



CHANGEOVER SWITCHES **35A-3200A**

THE RELIABLE AND
MODULAR
SOLUTION FOR
YOUR
TRANSFERS



INS-IN-DO-EN-81

KOHLER

SDMO

KOHLER-SDMO CHANGEOVER SWITCHES ARE PERFECTLY SUITED TO ALL POWER FAILURE SITUATIONS

Thanks to its expertise and knowledge in the energy business, KOHLER-SDMO offers a wide range of automatic changeover switches. SDMO Industries is able to meet all your requirements and adapt to each of your needs. The KOHLER-SDMO offer comprises 3 product ranges.

VERSO 100

This automatic changeover switch, which is reliable and simple to use, is equipped with the main functions of this type of equipment.

The range extends from 35 to 160A.



(IP31 control unit)



(IP54 control unit)

VERSO 150 D

The VERSO 150 D is a changeover switch sized to operate at an ambient temperature of 50 °C. The built-in mains detection relay has two fixed delays that prevent

unwanted start-ups following mains micro disconnections, and allow controlled power return when it has become stable again.

This range has been developed for markets subject to frequent major fluctuations in the mains power.

Three ratings are available: 63 A, 100 A and 160 A.



(IP55 control unit)

VERSO 200

The Verso 200 is an automatic changeover switch intended for larger installations.

This version is available from 200 to 630A in an IP20 metal control unit (IP55 on request) and from 800 to 3200A in an IP55 control unit.



(IP20 control unit)



(IP55 cabinet)

> ADVANTAGES OF THE PRODUCT (IDENTICAL FOR ALL 3 SOURCE CHANGEOVER SWITCHES)

- A complete product, supplied in the form of a fully assembled solution and tested according to standard IEC* 60947-6-1
- Double integrated power supply (autonomous)
- Padlocking can be configured in 3 positions (I, O, II)
- Robust switch-disconnector
- Clear mechanical indicator of the changeover switch position (I-O-II)
- Intrinsic mechanical locking
- Automatic genset start-up
- High dynamic resistance for even greater safety, in the case of a short circuit closure
- Presence of a manual control for all emergency interventions
- Simple and clear readout of the status of the installation

A protected power supply is available on the 3 equipment models, in order to supply the charger and preheat the water of the genset.

TECHNICAL SPECIFICATIONS

VERSO 100	VERSO 100 S					VERSO 100 D					
	Ratings (A)		35	63	100	125	160	35	63	100	125
Type	Three phase					Three phase					
Voltage range - Frequency	208/220/230/240v & 380/400/415/440 V - 50-60Hz					208/220/230/240v & 380/400/415/480 V - 50-60Hz					
Display and setting	Potentiometer					Via LCD display					
Voltage drop tolerated	20% of the nominal voltage @400V					30% of the nominal voltage @400V					
Maximum voltage tolerated by the equipment	288 V					305 V					
Protects against a change in the phase rotation direction	•					•					
Protection in "0" position	X					Immediate return to position 0 in the event of a fault					
Lightning arrester	X					O					
Confirmation of mains return	•					•					
EJP (for France only)	•					•					
Protection index	IP31					IP54					
Dimensions (h x w x d) mm	385 x 385 x 193					600 x 400 x 200					

VERSO 150D	Ratings (A)		
	63	100	160
Type	Three phase		
Voltage range - Frequency	230/400Vac 50-60Hz		
Display and setting	Potentiometer		
Adjustable voltage threshold	(+/-) 30% of 400Vac		
Voltage drop tolerated	320/480 Vac between phases		
Protects against a change in the phase rotation direction	•		
Lightning arrester	O		
EJP (for France only)	X		
Confirmation of mains return	X		
Protection index	IP65		
Dimensions (h x w x d) mm	500 x 400 x 200	500 x 500 x 250	

VERSO 200	Ratings (A)			
	200, 250, 400, 630	800, 1000, 1250, 1600 *	2000, 2500, 3200	
Type	Three phase			
Voltage range - Frequency	208/220/230/240v & 380/400/415/440 V - 50-60Hz			
Configuration	Auto-configuration of voltage/frequency min/max and configurable thresholds			
Display and setting	By LCD - Supplied with manually-operated key - Can be padlocked in manual mode			
Voltage drop tolerated	30% of the nominal voltage @400V			
Maximum voltage tolerated by the equipment	332 V			
Protects against a change in the phase rotation direction	•			
Lightning arrester	O (IP55)			
EJP (for France only)	• (configurable)	• (configurable)	• (configurable)	
Confirmation of mains return	• (configurable)			
Protection index	IP20 (55 on request)	IP55	IP55	
Inputs/outputs	3 configurable dry contact inputs/2 configurable relay outputs			
Dimensions (h x w x d) mm	840 x 640 x 450 IP55 : 1750 x 700 x 500	2150 x 900 x 700 *1600A : 2150 x 1100 x 700	2150 x 1100 x 900	

• Standard O Option X Not available

PART NUMBERS FOR ORDERS

In order to make it easy to place orders, please find below all of the KOHLER-SDMO part numbers. Please get in touch with your KOHLER-SDMO commercial contact and provide the desired parts list, below. Your contact is also available for any advice or opinions regarding the choice of source changeover switch.

Nominal voltage range	Verso 100 S		Verso 100 D		Verso 150 D	Verso 200	
	208 to 440V		208 to 480V		380 to 440V	208 to 440V	
Number of pole	3P	4P	3P	4P	4P	3P	4P
Ratings							
35A	INS353	INS354	INS353D	INS354D	X	X	X
63A	INS633	INS634	INS633D	INS634D	INS634CD	X	X
100A	INS103	INS104	INS103D	INS104D	INS104CD	X	X
125A	INS123	INS124	INS123D	INS124D	X	X	X
160A	INS163	INS164	INS163D	INS164D	INS164CD	X	X
200A	X	X	X	X	X	INB203	INB204
250A	X	X	X	X	X	INB253	INB254
400A	X	X	X	X	X	INB403	INB404
630A	X	X	X	X	X	INB633	INB634
800A	X	X	X	X	X	INB803	INB804
1000A	X	X	X	X	X	INB1003	INB1004
1250A	X	X	X	X	X	INB1253	INB1254
1600A	X	X	X	X	X	INB1603	INB1604
2000A	X	X	X	X	X	INB2003	INB2004
2500A	X	X	X	X	X	INB2503	INB2504
3200A	X	X	X	X	X	INB3203	INB3204

VERSO 100 S

The Verso 100 S is the first changeover switch offered as part of our industrial range. It covers three-phase ratings from 35 to 160A. It is one of the most compact solutions on the market.



(IP31 control unit)

> ADVANTAGES OF THE PRODUCT

- Adjustments made using potentiometers
- Complies with standard IEC* 60947-6-1
- Secure maintenance (no contact with conducting parts)
- Handle for manual emergency operation supplied as standard
- EJP function (without management of EJP priority) - (for France only)
- Kit for earthing neutral
- Programmable timings
- Stable positions not affected by vibrations and impacts
- Monitoring by a microprocessor

VERSO 100 D

This product is a more advanced automatic changeover switch. It is available, as standard, with the IP54 protection rating. The Verso 100 D is available up to 160A.



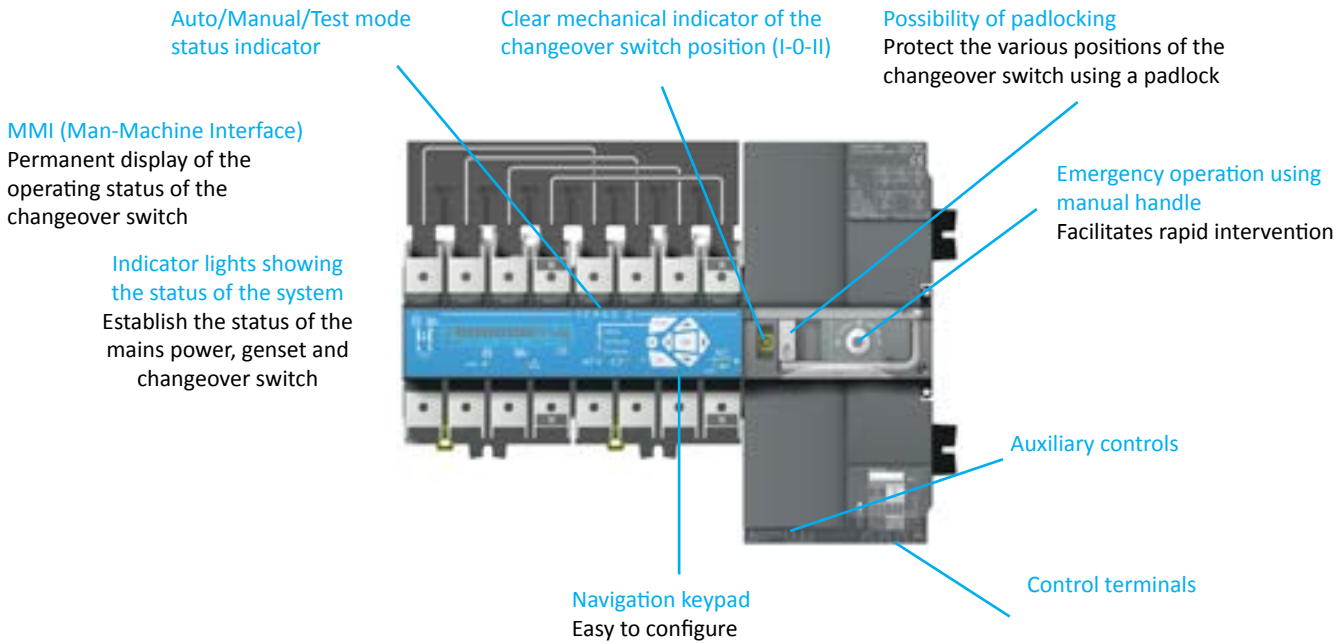
Removable panel

(IP54 control unit)

> ADVANTAGES OF THE PRODUCT

- Adjustments (thresholds and timings) facilitated by a MMI
- Complies with standard IEC* 60947-6-1
- One of the most compact solutions on the market
- Secure maintenance (no contact with conducting parts)
- Handle for manual emergency operation (supplied as standard)
- Monitoring by a microprocessor
- Return to position 0 in the event of faults on the mains power side
- Lightning arrester
- Possibility of up to 480V
- Complete EJP function (for France only)
- IP54 wall-mounted control unit with panel
- The cables can be installed through the top or bottom, which makes connection easy. The control unit is therefore suited to all situations.
- Programmable timings

*IEC: the "International Electrotechnical Commission" or the "Commission électrotechnique internationale" (CEI) in French, is the international standardisation organisation responsible for the fields of electricity, electronics, electromagnetic compatibility, nanotechnology and related techniques. It complements the International Organisation for Standardisation (ISO), which is responsible for other fields.



VERSO 150 D

The VERSO 150 D is a robust changeover switch sized to operate at an ambient temperature of 50 °C. It comprises two SCHNEIDER switches.



> ADVANTAGES OF THE PRODUCT

- A three-phase mains detection relay with voltage thresholds adjustable to +/-30% and a «Phase rotation» monitoring function
 - A fixed 3-second fixed delay prevents unwanted start-ups following mains micro disconnections
 - A power return delay (1 minute fixed) to ensure that mains power has been restored before the installation is switched to the mains
- A set of reliable, robust SCHNEIDER switches
- Protection of changeover switch control components via three-pole circuit breaker
- Protection of a single-phase output to the generator auxiliaries via single-phase circuit breaker
- Optional lightning arrester
- Connection of the load to terminals and directly to switches for the mains and the generator
- Two dedicated terminals for connecting the generator starting order
- Test on load switch on the front of the control unit
- Voltage on indicator lights for both sources on the front
- Closing indicator lights for both switches on the front



Verso 200 en Coffret IP20

VERSO 200

The Verso 200, available from 200 to 3200A is autonomous and complete. This changeover switch is perfectly suited to low voltage industrial applications.

> ADVANTAGES OF THE PRODUCT

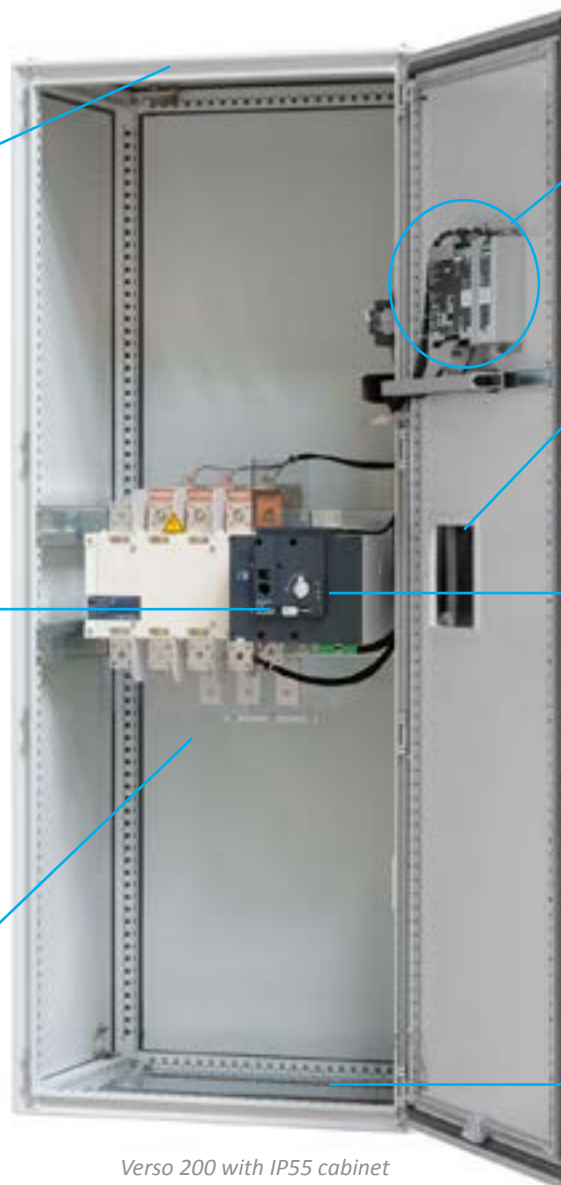
- **Detachable mains measurement board:** in the event of damage due to a mains overvoltage situation, only the mains measurement board needs to be replaced.
- **Reduced wiring:** the source changeover switch is connected as close as possible to the network protection with an emergency genset installed at a distance.
- **By programming:** the product is fully adaptable to the customer's network
- **Electrical measurements of the mains power and genset:** indicates the status of the installation, fault finding, settings ...
- **Continuity of service:** in the event of a motorisation fault, the supply to the installation is maintained.
- **Protection:** protection present for the genset auxiliaries.
- **Adaptability to unstable networks:** this control unit is suited to all types of unstable networks.
- **Event history**

Removable panel to allow cables to be routed through the top
Adaptability to all types of installation



Possibility of padlocking
Protect the various positions of the changeover switch using a padlock

Considerable space available to connect cables
Ease of installation



Position of the PLC

Vision panel easy access

Clear mechanical indicator of the changeover switch position (I-0-II)
Establish the position of the changeover switch



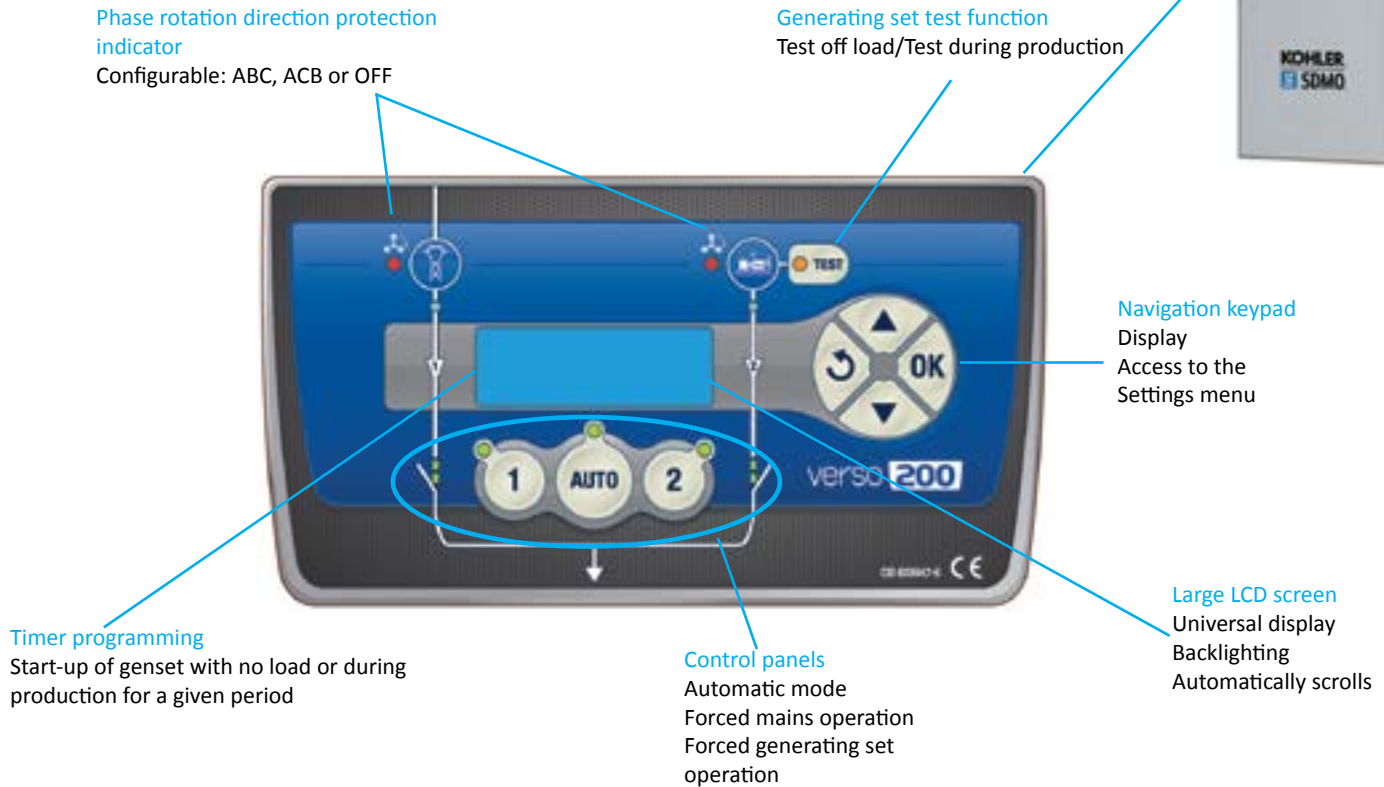
Possibility of manual switching by the user

Removable panel to allow cables to be routed through the bottom
Adaptability to all types of installation

Verso 200 with IP55 cabinet

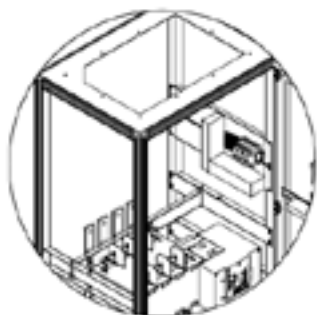
Verso 200 with IP55 cabinet

Verso 200 control automaton

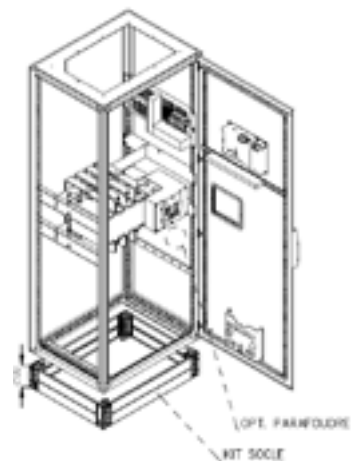


> ADVANTAGES OF OPTIONS

- **Simplified connection through the top**
On the IP55 control unit, all connections are made through the bottom but with the possibility, on request, to add the "connection through the top" option.
This feature includes inversions:
 - of the bus bars
 - of the voltage references
 - of the protection connections
 - of the auxiliary connections
 In addition, for the 800A to 3200A changeover switches, this option includes removal of the roof and supply of the cable gland panel.



- **Lightning arrester (IP55 version)**
- **IT neutral system**
For an installation with an IT neutral system, a charge will be incurred (see price list).
- **Base kit**
The kit allows the source changeover switch to be raised. This option is only available with an IP55 configuration from 200 to 3200 A.



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**INDUSTRIAL
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