

**Instruction Manual
for AC Generators**

QAS108 Pd(S) Mk II

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ATLAS COPCO – PORTABLE AIR DIVISION
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Congratulations on the purchase of your QAS108 AC generator. It is a solid, safe and reliable machine, built according to the latest technology. Follow the instructions in this booklet and we guarantee you years of troublefree operation. Please read the following instructions carefully before starting to use your machine.

While every effort has been made to ensure that the information in this manual is correct, Atlas Copco does not assume responsibility for possible errors. Atlas Copco reserves the right to make changes without prior notice.

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SAFETY PRECAUTIONS FOR GENERATORS QAS



Everyone who uses or maintains Atlas Copco equipment is expected to read the following safety precautions attentively and to act accordingly before installing, operating or repairing the generators.

The operator must employ safe working practices and observe all relevant local safety requirements.

The owner is responsible for maintaining the unit in a safe operating condition. Parts and accessories shall be replaced if unsuitable for safe operation.

Installation, operation, maintenance and repair shall only be carried out by authorized, competent personnel.

Any modification on the unit shall only be performed in agreement with Atlas Copco and under supervision of authorized, competent personnel.

If any statement in this book, especially with regard to safety, does not comply with local legislation, the stricter of the two shall apply.

Ignoring these safety precautions may result in injury or death of the operator and/or people in the vicinity.

In addition to normal safety rules which must be observed with generators, the following safety precautions listed hereafter are stressed.

INSTALLATION PRECAUTIONS

1. Generators shall be lifted only with adequate equipment in conformity with local safety rules. Loose or pivoting parts shall be securely fastened before lifting. It is forbidden to stay in the risk zone under a lifted load. Lifting acceleration and retardation shall be kept within safe limits.
2. The aspirated air shall be free from flammable or toxic fumes, e.g. paint solvents, that can lead to internal fire or explosion.
3. Generators shall be installed on an even, solid floor, in a clean location with sufficient ventilation. If the floor is not level or can vary in inclination, consult Atlas Copco. If the unit is installed on a trailer, immobilize the trailer and chock the wheels.
4. The engine exhaust is a lethal gas. Do not operate the unit in a confined, not-ventilated room.
5. Never remove or tamper with the safety devices, guards or insulations fitted on the machine.
6. The electrical connections shall correspond to the local codes. The machines shall be earthed and protected against short circuits by fuses or circuit breakers.
7. Damaged cables and insufficient tightening of connections may cause electric shocks. Replace damaged cables and make sure that all electric connections are securely tightened.

OPERATION PRECAUTIONS

1. Operate the unit as described in the Instruction book to ensure safe, efficient operation.
2. Never operate the generator in excess of its limits as indicated in the technical specifications and avoid long no-load sequences.
3. Never operate the generator in a humid atmosphere. Excessive moisture causes worsening of the generator insulation.
4. Never touch the power terminals during operation of the machine.
5. Keep all bodywork doors shut during operation. The doors may be opened for short periods only, e.g. to carry out routine checks. Wear ear protectors when opening a door.
6. People staying in environments or rooms where the sound pressure level reaches or exceeds 90 dB(A) shall wear ear protectors.
7. Periodically check that:
 - a. All guards are in place and securely fastened.
 - b. All hoses, cables and/or pipes inside the generator are in good condition, secure and not rubbing.
 - c. There are no leaks.
 - d. All fasteners are tight.
 - e. All electrical wirings are secure and in good order.
8. Do not remove any of, or tamper with, the sound-damping material.
9. Whenever an abnormal condition arises, e.g. excessive vibration, noise, odour, etc., switch the circuit breakers to OFF and stop the engine. Correct the faulty condition before re-starting.

10. Never refill fuel while the machine is running. Keep fuel away from hot pipes. Never smoke while fuelling. Do not spill or leave fuel, oil, coolant or cleansing agent in or around the unit.
11. Keep flammable material away from the machine. If required, provide a spark arrestor to trap incendiary exhaust sparks.
12. Earth the generator as well as the load properly.
13. Check the electric cables regularly. Whenever damaged wires or dangerous conditions are observed, switch the circuit breakers to OFF and stop the engine. Replace the damaged wires or correct the dangerous condition before re-starting.
14. Avoid overloading the generator. The generator is provided with circuit breakers for overload protection. When a breaker has tripped, reduce the concerned load before re-starting.
15. If the generator is used as stand-by for the mains supply, it must not be operated without control system which automatically disconnects the generator from the mains when the mains supply is restored.
16. Never remove the cover of the output terminals during operation. Before connecting or disconnecting wires, switch off the load and the circuit breakers, stop the machine and make sure that the machine cannot be started inadvertently or there is any residual voltage on the power circuit.
17. Never connect the generator outlets to an installation which is also connected to a public mains.
18. Before connecting a load, switch off the corresponding circuit breaker, and check whether frequency, voltage, current and power factor comply with the ratings of the generator.
19. Running the generator at low load for long periods will reduce the lifetime of the engine.
20. Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

MAINTENANCE PRECAUTIONS

1. Use only the correct tools for maintenance and repair work.
2. Use only genuine spare parts.
3. All maintenance work, other than routine attention, shall only be undertaken when the generator is stopped and when all loads are disconnected from the machine. Ensure that the machine cannot be started inadvertently.
4. Scrupulously observe cleanliness during maintenance and repair. Keep dirt away by covering the parts and exposed openings with a clean cloth, paper or tape.
5. Protect the air filter, electrical and regulating components, etc. to prevent moisture from entering them, e.g. when cleaning. Take care that moisture does not penetrate any component.
6. Never remove a filler cap of the cooling water system of a hot engine. Wait until the engine has sufficiently cooled down.
7. Never use flammable solvents or carbon tetrachloride for cleaning parts. Take safety precautions against toxic vapours of cleaning liquids.
8. Take precautions against fire. Handle fuel, oil and anti-freeze with care because they are inflammable substances. Do not smoke or approach with naked flame when handling such substances. Keep a fire-extinguisher in the vicinity.
9. Make sure that no tools, loose parts or rags are left in or on the generator. Never leave rags or loose clothing near the engine air intake.
10. Before clearing the generator for use after maintenance or overhaul, submit it to a testrun, check that the AC power performance is correct and that the control and shut-down devices function correctly.
11. When servicing batteries, always wear protecting clothing and glasses. The electrolyte is a sulphuric acid which can cause severe burns. When charging batteries, an explosive gas forms above the cells and escapes through the vents. Do not smoke near batteries being, or recently having been charged. Never break live circuits or battery terminals, because a spark usually occurs.
12. Make sure that all sound-damping material is in good condition. If damaged, replace it by genuine Atlas Copco material to prevent the sound pressure level from increasing.

LEADING PARTICULARS

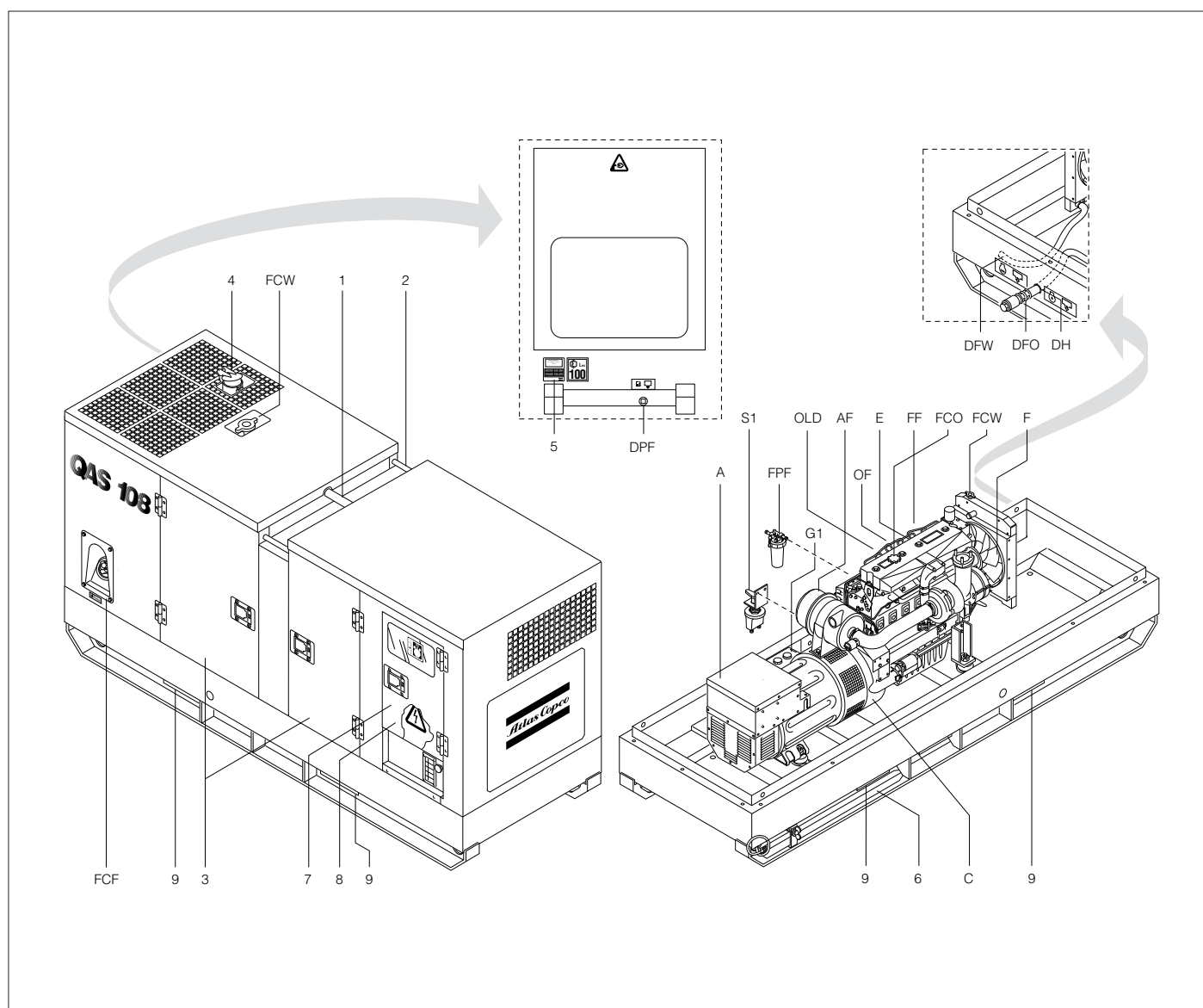
GENERAL DESCRIPTION

The QAS108 is an AC generator, built for continuous running at sites where no electricity is available or as stand-by in cases of interruption of the mains.

The generator operates at 50 Hz, 230 V in line-to-neutral mode and 400 V in line-to-line mode. The rated output is 100 kVA.

The QAS108 generator is driven by a water-cooled turbo charged diesel engine, manufactured by PERKINS.

An overview of the main parts is given in the diagram below.



1	Lifting rod
2	Guiding rod
3	Side doors, access to engine and alternator
4	Engine exhaust
5	Data plate
6	Earthing rod
7	Side door, access to control and indicator panel
8	Output terminal board
9	Hole for forklift

A	Alternator
AF	Air filter
C	Coupling
DFO	Drain flexible engine oil
DFW	Drain flexible cooling water
DH	Drain and access hole (in the frame)
DPF	Drain plug fuel
E	Engine
F	Fan

FCF	Filler cap fuel
FCO	Filler cap engine oil
FCW	Filler cap cooling water
FF	Fuel filter
FPF	Fuel pre-filter
G1	Battery
OF	Oil filter
OLD	Engine oil level dipstick
S1	Battery switch

BODYWORK

The alternator, the engine, the cooling system, etc. are enclosed in a sound-insulated bodywork that can be opened by means of side doors (and service plates).

The recess in the roof has a lifting rod in the middle and a guiding rod at both sides.

 Never use the guiding rods to lift the generator.

To be able to lift the QAS108 by means of a forklift, rectangular holes are provided in the frame. The earthing rod, connected to the generator's earth terminal is located at the side of the frame.

MARKINGS

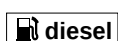
A brief description of all markings provided on the QAS108 is given hereafter.

 Indicates that an electric voltage, dangerous to life, is present. Never touch the electric terminals during operation.

 Indicates that the engine exhaust is a hot and harmful gas, which is toxic in case of inhalation. Always make sure that the unit is operated outside or in a well-ventilated room.

 Indicates that these parts can become very hot during operation (eg. engine, cooler, etc.). Always make sure that these parts are cooled down before touching them.

 Indicates that the guiding rods may not be used to lift the generator. Always use the lifting rod in the roof of the generator to lift it.

 Indicates that the generator may be refueled with diesel fuel only.

 Indicates the drain hole for the engine oil.

 Indicates the drain hole for the coolant.

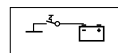
 Indicates the drain plug for the engine fuel.

 Indicates the different earthing connections on the generator.

 Indicates the lifting eye of the generator.

 Indicates that the unit may start automatically.

 Indicates the 3-way valve.

 Indicates the battery switch.

DRAIN PLUGS AND FILLER CAPS

The drain holes for the engine oil, the coolant and the plug for the fuel, are located and labelled on the frame; the fuel drain plug at the front, the others at the service side.

The drain flexible for engine oil can be brought to the outside of the generator through the drain hole.

 The drain hole can also be used to guide external fuel tank connections. When connecting an external fuel tank, use the 3-way valves. Refer to the option "External fuel tank connection".

The filler cap for the engine coolant is accessible via an opening in the roof. The fuel filler cap is located in the side panel.

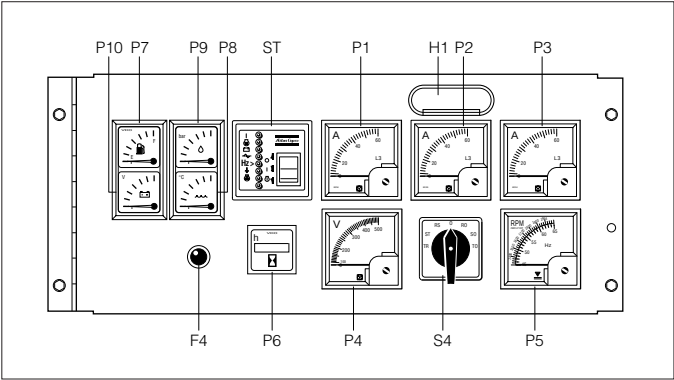
BATTERY SWITCH

The battery switch is situated inside the sound-insulated bodywork. It allows to open or to close the electrical connection between the battery and the engine circuits.

 Never turn the battery switch off while the engine is running.

CONTROL AND INDICATOR PANEL

The control and indicator panel is located behind a door in the side panel. The hinged door is partly transparent and allows easy access to the parts mounted behind it. Panel light H1 goes on as soon as the starter switch is turned into position I.



Engine gauges

P6Hourmeter

P7Fuel level gauge

P8Engine coolant temperature gauge

P9Engine oil pressure gauge

P10 ...Battery voltage gauge

 P7 and P10 are combined in one instrument, as well as P8 and P9.

Generator gauges

P1Ammeter line L1

Indicates the outgoing current in the first phase (L1).

P2Ammeter line L2

Indicates the outgoing current in the second phase (L2).

P3Ammeter line L3

Indicates the outgoing current in the third phase (L3).

P4Voltmeter

Indicates the voltage selected by means of voltage selector switch S4.

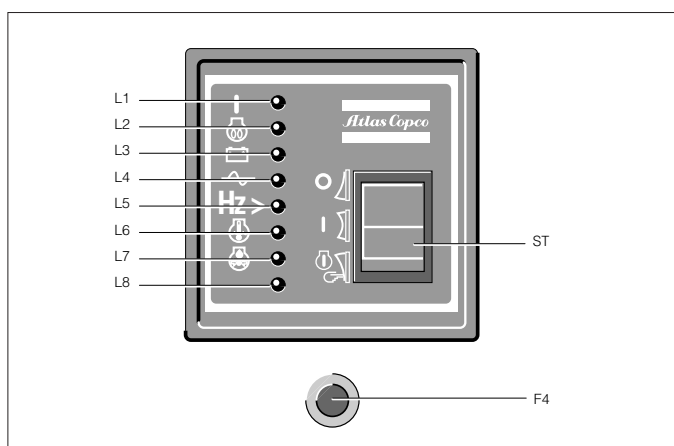
P5Frequency / RPM meter

Indicates the frequency of the supply voltage and the speed of the engine.

S4Voltmeter selector switch

Allows to measure the voltage between each of the phases and between each phase and the neutral. It also allows to switch off the voltmeter.

Engine controls and lamps



STStarter switch

The starter switch is a three-position switch.

O : the voltage supply from the battery is switched off.

I : the electrical system of the engine, except the starting circuit is energized.

⌚ : the starter motor is energized. As soon as the engine fires, the switch can be released. The switch automatically returns to position I.

After approximately 20 seconds in position ⌚ without starting, the control system will automatically shut down (battery saving purpose) indicating a low oil pressure failure. In this case, a reset of the control system by putting the switch in position O is necessary.



F4.....Fuse

The fuse activates when the current from the battery to the engine control circuit exceeds its setting. The fuse can be switched on and off by pushing the button.

L1.....Electrical system indicator

Lights up when the electrical system of the engine is energized.

L2.....Engine preheating system indicator

Lights up when the glow plugs in the engine, used to facilitate starting, are warming up. Extinguishes after approximately 10 seconds. Bypassing of the preheattime is allowed e.g. when starting a hot engine, but the preheat system remains active.

L3.....Alternator charging indicator

Goes out after starting, indicating that the alternator is charging. A failing alternator however will not shut the engine down.

L4.....AC shutdown indicator

Lights up when no AC input (<160 V line-to-neutral) is present.

L5.....Overspeed shutdown indicator

Lights up when the engine's speed has exceeded 115 % of the nominal speed. The nominal speed is determined by means of the dipswitch at the back of the control module (50 Hz or 60 Hz).

L6.....Engine coolant temperature fault indicator

Lights up when the high engine coolant temperature was the cause of shutdown.

L7.....Engine oil pressure fault indicator

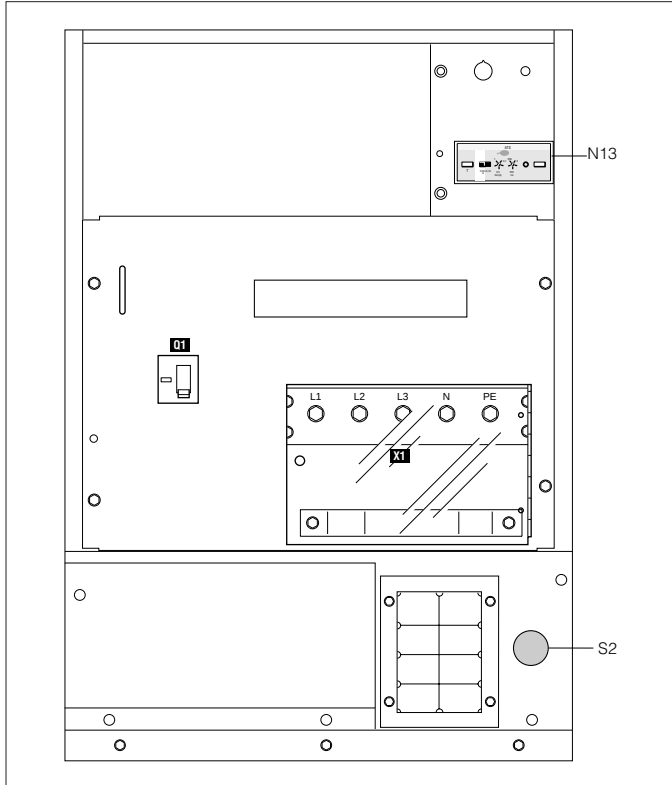
Lights up when the low engine oil pressure was the cause of shutdown.

L8.....Spare shutdown indicator

Can be used to wire an extra shutdown, e.g. for low fuel level in case a switch is incorporated in the fuel tank.

OUTPUT TERMINAL BOARD

The output terminal board is situated below the control and indicator panel.



N13...Earth leak detector

Detects and indicates an earth fault current and activates the main circuit breaker Q1. The detection level can be set at 0.03 A fixed with instantaneous trip but can also be adjusted between 0.1 A and 1 A with time delayed (0 – 0.5 sec) trip. N13 has to be reset manually after eliminating the problem (reset button marked R). It can be overridden by means of the earth leak switch (S13, labelled IΔN) but has to be tested monthly (by pushing test button T).

S2Emergency stop button

Push the button to stop the generator in case of an emergency. When the button is pressed, it must be unlocked, by turning it anti-clockwise, before the generator can be restarted.

Q1.....Main circuit breaker and minimum voltage relay

Interrupts the power supply to X1 when a short-circuit occurs at the load side, or when the overcurrent protection (145 A) is activated. When activated, Q1 interrupts the three phases towards X1. It can be activated again after eliminating the problem.

X1Main power supply (400 V AC)

Terminals L1, L2, L3, N (= neutral) and PE (= earthing), hidden behind the control panel door and behind a small transparent door.

OPERATING INSTRUCTIONS

In your own interest, always strictly observe all relevant safety instructions.

Do not operate the generator in excess of the limitations mentioned in the Technical Specifications.

Local rules concerning the setting up of low voltage power installations (below 1,000 V) must be respected when connecting site distribution panels, switch gear or loads to the generator.

At each start-up and at any time a new load is connected, the earthing of the generator must be verified. Earthing must be done either by the earthing rod or, if available, by an existing, suitable earthing installation. The protective system against excessive contact voltage is not effective unless a suitable earthing is made.

The generator is wired for a TN-system to IEC 364-3, i.e. one point in the power source directly earthed - in this case the neutral. The exposed conductive parts of the electric installation must be directly connected to the functional earth.

If operating the generator in another power system, e.g. an IT-system, other protective devices required for these types must be installed. In any case only a qualified electrician is authorized to remove the connection between the neutral (N) and earth terminals in the terminal box of the alternator.



INSTALLATION

- Place the generator on a horizontal, even and solid floor.
- Protect the generator against dust and rain if it is operated outside.
- Check that the engine exhaust is not directed towards people. If the generator is operated indoors, install an exhaust pipe of sufficient diameter to duct the engine exhaust towards the outside. Check for sufficient ventilation so that the cooling air is not recirculated. If necessary, consult Atlas Copco.
- Leave enough space for operation, inspection and maintenance (at least 1 meter at each side).
- Check that the inner earthing system is in compliance with the local legislation.
- Install the earthing rod as near as possible to the generator and measure its diffusion resistance (max. 1 K Ω) in order not to have a contact voltage higher than 25 V at 30 mA leakage current.
- Check that the cable end of the earthing rod is connected to the earth terminal.
- Use coolant for the engine cooling system. If low temperatures are expected (close to 0 °C), the engine cooling system must be protected (refer to the Engine instruction book).
- Check the tightness of the bolts and nuts.

CONNECTING THE GENERATOR

Precautions for non-linear and sensitive loads



Non-linear loads draw currents with high contents in harmonics, causing distortion in the wave form of the voltage generated by the alternator.

The most common non-linear, 3-phase loads are thyristor/rectifier-controlled loads, such as convertors supplying voltage to variable speed motors, uninterruptable power supplies and Telecom supplies. Gas-discharge lighting arranged in single-phase circuits generate high 3rd harmonics and risk for excessive neutral current.

Loads most sensitive to voltage distortion include incandescent lamps, discharge lamps, computers, X-ray equipment, audio amplifiers and elevators.

Consult Atlas Copco for measures against the adverse influence of non-linear loads.

Quality, minimum section and maximum length of cables

The cable connected to the terminal board of the generator must be selected in accordance with local legislation. The type of cable, its rated voltage and current carrying capacity are determined by installation conditions, stress and ambient temperature. For flexible wiring, rubber-sheathed, flexible core conductors of the type H07 RN-F (Cenelec HD.22) or better must be used.

The following table indicates the maximum allowable 3-phase currents (in A), in an ambient temperature of 40 °C, for cable types (multiple and single core PVC insulated conductors and H07 RN-F multiple core conductors) and wire sections as listed, in accordance with VDE 0298 installation method C3. Local regulations remain applicable if they are stricter than those proposed below.

Wire section (mm ²)	2,5	4	6	10	16	25	35	50	70	95
Max. current (A)										
Multiple core	22	30	38	53	71	94	114	138	176	212
Single core	25	33	42	57	76	101	123	155	191	228
H07 RN-F	21	28	36	50	67	88	110	138	170	205

The lowest acceptable wire section and the corresponding maximum cable or conductor length for multiple core cable or H07 RN-F, at rated current (145 A), for a voltage drop e lower than 5 % and at a power factor of 0.80, are respectively 50 mm² and 210 m. In case electric motors must be started, oversizing the cable is advisable.

The voltage drop across a cable can be determined as follows:

$$e = \frac{\sqrt{3} \cdot I \cdot L \cdot (R \cdot \cos\phi + X \cdot \sin\phi)}{1000}$$

e = Voltage drop (V)

I = Rated current (A)

L = Length of conductors (m)

R = Resistance (Ω/km to VDE 0102)

X = Reactance (Ω/km to VDE 0102)

Connecting the load

Site distribution panel

If outlet sockets are required, they must be mounted on a site distribution panel supplied from the terminal board of the generator and in compliance with local regulations for power installations on building sites.

Protection



For safety reasons, it is necessary to provide an isolating switch or circuit breaker in each load circuit. Local legislation may impose the use of isolating devices which can be locked.

- Check whether frequency, voltage and current comply with the ratings of the generator.
- Provide for the load cable, without excessive length, and lay it out in a safe way without forming coils.
- Open the door of the control and indicator panel and the transparent door in front of the terminal board X1.
- Provide the wire ends with cable lugs suited for the cable terminals.
- Loosen the cable clamp and push the wire ends of the load cable through the orifice and clamp.
- Connect the wires to the proper terminals (L1, L2, L3, N and PE) of X1 and tighten the bolts securely.
- Tighten the cable clamp.
- Close the transparent door in front of X1.

BEFORE STARTING

- With the generator standing level, check the engine oil level and top up if necessary. The oil level must be near to, but not exceed the high mark on the engine oil level dipstick.
- Check the coolant level in the expansion tank of the engine cooling system. The water level must be near to the FULL mark. Add coolant if necessary.
- Drain any water and sediment from the fuel pre-filter. Check the fuel level and top up if necessary. It is recommended to fill the tank after the day's operation to prevent waterdamp in a nearly empty tank from condensing.
- Check the vacuum indicator of the air filter. If the red part shows completely, replace the filter element.
- Press the vacuator valve of the air filter to remove dust.
- Check the generator for leakage, tightness of wire terminals, etc. Correct if necessary.
- Check that circuit breaker Q1 is switched off.
- Check that fuse F4 is not activated and that the emergency stop is in the "OUT" position.
- Check that the load is switched off.

STARTING

- Turn the battery switch to ON.
- Put the starter switch in position I. The instrument panel lights light up, the fuel solenoid is energized and the preheating of the engine starts. After approximately 10 seconds, the preheat lamp on the engine control module goes out.
- Push down the starter switch into position  and release it as soon as the engine fires. The switch automatically returns to position I.

Do not keep the switch in its utmost position for more than 10 seconds (maximum 20 seconds in extremely cold conditions). Wait two minutes between each starting attempt.

When the ambient temperature is below 0°C, start the engine as follows: put the starter switch in position I until the preheat lamp goes out. Put the switch back into position O and then immediately put it into position . Release the switch as soon as the engine fires.



If the engine fails to start and for starting in extremely cold conditions, consult your local Atlas Copco dealer.

- Check that the warning lamps on the control and indicator panel are out.
- Run the engine for approximately 5 minutes to warm up. Check the engine oil pressure (P9) and the cooling water temperature (P8).
- Check the voltmeter P4 (with voltmeter selector switch S4 in different positions) and the frequency meter P5.

- Switch circuit breaker Q1 to off and then to on.
- Switch on the load and check the ammeters P1, P2 and P3, voltmeter P4 (voltmeter selector switch in different positions) and frequency meter P5.

DURING OPERATION

Following points should be carried out regularly:

- Check the engine gauges and the lamps for normal readings.



Avoid to let the engine run out of fuel. If it happened, priming will speed up the starting.

- Check for leakage of oil, fuel or cooling water.
- Avoid long low-load periods. In this case, an output drop and higher oil consumption of the engine could occur.
- Check, by means of the generator gauges, that the voltage between the phases is identical and that the rated current per phase is not exceeded.
- When single-phase loads are connected to the generator output terminals, keep all loads well-balanced.



Never turn the battery switch to OFF during operation.

If circuit breaker Q1 is activated during operation, switch off the load and stop the generator. Check and, if necessary, decrease the load.

The generator's side doors may only remain opened for short periods during operation, to carry out checks for example.

STOPPING

- Switch off the load.
- Switch off circuit breaker Q1.
- Let the engine run for about 5 minutes.
- Stop the engine by putting the starter switch in position O.
- Turn the battery switch to OFF.
- Lock the side doors and the door of the indicators and control panel to avoid unauthorized access.

MAINTENANCE



Before carrying out any maintenance activity, check that the start switch is in position O and that no electrical power is present on the terminals.

MAINTENANCE SCHEDULE	Daily	Initial	Small	Normal	Yearly
		50 hours	250 hours	500 hours	2000 hours

SERVICE PAK	–	With unit	2912 4264 05	2912 4265 06	2912 4266 07
For the most important subassemblies, Atlas Copco has developed service kits that combine all wear parts. These service kits offer you the benefits of genuine parts, save on administration costs and are offered at reduced price, compared to the loose components. Refer to figure 1 of the parts list for more information on the contents of the service kits.					
Coolant level	Check	Check	Check	Check	Check
Tension and condition of drive belt(s)		Check	Check	Check	Replace
Radiator and intercooler fins		Check/Clean	Check/Clean	Check/Clean	Check/Clean
Fuel pre-filter/Water separator	Check/Drain	Check/Drain	Check/Drain	Check/Drain	Check/Drain
Fuel filter element		Replace	Replace	Replace	Replace
Fuel injectors					Check
Oil level in sump	Check	Check	Check	Check	Check
Oil pressure on gauge	Check	Check	Check	Check	Check
Lubrication oil		Change	Change	Change	Change
Oil filter(s)		Replace	Replace	Replace	Replace
Air cleaner and dust bowl		Clean	Clean	Clean	Clean
Air filter element ⁽¹⁾			Clean	Replace	Replace
Safety cartridge					Replace
Valve clearance		Check/adjust	Check/adjust	Check/adjust	Check/adjust
Oil, fuel and water leaks		Check	Check	Check	Check
Mechanical links (e.g. fuel solenoid link)			Grease	Grease	Grease
Level battery electrolyte ⁽²⁾		Check	Check	Check	Check
Condition of vibration dampers		Check	Check	Check	Check
Alternator insulation resistance ^(*)		Measure	Measure	Measure	Measure
Tightness of nuts and bolts		Check			Check
Door hinges and locks		Grease			Grease
Fixation of hoses, cables and pipes				Check	Check
Inspection by Atlas Copco Service technician					

(1) More frequently when operating in a dusty environment. Evacuate dust from the airfilter valve daily.

(2) A Service Bulletin (ASB) dealing elaborately with batteries and due care is available on request.

ENGINE MAINTENANCE

Refer to the engine's operator manual for full maintenance, including instructions for changing the oil and cooling water and replacing the fuel, oil and air filters.

(*) MEASURING THE ALTERNATOR INSULATION RESISTANCE

A 500-V megger is required to measure the alternator insulation resistance.

If the N-terminal is connected to the earthing system, it must be disconnected from the earth terminal. Disconnect the AVR.

Connect the megger between the earth terminal PE and terminal L1 and generate a voltage of 500 V. The scale must indicate a resistance of at least 5 MΩ.

Refer to the alternator operating and maintenance instructions for more details.

STORAGE OF THE GENERATOR

STORAGE

- Store the generator in a dry, frost-free room which is well ventilated.
- Run the engine regularly, e.g. once a week, until it is warmed up. If this is impossible, extra precautions must be taken:
 - Consult the engine's operator manual.
 - Remove the battery. Store it in a dry, frost-free room. Keep the battery clean and its terminals lightly covered with petroleum jelly. Recharge the battery regularly.
 - Clean the generator and protect all electrical components against moisture.
 - Place silica gel bags, VCI paper (Volatile Corrosion Inhibitor) or another drying agent inside the generator and close the doors.
 - Stick sheets of VCI paper with adhesive tape on the bodywork to close off all openings.
 - Enclose the generator, except the bottom, with a plastic bag.

PREPARING FOR OPERATION AFTER STORAGE

Before operating the generator again, remove the wrapping, VCI paper and silicagel bags and check the generator thoroughly (go through the checklist "Before starting").

- Consult the engine's operator manual.
- Check that the insulation resistance of the generator exceeds 5 M Ω .
- Replace the fuel filter and fill the fuel tank. Vent the fuel system.
- Reinstall and connect the battery, if necessary after being recharged.
- Submit the generator to a test run.

CHECKS AND TROUBLE SHOOTING

Never perform a test run with connected power cables. Never touch an electrical connector without a voltage check.

When a failure occurs, always report what you experienced before, during and after the failure. Information with regard to the load (type, size, power factor, etc.), vibrations, exhaust gas colour, insulation check, odors, output voltage, leaks and damaged parts, ambient temperature, daily and normal maintenance and altitude might be helpful to quickly locate the problem. Also report any information regarding the humidity and location of the generator (eg. close to sea).



CHECKING VOLTMETER P4

- Put a voltmeter in parallel with voltmeter P4 on the control panel.
- Check that the read-out of both voltmeters is the same.
- Stop the generator and disconnect one terminal.
- Check that the internal resistance of the voltmeter is high.

CHECKING FREQUENCYMETER P5

- Run the unit at normal speed.
- Put a voltmeter in parallel with frequencymeter P5.
- If the measured voltage is higher than 200 V, the frequencymeter has to work properly.

If not, remove the frequencymeter, connect it with the mains (230 V) and check that it indicates 50 Hz.

CHECKING AMMETERS P1, P2 AND P3

- Measure by means of a clamp-on probe the current, during the load.
- Compare the measured currents with the currents indicated on the corresponding ammeters. Both readings should be the same.

ALTERNATOR TROUBLE SHOOTING

<i>Symptom</i>	<i>Possible cause</i>	<i>Corrective action</i>
<i>Alternator does not excite.</i>	Blown fuse. Insufficient residual voltage. No residual voltage.	Replace fuse. Increase the speed by 15 %. For an Instant apply on the + and – terminals of the electronic regulator a 12 V battery voltage with a 30 Ω resistor in series respecting the polarities.
<i>After being excited alternator does not excite.</i>	Connections are interrupted.	Check connection cables as per attached drawings.
<i>Low voltage at no load.</i>	Voltage potentiometer out of setting. Intervention of protection. Winding failure.	Reset voltage. Check rpm. Check windings.
<i>High voltage at no load.</i>	Voltage potentiometer out of setting. Failed regulator.	Reset voltage. Substitute regulator.
<i>Lower than rated voltage at load.</i>	Voltage potentiometer out of setting. Intervention by protection. Failed regulator. Rotating bridge failure.	Reset voltage potentiometer. Current too high, power factor lower than 0.8; speed lower than 4% of rated speed. Substitute regulator. Check diodes, disconnect cables.
<i>Higher than rated voltage at load.</i>	Voltage potentiometer out of setting. Failed regulator.	Reset voltage potentiometer. Substitute regulator.
<i>Unstable voltage.</i>	Speed variation in engine. Regulator out of setting.	Check regularity of rotation. Regulate stability of regulator by acting on "STABILITY" potentiometer.

ENGINE TROUBLE SHOOTING

The table below gives an overview of the possible engine problems and their possible causes.

The starter motor turns the engine too slowly

- Battery capacity too low.
- Bad electrical connection.
- Fault in starter motor.
- Wrong grade of lubricating oil.

The engine does not start or is difficult to start

- Starter motor turns engine too slowly.
- Fuel tank empty.
- Fault in fuel control solenoid.
- Restriction in a fuel pipe.
- Fault in fuel lift pump.
- Dirty fuel filter element.
- Air in fuel system.
- Fault in atomisers.
- Cold start system used incorrectly.
- Fault in cold start system.

- Restriction in fuel tank vent.
- Wrong type or grade of fuel used.
- Restriction in exhaust pipe.

Not enough power

- Restriction in a fuel pipe.
- Fault in fuel lift pump.
- Dirty fuel filter element.
- Restriction in air filter/cleaner or induction system.
- Air in fuel system.
- Fault in atomisers or atomisers of an incorrect type.
- Restriction in fuel tank vent.
- Wrong type or grade of fuel used.
- Restricted movement of engine speed control.
- Restriction in exhaust pipe.
- Engine temperature is too high.
- Engine temperature is too low.

Misfire

- Restriction in a fuel pipe.
- Fault in fuel lift pump.
- Dirty fuel filter element.
- Air in fuel system.
- Fault in atomisers or atomisers of an incorrect type.
- Fault in cold start system.
- Engine temperature is too high.
- Incorrect valve tip clearances.

The pressure of the lubricating oil is too low

- Wrong grade of lubricating oil.
- Not enough lubricating oil in sump.
- Defective gauge.
- Dirty lubricating oil filter element.

High fuel consumption

- Restriction in air filter/cleaner or induction system.
- Fault in atomisers or atomisers of an incorrect type.
- Fault in cold start system.
- Wrong type or grade of fuel used.
- Restricted movement of engine speed control.
- Restriction in exhaust pipe.
- Engine temperature is too low.
- Incorrect valve tip clearances.

Black exhaust smoke

- Restriction in air filter/cleaner or induction system.
- Fault in atomisers or atomisers of an incorrect type.
- Fault in cold start system.
- Wrong type or grade of fuel used.
- Restriction in exhaust pipe.
- Engine temperature is too low.
- Incorrect valve tip clearances.
- Engine overload.

Blue or white exhaust smoke

- Wrong grade of lubricating oil.
- Fault in cold start system.
- Engine temperature is too low.

The engine knocks

- Fault in fuel lift pump.
- Fault in atomisers or atomisers of an incorrect type.
- Fault in cold start system.
- Wrong type or grade of fuel used.
- Engine temperature is too high.
- Incorrect valve tip clearances.

The engine runs erratically

- Fault in fuel control.
- Restriction in a fuel pipe.
- Fault in fuel lift pump.
- Dirty fuel filter element.
- Restriction in air filter/cleaner or induction system.
- Air in fuel system.
- Fault in atomisers or atomisers of an incorrect type.
- Fault in cold start system.
- Restriction in fuel tank vent.
- Restricted movement of engine speed control.
- Engine temperature is too high.
- Incorrect valve tip clearances.

Vibration

- Fault in atomisers or atomisers of an incorrect type.
- Restricted movement of engine speed control.
- Engine temperature is too high.
- Fan damaged.
- Fault in engine mounting or flywheel housing.

The pressure of the lubricating oil is too high

- Wrong grade of lubricating oil.
- Defective gauge.

The engine temperature is too high

- Restriction in air filter/cleaner or induction system.
- Fault in atomisers or atomisers of an incorrect type.
- Fault in cold start system.
- Restriction in exhaust pipe.
- Fan damaged.
- Too much lubricating oil in sump.
- Restriction in air or water passages of radiator.
- Insufficient coolant in system.

Crankcase pressure

- Restriction in breather pipe.
- Vacuum pipe leaks or fault in exhauster.

Bad compression

- Restriction in air filter/cleaner or induction system.
- Incorrect valve tip clearances.

The engine starts and stops

- Dirty fuel filter element.
- Restriction in air filter/cleaner or induction system.
- Air in fuel system.

The engine shuts down after approximately 15 seconds

- Bad connection towards oil pressure switch/coolant temperature switch.
- DIP switch on back of module wrong positioned.

OPTIONS AVAILABLE FOR QAS108 UNITS

OVERVIEW OF THE ELECTRICAL OPTIONS

The following “electrical” options are available for the QAS108 unit:

- outlet sockets (S),
- dual frequency with electronic speed control (DF),
- single frequency with electronic speed control (SF),
- dual voltage (DV),
- high current (HC),
- remote start (RS),
- automatic mains failure (AMF),
- “Electricité de France” (EDF).

The engine control circuit diagrams and the power circuit diagrams for the standard QAS108 unit, for the units with options and for the units with combined options are:

Unit	Power circuit	Engine control circuit
QAS108 Pd (standard unit)	9822 0704 33	9822 0705 09
QAS108 Pd DF	9822 0824 00	9822 0705 09
QAS108 Pd SF	9822 0704 48	9822 0705 09
QAS108 Pd DV	9822 0773 61	9822 0705 09
QAS108 Pd RS	9822 0773 38	9822 0774 09
QAS108 Pd AMF	9822 0773 53	9822 0774 16
	9822 0773 55	
QAS108 Pd HC	9822 0773 15	9822 0705 09
QAS108 Pd EDF	9822 0773 75	9822 0705 09
QAS108 Pd SF EDF	9822 0773 79	9822 0705 09
QAS108 Pd HC DF RS EDF	9822 0860 18	9822 0774 09
QAS108 PdS	9822 0704 34	9822 0705 09
QAS108 PdS SF	9822 0704 50	9822 0705 09
QAS108 PdS RS	9822 0773 37	9822 0774 09
QAS108 PdS EDF	9822 0773 77	9822 0705 09
QAS108 PdS SF EDF	9822 0773 83	9822 0705 09
QAS108 PdS AMF	9822 0773 90	9822 0774 16
	9822 0773 55	

DESCRIPTION OF THE ELECTRICAL OPTIONS

Outlet sockets (S)

The “Outlet sockets” option provides the following extra outlet sockets and circuit breakers:

X23-phase outlet socket (400 V AC – 63 A)

Provides phases L1, L2 and L3, neutral and earthing.

X33-phase outlet socket (400 V AC – 63 A)

Provides phases L1, L2 and L3, neutral and earthing.

X43-phase outlet socket (400 V AC – 32 A)

Provides phases L1, L2 and L3, neutral and earthing.

X53-phase outlet socket (400 V AC – 16 A)

Provides phases L1, L2 and L3, neutral and earthing.

X61-phase outlet socket (230 V AC – 16 A)

Provides phase L3, neutral and earthing.

Q2/3...Circuit breaker for X2/3

Interrupts the power supply to X2/3 when a short-circuit occurs at the load side, or when the overcurrent protection (63 A) is activated. When activated, Q2/3 interrupts the three phases towards X2/3. It can be activated again after eliminating the problem.

Q4.....Circuit breaker for X4

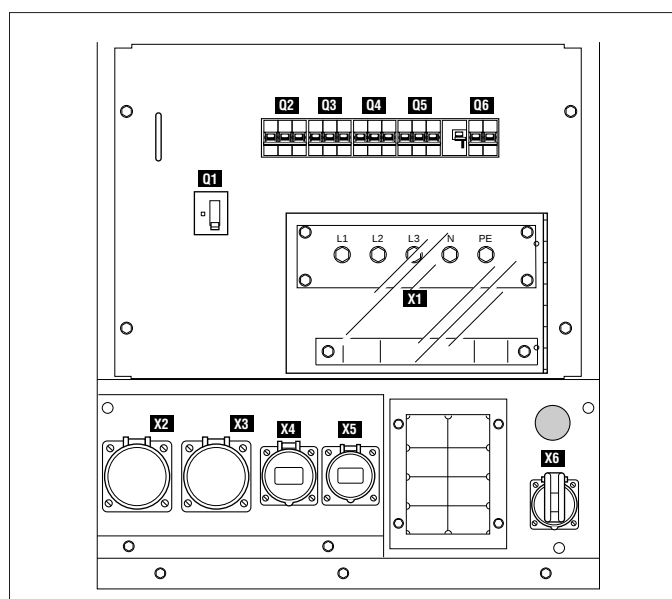
Interrupts the power supply to X4 when a short-circuit occurs at the load side, or when the overcurrent protection (32 A) is activated. When activated, Q4 interrupts the three phases towards X4. It can be activated again after eliminating the problem.

Q5.....Circuit breaker for X5

Interrupts the power supply to X5 when a short-circuit occurs at the load side, or when the overcurrent protection (16 A) is activated. When activated, Q5 interrupts the three phases towards X5. It can be activated again after eliminating the problem.

Q6.....Circuit breaker for X6

Interrupts the power supply to X6 when a short-circuit occurs at the load side, or when the earth leak detector (30 mA) or the overcurrent protection (16 A) is activated. When activated, Q6 interrupts phase L3 and the neutral towards X6. It must be reset manually after eliminating the problem.



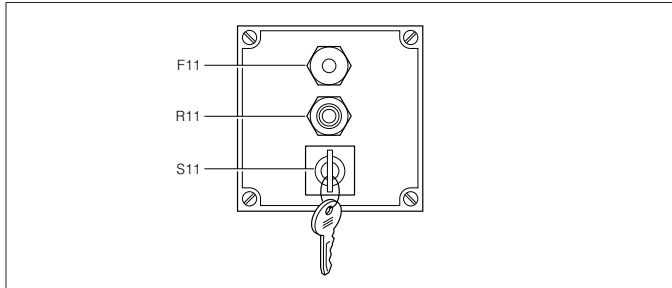
When the sockets-option is installed, circuit breaker Q1 does not only interrupt the power supply towards X1 but also towards X2, X3, X4, X5 and X6.



Make sure to switch on circuit breakers Q1, Q2, Q3, Q4, Q5 and Q6 after starting the generator when power supply is done by means of X2, X3, X4, X5 or X6.

Dual frequency with electronic speed control (DF)

The “Dual frequency with electronic speed control” option allows the unit to work at 50 Hz or at 60 Hz with an accuracy of $\pm 0.25\%$ at constant load. The frequency selection is done by means of switch S11.



F11 ...Fuse

Interrupts the power supply towards the speed or frequency controller.

R11 ...Supply voltage adjust potentiometer

Allows to adjust the output voltage.

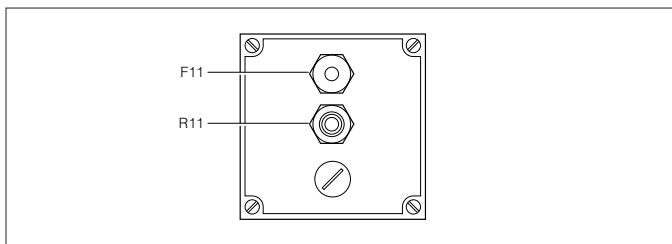
S11 ...Frequency selector switch (50 Hz / 60 Hz)

Allows to choose the frequency of the output voltage: 50 Hz or 60 Hz.

⚠ Changing the output frequency is only allowed after shutdown.
After changing the output frequency, adjust the output voltage by means of potentiometer R11 to the required value.

Single frequency with electronic speed control (SF)

The “Single frequency” option provides an electronic speed controller which makes sure that the output frequency of the generator is 50 Hz with an accuracy of 0.25 % at constant load.



F11 ...Fuse

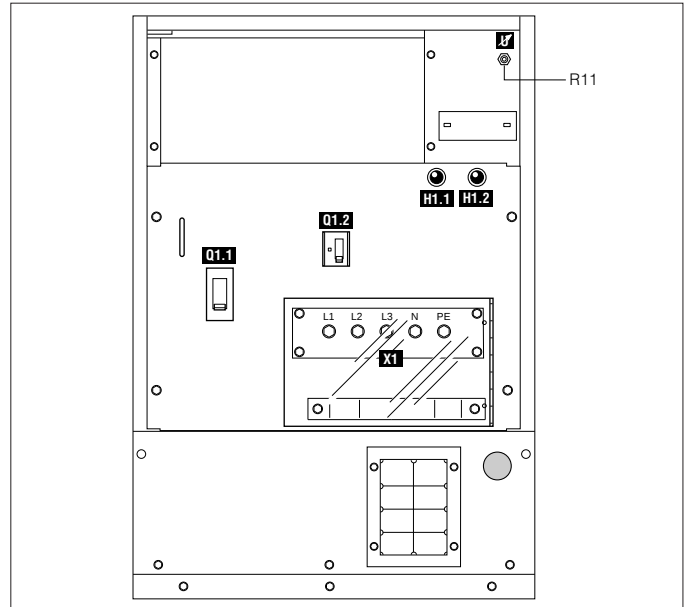
Interrupts the power supply towards the speed or frequency controller.

R11 ...Supply voltage adjust potentiometer

Allows to adjust the output voltage.

Dual voltage (DV)

The “Dual voltage” option allows to select a high (3-phase, e.g. 400 V) or a low (3-phase, e.g. 230 V) output voltage.



Q1.1..Circuit breaker for low voltage, high current

Interrupts the low voltage power supply towards X1 when a short-circuit occurs at the load side or when the overcurrent protection (250 A) is activated. It must be reset manually after eliminating the problem and after each start.

Q1.2..Circuit breaker for high voltage, low current

Interrupts the high voltage power supply towards X1 when a short-circuit occurs at the load side or when the overcurrent protection (145 A) is activated. It must be reset manually after eliminating the problem and after each start.

H1.1..Low voltage indication lamp

Indicates that the low voltage circuit breaker Q1.1 can be switched on.

H1.2..High voltage indication lamp

Indicates that the high voltage circuit breaker Q1.2 can be switched on.

R11...Output voltage adjust potentiometer

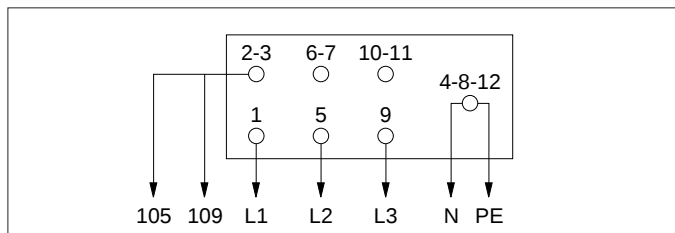
Allows to adjust the output voltage.

Circuit breakers Q1.1 and Q1.2 cannot be switched on at the same time. This is prevented by means of the auxiliary voltage selection relays K1 and K2 (refer to the circuit diagram).

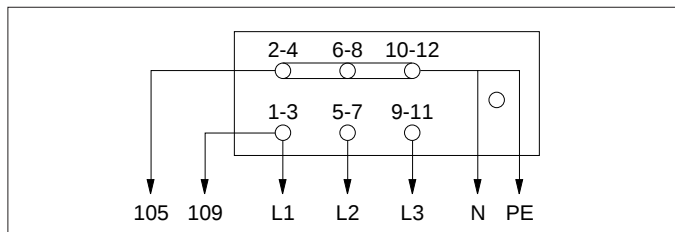
The selection of high or low voltage is done by means of connections on the terminal board of the alternator.

⚠ Changing the output voltage is only allowed after shutdown.

To select high voltage, connect the terminal board as follows:



To select low voltage, connect the terminal board as follows:



After changing the output voltage, adjust the output voltage by means of potentiometer R11 to the required value.



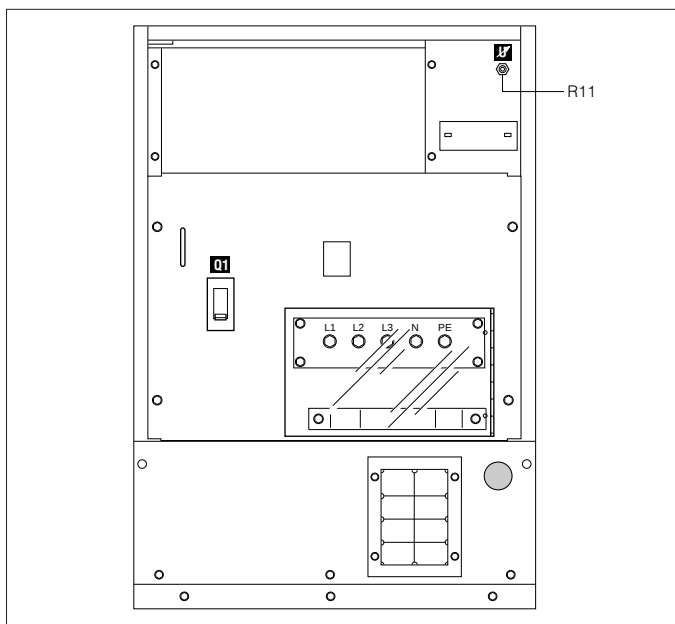
The dual voltage option cannot be combined with the sockets option because the sockets may not be used at low voltage.

High current (HC)

The "High current" option allows to run the unit at low voltage (= high current) or at high voltage (= low current).



All the cables that are used must be suitable for high current.



Q1....."Spectra" circuit breaker

Two different rating plugs are used to select low voltage (high current) or high voltage (low current). First install the proper rating plug. The "Spectra" circuit breaker then interrupts the low voltage (high current) or high voltage (low current) power supply towards X1 when a short-circuit occurs at the load side or when the overcurrent protection (145 A in case of high voltage and 250 A in case of low voltage) is activated. It must be reset manually after eliminating the problem and after each start.

R11 ...Output voltage adjust potentiometer

Allows to adjust the output voltage.

Carry out the following steps to select high voltage (low current) or low voltage (high current):

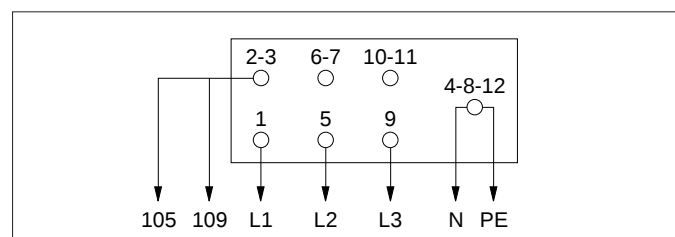
- Change the connections on the terminal board of the alternator.
- Plug in the proper rating plug (high or low current rating plug) in the circuit breaker.



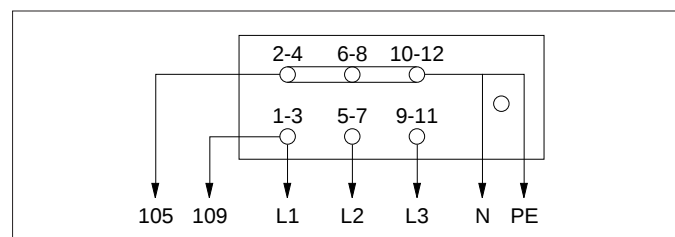
Serious damage may occur when the proper rating plug is not plugged in. In that case the unit is not protected.

Changing the output voltage is only allowed after shutdown.

To select high voltage (low current), connect the terminal board as follows:



To select low voltage (high current), connect the terminal board as follows:



After changing the output voltage, adjust the output voltage by means of potentiometer R11 to the required value.



The high current option cannot be combined with the sockets option because the sockets may not be used at low voltage.

Remote start (RS)

The "Remote start" option allows to switch the unit on or off without using the control panel located on the unit. The start module of the control panel is replaced by a special module which provides extra connections for the remote start/stop switch and the plant contactor, both to be installed by the customer.

The plant contactor should be sized according to the load. The maximum current through the voltage free contact is 3A.

The remote start/stop switch Sx has to meet the following specifications: 24VDC, 4A.

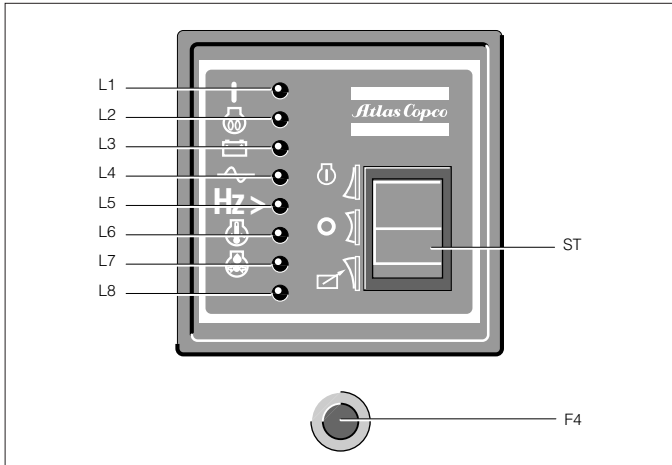
Refer to the circuit diagram for the correct connection of the plant contactor and the remote start/stop switch.

The minimum voltage relay on the main circuit breaker of the standard unit is eliminated and replaced by a current coil which switches off Q1 in case of an emergency stop or an earth fault.



The different positions of the starter switch ST are:

-  : used to select normal start and to disable remote start.
- O : used to switch off the power supply from the battery. The unit will not be able to start up.
-  : used to select remote start.



To start up the unit locally, without using the remote start/stop switch, proceed as follows:

- Switch off circuit breaker Q1. This is not necessary when a plant contactor is installed between Q1 and the load.
- Put the starter switch in position . The unit starts a preheating cycle which takes 12 seconds.
- After the preheating period, the unit will start. The starting attempt will take maximum 12 seconds.
- Approximately 15 seconds after starting (stabilisation time for the generator), the timer relay closes the voltage free contact and the plant contactor is energised (if installed).
- Switch on circuit breaker Q1 in case no contactor is installed.

To stop the unit when the starter switch is in position  , proceed as follows:

- Switch off the load.
- Switch off circuit breaker Q1.
- Let the engine run for about 5 minutes.
- Stop the engine by putting the starter switch in position O.
- Lock the side doors and the door of the indicators and control panel to avoid unauthorized access.

To start up the unit from a remote location using the remote start/stop switch, proceed as follows:

- Put the starter switch in position .
- Switch on circuit breaker Q1.
- Put the remote start/stop switch in position start. The unit starts a preheating cycle which takes 12 seconds.
- After the preheating period, the unit will start. The starting attempt will take maximum 12 seconds.

- Approximately 15 seconds after starting (stabilisation time for the generator), the timer relay closes the voltage free contact and the plant contactor is energised (if installed). The stabilisation time for the generator is adjustable between 1.5 and 30 seconds and is factory set at 15 seconds.

To stop the unit when the starter switch is in position  , proceed as follows:

- Switch off the load.
- Let the engine run for about 5 minutes.
- Stop the engine by putting the remote start/stop switch in position stop or by putting the starter switch in position O.

Automatic mains failure (AMF)

The “Automatic mains failure” option offers the following features:

- continuous monitoring of four input lines,
- an engine cooling water heating,
- an automatic battery charger, “trickle charge”,
- a connection block for monitoring,
- an extended control module,
- a remote start possibility.

Continuous monitoring

The “Automatic mains failure” option continuously monitors four input lines of the main power supply: the three phases and neutral.

When the mains (one or all phases) is not available for approximately 0.5 seconds, the following timing applies:

- The mains contactor opens and disconnects the load from the mains.
- The unit starts 3 seconds (preheat and crank delay) after the mains failure. If the unit does not start immediately, it will carry out another 3 starting attempts, each consisting of 10 seconds cranking and 5 seconds interval (crank time).
- After 10 seconds generator stabilisation time (plant settle time), the generator contactor is energised and the generator supplies power towards the load.

When the mains (all phases) is available again for at least 10 seconds (mains restore time), the following timing applies:

- The generator contactor opens and the mains contactor closes (1 second change over time).
- The generator shuts down 1 minute later (delay run on time).

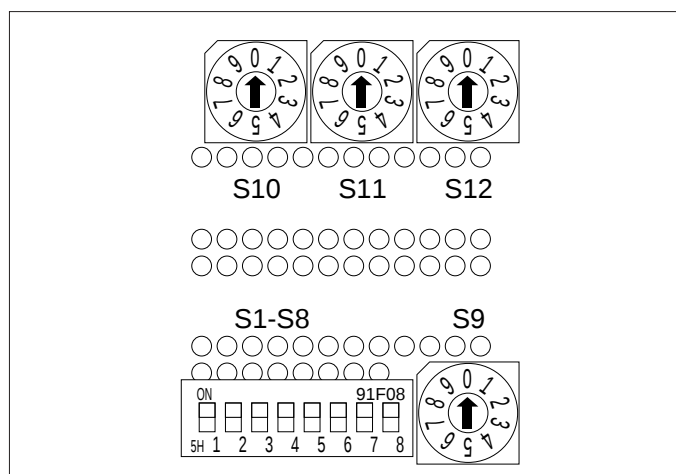
The timing can be adjusted by means of the potentiometers located at the back of the AMF control module:

S9Crank timer

S10 ...Plant settle timer

S11 ...Mains restore timer

S12 ...Delay run on timer



The table below summarises the relation between the position of the potentiometers and the value of the timers.

Potentiometer Position	S9		S10
	Preheat and crank delay	Crank time	Plant settle time
0	3 sec	10 sec	10 sec
1	10 sec	10 sec	15 sec
2	10 sec	15 sec	20 sec
3	15 sec	10 sec	25 sec
4	15 sec	15 sec	30 sec
5	25 sec	10 sec	35 sec
6	25 sec	15 sec	40 sec
7	25 sec	25 sec	45 sec
8	50 sec	15 sec	50 sec
9	50 sec	25 sec	60 sec

Potentiometer Position	S11	S12
	Mains restore time	Delay run on
0	10 sec	1 min
1	20 sec	2 min
2	40 sec	3 min
3	1 min	4 min
4	2 min	5 min
5	3 min	6 min
6	4 min	7.5 min
7	7.5 min	10 min
8	10 min	12.5 min
9	15 min	15 min

 The timers are factory set at position 0.

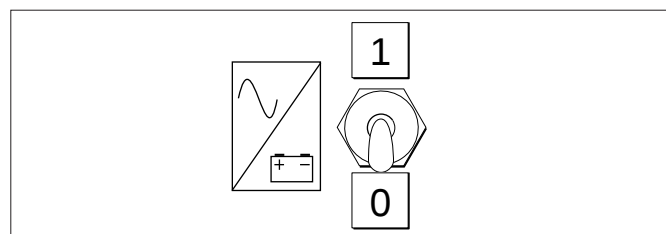
Engine cooling water heater

To make sure that the engine can start and accept load immediately, an external cooling water heater (1000W, 240V) is provided which keeps the engine temperature between 38°C and 49°C.

Automatic battery charger

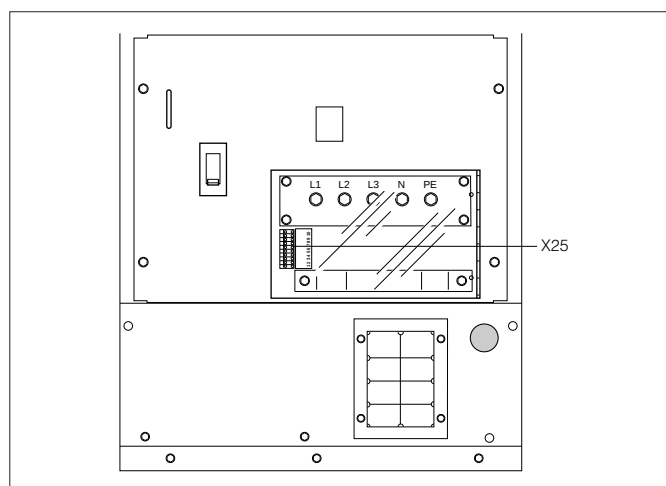
The “trickle charger” charges the battery completely and is disconnected once the unit starts up.

To prolong the lifespan of the batteries, the battery continuously discharges via the lock-out switch of the battery charger and a small resistor.



 When the unit is shut down for a longer period or will be stored, make sure to switch off the lock-out switch of the battery charger to prevent the battery from discharging completely.

Connection block for monitoring



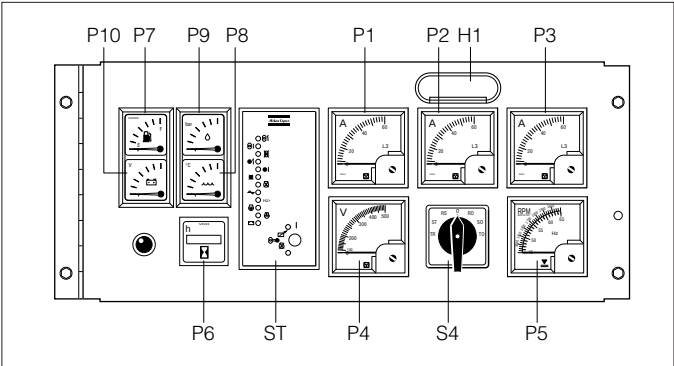
X25...Connection block

Allows easy connection for sensing of mains voltage and control of the mains and the plant contactor.

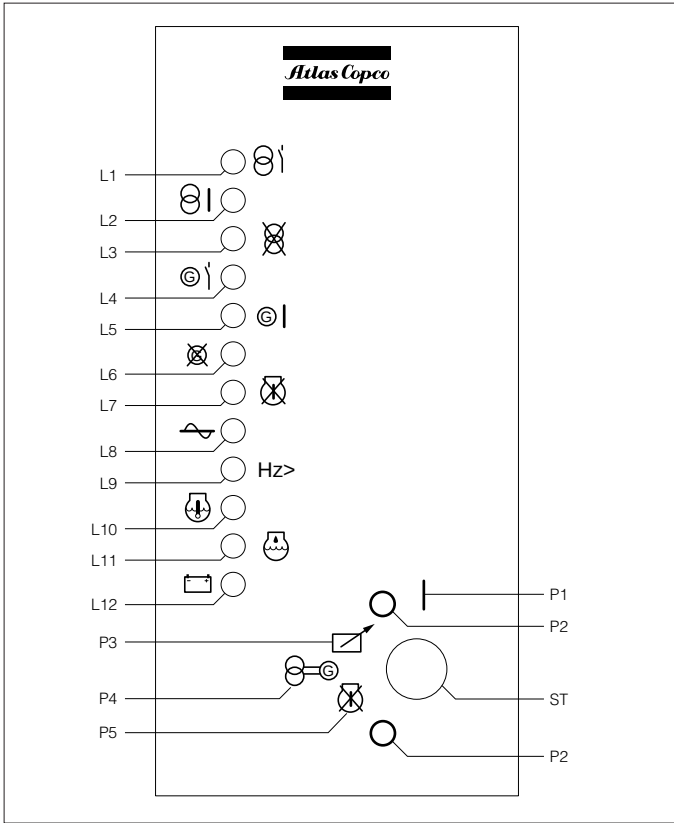
 Refer to circuit diagram of the “Automatic mains failure” option for the correct connection.

Extended control module

The standard control module is replaced by an extended module which allows more detailed control of the unit.



The controls and indicators on the AMF control module are:



L1Mains available

Lights up when the mains is available.

L2Mains on load

Lights up when the mains supplies power towards the load.

L3Mains failed

Lights up when a failure occurred on the mains.

L4Plant available

Lights up when the generator is running.

L5.....Plant on load

Lights up when the generator supplies power towards the load.

L6.....Plant fail

Lights up when a failure occurred on the generator.

L7Start fail

Indicates that four start attempts were not sufficient to start up the engine.

L8Undervoltage shutdown

Lights up when AC input interruption or failure was the cause of shutdown.

L9Overspeed shutdown

Lights up when the engine's speed has exceeded 115% of the nominal speed. The nominal speed is determined by means of the dipswitch S8 at the back of the control module.

L10 ...Engine coolant temperature shutdown

Lights up when the high engine coolant temperature was the cause of shutdown.

L11 ...Engine oil pressure shutdown

Lights up when the low oil pressure was the cause of shutdown.

L12 ...Charge fail indicator

Goes out after starting, indicating that the alternator is charging. A failing alternator however will not shut the engine down.

STStarter switch

P1 : the generator starts immediately. The load will be transferred if a mains failure occurs.

P2 : the generator will never start.

P3 : the generator will start when the remote start/stop contact is closed.

P4 : the generator will take over when a mains failure occurs.

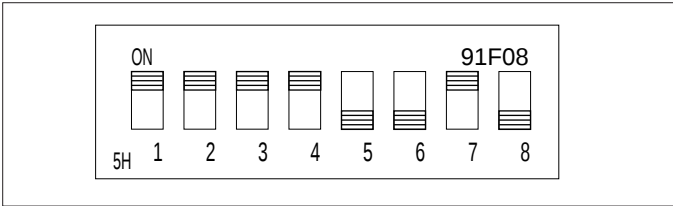
P5 : the generator will not start when a mains failure occurs. Nevertheless, the mains remains monitored and the mains contactor will trip in case of a mains failure.

Besides dipswitch S8, located at the back of the control module and used for the selection of the nominal speed (50 Hz or 60 Hz), dipswitch S1 can be used for enabling or disabling a spare shutdown contact.

The contactors between the mains, the unit and the load are not included in the option but should be sized according to the load. Nevertheless, they are also available as sales kit at Atlas Copco. Refer to circuit diagram 9822 0773 55 of the "Automatic mains failure" option for the correct connection.



For correct functioning of the module, the DIP switches at the back of the module should be positioned as follows:



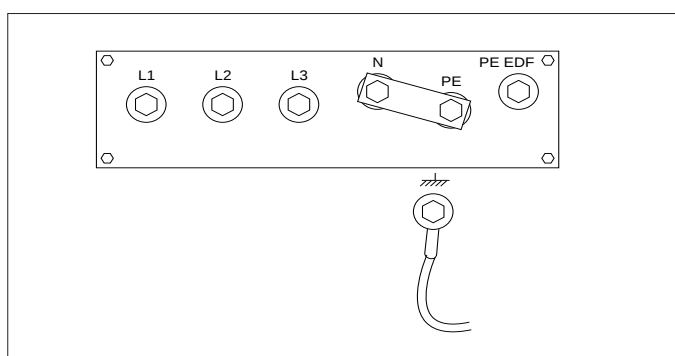
Remote start possibility

The “Remote start” feature of the “Automatic mains failure” option allows to switch the unit on or off without using the control panel located on the unit. For this purpose, the control module provides a voltage free contact for the connection of the remote start/stop switch (to be installed by the customer).

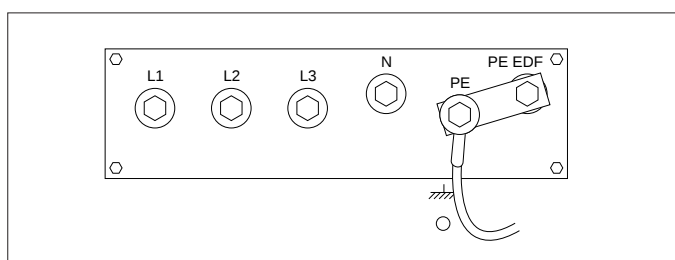
The unit will start in case the contact is closed (start/stop switch in position start) and the starter switch of the control module is in position  (position P3).

“Electricité de France” (EDF)

When the EDF-option is installed, the unit operates as a standard unit when the neutral and the PE terminals are connected to each other (see figure below). In this case, an earth leakage at the side of the generator or at the side of the load will switch off the circuit breaker.



When EDF-option is installed, the unit operates as EDF-unit when the earthing, the PE and the PE EDF terminals are connected to each other (see figure below). In this case, an earth leakage at the side of the generator will switch off the circuit breaker. An earth leakage at the side of the load will not switch off the circuit breaker.



Changing the operation mode from standard unit to EDF-unit or vice versa has to be carried out by a qualified person from “Electricité de France”.

OVERVIEW OF THE MECHANICAL OPTIONS

The following “mechanical” options are available for the QAS108 units:

- undercarriage (axle and towbar),
- external fueltank connection.

DESCRIPTION OF THE MECHANICAL OPTIONS

External fueltank connection

The option “External fueltank connection” allows to bypass the internal fueltank and to connect an external fueltank to the unit.

When using this option, make sure to connect the fuel supply line as well as the fuel return line.

Undercarriage (axle and towbar)

The undercarriage is equipped with an adjustable towbar with DIN-eye, AC-eye or ball coupling and with road signalisation which is approved by EC legislation.

When using this option:

- Make sure that the towing equipment of the vehicle matches the towing eye before towing the generator.
- Never move the generator while electrical cables are connected to the unit.
- Always apply the hand brake when parking the generator.
- Leave enough space for operation, inspection and maintenance (at least 1 meter at each side).

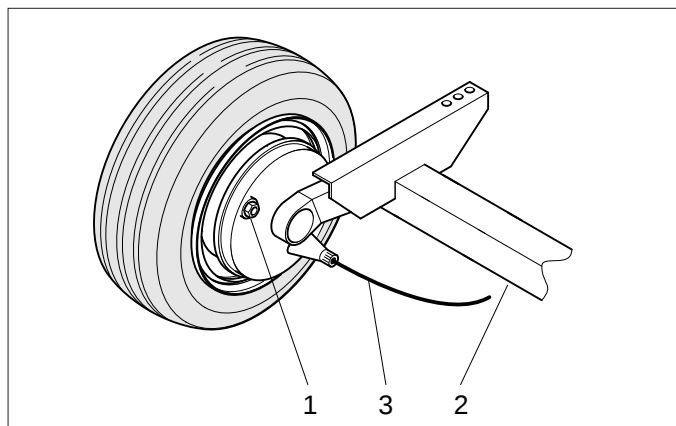
To maintain the undercarriage:

- Check the tightness of the towbar bolts, the axle bolts and the wheel nuts at least twice a year and after the initial 50 hours of operation.
- Grease the wheel axle suspension bearings, the drawbar to the steering gear shaft and the spindle of the brake handle at least twice a year. Use ball bearing grease for the wheel bearings and graphite grease for the drawbar and spindle.
- Check the brake system twice a year.
- Check the condition of the vibration dampers twice a year.
- Repack the wheel hub bearings once a year using grease.

Brake adjustment

The brake adjustment consists of two consecutive actions: the brake shoe adjustment and the brake cable and rod adjustment.

Brake shoe adjustment



1Adjusting nut

2Axle brake shoe

3Brake cable

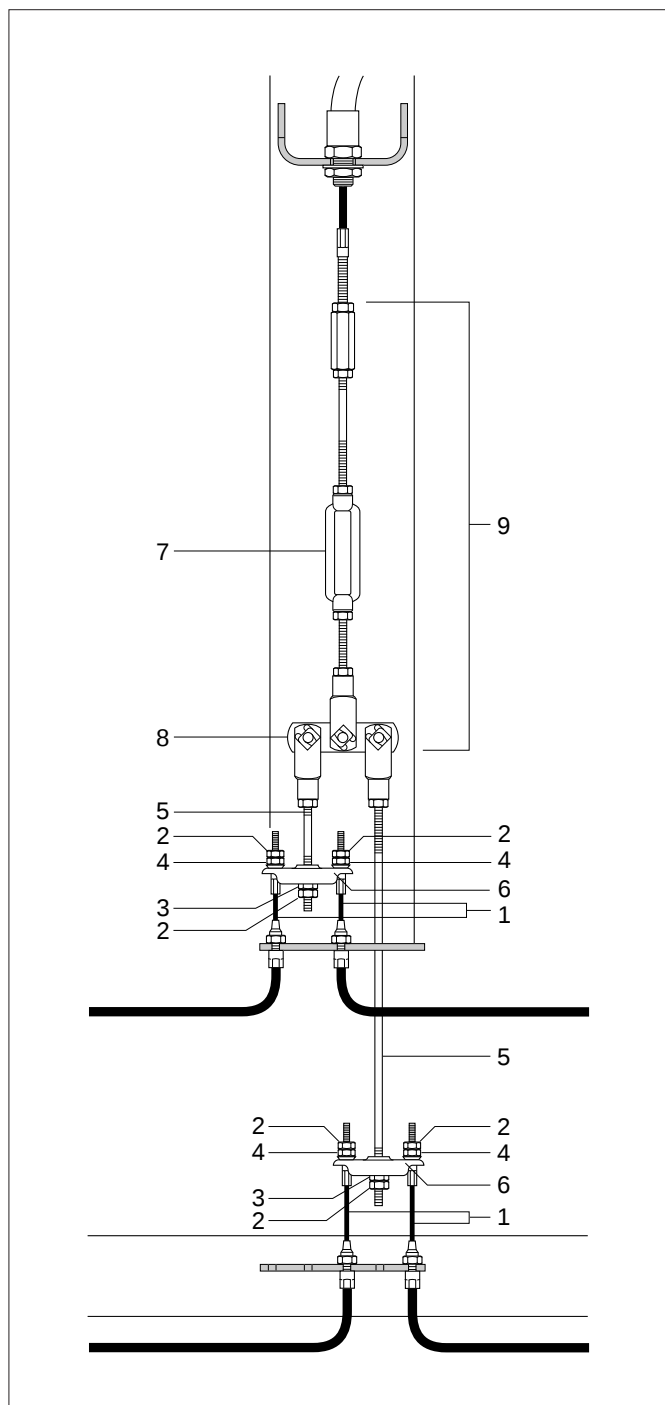
Brake shoe adjustment re-establishes the brake lining-to-drum clearance and compensates for lining wear.

Adjustment can only be done with the towing eye in its pulled-out position.

- Jack up the first axle until a wheel clears the floor. Support the generator on wooden blocks.
- Disconnect the brake cables.
- While turning the wheel in the sense of forward towing, turn brake adjusting nut clockwise until the brake shoes block the drum. Then loosen the nut, with the wheel again turning in the same direction, until the drum rotates freely or with a light friction. Repeat for the other wheel.
- Repeat for the other axle.
- Adjust the brake cables and rod as described below.

Brake cable and rod adjustment

- Reconnect the brake cables.
- Make sure that the main equalizer stays perpendicular to the brake rod and that there is no slack in the brake rod. Adjust with the turnbuckle when necessary.
- With the towing eye pulled out and the hand brake lever in the downward position, adjust the brake cable of the first axle. Turn the adjusting nut and brake cable nuts clockwise until there is no slack in the brake mechanism. The equalizer must remain perpendicular to the main brake cable. Repeat for the other axle.
- Apply the hand brake lever several times and repeat the adjustment. Tighten the nuts with their lock nuts. Remove the jack and the blocks.
- Road test the generator and brake several times. Then repeat the first and the third step of “Brake shoe adjustment”.



1Brake cable

2.....Lock nut

3.....Adjusting nut

4.....Brake cable nut

5.....Main brake cable

6.....Equalizer

7.....Turnbuckle

8.....Main equalizer

9.....Brake rod

TECHNICAL SPECIFICATIONS

READINGS ON GAUGES

<i>Gauge</i>	<i>Reading</i>	<i>Unit</i>
Ammeter L1 (P1)	Below max. rating	A
Ammeter L2 (P2)	Below max. rating	A
Ammeter L3 (P3)	Below max. rating	A
Voltmeter (P4)	Depends upon selector switch	V
Frequencymeter (P5)	Between 52.5 and 50	Hz
Hourmeter (P6)	Adding up	h
Fuel level (P7)	Above 0	Fuel tank full
Engine temperature (P8)	Below 105	°C
Engine oil pressure (P9)	Below max. rating	bar
Battery voltage gauge (P10)	Below max. rating	V

SETTINGS OF SWITCHES

<i>Switch</i>	<i>Function</i>	<i>Activates at</i>
Engine oil pressure	Shut-down	0.5 bar
Engine coolant temperature	Shut-down	105 °C

SPECIFICATIONS OF THE ENGINE/ALTERNATOR/UNIT

<i>Reference values</i>	Absolute air inlet pressure	1 bar
	Air inlet temperature	25 °C
	Relative air humidity	30 %
	Generator load	Continuous
<i>Limitations without derating</i>	Maximum ambient temperature	35 °C
	Maximum altitude	1000 m
	Maximum relative air humidity	85 %
	Minimum starting temperature	-18 °C
<i>Engine</i>	Type PERKINS	1006 - TG2
	Rated net output	91.5 kW
	Load speed	1500 rpm
	Electrical system	24 V
	Battery (2x)	12 V / 66 Ah
	Oil circuit capacity	16 l
	Cooling circuit capacity	28 l
	Fuel tank capacity	310 l
	Fuse F4	10 A
	Fuel consumption at full load/no load	22.8/3.7 l/h
	Maximum run time with fuel tank	13 h
<i>Alternator</i>	Type	ECN 34 LC-4
	Rated net output	120 kVA
	Voltage line-to-neutral	230 V
	Voltage line-to-line	400 V
	Frequency	50 Hz
	Speed	1500 rpm
	Power factor	0.8
	Number of phases	3 + neutral
	Winding connections	Star
	Insulation armature winding, class	H
	Insulation field winding, class	H
	Sensitivity of earth leak detector	0.03 - 0.3 - 1 A
	Setting of Q1	145 A
	Fuses F1, F2 and F3 for voltmeter selector switch	4 A
	Maximum diffusion resistance of earthing rod	1 kΩ
<i>Unit</i>	Dimensions (LxWxH)	3112x1131x1507 mm
	Weight net mass	1993 kg
	Weight wet mass	2273 kg

SPECIFICATIONS OF THE OPTIONS

Specifications of the sockets option

Setting of circuit breaker Q2-3	63 A
Setting of circuit breaker Q4	32 A
Setting of circuit breaker Q5	16 A
Setting of circuit breaker Q6	16 A/30mA

Specifications of the dual frequency option

Reading on frequencymeter (P5) at 50 Hz	50 Hz
Reading on frequencymeter (P5) at 60 Hz	60 Hz
Rated net output at 50 Hz	100 kVA
Rated net output at 60 Hz	124 kVA
Load speed (50 Hz)	1500 rpm
Load speed (60 Hz)	1800 rpm
Fuel consumption at 50 Hz, full load/no load	22.8/3.7 l/h
Fuel consumption at 60 Hz, full load/no load	27.8/5.0 l/h
Maximum runtime with fueltank (50 Hz)	13 h
Maximum runtime with fueltank (60 Hz)	11 h
Frequency tolerance	0.25 %

Specifications of the single frequency option

Reading on frequencymeter (P5)	50 Hz
Load speed (50 Hz)	1500 rpm
Frequency tolerance	0.25 %

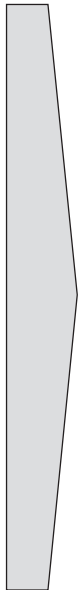
Specifications of the dual voltage option

Reading on voltmeter (P4)	230 V / 400 V
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Specifications of the high current option

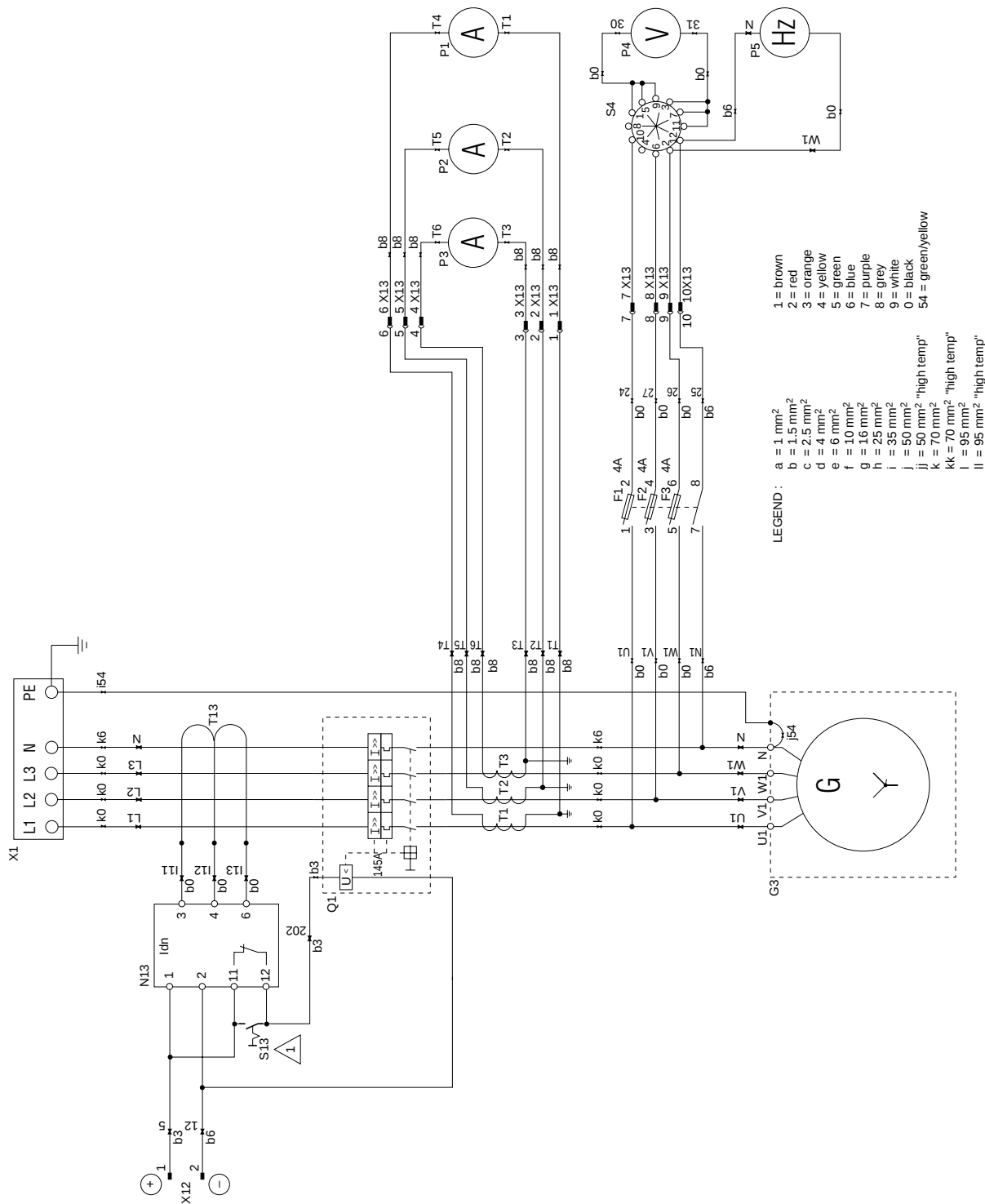
Reading on voltmeter (P4)	230 V / 400 V
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Circuit diagrams
Elektrische schema's
Schémas de circuits
Schaltpläne
Esquema de conexiones
Kopplingsscheman
Diagrammi dei circuiti
Kretsskjema
Kredsløbsdiagrammer
Διαγράμματα κυκλωμάτων
Esquemas eléctricos
Sähkökaaviot



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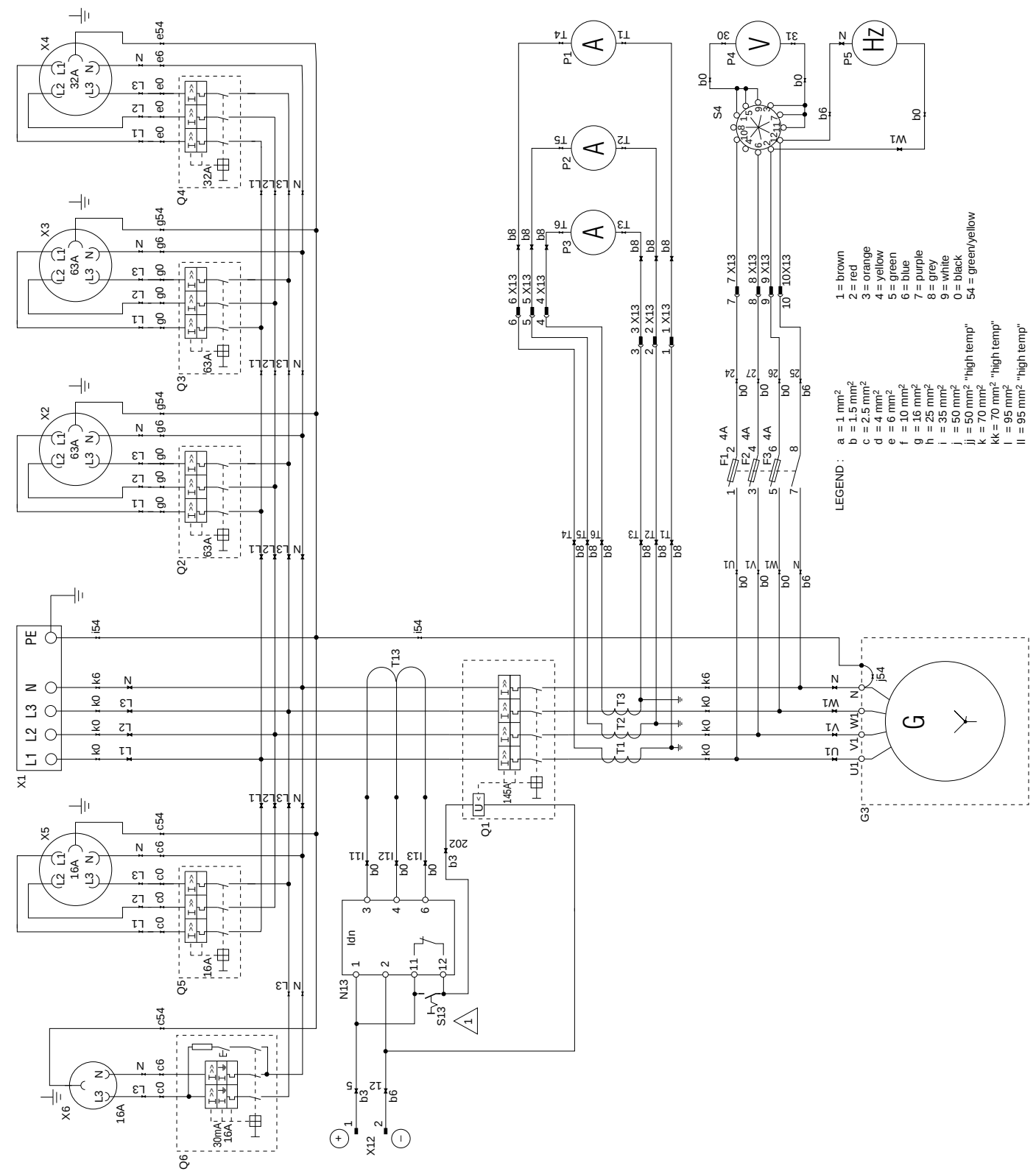
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	ENGLISH	NETHERLANDS	FRANCAIS	DEUTSCH
F1-3 G3 N13 P1-3 P4 P5 Q1 S4 S13 T1-3 T13 X1 X12 X13 1	Fuse 4A Generator Earth fault-current relay Ampere-meter 0-200A Voltmeter 0-500V Frequency-meter 45-65Hz Circuit breaker 145A/4-pole Voltmeter selector switch Earth fault relay lock-out switch Current transformer 200A/5A Earth fault-current detector Terminal board 2-pole connector 12-pole connector Wire Harness	Zekering 4A Generator Aardlekrelais Ampèremeter 0-200A Voltmeter 0-500V Frequentiemeter 45-65Hz Vernietingschakelaar 145A/4-polig Voltmeter keuzeschakelaar Blokeerschakelaar verliesstroomrelais Stroomtransformator 200A/5A Aardlekdetector Klemmenbord Kornektor, 2 stiften Kornektor, 12 stiften Kabelbundel	Fusible 4A Groupe électrogène Relais de fuite à la terre Ampèremètre 0-200A Voltmètre 0-500V Fréquentmètre 45-65Hz Disjoncteur 145A/4 pôles Sélecteur de voltmètre Commutateur d'arrêt de relais des défauts à la terre Transformateur de courant 200A/5A Détecteur de fuite à la terre Tablette à bornes Connecteur, 2 broches Connecteur, 12 broches Harnais de câbles	Sicherung 4 A Generator Erdschlußrelais Amperemeter 0 - 200A Voltmeter 0 - 500 V Frequenzmesser 45 - 65 Hz Leistungsschalter 145A / vierpolig Voltmeter-Wahlschalter Riegelschalter Erdschlußrelais Stromwandler 200A / 5 A Erdschlußanzeiger Klemmenbratt Zweipoliger Stecker Zwölfpoliger Stecker Kabelbaum
	ESPAÑOL	SVENSKA	ITALIANO	NORSK
F1-3 G3 N13 P1-3 P4 P5 Q1 S4 S13 T1-3 T13 X1 X12 X13 1	Fusible 4A Generador Relé de pérdida a tierra Amperímetro 0-200A Voltímetro 0-500V Frecuencímetro 45-65Hz Disyuntor 145A/cuadripolar Selector de voltímetro Interruptor de bloqueo del relé de pérdida a tierra Transformador de corriente 200A/5A Detector de pérdida a tierra Cuadro de bornas Conector bipolar Conector de 12 polos Arrés de cableado	Säkring 4A Generator Relä för jordläckage Amperemätare 0-200A Spänningsmätare 0-500V Frekvensmätare 45-65 Hz Stömbrytare 145A/4-polig Spänningsmätarens kopplingsväljare Avslagningsbrytare för jordfelsrelä Stromtransformator 200A/5A Detektor för jordläckage Anslutningsbrint 2-poligt kontaktdon 12-poligt kontaktdon Kabel	Fusibile 4A Generatore Relè corrente di terra Amperometro 0-200A Voltmetro 0-500V Frequenzimetro 45-65 Hz Interruttore 145A/4 poli Interruttore di selezione del voltmetro Interruttore chiusura relé guasto di terra Transformatore di corrente 200A/5A Rilevatore corrente di terra Morsetiera Connettore a 2 poli Connettore a 12 poli Cablaggio	Sikring 4 A Generator Jordteilerelé Amperemeter 0-200 A Spenningsmåler 0-500 V Frekvensmåler 45-65 Hz Kretsbyrter 145 A/4-pølet Valgbryter for spenningsmåler Avstengingsbryter for jordteilelè Størn 200A/5 A Jordteilelføler Koplingsstavle 2-pølet kontakt 12-pølet kontakt Ledningsnett
	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
F1-3 G3 N13 P1-3 P4 P5 Q1 S4 S13 T1-3 T13 X1 X12 X13 1	Sikring 4A Generator Jordfejlstrømsrelæ Amperemeter 0-200A Voltmeter 0-500V Frekvensmåler 45-65Hz Afbryder 145A/4-polig Voltmeterets onskifterknop Afbryderkontakt til jordfejlstrømsrelæ Stromtransformere 200A/5A Jordfejlstrømsdetektor Klembrædt 2-faset kontaktklemme 12-faset kontaktklemme Ledningsnet	Ασφάλεια 4 Α Γεννήτρια Ρελέ ρεύματος γείωσης Αμπερόμετρο 0 - 200Α Βολτόμετρο 0 - 500 V Μετρητής συχνότητας 45 - 65 Ηz Διακόπτης κυκλώματος 145Α - 4πολικός Διακόπτης επιλογής βολτομέτρου Διακόπτης αποκλεισμού μετάδοσης λάθους στη γείωση Μετασχηματιστής ρεύματος 200Α / 5Α Ανχνευτής ρεύματος γείωσης Πίνακας ακροδεκτών 2πολικός συνδεσμός 12πολικός συνδεσμός Συνδεσμολογία συρμάτων	Fusível 4A Gerador Relé de detecção de falta de terra Amperímetro 0-200A Voltmetro 0-500 V Frequencímetro 45-65Hz Disjuntor 145A/tetrapolar Comutador selector do voltímetro Interruptor selector do relé de corrente de defeito à terra Transformador de corrente 200A/5A Detector de falta de corrente de terra Quadro de terminais Ligação em 2 polos Ligação em 12 polos Cablagem geral	Varoke 4A Vaihtovirtageneraattori Maavuoto-rele Ampeerimittari 0-200 A Voltimittari 0-500 V Taajuusmittari 45-65 Hz Virrankatkaisin 145 A/4-napainen Voltimittarin valintakytkin Maavuodon tunnistimen sulkykytkin Virtamuuntaja 200A/5A Maavuodon tunnistin Litittälevy 2-napainen liitin 12-napainen liitin Johtosarja

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	ENGLISH	NEDERLANDS	FRANCAIS	DEUTSCH
F1-3	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4 A
G3	Generator	Generator	Groupe électrogène	Generator
N13	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
P1-3	Amperemeter 0-200A	Amperemeter 0-200A	Ampermètre 0-200A	Amperemeter 0 - 200A
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequencymeter 45-65Hz	Frequenciemeter 45-65Hz	Fréquentmètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 145A/4-pole	Vermogensschakelaar 145A/4-polig	Diponcteur 145A/4 pôles	Leistungsschalter 145A / vierpolig
Q2-3	Circuit breaker 63A/3-pole	Vermogensschakelaar 63A/3-polig	Diponcteur 63A/3 pôles	Leistungsschalter 63A / 2-polig
Q4	Circuit breaker 32A/3-pole	Vermogensschakelaar 32A/3-polig	Diponcteur 32A/3 pôles	Leistungsschalter 32A / 3-polig
Q5	Circuit breaker 16A/3-pole	Vermogensschakelaar 16A/3-polig	Diponcteur 16A/3 pôles	Leistungsschalter 16A / 3-polig
Q6	Circuit breaker 16A/2-pole + 1Δn=30mA	Vermogensschakelaar 16A/2-polig + 1Δn=30mA	Diponcteur 16A/2 pôles + 1Δn=30mA	Leistungsschalter 16A / 2-polig + 1Δn=30mA
S4	Voltmeter selector switch	Voltmeter selectorschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
S13	Earth fault relay lock-out switch	Blockeeschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des défauts à la terre	Riegelschalter Erdschlußrelais
T1-3	Current transformer 200A/5A	Stroomtransformatör 200A/5A	Transformateur de courant 200A/5A	Stromwandler 200A / 5 A
T13	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbrett
X2-3	Outlet socket 63A/5-pole	Uitlaatpunt- 63A/5-polig	Prise femelle 63A/5 pôles	Anschlußdose 63A/5polig
X4	Outlet socket 32A/5-pole	Uitlaatpunt- 32A/5-polig	Prise femelle 32A/5 pôles	Anschlußdose 32A/5polig
X5	Outlet socket 16A/5-pole	Uitlaatpunt- 16A/5-polig	Prise femelle 16A/5 pôles	Anschlußdose 16A/5polig
X6	Outlet socket 16A/3-pole	Uitlaatpunt- 16A/3-polig	Prise femelle 16A/3 pôles	Anschlußdose 16A/3polig
X12	2-pole connector	Konektor, 2 stiften	Connecteur, 2 broches	Zweigpoliger Stecker
X13	12-pole connector	Konektor, 12 stiften	Connecteur, 12 broches	Zwölfpoliger Stecker
1	Wire Harness	Kabelbundel	Harnais de câbles	Kabelbaum

	ESPAÑOL	SVENSKA	ITALIANO	NORSK
F1-3	Fusible 4A	Säkring 4A	Fusibile 4A	Sikring 4 A
G3	Generator	Generator	Generatore	Generator
N13	Relé de pérdida a tierra	Relä för jordläckage	Relé corrente di terra	Jordfeilrelé
P1-3	Amperímetro 0-200A	Amperemätare 0-200A	Amperometro 0-200A	Amperemeter 0-200 A
P4	Voltímetro 0-500V	Spänningsmätare 0-500V	Voltmetro 0-500V	Spänningsmätar 0-500 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Frequenzmätare 45-65 Hz	Frekvensmätar 45-65 Hz
Q1	Disyuntor 145Acuadripolar	Strömbrytare 145A/4-polig	Interuttore 145A/4 poli	Kreisbryter 145 A/4-polet
Q2-3	Disyuntor 63A/3-polar	Strömbrytare 63A/3-polig	Interuttore 63A/3 poli	Kreisbryter 63 A/3-polet
Q4	Disyuntor 32A/3-polar	Strömbrytare 32A/3-polig	Interuttore 32A/3 poli	Kreisbryter 32 A/3-polet
Q5	Disyuntor 16A/3-polar	Strömbrytare 16A/3-polig	Interuttore 16A/3 poli	Kreisbryter 16 A/3-polet
Q6	Disyuntor 16A/2-polar + 1Δn=30mA	Strömbrytare 16A/2-polar + 1Δn=30mA	Interuttore 16A/2 poli + 1Δn=30mA	Kreisbryter 16 A/2-polet + 1Δn=30mA
S4	Selector de voltímetro	Spänningsmätarens kopplingsväxlare	Interuttore di selezione del voltímetro	Valgbryter for spenningsmåler
S13	Interruptor de bloqueo del relé de pérdida a tierra	Avstängningsbrytare för jordfelsrelä	Interuttore chiusura relé guasto di terra	Avstengingsbryter for jordfeilrelé
T1-3	Transformador de corriente 200A/5A	Strömtransformator 200A/5A	Transformatore di corrente 200A/5A	Strøm 200 A/5 A
X1	Cuadro de bornes	Anslutningsplint	Morsstiera	Koplingsstave
X2-3	Casquillo de toma de corriente 63 A/5 polos	63A/5-fas uttag	Presa esterna 63A/5 poli	Uttak, 63A/5-polet
X4	Casquillo de toma de corriente 32 A/5 polos	32A/5-fas uttag	Presa esterna 32A/5 poli	Uttak, 32A/5-polet
X5	Casquillo de toma de corriente 16 A/5 polos	16A/5-fas uttag	Presa esterna 16A/5 poli	Uttak, 16A/5-polet
X6	Casquillo de toma de corriente 16 A/3 polos	16A/3-fas uttag	Presa esterna 16A/3 poli	Uttak, 16A/3-polet
X12	Conector bipolar	2-poligt kontaktion	Connettore a 2 poli	2-polet kontakt
X13	Conector de 12 polos	12-poligt kontaktion	Connettore a 12 poli	12-polet kontakt
1	Arnes de cableado	Kabel	Cabbaggio	Ledningsnett

The diagram illustrates a 3-phase power distribution system. The main supply (X1) is connected to a main switch (Q1) and a transformer (T1, T2, T3). The system is divided into several sections, each with its own switch (Q2-Q6) and transformer (T4-T6). The loads include three 32A and 63A circuit breakers (X2-X4), three 16A circuit breakers (X5), and a 30mA/16A residual current device (X6). The system is protected by fuses (F1-F3) and a main fuse (F4). The loads are connected to a 3-phase distribution bus (W1) and a 3-phase distribution bus (W2). The diagram also includes a legend for wire colors and cross-sections, and a list of components and their ratings.

LEGEND :

- a = 1 mm²
- b = 1.5 mm²
- c = 2.5 mm²
- d = 4 mm²
- e = 6 mm²
- f = 10 mm²
- g = 16 mm²
- h = 25 mm²
- i = 35 mm²
- j = 50 mm²
- kl = 50 mm² "high temp"
- k = 70 mm²
- kk = 70 mm² "high temp"
- l = 95 mm²
- ll = 95 mm² "high temp"

COMPONENTS AND RATINGS:

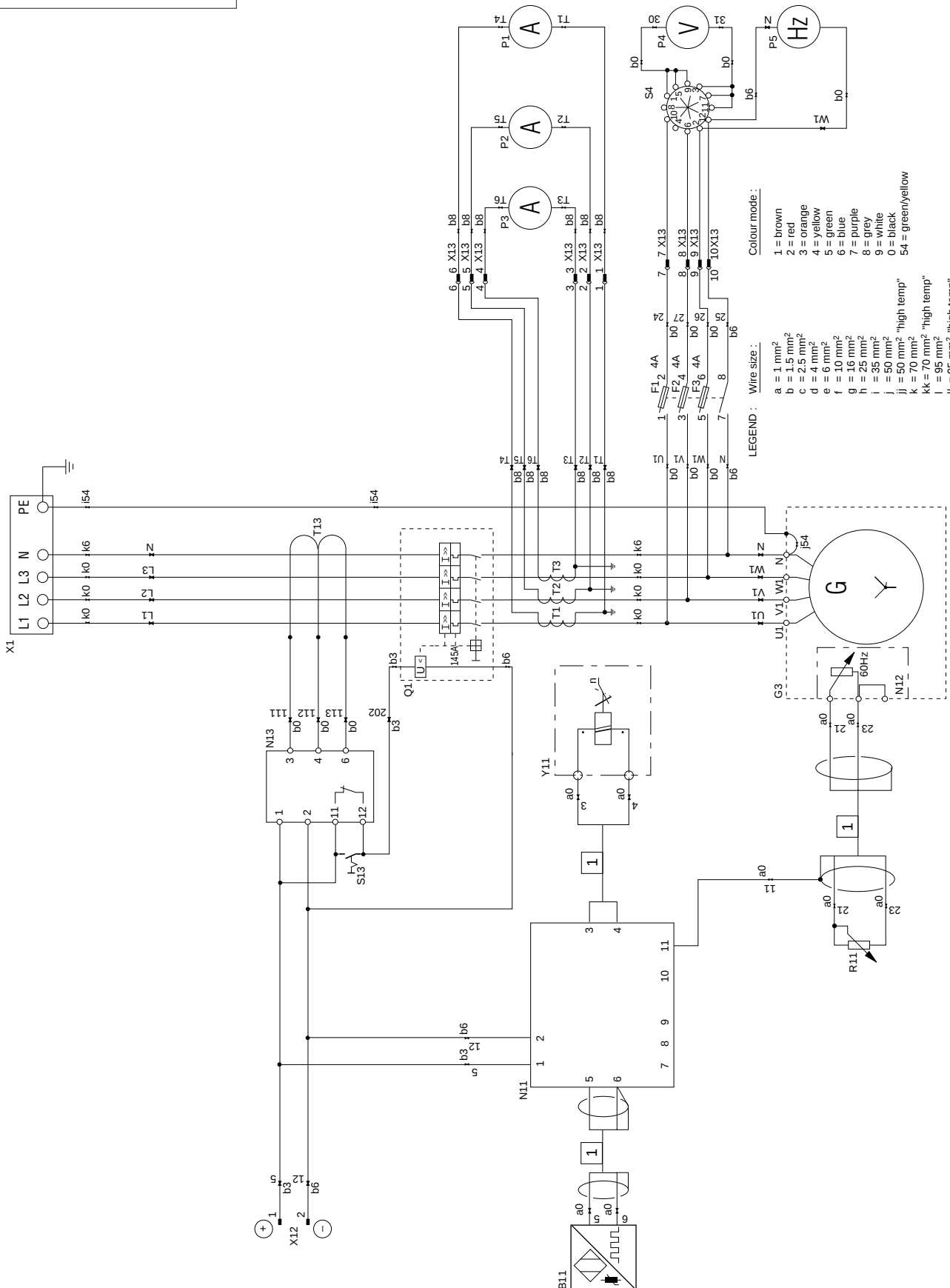
- Q1: 145A
- Q2: 63A
- Q3: 63A
- Q4: 32A
- Q5: 16A
- Q6: 30mA/16A
- T1, T2, T3: 10X13
- T4, T5, T6: 10X13
- F1, F2, F3: 4A
- F4: 4A
- X1: 3-phase supply
- X2, X3, X4: 32A, 63A
- X5: 16A
- X6: 30mA/16A
- W1, W2: 3-phase distribution bus

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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
F1-3	Sikring 4A	Ασφάλεια 4 Α	Fusível 4A	Varoke 4A
G3	Generator	Γενήτρια	Gerador	Vaihtovirtageneraattori
NI13	Jordfejlsstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falha de terra	Maavudorele
PI-3	Amperemeter 0-200A	Αμπερόμετρο 0 - 200Α	Amperímetro 0-200A	Ampeerimittari 0-200 A
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Voltmetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Åbryder 145A/4-polig	Διακοπτής κυκλώματος 145Α - 4πολικός	Disjuntor 145A/tetrapolar	Virrankatkaisin 145 A/4-napainen
Q2-3	Åbryder 63A/3-polig	Διακοπτής κυκλώματος 63Α - 3πολικός	Disjuntor 63A/3-polar	Virrankatkaisin 63 A/3-napainen
Q4	Åbryder 32A/3-polig	Διακοπτής κυκλώματος 32Α - 3πολικός	Disjuntor 32A/3-polar	Virrankatkaisin 32 A/3-napainen
Q5	Åbryder 16A/3-polig	Διακοπτής κυκλώματος 16Α - 3πολικός	Disjuntor 16A/3-polar	Virrankatkaisin 16 A/3-napainen
Q6	Åbryder 16A/2-polig + ΔIn=30mA	Διακοπτής κυκλώματος 16Α - 2πολικός + ΔIn=30mA	Disjuntor 16A/2-polar + ΔIn=30mA	Virrankatkaisin 16 A/2-napainen + ΔIn=30mA
S4	Voltmeterets onskifterknap	Διακοπτής επιλογής βολτομέτρου	Comutador selector do voltímetro	Voltimittarin valintakytkin
SI13	Åbryderkontakt til jordfejlsstrømsrelæ	Διακοπτής αποκλεισμού μετάδοσης λάθους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
TI-3	Strømtransformator 200A/5A	Μετασχηματιστής ρεύματος 200Α / 5Α	Transformador de corrente 200A/5A	Virtamuuntaja 200A/5A
TI13	Jordfejlsstrømsdetektor	Ανιχνευτής ρεύματος γείωσης	Detector de falha de corrente de terra	Maavuodon tunnistin
X1	Klembrædt	Πινάκας ακροδέκτη	Quadro de terminais	Liitäntäläew
X2-3	Stikkontakt 63A/5-polig	63Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 63A/5 polos	Pistorasia 63 A / 5-napainen
X4	Stikkontakt 32A/5-polig	32Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 32A/5 polos	Pistorasia 32 A / 5-napainen
X5	Stikkontakt 16A/5-polig	16Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/5 polos	Pistorasia 16 A / 5-napainen
X6	Stikkontakt 16A/3-polig	16Α/3-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/3 polos	Pistorasia 16 A / 3-napainen
X12	2-faset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin
1	Ledningsnet	Συνδεσμολογία αμψιάτων	Cablagem geral	Johdotarjola

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Applicable for QAS108 Pd SF

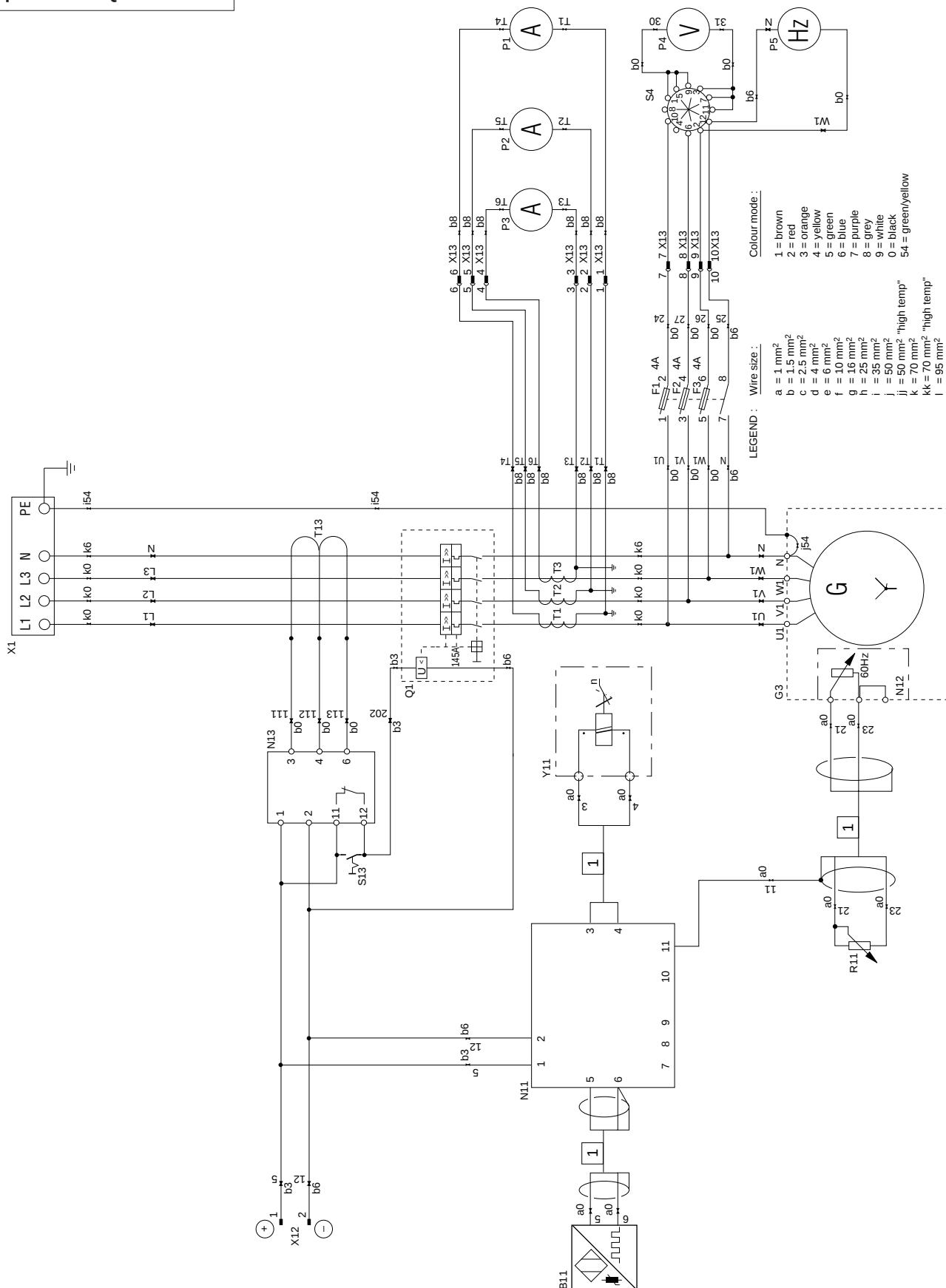


ENGLISH		NETHERLANDS	FRANCAIS	DEUTSCH
Bt1	Speed sensor	Snelheidssensor	Capteur de vitesse	Drehzahlfühler
Ft1-3	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4 A
G3	Generator	Generator	Groupe électrogène	Generator
Nt1	Speed controller	Snelheidsregelaar	Régulateur de vitesse	Drehzahlregler
Nt2	Automatic voltage regulator	Automatische spanningsregelaar	Régulateur de tension automatique	Automatischer Spannungsregler
Nt3	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
Pt1-3	Amperemeter 0-200A	Amperemeter 0-200A	Ampèremètre 0-200A	Amperemeter 0 - 200A
P4	Voltmeter 0-600V	Voltmeter 0-600V	Voltmètre 0-600V	Voltmeter 0 - 600 V
P5	Frequencymeter 45-65Hz	Frequentiemeter 45-65Hz	Fréquentmètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 145A/4-pole	Vermogensschakelaar 145A/4-polig	Diponcteur 145A/4 pôles	Leistungsschalter 145A / vierpolig
Rt1	Supply voltage adjust potentiometer	Regelpotentiometer, voedingsspanning	Potentiomètre de réglage de la tension d'alimentation	Potentiometer für Einstellung der Versorgungsspannung
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
St3	Earth fault relay lock-out switch	Blokkeerschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des défauts à la terre	Rielschalter Erdschlußrelais
Tt1-3	Current transformer 200A/5A	Stroomtransformatör 200A/5A	Transformateur de courant 200A/5A	Stromwandler 200A / 5 A
Tt3	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbratt
Xt2	2-pole connector	Konektor, 2 stiften	Connecteur, 2 broches	Zweipoliger Stecker
Xt3	12-pole connector	Konektor, 12 stiften	Connecteur, 12 broches	Zwölfpoliger Stecker
Yt1	Actuator	Actuator	Actuateur	Stellorgan
1	Wire Harness	Kabelbundel	Harnais de câbles	Kabelbaum

ESPAÑOL		SVENSKA	ITALIANO	NORSK
Bt1	Sensor de velocidad	Vandalsensor	Sensore velocità	Hastighetsføler
Ft1-3	Fusible 4A	Sikring 4A	Fusibile 4A	Sikring 4 A
G3	Generator	Generator	Generatore	Generator
Nt1	Controlador de velocidad	Vandalsregulator	Unità di controllo velocità	Hastighetsregulator
Nt2	Regulador automático de voltaje	Automatisk spänningsregulator	Regolatore di tensione automatico	Automatisk spenningsregulator
Nt3	Relé de pérdida a tierra	Relä för jordläckage	Relé corrente di terra	Jordfeilrelé
Pt1-3	Amperímetro 0-200A	Amperemätare 0-200A	Amperometro 0-200A	Amperemeter 0-200 A
P4	Voltímetro 0-600V	Spänningsmätare 0-600V	Voltmetro 0-600V	Spänningsmätar 0-600 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Frequenzmätro 45-65 Hz	Frekvensmätar 45-65 Hz
Q1	Disyuntor 145A/cuadripolar	Strömbrytare 145A/4-polig	Interruttore 145A/4 poli	Kraftbryter 145 A/4-polet
Rt1	Potenciometro de ajuste del voltaje de alimentación	Potentiometer för justering av spänningsmätningen	Potenzometro regolazione tensione di alimentazione	Potensiometer for justering av strömtilførsel
S4	Selector de voltímetro	Spänningsmätarens kopplingsväxlare	Interruttore di selezione del voltmetro	Valgbryter for spenningsmätar
St3	Interruptor de bloqueo del relé de pérdida a tierra	Avstängningsbrytare för jordfelsrelä	Interruttore chiusura relé guasto di terra	Avstengingsbryter for jordfeilrelé
Tt1-3	Transformador de corriente 200A/5A	Stromtransformator 200A/5A	Transformatore di corrente 200A/5A	Strøm 200 A/5 A
Tt3	Detector de pérdida a tierra	Defektor för jordläckage	Rilevatore corrente di terra	Jordfeilføler
X1	Cuadro de bornas	Anslutningsplint	Morsetteria	Koplingsstavle
Xt2	Conector bipolar	2-poligt kontaktdon	Connettore a 2 poli	2-polet kontakt
Xt3	Conector de 12 polos	12-poligt kontaktdon	Connettore a 12 poli	12-polet kontakt
Yt1	Actuador	Manöverorgan	Attuatore	Aktuator
1	Arnés de cableado	Kabel	Cablaggio	Ledningsnett

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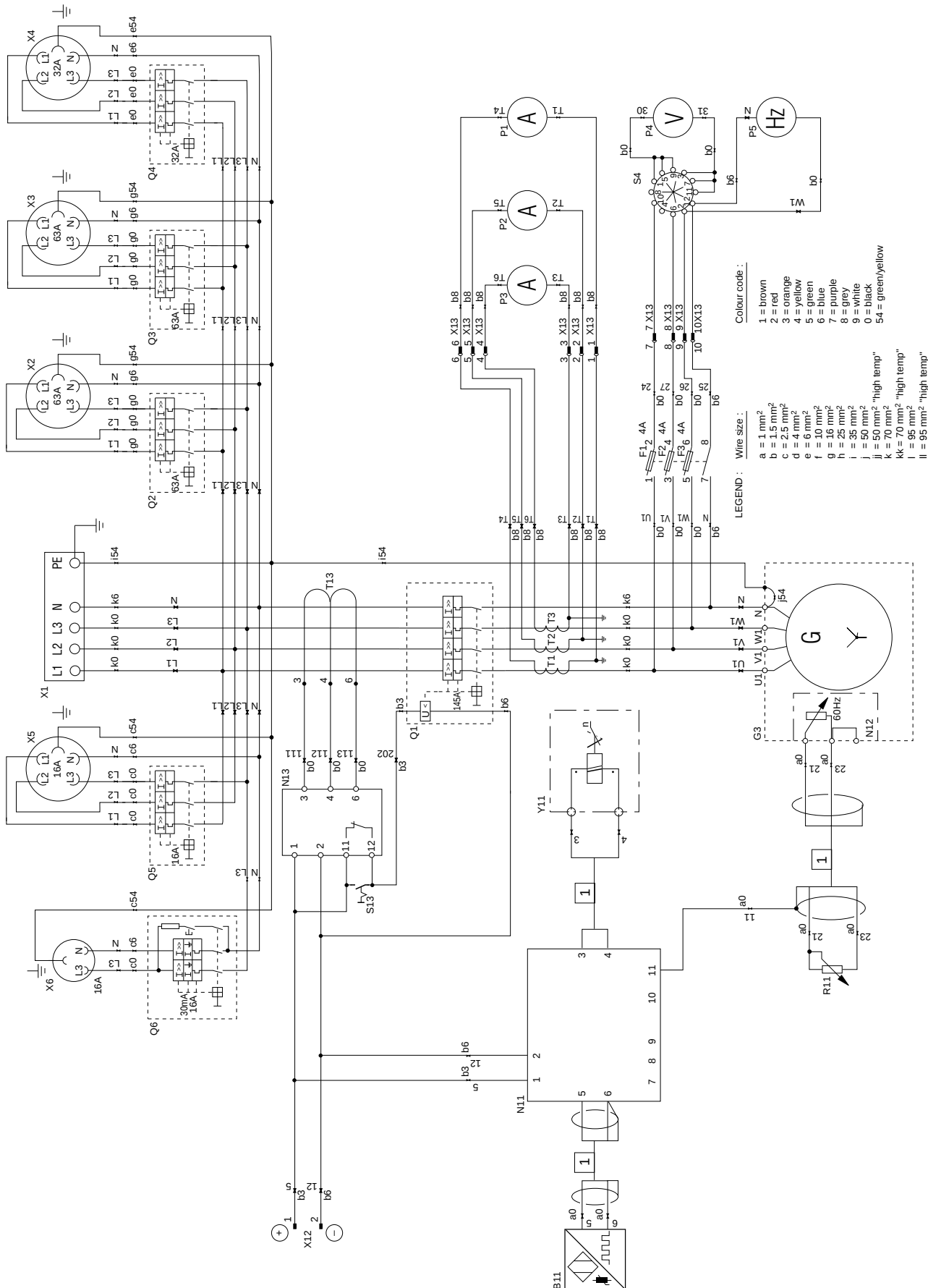


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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
B11	Hastighetsmåler	Αισθητήρας ταχύτητας	Sensor de velocidade	Nopeusanturi
F1-3	Sikring 4A	Ασφάλεια 4 A	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
N11	Hastighetsregulator	Ελεγκτής ταχύτητας	Controlador da velocidade	Nopeuden valvoja
N12	Automatisk spændingsregulator	Αυτόματος ρυθμιστής τάσης	Regulador automático da potência	Automaattinen jänniteensäädin
N13	Jordfejlsstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de deteção de falha de terra	Maavuoto rele
P1-3	Amperemeter 0-200A	Αμπερόμετρο 0 - 200Α	Amperímetro 0-200A	Ampeerimittari 0-200 A
P4	Voltmeter 0-600V	Βολτόμετρο 0 - 600 V	Voltímetro 0-600 V	Voltimittari 0-600 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Aftryder 145A/4-poliq	Διακόπτης κυκλώματος 145A - 4πολικός	Disjuntor 145A/tetrapolar	Virrankatkaisin 145 A/4-napainen
R11	Potentiometer til justering af lodespændingen	Δυναμόμετρο ρύθμισης τάσης παροχής	Potenciómetro de ajuste da tensão de alimentação	Syöttöjännitteen säätöpotentiometri
S4	Voltmeterets onskifferknapp	Διακόπτης επιλογής βολτομέτρου	Comutador selector do voltímetro	Voltimittarin valintakytkin
S13	Aftryderkontakt til jordfejlsstrømsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάβους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
T1-3	Strømtransformatore 200A/5A	Μετασχηματιστής ρεύματος 200Α / 5Α	Transformador de corrente 200A/5A	Virtamuuntaja 200A/5A
T13	Jordfejlsstrømsdetektor	Ανχνευτής ρεύματος γείωσης	Detector de falha de corrente de terra	Maavuodon tunnistin
X1	Klembrædt	Πινακας ακροδεκτη	Quadro de terminais	Liitäntälavy
X12	2-faset kontaktklemme	2πολικός συνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός συνδεσμος	Ligação em 12 polos	12-napainen liitin
Y11	Aktuator	Ενεργοποιητής	Accionador	Toimilaitte
1	Ledningsnet	Συνδεσμολογια οριζόντιων	Cablagem geral	Johdotarjola

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Applicable for QAS108 PdS SF



CIRCUIT DIAGRAM
ELEKTRISCH SCHEMA
SCHEMA DE CIRCUIT
VERDRÄHTUNGSPLAN
DIAGRAMA DE CIRCUITOS
KOPPLINGSSCHEMA

DIAGRAMMA DEL CIRCUITO
KRETSSKJEMA
STRØMDIAGRAM
ΔΙΑΓΡΑΜΜΑ ΚΥΚΛΩΜΑΤΟΣ
DIAGRAMA DOS CIRCUITOS
SÄHKÖKAAVIO

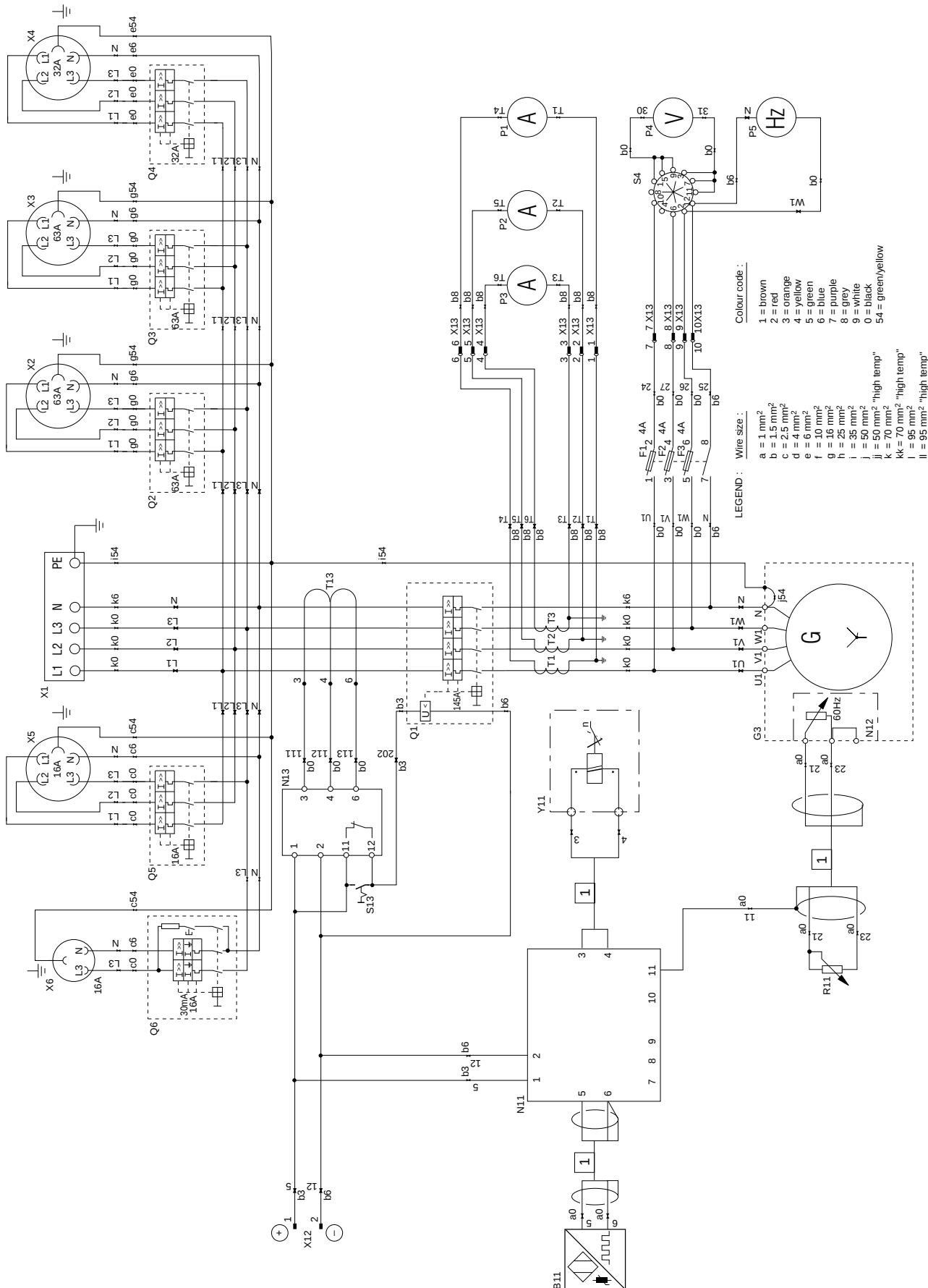
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ENGLISH		NEDERLANDS		FRANCAIS		DEUTSCH	
Bt1	Speed sensor	Snelheidssensor		Capteur de vitesse		Drehzahlfühler	
Ft-3	Fuse 4A	Zekering 4A		Fusible 4A		Sicherung 4 A	
G3	Generator	Generator		Groupe électrogène		Generator	
Nt1	Speed controller	Snelheidsregelaar		Régulateur de vitesse		Drehzahlregler	
Nt2	Automatic voltage regulator	Automatische spanningsregelaar		Régulateur de tension automatique		Automatischer Spannungsregler	
Nt3	Earth fault-current relay	Aardlekrelais		Relais de fuite à la terre		Erdschlußrelais	
Pt-3	Amperemeter 0-200A	Ampermeter 0-200A		Ampermètre 0-200A		Amperemeter 0 - 200A	
P4	Voltmeter 0-600V	Voltmeter 0-600V		Voltmètre 0-600V		Voltmeter 0 - 600 V	
P5	Frequencymeter 45-65Hz	Frequenciemeter 45-65Hz		Fréquentmètre 45-65Hz		Frequenzmesser 45 - 65 Hz	
Q1	Circuit breaker 145A/4-pole	Vermogensschakelaar 145A/4-polig		Disjoncteur 145A/4 pôles		Leistungsschalter 145A / vierpolig	
Q2-3	Circuit breaker 63A/3-pole	Vermogensschakelaar 63A/3-polig		Disjoncteur 63A/3 pôles		Leistungsschalter 63A / 3-polig	
Q4	Circuit breaker 32A/3-pole	Vermogensschakelaar 32A/3-polig		Disjoncteur 32A/3 pôles		Leistungsschalter 32A / 3-polig	
Q5	Circuit breaker 16A/3-pole	Vermogensschakelaar 16A/3-polig		Disjoncteur 16A/3 pôles		Leistungsschalter 16A / 3-polig	
Q6	Circuit breaker 16A/2-pole + 1xN=30mA	Vermogensschakelaar 16A/2-polig + 1xN=30mA		Disjoncteur 16A/2 pôles		Leistungsschalter 16A / 2-polig	
Rt1	Supply voltage adjust potentiometer	Regelpotentiometer, voedingsspanning		Potentiomètre de réglage de la tension d'alimentation		Potentiometer für Einstellung der Versorgungsspannung	
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar		Sélecteur de voltmètre		Voltmeter-Wahlschalter	
St3	Earth fault relay lock-out switch	Blokeerschakelaar verliesstroomrelais		Commutateur d'arrêt de relais des défauts à la terre		Riegelschalter Erdschlußrelais	
Tt-3	Current transformer 200A/5A	Stroomtransformator 200A/5A		Transformateur de courant 200A/5A		Stromwandler 200A / 5 A	
Tt3	Earth fault-current detector	Aardlekdetector		Détecteur de fuite à la terre		Erdschlußanzeiger	
X1	Terminal board	Klemmenbord		Tablette à bornes		Klemmenbratt	
X2-3	Outlet socket 63A/5-pole	Uitlaatpunt- 63A/5-polig		Prise femelle 63A/5 pôles		Anschlußdose 63A/5polig	
X4	Outlet socket 32A/5-pole	Uitlaatpunt- 32A/5-polig		Prise femelle 32A/5 pôles		Anschlußdose 32A/5polig	
X5	Outlet socket 16A/5-pole	Uitlaatpunt- 16A/5-polig		Prise femelle 16A/5 pôles		Anschlußdose 16A/5polig	
X6	Outlet socket 16A/3-pole	Uitlaatpunt- 16A/3-polig		Prise femelle 16A/3 pôles		Anschlußdose 16A/5polig	
X12	2-pole connector	Konektor, 2 stiften		Connecteur, 2 broches		Zweipoliger Stecker	
Xt3	12-pole connector	Konektor, 12 stiften		Connecteur, 12 broches		Zwölfpoliger Stecker	
Yt1	Actuator	Actuator		Actuateur		Stellorgan	
1	Wire Harness	Kabelbundel		Harnais de câbles		Kabelbaum	

ESPAÑOL		SVENSKA		ITALIANO		NORSK	
Bt1	Sensor de velocidad	Varvålssensor		Sensore velocità		Hastighetsbölér	
Ft-3	Fusible 4A	Säkring 4A		Fusibile 4A		Sikring 4 A	
G3	Generator	Generator		Generatore		Generator	
Nt1	Controlador de velocidad	Varvålsregulator		Unità di controllo velocità		Hastighetsregulator	
Nt2	Regulador automático de voltaje	Automatisk spänningsregulator		Regolatore di tensione automatico		Automatisk spenningsregulator	
Nt3	Relé de pérdida a tierra	Relé förl jordläckage		Relé corrente di terra		Jordleirelè	
Pt-3	Amperímetro 0-200A	Amperemeter 0-200A		Amperometro 0-200A		Amperemeter 0-200 A	
P4	Voltímetro 0-600V	Spänningsmätare 0-600V		Voltmetro 0-600V		Spenningsmåler 0-600 V	
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz		Frequenzmätro 45-65 Hz		Frekvensmåler 45-65 Hz	
Q1	Disyuntor 145A/cuadripolar	Strömbrytare 145A/4-polig		Interruttore 145A/4 poli		Krassbryter 145 A/4-polet	
Q2-3	Disyuntor 63A/3-polar	Strömbrytare 63A/3-polig		Interruttore 63A/3 poli		Krassbryter 63 A/3-polet	
Q4	Disyuntor 32A/3-polar	Strömbrytare 32A/3-polig		Interruttore 32A/3 poli		Krassbryter 32 A/3-polet	
Q5	Disyuntor 16A/3-polar	Strömbrytare 16A/3-polig		Interruttore 16A/3 poli		Krassbryter 16 A/3-polet	
Q6	Disyuntor 16A/2-polar	Strömbrytare 16A/2-polig		Interruttore 16A/2 poli		Krassbryter 16 A/2-polet	
Rt1	Potenciómetro de ajuste de voltaje de alimentación	Potentiometer för justering av spänningsmätningen		Potenzíometro regolatore tensione di alimentazione		Potensíometer for justering av strømtillførsel	
S4	Selector de voltímetro	Spänningsmätarens kopplingsväxlare		Interruttore di selezione del voltímetro		Valgbryter for spenningsmåler	
St3	Interruptor de bloqueo del relé de pérdida a tierra	Avstängningsbrytare för jordleisrelå		Interruttore chiusura relé guasto di terra		Avstengingsbryter for jordleirelè	
Tt-3	Transformador de corriente 200A/5A	Stömtransformator 200A/5A		Trasformatore di corrente 200A/5A		Strøm 200 A/5 A	
Tt3	Detector de pérdida a tierra	Defektor för jordläckage		Rilevatore corrente di terra		Jordleifølér	
X1	Cuadro de bornas	Anslutningsplint		Morssettara		Koplingsstavle	
X2-3	Casquillo de toma de corriente 63 A/5 polos	63A/5-fas uttag		Presa esterna 63A/5 poli		Uttak, 63A/5-polet	
X4	Casquillo de toma de corriente 32 A/5 polos	32A/5-fas uttag		Presa esterna 32A/5 poli		Uttak, 32A/5-polet	
X5	Casquillo de toma de corriente 16 A/5 polos	16A/5-fas uttag		Presa esterna 16A/5 poli		Uttak, 16A/5-polet	
X6	Casquillo de toma de corriente 16 A/3 polos	16A/2-fas uttag		Presa esterna 16A/3 poli		Uttak, 16A/3-polet	
X12	Conector bipolar	2-poligt kontaktkon		Connettore a 2 poli		2-polet kontakt	
Xt3	Conector de 12 polos	12-poligt kontaktkon		Connettore a 12 poli		12-polet kontakt	
Yt1	Actuador	Manöverorgan		Attuatore		Akuator	
1	Arnés de cableado	Kabel		Cablaggio		Ledningsnett	

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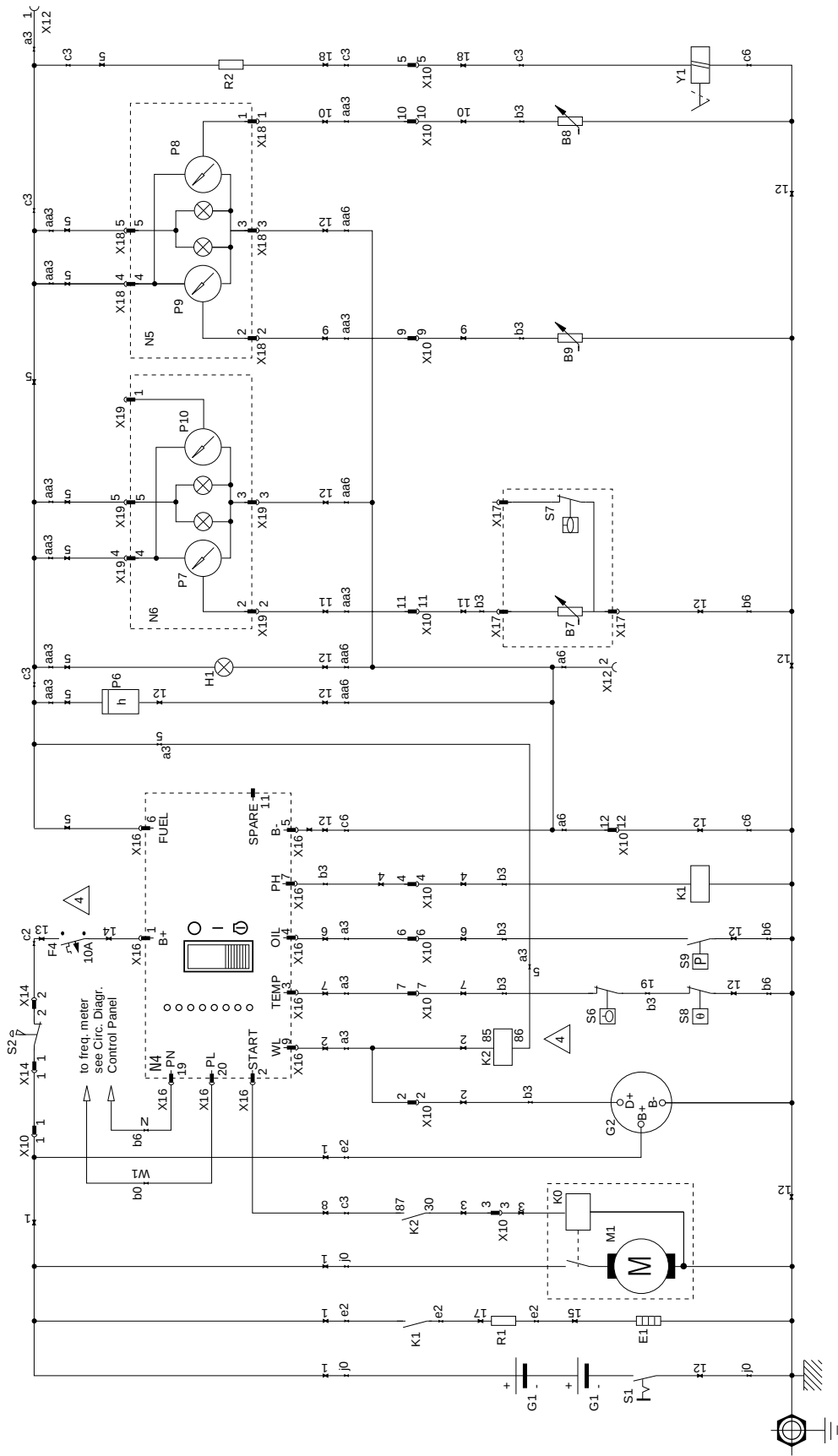
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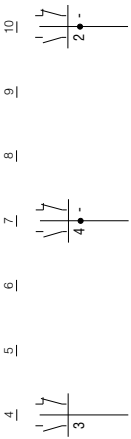
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B11	Hastighetsmåler	Αισθητήρας ταχύτητας	Sensor de velocidade	Nopeusanturi
F1-3	Sikring 4A	Ασφάλεια 4 A	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
N11	Hastighetsregulator	Ελεγκτής ταχύτητας	Controlador da velocidade	Nopeuden valvoja
N12	Automatisk spændingsregulator	Αυτόματος ρυθμιστής τάσης	Regulador automático da potência	Automaattinen jännittensäädin
N13	Jordfejlsstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falta de terra	Maavuoto rele
P1-3	Amperemeter 0-200A	Αμπερόμετρο 0 - 200Α	Amperímetro 0-200A	Ampeerimittari 0-200 A
P4	Voltmeter 0-600V	Βολτόμετρο 0 - 600 V	Voltímetro 0-600 V	Voltimittari 0-600 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Altbyrder 145A/4-polig	Διακόπτης κυκλώματος 145Α - 4πολικός	Disjuntor 145A/tetrapolar	Virrankatkaisin 145 A/4-napainen
Q2-3	Altbyrder 63A/3-polig	Διακόπτης κυκλώματος 63Α - 3πολικός	Disjuntor 63A/3-polar	Virrankatkaisin 63 A/3-napainen
Q4	Altbyrder 32A/3-polig	Διακόπτης κυκλώματος 32Α - 3πολικός	Disjuntor 32A/3-polar	Virrankatkaisin 32 A/3-napainen
Q5	Altbyrder 16A/3-polig	Διακόπτης κυκλώματος 16Α - 3πολικός	Disjuntor 16A/3-polar	Virrankatkaisin 16 A/3-napainen
Q6	Altbyrder 16A/2-polig	Διακόπτης κυκλώματος 16Α - 2πολικός	Disjuntor 16A/2-polar	Virrankatkaisin 16 A/2-napainen
R11	Potentiometer til justering af lodespændingen	Δυναμόμετρο ρύθμισης τάσης παροχής	Potenciómetro de ajuste da tensão de alimentação	Syöttöjännitteen säätöpotenttiometri
S4	Voltmeterets onskifteknapp	Διακόπτης επιλογής βολτομέτρου	Comutador selector do volímetro	Voltimittarin valintakytkin
S13	Altbyrderkontakt til jordfejlsstrømsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάθους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
T1-3	Strømitransformere 200A/5A	Μετασχηματιστής ρεύματος 200Α / 5Α	Transformador de corrente 200A/5A	Virtamuuntaja 200A/5A
T13	Jordfejlsstrømsdelektor	Ανιχνευτής ρεύματος γείωσης	Detector de falta de corrente de terra	Maavuodon tunnistin
X1	Klembrædt	Πινάκας ακροδέκτη	Quadro de terminais	Litänälälev
X2	Sitikkontakt 63A/5-polig	63Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 63A/5 polos	Pistorasia 63 A / 5-napainen
X2	Sitikkontakt 32A/5-polig	32Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 32A/5 polos	Pistorasia 32 A / 5-napainen
X2	Sitikkontakt 16A/5-polig	16Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/5 polos	Pistorasia 16 A / 5-napainen
X2	Sitikkontakt 16A/3-polig	16Α/3-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/3 polos	Pistorasia 16 A / 3-napainen
X12	2-faset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin
Y11	Aktuator	Ενεργοποιητής	Accionador	Toimilaitte
1	Ledningsnet	Συνδεομολογία συρμάτων	Cablagem geral	Johdosarja

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Applicable for QAS108 Pd(S), Pd DF,Pd (S) SF, Pd HC, Pd DV, Pd(S) EDF, Pd(S) SF EDF



LEGEND :

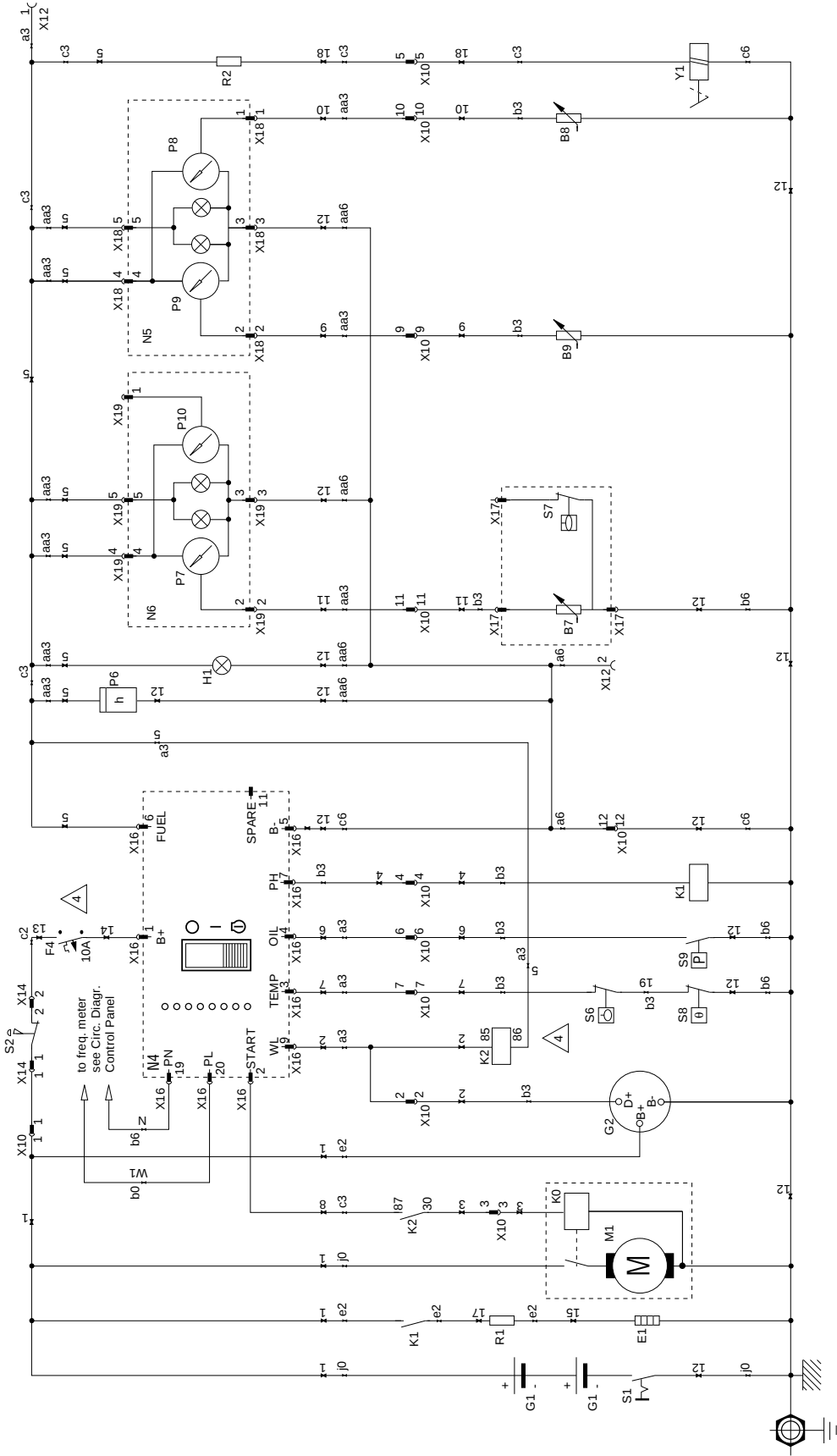
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a = 1 mm ²	2 = red
b = 1.5 mm ²	3 = orange
c = 2.5 mm ²	4 = yellow
d = 4 mm ²	5 = green
e = 6 mm ²	6 = blue
f = 10 mm ²	7 = purple
g = 16 mm ²	8 = grey
h = 25 mm ²	9 = white
i = 35 mm ²	0 = black
j = 50 mm ²	



9822 0705 09

	ENGLISH	NEDERLANDS	FRANCAIS	DEUTSCH
B7	Fuel level sensor	Sensor, brandstofpeil	Capteur, niveau de carburant	Kraftstoffandfühler
B8	Coolant temperature sensor	Sensor, koelwatertemperatuur	Capteur, température eau de refroidissement	Kühlwassersentertemperaturfühler
B9	Oil pressure sensor	Sensor, oliedruk	Capteur, pression d'huile	Öldruckfühler
E1	Preheat resistor	Voorverwarmingssweerstand	Résistance de préchauffage	Vorwärmwiderstand
F4	Fuse 10A	Zekering 10A	Fusible 10A	Sicherung 10A
G1	Battery 24V	Batteri 24V	Batterie 24V	Batterie 24V
G2	Charging generator	Laad alternator	Alternateur, charge	Ladenmaschine
H1	Panel light	Paneelverlichting	Eclairage panneau	Instrumentenleuchte
K0	Starter solenoid	Startersolenóide	Solénoide du démarreur	Startermagnet
K1	Preheat relay	Relais voorverwarmingssysteem	Relais de préchauffage	Vorwärmrelais
K2	Start prevention relay	Startpreventierelais	Relais inhibiteur de démarrage	Startverhinderungsrelais
M1	Starter motor	Startermotor	Démarrreur	Startmotor
N4	Control module	Stuurmodule	Module de commande	Steuermodul
N5, 6	Instrument cluster	Instrumentengroep	Instrumentation	Instrumentensatz
P6	Hourmeter	Urenteller	Compteur d'heures	Stundenzähler
P7	Fuel level gauge	Brandstofpeilindicator	Indicateur de niveau de carburant	Meßinstrument für Kraftstoffstand
P8	Coolant temperature gauge	Koelwater temperatuurmeter	Indicateur de temp., eau de refroid.	Meßinstrument für Kühlwassertemperatur
P9	Oil pressure gauge	Manometer, oliedruk	Indicateur, pression d'huile	Meßinstrument für Öldruck
P10	Battery voltage gauge	Batterijvoltmeter	Voltmètre de batterie	Batteriespannungsmesser
R1	Dropping resistor preheat	Voorstakelweerstand van het voorverwarmingssysteem	Résistance série du système de préchauffage	Vorwiderstand Vorwärme
R2	Stop control resistor	Stopcontroleweerstand	Résistance de commande d'arrêt	Abschaltregelwiderstand
S1	Battery switch	Batterijschakelaar	Interrupteur de batterie	Batterieschalter
S2	Emergency stop button	Noodstopknop	Bouton arrêt d'urgence	Not-Aus-Taste
S6	Low coolant level switch	Schakelaar laag koelwaterpeil	Commutateur de niveau de réfrigérant bas	Schalter für niedrigen Kühlmittelstand
S7	Low fuel level switch	Schakelaar laag brandstofpeil	Interrupteur niveau de carburant bas	Schalter für niedrigen Kraftstoffstand
S8	Coolant high temperature switch	Schakelaar hoge koelwatertemperatuur	Thermostat, basse température eau de refroidissement	Schalter für hohe Temperatur
S9	Engine oil low pressure switch	Schakelaar lage motoroliedruk	Interrupteur basse pression d'huile moteur	Schalter für geringen Motoröl Druck
X10	12-pole connector	Konektor, 12 stiften	Connecteur 12 broches	12-poliger Stecker
X12	2-pole connector	Konektor, 2 stiften	Connecteur 2 broches	Zweipoliger Stecker
X14	2-pole connector	Konektor, 2 stiften	Connecteur 2 broches	Zweipoliger Stecker
X16	Module connector	Modulekonektor	Connecteur de module	Modulstecker
X17	Fuel level unit connector	Konektor brandstofpeil module	Connecteur du module de niveau d'huile	Stecker für Kraftstoffstandseinheit
X18, 19	Instrument cluster connector	Connector instrumentencluster	Connecteur de groupage d'instrument	Stecker Instrumentengruppe
Y1	Fuel stop solenoid	Brandstofstopolenóide	Solénoide d'arrêt de carburant	Kraftstoffabspermmagnet

9822 0705 09
Applicable for QAS108 Pd(S), Pd DF, Pd SF, Pd HC, Pd DV, Pd(S) EDF, Pd(S) SF EDF

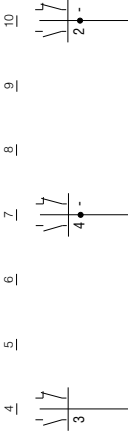


Colour code :

1 =	brown
2 =	red
3 =	orange
4 =	yellow
5 =	green
6 =	blue
7 =	purple
8 =	grey
9 =	white
0 =	black

Wire size :

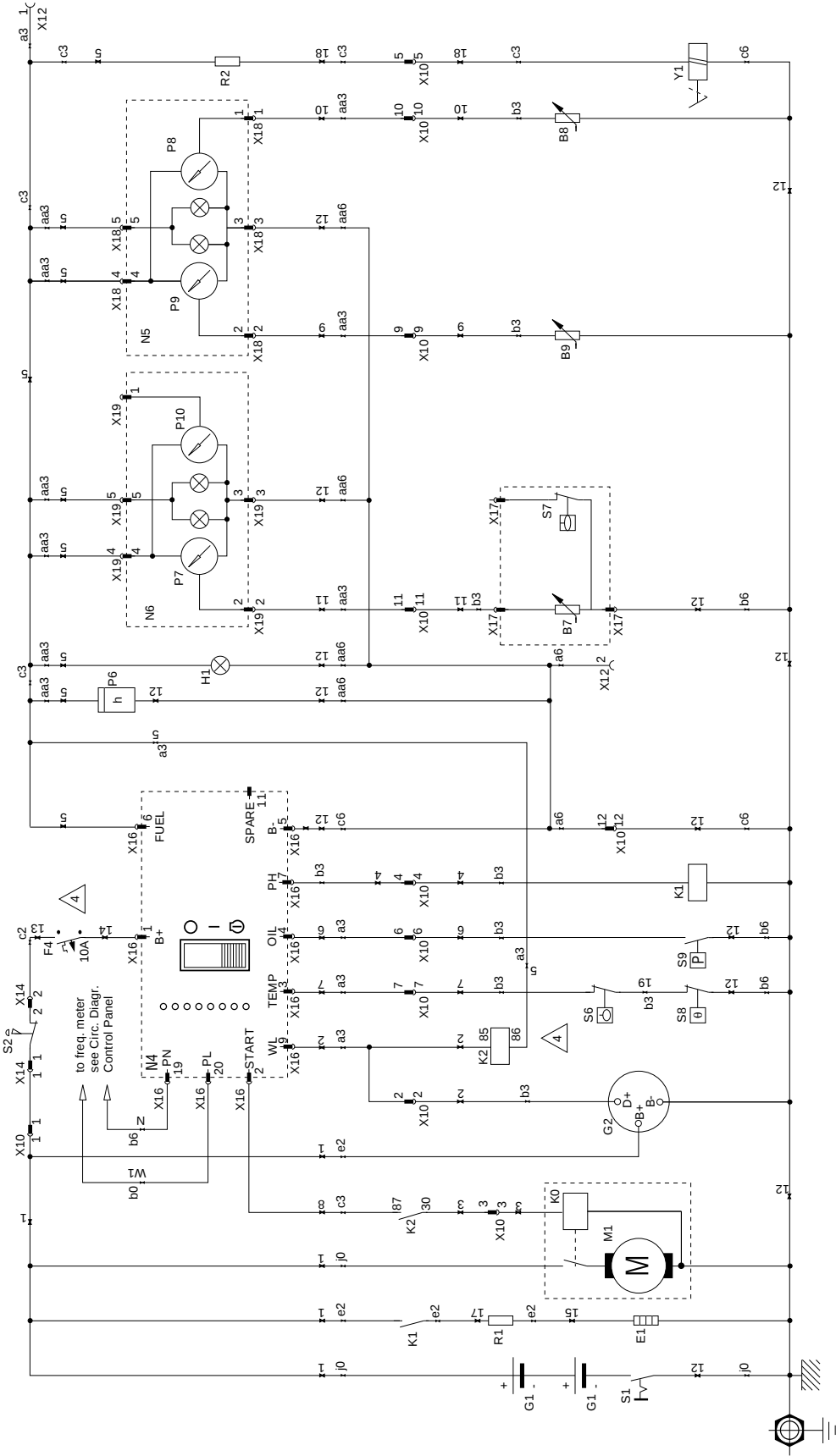
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d =	4 mm ²
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f =	10 mm ²
g =	16 mm ²
h =	25 mm ²
i =	35 mm ²
j =	50 mm ²



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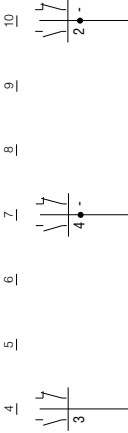
	ESPAÑOL	SVENSKA	ITALIANO	NORSK
B7	Sensor del nivel de combustible	Sensor – bränslenivå	Sensore del livello di combustibile	Følør for drivstoffnivå
B8	Sensor de temperatura del refrigerante	Sensor – kylvätskans temperatur	Sensore della temperatura del refrigerante	Følør for kjølevæsketemperatur
B9	Sensor de presión de aceite	Oljetrykksensor	Sensore della pressione dell'olio	Oljetrykkmåler
E1	Resistencia de precalentamiento	Föruppvärmningsresistor	Resistenza di preriscaldamento	Fornvarmeresistor
F4	Fusible 10A	Säkring 10A	Fusibile 10A	Sikring 10A
G1	Batería de 24V	Batteri 24V	Batteria a 24V	Batteri 24 V
G2	Generador de carga	Laddningsgenerator	Generatore di carica	Ladegenerator
H1	Luz de panel	Pannelljus	Luci del pannello	Panelllys
K0	Solenoid de arranque	Startsolenoid	Solenoido dell'avviatore	Magnetkontakt for starter
K1	Relé sistema de precalentamiento	Föruppvärmningsrelä	Relé di preriscaldamento	Fornvarmerelä
K2	Relé de prevención de arranque	Startblokkeringsrelä	Relé di blocco dell'avvio	Startblokkeringsrelé
M1	Motor de arranque	Startmotor	Motore dell'avviatore	Starter
N4	Módulo de control	Kontrollmodul	Modulo di controllo	Kontrollmodul
N5, 6	Grupo de instrumentos	Instrumentgrupp	Gruppo degli strumenti	Instrumentgruppe
P6	Cuentahoras	Timmätare	Contatore	Timeteller
P7	Indicador del nivel de combustible	Bränslenivåmätare	Indicatore di livello del combustibile	Drivstoffmåler
P8	Indicador de temperatura del refrigerante	Kylväsketemperaturmätare	Indicatore della temperatura del refrigerante	Måler for kjølevæsketemperatur
P9	Indicador de la presión de aceite	Oljetrykksmätare	Indicatore della pressione dell'olio	Oljetrykkmåler
P10	Medidor de tensión en la batería	Batterspänningsmätare	Indicatore del voltaggio della batteria	Batterspenningsmåler
R1	Resistor reductor de voltaje del precalentamiento	Förvärmningsresistor	Preriscaldamento della resistenza di gocciolamento	Motstand i forvarmingsystemet
R2	Resistencia de control de parada	Motstånd för stoppkontroll	Resistenza di controllo dell'arresto	Stoppkontrollmotstand
S1	Interruptor de batería	Batteristörnsbrytare	Interruttore della batteria	Batteribryter
S2	Botón de parada de emergencia	Knapp för nödstopp	Pulsante di arresto di emergenza	Knapp for sikkerhetsstopp
S6	Interruptor de nivel de refrigerante bajo	Bytare för låg kylväskennivå	Interruttore basso livello del liquido refrigerante	Bytter for lavt kjølevæskennivå
S7	Interruptor bajo nivel de combustible	Bytare för låg bränslenivå	Interruttore di basso livello del combustibile	Bytter for lavt drivstoffnivå
S8	Interruptor alta temperatura de refrigerante	Bytare för hög kylväsketemperatur	Interruttore di temperatura alta del refrigerante	Bytter for høy kjølevæsketemperatur
S9	Interruptor baja presión aceite del motor	Bytare för lågt oljetryck	Interruttore di bassa pressione dell'olio	Bytter for lavt oljetrykk i motoren
X10	Conector de 12 polos	10-poligt kontaktdon	Connettore a 12 poli	12-polet kontakt
X12	Conector bipolar	2-poligt kontaktdon	Connettore a due poli	2-polet kontakt
X14	Conector bipolar	2-poligt kontaktdon	Connettore a due poli	2-polet kontakt
X16	Conector de módulo	Modul-kontaktdon	Connettore del modulo	Modulkontakt
X17	Conector unidad nivel de combustible	Bränslenivåmeters kontaktdon	Connettore dell'unità livello del combustibile	Kontakt for drivstoffnivåenhet
X18, 19	Conector del grupo de instrumentos	Anslutning för instrumentgrupp	Connettore quadro strumenti	Kontakt for instrumentgruppe
Y1	Solenoid de detención del combustible	Bränslestopsmagnet	Solenoido di arresto carburante	Stopsolenoid for drivstoff

9822 0705 09
Applicable for QAS108 Pd(S), Pd DF, Pd(S) SF, Pd HC, Pd DV, Pd(S) EDF, Pd(S) SF EDF



LEGEND :

Wire size :	Colour code :
aa = 0.5 mm ²	1 = brown
a = 1 mm ²	2 = red
b = 1.5 mm ²	3 = orange
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d = 4 mm ²	5 = green
e = 6 mm ²	6 = blue
f = 10 mm ²	7 = purple
g = 16 mm ²	8 = grey
h = 25 mm ²	9 = white
i = 35 mm ²	0 = black
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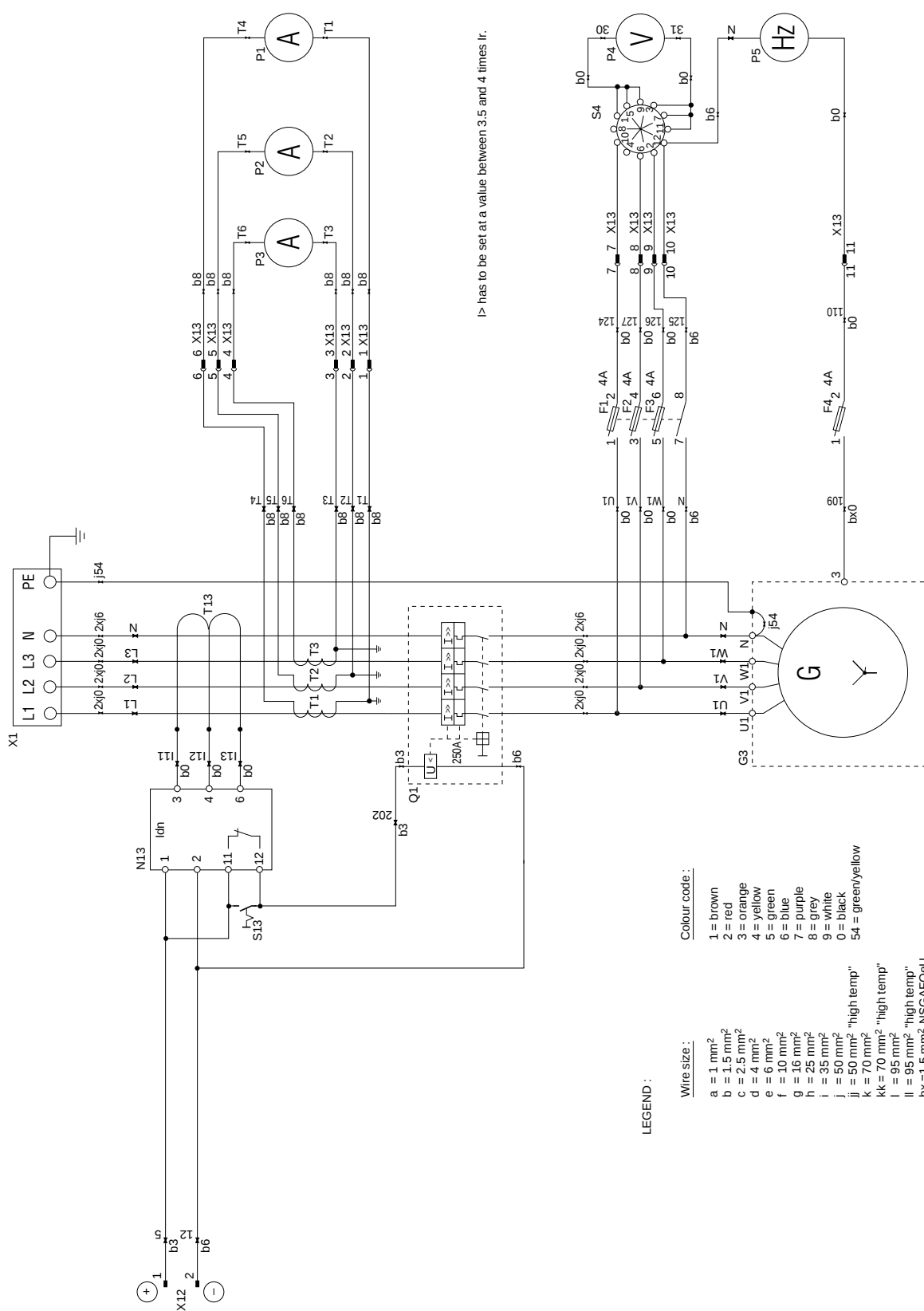


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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
B7	Brandsstofniveauføler	Αισθητήρας στάθμης καυσίμου	Sensor do nível de combustível	Polttoainemäärän anturi
B8	Kølevandstemperaturføler	Αισθητήρας θερμοκρασίας ψυκτικού	Sensor da temperatura do refrigerante	Jäähdytysnesteen lämpötilan anturi
B9	Öltrykksløjler	Αισθητήρας πίεσης λαδιού	Sensor da pressão do óleo	Öljynpaineanturi
E1	Modstand i forvarmersystem	Αντίσταση προθερμιαστή	Resistência do pré-aquecimento	Heikuvastus
F4	Slirking 10A	Ασφάλεια 10A	Fusível 10A	Varoke 10A
G1	Batteri 24V	Μπαταρία 24V	Bateria 24V	Akku 24 V
G2	Ladegenerator	Φορτιστής γεννήτριας	Gerador de carga	Latausgeneraattori
H1	Lampe	Λυχνία πινάκo	Luz do painel	Kojelaudun valo
K0	Startmagnet	Σωληνοειδής εκκίνησης	Solenóide do motor de arranque	Käynnistyssolenoidi
K1	Relæ i forvarmersystem	Ρελέ προθερμιαστής	Relé de corte do pré-aquecimento	Heikkurele
K2	Aftrykrelæ	Ρελέ προστασίας εκκίνησης	Relé de prevenção do arranque	Käynnistyskyksen estolele
M1	Startermotor	Μίξα	Motor de arranque	Käynnistysmoottori
N4	Kontrolmodul	Στοιχείο ελέγχου	Módulo de controle	Ohjausmoduli
N5, 6	Instrumentigruppe	Σύμπλεγμα οργάνων	Grupo de instrumentos	Kojisto
P6	Timeailler	Ωρομετρητής	Contador de horas	Käyttöluukittarit
P7	Brandsstofniveauføler	Όργανο μέτρησης στάθμης καυσίμου	Indicador do nível de combustível	Polttoainemittari
P8	Kølevandstermometer	Όργανο μέτρησης θερμοκρασίας ψυκτικού	Indicador da temperatura do refrigerante	Jäähdytysnesteen lämpömittari
P9	Manometer, olietryk	Όργανο μέτρησης πίεσης λαδιού	Indicador da pressão de óleo	Öljynpaineittari
P10	Måler for batteriets spænding	Όργανο μέτρησης της τάσης της μπαταρίας	Voltímetro da bateria	Akkujännitemittari
R1	Forvarmer udgangsmodstand	Πτώση της προθερμιαστής της αντίστασης	Pré-aquecimento da resistência limitadora	Heikituksen pudousvastus
R2	Stopkontrolmodstand	Αντίσταση ελεγκτή ανακοπής	Resistência de controlo de paragem	Stopkontrolimotstand
S1	Batterikontakt	Διακοπτής μπαταρίας	Comutador da bateria	Akkukytin
S2	Nødsloppknop	Μηπουτον σβήστρας έκτακτης ανάγκης	Botão de paragem de emergência	Hätäpysäytyskytkin
S6	Kontakt for lavt kølevæskenniveau	Διακοπτής χαμηλής στάθμης ψυκτικού	Interruptor do nível baixo do líquido de arrefecimento	Alhaisen jäähdytysnestemäärän kytkin
S7	Brandsstofniveaukontakt	Διακοπτής χαμηλής στάθμης καυσίμου	Comutador do nível baixo de combustível	Alhaisen polttoainemäärän merkkivälon kytkin
S8	Kontakt, høj kølevandstemperatur	Διακοπτής υψηλής θερμοκρασίας ψυκτικού	Comutador da temperatura elevada do refrigerante	Korkean jäähdytysnesteen lämpötilan merkkivälon kytkin
S9	Kontakt, lavt olietryk	Διακοπτής χαμηλής πίεσης λαδιού κινητήρα	Comutador da pressão do óleo do motor	Moottoriöljyn alhaisen paineen merkkivälon kytkin
X10	12-faset kontaktklemme	12-πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin
X12	2-faset kontaktklemme	2-πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X14	2-faset kontaktklemme	2-πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X16	Modulkontaktklemme	Ανalogικός σύνδεσμος	Ligação do módulo	Moduliiliitin
X17	Kontaktklemme for brandsstofniveau	Σύνδεσμος μονάδος στάθμης καυσίμου	Ligação da unidade do nível de combustível	Polttoainemäärän ilmaisimen liitin
X18, 19	Gruppeninstrumentkonnektor	Σύνδεσμος αυστάδος οργάνου	Dispositivo de ligação do grupo de instrumentos	Kojiston liitin
Y1	Brandsstofstopmagnet	Σωληνοειδής ανακοπής καυσίμου	Válvula electromagnética de corte de combustível	Polttoaineen sulkusolenoidi

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Appliacable for QAS108 Pd HC



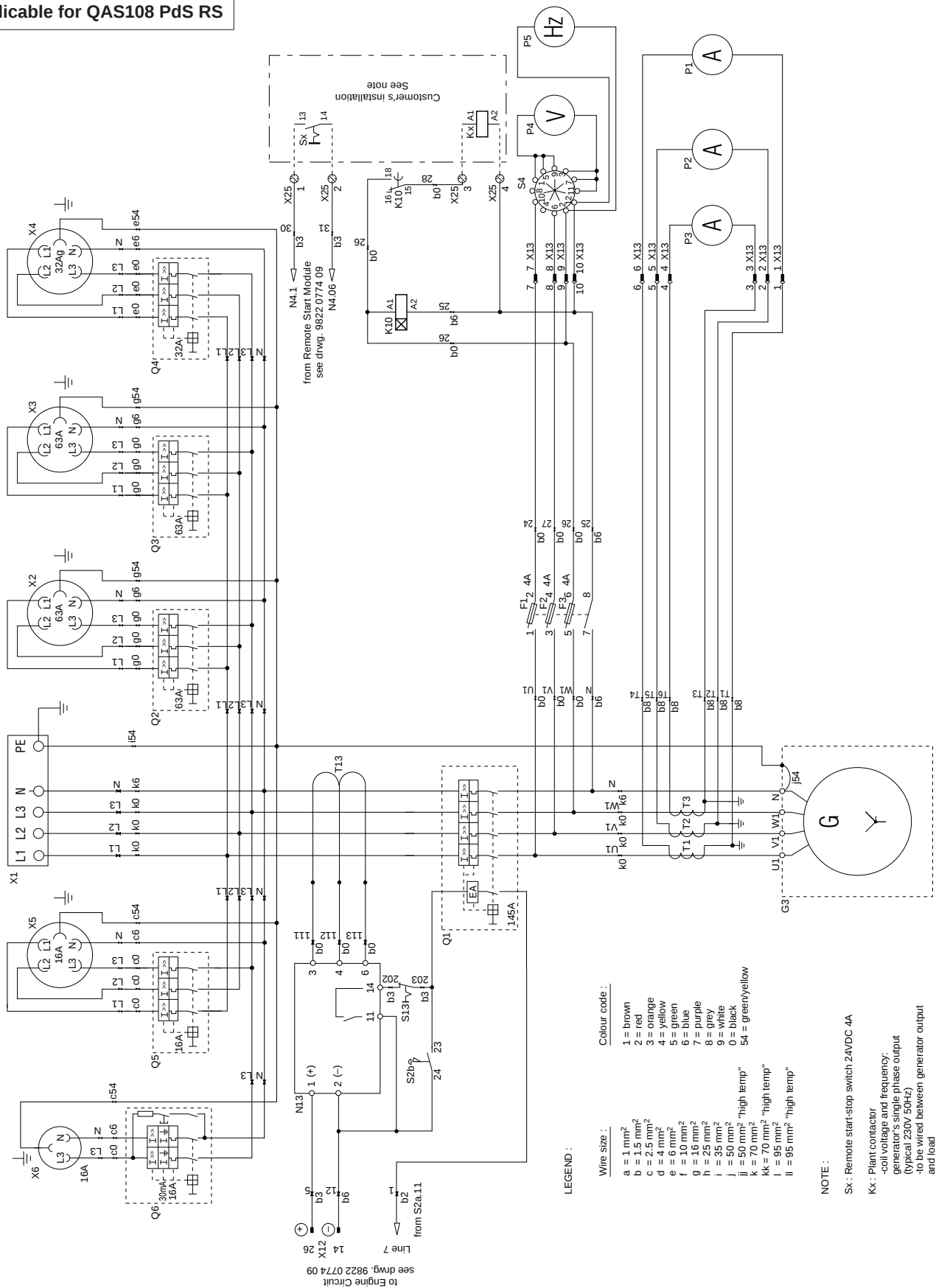
9822 0773 15

	ENGLISH	NEDERLANDS	FRANCAIS	DEUTSCH
F1-4	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4 A
G3	Generator	Generator	Groupe électrogène	Generator
N13	Earth fault-current relay	Aardlekrelais	Relé de fuite à la terre	Erdschlußrelais
P1-3	Amperemeter 0-300A	Amperemeter 0-300A	Ampermètre 0-300A	Amperemeter 0 - 300A
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequencymeter 45-65Hz	Frequencymeter 45-65Hz	Fréquentimètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 250A/4-pole	Circuit breaker 250A/4-pole	Dijoncteur 250A/4 pôles	Leistungsschalter 250A/Vierpolig
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
S13	Earth fault relay lock-out switch	Blokkeerschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des défauts à la terre	Riegelschalter Erdschlußrelais
T1-3	Current transformer 300A/5A	Stroomtransformator 300A/5A	Transformateur de courant 300A/5A	Stromwandler 300A / 5 A
T13	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbratt
X12	2-pole connector	Konektor, 2 stiften	Connecteur, 2 broches	Zweipoliger Stecker
X13	12-pole connector	Konektor, 12 stiften	Connecteur, 12 broches	Zwölfpoliger Stecker

	ESPAÑOL	SVENSKA	ITALIANO	NORSK
F1-4	Fusible 4A	Säkring 4A	Fusibile 4A	Sikring 4 A
G3	Generator	Generator	Generatore	Generator
N13	Relé de pérdida a tierra	Relé för jordläckage	Relé de détection de la terre	Jordfeilrelé
P1-3	Amperímetro 0-300A	Amperemätare 0-300A	Amperometro 0-300A	Amperemeter 0-300 A
P4	Voltímetro 0-500V	Spänningsmätare 0-500V	Voltmetro 0-500V	Spänningsmåler 0-500 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Fréquentimètre 45-65 Hz	Frekvensmåler 45-65 Hz
Q1	Disyuntor 250A/cuadripolar	Strömbrytare 250A/4-poling	Interuttore 250A/4 poli	Kræsbryter 250A/4-polet
S4	Selector de voltímetro	Spänningsmätarens kopplingsväljare	Interruttore di selezione del voltmetro	Vagbryter for spenningsmåler
S13	Interruptor de bloqueo del relé de pérdida a tierra	Avsläppningsbrytare för jordfeilsrelä	Interruttore chiusura relé guasto di terra	Avslengingsbryter for jordfeilrelé
T1-3	Transformador de corriente 300A/5A	Strömtransformator 300A/5A	Transformatore di corrente 300A/5A	Strøm 300 A/5 A
T13	Detector de pérdida a tierra	Detektor för jordläckage	Rilevatore corrente di terra	Jordfeiltøler
X1	Cuadro de bornas	Anslutningsplint	Morsetteria	Koplingsstavle
X12	Conector bipolar	2-poligt kontaktion	Connectore a 2 poli	2-polet kontakt
X13	Conector de 12 polos	12-poligt kontaktion	Connectore a 12 poli	12-polet kontakt

	DANSK	ΕΛΛΗΝΙΚΑ	PORTUGUÊS	SUOMI
F1-4	Sikring 4A	Ασφάλεια 4 Α	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vahtovirtageneraattori
N13	Jordfeilstromsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falha de terra	Maavudorele
P1-3	Amperemeter 0-300A	Αμπερόμετρο 0 - 300Α	Amperímetro 0-300A	Ampeerimittari 0-300 A
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Voltímetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Afbryder 250A/4-poling	Διακόπτης κυκλώματος 250A/4πολικός	Disyuntor 250A/tetrapolar	Virrankatkaisin 250A/4-napainen
S4	Voltmeteris onskifterknap	Διακόπτης επλογής βολτομέτρου	Comutador selector do voltímetro	Voltimittarin valintakytkin
S13	Afbryderkontakt til jordfeilstromsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάβους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
T1-3	Strömtransformere 300A/5A	Μετασχηματιστής ρεύματος 300Α / 5Α	Transformador de corrente 300A/5A	Virtamuuntaja 300A/5A
T13	Jordfeilstromsdetektor	Ανχνευτής ρεύματος γείωσης	Detector de falha de corrente de terra	Maavuodon tunnistin
X1	Klembrædt	Πινάκας ακροδεκτών	Quadro de terminais	Litänälälev
X12	2-laset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-rapainen liitin
X13	12-laset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin

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Applicable for QAS108 PdS RS

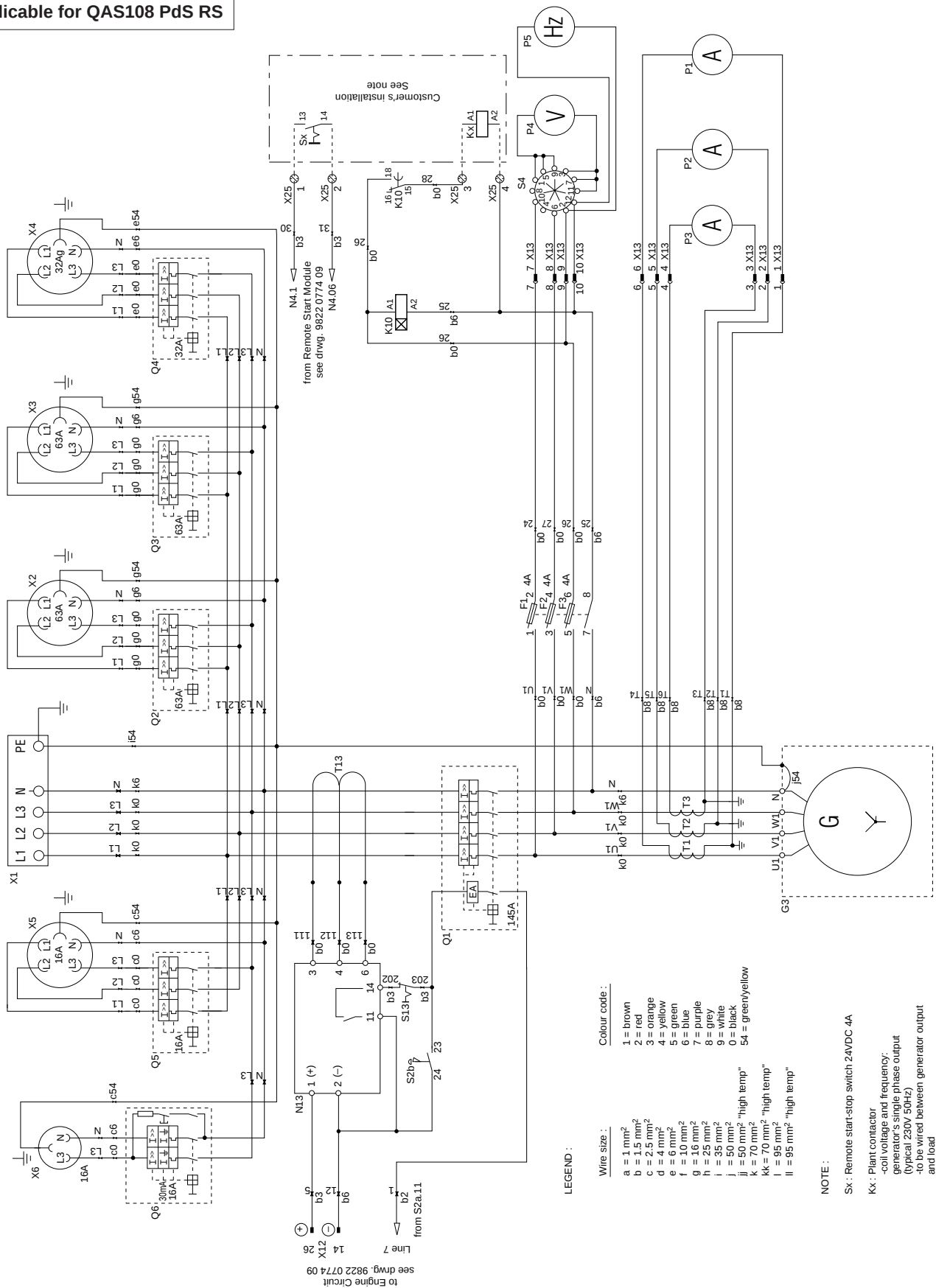


9822 0773 37

	ENGLISH	NETHERLANDS	FRANCAIS	DEUTSCH
F1-3	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4A
G3	Generator	Generator	Groupe électrogène	Generator
K10	Loading delay timer (15 sec)	Tijdelais voor belastingvertraging (15 sec)	Temporisation de chargement (15 sec.)	Zeitrelais Belastungsverzögerung (15 s)
N13	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
P1-3	Ampere meter 0-200A	Amperemeter 0-200A	Ampermètre 0-200A	Amperemeter 0 - 200A
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequency meter 45-65Hz	Frequentiemeter 45-65Hz	Fréquencemètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 145A/4-pole	Vermogensschakelaar 145A/4-polig	Disjoncteur 145A/4 pôles	Leistungsschalter 145A / vierpolig
Q2-3	Outlet breaker 63A/3-pole	Vermogensschakelaar 63A/3-polig	Disjoncteur 63A/3 pôles	Leistungsschalter 63A / 3-polig
Q4	Circuit breaker 32A/3-pole	Vermogensschakelaar 32A/3-polig	Disjoncteur 32A/3 pôles	Leistungsschalter 32A / 3-polig
Q5	Circuit breaker 16A/3-pole	Vermogensschakelaar 16A/3-polig	Disjoncteur 16A/3 pôles	Leistungsschalter 16A / 3-polig
Q6	Circuit breaker 16A/2-pole + 1Δn=30mA	Circuit breaker 16A/2-polig + 1Δn=30mA	Disjoncteur 16A/2 pôles + 1Δn=30mA	Leistungsschalter 16A/ 2-polig + 1Δn=30mA
S2b	Emergency stop	Noodstopknop	Arrêt d'urgence	Notabschaltung
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
S13	Earth fault relay lock-out switch	Blockeeschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des défauts à la terre	Riegelschalter Erdschlußrelais
T1-3	Current transformer 200A/5A	Stroomtransformator 200A/5A	Transformateur de courant 200A/5A	Stromwandler 200A / 5 A
T13	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbratt
X2-3	Outlet socket 63A/5-pole	Uitlaatpunt- 63A/5-polig	Prise femelle 63A/5 pôles	Anschlußdose 63A/5polig
X4	Outlet socket 32A/5-pole	Uitlaatpunt- 32A/5-polig	Prise femelle 32A/5 pôles	Anschlußdose 32A/5polig
X5	Outlet socket 16A/5-pole	Uitlaatpunt- 16A/5-polig	Prise femelle 16A/5 pôles	Anschlußdose 16A/5polig
X6	Outlet socket 16A/3-pole	Uitlaatpunt- 16A/3-polig	Prise femelle 16A/3 pôles	Anschlußdose 16A/3polig
X12	2-pole connector	Konektor, 2 stiften	Connecteur, 2 broches	Zweipoliger Stecker
X13	12-pole connector	Konektor, 12 stiften	Connecteur, 12 broches	Zwölfpoliger Stecker
X25	Terminal strip	Klemmenstrook	Barrette de raccordement	Klemmenleiste

	ESPAÑOL	SVENSKA	ITALIANO	NORSK
F1-3	Fusible 4A	Säkring 4A	Fusibile 4A	Sikring 4 A
G3	Generator	Generator	Generatore	Generator
K10	Temporizador de retardo de carga	Laddningstimer (15 sek)	Cronometro dei tempi di ritardo di carico (15 sec)	Forsinkelsetidsur for innlasting (15 sek.)
N13	Relé de pérdida a tierra	Relä för jordläckage	Relé corrente di terra	Jordfeilrelé
P1-3	Amperímetro 0-200A	Amperemätare 0-200A	Amperometro 0-200A	Amperemeter 0-200 A
P4	Voltímetro 0-500V	Spänningsmätare 0-500V	Voltmetro 0-500V	Spänningsmåler 0-500 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Frekvenzmätro 45-65 Hz	Frekvensmåler 45-65 Hz
Q1	Disyuntor 145Acuadripolar	Strömbrytare 145A/4-polig	Interuttore 145A/4 poli	Kræsbryter 145 A/4-polet
Q2-3	Disyuntor 63A/3-polar	Strömbrytare 63A/3-polig	Interuttore 63A/3 poli	Kræsbryter 63 A/3-polet
Q4	Disyuntor 32A/3-polar	Strömbrytare 32A/3-polig	Interuttore 32A/3 poli	Kræsbryter 32 A/3-polet
Q5	Disyuntor 16A/3-polar	Strömbrytare 16A/3-polig	Interuttore 16A/3 poli	Kræsbryter 16 A/3-polet
Q6	Disyuntor 16A/2-polar + 1Δn=30mA	Strömbrytare 16A/2-polig + 1Δn=30mA	Interuttore 16A/2 poli + 1Δn=30mA	Kræsbryter 16 A/2-polet + 1Δn=30mA
S2b	Parada de emergencia	Nödstopp	Arresto di emergenza	Nødstopp
S4	Selector de voltímetro	Spänningsmätarens kopplingsväljare	Interuttore di selezione del voltmetro	Valgbyr for spenningsmåler
S13	Interruptor de bloqueo del relé de pérdida a tierra	Avsläpningsbrytare för jordfelsrelä	Interuttore chiusura relé guasto di terra	Avslengingsbryter for jordfeilrelé
T1-3	Transformador de corriente 200A/5A	Strömtransformator 200A/5A	Transformatore di corrente 200A/5A	Strøm 200 A/5 A
T13	Detector de pérdida a tierra	Detektor för jordläckage	Rilevatore corrente di terra	Jordfeiløler
X1	Cuadro de bornas	Anslutningsplint	Morssettiera	Koplingsstave
X2-3	Casquillo de toma de corriente 63 A/5 polos	63A/5-fas uttag	Presa esterna 63A/5 poli	Uttak 63A/5-polet
X4	Casquillo de toma de corriente 32 A/5 polos	32A/5-fas uttag	Presa esterna 32A/5 poli	Uttak 32A/5-polet
X5	Casquillo de toma de corriente 16 A/5 polos	16A/5-fas uttag	Presa esterna 16A/5 poli	Uttak 16A/5-polet
X6	Casquillo de toma de corriente 16 A/3 polos	16A/3-fas uttag	Presa esterna 16A/3 poli	Uttak 16A/5-polet
X12	Conector bipolar	2-poligt kontaktdon	Connettore a 2 poli	2-polet kontakt
X13	Conector de 12 polos	12-poligt kontaktdon	Connettore a 12 poli	12-polet kontakt
X25	Bloque de terminales	Anslutningslist	Morssettiera	Koplingsspilnt

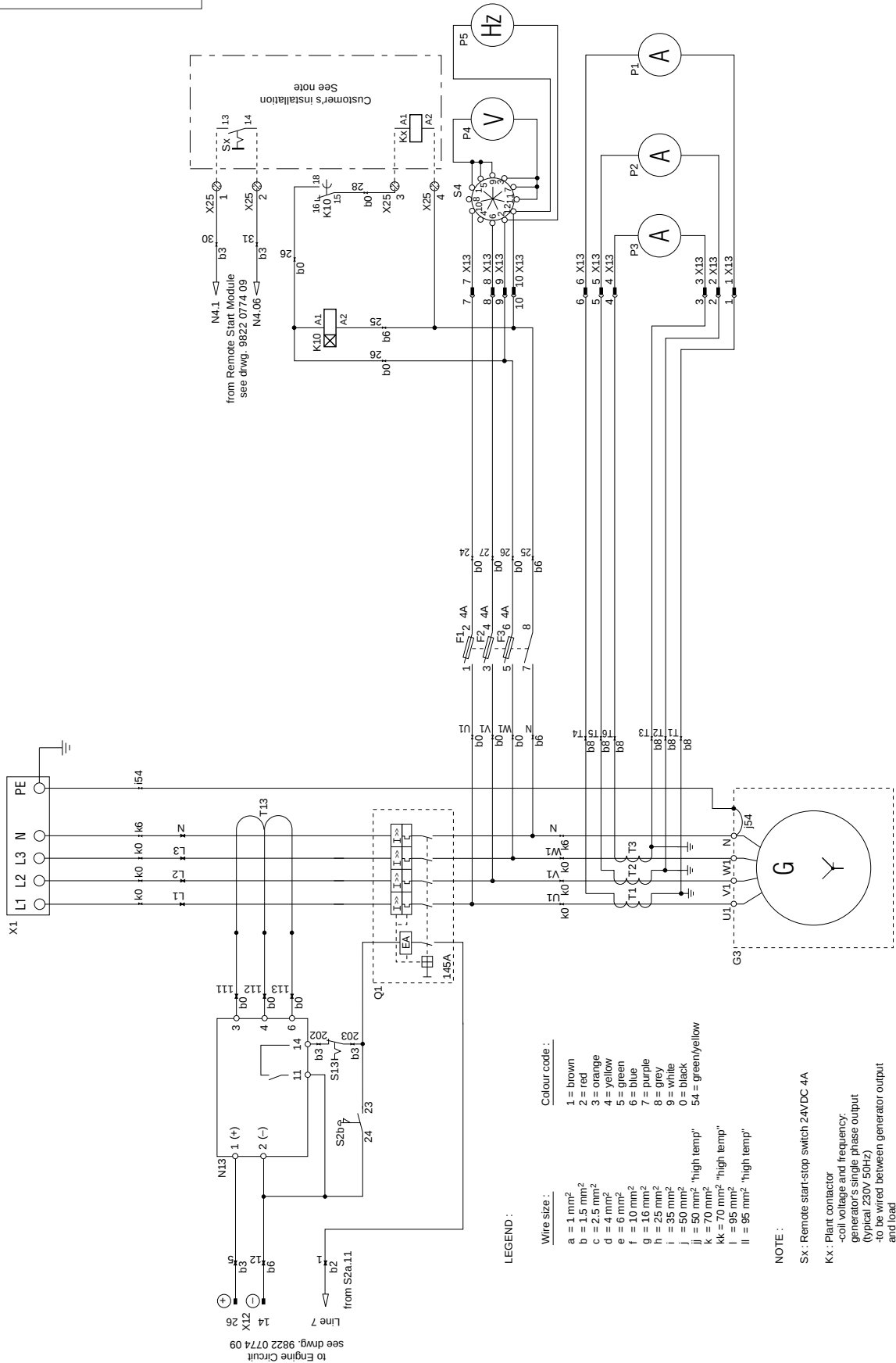
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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
F1-3	Sikring 4A	Ασφάλεια 4 A	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
K10	Beastningsstøringskøbskontrol (15 sek)	Χρονολογιστής καθυστέρησης φόρτισης	Temporizador de carga (15 seg.)	Kuormituksen ajastin (15 s)
N13	Jordfejlsstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falta de terra	Maavudtorele
P1-3	Ampere-meter 0-200A	Αμπερόμετρο 0 - 200A	Amperímetro 0-200A	Ampeerimittari 0-200 A
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Voltímetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Afbryder 145A/4-polig	Διακόπτης κυκλώματος 145A - 4πολικός	Disjuntor 145A/tetrapolar	Virrankatkaisin 145 A/4-napainen
Q2-3	Afbryder 63A/3-polig	Διακόπτης κυκλώματος 63A - 3πολικός	Disjuntor 63A/3-polar	Virrankatkaisin 63 A/3-napainen
Q4	Afbryder 32A/3-polig	Διακόπτης κυκλώματος 32A - 3πολικός	Disjuntor 32A/3-polar	Virrankatkaisin 32 A/3-napainen
Q5	Afbryder 16A/3-polig	Διακόπτης κυκλώματος 16A - 3πολικός	Disjuntor 16A/3-polar	Virrankatkaisin 16 A/3-napainen
Q6	Afbryder 16A/2-polig + IΔn=30mA	Διακόπτης κυκλώματος 16A - 2πολικός + IΔn=30mA	Disjuntor 16A/2-polar + IΔn=30mA	Virrankatkaisin 16 A/2-napainen + IΔn=30mA
S2b	Nødstop	Στοπ έκτακτης ανάγκης	Paragem de emergência	Hätä pysäytys
S4	Voltmeterets onskifterknapp	Διακόπτης επιλογής βολτομέτρου	Comutador selector do voltímetro	Voltimittarin valintakytkin
S13	Afbryderkontakt til jordfejlsstrømsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάθους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tummistimen sulkykytkin
T1-3	Strømtansformere 200A/5A	Μετασχηματιστής ρεύματος 200A / 5A	Transformador de corrente 200A/5A	Virtamuuntaja 200A/5A
T13	Jordfejlsstrømsdelekor	Ανχνευτής ρεύματος γείωσης	Detector de falta de corrente de terra	Maavuodon tummistin
X1	Klembrædt	Πινάκας ακροδέκτη	Quadro de terminais	Litänälälev
X2-3	Stikkontakt 63A/5-polig	63A/5-πόλος ακροδέκτη εξόδου	Tomada de saída 63A/5 polos	Pistorasia 63 A / 5-napainen
X4	Stikkontakt 32A/5-polig	32A/5-πόλος ακροδέκτη εξόδου	Tomada de saída 32A/5 polos	Pistorasia 35 A / 5-napainen
X5	Stikkontakt 16A/5-polig	16A/5-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/5 polos	Pistorasia 16 A / 5-napainen
X6	Stikkontakt 16A/3-polig	16A/3-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/3 polos	Pistorasia 16 A / 3-napainen
X12	2-faset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin
X25	Klemliste	Λωρίδα ακροδέκτη	Faixa de terminais	Litänälärima

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	ENGLISH	NEDERLANDS	FRANCAIS	DEUTSCH
F1-3	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4 A
G3	Generator	Generator	Groupe électrogène	Generator
K10	Loading delay timer (15 sec)	Tijdelais voor belastingvertraging (15 sec)	Temporisation de chargement (15 sec.)	Zeitrelais Belastungsverzögerung (15 s)
N13	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
P1-3	Amperemeter 0-200A	Amperemeter 0-200A	Ampermètre 0-200A	Amperemeter 0 - 200A
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequencymeter 45-65Hz	Frekventiemeter 45-65Hz	Fréquencemètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 145A/4-pole	Vermogensschakelaar 145A/4-polig	Disjoncteur 145A/4 pôles	Leistungsschalter 145A / vierpolig
S2b	Emergency stop	Noodstopknop	Arrêt d'urgence	Noßabschaltung
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
S13	Earth fault relay lock-out switch	Blotkeerschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des défauts à la terre	Riegelschalter Erdschlußrelais
T1-3	Current transformer 200A/5A	Stroomtransformator 200A/5A	Transformateur de courant 200A/5A	Stromwandler 200A / 5 A
T13	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbrätt
X12	2-pole connector	Konektor, 2 stiften	Connecteur, 2 broches	Zweipoliger Stecker
X13	12-pole connector	Konektor, 12 stiften	Connecteur, 12 broches	Zwölfpoliger Stecker
X25	Terminal strip	Klemmenstrook	Barrette de raccordement	Klemmenleiste

	ESPAÑOL	SVENSKA	ITALIANO	NORSK
F1-3	Fusible 4A	Säkring 4A	Fusibile 4A	Sikring 4 A
G3	Generator	Generator	Generatore	Generator
K10	Temporizador de retardo de carga	Laddningstimer (15 sek)	Cronometro dei tempi di ritardo di carico (15 sec)	Forsinkelsetidsur for innlasting (15 sek.)
N13	Relé de pérdida a tierra	Relä för jordläckage	Relè corrente di terra	Jordfeilrelé
P1-3	Amperímetro 0-200A	Amperemätare 0-200A	Amperometro 0-200A	Amperemeter 0-200 A
P4	Voltímetro 0-500V	Spänningsmätare 0-500V	Voltmetro 0-500V	Spenningsmåler 0-500 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Frequenzmätro 45-65 Hz	Frekvensmåler 45-65 Hz
Q1	Disyuntor 145A/cuadripolar	Stömbrytare 145A/4-polig	Interruttore 145A/4 poli	Kretsbyrter 145 A/4-poleit
S2b	Parada de emergencia	Nödstopp	Arresto di emergenza	Nødstopp
S4	Selector de voltímetro	Spänningsmätarens kopplingsväljare	Interruttore di selezione del voltmetro	Valgbyrter for spenningsmåler
S13	Interrupitor de bloqueo del relé de pérdida a tierra	Avsläpningsbrytare för jordfelsrelä	Interruttore chiusura relé guasto di terra	Avslengingsbryter for jordfeilrelé
T1-3	Transformador de corriente 200A/5A	Strömtransformator 200A/5A	Trasformatore di corrente 200A/5A	Strøm 200 A/5 A
T13	Detector de pérdida a tierra	Detektor för jordläckage	Rilevatore corrente di terra	Jordfeilføler
X1	Cuadro de bornas	Anslutningsplint	Morssettara	Koplingsstavle
X12	Conector bipolar	2-poligt kontaktdon	Connectore a 2 poli	2-poleit kontakt
X13	Conector de 12 polos	12-poligt kontaktdon	Connectore a 12 poli	12-poleit kontakt
X25	Bloque de terminales	Anslutningslist	Morssettara	Koplingsssplint

	DANSK	ΕΛΛΗΝΙΚΑ	PORTUGUÊS	SUOMI
F1-3	Sikring 4A	Ασφάλεια 4 Α	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
K10	Beastningsforsinkelsetskontrol (15 sek)	Χρονοδιακόπτης καθυστέρησης φόρτισης	Temporizador de carga (15 seg.)	Kuormituksen ajastin (15 s)
N13	Jordfeilstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falta de terra	Maavuoto rele
P1-3	Amperemeter 0-200A	Αμπερόμετρο 0 - 200Α	Amperímetro 0-200A	Ampeerimittari 0-200 A
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Voltímetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Altbyrder 145A/4-pólig	Διακόπτης κυκλώματος 145Α - 4πολικός	Disjuntor 145A/tetrapolar	Virtanaukaisin 145 A/4-napainen
S2b	Nødstop	Στοπ έκτακτης ανάγκης	Paragem de emergência	Hätäpysäytys
S4	Voltmeterets onskiftetknap	Διακόπτης επιλογής βολτομέτρου	Comutador selector do volímetro	Voltimittarin valintakytkin
S13	Altbyrderkontakt til jordfeilstrømsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάθους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
T1-3	Strømtansformere 200A/5A	Μετασχηματιστές ρεύματος 200Α / 5Α	Transformador de corrente 200A/5A	Virtamuuntaja 200A/5A
T13	Jordfeilstrømsdetektor	Ανχνευτής ρεύματος γείωσης	Detector de falta de corrente de terra	Maavuodon tunnistin
X1	Klembrædt	Πίνακας ακροδεκτών	Quadro de terminais	Litänälävy
X12	2-faset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin
X25	Klemliste	Λωρίδα ακροδεκτών	Faixa de terminais	Litänärinne

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ENGLISH		NETHERLANDS	FRANCAIS	DEUTSCH
F1-3	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4 A
G3	Generator	Generator	Groupe électrogène	Generator
NI13	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
P1-3	Amperemeter	Amperemeter	Ampèremètre	Amperemeter
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequencymeter 45-65Hz	Frequentiemeter 45-65Hz	Fréquentimètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 4-pole	Vermogensschakelaar 4-polig	Déjoncteur 4 pôles	Leistungsschalter vierpolig
R5	Engine Coolant Heater	Verwarmer motorcoolvoelstof	Réchauffeur de réfrigérant du moteur	Heizenent Motor Kühlmittel
S2b	Emergency stop	Noodstopknop	Arrêt d'urgence	Noßabschaltung
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
SI13	Earth fault relay lock-out switch	Blokkeerschakelaar verliesstroombrelais	Commutateur d'arrêt de relais des défauts à la terre	Riegelschalter Erdschlußrelais
TI-3	Current transformer	Stroomtransformator	Transformateur de courant	Stromwandler
TI13	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
UI	Static battery charger	Statische batterijlader	Chargeur de batterie statique	Festsiehendes Batterieladegerät
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbratt
X12	2-pole connector	Konektor, 2 stifen	Connecteur, 2 broches	Zweipoliger Stecker
X13	12-pole connector	Konektor, 12 stifen	Connecteur, 12 broches	Zwölfpoliger Stecker
X15	10-pole connector	Konektor, 10 stifen	Connecteur, 10 broches	10-poliger Stecker
X25	Terminal strip	Klemmenstrook	Barrette de raccordement	Klemmenleiste

ESPANOL		SVENSKA	ITALIANO	NORSK
F1-3	Fusible 4A	Säkring 4A	Fusibile 4A	Sikring 4 A
G3	Generator	Generator	Generatore	Generator
NI13	Relé de pérdida a tierra	Relä för jordläckage	Relé corrente di terra	Jordfeilrelé
P1-3	Amperímetro	Amperemätare	Amperometro	Amperemeter
P4	Voltímetro 0-500V	Spänningsmätare 0-500V	Voltmetro 0-500V	Spänningsmätar 0-500 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Frekvensmätare 45-65 Hz	Frekvensmätar 45-65 Hz
Q1	Disyuntor cuadrípolar	Strömbrytare 4-polig	Interruttore 4 poli	Kreisbryter 4-poleit
R5	Calentador del refrigerante del motor	Motorns kylvätskevärmare	Riscaldatore del liquido refrigerante del motore	Kjølevæskevarmer for motor
S2b	Parada de emergencia	Nödstopp	Arresto di emergenza	Nødstopp
S4	Selector de voltímetro	Spänningsmätarens kopplingsväljare	Interruttore di selezione del voltimetro	Valgbryter for spenningsmätar
SI13	Interruptor de bloqueo del relé de pérdida a tierra	Avstängningsbrytare för jordfelsrelä	Interruttore chiusura relé guasto di terra	Avstengingsbryter for jordfeilrelé
TI-3	Transformador de corriente	Stromtransformator	Transformatore di corrente	Strom
TI13	Detector de pérdida a tierra	Detektor för jordläckage	Rilevatore corrente di terra	Jordfeilføler
UI	Cargador estático de batería	Statisk batteriladdare	Carica batteria statica	Statisk batterilader
X1	Cuadro de bornas	Anslutningsplint	Morssettiera	Koplingsstavle
X12	Conector bipolar	2-poligt kontaktdon	Connettore a 2 poli	2-poleit kontakt
X13	Conector de 12 polos	12-poligt kontaktdon	Connettore a 12 poli	12-poleit kontakt
X15	Conector de 10 polos	10-poligt kontaktdon	Connettore a 10 poli	10-poleit kontakt
X25	Bloque de terminales	Anslutningslist	Morssettiera	Koplingsspint

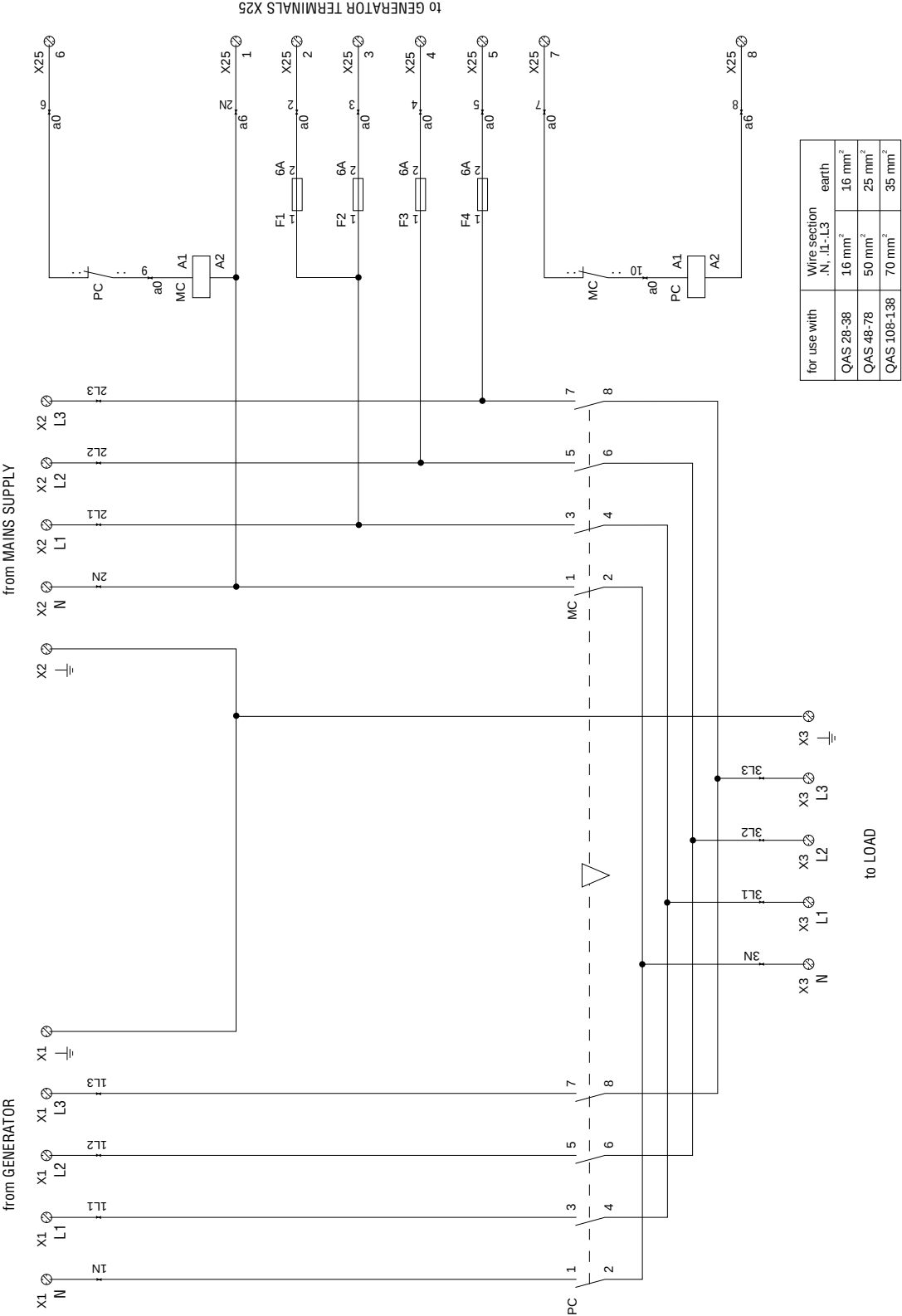
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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
F1-3	Sikring 4A	Ασφάλεια 4 A	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
N13	Jordfel/strømsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falha de terra	Maavuoto rele
P1-3	Amperemeter	Αμπερόμετρο	Amperímetro	Ampeerimittari
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Voltímetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Aftryder 4-polig	Διακόπτης κυκλώματος 4πολικός	Disjuntor tetrapolar	Virranhakaisin 4-rapainen
R5	Opvarmning af kølemiddel til motor	Θερμαντήρας ψυκτικού μηχανής	Aquecedor do líquido de arrefecimento do motor	Mootorin jäähdytysteseen lämmitysvastus
S2b	Nødstop	Στοπ έκτακτης ανάγκης	Paragem de emergência	Hätäpysäytys
S4	Voltmeterets onskifte-knap	Διακόπτης επιλογής βολτομέτρου	Comutador selector do volímetro	Voltimittarin valintakytkin
S5	Onskiftekontakt til amperemeter	Διακόπτης επιλογής αμπερομέτρου	Interruptor selector do relé de corrente de defeito à terra	Ampeerimittarin valintakytkin
S13	Aftryderkontakt til jordfel/strømsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάθους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
T1-3	Strømtansformere	Μετασχηματιστής ρεύματος	Transformador de corrente	Virtamuuntaja
T13	Jordfel/strømsdektor	Ανχνευτής ρεύματος γείωσης	Detector de falha de corrente de terra	Maavuodon tunnistin
U1	Statisk batterioplader	Γόμωσης στατικής μπαταρίας	Carregador de baterias estático	Kiinteä akkulaturi
X1	Klembrædt	Πίνακας ακροδέκτη	Quadro de terminais	Litänälävy
X12	2-faset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-rapainen liitin
X13	12-faset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-rapainen liitin
X15	10-faset kontaktklemme	10πολικός σύνδεσμος	Ligação em 10 polos	10-rapainen liitin
X25	Klemliste	Λωρίδα ακροδέκτη	Faixa de terminais	Litänälärma

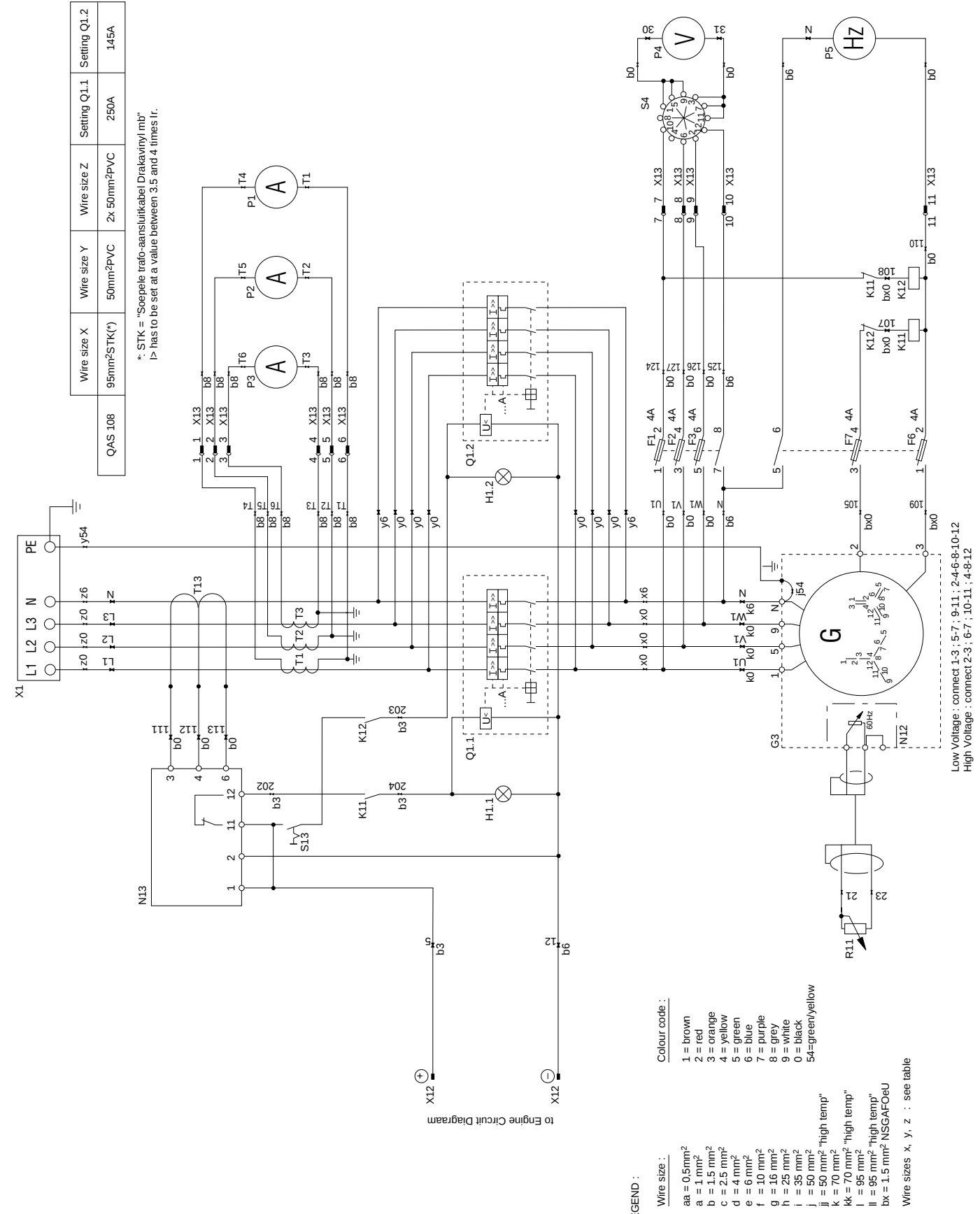
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ENGLISH		NEDERLANDS	FRANCAIS	DEUTSCH
F1-3	Fuse 6A	Zekering 6A	Fusible 6A	Sicherung 6 A
MC	Contacteur mains supply	Contacteur voor de netspanning	Alimentation secteur de contacteur	Schutz Netzanschluß
PC	Contacteur generator	Contacteur voor de generator	Générateur de contacteur	Schutz Generator
X1-3	Terminal strip	Terminal strip	Barrette de raccordement	Klemmenleiste
X25	Terminal strip	Klemmenstrook	Barrette de raccordement	Klemmenleiste
ESPAÑOL		SVENSKA	ITALIANO	NORSK
F1-3	Fusible 6A	Säkring 6A	Fusibile 6A	Sikring 6 A
MC	Suministro principal del contactor	Näströmsanslutning	Alimentazione contattore	Kontaktorstrømforsyning
PC	Dinamo del contactor	Generatoranslutning	Generatore del contattore	Kontakorgenerator
X1-3	Bloque de terminales	Anslutningslist	Morsettiera	Koplingssplint
X25	Bloque de terminales	Anslutningslist	Morsettiera	Koplingssplint
DANSK		Ελληνικά	PORTUGUÊS	SUOMI
F1-3	Sikring 6A	Ασφάλεια 6 A	Fusível 6A	Varoke 6A
MC	Kontaktor til strømforsyning	Παροχή ηλεκτρικών αγωγών επαφά	Contacteur de corrente principal	Verkkosyötön liitin
PC	Kontaktor til generator	Γεννήτρια επαφά	Contacteur do gerador	Generaattorin liitin
X1	Klemliste	Λωρίδα ακροδέκτη	Cablagen de terminais	Liitäntärimä
X25	Klemliste	Λωρίδα ακροδέκτη	Faixa de terminais	Liitäntärimä

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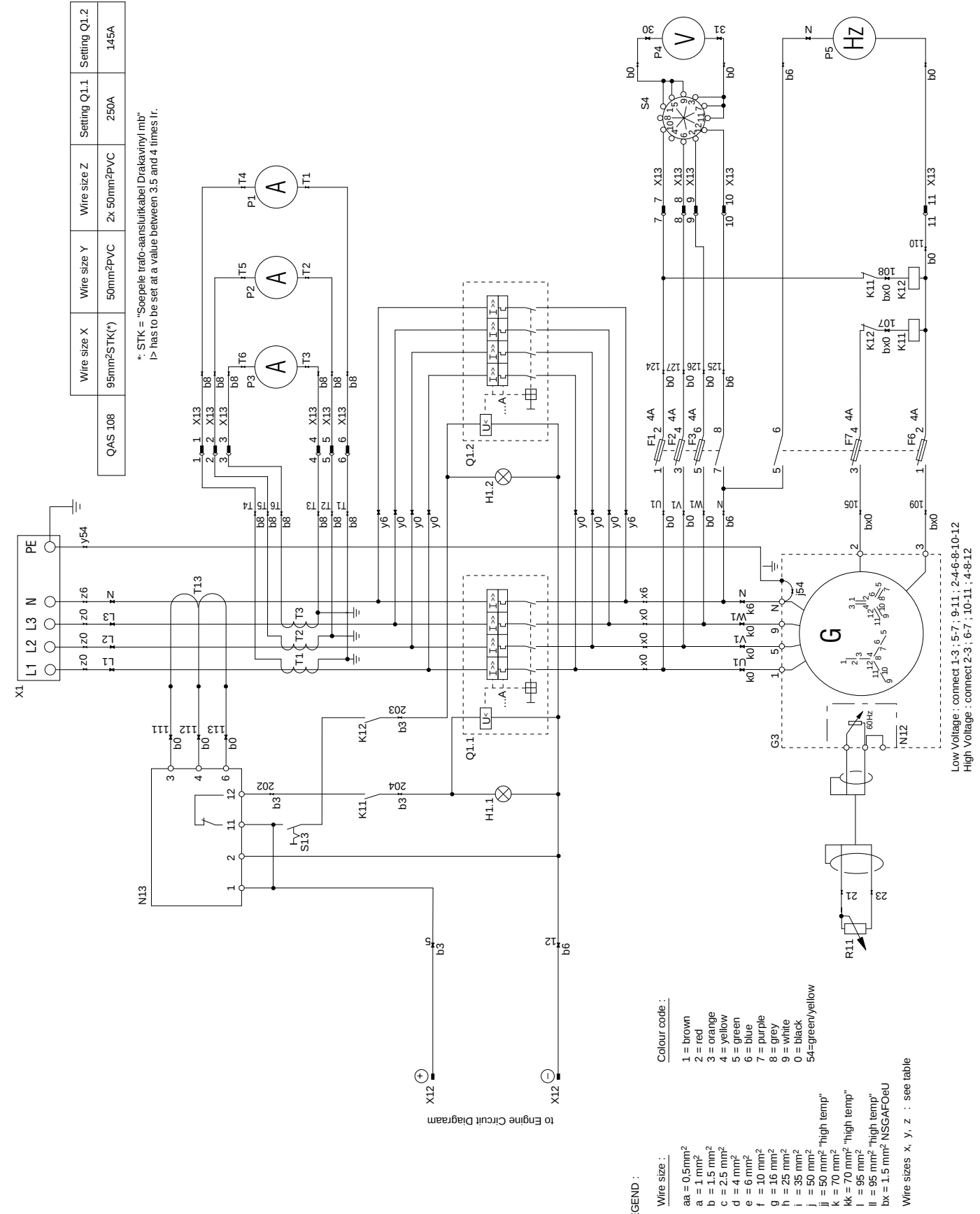


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	ENGLISH	NETHERLANDS	FRANCAIS	DEUTSCH
F1-7	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4 A
G3	Generator	Generator	Groupe électrogène	Generator
H1.1	Lamp (lower voltage)	Lamp (lage spanning)	Lampe (tension inférieure)	Lampe (niedrigere Spannung)
H1.2	Lamp (higher voltage)	Lamp (hoge spanning)	Lampe (tension supérieure)	Lampe (höhere Spannung)
K11	Auxiliary relay voltage selection (lower voltage)	Bijkomende relais spanningskeuze (lage spanning)	Sélection de tension de relais auxiliaire (tension inférieure)	Hilfsrelais Spannungswahl (niedrigere Spannung)
K12	Auxiliary relay voltage selection (higher voltage)	Bijkomende relais spanningskeuze (hoge spanning)	Sélection de tension de relais auxiliaire (tension supérieure)	Hilfsrelais Spannungswahl (höhere Spannung)
N12	Automatic voltage regulator	Automatische spanningsregelaar	Régulateur de tension automatique	Automatischer Spannungsregler
N13	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
P1-3	Amperemeter 0-300A	Amperemeter 0-300A	Ampermètre 0-300A	Amperemeter 0 - 300A
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequencymeter 45-65Hz	Frekventiemeter 45-65Hz	Fréquencemètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1.1	Circuit breaker 4-pole (lower voltage)	Vermogensschakelaar 4-polig (lage spanning)	Disjoncteur 4 pôles (tension inférieure)	Leistungsschalter vierpolig (niedrigere Spannung)
Q1.2	Circuit breaker 4-pole (higher voltage)	Vermogensschakelaar 4-polig (hoge spanning)	Disjoncteur 4 pôles (tension supérieure)	Leistungsschalter vierpolig (höhere Spannung)
R11	Supply voltage adjust potentiometer	Regelpotentiometer, voedingsspanning	Potentiomètre de réglage de la tension d'alimentation	Potentiometer für Einstellung der Versorgungsspannung
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
S10	Output voltage selector switch	Keuzeschakelaar uitgangsspanning	Sélecteur de tension de sortie	Wahlschalter Ausgangsspannung
S13	Earth fault relay lock-out switch	Blokeerschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des défauts à la terre	Regelschalter Erdschlußrelais
T1-3	Current transformer 300A/5A	Stroomtransformator 300A/5A	Transformateur de courant 300A/5A	Stromwandler 300A / 5 A
T13	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbratt
X12	2-pole connector	Konektor, 2 stiften	Connecteur, 2 broches	Zweipoliger Stecker
X13	12-pole connector	Konektor, 12 stiften	Connecteur, 12 broches	Zwölfpoliger Stecker

	ESPAÑOL	SVENSKA	ITALIANO	NORSK
F1-7	Fusible 4A	Säkring 4A	Fusibile 4A	Sikring 4 A
G3	Generator	Generator	Generatore	Generator
H1.1	Indicador (bajo voltaje)	Lampa (lågre spänning)	Lampada (voltageggio inferiore)	Lampe (lavere spenning)
H1.2	Indicador (alto voltaje)	Lampa (høgre spänning)	Lampada (voltageggio superiore)	Lampe (høyere spenning)
K11	Selección de voltaje del relé auxiliar (bajo voltaje)	Väljare för hjälpspänning (lägre spänning)	Selezione voltageggio relé ausiliario (voltageggio superiore)	Spenningsvalg for hjelpelele (lavere spenning)
K12	Selección de voltaje del relé auxiliar (alto voltaje)	Väljare för hjälpspänning (høgre spänning)	Selezione voltageggio relé ausiliario (voltageggio inferiore)	Spenningsvalg for hjelpelele (høyere spenning)
N12	Regulador automático de voltaje	Automatisk spänningsregulator	Regolatore di tensione automatico	Automatisk spenningsregulator
N13	Relé de pérdida a tierra	Relä för jordläckage	Relé corrente di terra	Jordfeilrelé
P1-3	Amperímetro 0-300A	Amperemätare 0-300A	Amperometro 0-300A	Amperemeter 0-300 A
P4	Voltímetro 0-500V	Spänningsmätare 0-500V	Voltímetro 0-500V	Spenningsmåler 0-500 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Frequenzometro 45-65 Hz	Frekvensmåler 45-65 Hz
Q1.1	Disyuntor quadripolar (bajo voltaje)	Strömbrytare 4-polig (lägre spänning)	Interruttore 4 poli (voltageggio superiore)	Kreisbryter 4-polel (lavere spenning)
Q1.2	Disyuntor quadripolar (alto voltaje)	Strömbrytare 4-polig (høgre spänning)	Interruttore 4 poli (voltageggio inferiore)	Kreisbryter 4-polel (høyere spenning)
R11	Potenciómetro de ajuste del voltaje de alimentación	Potentiometer för justering av spänningsmätningen	Potenzionmetro regolazione tensione di alimentazione	Potensiometer for justering av strømtilførsel
S4	Selector de voltímetro	Spänningsmätarens kopplingsväljare	Interruttore di selezione del voltímetro	Valgbryter for spenningsmåler
S10	Unselector de voltaje de salida	Utsämningsväljare för jordfelsrelä	Interruttore selezione di voltageggio di uscita	Valgbryter for utgangsspenning
S13	Interruptor de bloqueo del relé de pérdida a tierra	Avstängningsbrytare för jordfelsrelä	Interruttore chiusura relé guasto di terra	Avstengingsbryter for jordfeilrelé
T1-3	Transformador de corriente 300A/5A	Strömtransformator 300A/5A	Trasformatore di corrente 300A/5A	Strøm 300 A/5 A
T13	Detector de pérdida a tierra	Defektor för jordläckage	Rilevatore corrente di terra	Jordfeileter
U1	Cargador estático de batería	Statisk batteriladdare	Carica batteria statica	Statisk batterilader
X1	Cuadro de bornas	Anslutningsplint	Morssettiera	Koplingsstave
X12	Conector bipolar	2-poligt kontakt	Connectore a 2 poli	2-polel kontakt
X13	Conector de 12 polos	12-poligt kontakt	Connectore a 12 poli	12-polel kontakt

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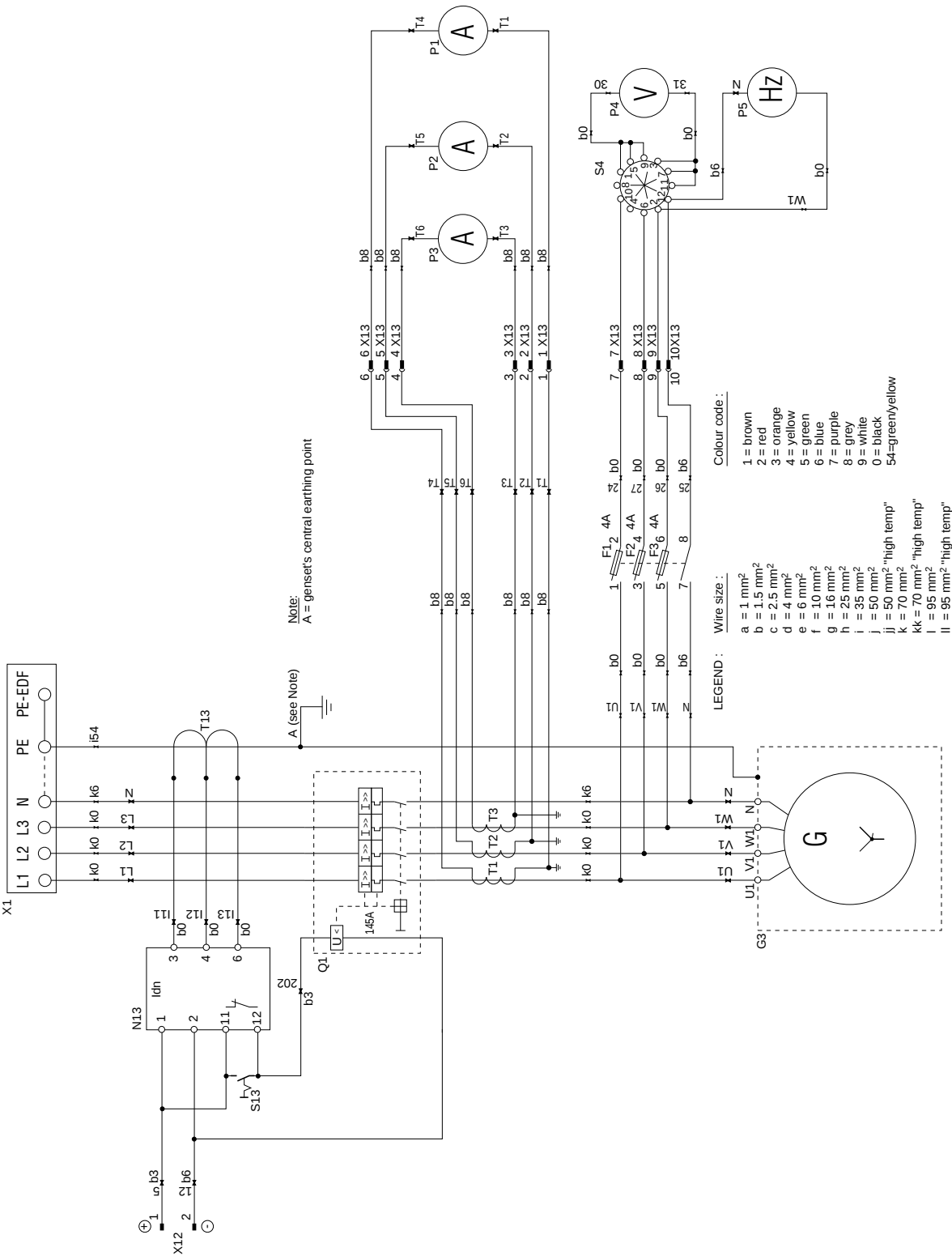
CIRCUIT DIAGRAM
ELEKTRISCH SCHEMA
SCHEMA DE CIRCUIT
VERDRAHTUNGSPLAN
DIAGRAMA DE CIRCUITOS
KOPPLINGSSHEMA

DIAGRAMMA DEL CIRCUITO
KRETSSKJEMA
STRØMDIAGRAM
ΔΙΑΓΡΑΜΜΑ ΚΥΚΛΩΜΑΤΟΣ
DIAGRAMA DOS CIRCUITOS
SÄHKÖKAAVIO

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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
F1-7	Sikring 4A	Ασφάλεια 4 A	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
H1.1	Lampe (nedre spænding)	Λαμπτήρας (χαμηλότερης τάσης)	Lampe (tension inférieure)	Lamppu (matalampi jännite)
H1.2	Lampe (øvre spænding)	Λαμπτήρας (υψηλότερης τάσης)	Lampe (tension supérieure)	Lamppu (korkeampi jännite)
H4	Lampe til overvågning af isoleringen	Λυχνία ελέγχου μόνωσης	Lâmpada de monitorização do isolamento	Eristyksen merkivalo
K11	Hjælperelæ for spændingsudsnit (nedre spænding)	Βοηθητική επιλογή τάσης ρελέ (χαμηλότερη τάση)	Relé auxiliaire de sélection de voltages (meior voltagem)	Apureleen jänniteenvälitsin (matalampi jännite)
K12	Hjælperelæ for spændingsudsnit (øvre spænding)	Βοηθητική επιλογή τάσης ρελέ (υψηλότερη τάση)	Relé auxiliaire de sélection de voltages (meior voltagem)	Apureleen jänniteenvälitsin (korkeampi jännite)
N12	Automatisk spændingsregulator	Αυτόματος ρυθμιστής τάσης	Regulador automático da potência	Automaattinen jännitteensäädin
N13	Jordfejlsstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de detección de falta de terra	Maavuoto rele
P1-3	Ammperemeter 0-300A	Αμπερόμετρο 0 - 300A	Amperímetro 0-300A	Ampeerimittari 0-300 A
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Voltímetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequençímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1.1	Altbyrder 4-polig (nedre spænding)	Διακόπτης κυκλώματος 4πολικός (χαμηλότερη τάση)	Disjuntor tetrapolar (meior voltagem)	Virrankatkaisin 4-repäinen (matalampi jännite)
Q1.2	Altbyrder 4-polig (øvre spænding)	Διακόπτης κυκλώματος 4πολικός (υψηλότερη τάση)	Disjuntor tetrapolar (meior voltagem)	Virrankatkaisin 4-repäinen (korkeampi jännite)
R11	Potentíometer til justering af lødspændingen	Δυναμόμετρο ρύθμισης τάσης παροχής	Potenciómetro de ajuste da tensão de alimentação	Syöttöjännitteeseen säätöpotentíomeiri
S4	Voltmeterets onskifte-knap	Διακόπτης επιλογής βολτομέτρου	Conmutador selector do voltímetro	Voltimittarin valintakytkin
S10	Onskifterkontakt til udgangsspænding	Διακόπτης επιλογής τάσης εξόδου	Interruptor selector de voltages de saída	Lähtöjännitteeseen valintakytkin
S13	Altbyrderkontakt til jordfejlsstrømsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάθους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulkykytkin
T1-3	Strømtansformere 300A/5A	Μετασχηματιστής ρεύματος 300A / 5A	Transformador de corrente 300A/5A	Virtamuuntaja 300A/5A
T13	Jordfejlsstrømsdielektor	Ανιχνευτής ρεύματος γείωσης	Detector de falta de corrente de terra	Maavuodon tunnistin
U1	Statisk batterioplader	Γαίωσης στατικής μπαταρίας	Carregador de baterias estático	Kiinteä akkulaturi
X1	Klembrædt	Πίνακας ακροδεκτών	Quadro de terminais	Litänälavy
X12	2-faset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin

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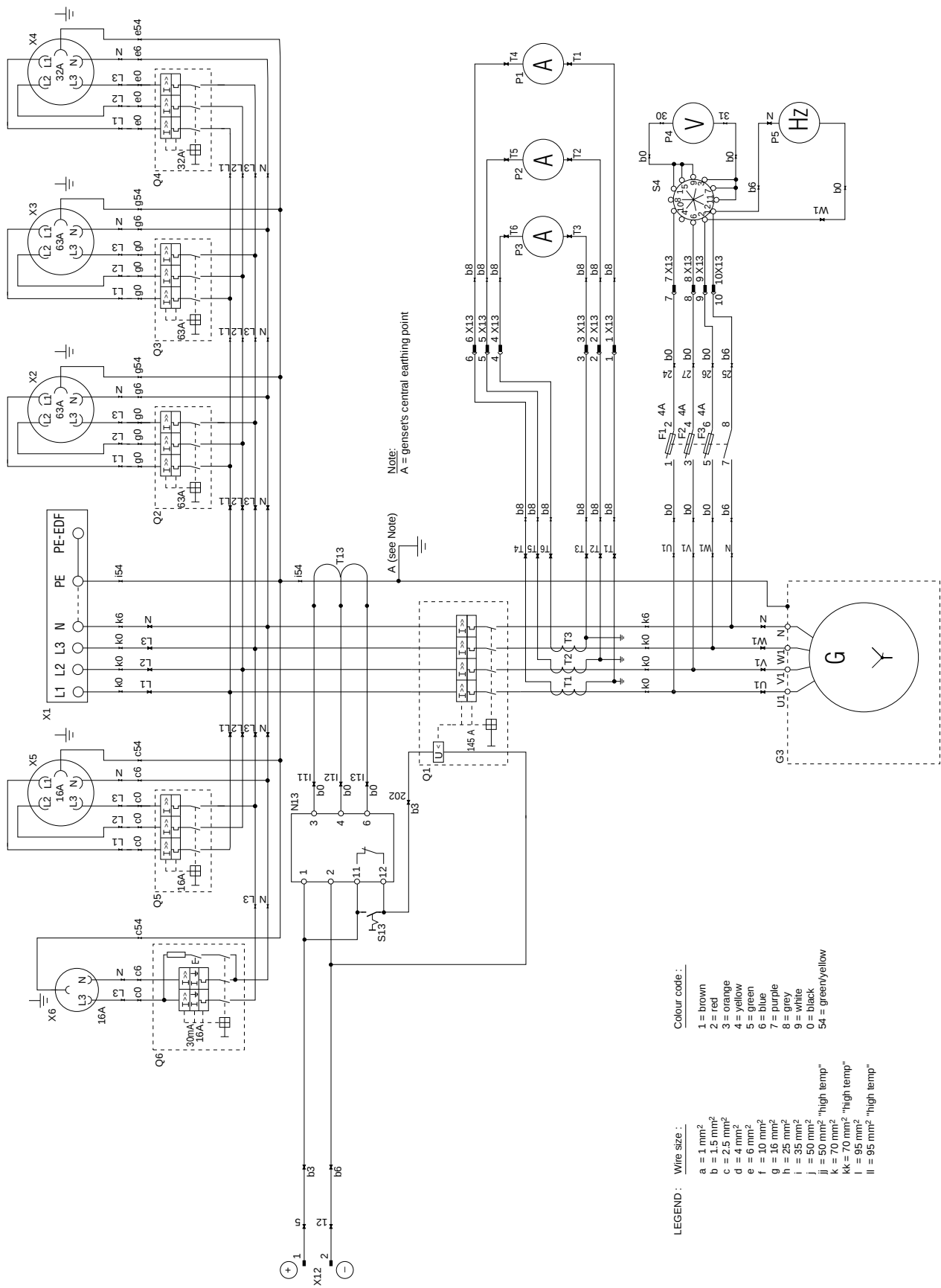
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	ENGLISH	NEDERLANDS	FRANCAIS	DEUTSCH
F1-3	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4 A
G3	Generator	Generator	Groupe électrogène	Generator
N13	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
P1-3	Amperemeter 0-200A	Amperemeter 0-200A	Ampermètre 0-200A	Amperemeter 0 - 200A
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequencymeter 45-65Hz	Frequencymeter 45-65Hz	Fréquentmètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 145A/4-pole	Circuit breaker 145A/4-poleig	Dijoncteur 145A/4 pôles	Leistungsschalter 145A / vierpolig
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
S13	Earth fault relay lock-out switch	Blokkeerschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des défauts à la terre	Regelschalter Erdschlußrelais
T1-3	Current transformer 200A/5A	Stroomtransformator 200A/5A	Transformateur de courant 200A/5A	Stromwandler 200A / 5 A
T13	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbratt
X12	2-pole connector	Konektor, 2 stifen	Connecteur, 2 broches	Zweipoliger Stecker
X13	12-pole connector	Konektor, 12 stifen	Connecteur, 12 broches	Zwölfpoliger Stecker

	ESPAÑOL	SVENSKA	ITALIANO	NORSK
F1-3	Fusible 4A	Säkring 4A	Fusibile 4A	Sikring 4 A
G3	Generator	Generator	Generatore	Generator
N13	Relé de pérdida a tierra	Relé för jordläckage	Relé de détection de fuite de terre	Jordfeilrelé
P1-3	Amperímetro 0-200A	Amperemätare 0-200A	Amperimetro 0-200A	Amperemeter 0-200 A
P4	Volímetro 0-500V	Spänningsmätare 0-500V	Volímetro 0-500V	Spenningsmåler 0-500 V
P5	Frecuencímetro 45-65Hz	Frequencímätare 45-65 Hz	Frequencímetro 45-65 Hz	Frekvensmåler 45-65 Hz
Q1	Disyuntor 145A/cuadripolar	Strömbrytare 145A/4-polig	Interruttore 145A/4 poli	Kræsbryter 145 A/4-polet
S4	Selector de voltímetro	Spänningsmätarens kopplingsväljare	Interruttore di selezione del volímetro	Vagbryter for spenningsmåler
S13	Interruptor de bloqueo del relé de pérdida a tierra	Avsläppningsbrytare för jordfeilsrelé	Interruttore chiusura relé guasto di terra	Avslengingsbryter for jordfeilrelé
T1-3	Transformador de corriente 200A/5A	Strömtransformator 200A/5A	Transformatore di corrente 200A/5A	Strøm 200 A/5 A
T13	Detector de pérdida a tierra	Detektor för jordläckage	Rilevatore corrente di terra	Jordfeilmåler
X1	Cuadro de bornas	Anslutningsplint	Morssettiera	Koplingsstavle
X12	Conector bipolar	2-poligt kontaktion	Connettore a 2 poli	2-polet kontakt
X13	Conector de 12 polos	12-poligt kontaktion	Connettore a 12 poli	12-polet kontakt

	DANSK	ΕΛΛΗΝΙΚΑ	PORTUGUÊS	SUOMI
F1-3	Sikring 4A	Ασφάλεια 4 Α	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vahtovirtageneraattori
N13	Jordfeilstromsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falha de terra	Maavutorele
P1-3	Amperemeter 0-200A	Αμπερόμετρο 0 - 200Α	Amperímetro 0-200A	Ampeerimittari 0-200 A
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Volímetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Afbryder 145A/4-polig	Διακόπτης κυκλώματος 145Α - 4πολικός	Disjuntor 145A/tetrapolar	Virrankatkaisin 145 A/4-napainen
S4	Voltmeteris onskifterknap	Διακόπτης επλογής βολτομέτρου	Comutador selector do volímetro	Voltimittarin valintakytkin
S13	Afbryderkontakt til jordfeilstromsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάβους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
T1-3	Strömtransformare 200A/5A	Μετασχηματιστής ρεύματος 200Α / 5Α	Transformador de corrente 200A/5A	Virtamuuntaja 200A/5A
T13	Jordfeilstromsdetektor	Ανχνευτής ρεύματος γείωσης	Detector de falha de corrente de terra	Maavuodon tunnistin
X1	Klembrædt	Πινάκας ακροδεχτή	Quadro de terminais	Litänälälev
X12	2-laset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-rapainen liitin
X13	12-laset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin

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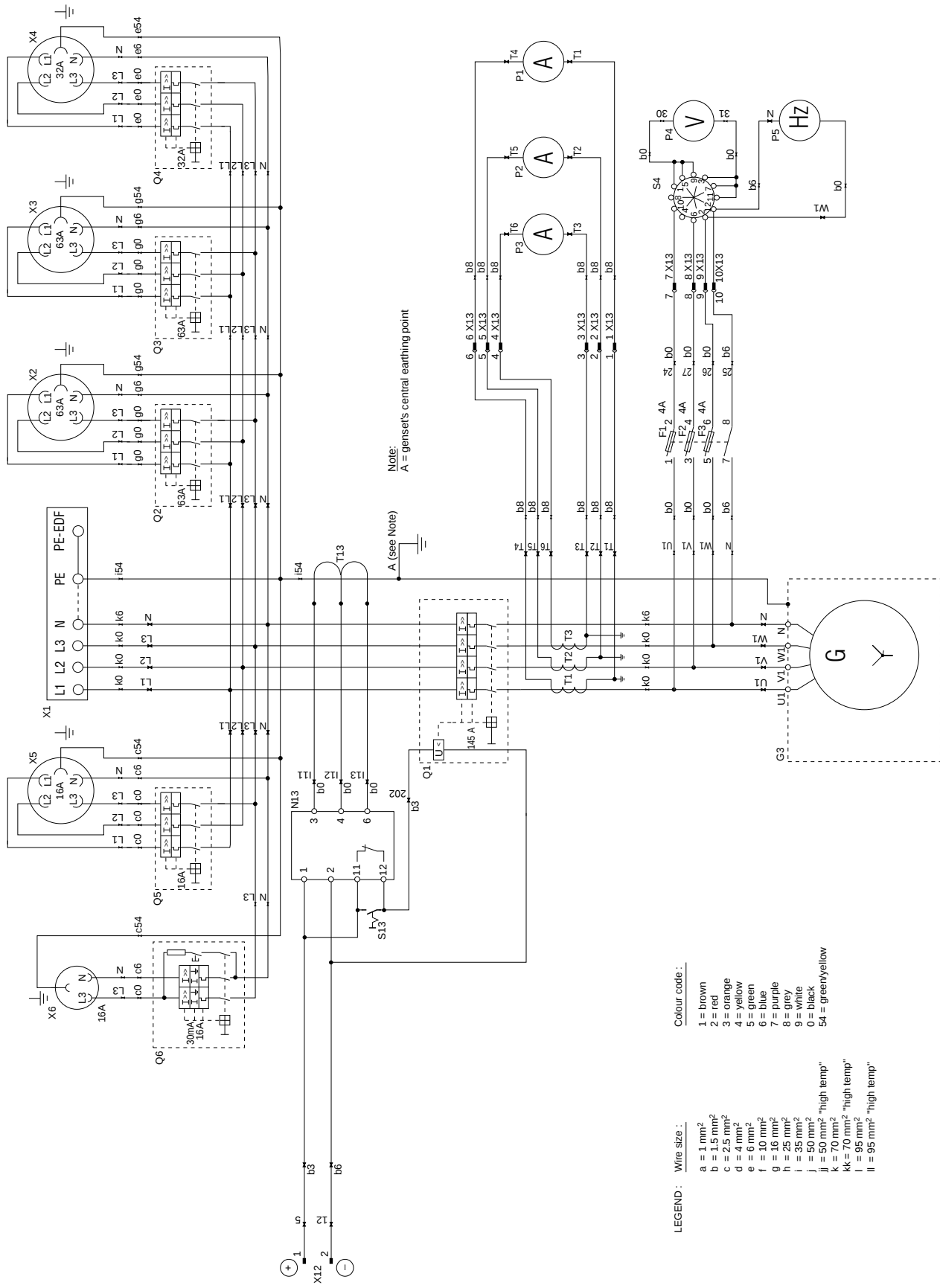


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	ENGLISH	NETHERLANDS	FRANCAIS	DEUTSCH
F1-3	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4 A
F11	Circuit breaker	Vermogensschakelaar	Dijoncteur	Leistungsschalter
G3	Generator	Generator	Groupe électrogène	Generator
N13	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
P1-3	Amperemeter 0-200A	Amperemeter 0-200A	Ampermètre 0-200A	Amperemeter 0 - 200A
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequencymeter 45-65Hz	Frequentiemeter 45-65Hz	Fréquentmètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 145A/4-pole	Vermogensschakelaar 145A/4-polig	Dijoncteur 145A/4 pôles	Leistungsschalter 145A / vierpolig
Q2-3	Circuit breaker 63A/3-pole	Vermogensschakelaar 63A/3-polig	Dijoncteur 63A/3 pôles	Leistungsschalter 63A / 3-polig
Q4	Circuit breaker 32A/3-pole	Vermogensschakelaar 32A/3-polig	Dijoncteur 32A/3 pôles	Leistungsschalter 32A / 3-polig
Q5	Circuit breaker 16A/3-pole	Vermogensschakelaar 16A/3-polig	Dijoncteur 16A/3 pôles	Leistungsschalter 16A / 3-polig
Q6	Circuit breaker 16A/2-pole + 1Δn=30mA	Vermogensschakelaar 16A/2-polig + 1Δn=30mA	Dijoncteur 16A/2 pôles + 1Δn=30mA	Leistungsschalter 16A / 2-polig + 1Δn=30mA
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
S13	Earth fault relay lock-out switch	Bløkkeerschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des défauts à la terre	Riegelschalter Erdschlußrelais
T1-3	Current transformer 200A/5A	Stroomtransformator 200A/5A	Transformateur de courant 200A/5A	Stromwandler 200A / 5 A
T13	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbrett
X2-3	Outlet socket 63A/5-pole	Uitlaatpunt- 63A/5-polig	Prise femelle 63A/5 pôles	Anschlußdose 63A/5polig
X4	Outlet socket 32A/5-pole	Uitlaatpunt- 32A/5-polig	Prise femelle 32A/5 pôles	Anschlußdose 32A/5polig
X5	Outlet socket 16A/5-pole	Uitlaatpunt- 16A/5-polig	Prise femelle 16A/5 pôles	Anschlußdose 16A/5polig
X6	Outlet socket 16A/3-pole	Uitlaatpunt- 16A/3-polig	Prise femelle 16A/3 pôles	Anschlußdose 16A/3polig
X12	2-pole connector	Konektor, 2 stiften	Connecteur, 2 broches	Zweipoliger Stecker
X13	12-pole connector	Konektor, 12 stiften	Connecteur, 12 broches	Zwölfpoliger Stecker

	ESPAÑOL	SVENSKA	ITALIANO	NORSK
F1-3	Fusible 4A	Säkring 4A	Fusibile 4A	Sikring 4 A
G3	Generator	Generator	Generatore	Generator
N13	Relé de pérdida a tierra	Relä för jordläckage	Relé corrente di terra	Jordfeilele
P1-3	Amperímetro 0-200A	Amperemätare 0-200A	Amperometro 0-200A	Amperemeter 0-200 A
P4	Voltímetro 0-500V	Spänningsmätare 0-500V	Voltmetro 0-500V	Spänningsmåler 0-500 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Frequenzimetro 45-65 Hz	Frekvensmåler 45-65 Hz
Q1	Disyuntor 145Acuadripolar	Strömbrytare 145A/4-polig	Interuttore 145A/4 poli	Kreisbryter 145 A/4-polet
Q2-3	Disyuntor 63A/3-polar	Strömbrytare 63A/3-polig	Interuttore 63A/3 poli	Kreisbryter 63 A/3-polet
Q4	Disyuntor 32A/3-polar	Strömbrytare 32A/3-polig	Interuttore 32A/3 poli	Kreisbryter 32 A/3-polet
Q5	Disyuntor 16A/3-polar	Strömbrytare 16A/3-polig	Interuttore 16A/3 poli	Kreisbryter 16 A/3-polet
Q6	Disyuntor 16A/2-polar + 1Δn=30mA	Strömbrytare 16A/2-polar + 1Δn=30mA	Interuttore 16A/2 poli + 1Δn=30mA	Kreisbryter 16 A/2-polet + 1Δn=30mA
S4	Selector de voltímetro	Spänningsmätarens kopplingsväxlare	Interuttore di selezione del voltímetro	Valgbryter for spenningsmåler
S13	Interruptor de bloqueo del relé de pérdida a tierra	Avstängningsbrytare för jordfelsrelä	Interuttore chiusura relé guasto di terra	Avstengingsbryter for jordfeilele
T1-3	Transformador de corriente 200A/5A	Stromtransformator 200A/5A	Transformatore di corrente 200A/5A	Strøm 200 A/5 A
T13	Detector de pérdida a tierra	Defektor för jordläckage	Rilevatore corrente di terra	Jordfeilealer
X1	Cuadro de bornas	Anslutningsplint	Morssterra	Koplingsstavle
X2-3	Casquillo de toma de corriente 63 A/5 polos	63A/5-fas uttag	Presa esterna 63A/5 poli	Uttak 63A/5-polet
X4	Casquillo de toma de corriente 32 A/5 polos	32A/5-fas uttag	Presa esterna 32A/5 poli	Uttak 32A/5-polet
X5	Casquillo de toma de corriente 16 A/5 polos	16A/5-fas uttag	Presa esterna 16A/5 poli	Uttak 16A/5-polet
X6	Casquillo de toma de corriente 16 A/3 polos	16A/3-fas uttag	Presa esterna 16A/3 poli	Uttak 16A/3-polet
X12	Conector bipolar	2-poligt kontaktion	Connettore a 2 poli	2-polet kontakt
X13	Conector de 12 polos	12-poligt kontaktion	Connettore a 12 poli	12-polet kontakt

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Colour code :

- 1 = brown
- 2 = red
- 3 = orange
- 4 = yellow
- 5 = green
- 6 = blue
- 7 = purple
- 8 = grey
- 9 = white
- 0 = black
- 54 = green/yellow

Wire size :

- a = 1 mm²
- b = 1.5 mm²
- c = 2.5 mm²
- d = 4 mm²
- e = 6 mm²
- f = 10 mm²
- g = 16 mm²
- h = 25 mm²
- i = 35 mm²
- j = 50 mm²
- kk = 70 mm²
- ll = 95 mm²

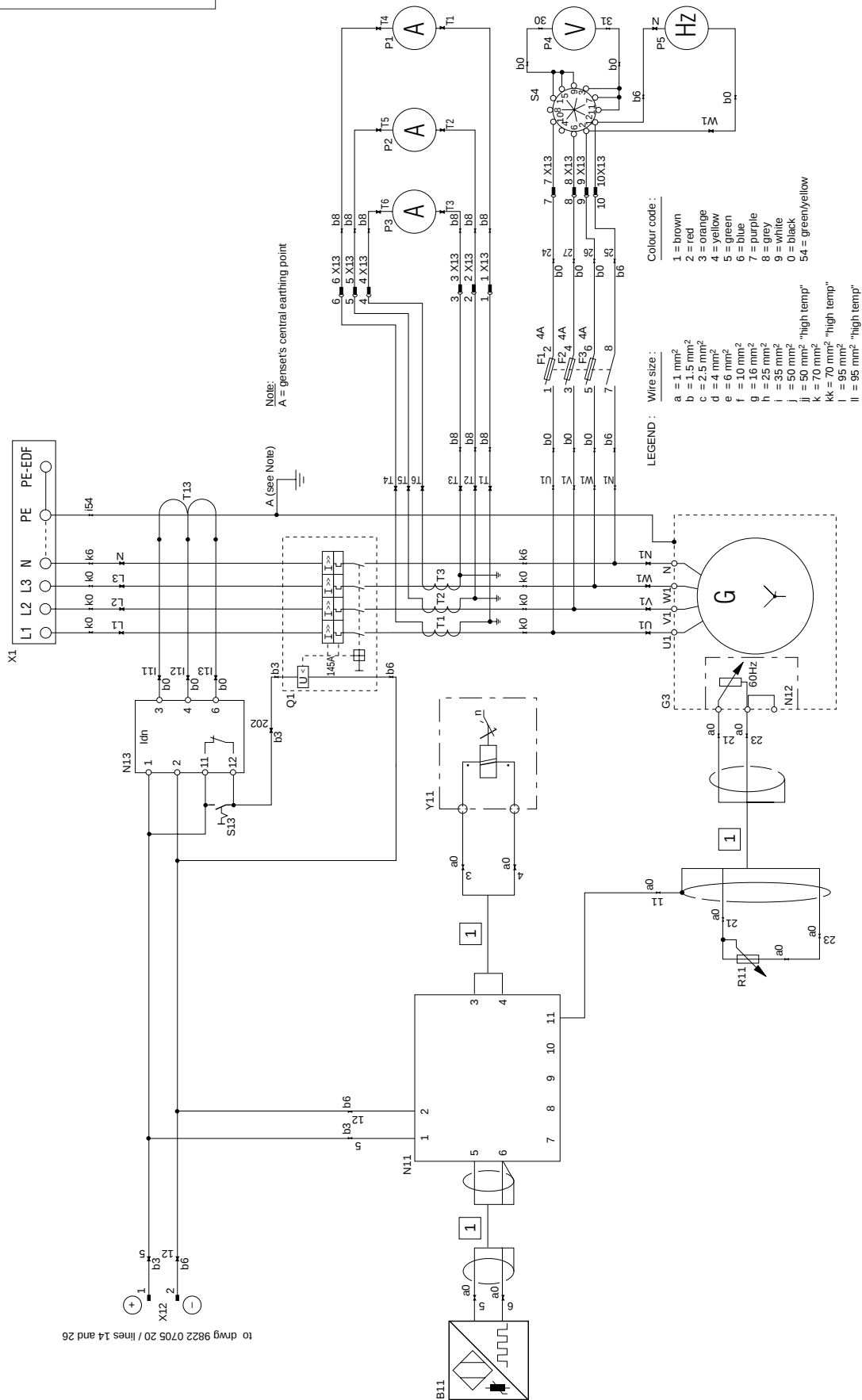
- "high temp"
- "high temp"
- "high temp"

to drwg 9822 0705 20 / lines 14 and 26

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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
F1-3	Sikring 4A	Ασφάλεια 4 A	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
N13	Jordfejlsstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falha de terra	Maavudorele
P1-3	Amperemeter 0-200A	Αμπερόμετρο 0 - 200A	Amperímetro 0-200A	Ampeerimittari 0-200 A
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Voltmetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Aftryder 145A/4-polig	Διακόπτης κυκλώματος 433A - 4πολικός	Disjuntor 145A/tetrapolar	Virrankatkaisin 145 A/4-napainen
Q2-3	Aftryder 63A/3-polig	Διακόπτης κυκλώματος 63A - 3πολικός	Disjuntor 63A/3-polar	Virrankatkaisin 63 A/3-napainen
Q4	Aftryder 32A/3-polig	Διακόπτης κυκλώματος 32A - 3πολικός	Disjuntor 32A/3-polar	Virrankatkaisin 32 A/3-napainen
Q5	Aftryder 16A/3-polig	Διακόπτης κυκλώματος 16A - 3πολικός	Disjuntor 16A/3-polar	Virrankatkaisin 16 A/3-napainen
Q6	Aftryder 16A/2-polig + ΔIn=30mA	Διακόπτης κυκλώματος 16A - 2πολικός + ΔIn=30mA	Disjuntor 16A/2-polar + ΔIn=30mA	Virrankatkaisin 16 A/2-napainen + ΔIn=30mA
S4	Voltmeterets onskifterknap	Διακόπτης επιλογής βολτομέτρου	Comutador selector do voltímetro	Voltimittarin valintakytkin
S13	Aftryderkontakt til jordfejlsstrømsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάβους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
T1-3	Strømtransformere 200A/5A	Μετασχηματιστές ρεύματος 200A / 5A	Transformador de corrente 200A/5A	Virramuuntaja 200A/5A
T13	Jordfejlsstrømsdetektor	Ανιχνευτής ρεύματος γείωσης	Detector de falha de corrente de terra	Maavuodon tunnistin
X1	Klembrædt	Πινάκας ακροδέκτη	Quadro de terminais	Liitäntäläew
X2-3	Stikkontakt 63A/5-polig	63A/5-πόλος ακροδέκτη εξόδου	Tomada de saída 63A/5 polos	Pistorasia 63 A / 5-napainen
X4	Stikkontakt 32A/5-polig	32A/5-πόλος ακροδέκτη εξόδου	Tomada de saída 32A/5 polos	Pistorasia 32 A / 5-napainen
X5	Stikkontakt 16A/5-polig	16A/5-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/5 polos	Pistorasia 16 A / 5-napainen
X6	Stikkontakt 16A/3-polig	16A/3-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/3polos	Pistorasia 16 A / 5-napainen
X12	2-faset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin

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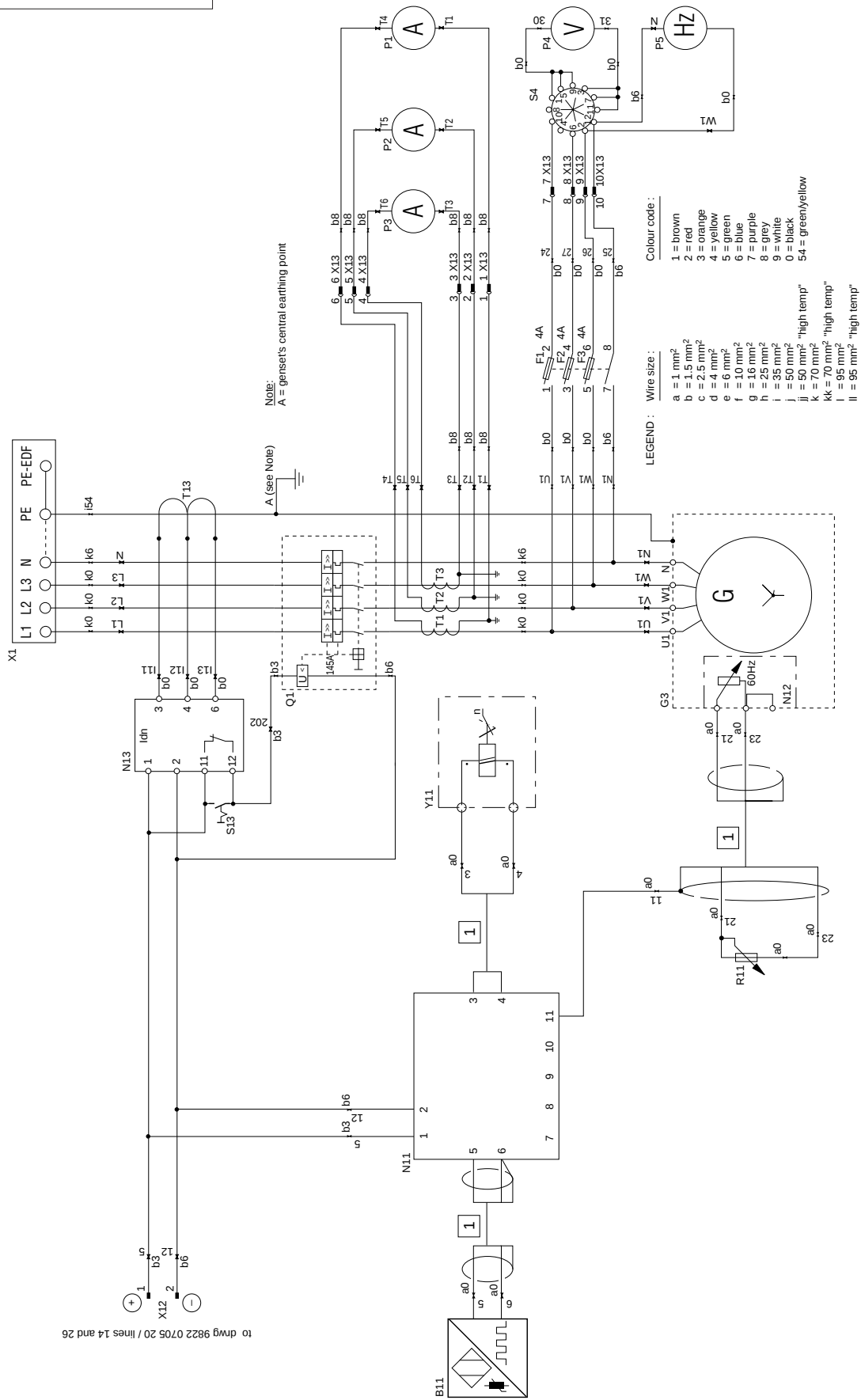


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ENGLISH		NETHERLANDS	FRANCAIS	DEUTSCH
Bt1	Speed sensor	Snelheidssensor	Capteur de vitesse	Drehzahlfühler
Ft1-3	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4 A
G3	Generator	Generator	Groupe électrogène	Generator
Nt1	Speed controller	Snelheidsregelaar	Régulateur de vitesse	Drehzahlregler
Nt2	Automatic voltage regulator	Automatische spanningsregelaar	Régulateur de tension automatique	Automatischer Spannungsregler
Nt3	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
Pt1-3	Amperemeter 0-200A	Ampèremètre 0-200A	Ampèremètre 0-200A	Amperemeter 0 - 200A
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequencymeter 45-65Hz	Frequentiemeter 45-65Hz	Fréquentmètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 145A/4-pole	Vermogensschakelaar 145A/4-polig	Diponcteur 145A/4 pôles	Leistungsschalter 145A / vierpolig
Rt1	Supply voltage adjust potentiometer	Regelpotentiometer, voedingsspanning	Potentiomètre de réglage de la tension d'alimentation	Potentiometer für Einstellung der Versorgungsspannung
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
St3	Earth fault relay lock-out switch	Blokkeerschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des défauts à la terre	Rielschalter Erdschlußrelais
Tt1-3	Current transformer 200A/5A	Stroomtransformatör 200A/5A	Transformateur de courant 200A/5A	Stromwandler 200A / 5 A
Tt3	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbratt
Xt2	2-pole connector	Konektor, 2 stiften	Connecteur, 2 broches	Zweipoliger Stecker
Xt3	12-pole connector	Konektor, 12 stiften	Connecteur, 12 broches	Zwölfpoliger Stecker
Yt1	Actuator	Actuator	Actuateur	Stellorgan
1	Wire Harness	Kabelbundel	Harnais de câbles	Kabelbaum

ESPAÑOL		SVENSKA	ITALIANO	NORSK
Bt1	Sensor de velocidad	Vandalsensor	Sensore velocità	Hastighetsføler
Ft1-3	Fusible 4A	Sikring 4A	Fusibile 4A	Sikring 4 A
G3	Generator	Generator	Generatore	Generator
Nt1	Controlador de velocidad	Vandalsregulator	Unità di controllo velocità	Hastighetsregulator
Nt2	Regulador automático de voltaje	Automatisk spänningsregulator	Regolatore di tensione automatico	Automatisk spenningsregulator
Nt3	Relé de pérdida a tierra	Relä för jordläckage	Relé corrente di terra	Jordfeilrelé
Pt1-3	Amperímetro 0-200A	Ampèrmetre 0-200A	Amperometro 0-200A	Amperemeter 0-200 A
P4	Voltímetro 0-500V	Spänningsmätare 0-500V	Voltmetro 0-500V	Spänningsmätar 0-500 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Frequenzmätro 45-65 Hz	Frekvensmätar 45-65 Hz
Q1	Disyuntor 145A/cuadripolar	Strömbrytare 145A/4-polig	Interruttore 145A/4 poli	Kraftbryter 145 A/4-polet
Rt1	Potenciometro de ajuste del voltaje de alimentación	Potentiometer för justering av spänningsmätningen	Potenzometro regolazione tensione di alimentazione	Potensiometer for justering av strömtilførsel
S4	Selector de voltímetro	Spänningsmätarens kopplingsväxlare	Interruttore di selezione del voltmetro	Valgbryter for spenningsmätar
St3	Interruptor de bloqueo del relé de pérdida a tierra	Avstängningsbrytare för jordfelsrelä	Interruttore chiusura relé guasto di terra	Avstengingsbryter for jordfeilrelé
Tt1-3	Transformador de corriente 200A/5A	Stromtransformator 200A/5A	Transformatore di corrente 200A/5A	Strøm 200 A/5 A
Tt3	Detector de pérdida a tierra	Defektor för jordläckage	Rilevatore corrente di terra	Jordfeilføler
X1	Cuadro de bornas	Anslutningsplint	Morsetteria	Koplingsstavle
Xt2	Conector bipolar	2-poligt kontaktdon	Connettore a 2 poli	2-polet kontakt
Xt3	Conector de 12 polos	12-poligt kontaktdon	Connettore a 12 poli	12-polet kontakt
Yt1	Actuador	Manöverorgan	Attuatore	Aktuator
1	Arnés de cableado	Kabel	Cablaggio	Ledningsnett

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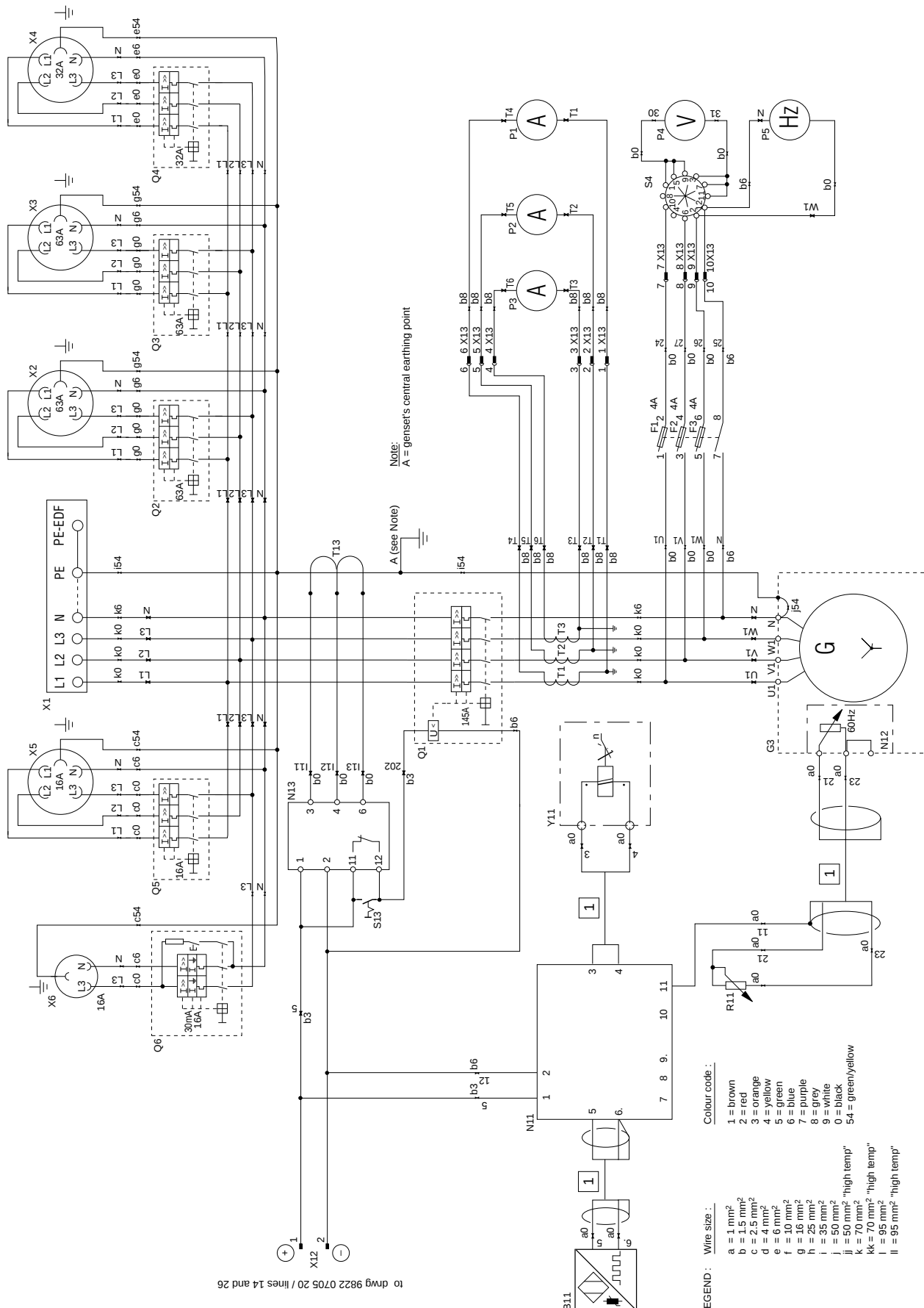


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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
B11	Hastighetsmåler	Αισθητήρας ταχύτητας	Sensor de velocidade	Nopeusanturi
F1-3	Sikring 4A	Ασφάλεια 4 A	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
N11	Hastighetsregulator	Ελεγκτής ταχύτητας	Controlador da velocidade	Nopeuden valvoja
N12	Automatisk spændingsregulator	Αυτόματος ρυθμιστής τάσης	Regulador automático da potência	Automaattinen jänniteensäädin
N13	Jordfejlsstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de deteção de falha de terra	Maavuoto rele
P1-3	Amperemeter 0-200A	Αμπερόμετρο 0 - 200Α	Amperímetro 0-200A	Ampeerimittari 0-200 A
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Voltímetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Aftryder 145A/4-poliig	Διακοπής κυκλώματος 145Α - 4πολικός	Disjuntor 145A/tetrapolar	Virrankatkaisin 145 A/4-napainen
R11	Potentiometer til justering af lødspændingen	Δυναμόμετρο ρύθμισης τάσης παροχής	Potenciómetro de ajuste da tensão de alimentação	Syöttöjännitteen säätöpotentiometri
S4	Voltmeterets onskifferknapp	Διακοπής επιλογής βολτομέτρου	Comutador selector do voltímetro	Voltimittarin valintakytkin
S13	Aftryderkontakt til jordfejlsstrømsrelæ	Διακοπής αποκλεισμού μετάδοσης λάβους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
T1-3	Strømtransformatore 200A/5A	Μετασχηματιστής ρεύματος 200Α / 5Α	Transformador de corrente 200A/5A	Virtamuuntaja 200A/5A
T13	Jordfejlsstrømsdetektor	Ανχνευτής ρεύματος γείωσης	Detector de falha de corrente de terra	Maavuodon tunnistin
X1	Klembrædt	Πινακας ακροδεκτη	Quadro de terminais	Liitäntälavy
X12	2-faset kontaktklemme	2πολικός συνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός συνδεσμος	Ligação em 12 polos	12-napainen liitin
Y11	Aktuator	Ενεργοποιητής	Accionador	Toimilaitte
1	Ledningsnet	Συνδεσμολογια οριζόντιων	Cablagem geral	Johdotarjola

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to dring 9822 0705 20 / lines 14 and 26

CIRCUIT DIAGRAM
ELEKTRISCH SCHEMA
SCHEMA DE CIRCUIT
VERDRÄHTUNGSPLAN
DIAGRAMA DE CIRCUITOS
KOPPLINGSSCHEMA

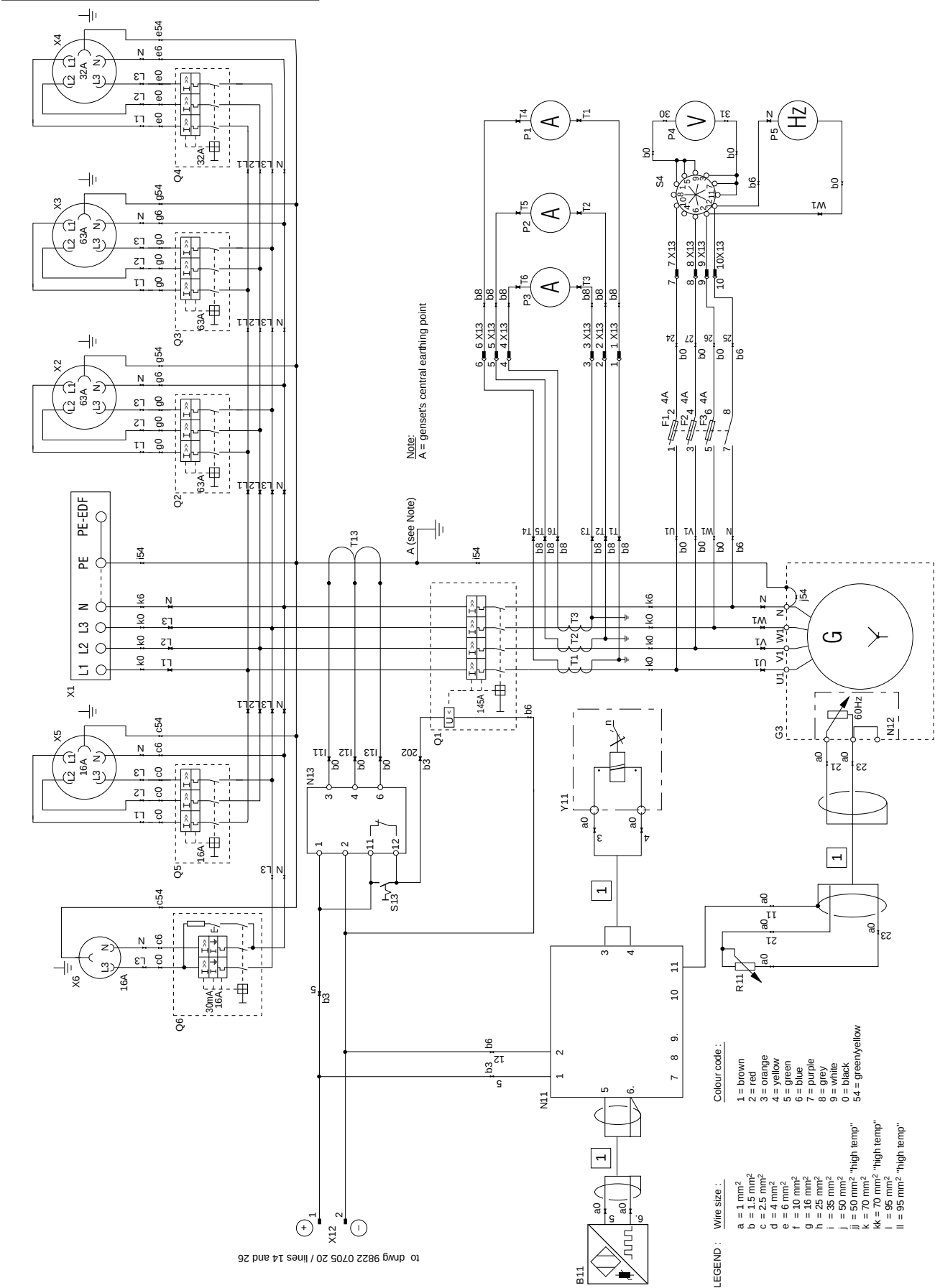
DIAGRAMMA DEL CIRCUITO
KRETSSKJEMA
STRØMDIAGRAM
ΔΙΑΓΡΑΜΜΑ ΚΥΚΛΩΜΑΤΟΣ
DIAGRAMA DOS CIRCUITOS
SÄHKÖKAAVIO

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ENGLISH		NEDERLANDS		FRANCAIS		DEUTSCH	
Bt1	Speed sensor	Snelheidssensor		Capteur de vitesse		Drehzahlfühler	
Ft-3	Fuse 4A	Zekering 4A		Fusible 4A		Sicherung 4 A	
G3	Generator	Generator		Groupe électrogène		Generator	
Nt1	Speed controller	Snelheidsregelaar		Régulateur de vitesse		Drehzahlregler	
Nt2	Automatic voltage regulator	Automatische spanningsregelaar		Régulateur de tension automatique		Automatischer Spannungsregler	
Nt3	Earth fault-current relay	Aardlekrelais		Relais de fuite à la terre		Erdschlußrelais	
Pt-3	Amperemeter 0-200A	Amperemeter 0-200A		Ampèremètre 0-200A		Amperemeter 0 - 200A	
P4	Voltmeter 0-500V	Voltmeter 0-500V		Voltmètre 0-500V		Voltmeter 0 - 500 V	
P5	Frequencymeter 45-65Hz	Frequentiemeter 45-65Hz		Fréquentmètre 45-65Hz		Frequenzmesser 45 - 65 Hz	
Q1	Circuit breaker 145A/4-pole	Vermogensschakelaar 145A/4-polig		Disjoncteur 145A/4 pôles		Leistungsschalter 145A / vierpolig	
Q2-3	Circuit breaker 63A/3-pole	Vermogensschakelaar 63A/3-polig		Disjoncteur 63A/3 pôles		Leistungsschalter 63A / 3-polig	
Q4	Circuit breaker 32A/3-pole	Vermogensschakelaar 32A/3-polig		Disjoncteur 32A/3 pôles		Leistungsschalter 32A / 3-polig	
Q5	Circuit breaker 16A/3-pole	Vermogensschakelaar 16A/3-polig		Disjoncteur 16A/3 pôles		Leistungsschalter 16A / 3-polig	
Q6	Circuit breaker 16A/2-pole + 1Δn=30mA	Vermogensschakelaar 16A/2-polig + 1Δn=30mA		Disjoncteur 16A/2 pôles + 1Δn=30mA		Leistungsschalter 16A / 2-polig + 1Δn=30mA	
Rt1	Supply voltage adjust potentiometer	Regelpotentiometer, voedingsspanning		Potentiomètre de réglage de la tension d'alimentation		Potentiometer für Einstellung der Versorgungsspannung	
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar		Sélecteur de voltmètre		Voltmeter-Wahlschalter	
St3	Earth fault relay lock-out switch	Blokeerschakelaar verliesstroomrelais		Commutateur d'arrêt de relais des défauts à la terre		Riegelschalter Erdschlußrelais	
Tt-3	Current transformer 200A/5A	Stroomtransformator 200A/5A		Transformateur de courant 200A/5A		Stromwandler 200A / 5 A	
Tt3	Earth fault-current detector	Aardlekdetector		Détecteur de fuite à la terre		Erdschlußanzeiger	
X1	Terminal board	Klemmenbord		Tablette à bornes		Klemmenbratt	
X2-3	Outlet socket 63A/5-pole	Uitlaatpunt- 63A/5-polig		Prise femelle 63A/5 pôles		Anschlußdose 63A/5polig	
X4	Outlet socket 32A/5-pole	Uitlaatpunt- 32A/5-polig		Prise femelle 32A/5 pôles		Anschlußdose 32A/5polig	
X5	Outlet socket 16A/5-pole	Uitlaatpunt- 16A/5-polig		Prise femelle 16A/5 pôles		Anschlußdose 16A/5polig	
X6	Outlet socket 16A/3-pole	Uitlaatpunt- 16A/3-polig		Prise femelle 16A/3 pôles		Anschlußdose 16A/3polig	
X12	2-pole connector	Konektor, 2 stiften		Connecteur, 2 broches		Zweipoliger Stecker	
Xt3	12-pole connector	Konektor, 12 stiften		Connecteur, 12 broches		Zwölfpoliger Stecker	
Yt1	Actuator	Actuator		Actuateur		Stellorgan	
1	Wire Harness	Kabelbundel		Harnais de câbles		Kabelbaum	

ESPAÑOL		SVENSKA		ITALIANO		NORSK	
Bt1	Sensor de velocidad	Varvålssensor		Sensore velocità		Hastighetsbölér	
Ft-3	Fusible 4A	Säkring 4A		Fusibile 4A		Sikring 4 A	
G3	Generator	Generator		Generatore		Generator	
Nt1	Controlador de velocidad	Varvålsregulator		Unità di controllo velocità		Hastighetsregulator	
Nt2	Regulador automático de voltaje	Automatisk spänningsregulator		Regolatore di tensione automatico		Automatisk spenningsregulator	
Nt3	Relé de pérdida a tierra	Relé för jordläckage		Relé corrente di terra		Jordleirelè	
Pt-3	Amperímetro 0-200A	Amperemeter 0-200A		Amperometro 0-200A		Amperemeter 0-200 A	
P4	Voltímetro 0-500V	Spänningsmätare 0-500V		Voltmetro 0-500V		Spenningsmätar 0-500 V	
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz		Frequenzometro 45-65 Hz		Frekvensmätar 45-65 Hz	
Q1	Disyuntor 145A/cuadripolar	Strömbrytare 145A/4-polig		Interruttore 145A/4 poli		Krassbryter 145 A/4-polet	
Q2-3	Disyuntor 63A/3-polar	Strömbrytare 63A/3-polig		Interruttore 63A/3 poli		Krassbryter 63 A/3-polet	
Q4	Disyuntor 32A/3-polar	Strömbrytare 32A/3-polig		Interruttore 32A/3 poli		Krassbryter 32 A/3-polet	
Q5	Disyuntor 16A/3-polar	Strömbrytare 16A/3-polig		Interruttore 16A/3 poli		Krassbryter 16 A/3-polet	
Q6	Disyuntor 16A/2-polar + 1Δn=30mA	Strömbrytare 16A/2-polig + 1Δn=30mA		Interruttore 16A/2 poli + 1Δn=30mA		Krassbryter 16 A/2-polet + 1Δn=30mA	
Rt1	Potenciómetro de ajuste del voltaje de alimentación	Potentiometer för justering av spänningsmätningen		Potenzionometro regolatore tensione di alimentazione		Potensiometer for justering av strømtillførsel	
S4	Selector de voltímetro	Spänningsmätarens kopplingsväxlare		Interruttore di selezione del voltimetro		Valgbryter for spenningsmätar	
St3	Interruptor de bloqueo del relé de pérdida a tierra	Avstängningsbrytare för jordfelsrelä		Interruttore di chiusura relé guasto di terra		Avstengingsbryter for jordfeilelè	
Tt-3	Transformador de corriente 200A/5A	Strömtransformator 200A/5A		Transformatore di corrente 200A/5A		Strøm 200 A/5 A	
Tt3	Detector de pérdida a tierra	Defektor för jordläckage		Rilevatore corrente di terra		Jordfeilelér	
X1	Cuadro de bornas	Anslutningsplint		Morssettara		Koplingsstavle	
X2-3	Casquillo de toma de corriente 63 A/5 polos	63A/5-fas uttag		Presa esterna 63A/5 poli		Uttak, 63A/5-polet	
X4	Casquillo de toma de corriente 32 A/5 polos	32A/5-fas uttag		Presa esterna 32A/5 poli		Uttak, 32A/5-polet	
X5	Casquillo de toma de corriente 16 A/5 polos	16A/5-fas uttag		Presa esterna 16A/5 poli		Uttak, 16A/5-polet	
X6	Casquillo de toma de corriente 16 A/3 polos	16A/3-fas uttag		Presa esterna 16A/3 poli		Uttak, 16A/3-polet	
X12	Conector bipolar	2-poligt kontaktkon		Connettore a 2 poli		2-polet kontakt	
Xt3	Conector de 12 polos	12-poligt kontaktkon		Connettore a 12 poli		12-polet kontakt	
Yt1	Actuador	Manövrerorgan		Attuatore		Aktuator	
1	Arnés de cableado	Kabel		Cablaggio		Ledningsnett	

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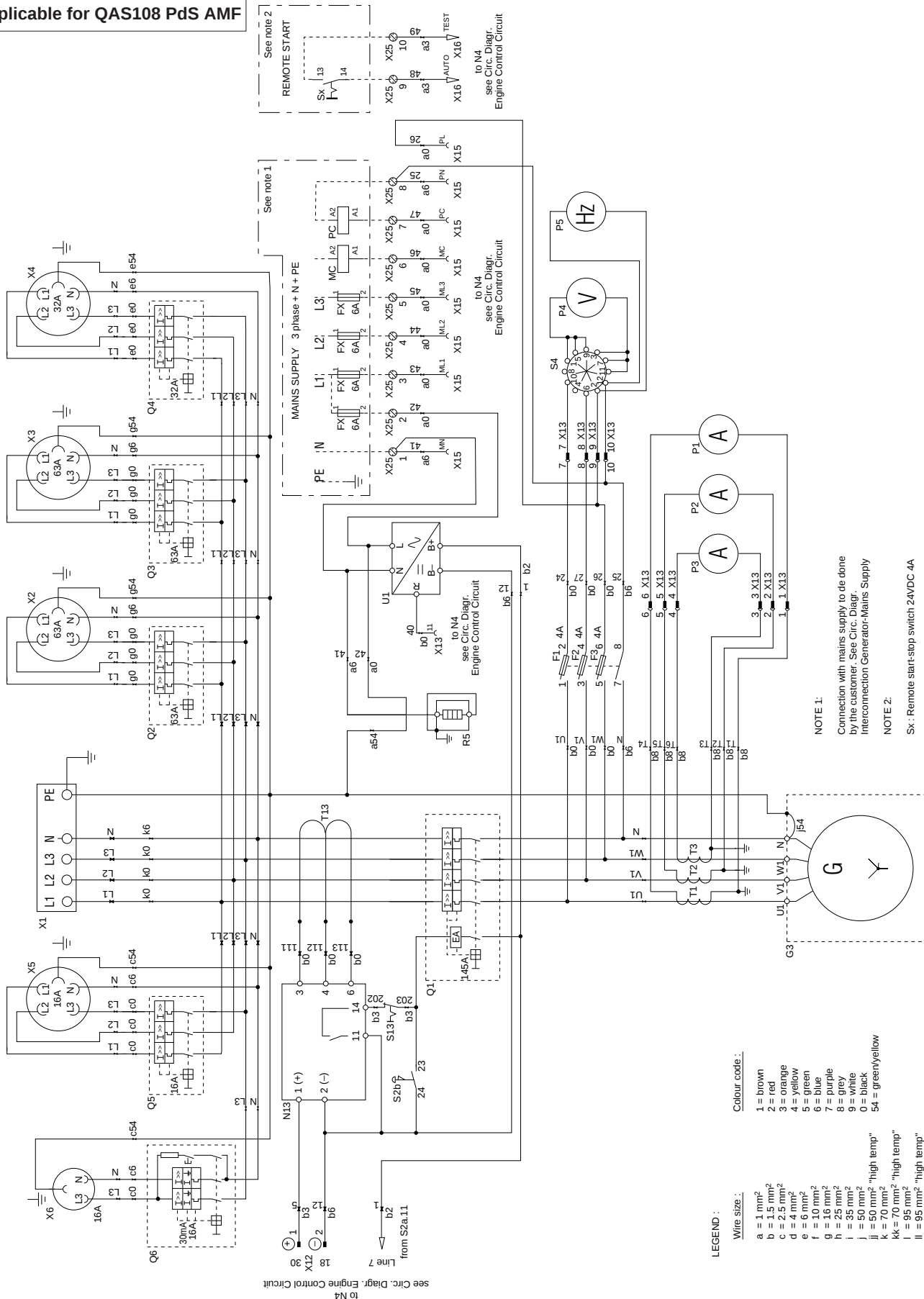


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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
B11	Hastighetsmåler	Αισθητήρας ταχύτητας	Sensor de velocidade	Nopeusanturi
F1-3	Sikring 4A	Ασφάλεια 4 A	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
N11	Hastighetsregulator	Ελεγκτής ταχύτητας	Controlador da velocidade	Nopeuden valvoja
N12	Automatisk spændingsregulator	Αυτόματος ρυθμιστής τάσης	Regulador automático da potência	Automaattinen jännittensäädin
N13	Jordfejlsstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falta de terra	Maavuoto rele
P1-3	Amperemeter 0-200A	Αμπερόμετρο 0 - 200Α	Amperímetro 0-200A	Ampeerimittari 0-200 A
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Voltímetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Altbyrder 145A/4-polig	Διακοπτής κυκλώματος 145Α - 4πολικός	Disjuntor 145A/tetrapolar	Virrankatkaisin 145 A/4-napainen
Q2-3	Altbyrder 63A/3-polig	Διακοπτής κυκλώματος 63Α - 3πολικός	Disjuntor 63A/3-polar	Virrankatkaisin 63 A/3-napainen
Q4	Altbyrder 32A/3-polig	Διακοπτής κυκλώματος 32Α - 3πολικός	Disjuntor 32A/3-polar	Virrankatkaisin 32 A/3-napainen
Q5	Altbyrder 16A/3-polig	Διακοπτής κυκλώματος 16Α - 3πολικός	Disjuntor 16A/3-polar	Virrankatkaisin 16 A/3-napainen
Q6	Altbyrder 16A/2-polig + ΔIn=30mA	Διακοπτής κυκλώματος 16Α - 2πολικός + ΔIn=30mA	Disjuntor 16A/2-polar + ΔIn=30mA	Virrankatkaisin 16 A/2-napainen + ΔIn=30mA
R11	Potentiometer til justering af lødspændingen	Δυναμόμετρο ρύθμισης τάσης παροχής	Potenciómetro de ajuste da tensão de alimentação	Syöttöjännitteen säätöpotenttiometri
S4	Voltmeterets onskifteknapp	Διακοπτής επιλογής βολτομέτρου	Comutador selector do voltímetro	Voltimittarin valintakytkin
S13	Altbyrderkontakt til jordfejlsstrømsrelæ	Διακοπτής αποκλεισμού μετάδοσης λάθους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
T1-3	Strømitransformere 200VA/5A	Μετασχηματιστής ρεύματος 200Α / 5Α	Transformador de corrente 200A/5A	Virtamuuntaja 200VA/5A
T13	Jordfejlsstrømsdetektor	Ανιχνευτής ρεύματος γείωσης	Detector de falta de corrente de terra	Maavuodon tunnistin
X1	Klembrædt	Πινάκας ακροδέκτη	Quadro de terminais	Litänälälev
X2-3	Stikkontakt 63A/5-polig	63Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 63A/5 polos	Pistorasia 63 A / 5-napainen
X4	Stikkontakt 32A/5-polig	32Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 32A/5 polos	Pistorasia 35 A / 5-napainen
X5	Stikkontakt 16A/5-polig	16Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/5 polos	Pistorasia 16 A / 5-napainen
X6	Stikkontakt 16A/3-polig	16Α/3-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/3polos	Pistorasia 16 A / 3-napainen
X12	2-faset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin
Y11	Aktuator	Ενεργοποιητής	Accionador	Toimilaitte
1	Ledningsnet	Συνδεολογία συρμάτων	Cablagem geral	Johdosarja

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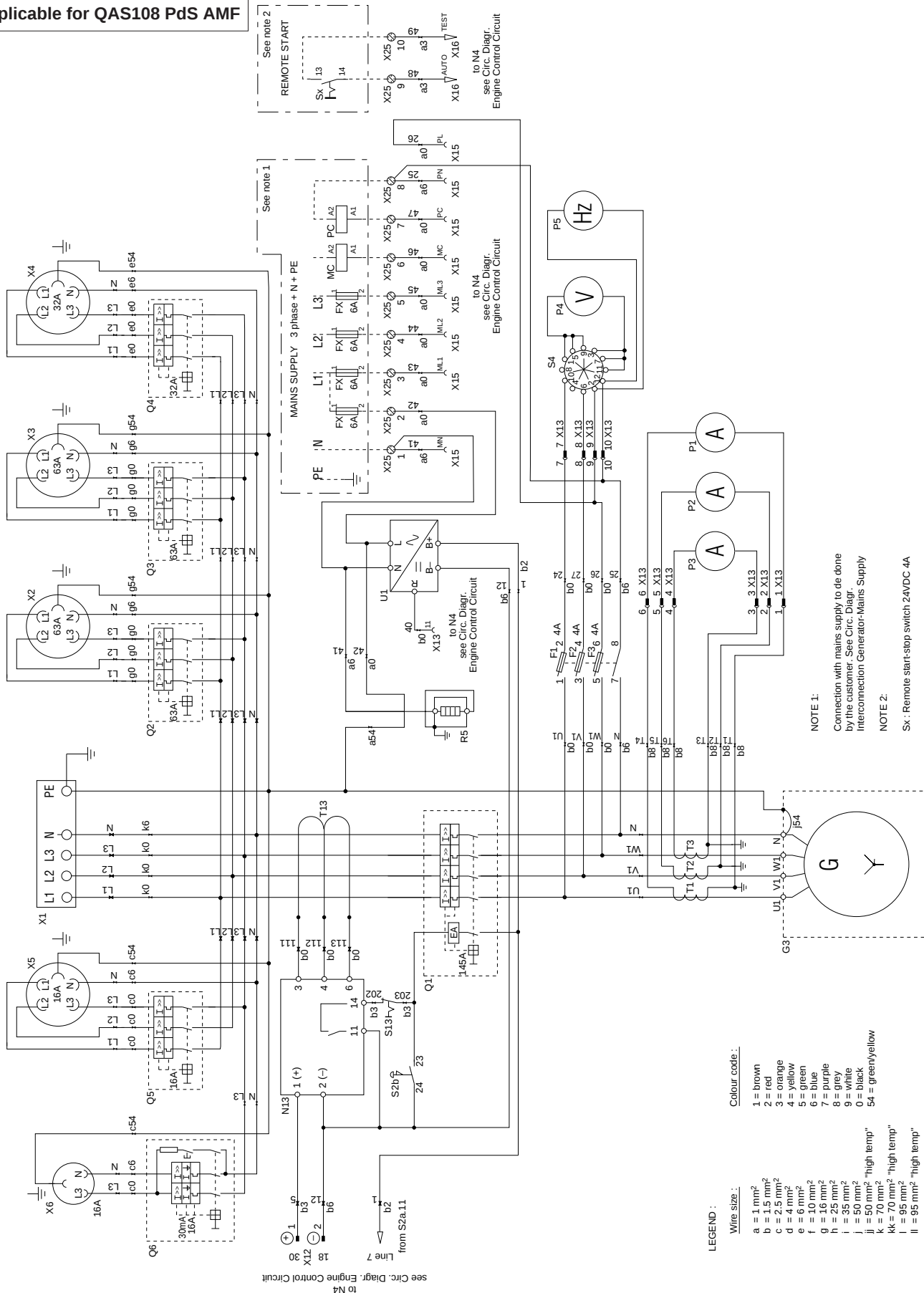


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	ENGLISH	NEDERLANDS	FRANCAIS	DEUTSCH
F1-3	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4A
G3	Generator	Generator	Groupe électrogène	Generator
NI3	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
P1-3	Ampere meter 0-200A	Ampèremeter 0-200A	Ampèremètre 0-200A	Amperemeter 0 - 200A
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequency meter 45-65Hz	Frequentiemeter 45-65Hz	Fréquentmètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 145A/4-pole	Circuit breaker 145A/4-polig	Diponcteur 145A/4 pôles	Leistungsschalter 145A / vierpolig
Q2	Circuit breaker 63A/3-pole	Vermogensschakelaar 63A/3-polig	Diponcteur 63A/3 pôles	Leistungsschalter 63A / 3-polig
Q3	Circuit breaker 63A/3-pole	Vermogensschakelaar 63A/3-polig	Diponcteur 63A/3 pôles	Leistungsschalter 63A / 3-polig
Q4	Circuit breaker 32A/3-pole	Vermogensschakelaar 32A/3-polig	Diponcteur 32A/3 pôles	Leistungsschalter 32A / 3-polig
Q5	Circuit breaker 16A/3-pole	Vermogensschakelaar 16A/3-polig	Diponcteur 16A/3 pôles	Leistungsschalter 16A / 3-polig
Q6	Circuit breaker 16A/2-pole + 1Δn	Vermogensschakelaar 16A/2-polig + 1Δn	Diponcteur 16A/2 pôles + 1Δn	Leistungsschalter 16A / 2-polig + 1Δn
R5	Engine Coolant Heater	Vermarmmer motorkoelvoelstof	Réchauffeur de réfrigérant du moteur	Heizelement Motorkühlmittel
S2b	Emergency stop	Noodstopknop	Arrêt d'urgence	Noßschaltung
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
S13	Earth fault relay lock-out switch	Blokkeerschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des défauts à la terre	Riegelschalter Erdschlußrelais
S14	Lock-out switch of the battery charger	Blokkeerschakelaar verliesstroomrelais	Interrupteur de verrouillage du chargeur de batterie	Sperrschalter des Batterieladegeräts
T1-3	Current transformer 200A/5A	Stroomtransformatie 200A/5A	Transformateur de courant 200A/5A	Stromwandler 200A / 5 A
T13	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
U1	Static battery charger	Statische batterijlader	Chargeur de batterie statique	Festsiehendes Batterieladegerät
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbratt
X2	Outlet socket 63A/5-pole	Uitlaatpunt-63A/5-polig	Prise femelle 63A/5 pôles	Anschlußdose 63A/5polig
X3	Outlet socket 63A/5-pole	Uitlaatpunt-63A/5-polig	Prise femelle 63A/5 pôles	Anschlußdose 63A/5polig
X4	Outlet socket 32A/5-pole	Uitlaatpunt-32A/5-polig	Prise femelle 32A/5 pôles	Anschlußdose 32A/5polig
X5	Outlet socket 16A/5-pole	Uitlaatpunt-16A/5-polig	Prise femelle 16A/5 pôles	Anschlußdose 16A/5polig
X6	Outlet socket 16A/3-pole	Uitlaatpunt-16A/3-polig	Prise femelle 16A/3 pôles	Anschlußdose 16A/3polig
X12	2-pole connector	Konektor, 2 stiften	Connecteur, 2 broches	Zweipoliger Stecker
X13	12-pole connector	Konektor, 12 stiften	Connecteur, 12 broches	Zwölfpoliger Stecker
X15	10-pole connector	Konektor, 10 stiften	Connecteur, 10 broches	Zehnpoliger Stecker
X25	Terminal strip	Klemmenstrook	Barrette de raccordement	Klemmenleiste

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NOTE 1:

Connection with mains supply to be done by the customer. See Circ. Diagram Interconnection Generator-Mains Supply

NOTE 2:

Sx: Remote start-stop switch 24VDC 4A

Colour code :

- 1 = brown
- 2 = red
- 3 = orange
- 4 = yellow
- 5 = green
- 6 = blue
- 7 = purple
- 8 = grey
- 9 = white
- 0 = black
- 54 = green/yellow

LEGEND :

Wire size :

- a = 1 mm²
- b = 1.5 mm²
- c = 2.5 mm²
- d = 4 mm²
- e = 6 mm²
- f = 10 mm²
- g = 16 mm²
- h = 25 mm²
- i = 35 mm²
- j = 50 mm²
- k = 70 mm²
- l = 95 mm²
- ll = 95 mm² "high temp"

CIRCUIT DIAGRAM
ELEKTRISCH SCHEMA
SCHEMA DE CIRCUIT
VERDRAHTUNGSPLAN
DIAGRAMA DE CIRCUITOS
KOPPLINGSSCHEMA

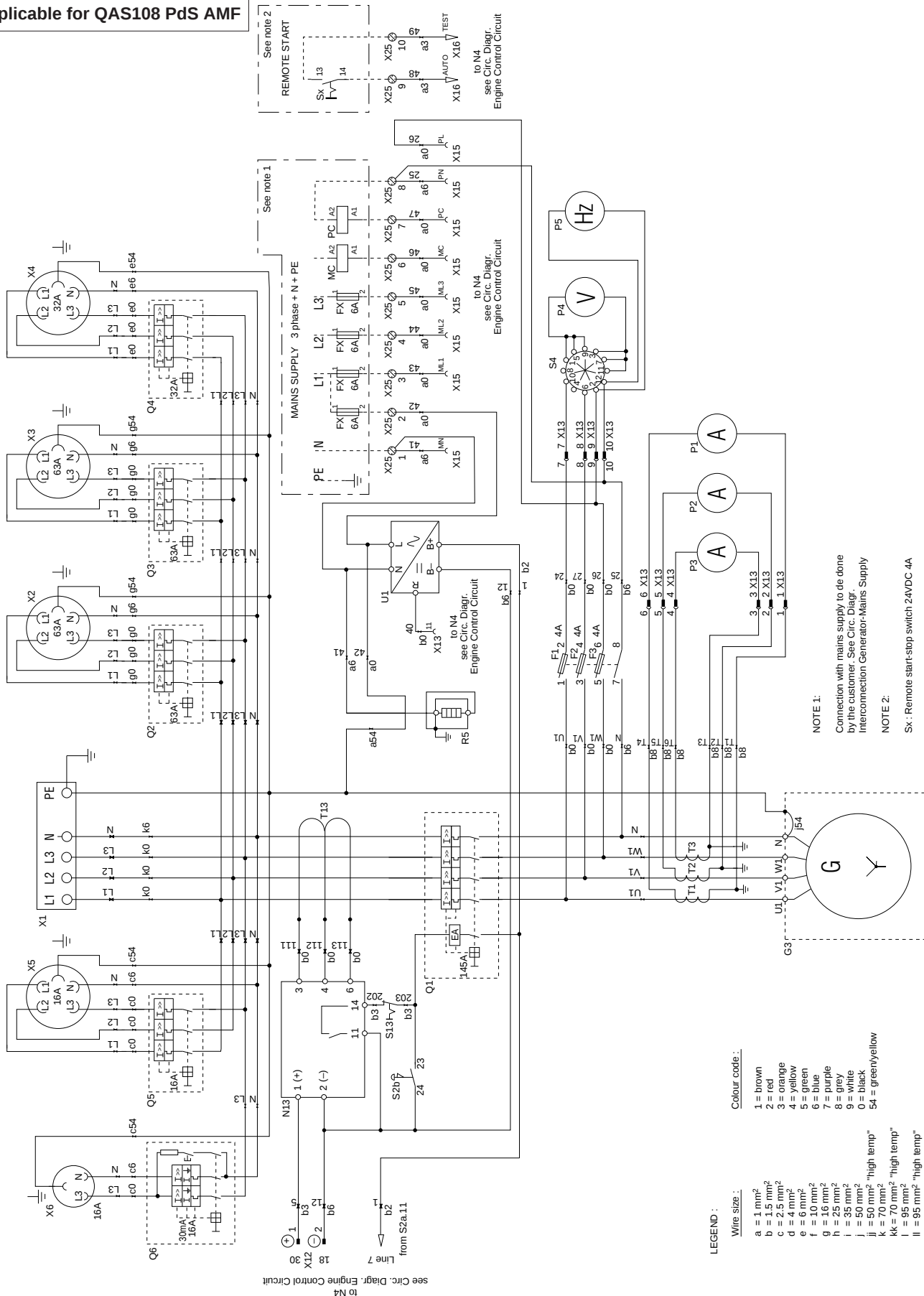
DIAGRAMMA DEL CIRCUITO
KRETSSKJEMA
STRØMDIAGRAM
ΔΙΑΓΡΑΜΜΑ ΚΥΚΛΩΜΑΤΟΣ
DIAGRAMA DOS CIRCUITOS
SÄHKÖKAAVIO

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	ESPAÑOL	SVENSKA	ITALIANO	NORSK
F1-3	Fusible 4A	Säkring 4A	Fusibile 4A	Sikring 4 A
G3	Generador	Generator	Generatore	Generator
N13	Relé de pérdida a tierra	Relä för jordläckage	Relé corrente di terra	Jordleilrelé
P1-3	Amperímetro 0-200A	Amperemätare 0-200A	Amperometro 0-200A	Amperemeter 0-200 A
P4	Voltímetro 0-500V	Spänningsmätare 0-500V	Voltmetro 0-500V	Spänningsmåler 0-500 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Frekvensmåler 45-65 Hz	Frekvensmåler 45-65 Hz
Q1	Disyuntor 145A/cuadripolar	Strömbrytare 145A/4-polig	Interruttore 145A/4 poli	Krassbryter 145 A/4-poleit
Q2	Disyuntor 63A/3-polar	Strömbrytare 63A/3-polig	Interruttore 63A/3 poli	Krassbryter 63 A/3-poleit
Q3	Disyuntor 63A/3-polar	Strömbrytare 63A/3-polig	Interruttore 63A/3 poli	Krassbryter 63 A/3-poleit
Q4	Disyuntor 32A/3-polar	Strömbrytare 32A/3-polig	Interruttore 32A/3 poli	Krassbryter 32 A/3-poleit
Q5	Disyuntor 16A/3-polar	Strömbrytare 16A/3-polig	Interruttore 16A/3 poli	Krassbryter 16 A/3-poleit
Q6	Disyuntor 16A/2-polar + 1Δn	Strömbrytare 16A/2-polig + 1Δn	Interruttore 16A/2 poli + 1Δn	Krassbryter 16 A/2-poleit + 1Δn
R5	Calentador del refrigerante del motor	Motorns kylvätskevärmare	Riscaldatore del liquido refrigerante del motore	Kjølevæskevarmer for motor
S2b	Parada de emergencia	Nödslopp	Arresto di emergenza	Nødslopp
S4	Selector de voltímetro	Spänningsmätarens kopplingsväljare	Interruttore di selezione del voltmetro	Valgbryter for spenningsmåler
S13	Interruptor de bloqueo del relé de pérdida a tierra	Avstängningsbrytare för jordfelsrelä	Interruttore chiusura relé guasto di terra	Avstengingsbryter for jordleilrelé
S13	Interruptor de cierre del cargador	Spärkontakten på batteriladdaren	Interruttore di bloccaggio del caricatore della batteria	Utkoplingsbryter på batteriladdaren
T1-3	Transformador de corriente 200A/5A	Strömtransformator 200A/5A	Trasformatore di corrente 200A/5A	Strøm 200 A/5 A
T13	Detector de pérdida a tierra	Defektor för jordläckage	Rilevatore corrente di terra	Jordleilfeiler
U1	Cargador estático de batería	Statisk batteriladdare	Carica batteria statica	Statisk batterilader
X1	Cuadro de bornas	Anslutningsplint	Morseletiera	Koplingsstave
X2	Casquillo de toma de corriente 63 A/5 polos	63A/5-fas uttag	Presa esterna 63A/5 poli	Uttak, 63A/5-poleit
X3	Casquillo de toma de corriente 63 A/5 polos	63A/5-fas uttag	Presa esterna 63A/5 poli	Uttak, 63A/5-poleit
X4	Casquillo de toma de corriente 32 A/5 polos	35A/5-fas uttag	Presa esterna 32A/5 poli	Uttak, 32A/5-poleit
X5	Casquillo de toma de corriente 16 A/5 polos	16A/5-fas uttag	Presa esterna 16A/5 poli	Uttak, 16A/5-poleit
X6	Casquillo de toma de corriente 16 A/3 polos	16A/3-fas uttag	Presa esterna 16A/3 poli	Uttak, 16A/3-poleit
X12	Conector bipolar	2-poligt kontaktkon	Connettore a 2 poli	2-poleit kontakt
X13	Conector de 12 polos	12-poligt kontaktkon	Connettore a 12 poli	12-poleit kontakt
X13	Conector de 10 polos	10-poligt kontaktkon	Connettore a 10 poli	12-poleit kontakt
X25	Bloque de terminales	Anslutningslist	Morseletiera	Koplingssplint

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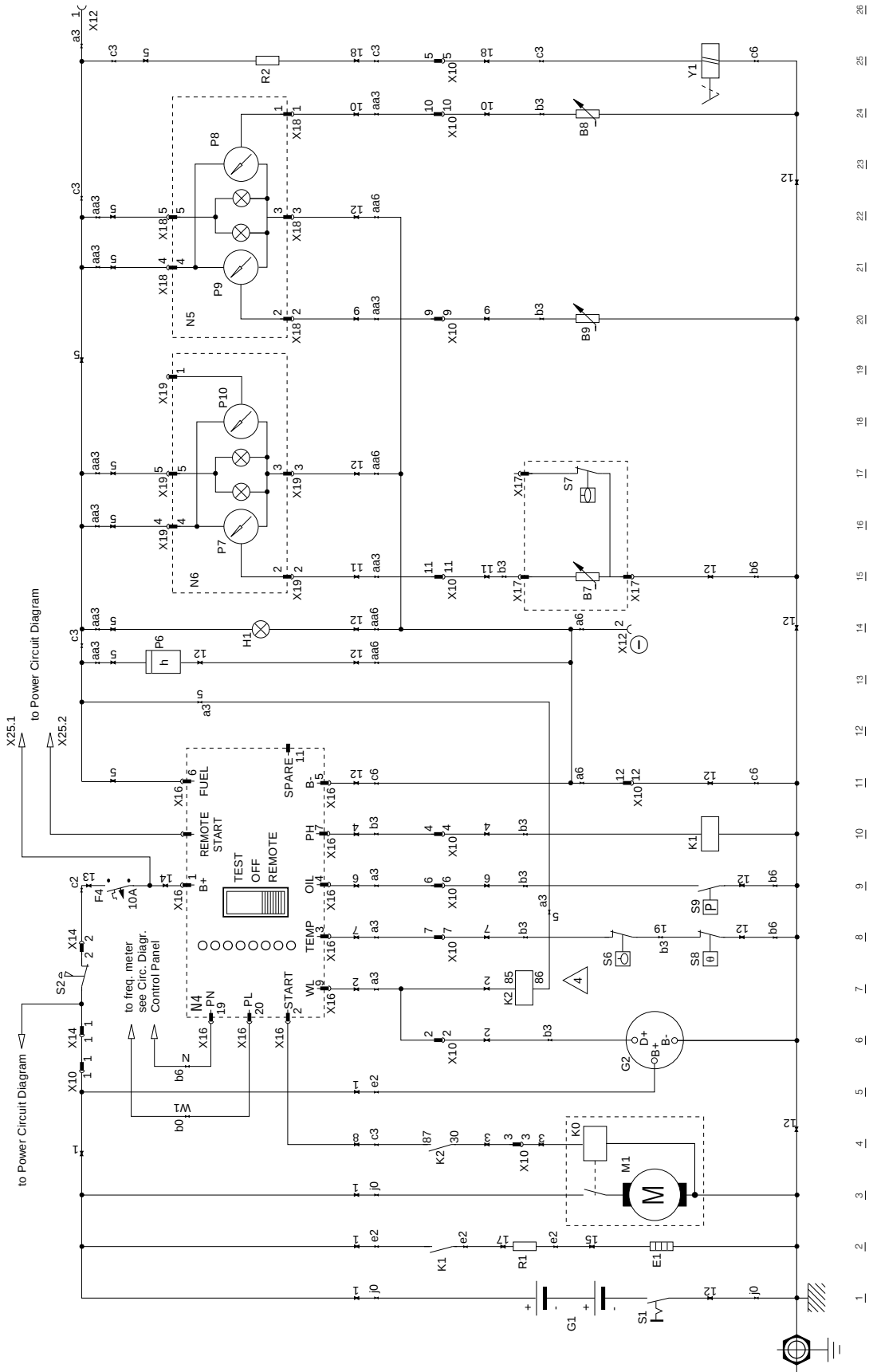
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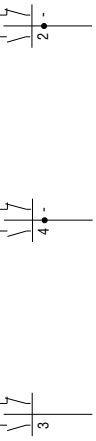
	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
Ft-3	Sikring 4A	Ασφάλεια 4 A	Fusível 4A	Varoike 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
Nt3	Jordfejlsstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falha de terra	Maavuoto rele
Pt-3	Ampèremètre 0-200A	Αμπερόμετρο 0 - 200Α	Amperímetro 0 - 200A	Ampeerimittari 0-200 A
P4	Voltmèter 0-500V	Βολτόμετρο 0 - 500 V	Voltímetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Aftryder 145A/4-polig	Διακόπτης κυκλώματος 145Α - 4πολικός	Disjuntor 145A/tetrapolar	Virrankatkaisin 145 A/4-napainen
Q2	Aftryder 63A/3-polig	Διακόπτης κυκλώματος 63Α - 3πολικός	Disjuntor 63A/3-polar	Virrankatkaisin 63 A/3-napainen
Q3	Aftryder 63A/3-polig	Διακόπτης κυκλώματος 63Α - 3πολικός	Disjuntor 63A/3-polar	Virrankatkaisin 63 A/3-napainen
Q4	Aftryder 32A/3-polig	Διακόπτης κυκλώματος 32Α - 3πολικός	Disjuntor 32A/3-polar	Virrankatkaisin 32 A/3-napainen
Q5	Aftryder 16A/3-polig	Διακόπτης κυκλώματος 16Α - 3πολικός	Disjuntor 16A/3-polar	Virrankatkaisin 16 A/3-napainen
Q6	Aftryder 16A/2-polig + 1Δn	Διακόπτης κυκλώματος 16Α - 2πολικός + 1Δn	Disjuntor 16A/2-polar + 1Δn	Virrankatkaisin 16 A/2-napainen + 1Δn
R5	Opvarmning af kølemiddel til motor	Θερμαντήρας ψυκτικού μηχανής	Aquecedor do líquido de arrefecimento do motor	Mootorin jäähdytysnesteen lämmitysvastus
S2b	Nørdstop	Στοπ έκτακτης ανάγκης	Paragem de emergência	Häätäpysäytys
S4	Voltmèterets onnskifterknap	Διακόπτης επilonής βολτομέτρου	Comutador selector do voltímetro	Voltimittarin valintakytkin
S13	Aftryderkontakt til jordfejlsstrømsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάβους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
S14	Aftryderkontakt til jordfejlsstrømsrelæ	Διακόπτη lok άουτ του γορπότη της μπαταρίας	Comutador de fecho do carregador de baterias	Akkulaturin suojauskytkimen
T1-3	Strømttransformere 200A/5A	Μετασχηματιστές ρεύματος 200Α / 5Α	Transformador de corrente 200A/5A	Virtamuuntaja 200A/5A
T13	Jordfejlsstrømsdektor	Ανιχνευτής ρεύματος γείωσης	Detector de falha de corrente de terra	Maavuodon tunnistin
U1	Statisk batterioplader	Γ' ομοιής στατικής μπαταρίας	Carregador de baterias estático	Kiinteä akkulaturi
X1	Klembrædt	Πλινκάς ακροδέκτη	Quadro de terminais	Litänäläev
X2	Stikkontakt 63A/5-polig	63Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 63A/5 polos	Pistorasia 63 A / 5-napainen
X3	Stikkontakt 63A/5-polig	63Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 63A/5 polos	Pistorasia 63 A / 5-napainen
X4	Stikkontakt 32A/5-polig	32Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 32A/5 polos	Pistorasia 35 A / 5-napainen
X5	Stikkontakt 16A/5-polig	16Α/5-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/5 polos	Pistorasia 16 A / 5-napainen
X6	Stikkontakt 16A/3-polig	16Α/3-πόλος ακροδέκτη εξόδου	Tomada de saída 16A/3 polos	Pistorasia 16 A / 3-napainen
X12	2-faset kontaktklemme	2πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin
X15	10-faset kontaktklemme	10πολικός σύνδεσμος	Ligação em 10 polos	10-napainen liitin
X25	Klemliste	Λωρίδα ακροδέκτη	Faixa de terminais	Litänäläräma

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Applicable for QAS108 Pd(S) RS, Pd HC DF RS EDF



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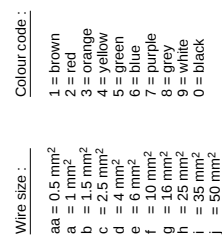
Wire size :	Colour code :
aa = 0.5 mm ²	1 = brown
a = 1 mm ²	2 = red
b = 1.5 mm ²	3 = orange
c = 2.5 mm ²	4 = yellow
d = 4 mm ²	5 = green
e = 6 mm ²	6 = blue
f = 10 mm ²	7 = purple
g = 16 mm ²	8 = grey
h = 25 mm ²	9 = white
i = 35 mm ²	0 = black
j = 50 mm ²	



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	ENGLISH	NEDERLANDS	FRANCAIS	DEUTSCH
B7	Fuel level sensor	Sensor, brandstofpeil	Capteur, niveau de carburant	Kraftstoffandfühler
B8	Coolant temperature sensor	Sensor, koelwatertemperatuur	Capteur, température eau de refroidissement	Kühlwassersentertemperaturfühler
B9	Oil pressure sensor	Sensor, oliedruk	Capteur, pression d'huile	Öldruckfühler
E1	Preheat resistor	Voorverwarmingssweerstand	Résistance de préchauffage	Vorwärmwiderstand
F4	Fuse 10A	Zekering 10A	Fusible 10A	Sicherung 10A
G1	Battery 24V	Batterij 24V	Batterie 24V	Batterie 24V
G2	Charging generator	Laad alternator	Alternateur, charge	Ladenmaschine
H1	Panel light	Paneelverlichting	Eclairage panneau	Instrumentenleuchte
K0	Starter solenoid	Startersolenóide	Solénoide du démarreur	Startermagnet
K1	Preheat relay	Relais voorverwarmingssysteem	Relais de préchauffage	Vorwärmrelais
K2	Start prevention relay	Startpreventierelais	Relais inhibiteur de démarrage	Startverhinderungsrelais
M1	Starter motor	Startermotor	Démarrreur	Startmotor
N4	Control module	Stuurmodule	Module de commande	Steuermodul
N5, 6	Instrument cluster	Instrumentengroep	Instrumentation	Instrumentensatz
P6	Hourmeter	Urenteller	Compteur d'heures	Stundenzähler
P7	Fuel level gauge	Brandstofpeilindicator	Indicateur de niveau de carburant	Meßinstrument für Kraftstoffstand
P8	Coolant temperature gauge	Koelwater temperatuurmeter	Indicateur de temp., eau de refroid.	Meßinstrument für Kühlwassertemperatur
P9	Oil pressure gauge	Manometer, oliedruk	Indicateur, pression d'huile	Meßinstrument für Öldruck
P10	Battery voltage gauge	Batterijvoltmeter	Voltmètre de batterie	Batteriespannungsmesser
R1	Dropping resistor preheat	Voorstakelweerstand van het voorverwarmingssysteem	Résistance série du système de préchauffage	Vorwiderstand Vorwärme
R2	Stop control resistor	Stopcontroleweerstand	Résistance de commande d'arrêt	Abschaltregelwiderstand
S1	Battery switch	Batterijschakelaar	Interrupteur de batterie	Batterieschalter
S2a	Emergency stop button	Noodstopknop	Bouton arrêt d'urgence	Not-Aus-Taste
S6	Low coolant level switch	Schakelaar laag koelwaterpeil	Commutateur de niveau de réfrigérant bas	Schalter für niedrigen Kühlmittelstand
S7	Low fuel level switch	Schakelaar laag brandstofpeil	Interrupteur niveau de carburant bas	Schalter für niedrigen Kraftstoffstand
S8	Coolant high temperature switch	Schakelaar hoge koelwatertemperatuur	Thermostat, basse température eau de refroidissement	Schalter für hohe Temperatur
S9	Engine oil low pressure switch	Schakelaar lage motoroliedruk	Interrupteur basse pression d'huile moteur	Schalter für geringen Motoröl Druck
X10	12-pole connector	Konektor, 12 stiften	Connecteur 12 broches	12-poliger Stecker
X12	2-pole connector	Konektor, 2 stiften	Connecteur 2 broches	Zweipoliger Stecker
X14	2-pole connector	Konektor, 2 stiften	Connecteur 2 broches	Zweipoliger Stecker
X16	Module connector	Modulekonektor	Connecteur de module	Modulstecker
X17	Fuel level unit connector	Konektor brandstofpeil module	Connecteur du module de niveau d'huile	Stecker für Kraftstoffstandeinheit
X18, 19	Instrument cluster connector	Connector instrumentencluster	Connecteur de groupage d'instrument	Stecker Instrumentengruppe
Y1	Fuel stop solenoid	Brandstofstopolenóide	Solénoide d'arrêt de carburant	Kraftstoffabspermmagnet

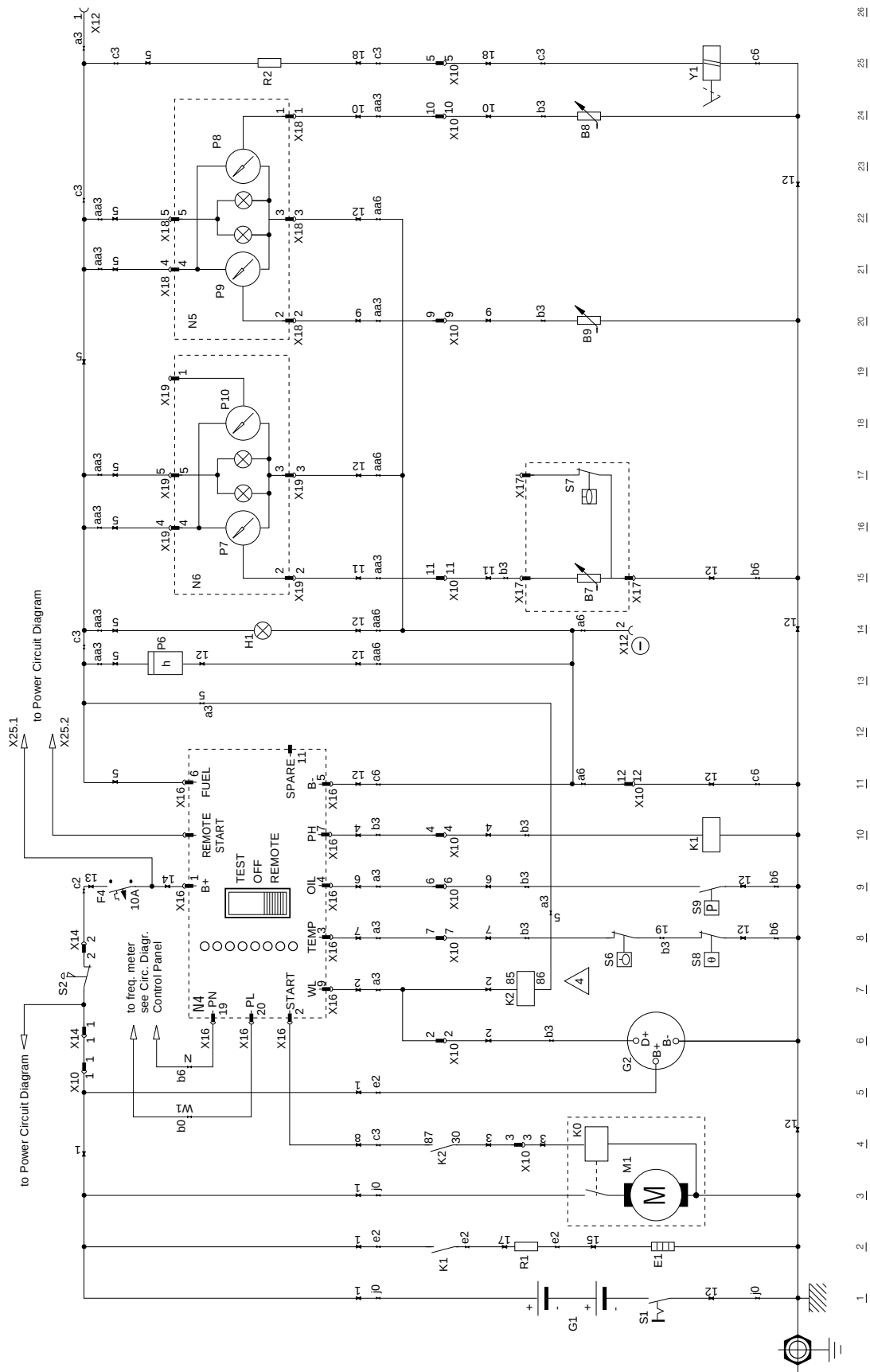
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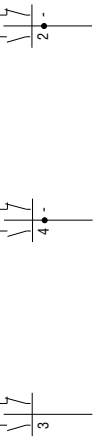
	ESPAÑOL	SVENSKA	ITALIANO	NORSK
B7	Sensor del nivel de combustible	Sensor – bränslenivå	Sensore del livello di combustibile	Følør for drivstoffnivå
B8	Sensor de temperatura del refrigerante	Sensor – kylvätskans temperatur	Sensore della temperatura del refrigerante	Følør for kjølevæsketemperatur
B9	Sensor de presión de aceite	Oljetrykksensor	Sensore della pressione dell'olio	Oljetrykktøler
E1	Resistencia de precalentamiento	Föruppvärmningsresistor	Resistenza di preriscaldamento	Fornvarmerresistor
F4	Fusible 10A	Säkring 10A	Fusibile 10A	Sikring 10A
G1	Batería de 24V	Batteri 24V	Batteria a 24V	Batteri 24 V
G2	Generador de carga	Laddningsgenerator	Generatore di carica	Ladegenerator
H1	Luz de panel	Panelljus	Luci del pannello	Panellys
K0	Solenoid de arranque	Startsolenoid	Solenoido dell'avviatore	Magnetkontakt for starter
K1	Relé sistema de precalentamiento	Föruppvärmningsrelä	Relé di preriscaldamento	Fornvarmerrelé
K2	Relé de prevención de arranque	Startblokkeringsrelä	Relé di blocco dell'avvio	Startblokkeringsrelé
M1	Motor de arranque	Startmotor	Motore dell'avviatore	Starter
N4	Módulo de control	Kontrollmodul	Modulo di controllo	Kontrollmodul
N5, 6	Grupo de instrumentos	Instrumentgrupp	Gruppo degli strumenti	Instrumentgruppe
P6	Cuentahoras	Timmätare	Contatore	Timeteller
P7	Indicador del nivel de combustible	Bränslenivåmätare	Indicatore di livello del combustibile	Drivstoffmåler
P8	Indicador de temperatura del refrigerante	Kylväsketemperaturmätare	Indicatore della temperatura del refrigerante	Måler for kjølevæsketemperatur
P9	Indicador de la presión de aceite	Oljetrykksmätare	Indicatore della pressione dell'olio	Oljetrykkmåler
P10	Medidor de tensión en la batería	Batterspänningsmätare	Indicatore del voltaggio della batteria	Batterspenningsmåler
R1	Resistor reductor de voltaje del precalentamiento	Förvärmningsresistor	Preriscaldamento della resistenza di gocciolamento	Motstand i forvarmningssystemet
R2	Resistencia de control de parada	Motstånd för stoppkontroll	Resistenza di controllo dell'arresto	Stoppkontrollmotstand
S1	Interruptor de batería	Batteristörnsbrytare	Interruttore della batteria	Batteribryter
S2a	Botón de parada de emergencia	Knapp för nödstopp	Pulsante di arresto di emergenza	Knapp for sikkerhetsstopp
S6	Interruptor de nivel de refrigerante bajo	Bytare för låg kylväskennivå	Interruttore basso livello del liquido refrigerante	Bytter for lavt kjølevæskennivå
S7	Interruptor bajo nivel de combustible	Bytare för låg bränslenivå	Interruttore di basso livello del combustibile	Bytter for lavt drivstoffnivå
S8	Interruptor alta temperatura de refrigerante	Bytare för hög kylväsketemperatur	Interruttore di temperatura alta del refrigerante	Bytter for høy kjølevæsketemperatur
S9	Interruptor baja presión aceite del motor	Bytare för lågt oljetryck	Interruttore di bassa pressione dell'olio	Bytter for lavt oljetrykk i motoren
X10	Conector de 12 polos	12-poligt kontaktdon	Connettore a 12 poli	12-polet kontakt
X12	Conector bipolar	2-poligt kontaktdon	Connettore a due poli	2-polet kontakt
X14	Conector bipolar	2-poligt kontaktdon	Connettore a due poli	2-polet kontakt
X16	Conector de módulo	Modul-kontaktdon	Connettore del modulo	Modulkontakt
X17	Conector unidad nivel de combustible	Bränslenivåmeters kontaktdon	Connettore dell'unità livello del combustibile	Kontakt for drivstoffnivåenhet
X18, 19	Conector del grupo de instrumentos	Anslutning för instrumentgrupp	Connettore quadro strumenti	Kontakt for instrumentgruppe
Y1	Solenoid de detención del combustible	Bränslestopsmagnet	Solenoido di arresto carburante	Stoppsolenoid for drivstoff

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LEGEND :

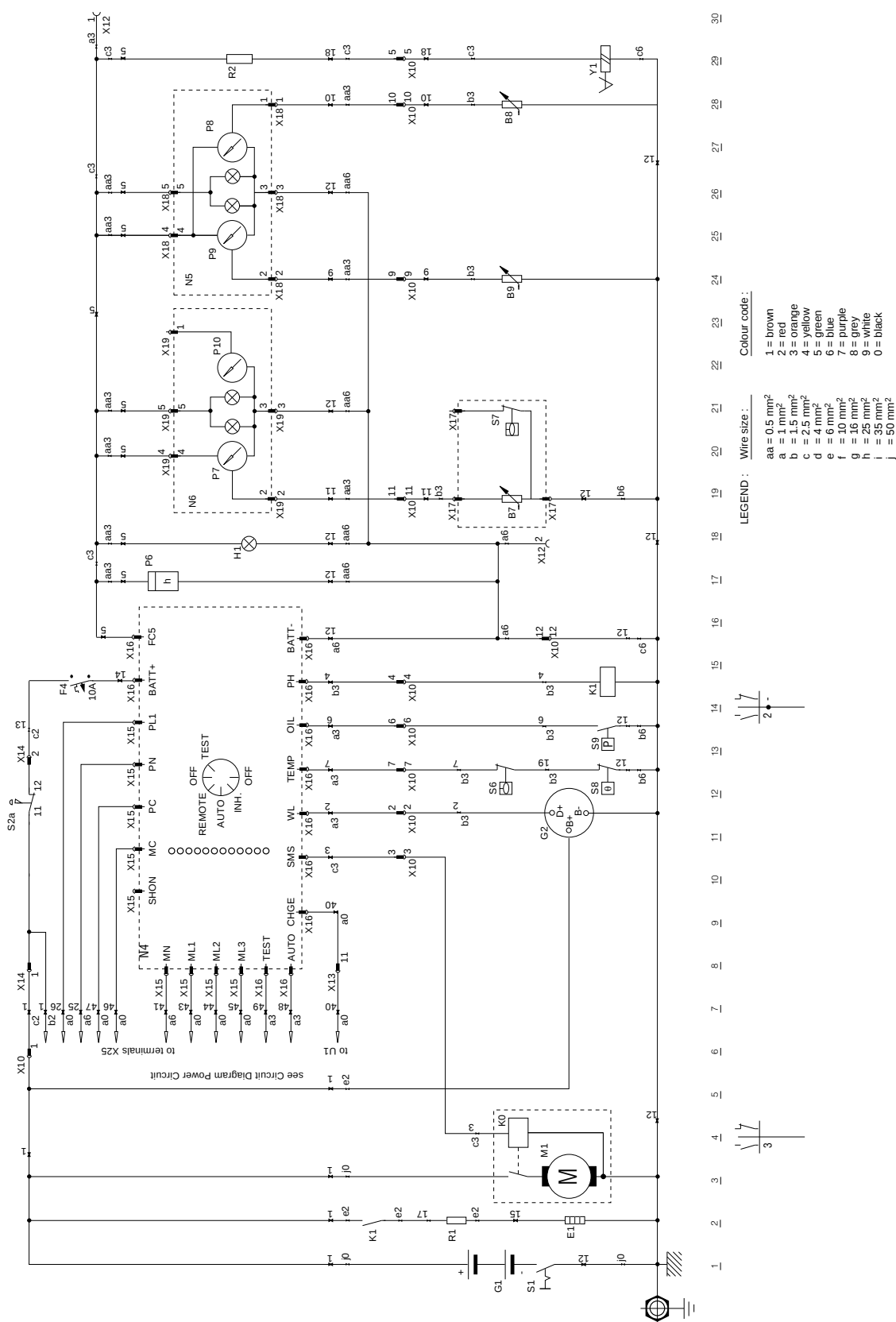
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aa = 0.5 mm ²	1 = brown
a = 1 mm ²	2 = red
b = 1.5 mm ²	3 = orange
c = 2.5 mm ²	4 = yellow
d = 4 mm ²	5 = green
e = 6 mm ²	6 = blue
f = 10 mm ²	7 = purple
g = 16 mm ²	8 = grey
h = 25 mm ²	9 = white
i = 35 mm ²	0 = black
j = 50 mm ²	



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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
B7	Brandsstofniveauføler	Αισθητήρας στάθμης καυσίμου	Sensor do nível de combustível	Polttoainemäärän anturi
B8	Kølevandsstemperaturløber	Αισθητήρας θερμοκρασίας ψυκτικού	Sensor da temperatura do refrigerante	Jäähdövyksen lämpötilan anturi
B9	Oliefyltstøjer	Αισθητήρας πίεσης λαδιού	Sensor da pressão do óleo	Öljynpaineanturi
E1	Modstand i forvarmersystem	Αντίσταση προθερμιασής	Resistência do pré-aquecimento	Heikuvastus
F4	Sikring 10A	Ασφάλεια 10Α	Fusível 10A	Varoke 10A
G1	Batteri 24V	Μπαταρία 24V	Bateria 24V	Akku 24 V
G2	Ladegenerator	Φορτιστής γεννήτριας	Gerador de carga	Latausgeneraattori
H1	Lampe	Λυχνία πινάκo	Luz do painel	Kojelaudun valo
K0	Startmagnet	Σωληνοειδής εκκίνησης	Solenóide do motor de arranque	Käynnistyssoleenoidi
K1	Relæ i forvarmersystem	Ρελέ προθερμιασής	Relé de corte do pré-aquecimento	Heikkurele
K2	Aftrykrelæ	Ρελέ προστασίας εκκίνησης	Relé de prevenção do arranque	Käynnistyskyksen estolele
M1	Startermotor	Μίζα	Motor de arranque	Käynnistysmoottori
N4	Kontrolmodul	Στοιχείο ελέγχου	Módulo de controle	Ohjausmoduli
N5, 6	Instrumentigruppe	Σύνθετο όργανών	Grupo de instrumentos	Koeisto
P6	Timeailler	Ωρομετρητής	Contador de horas	Käyttöluittimittari
P7	Brandsstofniveauøler	Όργανο μέτρησης στάθμης καυσίμου	Indicador do nível de combustível	Polttoainemittari
P8	Kølevandstemometer	Όργανο μέτρησης θερμοκρασίας ψυκτικού	Indicador da temperatura do refrigerante	Jäähdövyksen lämpömittari
P9	Manometer, olieflyk	Όργανο μέτρησης πίεσης λαδιού	Indicador da pressão de óleo	Öljynpaineittari
P10	Måler for batteriets spænding	Όργανο μέτρησης της τάσης της μπαταρίας	Voltímetro da bateria	Akkujännitemittari
R1	Forvarmer udgangsmodstand	Πτώση της προθερμιασής της αντίστασης	Pré-aquecimento da resistência limitadora	Heikituksen pudousvastus
R2	Stopkontrolmodstand	Αντίσταση ελεγκτή ανακοπής	Resistência de controlo de paragem	Stopkontrolimodstand
S1	Batterikontakt	Διακόπτης μπαταρίας	Comutador da bateria	Akkukytkin
S2a	Nødsloknapp	Μηπουτον σβήστρας έκτακτης ανάγκης	Bolão de paragem de emergência	Hätäpysäytyskytkin
S6	Kontakt for lavt kølevæskenniveau	Διακόπτης χαμηλής στάθμης ψυκτικού	Interruptor do nível baixo do líquido de arrefecimento	Alhaisen jäähdytysnestemäärän kytkin
S7	Brandsstofniveaukontakt	Διακόπτης χαμηλής στάθμης καυσίμου	Comutador do nível baixo de combustível	Alhaisen polttoainemäärän merkkivälon kytkin
S8	Kontakt, høj kølevandstemperatur	Διακόπτης υψηλής θερμοκρασίας ψυκτικού	Comutador da temperatura elevada do refrigerante	Korkean jäähdytysnestien lämpötilan merkkivälon kytkin
S9	Kontakt, lavt olieflyk	Διακόπτης χαμηλής πίεσης λαδιού κινητήρα	Comutador da pressão do óleo do motor	Moottoriöljyn alhaisen paineen merkkivälon kytkin
X10	12-faset kontaktklemme	12-πολικός σύνδεσμος	Ligação em 12 polos	12-napainen liitin
X12	2-faset kontaktklemme	2-πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X14	2-faset kontaktklemme	2-πολικός σύνδεσμος	Ligação em 2 polos	2-napainen liitin
X16	Modulkontaktklemme	Ανταλογικός σύνδεσμος	Ligação do módulo	Moduliiliitin
X17	Kontaktklemme for brandsstofniveau	Σύνδεσμος μονάδος στάθμης καυσίμου	Ligação da unidade do nível de combustível	Polttoainemäärän ilmaisimen liitin
X18, 19	Gruppeninstrumentkonnektor	Σύνδεσμος αυστάδος οργάνου	Dispositivo de ligação do grupo de instrumentos	Koeiston liitin
Y1	Brandsstofstopmagnet	Σωληνοειδής ανακοπής καυσίμου	Válvula electromagnética de corte de combustível	Polttoaineen sulkusolenoidi

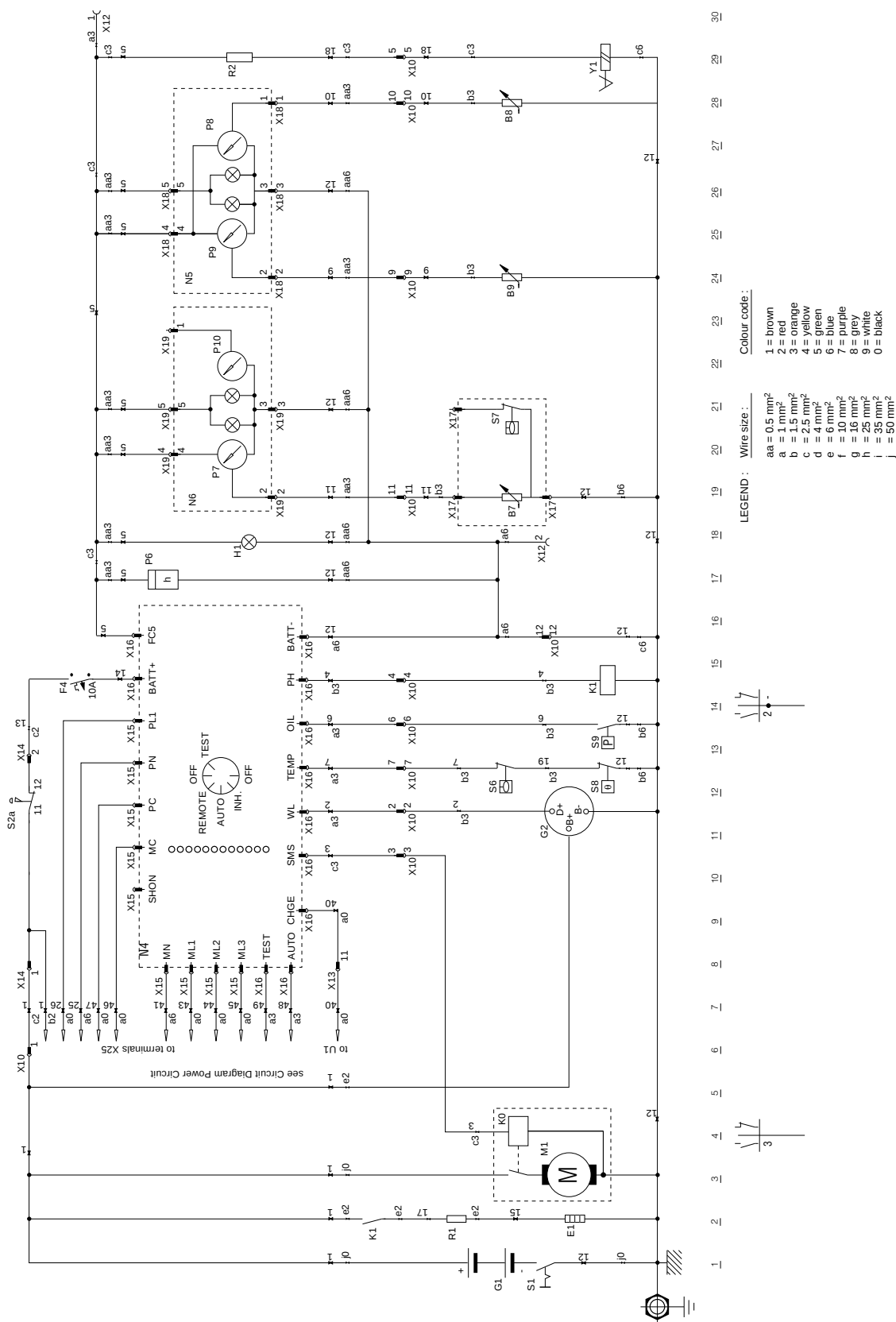
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	ENGLISH	NETHERLANDS	FRANCAIS	DEUTSCH
B7	Fuel level sensor	Sensor, brandstofpeil	Capteur, niveau de carburant	Kraftstoffandfühler
B8	Coolant temperature sensor	Sensor, koelwatertemperatuur	Capteur, température eau de refroidissement	Kühlwassersentertemperaturfühler
B9	Oil pressure sensor	Sensor, oliedruk	Capteur, pression d'huile	Öldruckfühler
E1	Preheat resistor	Voorverwarmingssweerstand	Résistance de préchauffage	Vorwärmwiderstand
F4	Fuse 10A	Zekering 10A	Fusible 10A	Sicherung 10A
G1	Battery 24V	Batteri 24V	Batterie 24V	Batterie 24V
G2	Charging generator	Laad alternator	Alternateur, charge	Ladenmaschine
H1	Panel light	Paneelverlichting	Eclairage panneau	Instrumentenleuchte
K0	Starter solenoid	Startersolenoid	Solénoïde du démarreur	Startermagnet
K1	Preheat relay	Relais voorverwarmingssysteem	Relais de préchauffage	Vorwärmrelais
M1	Starter motor	Startermotor	Démarrreur	Startmotor
N4	Control module	Stuurmodule	Module de commande	Steuermodul
N5, 6	Instrument cluster	Instrumentengeheel	Instrumentation	Instrumentensatz
P6	Hourmeter	Urenteller	Compteur d'heures	Stundenzähler
P7	Fuel level gauge	Brandstofpeilindicator	Indicateur de niveau de carburant	Meßinstrument für Kraftstoffstand
P8	Coolant temperature gauge	Koelwater temperatuurmeter	Indicateur de temp., eau de refroid.	Meßinstrument für Kühlwassertemperatur
P9	Oil pressure gauge	Manometer, oliedruk	Indicateur, pression d'huile	Meßinstrument für Öldruck
P10	Battery voltage gauge	Batterijvoltmeter	Voltmètre de batterie	Batteriespannungsmesser
R1	Dropping resistor preheat	Voorstakelweerstand van het voorverwarmingssysteem	Résistance série du système de préchauffage	Vorwiderstand Vorwärme
R2	Stop control resistor	Slopcontrolweerstand	Résistance de commande d'arrêt	Abschaltregelwiderstand
R5	Coolant heater	Verwarmer koelvloeistof	Réchauffeur de réfrigérant du moteur	Heizelement Kühlmittel
S1	Battery switch	Batterijschakelaar	Interrupteur de batterie	Batterieschalter
S2	Emergency stop button	Noodstopknop	Bouton arrêt d'urgence	Not-Aus-Taste
S6	Low coolant level switch	Schakelaar laag koelwaterpeil	Commutateur de niveau de réfrigérant bas	Schalter für niedrigen Kühlmittelstand
S7	Low fuel level switch	Schakelaar laag brandstofpeil	Interrupteur niveau de carburant bas	Schalter für niedrigen Kraftstoffstand
S8	Coolant high temperature switch	Schakelaar hoge koelwatertemperatuur	Thermostat, basse température eau de refroidissement	Schalter für hohe Temperatur
S9	Engine oil low pressure switch	Schakelaar lage motoroliedruk	Interrupteur basse pression d'huile moteur	Schalter für geringen Motoröl Druck
X10	12-pole connector	Konektor, 12 stiften	Connecteur 12 broches	12-poliger Stecker
X12	2-pole connector	Konektor, 2 stiften	Connecteur 2 broches	Zweipoliger Stecker
X14	2-pole connector	Konektor, 2 stiften	Connecteur 2 broches	Zweipoliger Stecker
X15	10-pole connector	Konektor, 10 stiften	Connecteur 10 broches	10-poliger Stecker
X16	Module connector	Modulekonektor	Connecteur de module	Modulstecker
X17	Fuel level unit connector	Konektor brandstofpeil module	Connecteur du module de niveau d'huile	Stecker für Kraftstoffstandeinheit
X18, 19	Instrument cluster connector	Connector instrumentendcluster	Connecteur de groupage d'instrument	Stecker Instrumentengruppe
Y1	Fuel stop solenoid	Brandstofstop solenoid	Solénoïde d'arrêt de carburant	Kraftstoffabsperrmagnet

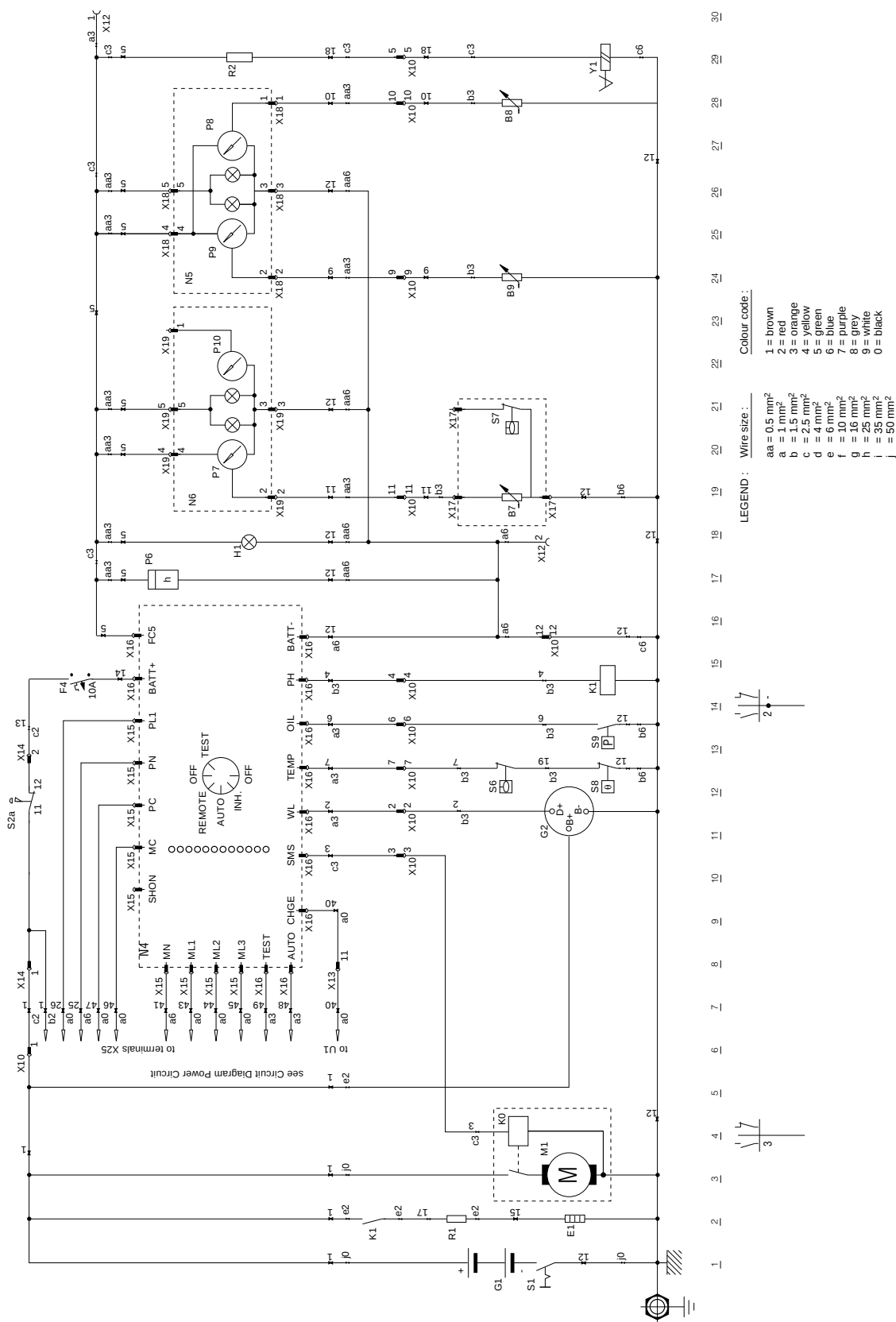
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	ESPAÑOL	SVENSKA	ITALIANO	NORSK
B7	Sensor del nivel de combustible	Sensor – bränslenivå	Sensore del livello di combustibile	Føler for drivstoffnivå
B8	Sensor de temperatura del refrigerante	Sensor – kylvätskans temperatur	Sensore della temperatura del refrigerante	Føler for kjølevæsketemperatur
B9	Sensor de presión de aceite	Oljetrykssensor	Sensore della pressione dell'olio	Oljetrykktøler
E1	Resistencia de precalentamiento	Föruppvärmningsresistor	Resistenza di preriscaldamento	Fonvarmeresistor
F4	Fusible 10A	Säkring 10A	Fusibile 10A	Sikring 10A
G1	Batería de 24V	Batteri 24V	Bateria a 24V	Batteri 24 V
G2	Generador de carga	Laddningsgenerator	Generatore di carica	Ladegenerator
H1	Luz de panel	Panellys	Luci del pannello	Panellys
K0	Solenoid de arranque	Startsolenoid	Solenoido dell'avviatore	Magnetkontakt for starter
M1	Relé sistema de precalentamiento	Föruppvärmningsrelä	Relé di preriscaldamento	Fonvarmerrelé
M1	Motor de arranque	Startmotor	Motore dell'avviatore	Starter
N4	Módulo de control	Kontrollmodul	Modulo di controllo	Kontrollmodul
N5, 6	Grupo de instrumentos	Instrumentgrupp	Gruppo degli strumenti	Instrumentgruppe
P6	Cuentahoras	Timmätare	Contatore	Timeteller
P7	Indicador del nivel de combustible	Bränslenivåmätare	Indicatore di livello del combustibile	Drivstoffmåler
P8	Indicador de temperatura del refrigerante	Kylväsketemperaturmätare	Indicatore della temperatura del refrigerante	Måler for kjølevæsketemperatur
P9	Indicador de la presión de aceite	Oljetrykksmätare	Indicatore della pressione dell'olio	Oljetrykkmåler
P10	Medidor de tensión en la batería	Batterispänningsmätare	Indicatore del voltaggio della batteria	Batterspenningsmåler
R1	Resistor reductor de voltaje del precalentamiento	Förvärmningsresistor	Preriscaldamento della resistenza di gocciolamento	Motstand i fonvarningssystemet
R2	Resistencia de control de parada	Motstånd för stoppkontroll	Resistenza di controllo dell'arresto	Stoppkontrollmotstand
R5	Calentador del refrigerante	Kylväskedvärmare	Riscaldatore del liquido refrigerante	Kjølevæskedvarmer
S1	Interrupor de batería	Batteristörnsätlare	Interruttore della batteria	Batteribryter
S2	Botón de parada de emergencia	Knapp för nödstopp	Pulsante di arresto di emergenza	Knapp for sikkerhetsstopp
S6	Interrupor de nivel de refrigerante bajo	Bytare för låg kylväskennivå	Interruttore basso livello del liquido refrigerante	Bytter for lavt kjølevæskennivå
S7	Interrupor bajo nivel de combustible	Bytare för låg bränslenivå	Interruttore di basso livello del combustibile	Bytter for lavt drivstoffnivå
S8	Interrupor alta temperatura de refrigerante	Bytare för hög kylväsketemperatur	Interruttore di temperatura alta del refrigerante	Bytter for høy kjølevæsketemperatur
S9	Interrupor baja presión aceite del motor	Bytare för lågt oljetryck	Interruttore di bassa pressione dell'olio	Bytter for lavt oljetrykk i motoren
X10	Conector de 12 polos	12-poligt kontaktdon	Connettore a 12 poli	12-polet kontakt
X12	Conector bipolar	2-poligt kontaktdon	Connettore a due poli	2-polet kontakt
X14	Conector bipolar	2-poligt kontaktdon	Connettore a due poli	2-polet kontakt
X15	Conector 10-polar	10-poligt kontaktdon	Connettore a 10 poli	10-polet kontakt
X16	Conector de módulo	Modul-kontaktdon	Connettore del modulo	Modulkontakt
X17	Conector unidad nivel de combustible	Bränslenivåenhets kontaktdon	Connettore dell'unità livello del combustibile	Kontakt for drivstoffnivåenhet
X18, 19	Conector del grupo de instrumentos	Anslutning för instrumentgrupp	Connettore quadro strumenti	Kontakt for instrumentgruppe
Y1	Solenoid de detención del combustible	Bränslestoppmagnet	Solenoido di arresto carburante	Stoppsolenoïd for drivstoff

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	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
B7	Brandsstofniveauføler	Αισθητήρας στάθμης καυσίμου	Sensor do nível de combustível	Polttoainemäärän anturi
B8	Kølevandstemperaturløfter	Αισθητήρας θερμοκρασίας ψυκτικού	Sensor da temperatura do refrigerante	Jäähdylsysteen lämpötilan anturi
B9	Öltrykkløfter	Αισθητήρας πίεσης λαδιού	Sensor da pressão do óleo	Öljynpaineanturi
E1	Modstand i forvarmersystem	Αντίσταση προθερμιαστή	Resistência do pré-aquecimento	Hehkuvastus
F4	Sikring 10A	Ασφάλεια 10Α	Fusível 10A	Varoke 10A
G1	Batteri 24V	Μπαταρία 24V	Bateria 24V	Akku 24 V
G2	Ladegenerator	Φορτιστής γεννήτριας	Gerador de carga	Latausgeneraattori
H1	Lampe	Λυχνία πινάκo	Luz do painel	Kojelaudun valo
K0	Startmagnet	Σωληνώδης εκκίνησης	Solenóide do motor de arranque	Käynnistyssolenoidi
K1	Relæ i forvarmersystem	Ρελέ προθερμιασης	Relé de corte do pré-aquecimento	Hehkurele
M1	Startermotor	Μίζα	Motor de arranque	Käynnistysmoottori
N4	Kontrollmodul	Στοιχειο ελέγχου	Módulo de controle	Ohjainmoduli
N5, 6	Instrumentigruppe	Συμπλέγμα οργάνων	Grupo de instrumentos	Kojeisto
P6	Timetæller	Ωρομετρητής	Contador de horas	Käyttilunimitari
P7	Brandsstofniveauometer	Όργανο μέτρησης στάθμης καυσίμου	Indicador do nível de combustível	Polttoainemittari
P8	Kølevandstemnometer	Όργανο μέτρησης θερμοκρασίας ψυκτικού	Indicador da temperatura do refrigerante	Jäähdylsysteen lämpömittari
P9	Manometer, øltryk	Όργανο μέτρησης πίεσης λαδιού	Indicador da pressão de óleo	Öljynpaineittari
P10	Måler for batteriets spænding	Όργανο μέτρησης της τάσης της μπαταρίας	Voltímetro da bateria	Akkujännitemittari
R1	Fonvarmer udgangsmodstand	Πτώση της προθερμιασης της αντίστασης	Pré-aquecimento da resistência limitadora	Hehkutuksen pudolusvastus
R2	Stopkontrollmodstand	Αντίσταση ελεγκτή ανακοπής	Resistência de controle de paragem	Stopkontrollimotstand
R5	Kølemiddelopvarmer	Θερμαντήρας ψυκτικού	Aquecedor do líquido de arrefecimento	Pysäytyslämmen vastus
S1	Batterikontakt	Διακόπτης μπαταρίας	Comutador da bateria	Akkukytkin
S2	Nødsloppknop	Μπουτόν οφθαίματος έκτακτης ανάγκης	Botão de paragem de emergência	Häädäpysäytyskytkin
S6	Kontakt for lavt kølevæskenniveau	Διακόπτης χαμηλής στάθμης ψυκτικού	Interrupor do nível baixo do líquido de arrefecimento	Alhaisen jäähdytysnestemäärän kytkin
S7	Brandsstofniveaukontakt	Διακόπτης χαμηλής στάθμης καυσίμου	Comutador do nível baixo de combustível	Alhaisen polttoainemäärän merkkivälon kytkin
S8	Kontakt, høi kølevandstemperatur	Διακόπτης υψηλής θερμοκρασίας ψυκτικού	Comutador da temperatura elevada do refrigerante	Korkean jäähdytysnestien lämpötilan merkkivälon kytkin
S9	Kontakt, lavt øltryk	Διακόπτης χαμηλής πίεσης λαδιού κινητήρα	Comutador da pressão do óleo do motor	Moottoriöljyn alhaisen paineen merkkivälon kytkin
X10	12-faset kontaktklemme	12-πολικός συνδεσμος	Ligação em 12 polos	12-napainen liitin
X12	2-faset kontaktklemme	2-πολικός συνδεσμος	Ligação em 2 polos	2-napainen liitin
X14	2-faset kontaktklemme	2-πολικός συνδεσμος	Ligação em 2 polos	2-napainen liitin
X15	10-faset kontaktklemme	10-πολικός συνδεσμος	Ligação em 10 polos	10-napainen liitin
X16	Modulkontaktlemme	Αναλογικός συνδεσμος	Ligação do módulo	Moduliliitin
X17	Kontaktlemme for brandsstofniveau	Συνδεσμος μονάδος στάθμης καυσίμου	Ligação da unidade do nível de combustível	Polttoainemäärän ilmaismisen liitin
X18, 19	Grupperinstrumentkonnektor	Συνδεσμος ουστάδας οργάνου	Dispositivo de ligação do grupo de instrumentos	Kojeiston liitin
Y1	Brandsstofstopmagnet	Σωληνώδης ανακοπής καυσίμου	Válvula electromagnética de corte de combustível	Polttoaineen sulkusolenoidi

to dwg 9822 0705 20 / lines 14 and 26

Legend:

- 1 = brown
- 2 = red
- 3 = orange
- 4 = yellow
- 5 = green
- 6 = blue
- 7 = purple
- 8 = grey
- 9 = white
- 0 = black
- 54 = green/yellow

Dimensions:

- a = 1 mm²
- b = 1.5 mm²
- c = 2.5 mm²
- d = 4 mm²
- e = 6 mm²
- f = 10 mm²
- g = 16 mm²
- h = 25 mm²
- i = 35 mm²
- j = 50 mm²
- k = 70 mm²
- kk = 95 mm²
- l = 95 mm²
- ll = 95 mm²

High temp = green/yellow

CIRCUIT DIAGRAM
ELEKTRISCH SCHEMA
SCHEMA DE CIRCUIT
VERDRÄHTUNGSPLAN
DIAGRAMA DE CIRCUITOS
KOPPLINGSSCHEMA

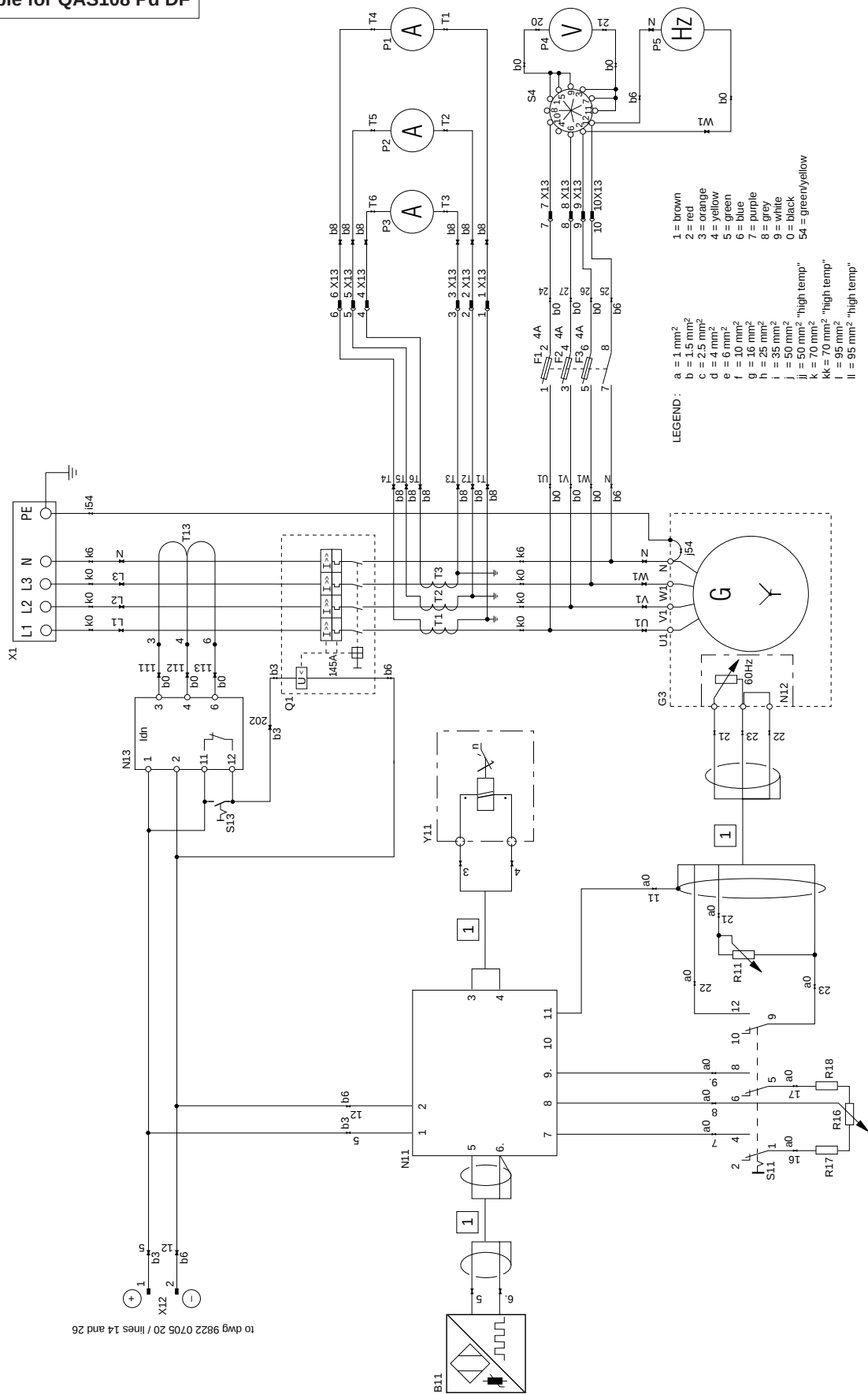
DIAGRAMMA DEL CIRCUITO
KRETSSKJEMA
STRØMDIAGRAM
ΔΙΑΓΡΑΜΜΑ ΚΥΚΛΩΜΑΤΟΣ
DIAGRAMA DOS CIRCUITOS
SÄHKÖKAAVIO

9822 0824 00

ENGLISH		NETHERLANDS	FRANCAIS	DEUTSCH
Bt1	Speed sensor	Snelheidssensor	Capteur de vitesse	Drehzahlfühler
Ft-3	Fuse 4A	Zekering 4A	Fusible 4A	Sicherung 4 A
G3	Generator	Generator	Groupe électrogène	Generator
Nt1	Speed controller	Snelheidsregelaar	Régulateur de vitesse	Drehzahlregler
Nt2	Automatic voltage regulator	Automatische spanningsregelaar	Régulateur de tension automatique	Automatischer Spannungsregler
Nt3	Earth fault-current relay	Aardlekrelais	Relais de fuite à la terre	Erdschlußrelais
Pt-3	Amperemeter 0-200A	Ampèremètre 0-200A	Ampèremètre 0-200A	Amperemeter 0 - 200A
P4	Voltmeter 0-500V	Voltmeter 0-500V	Voltmètre 0-500V	Voltmeter 0 - 500 V
P5	Frequencymeter 45-65Hz	Frequentiemeter 45-65Hz	Fréquentmètre 45-65Hz	Frequenzmesser 45 - 65 Hz
Q1	Circuit breaker 145A/4-pole	Vermogensschakelaar 145A/4-polig	Diponcteur 145A/4 pôles	Leistungsschalter 145A / vierpolig
Rt1	Supply voltage adjust potentiometer	Regelpotentiometer, voedingsspanning	Potentiomètre de réglage de la tension d'alimentation	Potentiometer für Einstellung der Versorgungsspannung
Rt6	Speed adjust 60 Hz only	Snelheidsregeling (enkel 60 Hz)	Régulation de vitesse 60 Hz uniquement	Drehzahleneinstellung, nur 60 Hz
Rt7-18	Speed offset 60 Hz only	Snelheidsoffset (enkel 60 Hz)	Décalage de vitesse 60 Hz uniquement	Drehzahlausgleich, nur 60 Hz
S4	Voltmeter selector switch	Voltmeter keuzeschakelaar	Sélecteur de voltmètre	Voltmeter-Wahlschalter
S11	Frequency selector switch 50Hz/60Hz	Frequentiekeuzeschakelaar 50Hz/60Hz	Sélecteur de fréquence 50Hz/60Hz	Frequenz-Wahlschalter 50Hz/60Hz
S13	Earth fault relay lock-out switch	Blokkeerschakelaar verliesstroomrelais	Commutateur d'arrêt de relais des délaus à la terre	Riegelschalter Erdschlußrelais
Tt-3	Current transformer 200A/5A	Stroomtransormator 200A/5A	Transformateur de courant 200A/5A	Stromwandler 200A / 5 A
Tt3	Earth fault-current detector	Aardlekdetector	Détecteur de fuite à la terre	Erdschlußanzeiger
X1	Terminal board	Klemmenbord	Tablette à bornes	Klemmenbratt
X12	2-pole connector	Konektor, 2 stiften	Connecteur, 2 broches	Zweipoliger Stecker
X13	12-pole connector	Konektor, 12 stiften	Connecteur, 12 broches	Zwölfpoliger Stecker
Yt1	Actuator	Actuator	Actuateur	Stellorgan
1	Wire Harness	Kabelbundel	Harnais de câbles	Kabelbaum

ESPAÑOL		SVENSKA	ITALIANO	NORSK
Bt1	Sensor de velocidad	Vantalsensor	Sensore velocità	Hastighetsføler
Ft-3	Fusible 4A	Sakring 4A	Fusibile 4A	Sikring 4 A
Ft1	Disyuntor	Strömbrytare	Interruttore	Kreisbryter
G3	Generador	Generator	Generatore	Generator
Nt1	Controlador de velocidad	Varvatsregulator	Unità di controllo velocità	Hastighetsregulator
Nt2	Regulador automático de voltaje	Automatisk spänningsregulator	Regolatore di tensione automatico	Automatisk spenningsregulator
Nt3	Relé de pérdida a tierra	Relä för jordläckage	Relé corrente di terra	Jordfeilrelé
Pt-3	Amperímetro 0-200A	Amperemåtare 0-200A	Amperometro 0-200A	Amperemeter 0-200 A
P4	Voltímetro 0-500V	Spänningsmätare 0-500V	Voltmetro 0-500V	Spänningsmål 0-500 V
P5	Frecuencímetro 45-65Hz	Frekvensmätare 45-65 Hz	Frequenzmätro 45-65 Hz	Frekvensmål 45-65 Hz
Q1	Disyuntor 145A/cuadrípolar	Strömbrytare 145A/4-polig	Interruttore 145A/4 poli	Kreisbryter 145 A/4-polet
Rt1	Potenciómetro de ajuste del voltaje de alimentación	Potentiometer för justering av spänningsmätningen	Potenzionmetro regolazione tensione di alimentazione	Potensiometer for justering av strømtillførsel
Rt6	Ajuste de velocidad, sólo 60 Hz	Hastighetsjustering, endast 60 Hz	Regolazione della velocità solo 60 Hz	Hastighetsjustering, bare 60 Hz
Rt7-18	Compensación de velocidad, sólo 60 Hz	Hastighets grundinställning, endast 60 Hz	Stabsatura velocità solo 60 Hz	Hastighetsbørskyvning, bare 60 Hz
S4	Selector de voltímetro	Spänningsmätarens kopplingsväljare	Interruttore di selezione del voltimetro	Valgbryter for spenningsmål
S11	Commutador selector 50Hz/60Hz	Väljare 50Hz/60Hz	Interruttore di selezione 50Hz/60Hz	Vegebyteren 50Hz/60Hz
S13	Interruptor de bloqueo del relé de pérdida a tierra	Avsläpningsbrytare för jordfelsrelä	Interruttore chiusura relé guasto di terra	Avslengingsbryter for jordfeilrelé
Tt-3	Transformador de corriente 200A/5A	Strömtransformator 200A/5A	Transformatore di corrente 200A/5A	Strøm 200 A/5 A
Tt3	Detector de pérdida a tierra	Detektor för jordläckage	Rilevatore corrente di terra	Jordfeilføler
X1	Cuadro de bornas	Anslutningsplint	Morssettiera	Koplingsstave
X12	Conector bipolar	2-poligt kontaktdon	Connettore a 2 poli	2-polet kontakt
X13	Conector de 12 polos	12-poligt kontaktdon	Connettore a 12 poli	12-polet kontakt
Yt1	Actuador	Manövrerorgan	Attuatore	Aktuator
1	Arnés de cableado	Kabel	Cablaggio	Ledningsnett

9822 0824 00
Applicable for QAS108 Pd DF



9822 0824 00

	DANSK	Ελληνικά	PORTUGUÊS	SUOMI
B11	Hastighetsmåler	Αισθητήρας ταχύτητας	Sensor de velocidade	Nopeusanturi
F1-3	Sikring 4A	Ασφάλεια 4 A	Fusível 4A	Varoke 4A
G3	Generator	Γεννήτρια	Gerador	Vaihtovirtageneraattori
N11	Hastighetsregulator	Ελεγκτής ταχύτητας	Controlador da velocidade	Nopeuden valvoja
N12	Automatisk spændingsregulator	Αυτόματος ρυθμιστής τάσης	Regulador automático da potência	Automaattinen jännitteen säädin
N13	Jordfejlsstrømsrelæ	Ρελέ ρεύματος γείωσης	Relé de detecção de falta de terra	Maavuoto rele
P1-3	Amperemeter 0-200A	Αμπερόμετρο 0 - 200Α	Amperímetro 0-200A	Ampeerimittari 0-200 A
P4	Voltmeter 0-500V	Βολτόμετρο 0 - 500 V	Voltímetro 0-500 V	Voltimittari 0-500 V
P5	Frekvensmåler 45-65Hz	Μετρητής συχνότητας 45 - 65 Hz	Frequencímetro 45-65Hz	Taajuusmittari 45-65 Hz
Q1	Aftryder 145A/4-poliig	Διακόπτης κυκλώματος 145Α - 4πολικός	Disjuntor 145A/tetrapolar	Virtan katkaisin 145 A/4-napainen
R11	Potentiometer til justering af fødespændingen	Δυναμόμετρο ρύθμισης τάσης παροχής	Potenciômetro de ajuste da tensão de alimentação	Syöttöjännitteen säätöpotentioméiri
R16	Hastighedsjustering, kun 60 Hz	Ρύθμιση ταχύτητας 60Hz μόνο	Ajuste da velocidade, apenas 60 Hz apenas	Nopeussäätö, vain 60 Hz
R17-18	Hastighedsafvigelse, kun 60 Hz	Μετατόπιση ταχύτητας 60Hz μόνο	Regulação da variação da velocidade, apenas 60 Hz	Nopeuspoikkeama, vain 60 Hz
S4	Voltmeterets onskifferknapp	Διακόπτης επιλογής βολτομέτρου	Comutador selector do voltímetro	Voltimittarin valintakytkin
S11	Omskifterkontakt til jordfejlsstrømsrelæ	Διακόπτης επένδυα 50Hz/60Hz	Comutador-selector 50Hz/60Hz	Valintakytkin 50Hz/60Hz
S13	Aftryderkontakt til jordfejlsstrømsrelæ	Διακόπτης αποκλεισμού μετάδοσης λάβους στη γείωση	Interruptor selector do relé de corrente de defeito à terra	Maavuodon tunnistimen sulukytkin
T1-3	Strømtransformatore 200A/5A	Μετασχηματιστής ρεύματος 200Α / 5Α	Transformador de corrente 200A/5A	Virtamuuntaja 200A/5A
T13	Jordfejlsstrømsdetektor	Ανχνευτής ρεύματος γείωσης	Detector de falta de corrente de terra	Maavuodon tunnistin
X1	Klembrædt	Πινάκας ακροδεκτ	Quadro de terminais	Litänälävy
X12	2-faset kontaktklemme	2πολικός συνδεσμος	Ligação em 2 polos	2-napainen liitin
X13	12-faset kontaktklemme	12πολικός συνδεσμος	Ligação em 12 polos	12-napainen liitin
Y11	Aktuator	Ενεργοποιητής	Accionador	Toimilaitte
1	Ledningsnet	Συνδεσμολογία αριμάτων	Cablagem geral	Johdotarjola

