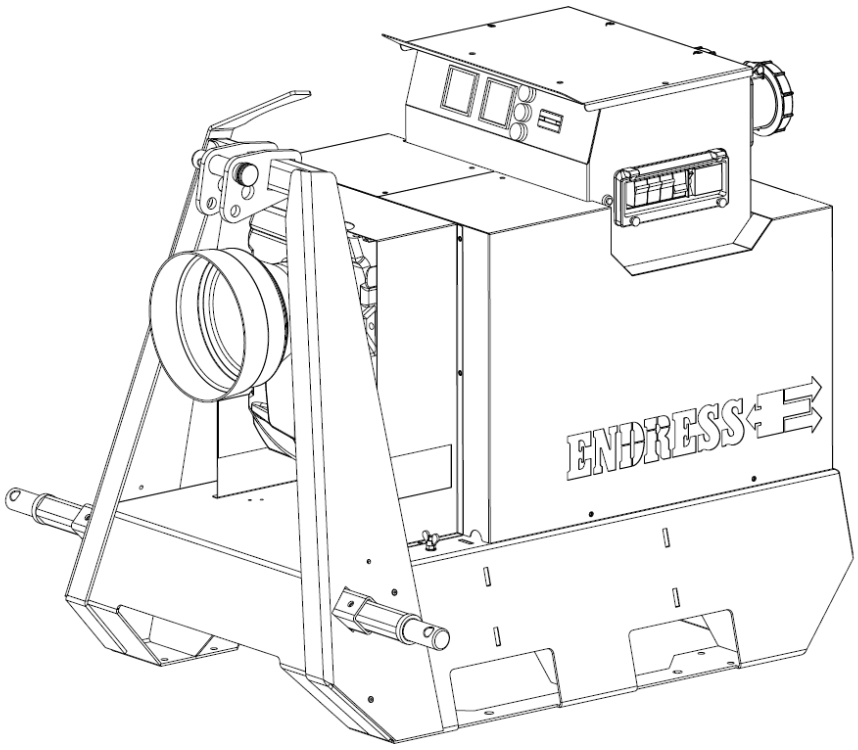
ORIGINAL OPERATING MANUAL

Power take-off generators

EZG 25/2 TN-S	**Article No. 511402**	**EZG 25/2 II/TN-S**	**Article No. 511502**
EZG 40/4 TN-S	**Article No. 511404**	**EZG 40/4 II/TN-S**	**Article No. 511504**
EZG 60/4 TN-S	**Article No. 511405**	**EZG 60/4 II/TN-S**	**Article No. 511505**
EZG 80/4 TN-S	**Article No. 511406**	**EZG 80/4 II/TN-S**	**Article No. 511506**
EZG 100/4 TN-S	**Article No. 511407**	**EZG 100/4 II/TN-S**	**Article No. 511507**



Manufacturer and publisher

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1. INTRODUCTION

ENDRESS ACCEPTS NO LIABILITY FOR PERSONAL INJURY OR DAMAGE ATTRIBUTABLE TO UNINTENDED, INCORRECT OR ILLOGICAL USE OR FAILURE TO COMPLY WITH THE APPLICABLE ACCIDENT PREVENTION REGULATIONS.

This operating manual is a supplementary part of the machine and must be consulted before and after commissioning.

Read the following pages carefully to ensure that the device you have purchased will provide the best possible performance and trouble-free use.
This operating manual together with the user's expertise will ensure that the product is used correctly.
This operating manual has been created in compliance with the regulations stipulated in Machine Directive 2006/42/EU and its later amendments. Special attention has been given to any aspect related to safety and accident prevention.
The operating manual must be retained for future until the machine is scrapped. It must always be kept available near the machine and stored properly (in a dry, protected place, away from direct sunlight, etc.).

The instructions in this manual do not replace applicable legal regulations on safety and accident prevention, but supplement them.

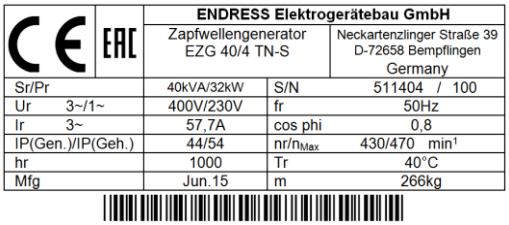
1.1 Documentation and accessories

In addition to this manual, these documents also come with the power take-off generator:

The generator's operating manual and maintenance instructions

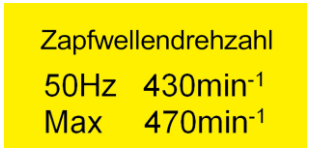
Notices from this gearbox manufacturer

1.2 Signs and notices

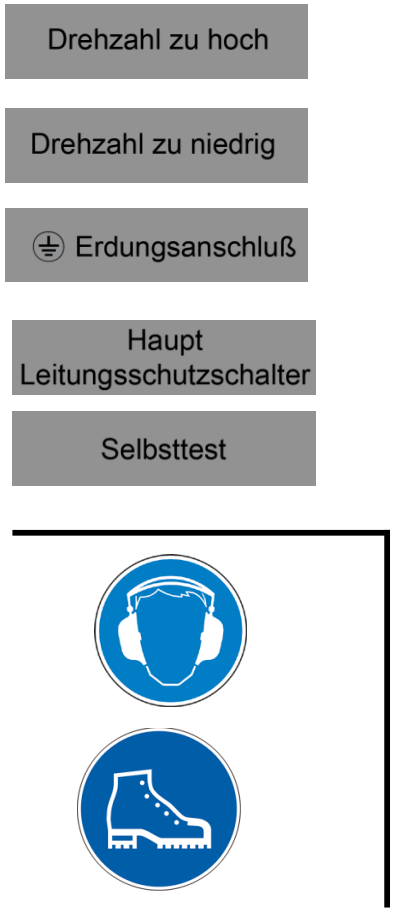


ENDRESS Elektrogerätebau GmbH			
	Zapfwellengenerator EZG 40/4 TN-S	Neckartenzlinger Straße 39 D-72658 Bempflingen Germany	
Sr/Pr	40kVA/32kW	S/N	511404 / 100
Ur 3~/1~	400V/230V	fr	50Hz
Ir 3~	57,7A	cos phi	0,8
IP(Gen.)/IP(Geh.)	44/54	nr/n_{Max}	430/470 min¹
hr	1000	Tr	40°C
Mfg	Jun.15	m	266kg

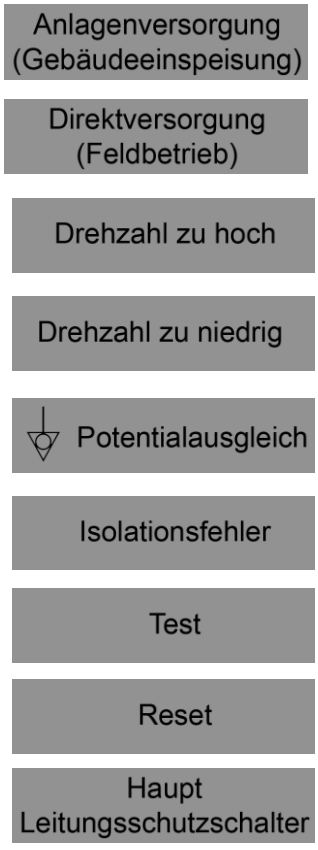
Sr/Pr	Nominal output	S/N	Article - the serial number
Ur	Rated voltage	fr	Nominal frequency
Ir	Rated current	cos phi	Nominal output factor
IP(Gen)	Protection Class for the generator	n_r	Nominal input speed
IP(Geh)	Protection Class for connector housing	n_{max}	Maximum engine speed
hr	Max. height above sea level for Sr	Tr	Max. temperature for Sr
Mfg	Date of manufacture	m	Weight



EZG TN-S



EZG II/TN-S



only EZG 100

2. Safety

Always follow these basic safety instructions before commissioning the power take-off generator.
Hazards are defined as follows:

DANGER!

High risk!

Failure to comply can cause injury or death.

CAUTION!

Moderate risk!

Failure to comply can cause property damage.

ATTENTION!

Mild risk!

Instructions that must be observed when using the device.

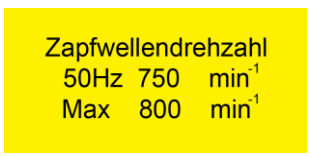
General safety instructions:

Young people under the age of 18 may not operate the power take-off generator

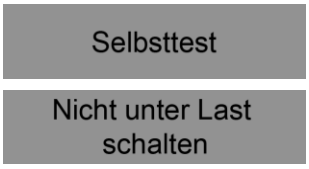
Keep the operating manual at hand during operation

Always keep children and pets away from the generator.

Only operate the device on a level surface and only with an attached three-point linkage.



The power take-off generator may not be operated in potentially explosive areas.



It is forbidden to make technical changes.

Repairs must be made only by a professional workshop. (Safety-related components must be replaced only with original replacement parts!)

Do not operate the power take-off generator if it is visibly damaged

Use your personal protective equipment such as safety shoes, hearing protection, gloves, protective clothing.

DANGER! RISK OF DEATH!

Shock hazard! Electrical safety

Protect the device from dampness and moisture.

Do not grasp the electrical plug with wet hands.

Devices and feed cables must be in perfect condition.

Make sure that the power supply cable does not come into contact with hot components and that the insulation is not damaged by them.

Use only appliances whose voltage data on the model plate conform to the output voltage of the generator.

For greater safety, use only protectively insulated devices

The circuit breakers match the output of the generator and are triggered by overload or short circuit. For your own safety, these components must not be replaced with ordinary commercial ones.

Feed in of power into existing plant without a special feed in installation is not permitted.

DANGER! RISK OF DEATH!

Asphyxiation hazard!

(Tractor) exhaust is poisonous and hazardous to health! Do not inhale!

Always make sure there is adequate ventilation.

In well-ventilated spaces, use an exhaust hose to guide exhaust outdoors.

DANGER! RISK OF DEATH!

Fire / explosion hazard!

During operation, the generator's gearbox can become very hot.

Do not operate the device in areas with easily combustible materials.

Allow the device to cool before use.

Always make sure there is adequate ventilation.

Wear safety gloves and safety shoes.

3. General information

The family of power take-off generators (EZGs) consists of five models (performance classes), each with the type suffix TN-S or II/TN-S.

Models with the suffix TN-S serve to provide a direct power supply (field operation) to electrical operating equipment. Here the network configuration TN-S is used. Protection in the case of indirect contact is provided by residual current circuit breakers (RCDs) with a rated differential current of 30mA.

Models with the suffix II/TN-S serve to provide a direct power supply (field operation), as described above or for power supply to plant. The EZG is operated in the network configuration II for direct power supply (field operation). Here an isolation monitoring device (IMD) is used as a protective measure where the main line circuit breaker triggers on the occasion of a first fault occurring between an active part and electrically conductive bodies, and activates the power sockets. All sockets for direct supply of power are activated at all poles for the operating mode “power supply to plant” (supplying power to a building). The power supply to plant takes place in the network configuration TN-S over a special socket with a 7h position. The protection in the case of an overload or a short circuit takes place by means of the thermomagnetic triggering of the main line circuit breaker.
Parts of plant which are authorised to receive emergency power must be provided on-site with a residual current circuit breaker. Parallel operation with other sources of power or a distribution network is not permissible.

The power feed in socket with the 7h position may only be used for supplying power to a building.

4. **Technical specifications**

4.1 Use

The EZGs are exclusively designed for operation on the power take-off shafts of tractors with a standardised three-point linkage of Category 2 and 3. The power transmission of the power take-off shafts between the tractor and the EZG takes place over suitable cardan shafts. The torques generated by the transmission are transferred to the three-point linkage. The required power take-off shaft setting for transmission is 540 rpm or 1000 rpm dependent on the nominal output of the EZG.

4.2 Required tractor powers

In order for the full nominal output of the generator to be taken off, the tractor power must be 2.5 to 3.5 times the generator output in KW.
The more precise the take-off shaft setting operates the smaller the factor which one can calculate with. On modern engines with a precise take-off shaft setting one can calculate with a factor of 2.5.
Example: For an EZG 40 with a nominal output of 36.5kVA/29.2kW and an assumed factor of 3, the required tractor power is 29.2kW x 3= 87.6kW

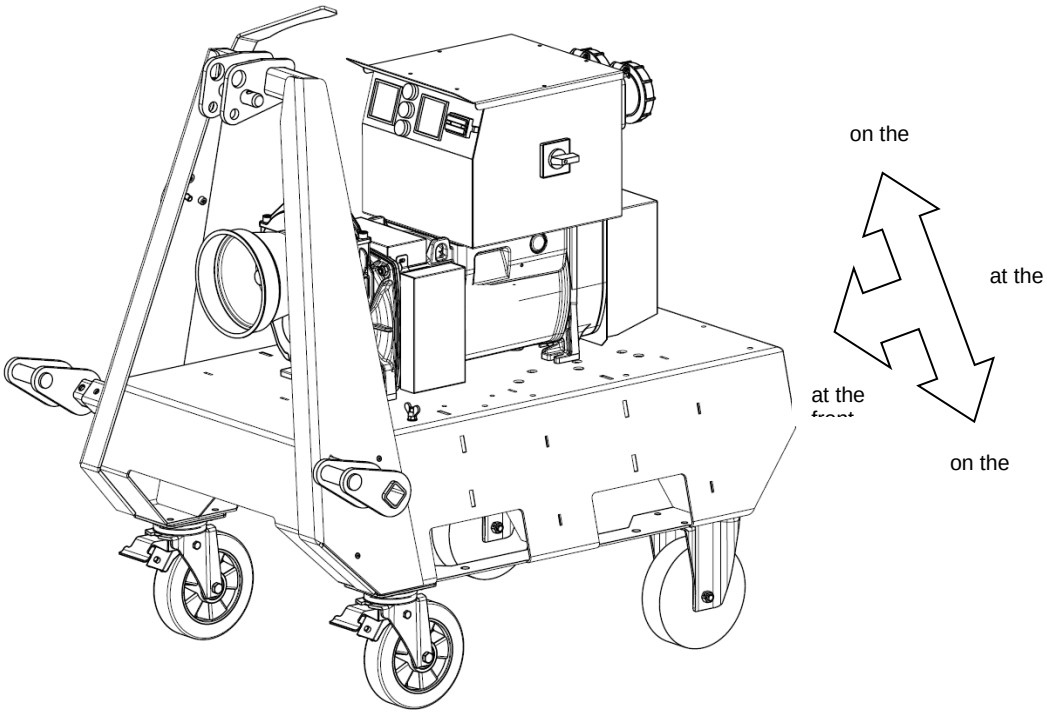
4.3 Selection of the cardan shaft

The nominal torque of the cardan shafts must be at least the torque required for the generator output. The maximum permissible repeating peak torque of the cardan shaft should be 3-times the nominal torques.
For shock loads caused, for example, by electric motors or in the case of a short-circuit, peak torques can arise which can exceed multiples of the nominal torque.
One should therefore not use cardan shafts with friction clutches.
Determination of the nominal torque takes place using:
Nominal torque of the cardan shaft Mn(Nm)=1.15 x 9.55 x Pgen(kW) / n(^{rpm})
Example 1: For an EZG 40 with a nominal output of 36.5kVA/29.2kW
Mn=1.15 x 9550 x 29.2 kW/430 ^{rpm}=745Nm
Example 2: For an EZG 100 with a nominal output of 100kVA/80kW
Mn=1.15 x 9550x 72kW/750 ^{rpm}=1061Nm

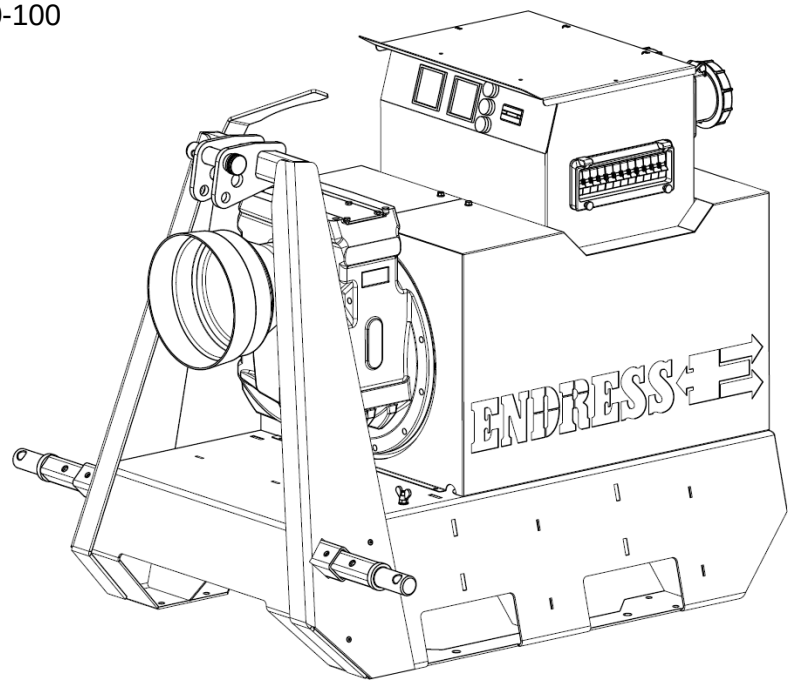
4.4 Design and operation

2 and 4 pin brushless synchronous generators with an electronic controller are used to generate energy. The rotational speed of the generator of 3000 rpm or 1500 rpm required for the frequency of 50 Hz is generated over a gearbox between the power take-off shaft and the generator shaft. The exactness of the output frequency is solely dependent on the rotational speed of the tractor power take-off shaft. The output voltage for electronically regulated generators is constant over a wide rotational speed range.

EZG 25 with an optional set of
wheels and coupling Category 2

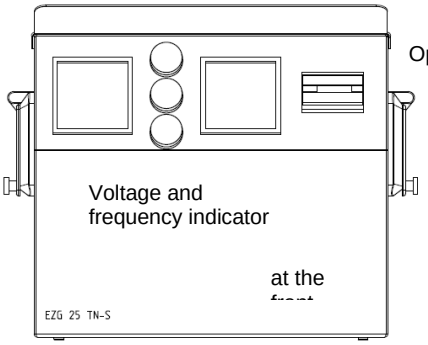


EZG 40-100

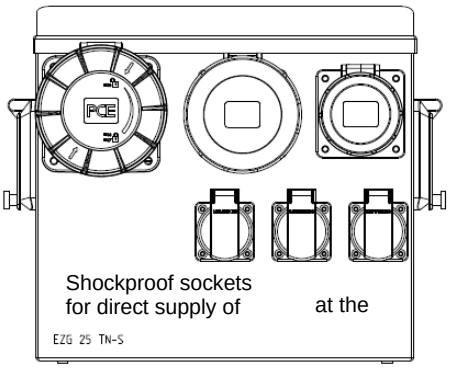


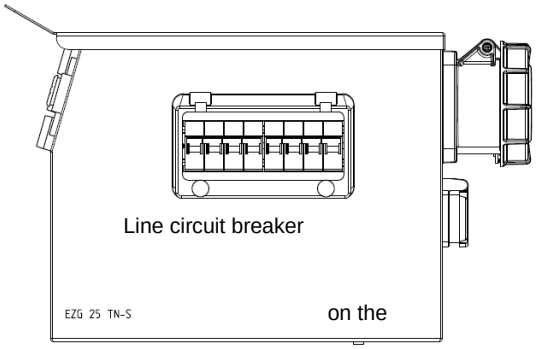
4.5 The display operation connection and protective elements

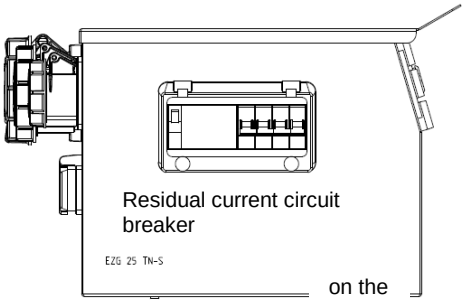
4.5.1 EZG 25 TN-S



CEE sockets 3P+N+E
6h for direct supply of

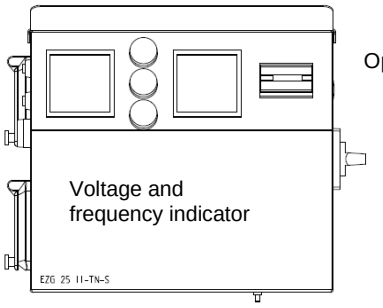


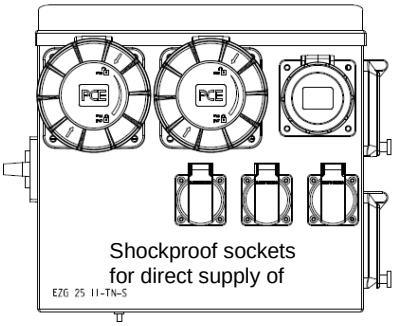




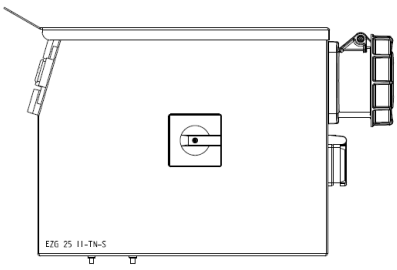
4.5.2 EZG 25 II/TN-S

CEE sockets 3P+N+E
6h for direct supply of

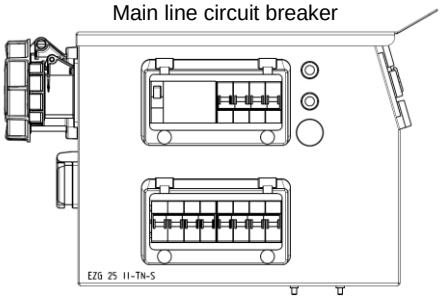




Insulation monitoring
Main line circuit breaker

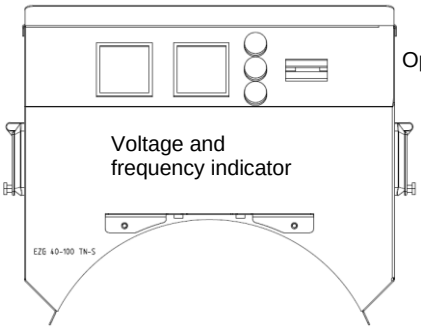


Changeover switch
Direct supply of power - power supply



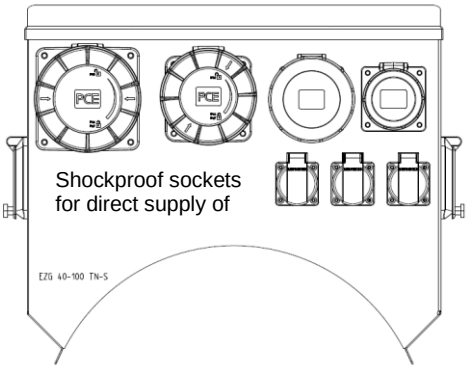
Line circuit breaker

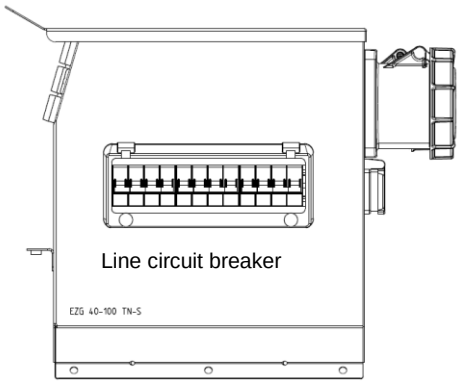
4.5.3 EZG 40-100 TN-S

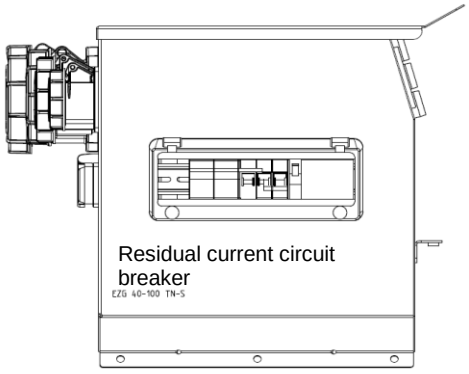


CEE socket 3P+N+E
7h for power supply to

CEE sockets 3P+N+E
6h for direct supply of



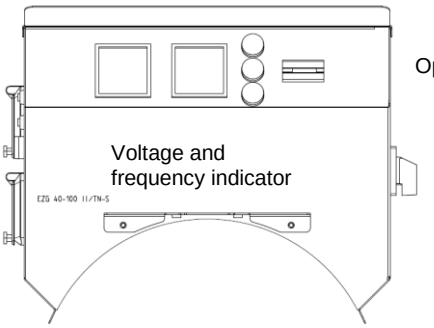


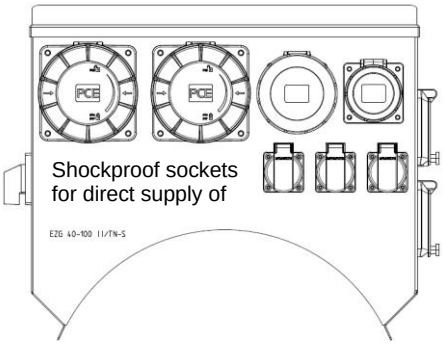


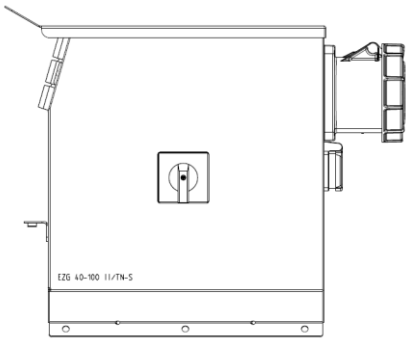
4.5.4 EZG 40-100 II/TN-S

CEE socket 3P+N+E
7h for power supply to

CEE sockets 3P+N+E
6h for direct supply of

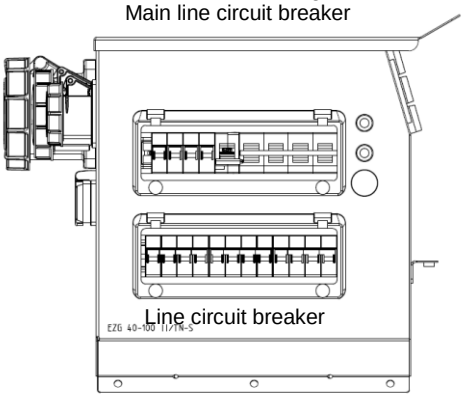






Changeover switch
Direct supply of power - power supply

Insulation monitoring
Main line circuit breaker



4.6 Monitoring

4.6.1 Voltage and frequency

The EZGs are fitted with a voltage and frequency monitoring module.

The frequency is displayed optically by means of a traffic lights function using three LEDs:

yellow flashing - frequency/rotational speed too low, frequency less than 47Hz
green - frequency/rotational speed within the permissible tolerance, 47Hz - 53Hz
red flashing - frequency/rotational speed too high, frequency: greater than 53 Hz

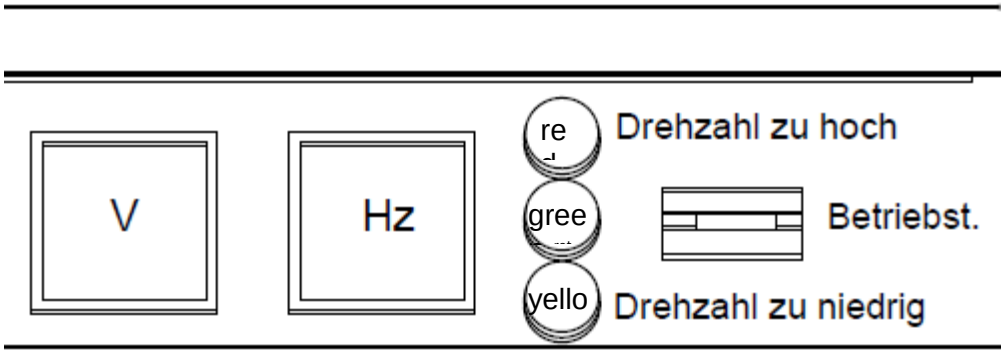
If the frequency is outside the permissible tolerance, the main line circuit breaker is triggered after a period of delay of 10 sec.. The frequency/rotational speed must be within the permissible tolerance before switching the main line circuit breaker on again.
If the frequency exceeds 70Hz the main line circuit breaker is triggered without delay.

The voltage of the generator is also monitored. For dropping of the voltage below 210 V or exceeding of it above 250 V the main line circuit breaker is also triggered after period of delay of 10 sec. The voltage must be within the permissible tolerance before switching the main line circuit breaker on again.
If the voltage exceeds 280 V, the main line circuit breaker is triggered without delay.

Caution!
If the voltage lies outside the 225V to 235 V range, the EZG must not be operated anymore, even if the frequency has an orderly value, and must be checked over by an electrician.

Self test!
While operating with a nominal voltage and nominal frequency with attached consumers.

After pressing the Test button, the monitoring PCB executes a self test. All LEDs of the frequency monitoring module flash three times and the main line circuit breaker is triggered.
Caution!
If the 3 LEDs are not flashing and the main line circuit breaker does trigger, the EZG must not be operated anymore and must be checked over by an electrician.



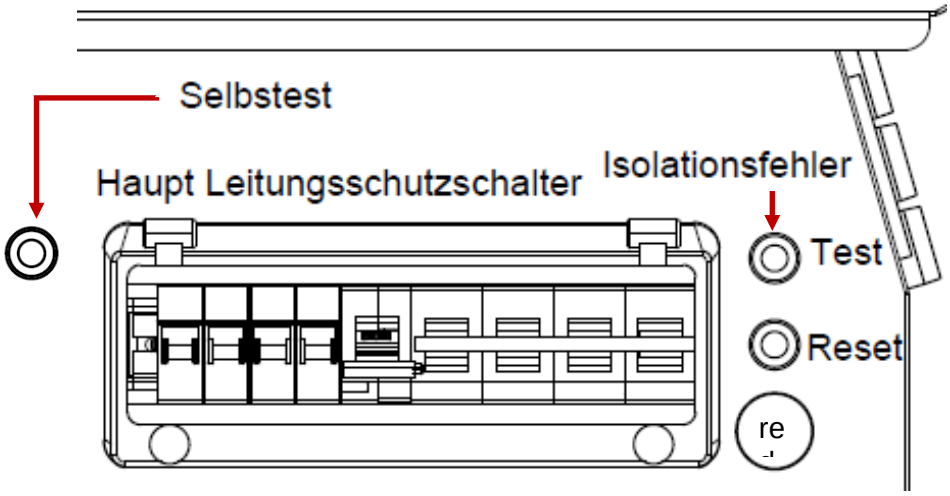
4.6.2 Insulation resistance

For EZGs with switchover to power supply to plant (supplying power to a building)/ direct power supply (field operation), in the operating mode “direct supply of power”, the insulation resistance between the active conductors (LI, L2, L3, N) and electrical conductive parts connected with the protective conductors of attached electrical operating equipment and plant as well as the electrical conductive parts of the EZG is measured. If the insulation resistance goes below 23 kOhm the main line circuit breaker is triggered and the sockets are activated. An insulation fault is shown by the red LED. The Reset button must be pressed and the red LED must go out before switching on again.

Caution!
If the insulation monitoring also triggers without attached consumers, the EZG should not be operated anymore and should be checked by an electrician.

Test!
While operating with a nominal voltage and nominal frequency with attached consumers.

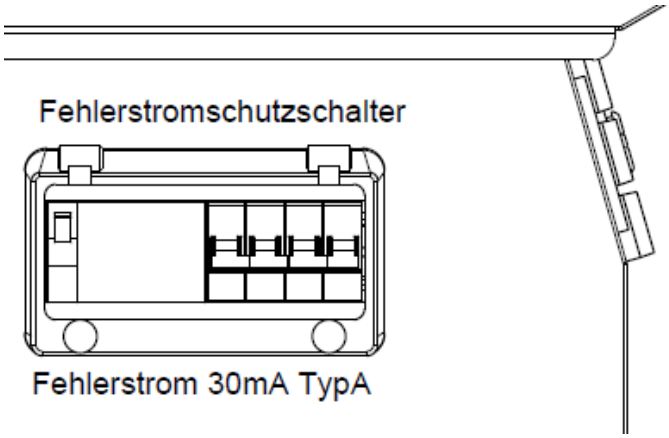
The insulation monitoring can be tested using the Test button. After pressing the Test button, the red LED of the monitoring should light up and the main line circuit breaker should trigger. The Reset button must be pressed to reset it.
Caution!
If the red LED of the insulation monitoring does not light up and the main line circuit breaker does not trigger, the EZG should not be operated anymore and should be checked by an electrician.

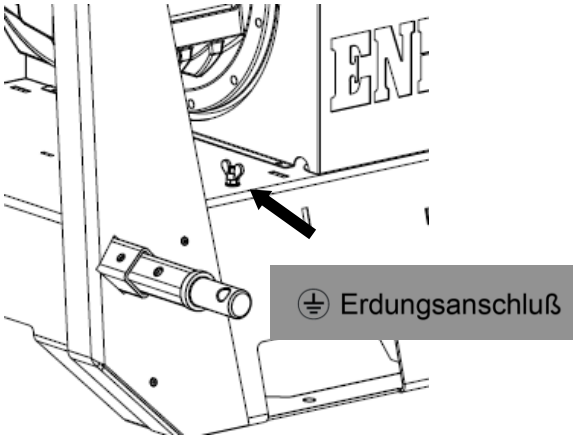


4.6.3 Residual current circuit breaker

EZGs without switchover with the network configuration TN-S are fitted with a residual current circuit breaker Type A and a rated residual current of 30mA.
The EZG must be earthed using the earthing spike before every putting into operation.
The earthing resistance must not exceed a value of 800 Ohm . Observance of the permissible earthing resistance should be checked by an electrician.

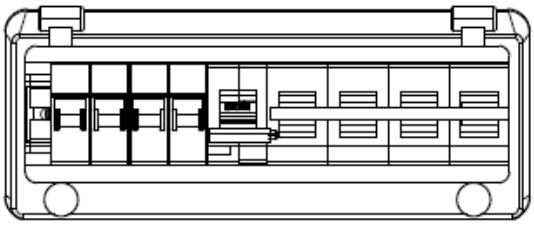
Self test!
While operating with a nominal voltage and nominal frequency without attached consumers.
The residual current circuit breaker is fitted with a test button.
After actuation of the button the residual current circuit breaker should trigger. If the residual current circuit breaker does not trigger have the EZG checked by an electrician.

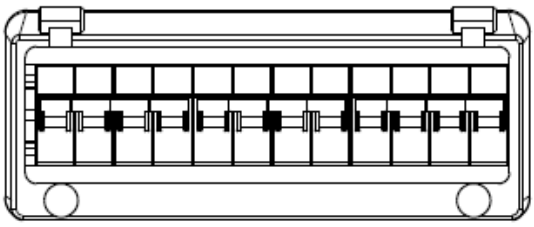




4.6.4 Overcurrent and short-circuit protection

All sockets are protected over a line circuit breaker with thermal-magnetic actuators. The tripping characteristics are matched with the generator. The main line circuit breaker of the EZG 80 and EZG 100 should be acknowledged before switching on again. To do this first press the triggering lever firmly in the direction of triggering (downwards) and then move it upwards to switch back.





5.0 Technical specifications

EZG für Direktversorgung					
Modell	EZG 25/2 TN-S	EZG 40/4 TN-S	EZG 60/4 TN-S	EZG 80/4 TN-S	EZG 100/4 TN-S
Art. Nr.	511402 *	511404	511405	511406	511407
Nennleistung kVA/kW	25,0/20	40/32	60/48	80/64	100/80
Nennleistungsfaktor(cos phi)	0,8	0,8	0,8	0,8	0,8
Generator	synchron	synchron	synchron	synchron	synchron
Regelung	compound	AVR	AVR	AVR	AVR
Nennspannung	400V 3~ / 230V 1~	400V 3~ / 230V 1~	400V 3~ / 230V 1~	400V 3~ / 230V 1~	400V 3~ / 230V 1~
Nennstrom	36,1	58A	87A	115A	144A
Frequenz / Schutzart	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Schutzart Generator/Gehäuse	IP44/IP54	IP44/IP54	IP44/IP54	IP44/IP54	IP44/IP54
Leistungsbedarf ca. KW/PS	35/48	60/81	87/118	123 /165	144 / 195
Getriebeübersetzung	1/7	1/3,5	1/3,5	1/3,5	1/2
Getriegeöl/Menge	SAE90	SAE90	SAE90	SAE90	SAE90
Drehzahl Zapfwelle	430min^{-1}	430min^{-1}	430min^{-1}	430min^{-1}	750min^{-1}
Nenndrehmoment(Nm)	496	746	1119	1379	1054
Gewicht ca. (kg)	225	366	430	510	575
Maße L x B x H (mm)	1130x740x942	1130x740x942	1130x740x942	1192x740x1007	1130x740x1007
Steckdosen 230V 3polig	3 x Schuko 16A	3 x Schuko 16A	3 x Schuko 16A	3 x Schuko 16A	3 x Schuko 16A
Steckdosen 400V/ 5polig/6h	1 x CEE 400V / 16A	2x CEE 400V / 16A	1x CEE 400V / 16A	1x CEE 400V / 16A	1x CEE 400V / 16A
	1 x CEE 400V / 32A	1 x CEE 400V / 32A	1 x CEE 400V / 32A	1 x CEE 400V / 32A	1 x CEE 400V / 32A
	1 x CEE 400V / 63A	1 x CEE 400V / 63A	1 x CEE 400V / 63A	1 x CEE 400V / 63A	1 x CEE 400V / 63A
			1 x CEE 400V / 125A	1 x CEE 400V / 125A	1 x CEE 400V / 125A
Kategorie 3-Punkt Aufh.	3	3	3	3	3

EZG Umschaltbar für Anlagenversorgung und Direktversorgung					
Modell	EZG 25/2 II/TN-S	EZG 40/4 II/TN-S	EZG 60/4 II/TN-S	EZG 80/4 II/TN-S	EZG 100/4 II/TN-S
Art. Nr.	511502	511504	511505	511506	511507
Nennleistung kVA/kW	22 / 17,6	40/32	60/48	80/64	100/80
Nennleistungsfaktor(cos phi)	0,8	0,8	0,8	0,8	0,8
Generator	synchron	synchron	synchron	synchron	synchron
Regelung	AVR	AVR	AVR	AVR	AVR
Nennspannung	400V 3~ / 230V 1~	400V 3~ / 230V 1~	400V 3~ / 230V 1~	400V 3~ / 230V 1~	400V 3~ / 230V 1~
Nennstrom	31,7A	58A	87A	115A	144A
Frequenz / Schutzart	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Schutzart Generator/Gehäuse	IP44/IP54	IP44/IP54	IP44/IP54	IP44/IP54	IP44/IP54
Leistungsbedarf ca. KW/PS	35/48	60/81	87/118	123 /165	144 / 195
Getriebeübersetzung	1/7	1/3,5	1/3,5	1/3,5	1/2
Getriegeöl/Menge	SAE90	SAE90	SAE90	SAE90	SAE90
Nenndrehmoment(Nm)	450	746	1119	1379	1054
Drehzahl Zapfwelle	430min^{-1}	430min^{-1}	430min^{-1}	430min^{-1}	750min^{-1}
Gewicht ca. (kg)	225	366	430	510	575
Maße L x B x H (mm)	1130x740x942	1130x740x942	1130x740x942	1192x740x1007	1130x740x1007
Steckdosen 230V 3polig	3 x Schuko 16A	3 x Schuko 16A	3 x Schuko 16A	3 x Schuko 16A	3 x Schuko 16A
Steckdosen 400V/ 5polig/6h	1 x CEE 400V / 16A	1x CEE 400V / 16A	1x CEE 400V / 16A	1x CEE 400V / 16A	1x CEE 400V / 16A
	1 x CEE 400V / 32A	1 x CEE 400V / 32A	1 x CEE 400V / 32A	1 x CEE 400V / 32A	1 x CEE 400V / 32A
		1 x CEE 400V / 63A	1 x CEE 400V / 125A	1 x CEE 400V / 125A	1 x CEE 400V / 125A
Steckdosen 400V/ 5polig/7h	1 x CEE 400V / 32A	1 x CEE 400V / 63A	1 x CEE 400V / 125A	1 x CEE 400V / 125A	1 x CEE 400V / 125A
Kategorie 3-Punkt Aufh.	3	3	3	3	3

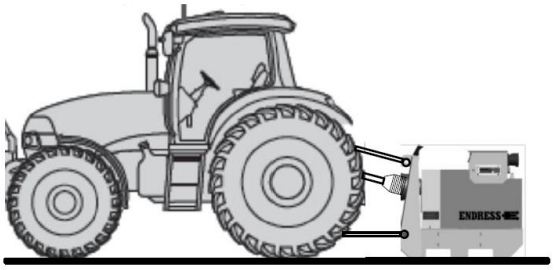
* not according to PZ. LSV

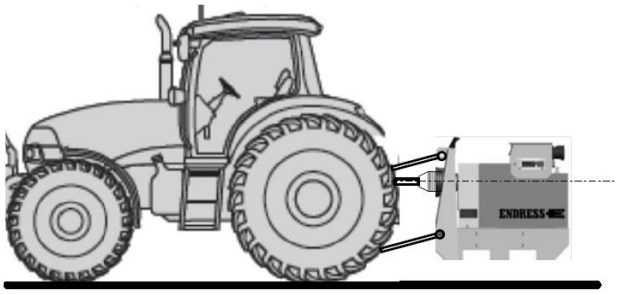
6. Operation

6.1.1 Mounting and dismounting of the EZG

The mounting and dismounting must take place on an even and firm substrate.

Mounting **Operation**





- Move back the tractor until the required clearance for mounting the cardan shaft is achieved. When using the option “set of wheels”, the EZG can be pushed to obtain the correct clearance.
- Secure the tractor and the EZG (with the set of wheels) from rolling away.
- Connect the EZG to the three-point linkage of the tractor and secure the connections using locking pins.
- Mount the cardan shaft between the power take-off shaft of the tractor and the EZG. Observe the notices on the cardan shaft and read through its operating manual.
- To operate, raise the EZG until the cardan shaft runs horizontally.

DANGER!

It is not permitted to stand in the area between the power take-off generator and the tractor during lifting or lowering. One must maintain a safety distance of at least 1 metre.

Dismounting

- Lower the EZG until the upper and lower link arms are free.
- Unfasten the cardan shaft from the tractor power take-off shaft and lay it on the storage area
- Unfasten locks and locking pins.
- Move the tractor forwards or, when using the option with the set of wheels, pull back the EZG and secure it against rolling away by engaging the brake.

Place the EZG in a dry and dust-free room after use.
Place the EZG in a stable position, freely accessible.

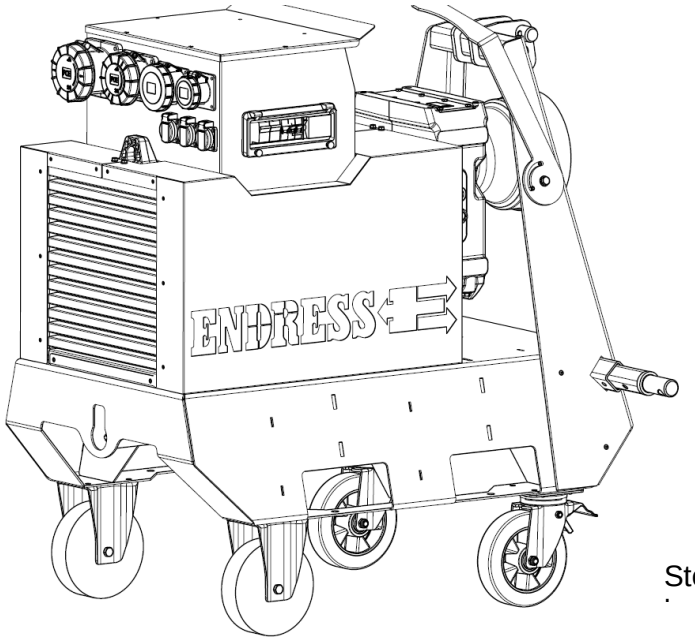
6.1.2 Moving

To move the EZG, use a forklift which is appropriate for its weight. Forklift pockets are located in the base frame.
The EZG can also be moved on an even and stable surface using the set of wheels available as an accessory. After moving the EZG, secure it from rolling away using the brakes on the two steering rollers

DANGER!

A device that slides away or falls can cause severe injury or death.

- Take the weight of about 600kg into account.
- Do not put your feet under the device.
- During transport, secure the device against sliding or tipping.



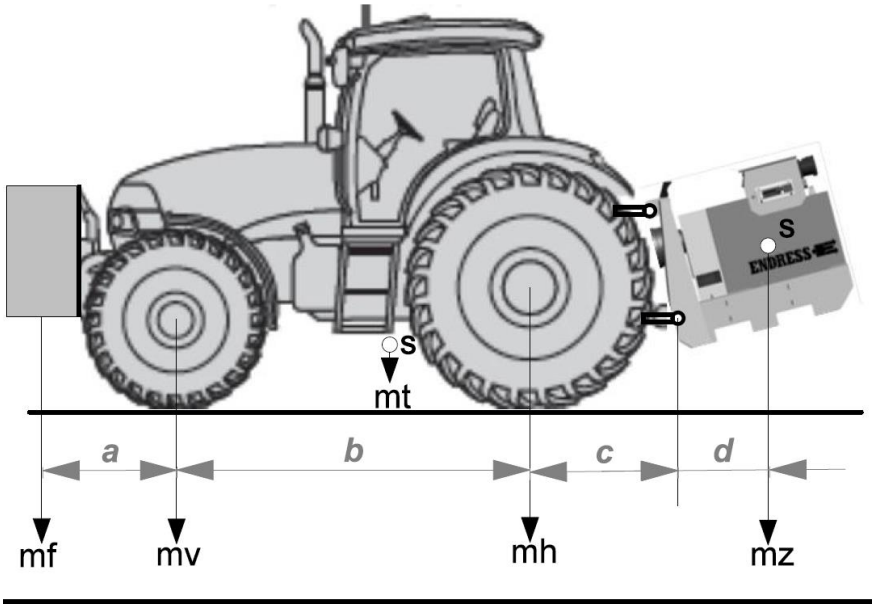
6.1.3 Transport with the tractor

DANGER!

It is not permitted to stand in the area between the power take-off generator and the tractor during lifting or lowering. One must maintain a safety distance of at least 1 metre.

Check the weight distribution before transport

1. Observance of the overall weight and the axial loads
2. Lifting force of the hydraulics of the three-point linkage
3. The weight mv_{res} on the front axle must be a minimum of 20% of the empty weight of the tractor



Type	mz(kg)	d(m)
EZG 25	225	0.48
EZG 40	366	0.59
EZG 60	430	0.56
EZG 80	510	0.58
EZG 100	575	0.57

mf(kg)	**Weight with front ballast**
mv(kg)	**Weight on the front axle without mounting**
mt(kg)	**Operating weight without mounting**
mh(kg)	**Weight on the rear axle without mounting**
mz(kg)	**Weight of the power take-off generator**

a(m)	**Distance from the front ballast to the front axle**
b(m)	**Wheelbase of the tractor**
c(m)	**Distance from the rear axle to the mount lower link arm**
d(m)	**Distance from the mount for lower link arm to the centre of gravity of the EZG**
S	**Centres of gravity**

Calculation of the front axle load mv_{res}(kg) with the EZG mounted

$$mv_{res} = \frac{mv \times b - mz \times (c+d)}{b} \geq 0.2 \times mt$$

If the calculated weight is less than 0.2 x mt, use an appropriate tractor with a higher operating weight or attach additional front ballast.
The permissible total weight and the permissible rear axle load of the tractor must not be exceeded.

Calculation of the rear axle load mh_{res}(kg) with the EZG mounted

$$mh_{res} = \frac{mh \times b + mz \times (b+c+d)}{b} \leq mh_{perm}$$

If the calculated weight exceeds the permissible rear axle load (mh_{perm}) according to the manufacturer, the EZG must not be transported with the tractor.

The calculated values for mv_{res} and mh_{res} should be checked by weighing.

Example:

Tractor- total weight mt=4900kg, permissible total weight mt_{perm}=7500kg, front axial load mv=2100kg, rear axial load mh=2800kg, permissible rear axial load mh_{perm}=5000kg, wheelbase b=2.5m, distance from rear axle to mount for lower link arm c=1 m.

Power take-off generator EZG 80, weight mz=510kg, Distance from the mount for lower link arm to the centre of gravity of the EZG d=0.58 m.

Calculation of the front axle load mv_{res}(kg) with the EZG mounted

$$mv_{res} = \frac{mv \times b - mz \times (c+d)}{b} = \frac{2100 \times 2.5 - 510 \times (1+0.58)}{2.5}$$ **=1778 kg ≥ 0.2 x 4900 kg**

Calculation of the rear axle load mh_{res}(kg) with the EZG mounted

$$mh_{res} = \frac{mh \times b + mz \times (b+c+d)}{b} = \frac{2800 \times 2.5 + 510 \times (2.5+1+0.58)}{2.5}$$ **=3632 kg ≤ 5000 kg**

Calculation of the total weight mt_{ges}(kg) with the EZG mounted.

mt_{ges} = mt + mz = 4900 + 510 = **5410kg < mt_{perm} = 7500kg**

6.1.4 Transport with the tractor on public roads

The following points should be observed during transport:

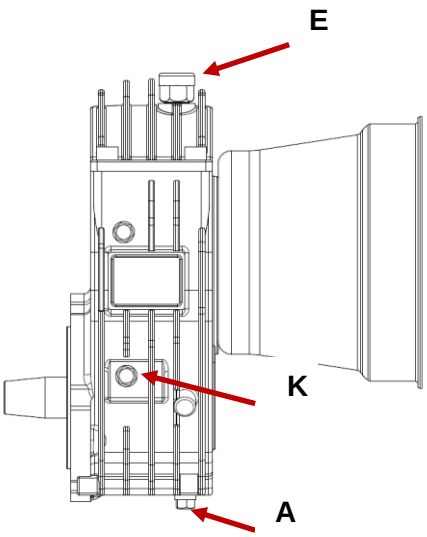
- The permissible speed is 40km/h

- Red-white striped warnings signs should be attached to both sides of the EZG as well as at the rear

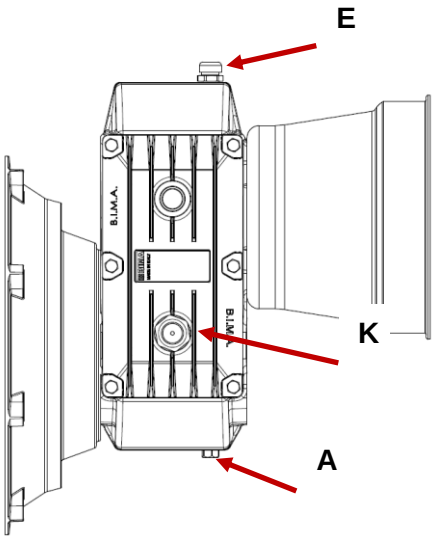
6.2 General checks to be performed before commissioning

- Optical checking of all components such as the protective covers of the sockets and the line circuit breaker.
- No damage visible to components such as the gearbox, generator and housing.
- All locking pins present
- The protective cover for the power take-off shaft is attached and not damaged
- Check oil level in the gearbox and refill if necessary (SAE 90)
- Check the cardan shaft for damage and for the required size to transmit the output or the torque.

EZG 25/EZG 40

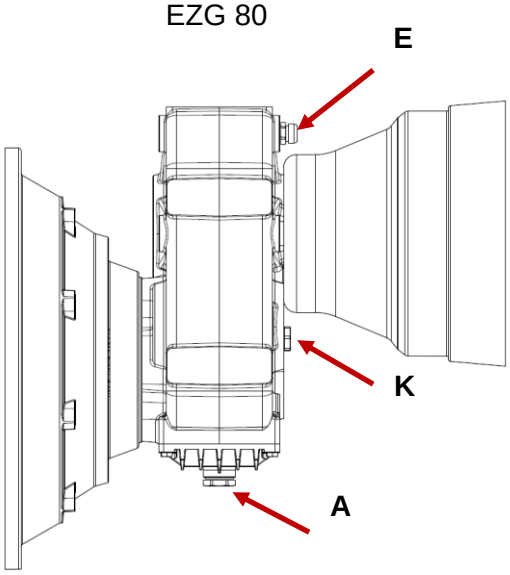


EZG 60

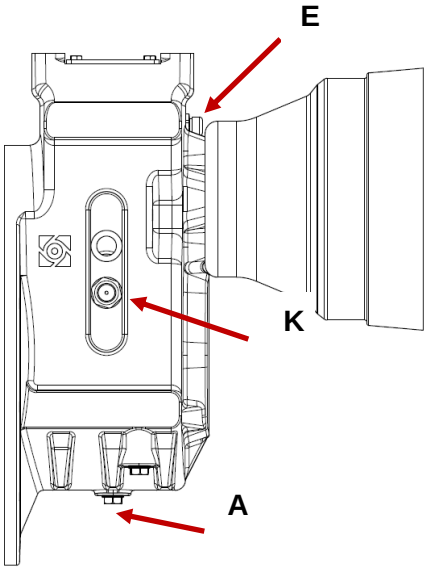


E Oil filling screw
K Checking
A Drainage

EZG 80



EZG 100



6.3 Commissioning

CAUTION!

Increased danger from rotating shafts. Presence in the area between the tractor and the EZG is not permitted.

DANGER! RISK OF DEATH!

Electrical safety

Caution!
An electrician is needed
EZGs with a residual current circuit breaker which are exclusively designed for direct power supply must be earthed before commissioning. The earthing resistance must not exceed a value of 800 Ohm.

The following measures should be undertaken without switched on consumers.

- Install the EZG in a stable position an even and stable substrate
- Connect the EZG to the three-point linkage of the tractor and secure the connections using locking pins.
- Mount the cardan shaft between the power take-off shaft of the tractor and the EZG. Observe the notices on the cardan shaft and read through its operating manual.
- Is the protective cover for the power take-off shaft?
- Start the tractor and raise the EZG until it does not touch the ground during the journey to the operating site.
- At the operating site, lower the EZG until the cardan shaft and the power take-off shaft run straight from the tractor and EZG and the EZG is parallel to the floor.
- Secure the tractor from rolling away.
- Select a power take-off shaft rotational speed of 540 ^{rpm} (for the models EZG 100 1000^{rpm}). Slowly increase the rotational speed of the power take-off shaft until 52 Hz is displayed on the frequency meter.
  Note!
  The LEDs of the frequency monitoring can be used as an adjustment aid. After first time ramping-up of the rotational speed, the underfrequency and undervoltage monitoring is deactivated for about 10 s. After this time the yellow LED flashes for an underfrequency or under-speed and the main line circuit breaker is triggered after a further period of delay of 10 sec. Increase the speed of the power take-off shaft until the green LED lights up. The frequency is within the range 47Hz and 53Hz. Perform a fine adjustment to 52Hz with the frequency meter. If, during ramping-up of the rotational speed, the red LED flashes, reduce the rotational speed immediately until the green LED lights up.
- Check the frequency and voltage without switched on consumers.
- Frequency 52.5 Hz/ +0.5 Hz
- Voltage 230 V +/- 5 V

CAUTION!

The rotational speed of the power take-off shaft must not be adjusted to higher than the equivalent of a frequency of 52.5Hz/+0.5Hz.

6.3.1 Direct power supply (field operation) of consumers (mobile plant and electrical operating equipment) with an EZG TN-S system and a residual current protective device.

Caution!

EZG earthed?

- Plug the consumers with connecting cables in the sockets on the EZG. Only use connecting cables of type H07RNF or the equivalent.

DANGER!

Increased danger from rotating shafts!

- Switch in consumers one after the other and check the frequency and voltage.

CAUTION!

If the frequency drops below 47.5 Hz or the voltage drops below permissible values. The power take-off shaft of the generator should never be readjusted. Check the power consumption of the consumers and reduce if necessary.

De-commissioning

- Switch consumer(s) off and the switch changeover switch into the 0 position.
- Switch off the tractor
- Pull the consumer plug connector out of the sockets.
- Prepare the EZG for transport.

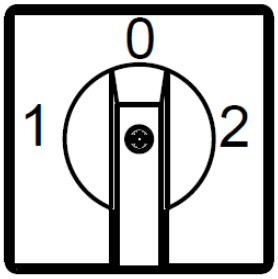
6.3.2 Direct supply of power to consumers using the EZG II/TN-S system and insulation monitoring.

DANGER!

Increased danger from rotating shafts

- Switch the power supply to plant/direct supply of power changeover switch into the O position.
- Perform a test of the insulation monitoring (Page 14)
- Switch the changeover switch into the switch position 1, direct supply of power.

Direktversorgung (Feldbetrieb)	Nicht unter Last schalten	Anlagenversorgung (Gebäudeeinspeisung)



The power feed in socket with the 7h position may only be used for supplying power to a building

- Switch in consumers one after the other and check the frequency and voltage.

CAUTION!

- If the frequency drops below 47.5 Hz or the voltage drops below permissible values. The power take-off shaft of the generator should never be readjusted. Check the power consumption of the consumers and reduce if necessary.

De-commissioning

- Switch consumer(s) off and the switch changeover switch into the 0 position.
- Switch off the tractor
- Pull the consumer plug connector out of the sockets.
- Prepare the EZG for transport.

6.3.3 Supply of power to buildings and devices (fixed installations).

Notwendige Kabelquerschnitte zur Einspeisung bei Leitungslängen bis 25m					
Modell	EZG 25/2 II/TN-S	EZG 40/4 II/TN-S	EZG 60/4 II/TN-S	EZG 80/4 II/TN-S	EZG 100/4 II/TN-S
Querschnitt	6 mm^2	16 mm^2	25 mm^2	35 mm^2	50 mm^2
Kabel 5 poliges H07 RN-F oder gleichwertig					

Electrical safety

For further steps there is the requirement that the plant be fitted with emergency power infeed and was fitted out with this by a specialist company under the supervision of an electrician, and that the front pillars are made according to VDE 0100 Part 551, and VDN. For examples of emergency power infeed switching see Page 39“ Example of emergency power infeed“.

DANGER!

Increased danger from rotating shafts

- Switch the changeover switch into the position “power supply to plant (building infeed)”.
- Insert the plug connector of the emergency power power infeed line into the power supply to plant socket of the EZG. Use H07RN-F or the equivalent as a connecting cable, with the plug connector and coupling in the special design with the 7h position.
- Switch the Network-0-Emergency power changeover switch of the plant into the 0 position.
- Insert the coupling of the power infeed line in the power feed in socket of the plant.

CAUTION!

Do not leave the tractor unsupervised. If the tractor cannot be seen from the power feed in point, the tractor must be monitored by another person.

1. Check the direction of rotation of the rotating field on the power supply distributor as clockwise.
2. Switch the Network-0-Emergency power changeover switch of the plant into the Emergency power position.

CAUTION!

If the frequency drops below 47.5 Hz or the voltage drops below permissible values. The power take-off shaft of the generator should never be readjusted. It may be necessary to switch off individual consumers of the part of the plant requiring emergency power.

De-commissioning

Mains voltage present and the mains voltage indicator lights on the power supply distributor of the plant light up continuously over a number of a seconds.

- Switch the Network-0-Emergency power changeover switch of the plant into the 0 position and subsequently the network position.
- Switch the power changeover switch on the EZG into the 0 position.
- Switch off the tractor and pull out the plug connector of the power infeed line.
- Prepare the EZG for transport

7. Regular checking

Before each start-up

- Oil level
- Optical checking of all components and parts

After every commissioning before connection of the consumers

- Self test of the insulation monitoring (only EZGs with changeover switch II/TN-S)

Monthly

- Residual current circuit breaker with test button (only EZGs with a TN-S system for direct supply of power)
- Self test of the monitoring PCB

Every 6 months

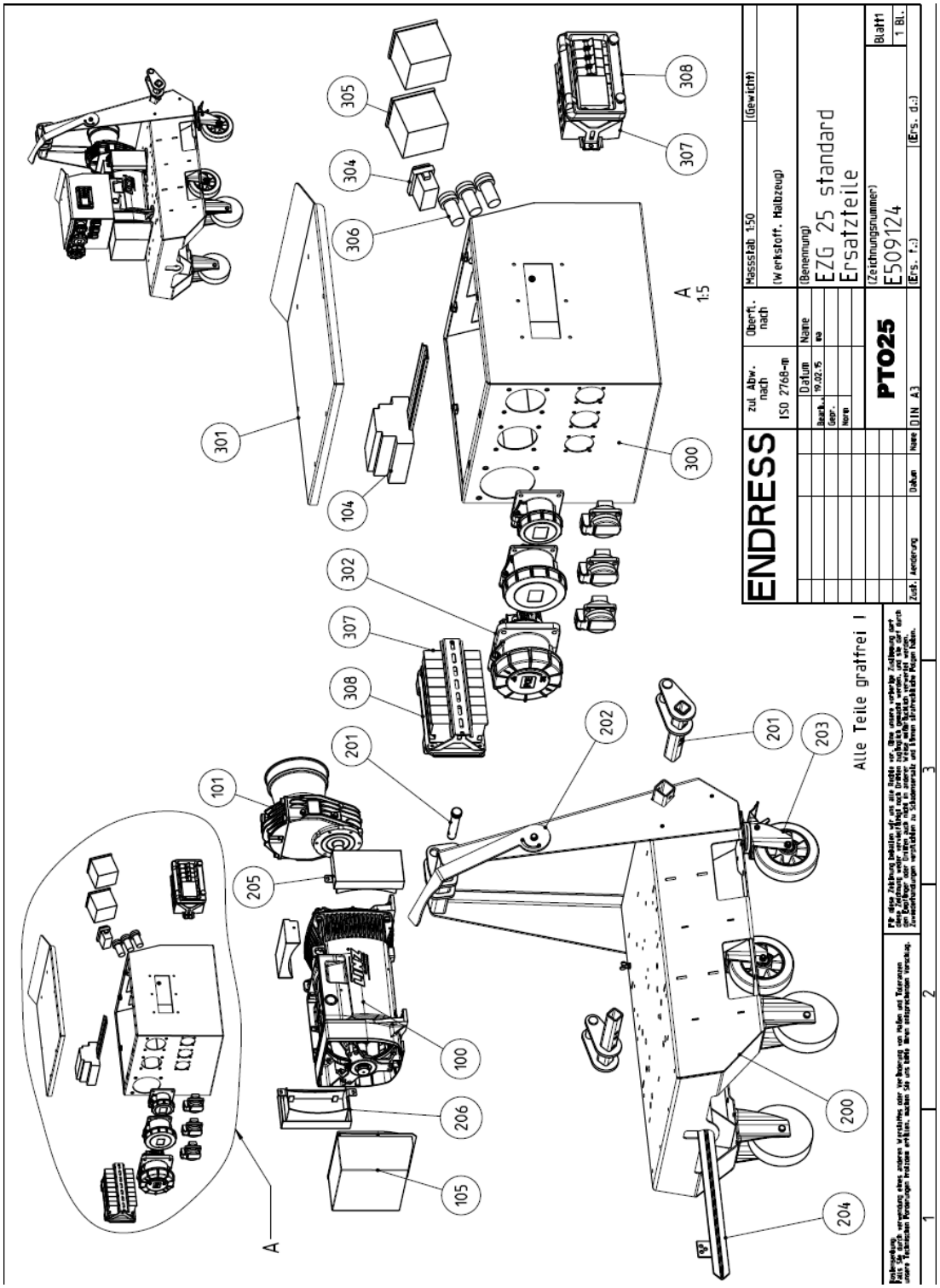
- Electrical routine inspections according to BGV A3

8. Maintenance

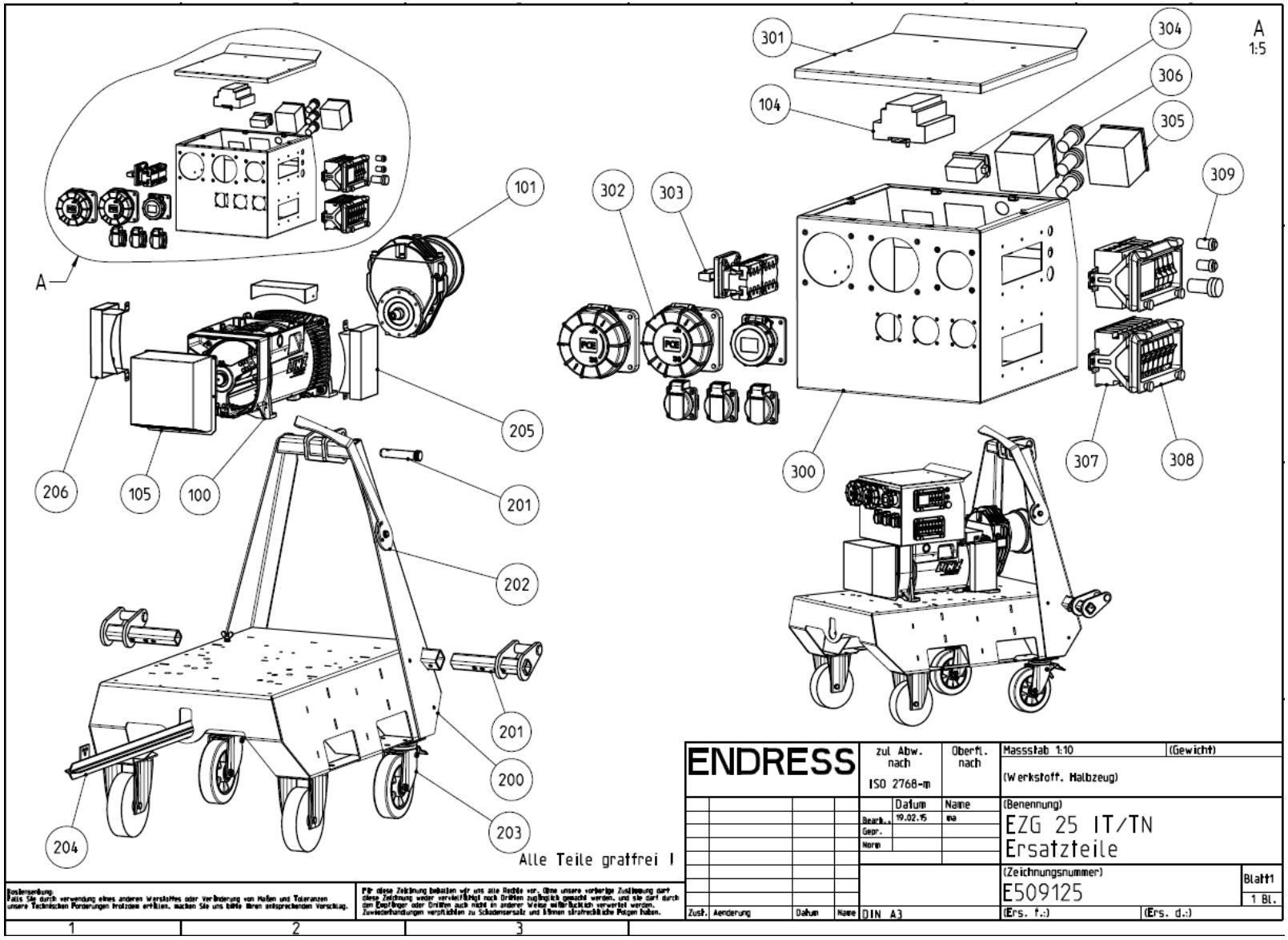
- Every 500 operating hours, change the SAE 90 gear oil when the machine is at a standstill (for the first time after 25 operating hours)
- Once every 6 months, dehumidification by means of a 30 minute test run with loading

9. Exploded-view drawings and lists of replacement parts

9.1 EZG 25/2 II/TN-S



9.2 EZG 25/2 II/TN-S Switchover plant/direct supply of power



ENDRESS				zul. Abw. nach ISO 2768-m		Oberfl. nach	Massstab 1:10 (Gewicht)
							(Werkstoff, Halbzeug)
					Datum	Name	(Benennung)
				Bearb.	19.02.15	ma	EZG 25 IT/TN
				Gepr.			Ersatzteile
				Norm			
							(Zeichnungsnummer) E509125 — Blatt 1 — 1 Bl.
Zust.	Aenderung	Datum	Name	DIN A3			(Ers. f.:) (Ers. d.:)

Rostenersatzung.
Falls Sie durch verwendung eines anderen Werkstoffes oder Veränderung von Maßen und Toleranzen unsere Technischen Forderungen trotzdem erfüllen, machen Sie uns bitte Ihren entsprechenden Vorschlag.

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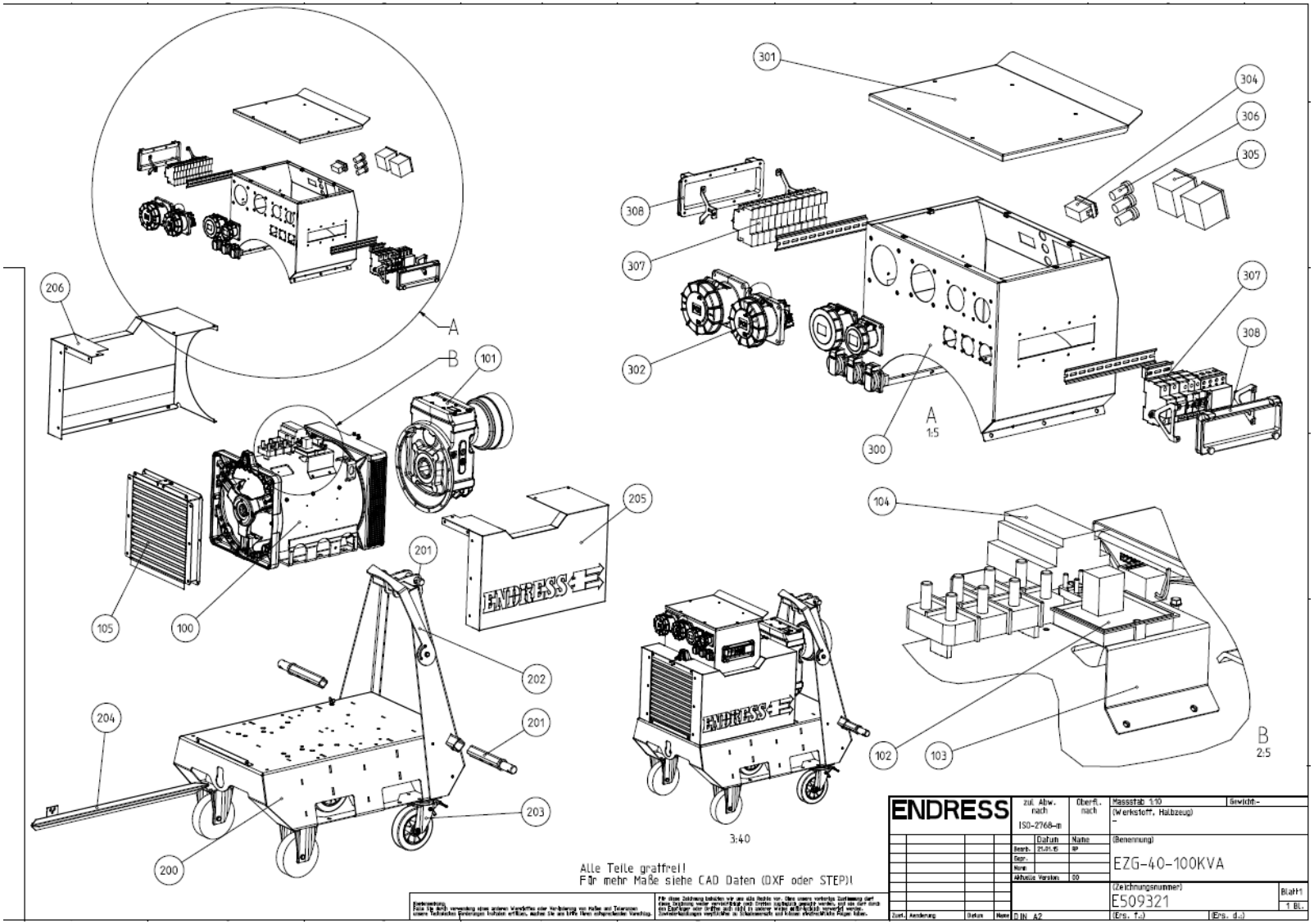
1 2 3

EZG 25/2 TN-S Art. Nr. 511402			
Pos.	Art.Nr.	Bezeichnung	Menge
100	E135261	E1X13M E2	1
101	E135269	Getriebe	1
102	E135254	Regler HVR 11 /E18EXoo5A	
104	E135247	EFVM Überwachungsplatine	1
105	E135300	Abdeckung Generator IP 44	1
200	E508806/31	Rahmen Zapfwellengenerator 25 - 100 kVA	1
201	KAT 3		
	E508886/01	Aufnahmebolzen EZG Kat.3	1
	E508848/31	Aufnahme Kat.3	2
	E134097	Klappstecker	3
	Kat 2		
	E508822/31	Aufnahme links Kat.2	1
	E508818/31	Aufnahme rechts Kat.2	1
	E507600/01	Aufnahmebolzen EZG Kat,2	
202	E508807/31	Halter Zapfwelle	1
203	E135186	Lenkrolle mit Feststeller	2
	E135187	Bockrolle	2
204	162008	Erdungsset kplt.	1
205	E135300	Seitenteil links (Satz:Pos.105,205,206)	1
206	E135300	Seitenteil rechts	1
300	E509110/97	Elektrokasten	1
301	E509108/97	Elektrokastendeckel	1
302	Steckdose		
	E134366	CEE 5p 63 A	1
	E135222	CEE 5p 32 A	1
	E134992	CEE 5p 16 A	1
	E100039	Schuko 3p 16 A	3
304	E130470	Betriebsstundenzähler	1
305	E134217	Spannungsmesser ERI72	1
	E135263	Frequenzmesser ERC72 1 mA	1
306	E134238	LED-Signalleuchte 22 mm gelb	1
	E134256	LED-Signalleuchte 22 mm grün	1
	E134239	LED-Signalleuchte 22 mm rot	1
307	Schutzschalter		
	E134211	FI 40A/4p/30mA	1
	E130309	Arbeitsstromauslöser FL 110	1
	E133014	Leitungsschutzschalter 3B32	1
	E131880	Leitungsschutzschalter 3B16	1
	E133013	Leitungsschutzschalter 1B16	3
308	E100650	Scharnierfenster Nr. 40978 8 TE	2

EZG 25/2 II/TN-S Art. Nr. 511502			
Pos.	Art.Nr.	Bezeichnung	Menge
100	E135261	E1X13M E2	1
101	E135269	Getriebe	1
102	E135254	Regler HVR 11 / E18EX005A	1
104	E135247	EFVM Überwachungsplatine	1
105	E135300	Abdeckung Generator IP 44	1
106	E134080	Isolationsüberwachungsmodul	1
200	E508806/31	Rahmen Zapfwellengenerator 25 - 100 kVA	1
201	KAT 3		
	E508886/01	Aufnahmebolzen EZG Kat.3	1
	E508848/31	Aufnahme Kat.3	2
	E134097	Klappstecker	3
	Kat 2		
	E508822/31	Aufnahme links Kat.2	1
	E508818/31	Aufnahme rechts Kat.2	1
	E507600/01	Aufnahmebolzen EZG Kat,2	
202	E508807/31	Halter Zapfwelle	1
203	E135186	Lenkrolle mit Feststeller	2
	E135187	Bockrolle	2
204	162008	Erdungsset kplt.	1
205	E135300	Seitenteil links (Satz: Pos.105,205,206)	1
206	E135300	Seitenteil rechts	1
300	E509115/97	Elektrokasten IT/TN	1
301	E509108/97	Elektrokastendeckel	1
302	Steckdose		
	E135150	CEE 5p 32 A 7h	1
	E135222	CEE 5p 32 A	1
	E134992	CEE 5p 16 A	1
	E100039	Schuko 3p 16 A	3
303	E135260	Umschalter 1-0-2 KG32B T904 E	1
304	E130470	Betriebsstundenzähler	1
305	E134217	Spannungsmesser ERI72	1
	E135263	Frequenzmesser ERC72 1 mA	1
306	E134238	LED-Signalleuchte 22 mm gelb	1
	E134256	LED-Signalleuchte 22 mm grün	1
	E134239	LED-Signalleuchte 22 mm rot	1
307	Schutzschalter		
	E130309	Arbeitsstromauslöser FL 110	1
	E131295	Leitungsschutzschalter 4B32	1
	E100541	Leitungsschutzschalter 4B16	1
	E130177	Leitungsschutzschalter 2B16	3
308	E100650	Scharnierfenster Nr. 40978 8 TE	2
309	ISO Tasten/Lampe		
	E131271	Drucktaster schwarz Öffner	1
	E130439	Drucktaster rot Schliesser	1
	E130440	Dichtungskappe transparent	2
	E134239	LED-Signalleuchte 22 mm rot	1

9.3 EZG 40/4, 60/4, 80/4, 100/4 II/TN-S


301
304
306
305
308
307
302
300
A
1:5
307
308
206
A
B
101
105
100
201
205
ENDRESS
202
204
201
203
200
3:40
104
102
103
B
2:5
Alle Teile graffrei!
Für mehr Maße siehe CAD Daten (DXF oder STEP)!
ENDRESS
zul. Abw. nach ISO-2768-m
Oberfl. nach
Maßstab 1:10
Gewicht:-
(Werkstoff, Halbzeug)
-
Datum
Name
Bearb. 21.01.15 RP
Gepr.
Norm
Aktuelle Version 00
(Benennung)
EZG-40-100KVA
(Zeichnungsnummer)
E509321
Blatt1
1 Bl.
DIN A2
(Ers. f.:)
(Ers. d.:)
Zust. Aenderung Datum Name

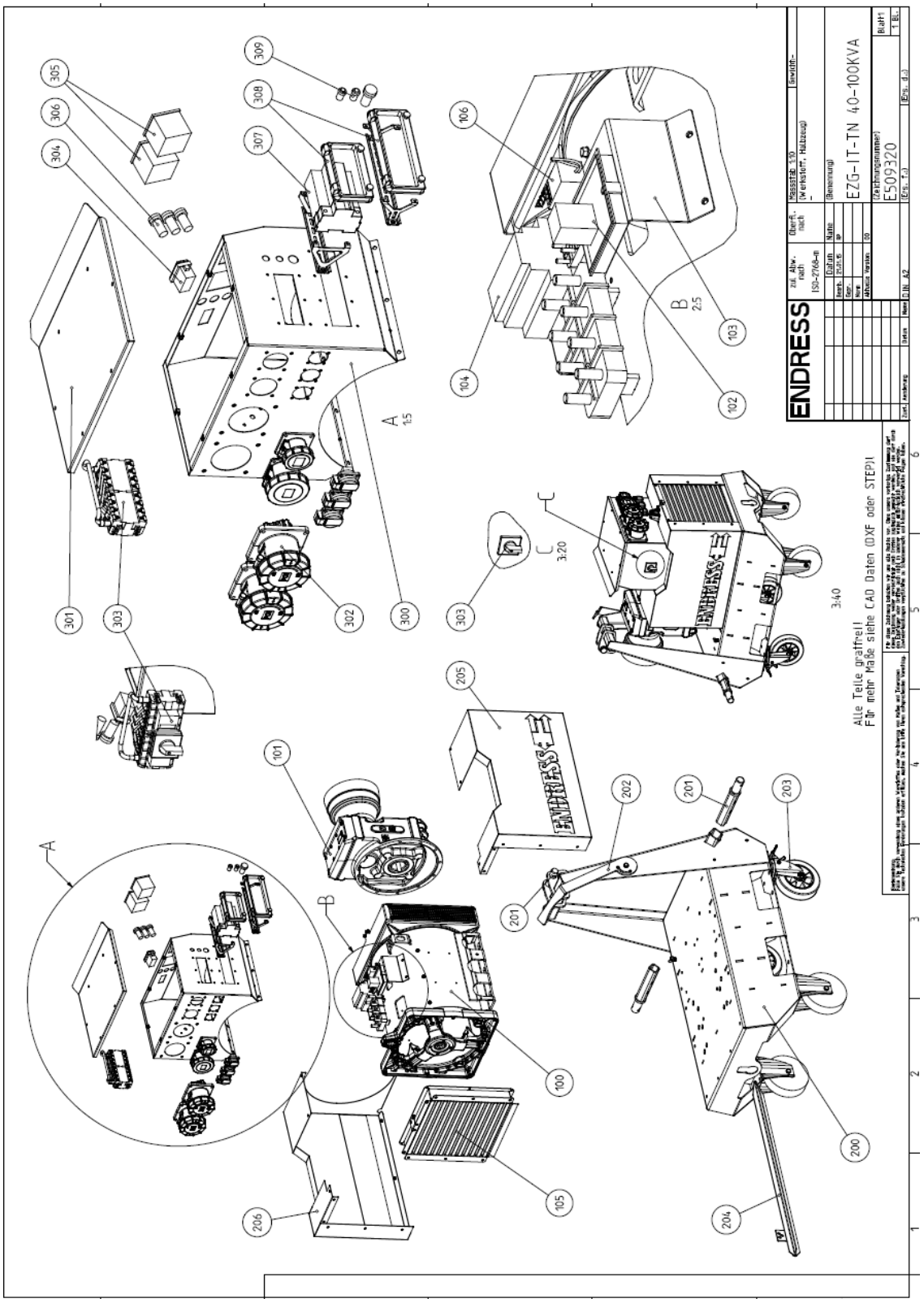
EZG 40/4 TN-S Art. Nr. 511404			
Pos.	Art.Nr.	Bezeichnung	Menge
100	E134209	Generator PRO18M E/4 36KVA	1
101	E135265	Getriebe	1
102	E135254	Regler HVR 11 / E18EX005A	1
103	E508890/97	Halter Generatorregler	1
104	E135247	EFVM Überwachungsplatine	1
105	E135255	Abdeckung Generator IP 44	1
200	E508806/31	Rahmen Zapfwellengenerator 25 - 100 kVA	1
201	KAT 3		
	E508886/01	Aufnahmebolzen EZG Kat.3	1
	E508848/31	Aufnahme Kat.3	2
	E134097	Klappstecker	3
	Kat 2		
	E508822/31	Aufnahme links Kat.2	1
	E508818/31	Aufnahme rechts Kat.2	1
	E507600/01	Aufnahmebolzen EZG Kat,2	
202	E508807/31	Halter Zapfwelle	1
203	E135186	Lenkrolle mit Feststeller	2
	E135187	Bockrolle	2
204	162008	Erdungsset kplt.	1
205	E509104/97	Seitenteil links	1
206	E509105/97	Seitenteil rechts	1
	E509103/90	Abluftgitter	2
300	E508897/97	Elektrokasten IT/TN	1
301	E508854/97	Elektrokastendeckel	1
302	Steckdose		
	E134366	CEE 5p 63 A	1
	E135222	CEE 5p 32 A	1
	E134992	CEE 5p 16 A	1
	E134992	CEE 5p 16 A	1
	E100039	Schuko 3p 16 A	3
304	E130470	Betriebsstundenzähler	1
305	E134217	Spannungsmesser ERI72	1
	E135263	Frequenzmesser ERC72 1 mA	1
306	E134238	LED-Signalleuchte 22 mm gelb	1
	E134256	LED-Signalleuchte 22 mm grün	1
	E134239	LED-Signalleuchte 22 mm rot	1
307	Schutzschalter		
	E131937	FI 63A/4p/30mA	1
	E130309	Arbeitsstromauslöser FL 110	1
	E134213	Leitungsschutzschalter 3B50	1
	E133014	Leitungsschutzschalter 3B32	1
	E131880	Leitungsschutzschalter 3B16	2
	E133013	Leitungsschutzschalter 1B16	3
308	E130422	Scharnierfenster Nr. 40980 12 TE	1
	E100650	Scharnierfenster Nr. 40978 8 TE	1

EZG 60/4 TN-S Art. Nr. 511405			
Pos.	Art.Nr.	Bezeichnung	Menge
100	E134210	Generator PRO18L G/4 54KVA	1
101	E135266	Getriebe	1
102	E135254	Regler HVR 11 / E18EX005A	1
103	E508890/97	Halter Generatorregler	1
104	E135247	EFVM Überwachungsplatine	1
105	E135255	Abdeckung Generator IP 44	1
200	E508806/31	Rahmen Zapfwellengenerator 25 - 100 kVA	1
201	KAT 3		
	E508886/01	Aufnahmebolzen EZG Kat.3	1
	E508848/31	Aufnahme Kat.3	2
	E134097	Klappstecker	3
	Kat 2		
	E508822/31	Aufnahme links Kat.2	1
	E508818/31	Aufnahme rechts Kat.2	1
	E507600/01	Aufnahmebolzen EZG Kat,2	
202	E508807/31	Halter Zapfwelle	1
203	E135186	Lenkrolle mit Feststeller	2
	E135187	Bockrolle	2
204	162008	Erdungsset kplt.	1
205	E508867/97	Seitenteil links	1
206	E508864/97	Seitenteil rechts	1
	E508896/90	Abluftgitter	2
300	E508892/97	Elektrokasten IT/TN	1
301	E508854/97	Elektrokastendeckel	1
302	Steckdose		
	E135006	CEE 5p 125 A	1
	E134366	CEE 5p 63 A	1
	E135222	CEE 5p 32 A	1
	E134992	CEE 5p 16 A	1
	E100039	Schuko 3p 16 A	3
304	E130470	Betriebsstundenzähler	1
305	E134217	Spannungsmesser ERI72	1
	E135263	Frequenzmesser ERC72 1 mA	1
306	E134238	LED-Signalleuchte 22 mm gelb	1
	E134256	LED-Signalleuchte 22 mm grün	1
	E134239	LED-Signalleuchte 22 mm rot	1
307	Schutzschalter		
	E134212	FI 100A/4p/30mA	1
	E134215	Arbeitsstromauslöser	1
	E134214	Leitungsschutzschalter S803 B-B80	1
	E134357	Leitungsschutzschalter 3B63	1
	E133014	Leitungsschutzschalter 3B32	1
	E131880	Leitungsschutzschalter 3B16	1
	E133013	Leitungsschutzschalter 1B16	3
308	E130422	Scharnierfenster Nr. 40980 12 TE	2

EZG 80/4 TN-S Art. Nr. 511406			
Pos.	Art.Nr.	Bezeichnung	Menge
100	E134110	Generator PRO22S C/4 85KVA	1
101	E135267	Getriebe	1
102	E135254	Regler HVR 11 / E18EX005A	1
103	E508855/97	Halter Generatorregler	1
104	E135247	EFVM Überwachungsplatine	1
105	E508810/97	Abdeckung Generator IP 44	1
200	E508806/31	Rahmen Zapfwellengenerator 25 - 100 kVA	1
201	KAT 3		
	E508886/01	Aufnahmebolzen EZG Kat.3	1
	E508848/31	Aufnahme Kat.3	2
	E134097	Klappstecker	3
	Kat 2		
	E508822/31	Aufnahme links Kat.2	1
	E508818/31	Aufnahme rechts Kat.2	1
	E507600/01	Aufnahmebolzen EZG Kat,2	
202	E508807/31	Halter Zapfwelle	1
203	E135186	Lenkrolle mit Feststeller	2
	E135187	Bockrolle	2
204	162008	Erdungsset kplt.	1
205	E508860/97	Seitenteil links	1
206	E508857/97	Seitenteil rechts	1
	E508896/90	Abluftgitter	2
300	E508881/97	Elektrokasten IT/TN	1
301	E508854/97	Elektrokastendeckel	1
302	Steckdose		
	E135006	CEE 5p 125 A	1
	E134366	CEE 5p 63 A	1
	E135222	CEE 5p 32 A	1
	E134992	CEE 5p 16 A	1
	E100039	Schuko 3p 16 A	3
304	E130470	Betriebsstundenzähler	1
305	E134217	Spannungsmesser ERI72	1
	E135263	Frequenzmesser ERC72 1 mA	1
306	E134238	LED-Signalleuchte 22 mm gelb	1
	E134256	LED-Signalleuchte 22 mm grün	1
	E134239	LED-Signalleuchte 22 mm rot	1
307	Schutzschalter		
	E134212	FI 100A/4p/30mA	1
	E134215	Arbeitsstromauslöser	1
	E134312	Leitungsschutzschalter S803 B-B100	1
	E134357	Leitungsschutzschalter 3B63	1
	E133014	Leitungsschutzschalter 3B32	1
	E131880	Leitungsschutzschalter 3B16	1
	E133013	Leitungsschutzschalter 1B16	3
308	E130422	Scharnierfenster Nr. 40980 12 TE	2

EZG 100/4 TN-S Art. Nr. 511407			
Pos.	Art.Nr.	Bezeichnung	**Menge**
100	E135149	Generat. PRO22S D/4 100KVA	**1**
101	E135268	Getriebe	**1**
102	E135254	Regler HVR 11 / E18EX005A	**1**
103	E508855/97	Halter Generatorregler	**1**
104	E135247	EFVM Überwachungsplatine	**1**
105	E508810/97	Abdeckung Generator IP 44	**1**
200	E508806/31	Rahmen Zapfwellengenerator 25 - 100 kVA	**1**
201	KAT 3		
	E508886/01	Aufnahmebolzen EZG Kat.3	**1**
	E508848/31	Aufnahme Kat.3	**2**
	E134097	Klappstecker	**3**
	Kat 2		
	E508822/31	Aufnahme links Kat.2	**1**
	E508818/31	Aufnahme rechts Kat.2	**1**
	E507600/01	Aufnahmebolzen EZG Kat,2	
202	E508807/31	Halter Zapfwelle	**1**
203	E135186	Lenkrolle mit Feststeller	**2**
	E135187	Bockrolle	**2**
204	162008	Erdungsset kplt.	**1**
205	E508860/97	Seitenteil links	**1**
206	E508857/97	Seitenteil rechts	**1**
	E508896/90	Abluftgitter	**2**
300	E508881/97	Elektrokasten IT/TN	**1**
301	E508854/97	Elektrokastendeckel	**1**
302	Steckdose		
	E135006	CEE 5p 125 A	**1**
	E134366	CEE 5p 63 A	**1**
	E135222	CEE 5p 32 A	**1**
	E134992	CEE 5p 16 A	**1**
	E100039	Schuko 3p 16 A	**3**
304	E130470	Betriebsstundenzähler	**1**
305	E134217	Spannungsmesser ERI72	**1**
	E135263	Frequenzmesser ERC72 1 mA	**1**
306	E134238	LED-Signalleuchte 22 mm gelb	**1**
	E134256	LED-Signalleuchte 22 mm grün	**1**
	E134239	LED-Signalleuchte 22 mm rot	**1**
307	Schutzschalter		
	E134998	FI 125A/4p/30mA	**1**
	E134215	Arbeitsstromauslöser	**1**
	E134313	Leitungsschutzschalter S803 B-B125	**1**
	E134357	Leitungsschutzschalter 3B63	**1**
	E133014	Leitungsschutzschalter 3B32	**1**
	E131880	Leitungsschutzschalter 3B16	**1**
	E133013	Leitungsschutzschalter 1B16	**3**
308	E130422	Scharnierfenster Nr. 40980 12 TE	**2**

9.4 EZG 40/4, 60/4, 80/4, 100/4 II/TN-S Switchover plant/direct supply of power



EZG 40/4 II/TN-S Art. Nr. 511504			
Pos.	Art.Nr.	Bezeichnung	Menge
100	E134209	Generator PRO18M E/4 36KVA	1
101	E135265	Getriebe	1
102	E135254	Regler HVR 11 / E18EX005A	1
103	E508890/97	Halter Generatorregler	1
104	E135247	EFVM Überwachungsplatine	1
105	E135255	Abdeckung Generator IP 44	1
106	E134080	Isolationsüberwachungsmodul	1
200	E508806/31	Rahmen Zapfwellengenerator 25 - 100 kVA	1
201	KAT 3		
	E508886/01	Aufnahmebolzen EZG Kat.3	1
	E508848/31	Aufnahme Kat.3	2
	E134097	Klappstecker	3
	Kat 2		
	E508822/31	Aufnahme links Kat.2	1
	E508818/31	Aufnahme rechts Kat.2	1
	E507600/01	Aufnahmebolzen EZG Kat,2	
202	E508807/31	Halter Zapfwelle	1
203	E135186	Lenkrolle mit Feststeller	2
	E135187	Bockrolle	2
204	162008	Erdungsset kplt.	1
205	E509105/97	Seitenteil links	1
206	E509104/97	Seitenteil rechts	1
	E509103/90	Abluftgitter	2
300	E508900/97	Elektrokasten IT/TN	1
301	E508854/97	Elektrokastendeckel	1
302	Steckdose		
	E135007	CEE 5p 63 A 7h	1
	E134366	CEE 5p 63 A	1
	E135222	CEE 5p 32 A	1
	E134992	CEE 5p 16 A	1
	E100039	Schuko 3p 16 A	3
303	E134991	Umschalter 1-0-2 KG64B T904 E	1
304	E130470	Betriebsstundenzähler	1
305	E134217	Spannungsmesser ERI72	1
	E135263	Frequenzmesser ERC72 1 mA	1
306	E134238	LED-Signalleuchte 22 mm gelb	1
	E134256	LED-Signalleuchte 22 mm grün	1
	E134239	LED-Signalleuchte 22 mm rot	1
307	Schutzschalter		
	E130309	Arbeitsstromauslöser FL 110	1
	E131335	Leitungsschutzschalter 4B50	1
	E131295	Leitungsschutzschalter 4B32	1
	E100541	Leitungsschutzschalter 4B16	1
	E130177	Leitungsschutzschalter 2B16	3
308	E130422	Scharnierfenster Nr. 40980 12 TE	1
	E100650	Scharnierfenster Nr. 40978 8 TE	1
309	ISO Tasten/Lampe		
	E131271	Drucktaster schwarz Öffner	1
	E130439	Drucktaster rot Schliesser	1
	E130440	Dichtungskappe transparent	2
	E134239	LED-Signalleuchte 22 mm rot	1

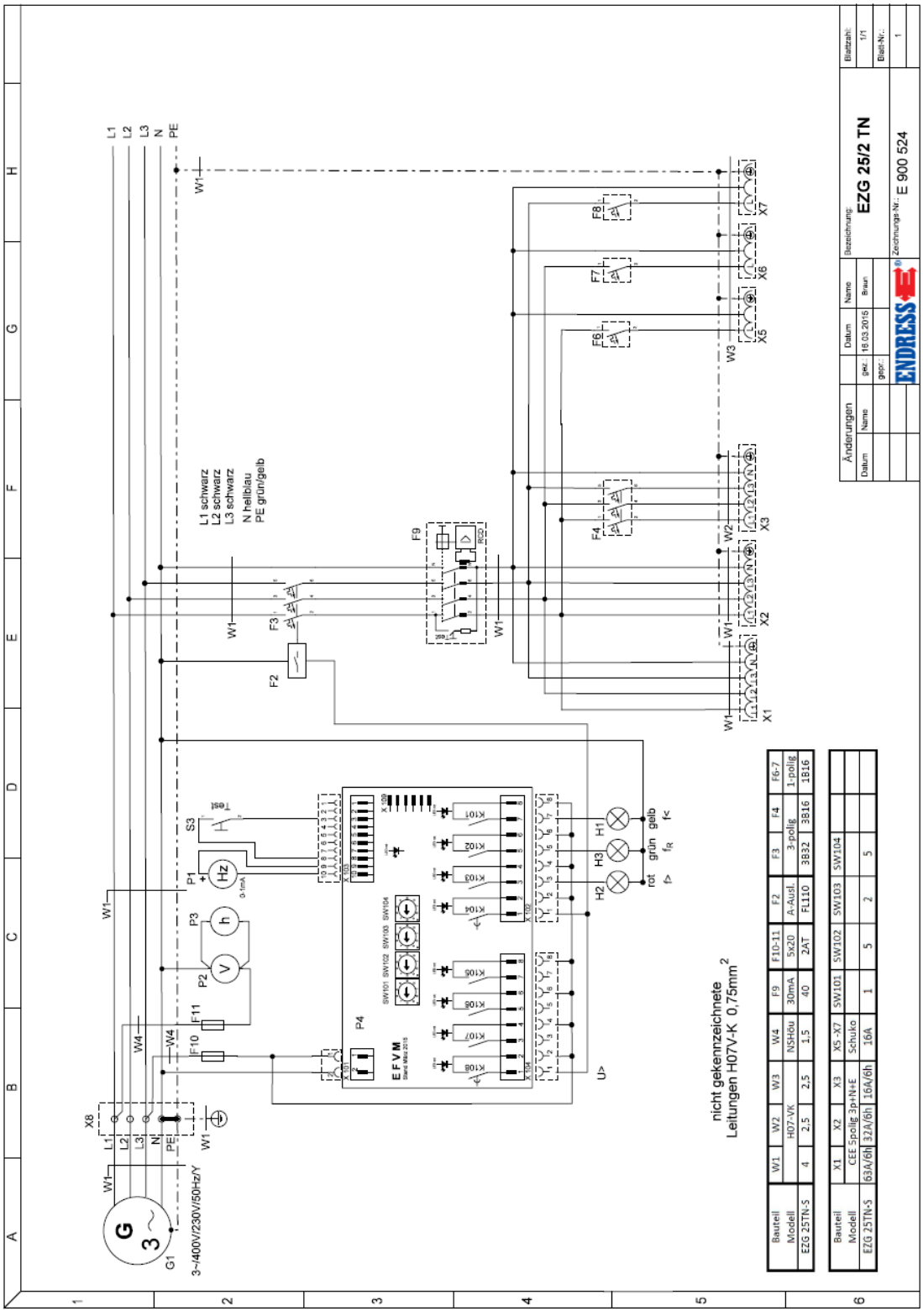
		EZG 60/4 II/TN-S Art. Nr. 511505	
Pos.	Art.Nr.	Bezeichnung	Menge
100	E134210	Generator PRO18L G/4 54KVA	1
101	E135266	Getriebe	1
102	E135254	Regler HVR 11 / E18EX005A	1
103	E508890/97	Halter Generatorregler	1
104	E135247	EFVM Überwachungsplatine	1
105	E135255	Abdeckung Generator IP 44	1
106	E134080	Isolationsüberwachungsmodul	1
200	E508806/31	Rahmen Zapfwellengenerator 25 - 100 kVA	1
201	KAT 3		
	E508886/01	Aufnahmebolzen EZG Kat.3	1
	E508848/31	Aufnahme Kat.3	2
	E134097	Klappstecker	3
	Kat 2		
	E508822/31	Aufnahme links Kat.2	1
	E508818/31	Aufnahme rechts Kat.2	1
	E507600/01	Aufnahmebolzen EZG Kat,2	
202	E508807/31	Halter Zapfwelle	1
203	E135186	Lenkrolle mit Feststeller	2
	E135187	Bockrolle	2
204	162008	Erdungsset kplt.	1
205	E508867/97	Seitenteil links	1
206	E508864/97	Seitenteil rechts	1
	E508896/90	Abluftgitter	2
300	E508861/97	Elektrokasten IT/TN	1
301	E508854/97	Elektrokastendeckel	1
302	Steckdose		
	E135008	CEE 5p 125 A 7h	1
	E135006	CEE 5p 125 A	1
	E135222	CEE 5p 32 A	1
	E134992	CEE 5p 16 A	1
	E100039	Schuko 3p 16 A	3
303	E135055	Umschalter 1-0-2 KG80 T904 E	1
304	E130470	Betriebsstundenzähler	1
305	E134217	Spannungsmesser ERI72	1
	E135263	Frequenzmesser ERC72 1 mA	1
306	E134238	LED-Signalleuchte 22 mm gelb	1
	E134256	LED-Signalleuchte 22 mm grün	1
	E134239	LED-Signalleuchte 22 mm rot	1
307	Schutzschalter		
	E134215	Arbeitsstromauslöser	1
	E134994	Leitungsschutzschalter S804 B-B80	1
	E131295	Leitungsschutzschalter 4B32	1
	E100541	Leitungsschutzschalter 4B16	1
	E130177	Leitungsschutzschalter 2B16	3
308	E130422	Scharnierfenster Nr. 40980 12 TE	2
309	ISO Tasten/Lampe		
	E131271	Drucktaster schwarz Öffner	1
	E130439	Drucktaster rot Schliesser	1
	E130440	Dichtungskappe transparent	2
	E134239	LED-Signalleuchte 22 mm rot	1

EZG 80/4 II/TN-S Art. Nr. 511506			
Pos.	Art.Nr.	Bezeichnung	Menge
100	E134110	Generator PRO22S C/4 85KVA	1
101	E135267	Getriebe	1
102	E135254	Regler HVR 11 / E18EX005A	1
103	E508855/97	Halter Generatorregler	1
104	E135247	EFVM Überwachungsplatine	1
105	E508810/97	Abdeckung Generator IP 44	1
106	E134080	Isolationsüberwachungsmodul	1
200	E508806/31	Rahmen Zapfwellengenerator 25 - 100 kVA	1
201	KAT 3		
	E508886/01	Aufnahmebolzen EZG Kat.3	1
	E508848/31	Aufnahme Kat.3	2
	E134097	Klappstecker	3
	Kat 2		
	E508822/31	Aufnahme links Kat.2	1
	E508818/31	Aufnahme rechts Kat.2	1
	E507600/01	Aufnahmebolzen EZG Kat,2	
202	E508807/31	Halter Zapfwelle	1
203	E135186	Lenkrolle mit Feststeller	2
	E135187	Bockrolle	2
204	162008	Erdungsset kplt.	1
205	E508857/97	Seitenteil links	1
206	E508860/97	Seitenteil rechts	1
	E508896/90	Abluftgitter	2
300	E508851/97	Elektrokasten IT/TN	1
301	E508854/97	Elektrokastendeckel	1
302	Steckdose		
	E135008	CEE 5p 125 A 7h	1
	E135006	CEE 5p 125 A	1
	E135222	CEE 5p 32 A	1
	E134992	CEE 5p 16 A	1
	E100039	Schuko 3p 16 A	3
303	E134996	Umschalter 1-0-2 KG100 T904 E	1
304	E130470	Betriebsstundenzähler	1
305	E134217	Spannungsmesser ERI72	1
	E135263	Frequenzmesser ERC72 1 mA	1
306	E134238	LED-Signalleuchte 22 mm gelb	1
	E134256	LED-Signalleuchte 22 mm grün	1
	E134239	LED-Signalleuchte 22 mm rot	1
307	Schutzschalter		
	E134215	Arbeitsstromauslöser	1
	E134997	Leitungsschutzschalter S804 B-B100	1
	E131295	Leitungsschutzschalter 4B32	1
	E100541	Leitungsschutzschalter 4B16	1
	E130177	Leitungsschutzschalter 2B16	3
308	E130422	Scharnierfenster Nr. 40980 12 TE	2
309	ISO Tasten/Lampe		
	E131271	Drucktaster schwarz Öffner	1
	E130439	Drucktaster rot Schliesser	1
	E130440	Dichtungskappe transparent	2
	E134239	LED-Signalleuchte 22 mm rot	1

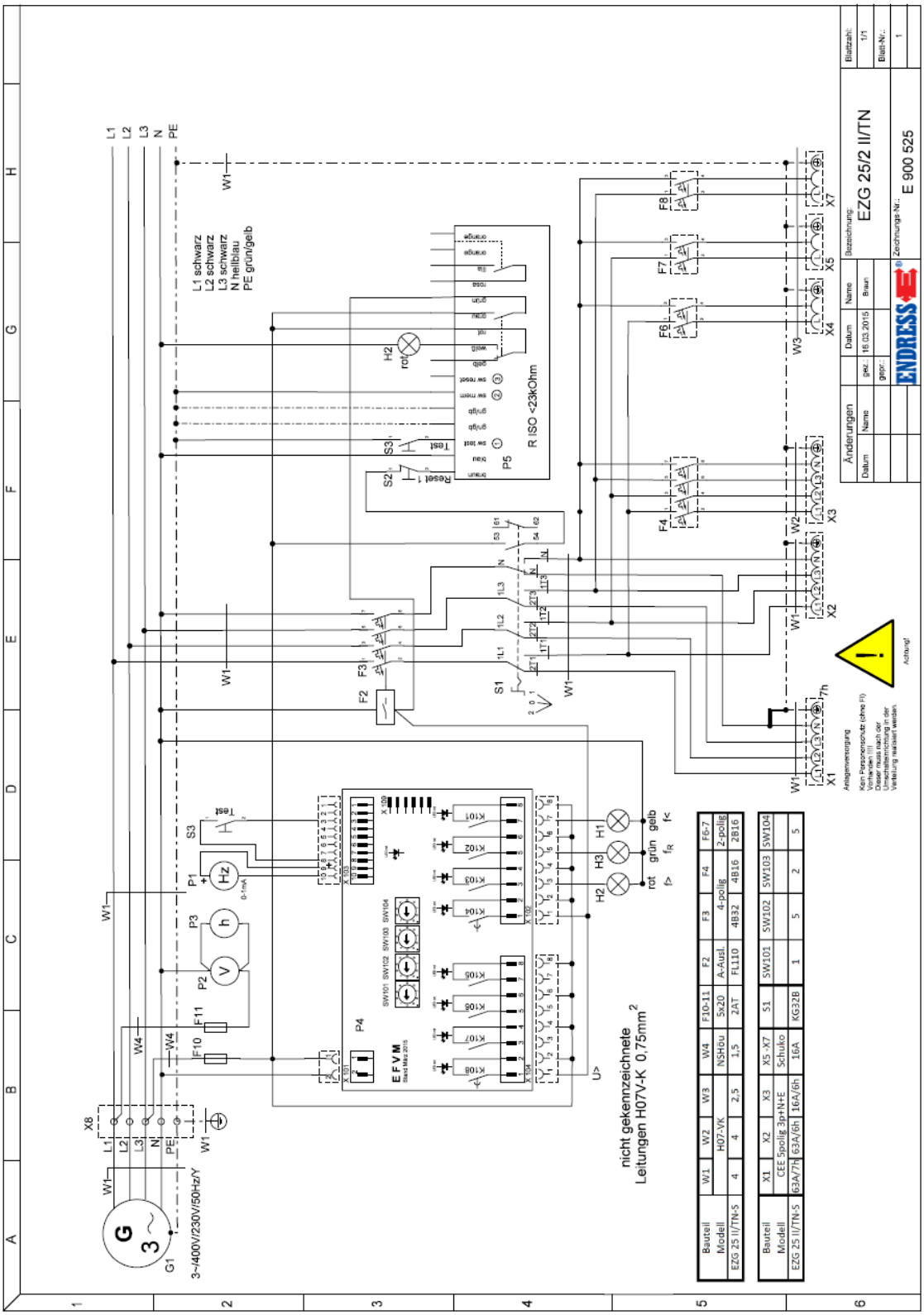
EZG 100/4 II/TN-S Art. Nr. 511507			
Pos.	Art.Nr.	Bezeichnung	**Menge**
100	E135149	Generat. PRO22S D/4 100KVA	**1**
101	E135268	Getriebe	**1**
102	E135254	Regler HVR 11 / E18EX005A	**1**
103	E508855/97	Halter Generatorregler	**1**
104	E135247	EFVM Überwachungsplatine	**1**
105	E508810/97	Abdeckung Generator IP 44	**1**
106	E134080	Isolationsüberwachungsmodul	**1**
200	E508806/31	Rahmen Zapfwellengenerator 25 - 100 kVA	**1**
201	KAT 3		
	E508886/01	Aufnahmebolzen EZG Kat.3	**1**
	E508848/31	Aufnahme Kat.3	**2**
	E134097	Klappstecker	**3**
	Kat 2		
	E508822/31	Aufnahme links Kat.2	**1**
	E508818/31	Aufnahme rechts Kat.2	**1**
	E507600/01	Aufnahmebolzen EZG Kat,2	
202	E508807/31	Halter Zapfwelle	**1**
203	E135186	Lenkrolle mit Feststeller	**2**
	E135187	Bockrolle	**2**
204	162008	Erdungsset kplt.	**1**
205	E508857/97	Seitenteil links	**1**
206	E508860/97	Seitenteil rechts	**1**
	E508896/90	Abluftgitter	**2**
300	E508851/97	Elektrokasten IT/TN	**1**
301	E508854/97	Elektrokastendeckel	**1**
302	Steckdose		
	E135008	CEE 5p 125 A 7h	**1**
	E135006	CEE 5p 125 A	**1**
	E135222	CEE 5p 32 A	**1**
	E134992	CEE 5p 16 A	**1**
	E100039	Schuko 3p 16 A	**3**
303	E134999	Umschalter 1-0-2 KG105 T904 E	**1**
304	E130470	Betriebsstundenzähler	**1**
305	E134217	Spannungsmesser ERI72	**1**
	E135263	Frequenzmesser ERC72 1 mA	**1**
306	E134238	LED-Signalleuchte 22 mm gelb	**1**
	E134256	LED-Signalleuchte 22 mm grün	**1**
	E134239	LED-Signalleuchte 22 mm rot	**1**
307	Schutzschalter		
	E134215	Arbeitsstromauslöser	**1**
	E135239	Leitungsschutzschalter S804 B-B125	**1**
	E131295	Leitungsschutzschalter 4B32	**1**
	E100541	Leitungsschutzschalter 4B16	**1**
	E130177	Leitungsschutzschalter 2B16	**3**
308	E130422	Scharnierfenster Nr. 40980 12 TE	**2**
309	ISO Tasten/Lampe		
	E131271	Drucktaster schwarz Öffner	**1**
	E130439	Drucktaster rot Schliesser	**1**
	E130440	Dichtungskappe transparent	**2**
	E134239	LED-Signalleuchte 22 mm rot	**1**

10. Circuit diagrams

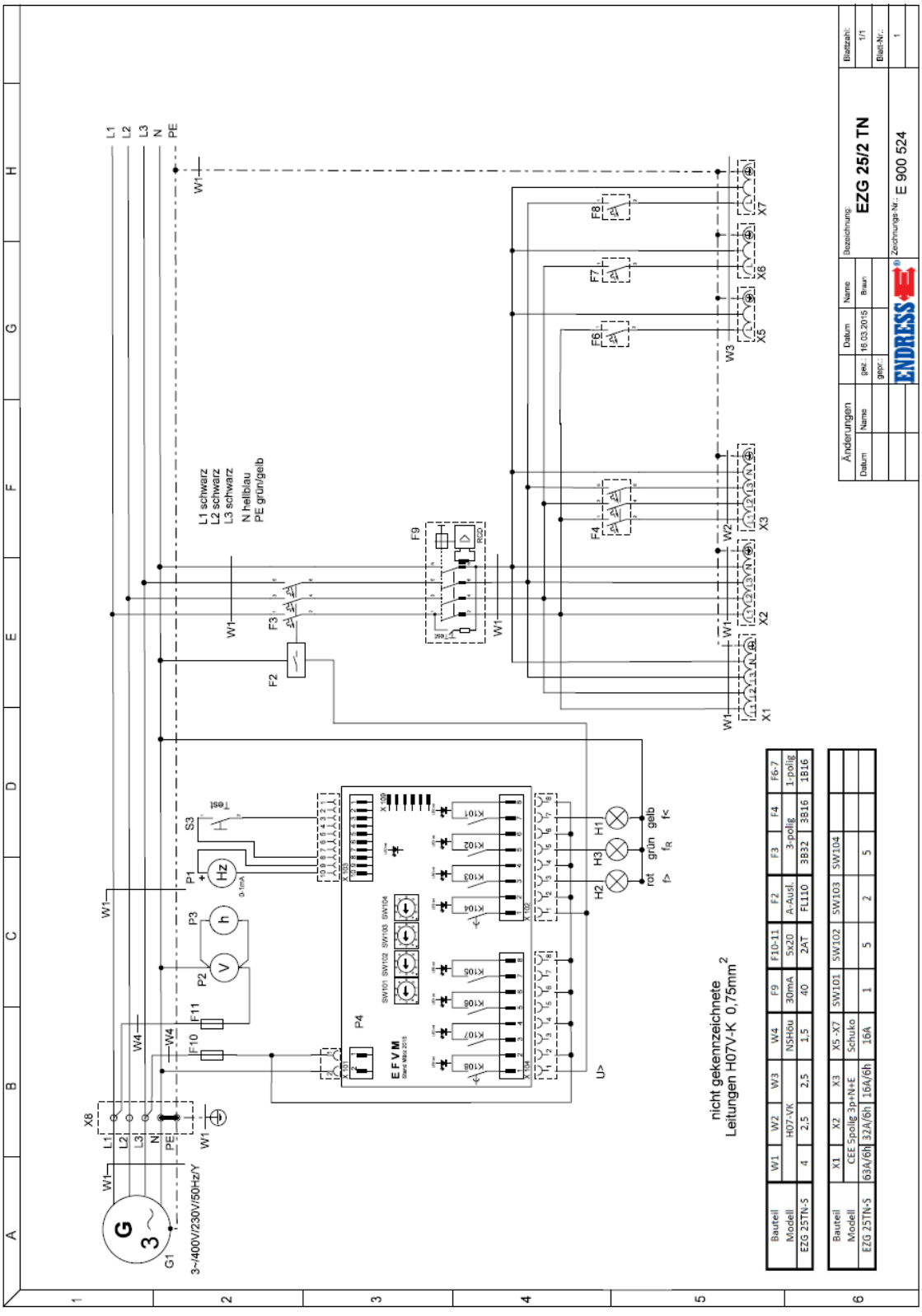
10.1 EZG 25/2 TN-S



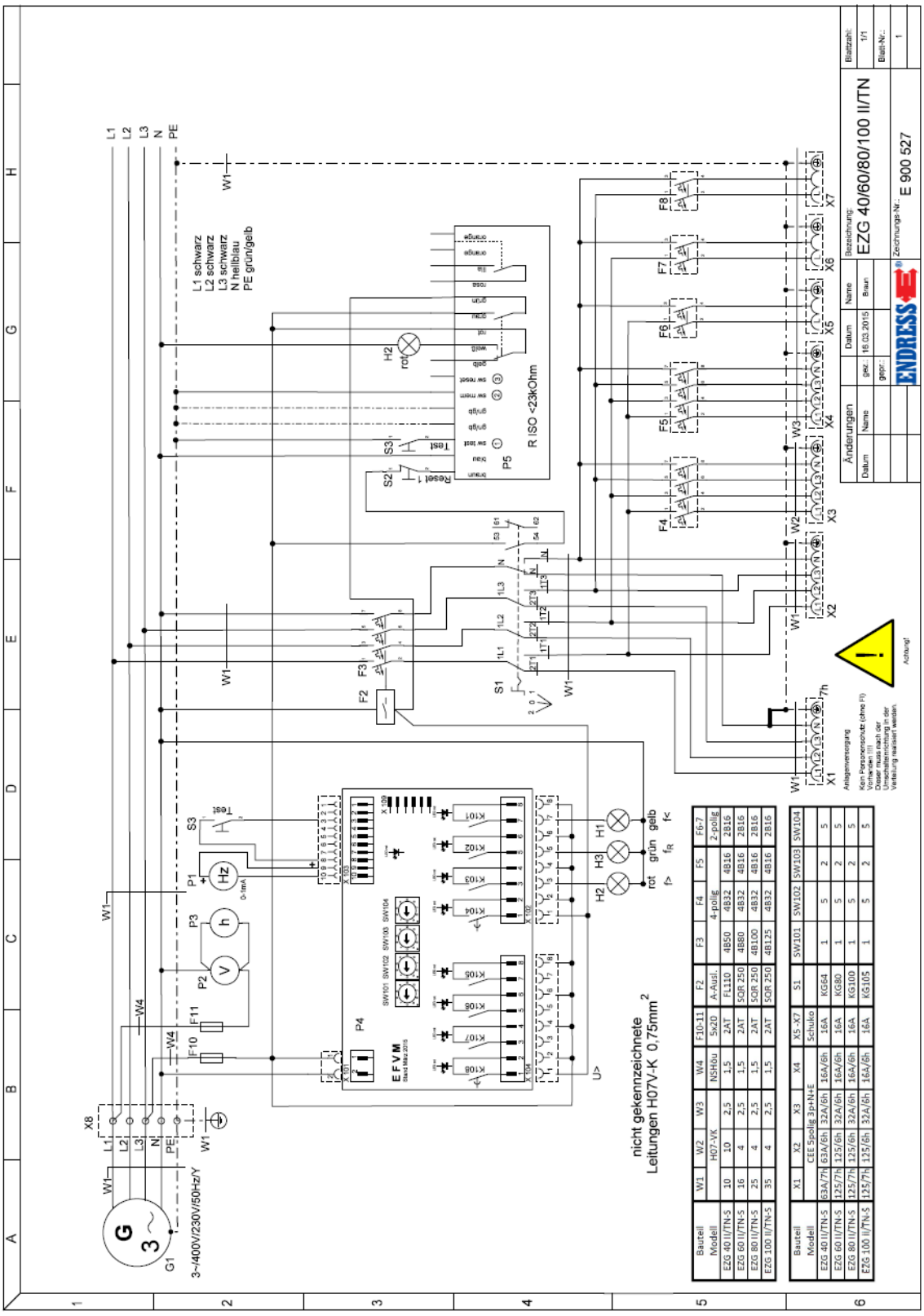
10.2 EZG 25/2 II/TN-S



10.3 EZG 40/4, 60/4, 80/4, 100/4 TN-S



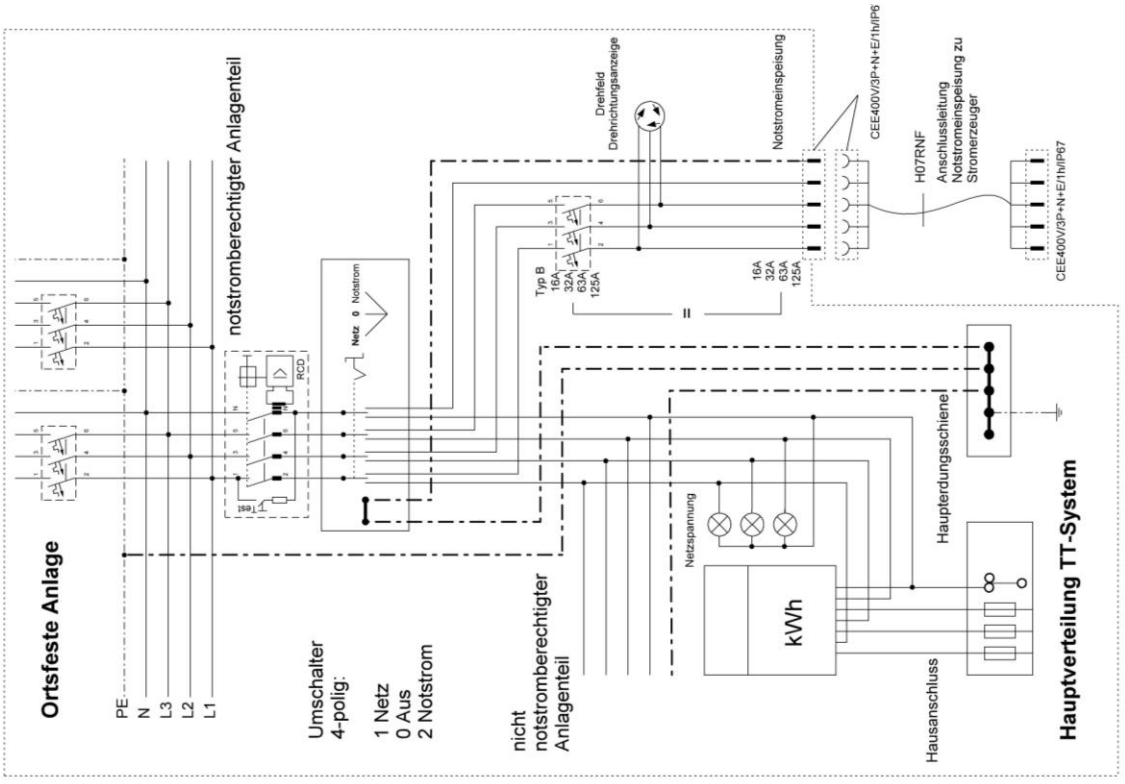
10.4 EZG 40/4, 60/4, 80/4, 100/4 II/TN-S

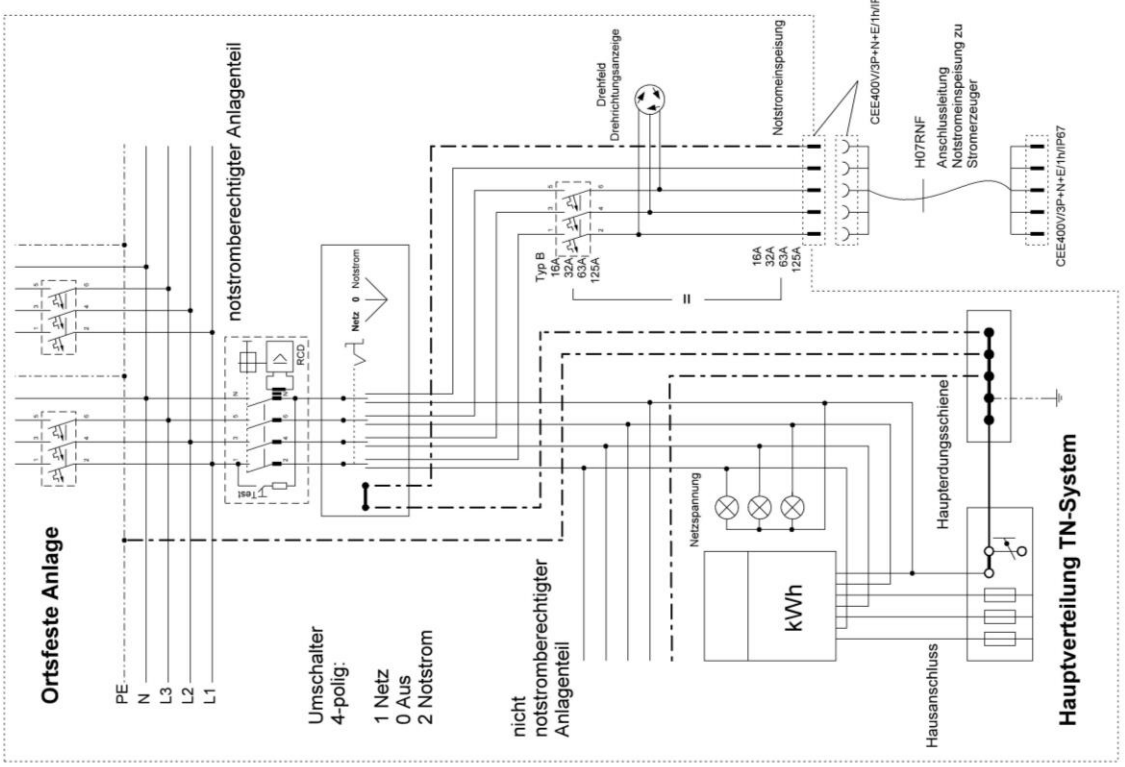


Bauteil	W1	W2	W3	W4	F10-11	F2	F3	F4	F5	F6-7
Modell		H07-VK		NSHöu	5x20	A-Ausl.		4-polig		2-polig
EZG 40 II/TN-S	10	10	2,5	1,5	2AT	FL110	4B50	4B32	4B16	2B16
EZG 60 II/TN-S	16	4	2,5	1,5	2AT	SQR 250	4B80	4B32	4B16	2B16
EZG 80 II/TN-S	25	4	2,5	1,5	2AT	SQR 250	4B100	4B32	4B16	2B16
EZG 100 II/TN-S	35	4	2,5	1,5	2AT	SQR 250	4B125	4B32	4B16	2B16

Bauteil	X1	X2	X3	X4	K5 - K7	S1	SW101	SW102	SW103	SW104
Modell	CEE 5polig 3p+N+E				Schütz					
EZG 40 II/TN-S	63A/7h	63A/6h	32A/6h	16A/6h	16A	KG64	1	5	2	5
EZG 60 II/TN-S	125/7h	125/6h	32A/6h	16A/6h	16A	KG80	1	5	2	5
EZG 80 II/TN-S	125/7h	125/6h	32A/6h	16A/6h	16A	KG100	1	5	2	5
EZG 100 II/TN-S	125/7h	125/6h	32A/6h	16A/6h	16A	KG105	1	5	2	5

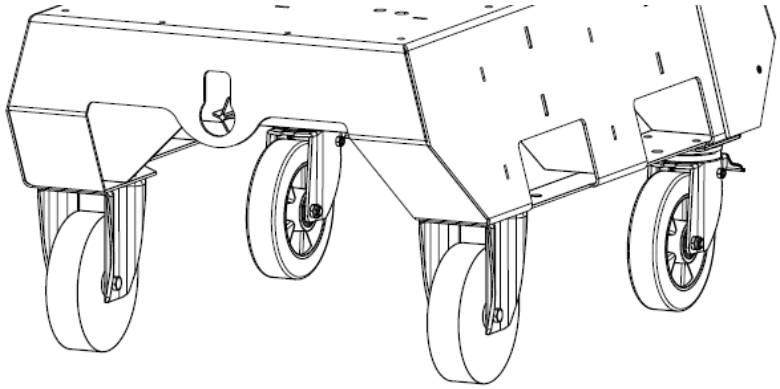
11. An example of emergency power infeed





12. Accessories

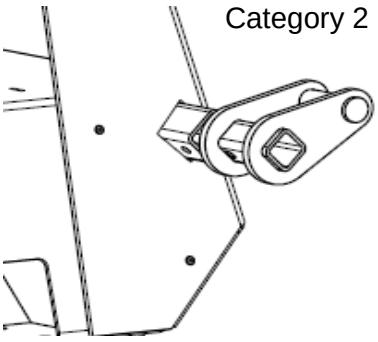
12.1 Set of wheels type no. 161036



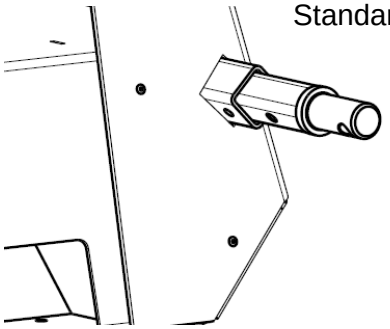
Two steering rollers with a

Two trestle

12.2 Adapter Category 2 Type No. 162034



Category 2



Category 3
Standard

12.3 Plug

Supply connectors 3P+N+E 7h

63A for EZG 25/2 II/TN-S and EZG 40/4 II/TN-S type no. 162029

125A for EZG 60/4 II/TN-S, EZG 100/4 II/TN-S and EZG 100/4 II/TN-S type no. 162030

13. Declaration of Conformity

CE **EEC Declaration of Conformity** Declaration of Conformity	ENDRESS Power Generators	Declaration de conformité européenne Declaración de conformidad

Name und Anschrift der Person, die die technischen Unterlagen aufbewahrt Name and address of the person who retains the technical documents Nom et adresse de la personne qui garde la documentation technique Nombre y direccion del encargado de la documentacion tecnica	David Leitze ENDRESS Elektrogerätebau GmbH Neckartenzlinger Straße 39 D-72658 Bempflingen

POWER TAKE-OFF GENERATORS

Power Generator for p. t. o. shaft , Generateur d`alimentation d`arbre, Grupo electrogeno

Handelsbezeichnung Trade name Dénomination commerciale Nombre comercial	**Artikel-Nr / ab Serien Nr.** **Order no./ from serial no** **Numéro d'article/à partir du numéro de série** **número del artículo/para la número deserie**
EZG 25/2 TN-S	**511402/100**
EZG 40/4 TN-S	**511404/100**
EZG 60/4 TN-S	**511405/100**
EZG 80/4 TN-S	**511406/100**
EZG 100/4 TN-S	**511407/100**
EZG 25/2 II/TN-S	**511502/100**
EZG 40/4 II/TN-S	**511504/100**
EZG 60/4 II/TN-S	**511505/100**
EZG 80/4 II/TN-S	**511506/100**
EZG 100/4 II/TN-S	**511507/100**

erklären in alleiniger Verantwortung, dass obigesProdukt auf das sich diese Erklärung bezieht folgenden einschlägigen Richtlinien und Normen entspricht
declare under our sole responsibility that the product to which this declaration relates is in conformity with the following relevant regulations
declarons sous notre seule responsabilité, que le produit auquel se refère cette déclaration est conforme aux normes suivantes
declara bajo responsabilidad propia, que el producto al que se refiere esta declaración, es conforme a las siguientes normas o directrice

Directives uses
2006 / 42 / EC
2014 / 30 / EC

Standards used
EN 60034-1
EN 60204-1
EN ISO 12100
EN 61000-6-2
EN 61000-6-3

einschließlich nachfolgender Änderungen und Ergänzungen
and subsequent modification and integrations
et aux modifications successives at intégrations
y sucesivas modificas y integraciones

verantwortlich
authorized by
le responsable
le responsable

Bempflingen, March 2016	Hans Braun Technical Manager