

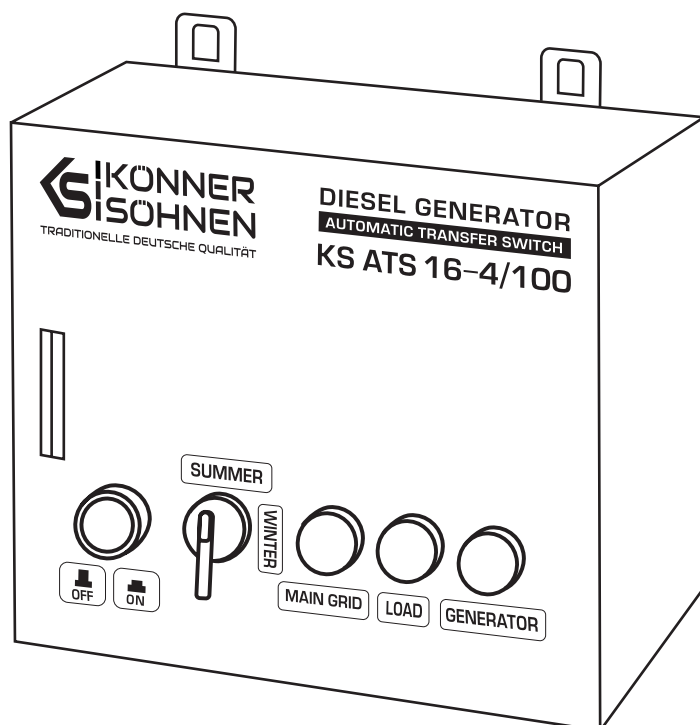
Please, read this manual
carefully before use!

Manual



Automatic Transfer Switch (ATS) (ATS version for KS 16 series generators with DC30T controller)

KS ATS 16-4/100





Thank you for opting for **Könnner & Söhnen®** products. This manual contains a brief description of safety, setup and use. More information can be found on the official importer's website in the support section: **konner-sohnen.com/pages/instructions**

You can also go to the support section and download the manual by scanning the QR code or on the website of the official importer of **Könnner & Söhnen®** at **www.konner-sohnen.com**



Please, read this manual carefully before use!

The manufacturer of **Könnner & Söhnen®** products reserves the right to make changes that may not be reflected in this manual, namely:

- The manufacturer reserves the right to make changes in the product design, configuration and construction.
- The images and drawings in this manual are for reference only and may differ from the actual components and inscriptions on the products.

Contact information that you are free to use in case of any problems can be found at the end of this manual. All information in this manual is correct to the best of our knowledge and belief at the date of its publication. The current list of service centers can be found on the official importer's website at **www.konner-sohnen.com**



ATTENTION – DANGER!



Failure to follow the recommendations marked with this sign may lead to serious injury or death of the operator or third parties.



IMPORTANT!



Useful information while operating the machine.

ATS UNIT USE AND SAFETY PRECAUTIONS

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WORK AREA

Do not use the product near flammable gases, liquids or dust. Keep the work area clean and well lit to avoid injuries. Keep unauthorized persons, children and animals away from the running product.

ELECTRICAL SAFETY

The product is energized. Observe safety precautions to avoid electric shock. Avoid operating the product in high-humidity environments. Do not allow moisture to enter the product, as this increases the risk of electric shock. Avoid direct contact with grounded surfaces (pipes, radiators, etc.). Be careful when working with the power cord. Replace it immediately in case of damage, as damaged power cord increases the risk of electric shock. All product connections must be carried out by a certified electrician in accordance with all electrical codes and regulations. Do not operate the product with your feet in the water, on wet or damp soil. Do not touch live parts of the product. Keep all electrical equipment dry and clean. Replace damaged or worn wiring. Worn, damaged, or rusted terminals must be replaced as well. The ATS unit belongs to electrical devices of protection class I and must be grounded. The ground bolts are located on the bottom of the case both inside and outside.

PERSONAL SAFETY

Do not operate the product when you are tired or under the influence of potent drugs, alcohol or medication. During operation, inattention can cause serious injury. Make sure there are no foreign objects on the product when it is turned on. Do not overload the product; use it for its intended purpose only.



PLEASE NOTE!

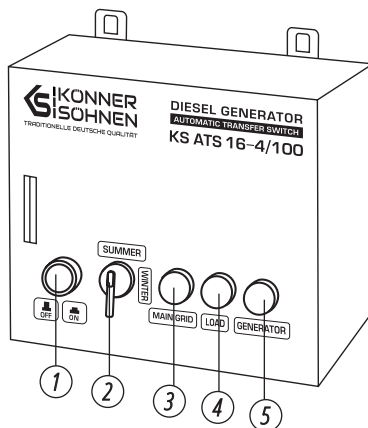


The current strength of consumers connected to the ATS system should not exceed the maximum permissible current strength of the switch (100A per phase) of this model of the ATS unit.

GENERAL VIEW OF THE ATS UNITS

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1. ATS power switch
2. Air heating switch
3. Main grid supply indicator
4. Power output indicator
5. Power supply indicator of generator set



IMPORTANT!



Manufacturer reserves the right to make changes and/or improvements in design, components set and technical attributes without notice and without incurring obligation. The pictures in this manual are schematical and may not match the parameters of original product.

SPECIFICATIONS

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Model	KS ATS 16-4/100	
Consumption	15 W	
Operating voltage	230 V	400 V
Power	23 kW	55 kW
Maximum current	100 A	100 A
Working environment	-50 °C до +45 °C; humidity: ≤ 50%	
Storage environment	-30 °C до +70 °C; humidity: ≤ 50%	
IP protection class	IP44	
Insulation class	AC1.0KV/1min 1mA	
Control cable length	10 m	
Net dimensions (L×W×H)	350×382×192 mm	
Net weight	12 kg	

ATS UNIT FUNCTION

The ATS unit automatically starts the generator and switches over power consumers to it when the main power supply is deenergized.



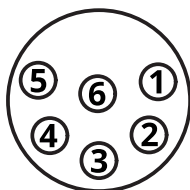
PLEASE NOTE!



Use the control cable to connect the ATS unit to the power generator. This ATS unit only fits Könnér & Söhnen diesel generators of the KS 16 series with the corresponding ATS connection.

OPERATING PROCEDURE

ATS CONNECTOR AND ITS CONNECTION



Number	Connection function
1 (red)	Power supply (12V+)
2 (yellow)	—
3 (green)	Feedback
4 (blue)	ATS signal
5 (black)	GND (-12V)
6 (white)	Air heating

1. The switchover time to the main power supply (MAIN GRID) is approximately 60 seconds after it is restored.
2. The generator continues to run for approximately 60 seconds after the load is transferred to the main power supply and then stops.
3. The heating time of the air heating system in summer mode is 0 seconds, and in winter mode it is 15 seconds.

AUTOMATIC MODE

The start key on the generator control panel should be in the OFF position.

Set the ATS unit main switch to "ON". Set the air heating switch according to the warm (SUMMER) or cold season (WINTER).

When the main power supply is disconnected, the ATS system automatically starts the generator in 10s±15 seconds. After 30 seconds following the generator startup, the system will switch over power consumers to the backup power source (generator).

In case of unsuccessful startup, the ATS system attempts to start the generator three times. If all three attempts are unsuccessful, the ATS unit will stop trying to start the engine and signal an error.

GENERATOR STOP IN THE AUTOMATIC MODE

If the generator was started in automatic mode, to stop it, turn the switch to the "OFF" position and shut down the generator using the ENGINE SWITCH button on the generator. Or press the emergency stop button.

TEST MODE

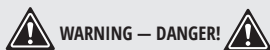
If it is necessary to start the generator without connecting it to the electrical network, turn the main switch of the ATS unit to the "OFF" position.

POWER SUPPLY OF THE ATS

The ATS unit has a built-in 12V power supply, which is connected to the generator battery via a control cable and supports it with maintenance voltage. The ATS unit is powered by the generator battery when the main power supply fails. The generator battery must be charged regularly (every 3 months) with a full-fledged charger for car batteries if the generator is rarely used.

DISCLAIMER:

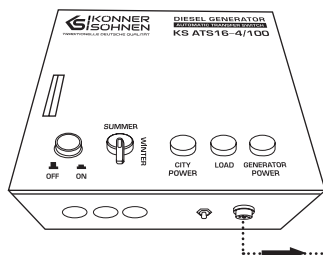
This material is for informational purposes only and does not constitute a manual for installing the equipment or connecting it to the mains, but we strongly recommend that you read the instructions below. Equipment connection must always be carried out by a certified electrician responsible for the installation and electrical connection of the equipment according to local laws and regulations. The manufacturer assumes no liability for improper connection of the equipment or for any material or physical damage that may result from improper installation, connection or operation of the equipment.



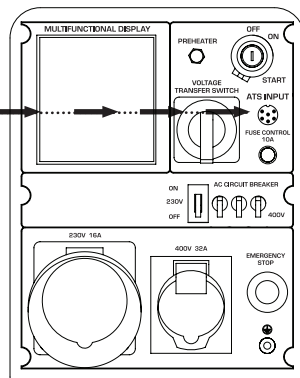
WARNING — DANGER!



Opening of ATS unit and its connection to the mains must be carried out only by qualified specialist. The product is under tension.

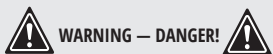


Connect the ATS to the generator using the generator automatic start control cable (supplied as a set with ATS)



WIRING DIAGRAMS

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WARNING — DANGER!



The ATS unit may only be tampered with and connected by a qualified technician. The product is live.

Open the ATS unit door. Cables from the main power source, generator and load (generator supported power consumers) are connected directly to the terminals of the changeover switch. Contact A is for L1, contact B is for L2, contact C is for L3 and contact N is for the neutral conductor. Cable from the generator is connected to the top rear of the changeover switch. Cable from the main power source (MAIN GRID) is connected to the top front of the changeover switch. Cable to the generator supported power consumers is connected to the bottom of the changeover switch. PE cables are connected to the earthing screw. The generator has no bridge between N and PE internally and only supplies IT network. A TN network must be built by earthing the generator's neutral conductor. To do this, you must put a bridge between N and PE (earth screw). The earthing screw must be connected to the earth..



Earthing screw (PE)

Power cables are connected directly to the transfer switch to ensure secure contact.

CONTROLLER MAIN TECHNICAL PARAMETERS KS ATS 16-4/100	
Rated insulation voltage of copper bar, U_i	690V
Rated impulse withstand voltage, U_{imp}	8 kV
Rated operating voltage of copper bar, U_e	AC400V
Use category	AC-33V
Rated operating current of copper bar, I_e	100
Rated short time withstand current	9 kA / 30ms
Transferring time I - II or II - I	2.5 s
Rated operating voltage of the control power supply, U_s	230V AC
Start	20W
Normal	20W
Net weight	3,4 kg

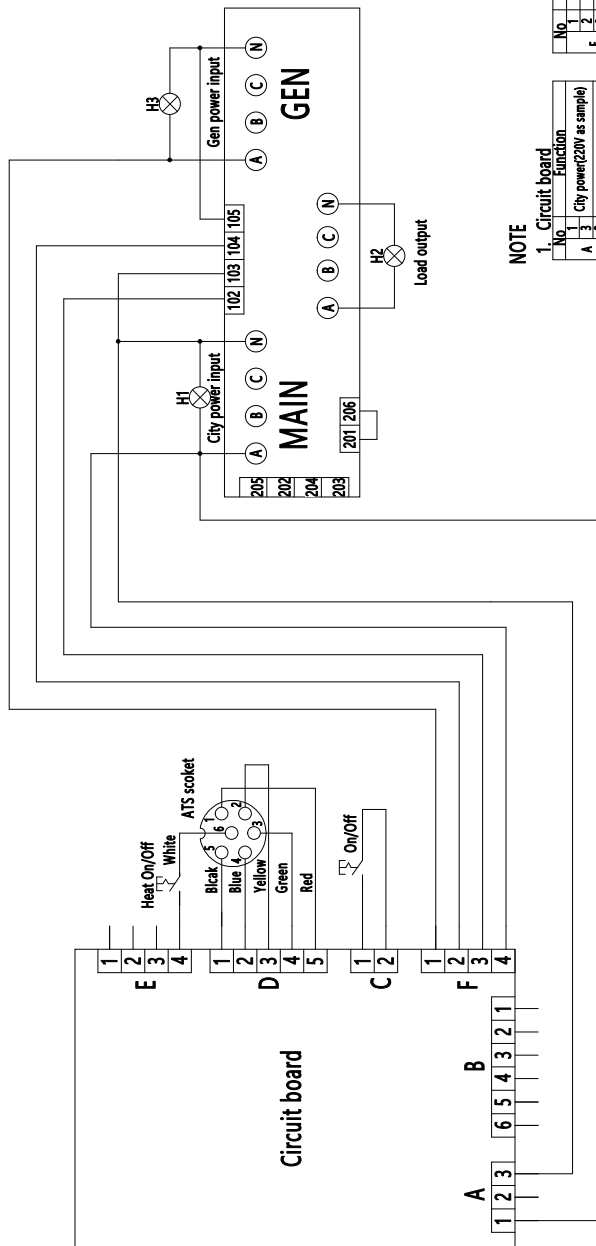
WARRANTY PROVISIONS

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The international manufacturer warranty is 1 year or 1000 hours (whichever comes first). The warranty period starts from the date of purchase. In cases when warranty period is longer than 1 year according to local legislation please contact your local dealer. The Seller which sells the product is responsible for granting the warranty. Please contact the Seller for warranty. Within the warranty period, if the product fails because of defects in the production process, it will be exchanged on the same product or repaired.

The warranty card should be kept throughout the warranty period. In case of warranty card loss, a second one will not be provided. The customer must provide the warranty card and buyer's check during request for repair or exchange. Otherwise, the warranty service will not be provided. The warranty card, attached to the product during sale, should be correctly and fully completed by the retailer and customer, signed and stamped. In other cases, warranty is not considered as valid.

Provide clean product to the service center. Parts, that must be replaced, are the property of the service center.



NOTE

No.	Function
1	City power(220V as sample)
A	1
2	2
1	Ground connection
2	Automatic/manual
B	3
3	Manual
4	Automatic power indication
5	City power indication
6	City power indication
C	1
2	Power switch
1	Ground
2	City power
3	City power
D	4
5	Signal
6	Power supply(2V+)
E	Standby application
1	1
2	2
3	3
4	4

No.	Function
1	2V+
2	2V+
3	2V+
4	2V+

2. ATS socket

No.	Color	Function
1	Red	Power supply(2V+)
2	Green	Veant
3	Blue	Feedback
4	Black	ATS signal
5	White	Ground
6	White	Inlet testing

3. Lights

No.	Color	Function
1	Red	City power
2	Red	City power
3	Red	City power
4	Red	City power
5	Red	City power
6	Red	City power



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