

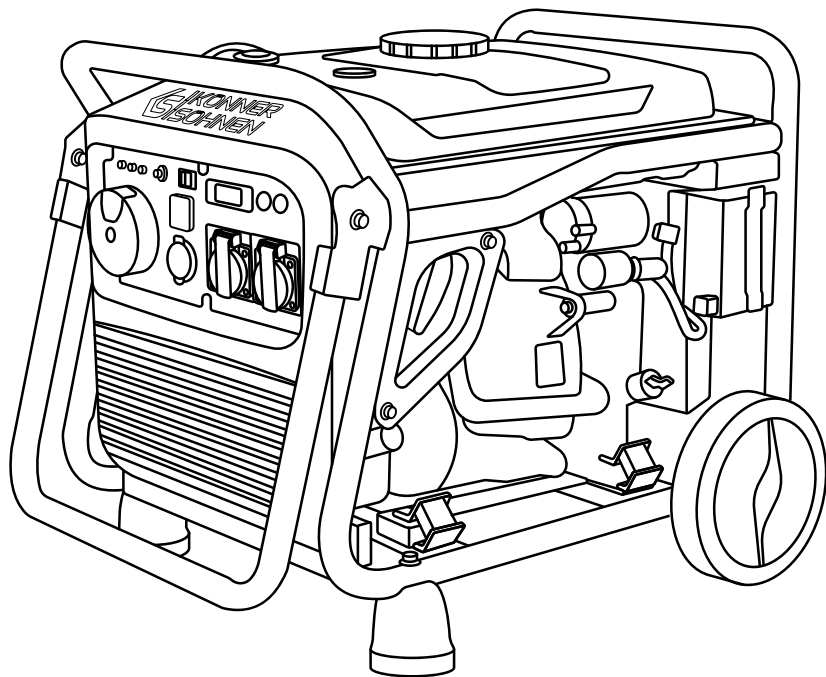
**Please, read this manual
carefully before use!**

Owner's Manual



Inverter Generator

KS 3300i
KS 4100iE
KS 4100iEG
KS 4500i
KS 4500iG
KS 6500iE
KS 8100iEG
KS 8100iE ATSR
KS 8100iEG 1/3
KS 8100iE 1/3 ATSR





Thank you for choosing **Könnér & 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 **Könnér & Söhnen®** at **www.konner-sohnen.uk**



We care about the environment, therefore, we consider it expedient to save paper and leave in print a short description of the most important sections.



Be sure to read the full version of the manual before getting started!



The manufacturer of **Könnér & 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 user manual is up-to-date as of the time of publication. The current list of service centers can be found on the official importer's website at **www.konner-sohnen.uk**



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.

SAFETY INFORMATION

1

Do not use the generator in rooms with poor ventilation or in conditions of excessive humidity. Do not place the generator in water or on moist soil. Do not expose the generator to rain, snow, as well as to direct sunlight for a long time. Place the generator on a flat, hard surface, away from flammable liquids/gases (at a minimum distance of 1 m). Install the generator at a distance of not less than 1 m from the front control panel and not less than 50 cm on each side, including the upper part of the generator. Keep unauthorized persons, children, and animals away from work area. Wear safety shoes and gloves.



ATTENTION – DANGER!



When using the generator, attention must be paid to the actual power consumption of the connected electrical devices, including the power factor ($\cos\varphi$) and the starting power, which for devices with motors can be several times higher than the rated power and must not exceed the maximum output of the generator.



ATTENTION – DANGER!



As exhaust gases contain poisonous carbon dioxide (CO_2) and carbon monoxide (CO) gases which are dangerous for life, it is strictly forbidden to install the generator in residential buildings, premises connected to residential buildings by a common ventilation system, other rooms from which exhaust gases may enter living premises.

ELECTRICAL SAFETY

1.1



ATTENTION – DANGER!



The device generates electricity. Follow safety precautions to avoid electric shock.



IMPORTANT!



The generator should be used as an IT or TN system based on the application. Earthing and additional protective measures such as insulation monitoring or protection against accidental contact (residual current device) must be provided based on the application and the system used.

The generator produces electricity that may lead to an electric shock while neglecting compliance regulations. Könnér & Söhnen generators were initially designed as an IT system with basic protection by insulation of hazardous live parts according to DIN VDE 0100-410. The generator housing is insulated from the current-carrying L and N conductors. A layperson without electrical knowledge may only connect one power consumer to the generator without additional protective measures. Connection of a distribution system with more than one consumer may only be carried out by qualified electricians or persons trained in electrical engineering, observing appropriate safety precautions.



ATTENTION – DANGER!



It is forbidden to connect to the generator devices which can generate current pulses and direct energy towards the generator (voltage stabilizers, devices with electronic brakes, on-grid and hybrid inverters, etc.).

The generator and power consumers form a closed system, with elements affecting each other. This system is physically different from the public network since it is significantly affected by factors such as unbalanced phase load and non-linear current consumption by power consumers that can cause damage to the generator and power consumers connected to it.



IMPORTANT!



Using device for other purposes deprives the right for free warranty.



ATTENTION – DANGER!



Be careful. Do not operate the generator, if you are tired, under the influence of drugs or alcohol. Inattention may cause a serious injury.

PRECAUTIONS WHEN WORKING WITH PETROL GENERATOR

1.2

Do not start the generator operation upon presence of electric load! Disconnect the load before you stop the engine. **Use only unleaded petrol with an octane rating of 90–95 containing no more than 10% ethanol.** The use of kerosene or any other type of fuel is not allowed! Always follow the manufacturer's recommendations regarding the shelf life and storage of fuel. The fuel in the tank comes into contact with air, which can affect its quality. Over time, depending on the quality of the fuel, deposits may accumulate in the float chamber of the carburetor, which must be drained regularly to ensure the carburetor functions properly. If the generator is not used for an extended period of time, we recommend completely draining the petrol from the carburetor and the tank via the drain screw on the carburetor to prevent the formation of deposits in the fuel system. Failure to follow these recommendations may lead to the damage of the carburetor.



ATTENTION – DANGER!



Fuel contaminates the land and groundwater. Do not allow the leaking petrol from the tank!

PRECAUTIONS WHEN WORKING WITH HYBRID GENERATOR

1.3



IMPORTANT!



For dual fuel models, propane-butane mixture for cars (LPG) or propane can be used as gas! It is forbidden to use any other gas!

Do not start the generator operation upon presence of electric load! Before usage make sure, that all the hoses are connected properly. In case of gas leakage, stop the gas flow from the source to generator and ventilate the room as soon as possible. For stopping gas powered engine: disconnect all the connected devices first, then close the gas valve, then turn off the engine. After that set the starter switch to OFF position and turn off the gas supply valve.



ATTENTION – DANGER!



Do not allow sparks near gas powered generator during its work.



ATTENTION – DANGER!



The gas cylinder valve must not be closed when the generator is not running. The generator must not be operated on gas in basements.



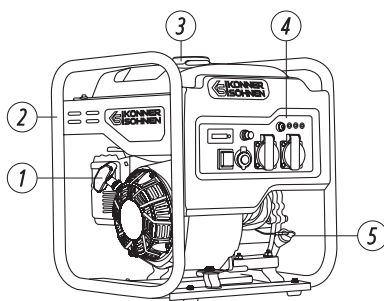
ATTENTION – DANGER!



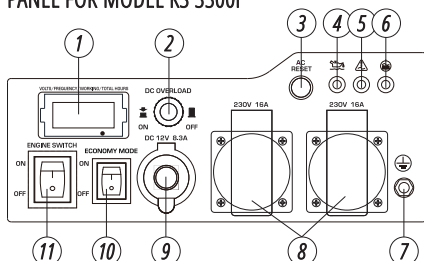
Pay attention! Usage of petrol together with liquefied gas is forbidden! When you operate using petrol, you must stop LPG supply. When you operate generator using LPG - you must stop petrol supply.

MODEL KS 3300i, KS 4500i, KS 4500iG

1. Manual starter
2. Frame
3. Fuel tank cap
4. Control panel
5. Oil-depth gage

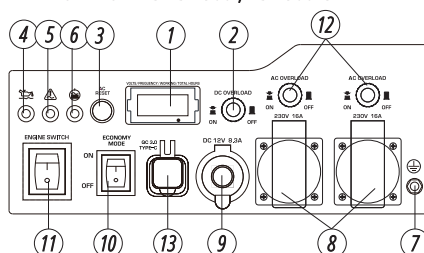


PANEL FOR MODEL KS 3300i



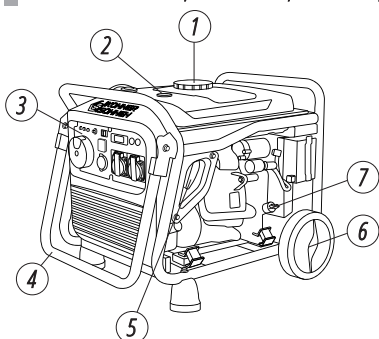
1. LED display
2. DC OVERLOAD
3. RESET
4. Oil level indicator
5. Overload indicator
6. Voltage indicator
7. Earthing bolt
8. AC outlets 2 x 13A 230V
9. DC 12V 8.3A outlet
10. ECONOMY MODE
11. ENGINE SWITCH

PANEL FOR MODELS KS 4500i, KS 4500iG



11. Engine switch
12. AC circuit breaker
13. USB QC 3.0 + Type C

MODELS KS 4100iE, KS 4100iEG, KS 6500iE, KS 8100iEG, KS 8100iE ATSR, KS 8100iEG 1/3, KS 8100iE 1/3 ATSR



1. Fuel tank cap
2. Fuel level indicator
3. Control panel
4. Carrying handles
5. Manual starter (only for models KS 4100iE, KS 4100iEG, KS 6500iE)
6. Transport wheels
7. Oil-depth gage

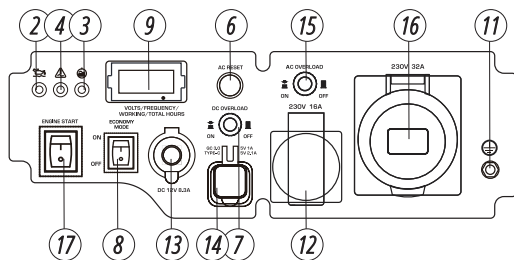


IMPORTANT!

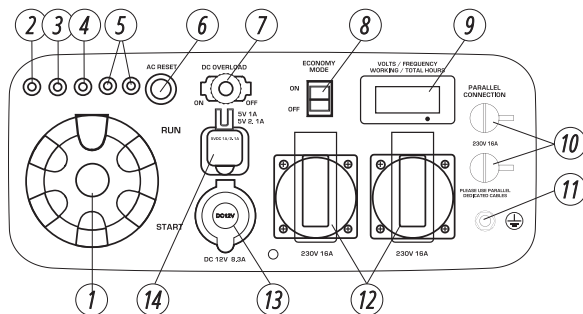


Manufacturer reserves the right to make changes and/or improvements in design, components set and technical attributes without notice and without incurring obligation. The pictures in this manual are schematic and may not match the parameters of original product.

PANEL FOR MODEL KS 6500iE



PANEL FOR MODEL KS 4100iE, KS 4100iEG, KS 8100iEG, KS 8100iE ATSR

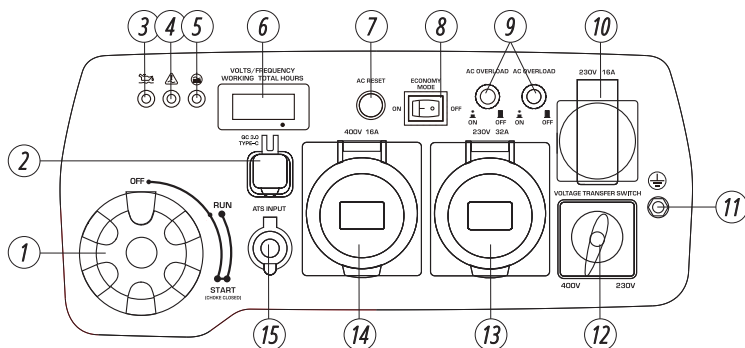


1. Multifunctional engine switch
2. Oil level indicator
3. Overload indicator
4. Voltage indicator
5. Fuel indicator (for DUAL-FUEL models)
6. Reset button
7. 12V DC fuse
8. ECONOMY MODE switch
9. LED display
10. Generator parallel socket (except for KS 6500iE and KS 8100 model modifications)

11. Earthing bolt
12. AC outlet 1 × 13A 230V for model KS 6500iE (for KS 8100 model modifications, sockets 1 × 13A 230V, 1 × 32A 230V)
13. 12V/8.3A DC outlet
14. USB QC 3.0 + Type C
15. AC circuit breaker
16. CEE 230V 32A outlet for model KS 6500iE
17. Engine start

Model KS 8100iE ATSR use a control panel with an ATS (Automatic Transfer Switch) output

PANEL FOR MODELS KS 8100iEG 1/3, KS 8100iE 1/3 ATSR



1. Multifunctional engine switch
2. USB QC 3.0 + Type C
3. Oil level indicator
4. Overload indicator
5. Voltage indicator
6. LED display
7. Reset button
8. ECONOMY MODE switch

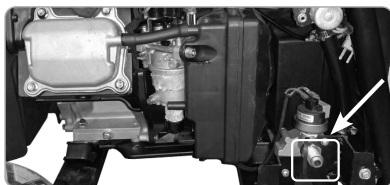
9. AC circuit breaker
10. AC outlet 1 × 13A 230V
11. Earthing bolt
12. 3 phase/1 phase mode switch (position 1 - 400V, position 0 - OFF, position 2 - 230V)
13. AC outlet 1 × 32A 230V
14. AC outlet 1 × 13A 400V
15. ATS input (for model KS 8100iE 1/3 ATSR)



In addition to the components shown in the figure of a petrol generator, a generator with a hybrid system (LPG/ petrol) is equipped with a hose for supplying LPG to the generator.

1. Built-in reducer.
2. Gas cylinder connection hose (1.5 m).

Connect the LPG hose to the LPG input



for models KS 4100iEG, KS 8100iEG

Model	KS 3300i	KS 4100iE	KS 4100iEG	KS 4500i	KS 4500iG
Voltage	230 V				
Maximum power	3300 W	4000 W	4000* W	4500 W	4500* W
Nominal power	3000 W	3600 0W	3600* W	4200 W	4200* W
Frequency	50 Hz				
Current (max.)	14,4 A	17,4 A	17,4 A	19,6 A	19,6 A
Outlets	1×13A	2×13A	2×13A	2×13A	2×13A
Engine start	manual	manual/electric	manual/electric	manual	manual
Fuel tank volume	7 l	12,5 l	12,5 l	13 l	13 l
Working time at 50% load (petrol fuel)**	7 h	8 h 5 min	8 h 5 min	9 h 10 min	9 h 10 min
LED display	voltage, frequency, working hours				
Noise level Lpa (7m)/Lwa	71/96 dB	70/95 dB	70/95 dB	72/97 dB	72/97 dB
Output 12V	12V/8,3A	-	-	12V/8,3A	12V/8,3A
USB + Type C	-	USB QC 3.0 + Type C	USB QC 3.0 + Type C	USB QC 3.0 + Type C	USB QC 3.0 + Type C
Engine model	KS 210i	KS 240i	KS 240i	KS 240i	KS 240i
Engine volume	208 cm³	223 cm³	223 cm³	223 cm³	223 cm³
Engine type	petrol, 4 stroke cycle engine	petrol, 4 stroke cycle engine	LPG/petrol 4 stroke cycle engine	petrol, 4 stroke cycle engine	LPG/petrol 4 stroke cycle engine
Engine power	5,5 hp	6,1 hp	6,1 hp	6,1 hp	6,1 hp
Generator parallel socket	-	-	+	-	-
Crankcase volume	0,6 l	0,6 l	0,6 l	0,6 l	0,6 l
Power factor, cos φ	1	1	1	1	1
ATS input	-	+	-	-	-
Dimensions (L×W×H)	450×380×460 mm	605×420×425 mm	605×420×425 mm	455×440×480 mm	455×440×480 mm
Lithium battery	-	1,6 Ah	1,6 Ah	-	-
Net weight	25,5 kg	36,7 kg	38 kg	33 kg	33 kg
Protection class	IP23M				
Nominal voltage tolerance – max. 5%					

*LPG operation reduces generator power by 10%.

**Fuel consumption depends on many factors, such as load, fuel quality, season, altitude, technical condition of the generator.

To ensure reliability and increase the engine service life, peak powers may be slightly limited by circuit breakers.

The optimal operating conditions are ambient temperature of 17-25°C, barometric pressure of 0.1 MPa (760 mm Hg), and relative humidity of 50-60%. Under these environmental conditions, the generator can provide maximum performance in terms of the declared specifications.

In the event of deviations from these environmental indicators, the generator performance may vary.

Please note that continuous loads exceeding 80% of the generator's rated power are not recommended in order to extend its service life.

Model	KS 6500iE	KS 8100iEG	KS 8100iE ATSR	KS 8100iEG 1/3		KS 8100iE 1/3 ATSR	
Voltage	230 V	230 V	230 V	230 V	400 V	230 V	400 V
Maximum power	6500 W	8500* W	8500 W	8500* W	8500* W	8500 W	8500 W
Nominal power	6000 W	8000* W	8000 W	8000* W	8000* W	8000 W	8000 W
Frequency	50 Hz						
Current (max.)	28.26 A	36.9 A	36.9 A	36.9 A	15.35 A	36.9 A	15.35 A
Outlets	2×13A 1×32A (230V)	1×13A, 1×32A (230V)	2×13A	1×13A, 1×32A (230V), 1×13A (400V)		1×13A, 1×32A (230V), 1×13A (400V)	
Engine start	manual/electric	electric	electric	electric		electric	
Fuel tank volume	17 l	20 l	20 l	20 l		20 l	
Working time at 50% load (petrol fuel)**	6 h	6 h	6 h	6 h		6 h	
LED display	voltage, frequency, working hours						
Noise level Lpa (7m)/Lwa	70/95 dB	70/95 dB	70/95 dB	70/95		70/95	
Output 12V	12V/8.3A	12V/8.3A	12V/8.3A	12V/8.3A		12V/8.3A	
USB + Type C	USB QC 3.0 + Type C	USB QC 3.0 + Type C	USB QC 3.0 + Type C	USB QC 3.0 + Type C		USB QC 3.0 + Type C	
Engine model	KS 310i	KS 480i	KS 480i	KS 480i		KS 480i	
Engine volume	305 cm³	458 cm³	458 cm³	458 cm³		458 cm³	
Engine type	petrol, 4 stroke cycle engine	LPG/petrol 4 stroke cycle engine	petrol, 4 stroke cycle engine	LPG/petrol 4 stroke cycle engine		petrol, 4 stroke cycle engine	
Engine power	10.4 hp	16 hp	16 hp	16 hp		16 hp	
Generator parallel socket	-	-	-	-		-	
Crankcase volume	0.8 l	1.1 l	1.1 l	1.1		1.1	
Power factor, cos φ	1	1	1	1		1	
ATS input	-	-	+	-		+	
Dimensions (L×W×H)	615×465×492 mm	715×505×555 mm	715×505×555 mm	715×505×555 mm		715×505×555 mm	
Lithium battery	1.6 Ah	1.6 Ah	1.6 Ah	1.6 Ah		1.6 Ah	
Net weight	42 kg	68 kg	68 kg	68 kg		68 kg	
Protection class	IP23M						
Nominal voltage tolerance – max. 5%							

* LPG operation reduces generator power by 10%.

** Fuel consumption depends on many factors, such as load, fuel quality, season, altitude, technical condition of the generator.

To ensure reliability and increase the engine service life, peak powers may be slightly limited by circuit breakers.

The optimal operating conditions are ambient temperature of 17-25°C, barometric pressure of 0.1 MPa (760 mm Hg), and relative humidity of 50-60%. Under these environmental conditions, the generator can provide maximum performance in terms of the declared specifications.

In the event of deviations from these environmental indicators, the generator performance may vary.

Please note that continuous loads exceeding 80% of the generator's rated power are not recommended in order to extend its service life.

TERMS OF USE OF INVERTER GENERATOR

4

It is recommended to ground the generator before operating it for the first time. Before starting the device, remember that the total power of the connected power consumers should not exceed the nominal power of the generator.

**IMPORTANT!**

Inverter generators produce 230 V at 50 Hz and must not be used as a replacement for the main power grid when powering devices designed to feed energy into the electrical grid (such as grid-tied inverters, hybrid inverters, microinverters, etc.). These devices may detect the 230 V 50 Hz output from the inverter generator as the main power supply and can damage the generator through backfeeding.

**IMPORTANT!**

Make sure that the control panel, the blinds and the underside of the inverter are well cooled and protected against the ingress of small solids, dirt, and water. Improper operation of the cooler can cause damage to the motor, inverter or alternator.

GENERATOR OPERATION

5

OIL LEVEL INDICATOR

The low oil indicator lights up when the oil level is too low. The ignition is deactivated and the engine stops. The engine will not start until oil is added.

RUN/OVERLOAD

When the generator is running normally, the AC lights up green. If there is an abnormality in the generator, the AC flashes red, the machine automatically protects and cuts off the output. Need to press the AC to reset.

The overload indicator lights up when the connected generator is overloaded, the inverter control unit overheats or the AC output voltage rises. If the overload indicator goes on, the engine will continue to operate, but the generator will no longer produce electricity. In this case, you must perform the following steps:

1. Turn off all connected electrical appliances and stop the engine.
2. Reduce the total power of the connected devices until the nominal power of the generator is reached.
3. Check if the vent grid is clogged. Remove excess dirt or debris, if any.
4. After checking, start the engine.

**IMPORTANT!**

The overload indicator may light up within several seconds after start-up or when connecting electrical devices requiring a high starting current, such as a compressor or voltage indicator. However, this is not a malfunction.

EARTHING BOLT

The generator described in this manual is designed as mobile power sources in an IT system with insulated live wires and are operated without grounding. The grounding screw and PE contacts in the sockets serve to equalize the potential. Please observe protective measures when operating multiple power consumers in the IT system. Grounding is required when using the generator to build a TN system with a grounded neutral conductor.

DC OVERLOAD PROTECTION

The DC protector automatically switches to "OFF" when the current of the operating electrical device is higher than the rated current. To use this equipment again, turn on the DC OVERLOAD breaker.

**IMPORTANT!**

If the DC OVERLOAD breaker turns off, reduce the load of the connected electrical device. If the DC OVERLOAD breaker turns off again, stop operation and contact your nearest Könnér & Söhnen service center.

CHECKING THE FUEL LEVEL

1. Unscrew the fuel cap and check the fuel level in the tank.
2. Fill the fuel tank to the fuel filter level.
3. Tighten the fuel cap securely.
4. Open the air intake vent on the fuel cap.

Recommended fuel: unleaded petrol with an octane rating of 90–95 containing no more than 10% ethanol.

Fuel tank volume: see specifications table.

**IMPORTANT!**

Wipe up spilled fuel immediately with a clean, dry, soft cloth, as the fuel may harm painted surfaces or plastic parts.

**IMPORTANT!**

Be sure to observe the expiration date of the petrol. If the generator is not going to be used for an extended period, always drain the petrol from the carburetor and, if necessary, from the fuel tank.

CHECKING THE OIL LEVEL

The generator is transported free of motor oil. Do not start the engine until it is filled with sufficient amount of motor oil.

1. Unscrew the oil dipstick (fig. 1) and wipe it out with a clean cloth.
2. Fill the crankcase with engine oil. The recommended amount of oil for each model is indicated in the specification chart.
3. Insert the dipstick without screwing it in.
4. Check the oil level by a mark on the oil dipstick.
5. Add oil if its level is below the mark on the oil dipstick.
6. Screw on the dipstick.

Recommended motor oil: SAE 10W30, SAE 10W40.

Recommended motor oil grade: API Service SG type or higher.

Motor oil quantity: see specifications table.

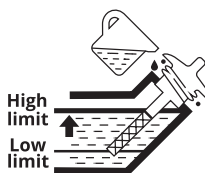


Fig. 1

GETTING STARTED

7

Before starting the engine, make sure that the rated power of power consumers matches with the power of generator. Do not exceed the nominal power of the generator. **Do not connect any devices before you start the engine!**

**IMPORTANT!**

Do not change the controller settings in terms of the amount of fuel governor (this adjustment was made at the factory). Otherwise, this may result in changes in the engine operation or its failure.

**ATTENTION – DANGER!**

When drawing power between the rated and maximum power levels, the generator must not run for longer than 5 seconds. This is common, for example, when starting the electric motor. The required starting power of the motor must not exceed the maximum starting power of the generator.

**ATTENTION – DANGER!**

Emergency generators should not run continuously (e.g. by adding fuel to the tank or connecting a large fuel tank) or longer than recommended: 4-6 hours for LPG/petrol or petrol generators (depending on load).

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.

COMMISSIONING

1. Fill the crankcase with engine oil. The recommended amount of oil for each model is indicated in the specification chart.
2. Check oil level with an oil dipstick. It should be between the MIN and MAX marks on the oil dipstick.
3. Check fuel level.
4. Check the air filter for correct installation.

IN THE FIRST 20 OPERATING HOURS OF THE GENERATOR, THE FOLLOWING REQUIREMENTS SHOULD BE MET:

1. During commissioning, do not connect power consumers, the power of which exceeds 50% of the nominal (operating) power of the device.
2. After the first 20 operating hours, be sure to change the oil. It is better to drain oil while the engine is still hot after operation to ensure quick and complete oil draining.
3. Check and clean the air filter, fuel filter and spark plug.



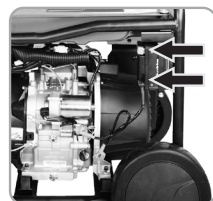
IMPORTANT!



Before starting the generator, connect the ground wire to the ground terminal.

For commissioning please charge the battery. Please use additional battery charger (not included) to charge the battery. Upon accumulator unit recharge, it is mandatory to verify the polarity correctness (+ to +, - to -) or let the generator work at least one hour at 50% load at the first start.

The generator is shipped with terminals disconnected to prevent battery self-discharge during storage. To connect the battery terminals, proceed as follows: Connect the terminals ensuring the correct polarity ("+" to "+", "-" to "-").



ENGINE START



IMPORTANT!



Useful tip: If the engine stalls shortly after starting or does not start at all, we recommend draining deposits from the carburetor and checking the oil level. The generator is equipped with a low oil level indicator, and the engine will stop if the engine oil level is too low.

RUNNING GENERATOR ON PETROL FOR MODELS

KS 3300i, KS 4500i, KS 4500iG, KS 6500i

1. Check oil level.
2. Check fuel level.
3. ECONOMY MODE button should be in "OFF" position.
4. Open fuel valve (Fig. 2, "ON" position).
5. Close the choke (Fig. 3, "OFF" position).
6. Set ENGINE SWITCH button to "ON" Position (Fig. 4).
7. Pull the manual starter until a slight resistance is felt, then pull it toward you relatively sharply. Slowly turn the manual starter by hand, do not release it abruptly.
8. Open the choke (Fig. 5, "ON" position).
9. Wait 1-2 minutes and connect electrical appliances.

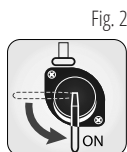


Fig. 2



Fig. 3

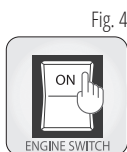


Fig. 4



Fig. 5

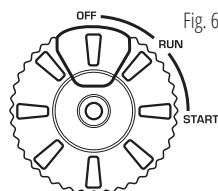


Fig. 6

FOR MODELS KS 4100iE, KS 8100iE ATSR

1. Check oil level.
2. Check fuel level.
3. Set ECONOMY MODE button to "OFF" position.
4. Turn the Multifunctional engine switch to the "START" position.

- 5.1 For manual start (model KS 4100iE) pull the manual starter until a slight resistance is felt, then pull it toward you relatively sharply. Slowly turn the manual starter by hand, do not release it abruptly.
- 5.2 For electric start, press the red button on the Multifunctional engine switch (fig. 6).
6. After starting the engine, turn the Multifunctional engine switch to the "RUN" position (fig. 6).

**IMPORTANT!**

Useful tip: to ensure long-term operation of the generator engine, it is important to observe the following tips:

- Before connecting the load, allow the engine to run for 1-2 minutes to warm it up.
- When disconnecting the load after lengthy operation, do not turn off the generator. Allow the generator to run idle for 1-2 minutes so that it cools down.

**ATTENTION – DANGER!**

Do not connect two or more devices at a time. The start-up of many devices requires high power. Devices should be connected one at a time according to their power rating. Do not connect any power consumers within the first 2 minutes after the generator has been started.

RUNNING GENERATOR ON LPG (KS 4100iEG, KS 4500iG, KS 8100iEG, KS 8100iEG 1/3)

1. Check oil level.
 2. The inverter generators KS 4100iEG, KS 8100iEG, KS 8100iEG 1/3 use smart fuel switching system. In order to use LPG as fuel you need to connect a hose to the corresponding connector and open the valve on the gas cylinder. The solenoid valve will automatically shut off the petrol supply from the petrol tank.
- For starting KS 4500iG in LPG mode keep fuel valve in OFF position.
3. Connect the LPG hose to the LPG input (connect hose end **A** to the LPG input, as shown in Fig. 7).
 4. Connect the hose end with the reducer to the gas cylinder (connect hose end **B** to the gas cylinder, as shown in Fig. 7).
 5. Open the gas valve on the cylinder, making sure that no gas is leaking.
 6. Press the pressure relief valve on the reducer 2-3 times (see Fig. 7).
 7. Set voltage transfer switch to a desired mode - 230V or 400V (for model KS 8100iEG 1/3).
 8. Turn the Multifunctional engine switch to the "START" position.
 9. **For manual start**, pull the manual starter until a slight resistance is felt, then pull it toward you relatively sharply. Slowly turn the manual starter by hand, do not release it abruptly. **For electric start**, press the red button on the multifunctional engine switch (fig. 6).
 10. After starting the engine, turn the Multifunctional engine switch to the "RUN" position (fig. 6).
 11. When using for the first time, fill the gas line with gas by turning the key (pressing start button) to the "OFF" position and slowly pull the starter handle to the full cord length 2 to 3 times (except for models KS 8100, which do not have a manual start).



RUNNING GENERATOR ON PETROL KS 4100iE, KS 8100iE ATSR, KS 8100iEG 1/3, KS 8100iE 1/3 ATSR, KS 8100iEG

1. Check oil level.
2. Check fuel level.
3. Set Economy mode button to "OFF" position.
4. Set voltage transfer switch to a desired mode - 230V or 400V (for models KS 8100iEG 1/3, KS 8100iE 1/3 ATSR).
5. Turn the Multifunctional engine switch to the "START" position.
6. For electric start, press the red button on the multifunctional engine switch (fig. 6).
7. After starting the engine, turn the Multifunctional engine switch to the "RUN" position (fig. 6).
8. Turn on Circuit breaker (for KS 8100iEG 1/3 in 400V mode).

**IMPORTANT!**

Disconnect the load from the generator before changing fuel. The ECONOMY MODE switch must be in the "OFF" position.

To drain petrol from the carburetor, turn off the fuel valve and wait until the generator has cooled down sufficiently. For open frame models, place a drip pan under the carburetor and loosen the drain screw on the carburetor. Make sure that no fuel leaks onto the generator. Tighten up the screw again. Start the generator on LPG according to the instructions mentioned above

TO START LPG/PETROL GENERATOR IN PETROL MODE (KS 4100iEG, KS 4500iG, KS 8100iEG, KS 8100iEG 1/3)

1. Close the gas valve on the cylinder.
2. Set the fuel switch to "ON" and close the air choke (for model KS 4500iG).
3. Start the engine by hand or electric start.
4. Open the air choke (for model KS 4500iG).

**IMPORTANT!**

Place the container with gas only vertically, according to the instruction manual for gas cylinders. The horizontal placement of gas cylinders leads to hybrid generator gearbox failure.

Fuel can be changed without stopping the generator. When switching from petrol to LPG operation, the generator may be unstable during the first 2-3 minutes and the low voltage protection may trip. If the red indicator (overload indicator) lights up in 2-3 minutes after running the generator on LPG when it is running stable, press the AC Reset BUTTON on a panel of generator to restore voltage supply

If it is necessary to switch to LPG operation while running on petrol, connect the gas hose, open the valve on the gas cylinder, and set the fuel selector switch to LPG.

If it is necessary to switch to gasoline operation while running on LPG, set the fuel selector switch to Petrol and close the gas valve on the gas cylinder.

For models with electric start, check if the battery is charged. If necessary, recharge the battery with a dedicated charger for lithium-ion batteries or start the generator with a manual start and allow it to run idle while it is recharging.

**ATTENTION!**

Generator is equipped with electronics! Monitor the charge level of the battery and prevent it from being completely discharged! Generator cannot start or work correctly with a completely discharged battery, even with a recoil start.

**IMPORTANT!**

Useful tip: If the engine stalls or does not start, turn the engine switch to the "ON" position, and then pull the manual starter. If the oil level indicator flickers for several seconds, add oil and restart the engine.

DISCONNECT ALL DEVICES BEFORE STOPPING THE GENERATOR!

Do not stop the generator with the devices turned on. This may disable the generator or devices connected to it!

TO STOP THE ENGINE, PROCEED AS FOLLOWS:

1. Turn off all devices.
2. Allow the generator to run idle for approx. 1-2 minutes.
3. Turn the multifunction switch knob to the OFF position (see Fig. 8), or switch the ENGINE SWITCH to the OFF position (depending on your model).
4. Close the gas valve
5. Unplug the devices. Close the fuel valve when working on petrol (for models KS 3300i, KS 4500i, KS 4500iG).

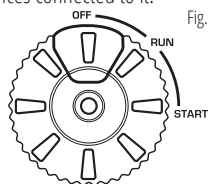


Fig. 8

**FUNCTIONAL DESCRIPTION
OF INVERTER GENERATORS****8****MODELS WITH VTS SYSTEM VTS**

Models named "1/3" are equipped with a VTS phase switching system. These models can operate in single-phase (230V) and three-phase (400V) without loss of power.

You must first switch off the load before switching between 230V and 400V mode.

USING THE THREE-PHASE MODE 400V

The 400V mode is only available on 1/3 models. The entire power of the generator is divided between 3 phases in 400V mode, so that no more than 1/3 of the total power of the generator is available on each phase. Each phase of the 400V output is supplied by a separate inverter module and the generator is therefore suitable for unbalanced loads. Please pay attention to the starting currents of the power consumers to be supplied. The starting power must not exceed the maximum power per phase.

**ATTENTION - DANGER!**

If the generator's overload protection is triggered due to an overload, be sure to reduce the load and then press the AC RESET button or restart the generator.

It is forbidden to start the generator with the ECONOMY MODE ON. Economy mode should be turned on only after starting the generator and only with a low load. Failure to comply with this requirement may result in generator failure and void warranty repair.

ECONOMY MODE FUNCTION

1. Start the engine.
2. Set the Economy mode button to "ON".
3. Plug the device into an AC outlet.
4. Make sure the AC indicator light is on.
5. Turn on the electrical device.

**IMPORTANT!**

ECONOMY MODE should be disabled when starting the generator and should only be activated at loads up to 20% of the rated power so that the speed can be kept lower at light loads to save fuel.

The voltage across the inverter module's capacitors is kept lower in ECONOMY MODE, which saves fuel at low loads. However, connecting more powerful power consumers can lead to overload and voltage distortion until the engine reaches the required speed. Turn off ECONOMY MODE if you want to connect more powerful power consumers.

**IMPORTANT!**

Ensure that the starting power of electrical appliances with motors does not exceed the maximum power of the generator.

PARALLEL FUNCTION

The total output power of the generators can be increased by connecting two inverter generators together using the Parallel Unit KS PU1 from Könnér & Söhnen. Parallel connection of two generators ensures total rated output power of these generators. When the generators are connected in parallel, the power loss is 0.2 kW of the total rated power that can be obtained (you can check whether the selected model has a parallel connection function in the technical table).

CHARGING AN EXTERNAL 12 V BATTERY

1. Start the engine.
2. Connect the red wire to the positive (+) terminal of the battery.
3. Connect the black wire to the negative (-) terminal of the battery.
4. Connect the wire to a 12V/8.3A DC socket on the control panel of the generator.
5. To start charging the battery, set ECONOMY MODE to "OFF".
6. Turn the 12 V DC fuse to the "ON" position.

**IMPORTANT!**

Inverter generators from Könnér & Söhnen are equipped with lithium batteries with an operating voltage similar to conventional lead-acid batteries.

When the generator is running, the battery is charged automatically. If it is necessary to charge the battery with an external device, we recommend using the KS-B2A charger or the charger for charging lead-acid motorcycle batteries with a nominal voltage of 12V with a charge current of not more than 2A.



IMPORTANT!



- Make sure the **ECONOMY MODE** mode is off while the battery is being charged.
- Be sure to connect the charger's red wire to the plus (+) terminal of the battery and the black wire to the minus (-) terminal of the battery. Do not swap the terminals.
- Connect the charger to the battery terminals securely so that they are not disconnected due to motor vibrations or other actions.
- The 12 V socket can only be used as a backup source for recharging batteries and shall not be deemed as a full-featured battery charger.
- The DC protector turns off automatically if the current is higher than the rated current while the battery is being charged. To restore battery charging, turn on the DC fuse by pressing the "ON" button.



ATTENTION – DANGER!



Never smoke or interrupt battery connections to the generator while the battery is being charged.

MAINTENANCE

9

This manual compliance! You can find a list of service center addresses on the website of exclusive importer: www.konner-sohnen.com

TECHNICAL MAINTENANCE WORKS

Unit	Action	At each start	First month or 20 operating hours	Every 3 months or 50 operating hours	Every 6 months or 100 operating hours	Every year or 300 operating hours
Motor oil	Level check	✓				
	Replacement		✓	✓		
Air filter	Check /Cleaning	✓	✓	✓		
	Replacement				✓	
Spark plug	Cleaning		✓	✓		
	Replacement				✓	
Fuel tank	Level check	✓				
	Cleaning					✓
Fuel filter	Check (clean out)		✓	✓		

- If the generator often operates at high temperature or high load, the oil should be replaced every 25 operating hours.
- If the engine often runs in dusty or other harsh conditions, clean the air filter every 10 operating hours.
- If you missed the maintenance time, perform it as soon as possible to save the generator engine.



IMPORTANT!

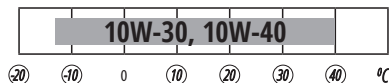


The manufacturer shall not be liable for any damage caused by failure to perform maintenance work.

RECOMMENDED OILS

10

Use oils designed for four-stroke cycle vehicle engines SAE10W-30, SAE10W-40. Motor oils with other viscosity levels, may be used only if the average air temperature in your region does not exceed the limits of the temperature range, specified in the table.



Upon oil level decrease it is necessary to add the required quantity in order to provide the correct generator operation. It is necessary to check the oil levels according to technical maintenance schedule.

Fig. 9

TO DRAIN ENGINE OIL, PERFORM THE FOLLOWING ACTIONS:

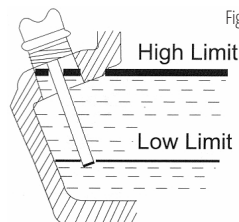
1. Please drain the oil while the engine is warm. This provides a quick and complete oil drain.
2. Wear protective gloves to avoid getting oil on the skin.
3. Place a drain oil holding tank under the engine.
4. Turn the drain cap, located in the engine under the oil-depth gage cap (Fig. 9), by means of spanner.
6. Wait till the oil drains.
7. Replace the drain cap and tighten it well.



Fig. 10

TO REFILL OIL, PERFORM THE FOLLOWING ACTIONS:

1. Make sure that the generator is set on flat level surface (Fig. 10).
2. Open the oil-depth gage cap on the engine
3. By means of a funnel, pour the advanced purification engine oil to the crankcase. The funnel is not included.



AIR FILTER TECHNICAL MAINTENANCE

11

Air filter cleaning is to be performed each 50 hours of the generator operation (every 10 hours in unusually dusty conditions).

CLEANING THE FILTER:

1. Open the clips on the upper cap of the air filter.
2. Remove the sponge filtering element.
3. Remove all dirt deposits inside the hollow case of the air filter.
4. Thoroughly wash the filtering element in warmsoapy water.
5. Dry the sponge filter.
6. Dry filtering element is to be moistened by motor oil and excess oil is to be squeezed out.

SPARK PLUGS TECHNICAL MAINTENANCE

12

Spark plug has to be intact, without soot deposits and to have a correct gap.

SPARK PLUG VERIFICATION:

1. Remove the cap from the spark plug.
2. Remove the spark plug by means of a corresponding spanner.
3. Examine the spark plug. If it is shattered – it is necessary to replace it.
Recommended replacement spark plugs – F7TC.
4. Measure the gap. It has to be within range 0.7-0.8 mm.
5. In case of repeated use, the spark plug has to be cleaned by means of a metal brush. After that – set the correct gap.

DAMPER AND FLAME ARRESTER MAINTENANCE

13

The engine and damper will get very hot after the generator has been started. Do not touch the engine or damper with any part of your body or clothing during inspection or repair until they have cooled down.

Remove the screws and then pull the protective cover towards you. Loosen the bolts and remove the cover, screen and flame arrester of the damper. Descale the screen and flame arrester of the damper with a wire brush. Inspect the screen and flame arrester of the damper. Replace them if they are damaged. Replace the flame arrester. Replace the screen and cover of the damper. Replace the cover and tighten the screws.



IMPORTANT!



Match the protrusion of the flame arrester to the hole in the pipe damper.

FUEL FILTER

14



IMPORTANT!



Never use petrol while smoking or in the immediate vicinity of an open flame.

1. Remove the fuel tank cap and fuel filter.
2. Clean the filter with petrol.
3. Wipe the filter and replace it.
4. Replace the fuel tank cap.

Make sure that the fuel tank cap is tight.

BATTERY USE

15

The generator battery is not subject to service. Low temperatures may lower the capacity of the lithium-ion battery and may cause an unstable generator start.

To prolong battery life it is recommended to do battery charging with an external device (not included) every three months. Battery warranted – three months from the date of purchase of the generator.

STORAGE

16

Storage room has to be dry and free from dust deposits. Storage room also has to be locked away from children and animals. It is recommended to store and use the generator at temperature of -20°C to $+40^{\circ}\text{C}$. Avoid direct sunlight, rain on the generator. When using and storing hybrid generator, gas tank should be kept indoors at temperatures below $+10^{\circ}\text{C}$. If the temperature is lower, gas will evaporate. Information on long-term storage and transportation can be found in the full version of the manual.

BATTERY AND GENERATOR DISPOSAL

17

To prevent environment damage generator and battery should be separated from ordinary waste. Please recycle them in the safest way, passing it to special place for disposal.

Typical failures	Possible reason	Solution
Engine does not starting	Engine starting swinch set to OFF position	Set the engine starting switch to ON
	Fuel valve set to off position	Turn the valve to ON position
	Air flap is opened	Shut the air flap
	No fuel	Add fuel
	Low-quality or dirty fuel is in engine	Change the fuel
	Sparking plug smoked or corrupted distance between contacts is not nominal	Clean or replace the plug; Set proper distance between contacts
Low engine power / heavy starting	Dirt in fuel tank	Clean the fuel tank
	Dirt in the air filter	Clean the air filter
	Water in a fuel tank/ carburetor; carburetor is jammed	Empty the fuel tank, carburetor
	Distance between contacts of a sparking plug is not nominal	Set proper distance between contacts
Engine overheated	Cooling fins are dirty	Clean the cooling fins
	Air filter is dirty	Clean the air filter
No voltage while working engine	Circuit breaker is active	Turn on the cricuit breaker
	Connected cables are corrupted	Check the cables; if using extension cord, change it
	Plugged device failure	Try to connect other devices
Connected devices are not working while generator is running	Generator is overloaded	Unplug some devices to reduce load
	Short circuit ocured in one of the devices connected	Unplug that device to restore the stability of a system
	Air filter is dirty	Clean the air filter
	Repetitions of an engine are lower than nominal	Contact the service center

Device	Average power usage, W
Iron	500-1100
Air hair dryer	450-1200
Coffee machine	800-1500
Electric cooking stove	800-1800
Toaster	600-1500
Air heater	1000-2000
Vacuum cleaner	400-1000
Radio	50-250
BBQ Grill electric device	1200-2300
Oven	1000-2000
Refrigerator	100-150
TV set	100-400
Hammer drill	600-1400
Drill	400-800
Freezer	100-400
Grinding machine	300-1100
Circular saw	750-1600
Angle grinder	650-2200
Electro jigsaw	250-700
Electro planer	400-1000
Compressor	750-3000
Water pump	750-3900
Electric sawing machine	1800-4000
Electric lawn	750-3000
Electric powered engines	550-5000
Electric fan	750-1700
High pressure machine	2000-4000
Air conditioner	1000-5000



EC Declaration of Conformity

Nr. 210

The following products have been tested by us with the listed standards and found in compliance with the European Community Machinery Directive 2006/42/EC, Electromagnetic compatibility Directive (EMC) 2014/30/EC, Noise Directive 2000/14/EC.

Manufacturer: DIMAX INTERNATIONAL GmbH
Address: Flinger Broich 203, 40235 Duesseldorf, Germany
Product: Inverter generators "Könnert & Söhne"
Type / Model: KS 3300i, KS 4100iE, KS 4100iEG, KS 4500i, KS 4500iG, KS 6500iE, KS 8100iEG, KS 8100iE ATSR, KS 8100iEG 1/3, KS 8100iE 1/3 ATSR

The statement is based on a single evaluation of above mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab. logo. The manufacturer should ensure that all product in series production are in conformity with the product sample detailed in this report. The applicant should hold the whole technical report at disposal of the competent all the right.

Applied EC Directives: 2006/42/EC Machinery Directive
2014/30/EU Electromagnetic compatibility Directive (EMC)
2000/14/EC Noise Directive(amended in 2005/88/EC)
(EU) 2016/1628 Non-Road mobile machinery emissions
(EU)2017/654 amended by (EU) 2018/989
(EU)2017/655 amended by (EU) 2018/987
(EU)2017/656 amended by (EU) 2018/988

Applied Standards: EN ISO 8528-13:2016
EN 55012:2007+A1
EN 61000-6-1:2007
00/14/EC
55/88/EC
EN ISO 3744:1995

Gasoline engines KS 210i, KS 240i, KS 310i, KS 480i correspond to European Emission Standard Stage V. This is confirmed by EU TYPE - APPROVAL CERTIFICATE issued by department of transport of Luxembourg. Technical service responsible for carrying out the test - TÜV Rheinland Luxembourg GmbH. Date of issue 30/10/2018

2000/14/EC_2005/88/EC Annex VI

For model KS 4000iE, KS 4000iEG, KS 6500iE, KS 8100iEG, KS 8100iE ATSR, KS 8100iEG 1/3, KS 8100iE 1/3 ATSR Noise measured Lwa = 95 dB (A)
For models KS 3300i Noise measured Lwa = 96 dB (A)
For models KS 4500i, 4500iG Noise measured Lwa = 97 dB (A)

Notification body , responsible for 2006/42/EC Machinery Directive, 2014/30/EU Electromagnetic compatibility Directive (EMC) and 2000/14/EC Noise Directive certificate issuing is TÜV Rheinland LGA Products GmbH , Tillystraße 2, 90431 Nürnberg, Country: Germany, Phone: +49 (0) 9116555225, Fax: +49 (0) 9116555226, Email: service@de.tuv.com, Website: www.tuv.com/safety
Notified Body number: 0197



Issued Date:
Place of issue:
Director:

2024-09-10
Duesseldorf
Fomin P.

DIMAX
International GmbH
Flinger Broich 203 40235 Düsseldorf
USt-ID DE296177274
koenner-soehnen.com

P. Fomin

We DIMAX INTERNATIONAL GmbH hereby declare that specified above conforms covering European Parliament and Council Directives, 2006/42/EC of 17 May 2006 Machinery Directive, Electromagnetic compatibility Directive (EMC) 2014/30/EC of 26 February 2014, Noise Directive 2000/14/EC of 8 May 2000. The CE mark above can be used under the responsibility of manufacturer. After completion of an EC declaration of Conformity and compliance with all relevant EC directives.

CONTACTS

Deutschland:

Hergestellt unter Lizenz und Kontrolle der DIMAX International GmbH.

Importeur und Vertreter in Deutschland:

DIMAX International GmbH Flinger Broich 203, 40235 Düsseldorf, Deutschland. Produziert in VRC.

innovationtrade8@gmail.com

www.konner-sohnen.com

European Union:

Manufactured under license and control of DIMAX International GmbH, Flinger Broich 203, 40235 Duesseldorf, Germany.

Importer and representative in Netherlands DIMAX International Poland Ltd, Południowa 8 st, 05-0830 Stara Wieś, Poland. Assembled in PRC.

innovationtrade8@gmail.com

www.konner-sohnen.com

The United Kingdom:

Innovation Trade Ltd., 63/66 Hatton Garden Fifth Floor, Suite 23, London, EC1N 8LE, info.uk@dimaxgroup.de

Technical support

support.uk@dimaxgroup.de

konner-sohnen.com.uk

France:

Fabriqu  sous licence et contr le de DIMAX International GmbH, Flinger Broich 203, 40235 D sseldorf, Allemagne.

Importateur et repr sentant en France et en Belgique DIMAX International Poland Ltd, Południowa 8 st, 05-0830 Stara Wieś, Pologne. Assembl  en RPC.

innovationtrade8@gmail.com

www.konner-sohnen.fr

Esp a a:

Fabricado bajo licencia y control de DIMAX International GmbH, Flinger Broich 203, 40235 D sseldorf, Alemania.

Importador y representante en Espa a de DIMAX International Poland Ltd, Południowa 8 st, 05-0830 Stara Wieś, Polonia.

Ensamblado en la Rep blica Popular China.

innovationtrade8@gmail.com

www.konner-sohnen.es

Polska:

Wyprodukowano na licencji i pod kontrol  DIMAX International GmbH, Flinger Broich 203, 40235 Duesseldorf, Niemcy.

Importer i przedstawiciel w Polsce:

DIMAX International Poland Sp. z o. o. ul. Południowa 8, 05-0830 Stara Wieś, Polska. Zmontowany w CRL.

innovationtrade8@gmail.com

www.konner-sohnen.pl

  kr  ina:

Виготовлено за л ценз єю та п д контролем DIMAX International GmbH, Flinger Broich 203, 40235 Д юссельдорф, Н меччина.

Імпортер та представник в   кра ні:

ТОВ "ТЕХНО ТРЕЙД КС" вул. Електротех чна 47, 02232, м. Київ,   кра на. Змонтовано в КНР

www.konner-sohnen.com.ua