4000	4000
60							
1x	2x	2x	2x	2x	2x	3x	4x
60 x 10	40 x 10	60 x 10	60 x 10	100 x 10	100 x 10	100 x 10	120 x 10
1x	2x	2x	2x	2x	2x	3x	4x
50 x 10	60 x 10	40 x 10	50 x 10	80 x 10	100 x 10	100 x 10	100 x 10
1 x 0.5 ... 2.5mm ² ; 1 x AWG14							
2 x 1.0 mm ²							

The SINOVA range of products are ideal for infrastructure, buildings, utilities and industrial applications. It packs full features for cost-efficient power distribution, switching and control that is both reliable and safe. The portfolio also features comprehensive product ranges that are designed for a variety of applications, giving users Siemens trusted quality. Simply Efficient, this is the SINOVA way.

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