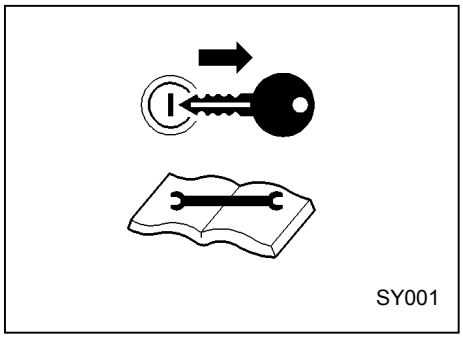
5. Periodic Inspection/Maintenance

5.1 Important Items at Periodic Inspection and Maintenance or after Maintenance

- The manual shows proper interval for periodic inspection and maintenance under normally operating conditions. Inspection and maintenance should be performed more often under extremely harsh conditions.

⚠ WARNING — ***Hang a "Now Checking and under Maintenance" tag***

- Remove the starter key from the starter switch before starting inspection, and hang up a "Now Checking and under Maintenance" tag where it can be easily seen. The checker must keep the key during checking and maintenance.
- Remove the negative (-) side cable from the battery. If the above procedure is neglected, and should another person start operating the machine during check or maintenance, it could cause serious injury.
- Be sure to use appropriate tools for inspection and maintenance work. Inappropriate tools could cause unexpected injury.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⚠ CAUTION

- Place a container or a pan underneath the oil port to receiver waste liquid so that such liquid cannot be spilt out on the floor or inside the unit.
- Be sure that no waste liquid is disposed of on the ground. Such waste on the ground, river or lake will cause serious environmental contamination. Be sure to follow the local regulations. If harmful material such as oil, antifreeze solution or filters are disposed of incorrectly, the responsible person should be punished by the authority.
- Observe local regulations when disposing of such toxic materials as oil, fuel, coolant (anti-freeze), filters, and battery etc.

IMPORTANT — ***Precaution for check and maintenance***

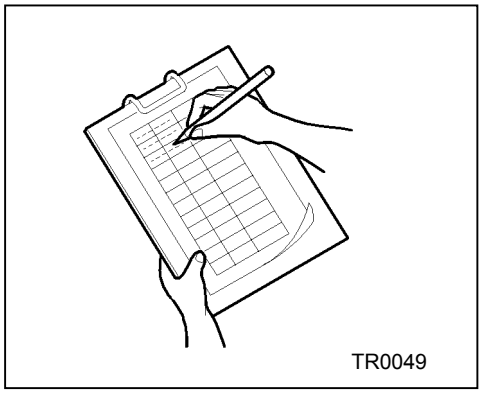
- Be sure to use recommended fuel, oil, grease, or antifreeze.
- Do not disassemble or adjust engine, compressor or part(s) for which inspection or maintenance is not referred to in this manual.
- Use genuine parts for replacement.
- Any breakdown, caused by using unapproved parts or by wrong handling, will be out of the scope of "WARRANTY".
- Do not pour water or steam on electrical components.

5. Periodic Inspection/Maintenance

5.2 Daily Inspection and Keeping Operation Log

- Be sure to carry out daily inspection every morning before operation. See Chapter 4 “OPERATION” of the manual for the details of inspection.
- Pay attention to and carefully observe the following points during daily operation or inspection and maintenance work. If any trouble or abnormality is found, immediately investigate its cause and make repairs. If the cause is unknown or not traceable, or if the trouble involves a part or component not described in the manual, ask your nearest dealer for information.

(a) Controls and instruments function properly.
(b) Quantity and any leak of water, fuel, and oil or any contamination should be checked.
(c) Appearance, abnormal noise or excessive heat should be checked.
(d) Loose bolt or nut should be checked.
(e) Any damage, wear or shortage of machine components and parts should be checked.
(f) Performance of each part or component should be proper.


TR0049

- Keep the operation log to record constant inspection of each component, so that trouble of the unit can be easily discovered and preventive measures can be taken.
  It is very useful to record information such as frequency, temperature, current, maintenance items and replenishment of lubricant on a daily maintenance log.

5. Periodic Inspection/Maintenance

5.3 Periodic Inspection List

Such items marked ○ shall be carried out by customers.
For the following items or clauses marked ●, contact us directly or our distributors because they require expert technical knowledge on them.
◎Refer to engine operation manual for inspection and maintenance of an engine.

(Unit : Hour)

	Maintenance	Daily	50	250	500	1,000	Page	Remarks
Generator	Check each instrument and warning lamp.	○					4-11	
	Check insulation resistance.			○			5-6	
	Check GFCI receptacles.			○ (Every monthly)			5-7	
	How to check thermal relay.			○			5-7	
Engine	Check and Clean Clogging of Air Filter Element.			○			5-8	
	Change Air Filter Element					○	5-12	
	Drain fuel tank. (Including sedimenter)			○			5-8	
	Check fuel level.	○					4-7	
	Check engine oil level.	○					4-6	
	Check coolant level.	○					4-6	
	Check looseness in pipe connector terminals and tear in wiring.				○		5-9	
	Check V-belt tension.	○					4-7	In the case of NG, it exchanges.
	Change engine oil.		○ (First time)		○		5-5	
	Change engine oil filter.		○ (First time)		○		5-6	
	Change fuel filter.				○		5-9	
	Change Filter inside Electric Pump. (SDG45S only)					○	5-10	
	Check engine valve clearance.					●		
	Adjust fuel injection nozzle.					●		
	Check fuel injection timing.					●		
	Change coolant.					○ (Every 2 years)	5-11	
	Clean outside of Radiator and Intercooler. (Intercooler: SDG100S only)				○		5-10	Dirt condition cleans.
	Check rubber hose.					○	5-12	
	Clean inside the radiator.					●		

5. Periodic Inspection/Maintenance

5.4 Periodic Replacement of Parts

IMPORTANT — ***Use our genuine elements*** —

- Air filter is a crucial component for the performance and the life of a unit. Use genuine part for replacement.

- Part number changes upon modification. For replacement of parts, make sure whether the part number is correct or applicable.

Part Name	Part Number				Quantity
	SDG25S	SDG45S	SDG65S	SDG100S	
Engine oil filter	ISUZU 894456 7412	NISSAN 15208 43G00	ISUZU 113240 2321	ISUZU 113240 2321	1
Air filter element	32143 11500	32143 14500	32143 12700	32143 12800	1
Fuel filter	ISUZU 894394 0792	NISSAN 16403 J5500	ISUZU 113240 0791	ISUZU 113240 0791	1
Filter inside Electric Pump	————	43540 05600	————	————	1
Filter inside Fuel Air-bleeding Electric Pump	————	————	ISUZU 894337 0220	ISUZU 894337 0220	1
V-belt	ISUZU 89722 4990	NISSAN 11720 43G01	ISUZU 513671 0610	ISUZU 113671 2260	1

5. Periodic Inspection/Maintenance

5.5 Maintenance

5.5.1 Change Engine Oil

- At 50 hours for the first change and every 500 hours thereafter

CAUTION — ***Caution in filling or draining engine oil***

- When checking, replenishing, and draining the engine oil, be sure to wait 10 to 20 minutes after engine stops until it cools down.
- Engine oil is very hot and highly pressurized during or just after the operation. Hot oil could blow out and can cause injury.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IMPORTANT — ***How to choose engine oil***

- Viscosity of engine oil greatly affects startability, performance, oil consumption of the engine, as well as wear of the moving parts.
- Choose appropriate oil based upon the table below according to the outside air temperature.

Relation between viscosity (SAE) and temperature

SAE Viscosity number	Temperature
10W	−22 °Fto 50 °F (−30℃ to 10℃)
30	14 °Fto 104 °F (−10℃ to 40℃)
40	32 °Fto 122 °F (0℃ to 50℃)
15W/40	−4 °Fto 104 °F (−20℃ to 40℃)

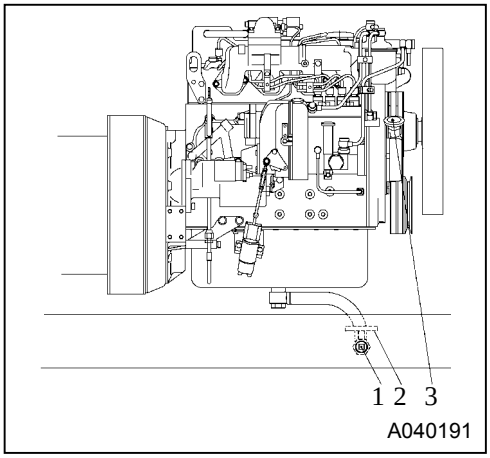
- Be sure to use CD class engine oil or superior class. (Using engine oil with poor quality may shorten the life of the engine).
- When two or more different brands of oil are mixed, its performance can be deteriorated. Do not mix oils.

(Procedure)

① Loosen the drain plug " 1 " located outside the frame to drain the oil. Open the drain valve " 2 " provided inside the machine to drain condensate.

② After finishing drainage, close the drain valve " 2 "securely and install the plug " 1 " and supply engine oil through oil filler port " 3 " .

③ After finishing the oil supply, tighten the cap of oil filter port " 3 " firmly.



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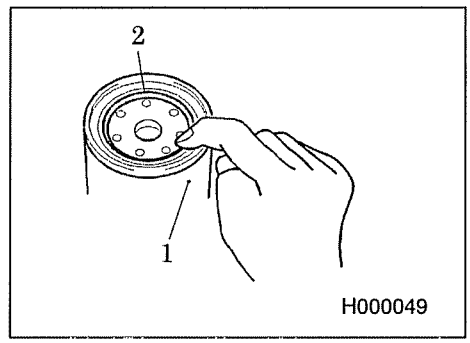
5. Periodic Inspection/Maintenance

5.5.2 Change Engine Oil Filter

- At 50 hours for the first change and every 500 hours thereafter

① When installing a new oil filter, spread oil over the packing "2", and then screw it in. When the packing touches the sealing surface, further tighten the filter by approximately two-thirds turn with a filter wrench.

② After the oil filter "1" is assembled, check if there are any oil leaks during operation. (See 5,4)



5.5.3 Check Insulation Resistance

- Every 250 hours

IMPORTANT

- When the generator has not been operated for a long time or moisture has entered inside the machine, be sure to measure the insulation resistance. If resistance is lower than 1MΩ, it could cause an electrical leakage or fire. Dry the generator with compressed air until the resistance exceeds 1MΩprior to operating.
- Since the generator insulation may drop when moisture, oil vapor, and dust are stuck, always keep the machine clean.

(Procedure) (Megger tester required)

① Remove the load side cable from the output terminal board.

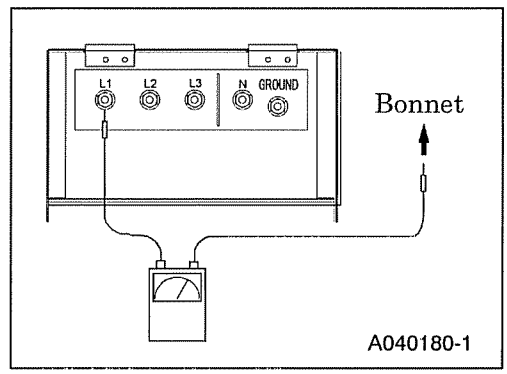
② Remove the cable between the terminal "N" and terminal "Ground" which are connected on the back of the output terminal plate.

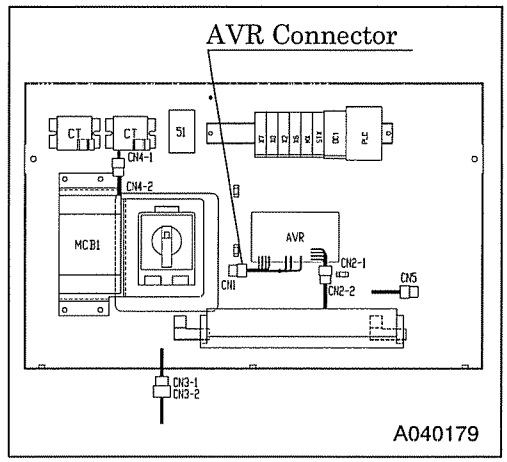
③ Remove the AVR connector inside the generator control panel.

④ Switch ON the three-phase breaker, measure each insulation resistance between the terminals L1. L2. L3 terminal and bonnet.

⑤ Insulation resistance when measured with a 500 V megger tester must be above 1 MΩ.

⑥ After finishing the measurement of insulation resistance, re-connect the cable between the terminal "N" and terminal "Ground".





WARNING

- After making sure that the insulation resistance of the generator is higher than 1 MΩ, be sure to re-connect the cable between the terminal "N" and terminal "Ground" just as it was originally connected. If it is left disconnected, the grounding becomes imperfect so that it could cause electric shock.

5. Periodic Inspection/Maintenance

5.5.4 Check GFCI Receptacles

- Monthly or 250 hours operation, whichever comes first.

⚠ WARNING

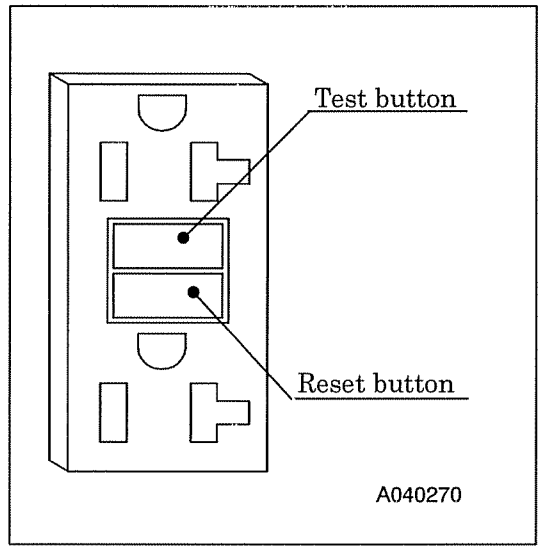
- If the generator is stored outdoors, unprotected from the weather, test the GFCI receptacle before each use.
- In case the GFCI has tripped due to the hazard of ground fault currents, investigate the cause and correct it.

Regularly check the GFCI operation for safety.

(Procedure)

① Unplug all appliances from the generator.
② Start the engine.
③ Turn each single-phase and three-phase breaker ON.
④ Press the TEST BUTTON
- The RESET BUTTON should extend with a click.
- If the RESET BUTTON does not extend, contact your nearest dealer.

⑤ Press the RESET BUTTON
⑥ When the RESET BUTTON extends during peration.
- Unplug all appliances from the GFCI protected receptacle.
- Press the RESET BUTTON:



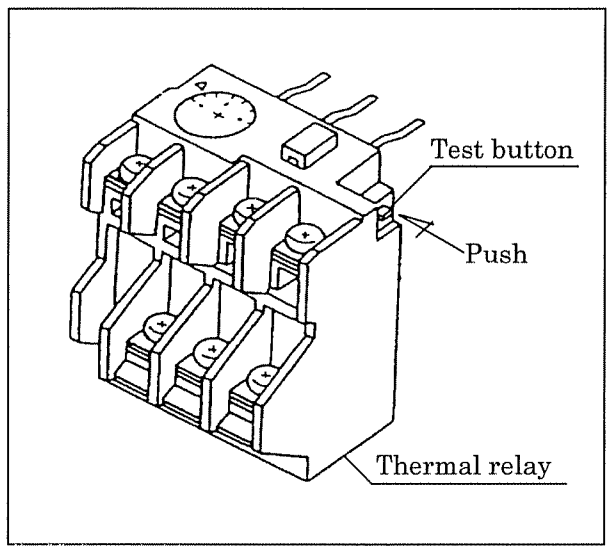
IF THE GFCI CANNOT BE RESET: The GFCI is faulty. Contact your nearest dealer.
IF THE GFCI RESETS PROPERLY: Check the appliance or the power cord.

5.5.5 How to check thermal relay

- Every 250 hours

(Procedure)

① Turn the starter switch to ON.
② Set the main breaker to ON.
③ The three phase main breaker will trip if you push the test button of the thermal relay in the arrow direction.
④ Note that once the three phase main breaker trips to the off position, the single phase breaker that supplies power to the GFCI outlets can still be ON.



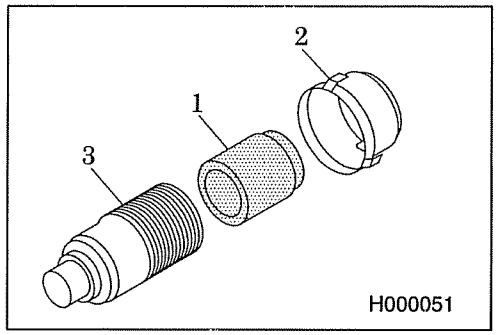
5.5.6 Check and Clean Clogging of Air Filter Element

- Every 250 hours

IMPORTANT — ***Be sure to properly clean air filter element*** —

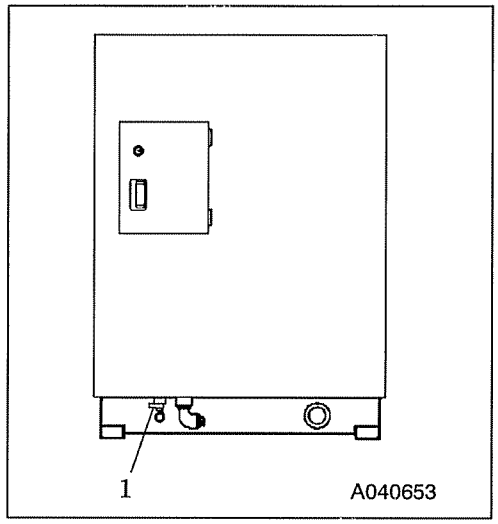
- When an element that is clogged or has holes or cracks is used, dust or foreign material will get in the engine. This causes accelerated wear in each sliding part of the engine. Be sure to make daily check and cleaning so that the life of the engine will not be shortened.

- If the warning lamp for air filter clogging glows, remove the element "1" and clean or replace it after inspection.
- In case you attach the cup "2" after element cleaning, please push into a case "3" firmly by hand, and fasten after checking having applied the hook of the handle for cup fixation to the case "3" .



5.5.7 Drain Fuel Tank

- Every 250 hours
- Fuel tank drain is loosen the drain valve "1" located outside the frame to discharge condensate left in the tank.
- When completely drained, firmly close the drain valve "1" .
- Dispose of condensate according to the designated regulations.



5.5.8 Check Condensate in Water Sedimentor

- Every 250 hours
- Check if the red float "1" in the water sedimentor rises up to the water drain level, then drain water if it is near the drain level "2" .

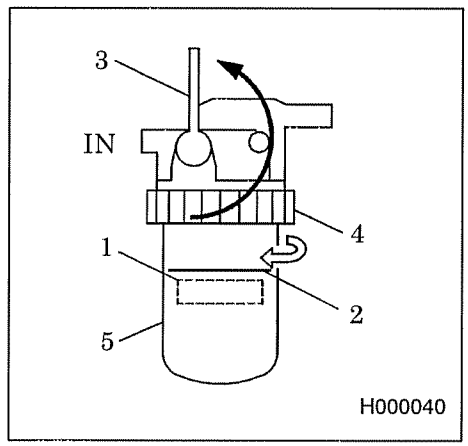
(Procedures) SDG25S

① Place the lever "3" on the top of sedimenter to "CLOSE" position.

② Loosen the ring nut "4" and remove the cup "5" . Carefully handle the cup because it is filled with fuel, and never spill the fuel inside the machine.

③ After draining the water collected inside, clean the cup "5" and then install it.

④ Turn the lever "3" to "OPEN" position and fill the cup "5" with fuel. Then bleed air (see 4.8).

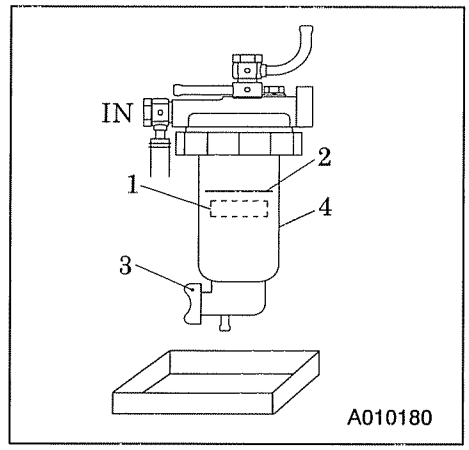


(Procedures) SDG45S

① Loosen the drain valve "3" to drain the water from the sedimentor.

② After draining the condensate, be sure to fasten the drain valve "3" .

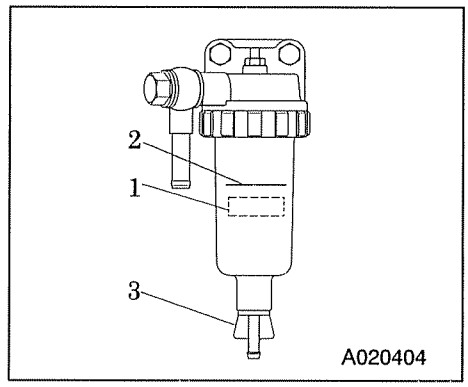
● Removing the bowl "4" of the sedimentor shown in the right figure, fuel comes out. Removing the bowl of the sedimentor shown in the right figure, fuel comes out.



(Procedures) SDG65S,SDG100S

① Loosen the drain valve "3" to drain the water from the sedimentor.

② After draining the condensate, be sure to fasten the drain valve "3"



5.5.9 Check Wiring of Each Part

● Every 500 hours

Check each wiring for any loose connection, damage, disconnection, and short circuit.

5.5.10 Change Fuel Filter

● Every 500 hours

(Procedure)

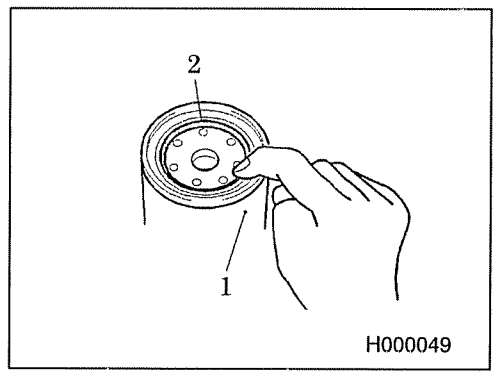
① Take out the cartridge by using a filter wrench

② After coating fuel on the new cartridge "1" packing "2" , screw it in. (See 5.4)

③ When the packing "2" touches the seal face, tighten it by approximately two-thirds turn using a filter wrench.

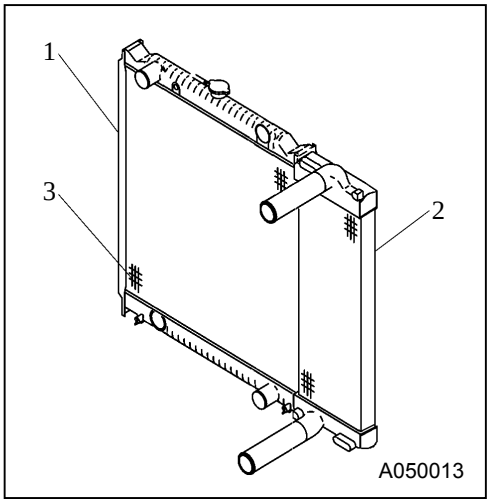
④ Bleed the air of fuel. (See 4.8)

⑤ After installing a fuel filter, check for fuel leakage during operation.



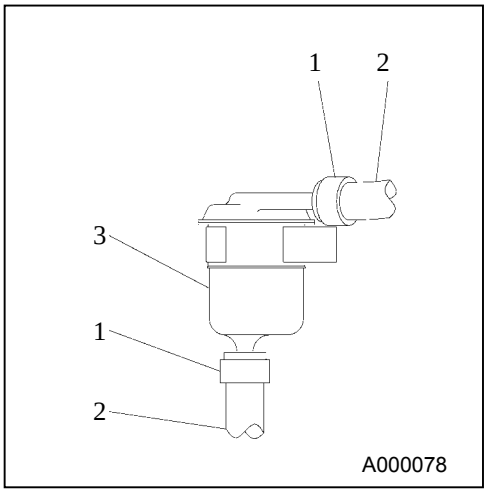
5.5.11 Clean outside of Radiator and Intercooler (Intercooler: SDG100S only)

- Every 500 hours
- When the fin tubes“ 3 ”of radiator“ 1 ”and inter cooler“ 2 ” are clogged by dust or other foreign materials, the heat exchange efficiency drops and this will raise coolant temperature. These tubes and fins should be cleaned depending on the state of dirt inside the tubes even before maintenance schedule.
- Do not use high pressure washer for washing to prevent fin tubes “ 3 ” from being damaged.
- When the unit is used, installed near seaside and on boat board, clean the radiator using fresh water more times than once a month.



5.5.12 Change Filter inside Electric Pump(SDG45S only)

- Every 1,000 hours
- Remove the hose clip “1” and pull off the hose “2” from the filter “3”.
- When disassembling, the fuel in the hose “2” will spill out. So prepare a receiver for the spilt fuel beforehand.
- Replace the filter “3” by a new one. (See 5.4)



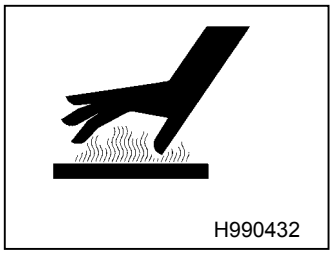
5.5.13 Change Coolant

- 1,000 hours or every 2 years

CAUTION

Taking off radiator cap

- Be sure to stop the machine and loosen the radiator cap slowly, after the coolant water is sufficiently cooled and the inner pressure is released, then take the cap off.
  If this procedure is neglected, the inner pressure can blow off the cap. Steam jetting out of the radiator could result in causing scalding. Follow the procedure under all circumstances.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CAUTION

How to handle LLC（Antifreeze）

- LLC (Antifreeze) is a toxic material.
- When a person has drunk LLC (Antifreeze) by accident, make him vomit and make him see a doctor immediately.
- When a person gets LLC (Antifreeze) in his eyes, wash the eyes with clean running water and make him see a doctor immediately.
- When LLC (Antifreeze) is stored, put it in a container with an indication saying "LLC (Antifreeze) inside" and seal it up, then Keep it in a place away from children.
- Beware of flames.
- Follow the designated regulations to dispose of LLC (Antifreeze).

IMPORTANT

Quality of coolant and antifreeze

- Use soft water of good quality such as tap water for coolant.
- When water with dirt, sand, and/or dust contained, or hard water such as well water (ground water) is used, this will cause deposits inside radiator or on cylinder head, and will cause engine overheat due to poor flow of coolant.
- When the unit is used in a cold region and possible freezing is expected, it is recommended to use LLC (Antifreeze) for the coolant.
- Adjust mixing ratio of LLC with water according to the temperature.
- Use LLC within the range of its mixing ratio between 35 and 60%.
- If LLC in the water exceeds more than 60%, it may decrease its antifreezing effect.

Reference of LLC mixing ratio

Temperature	Mixing ratio
−4 °F (−20℃)	35%
−40 °F (−40℃)	55%

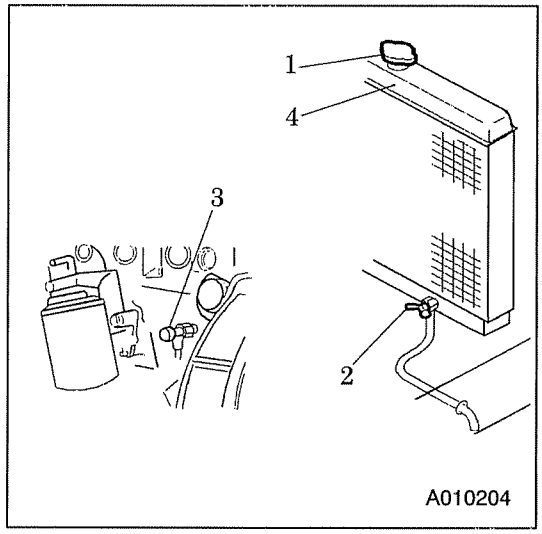
(Procedure)

① To drain coolant, remove the radiator cap "1" , then loosen the drain valve "2" .

② Be sure to also unfasten the drain plug "3" on the engine cylinder block for drainage.

③ When the coolant is completely drained out, close each drain valve "2" and drain plug "3" , and supply new coolant from the filler port "4" .

④ After changing the coolant, run the engine under unload operation for 2 to 3 minutes, then stop it. Check the coolant level again and replenish it if necessary.



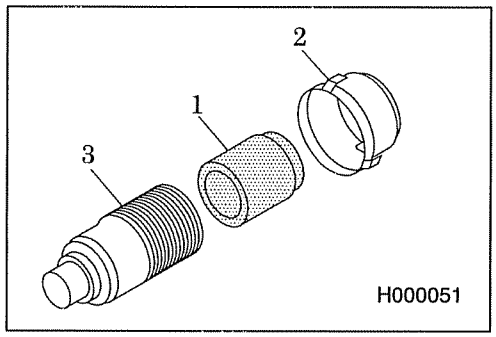
5.5.14 Change Air Filter Element

- Every 1,000 hours

IMPORTANT — ***Be sure to properly clean air filter element*** —

- When an element that is clogged or has holes or cracks is used, dust or foreign material will get in the engine. This causes accelerated wear in each sliding part of the engine. Be sure to make daily check and cleaning so that the life of the engine will not be shortened.

- If the warning lamp for air filter clogging glows, remove the element "1" and replace it after inspection. (See 5.3)
- In case you attach the cup "2" after element change, please push into a case "3" firmly by hand, and fasten after checking having applied the hook of the handle for cup fixation to the case "3" .



5.5.15 Check Rubber hose

- Every 1,000 hours
- When any crack or wear is found on the hoses, change it even before the scheduled time.
- Ask your nearest dealer for its replacement.

6. Maintenance/Adjustment

6.1 Maintenance of Battery

⚠ DANGER — ***Handling battery***

- Keep flames away from battery.
- Battery may generate hydrogen gas and may explode.
- Therefore, recharging should be done at a well-ventilated place.
- Do not spark near the battery nor light a match, nor bring lit cigarette and match close to the battery.
- Do not check the battery by short-circuiting the positive and negative terminals with a metallic piece.
- Never operate the machine nor charge the batteries with the battery liquid level being kept lower than the “LOWER” level. Continuing operation at this lower level will cause deterioration of such parts as pole plates etc., and also it may cause explosion as well as reduction of battery life.
  Add distilled water so that the liquid level may reach the middle level between the “UPPER” and “LOWER” level without any delay.
- Do not charge the frozen battery. Otherwise it may explode. If the battery is frozen, warm it up until the battery temperature becomes 16°C to 30°C.
- Battery electrolyte is dilute sulfuric acid.
  In case of mishandling, it could cause skin burning.
- Wear protective gloves and safety glasses when handling a battery.
- When such battery electrolyte contacts your clothes or skin, wash it away with large amount of water immediately.
- If the battery electrolyte gets into your eyes, wash it away immediately with plenty of water and see a doctor at once, because it is feared that eyesight might be lost.
- Dispose of battery, observing local regulations.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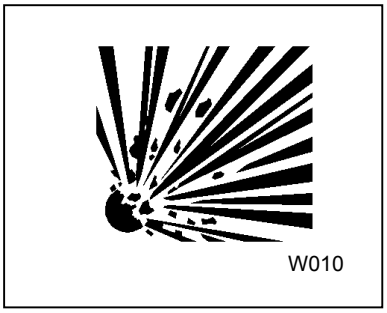
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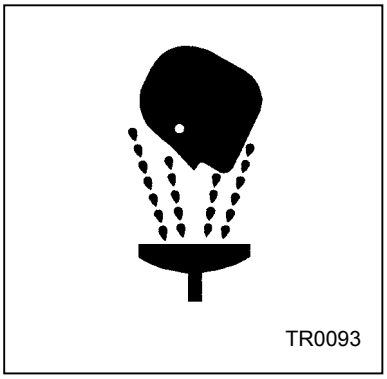
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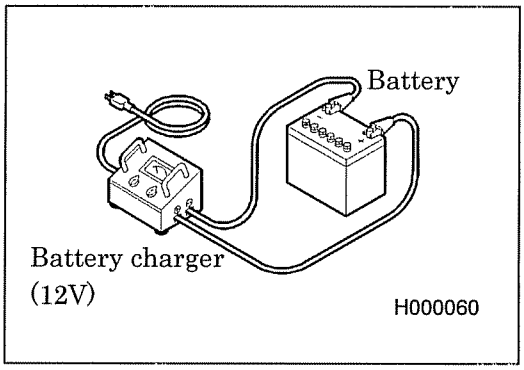
⚠ CAUTION — ***Reverse connection prohibited***

- Never reverse the cable connections. — When a booster-cable is unavoidably used or when a set of cables is connected after a battery change, be sure to correctly connect the electric terminals (+) and (–). Reversely-connected cables will cause sparks or damage to components.

6. Maintenance/Adjustment

6.1.1 Charge Battery

- Disconnect the cable between battery and the unit, and charge the battery with a 12 V battery charger. Do not charge two batteries at the same time.
- Be sure not to connect (+) and (–) terminals backwards.
- Be sure to read the operation manual of the battery charger to know if it is applicable, before using it.



6.1.2 How to Use Booster Cable

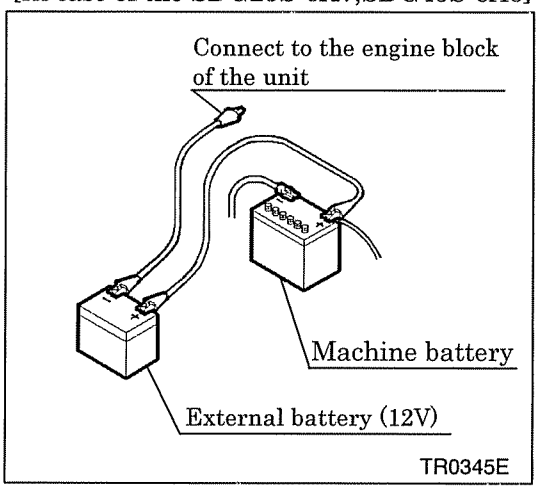
⚠ CAUTION — ***Do not connect the cable reversely***

- When a booster cable has to be used or when cables are connected again after an battery is replaced, be careful not to connect (+) and (–) terminals backwards. Such wrong-connection will cause spark and damage to each component.

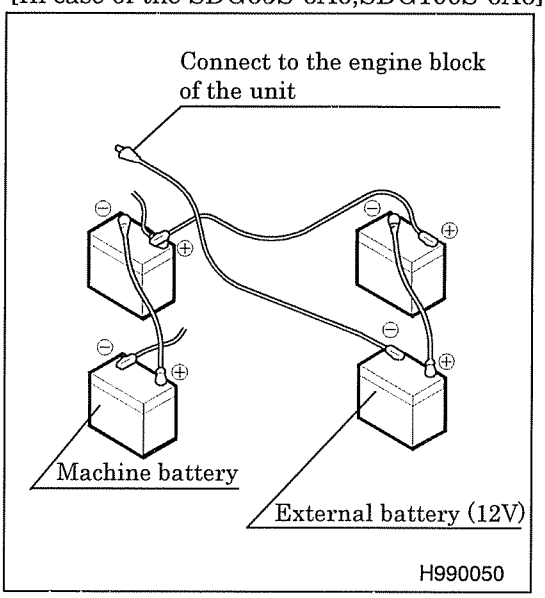
(Procedure for using a booster cable)

① Stop the engine.
② Connect one end of the (+) cable to the (+) terminal of the machine battery.
③ Connect the other end of the (+) cable to the (+) terminal of the external battery.
④ Connect one end of the (–) cable to the (–) terminal of the external battery.
⑤ Connect the other end of the (–) cable to the engine block of the machine.
⑥ Start up the engine.
⑦ Disconnect the booster cable by following the procedure back in the reverse order.

[In case of the SDG25S-6A7,SDG45S-6A6]



[In case of the SDG65S-6A6,SDG100S-6A6]



6. Maintenance/Adjustment

6.2 Troubleshooting

- Should any trouble occur during operation, do not leave it. Investigate the cause and take appropriate measures.
- Read the manual carefully and fully understand what to do in case of trouble.
- The better you understand the construction and function of the unit, the faster you can find a problem and solution.
- This chapter describes the state, cause and countermeasures of important troubles in detail:

Symptom	Cause	Counter measures
Starter does not rotate. Low starter revolution speed even when starting.	(1)Battery malfunction	Check Battery→Charge/Change
Starter rotates but engine does not start up.	(1)Fuel filter clogging (2)Filter of fuel air-bleeding electric pump clogging (3)Fuel shut-off solenoid malfunction (4)No diesel fuel oil (5)Air mixing in fuel pipings	Disassemble, clean, and change Change filter Check fuse Change solenoid Check connector Replenish fuel Bleed air
Engine oil pressure drop warning lamp glows.	(1)Engine oil shortage (2)Engine oil filter clogging (3)Oil pressure switch malfunction (4)Loosened or disconnected wiring, or connector	Replenish fuel Change Change Check/repair
Coolant temperature rise warning lamp glows.	(1)Radiator clogging (2)Faulty thermostat (3)Faulty coolant temperature switch (4)Shortage of coolant (5)Slip of fan belt (6)Looseness, disconnection of wiring or connectors	Clean Change Change Replenish Adjust tension Check/repair
Leakage warning lamp glows.	(1)Leakage on generator side (2)Leakage on load side (3)Leakage on connecting cable (4)Defective leakage relay	Check/repair Check/repair Check/repair Check/repair
Recharging warning lamp glows.	(1)Alternator problem (2)Loseness, disconnection of wiring or connector	Check/change Check/repair
The warning lamp for air filter clogging flickers.	(1) Air filter clogging	Clean

6. Maintenance/Adjustment

Symptom	Cause	Counter measures
Even when operated at a rated speed, no voltage or too low voltage generated.	(1) Faulty voltmeter (2) Poor tightening of terminals (3) Broken or short-circuited winding of generator main unit (4) Faulty AVR (5) Faulty silicon rectifier (mounted on generator rotor) (6) Faulty exciter (7) Broken or short-circuited circuit to exciter field winding (8) AVR frequency selection switch is not set to meet the frequency to be operated. (9) Function circuit protector (CP) for AVR protection	Check/change Check/repair Check/repair Check/change Check/change Check/repair Check/repair Check/select Reset
Too high voltage generated when set at the rated frequency (50Hz/60Hz), Voltage will not drop even when the voltage regulator controlling knob is turned.	(1) Loosened or disconnected wiring, or connector to AVR (2) Faulty AVR (3) Broken wire or poor contact of AVR variable resistor	Check/repair Check/change Repair or change
Unstable voltage generation	(1) Poor tightening of each terminal (2) Faulty AVR (3) Function circuit protector (CP) for AVR protection	Check/repair Check/change Reset

- Please contact your nearest dealer if you find it difficult to repair by yourselves.
- Please refer to the engine operation manual for troubles concerning the engine.

7. Storage of the Unit

7.1 Preparation for Long-term Storage

When the unit is to be kept unused in storage for a long time, be sure to follow the preparations below and put the unit in a dry and less dusty place.

- Put the unit in a temporary cabin if it is stored outside. Avoid leaving the unit outside with a sheet cover directly on the paint for a long time, or this will cause rust to the unit.
- Perform the following treatments at least once every three months.

(Procedure)

① Discharge existing lubricant from the engine oil pan. Pour new lubricant in the engine to clean its inside. After running it for a while, drain it again.

② Spread lubricant on each moving part.

③ Completely charge the battery and disconnect grounding wires. Remove the battery from the unit, if possible, and store it in a dry place. (Charge the battery at least once every month.)

④ Discharge coolant and fuel from the unit.

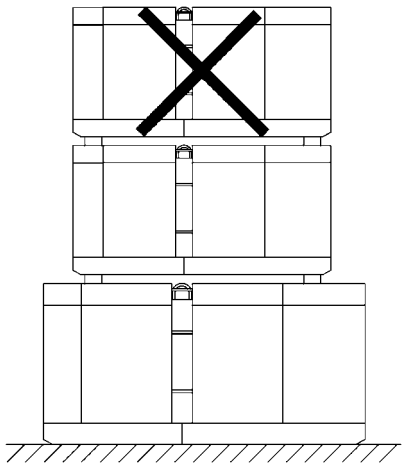
⑤ Seal air-intake port of engine and other openings like the muffler with a vinyl sheet, packing tape, etc., to prevent moisture and dust from getting in the unit.

⑥ Be sure to repair any trouble and maintain the unit so that it will be ready for the next operation.

⚠ WARNING

Stacking up box type machines

- When stacking up the machines for storage, only two units stacking is acceptable. The mass of the lower machine should be larger than that of the upper one.
- Select a leveled floor with sufficient strength.
- Before stacking the machines up, check the machine for deformation of bonnet, looseness or missing of bolts, and other parts.
- When stacking them, be sure to securely fix them as shown in the figure so that the balanced weight is applied to each squared lumber for preventing a sideslip or a collapse.
- Never operate the machines with stacking conditions. It is very dangerous.
- Machines stacked could fall down due to sideslip or collaspse when an earthquake occurs. Therefore, safety should be sufficiently considered for surroundings of storage places.



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8. Specifications

8.1 Specifications

Model			SDG25S-6A7		
Generator	Exciting system		Brushless system		
	Armature connection		Star with Neutral		ZigZag
	Phase		Three		Single
	Power factor	%	80		100
	Frequency	Hz	60		
	Rated output	kVA	25		14.4
	Rated output	kW	20		14.4
	Voltage	V	240	480	240/120
	Current	A	60	30	60
Engine	Model		ISUZU AA-4LE1		
	Type		4-cycle, water-cooled, swirl chamber type		
	Number of cylinders		4		
	Total displacement	L	2.179		
	Rated output	kW	23.5		
	Revolution per minute	min^{-1}	1,800		
	Lubricating oil capacity	L	8		
	Coolant capacity (including radiator)	L	6		
	Battery		80D26R-MF		
	Fuel tank capacity	L	65		
	Overall length	mm	1,690		
	Overall width	mm	700		
	Overall height	mm	950		
	Net dry mass	kg	615		
	Operating mass	kg	680		

8. Specifications

Model			SDG45S-6A6		
Generator	Exciting system		Brushless system		
	Armature connection		Star with Neutral		ZigZag
	Phase		Three		Single
	Power factor	%	80		100
	Frequency	Hz	60		
	Rated output	kVA	45		26
	Rated output	kW	36		26
	Voltage	V	240	480	240/120
	Current	A	108	54	108
Engine	Model		NISSAN DIESEL 2A-BD30T		
	Type		4-cycle, water-cooled, direct injection type with turbo charged		
	Number of cylinders		4		
	Total displacement	L	2.953		
	Rated output	kW	43.5		
	Revolution per minute	min^{-1}	1,800		
	Lubricating oil capacity	L	10		
	Coolant capacity (including radiator)	L	11		
	Battery		80D26R-MF		
	Fuel tank capacity	L	100		
	Overall length	mm	1,870		
	Overall width	mm	860		
	Overall height	mm	1,325		
	Net dry mass	kg	925		
	Operating mass	kg	1,025		

8. Specifications

Model			SDG65S-6A6		
Generator	Exciting system		Brushless system		
	Armature connection		Star with Neutral		ZigZag
	Phase		Three		Single
	Power factor	%	80		100
	Frequency	Hz	60		
	Rated output	kVA	63		36.5
	Rated output	kW	50		36.5
	Voltage	V	240	480	240/120
	Current	A	152	76	152
Engine	Model		ISUZU EE-4BG1T		
	Type		4-cycle, water-cooled, direct injection type with turbo charged		
	Number of cylinders		4		
	Total displacement	L	4.329		
	Rated output	kW	58		
	Revolution per minute	min^{-1}	1,800		
	Lubricating oil capacity	L	14		
	Coolant capacity (including radiator)	L	15		
	Battery		80D26R-MF×2		
	Fuel tank capacity	L	135		
	Overall length	mm	2,090		
	Overall width	mm	860		
	Overall height	mm	1,220		
	Net dry mass	kg	1,180		
	Operating mass	kg	1,295		

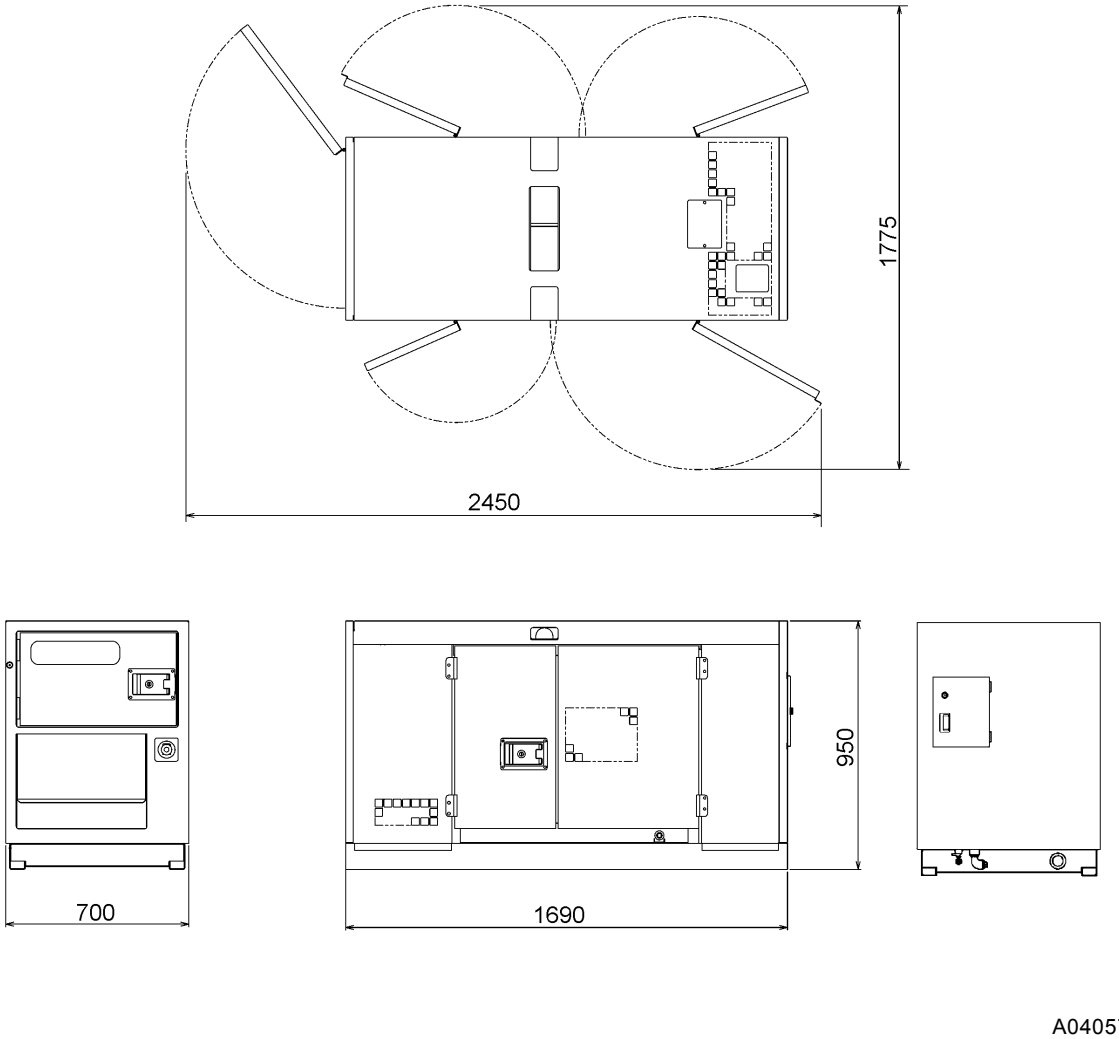
8. Specifications

Model			SDG100S-6A6		
Generator	Exciting system		Brushless system		
	Armature connection		Star with Neutral		ZigZag
	Phase number		Three		Single
	Power factor	%	80		100
	Frequency	Hz	60		
	Rated output	kVA	100		58
	Rated output	kW	80		58
	Voltage	V	240	480	240/120
	Current	A	241	120	242
Engine	Model		ISUZU EE-6BG1T		
	Type		4-cycle,water-cooled,direct injection,turbo charged,intercooled		
	Number of cylinders		6		
	Total displacement	L	6.494		
	Rated output	kW	112		
	Revolution per minute	min^{-1}	1,800		
	Lubricating oil capacity	L	20		
	Coolant capacity (including radiator)	L	24		
	Battery		95D31R-MF×2		
	Fuel tank capacity	L	225		
	Overall length	mm	2,700		
	Overall width	mm	1,180		
	Overall height	mm	1,400		
	Net dry mass	kg	1,760		
	Operating mass	kg	1,990		

8. Specifications

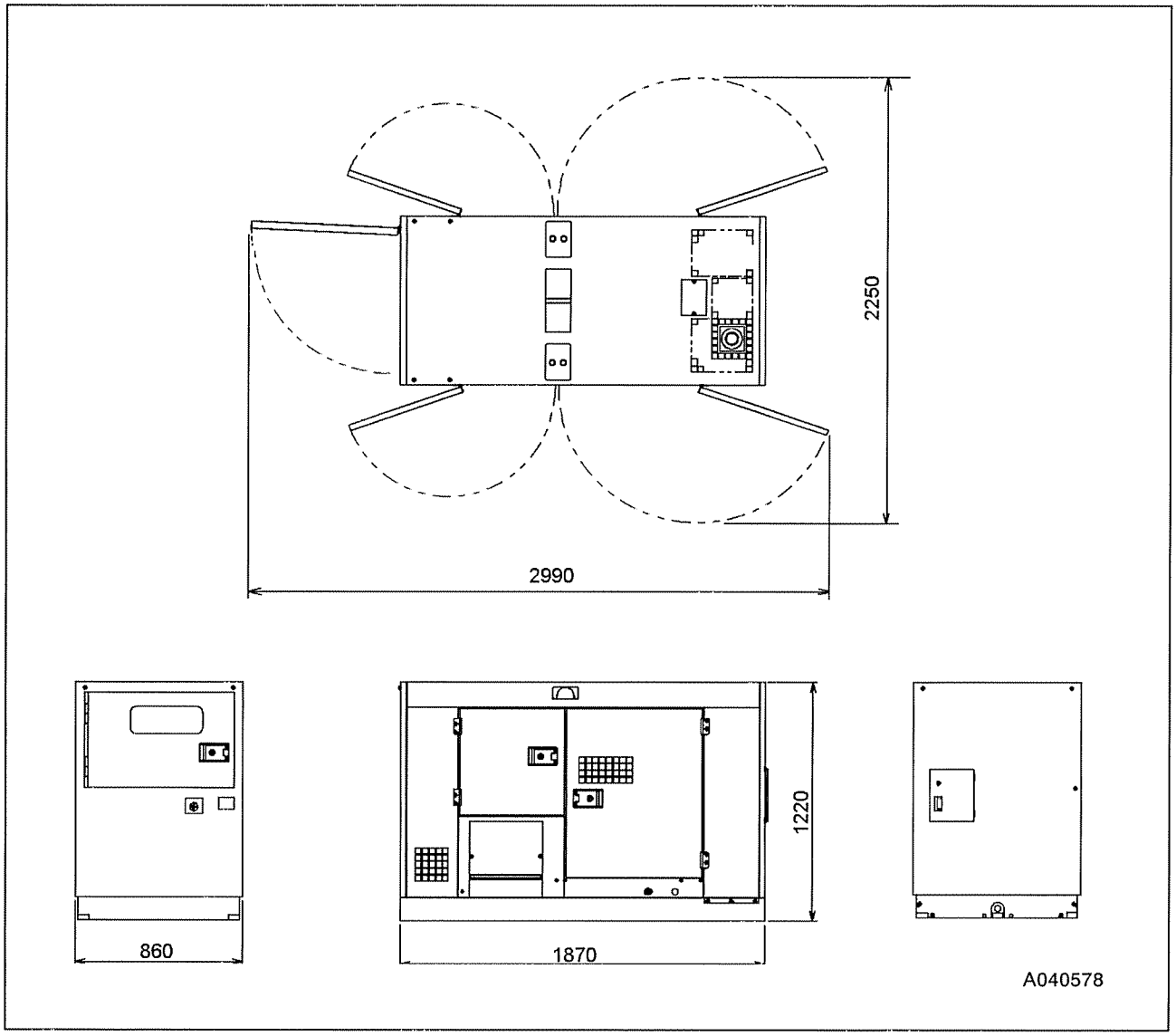
8.2 Outline drawing

SDG25S-6A7



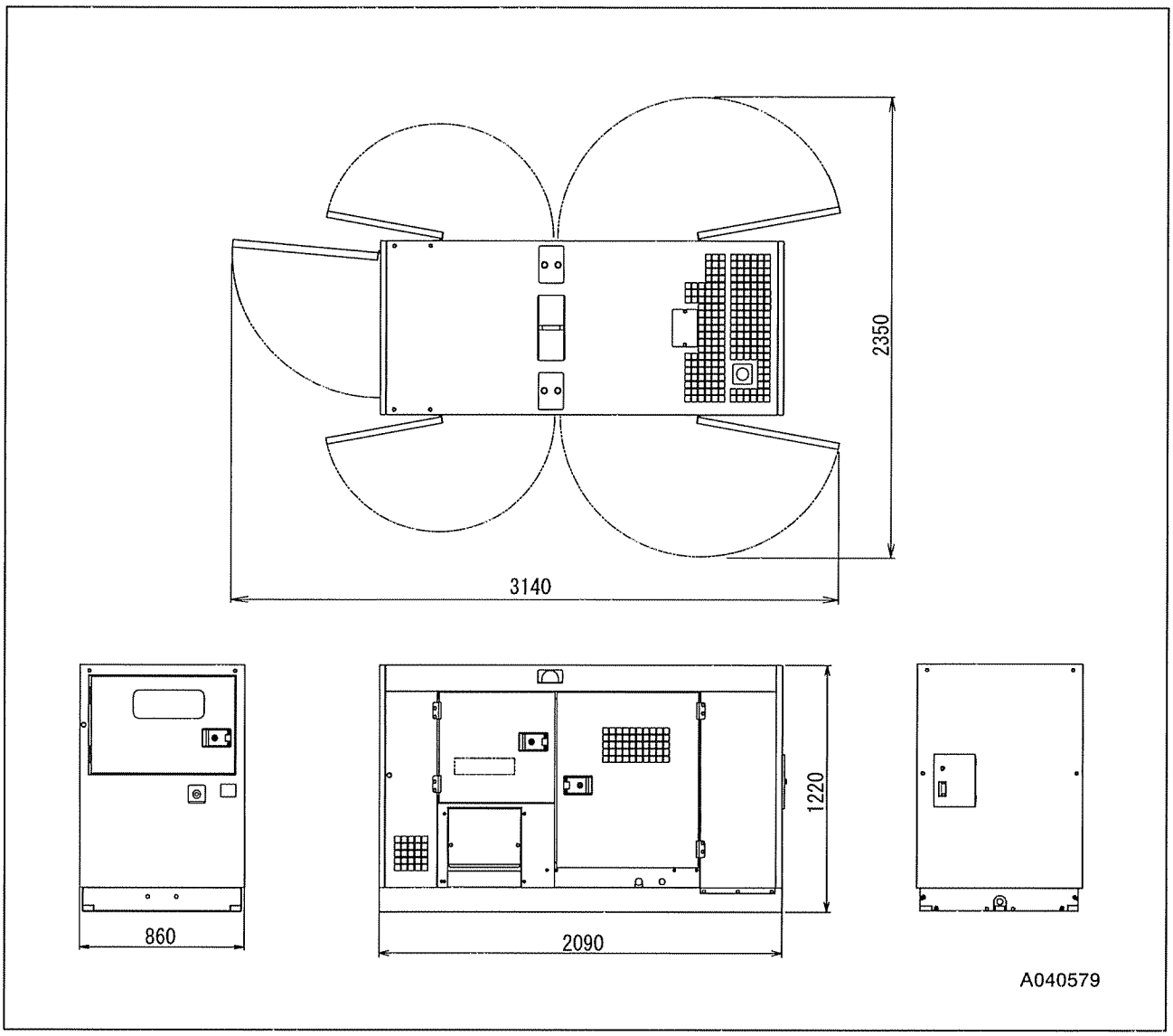
8. Specifications

SDG45S-6A6



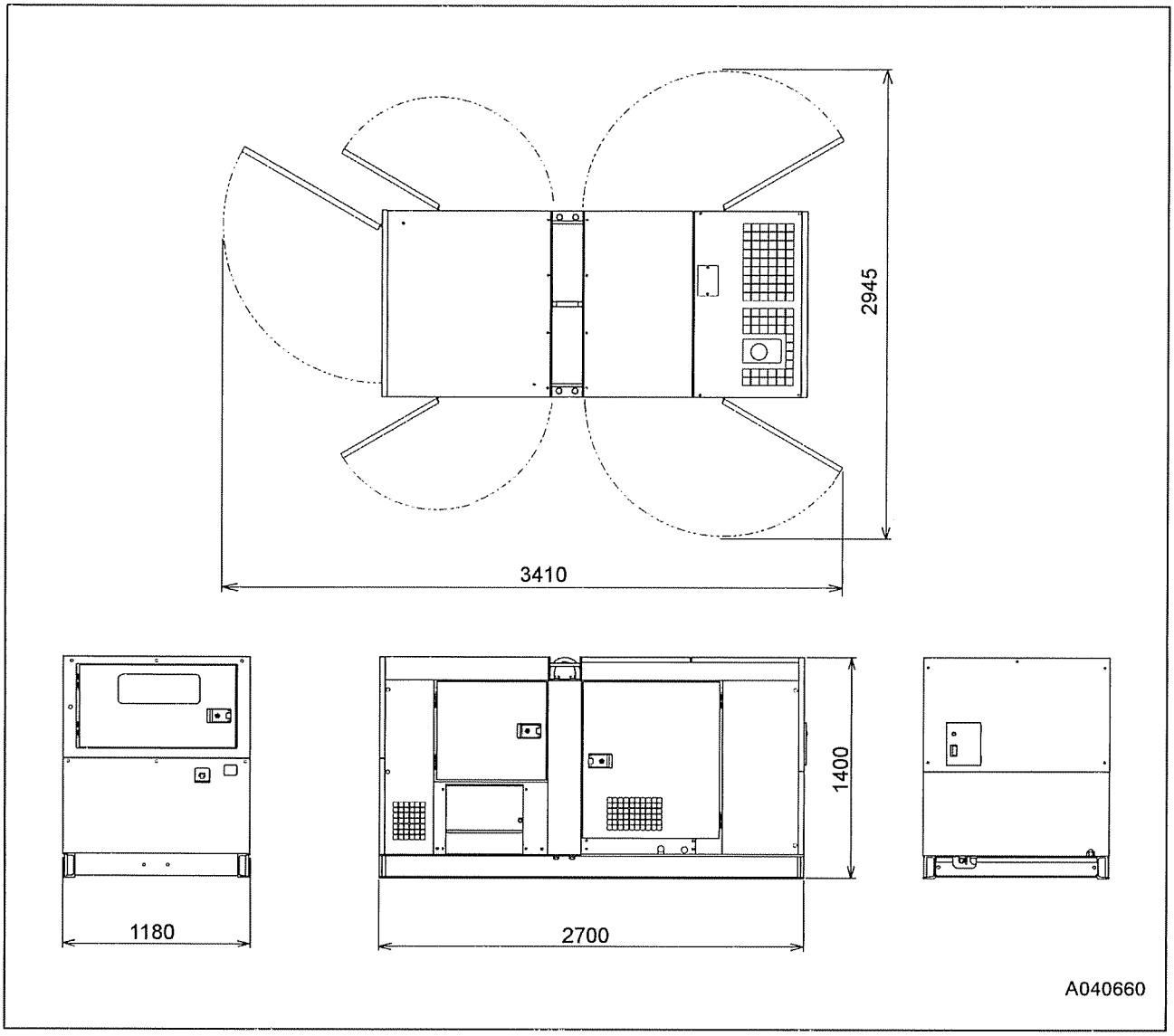
8. Specifications

SDG65S-6A6



8. Specifications

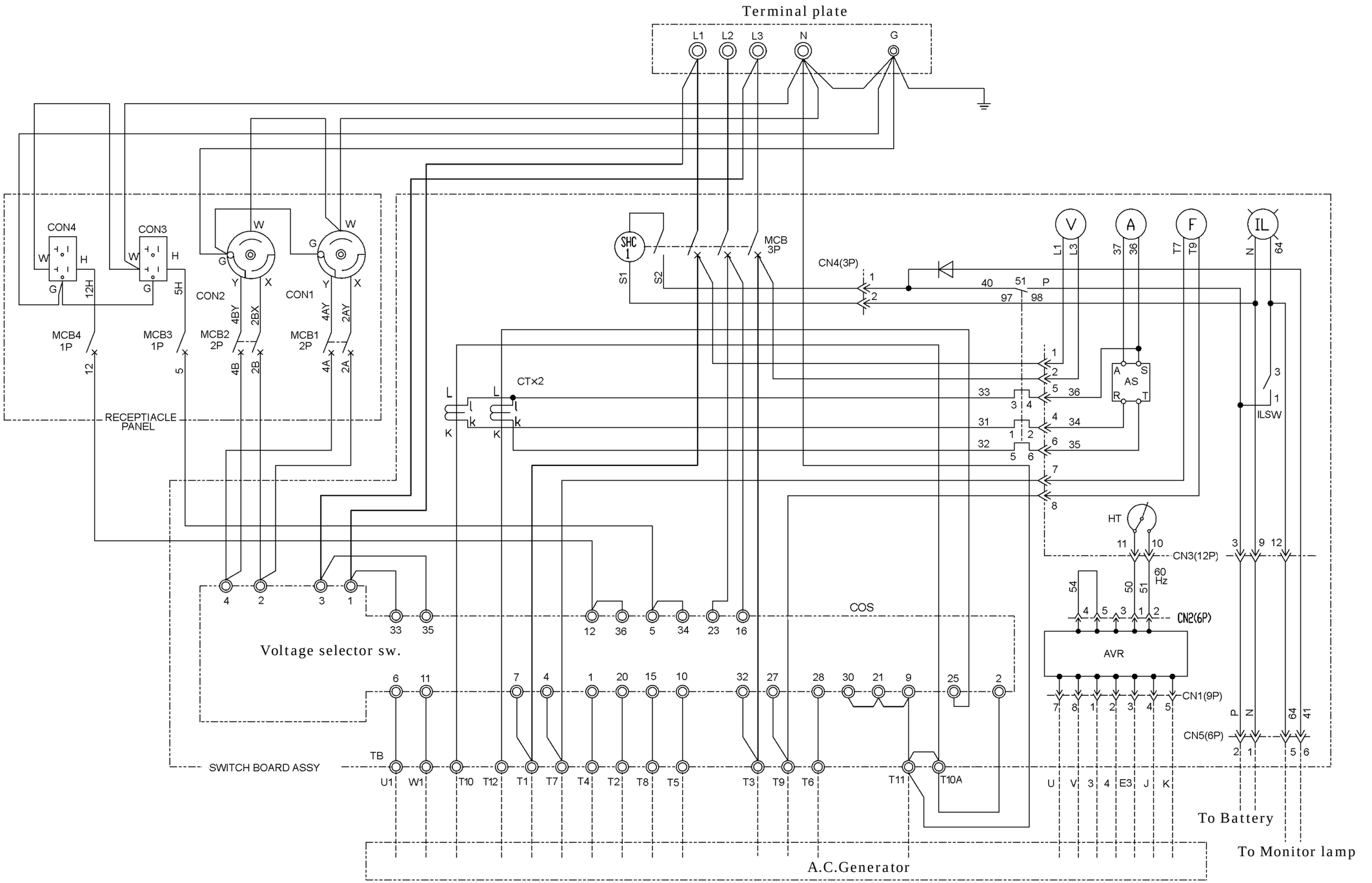
SDG100S-6A6



9. Wiring Diagram

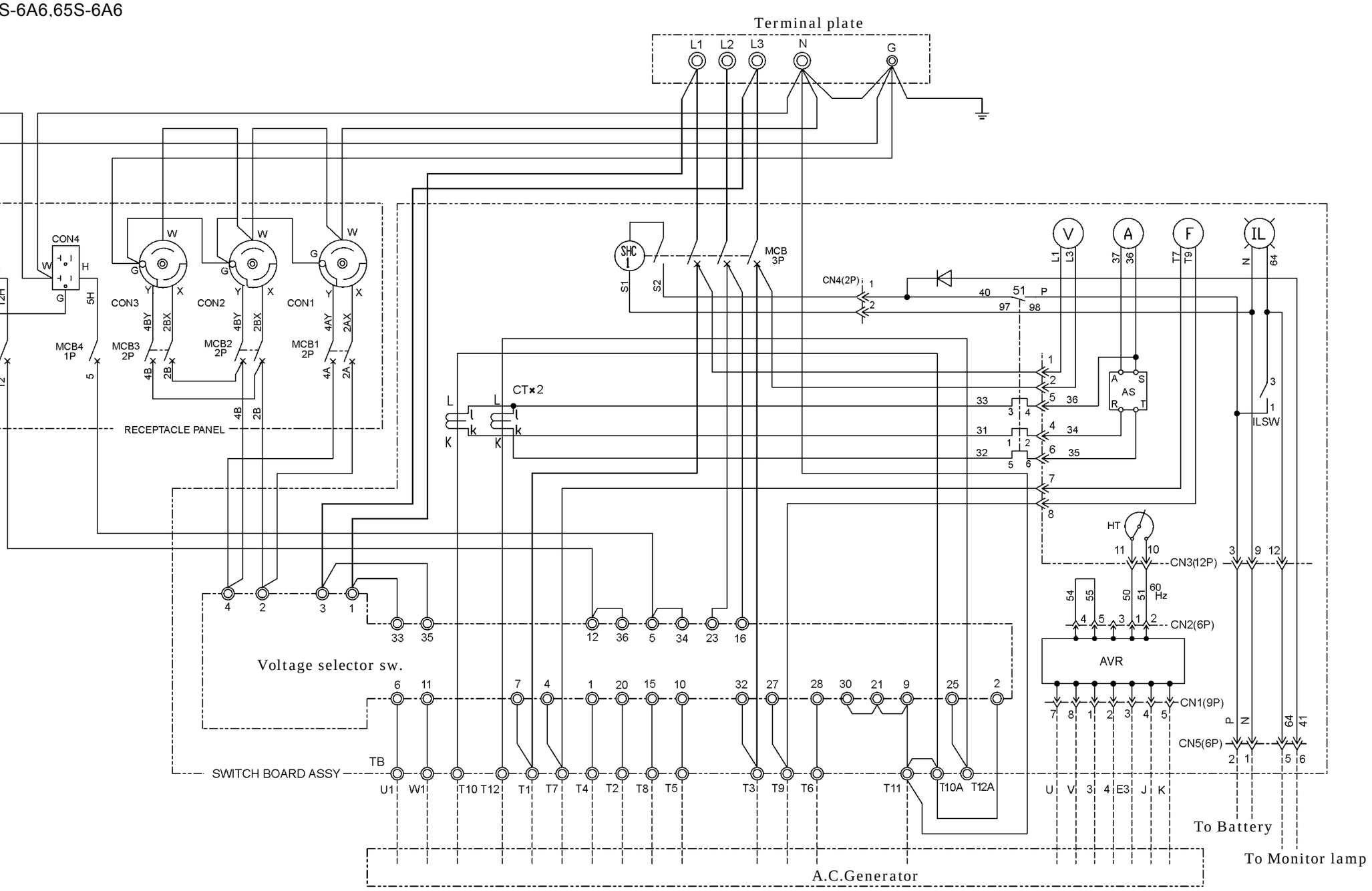
9.1 Generator Wiring Diagram

SDG25S-6A7



9. Wiring Diagram

SDG45S-6A6,65S-6A6



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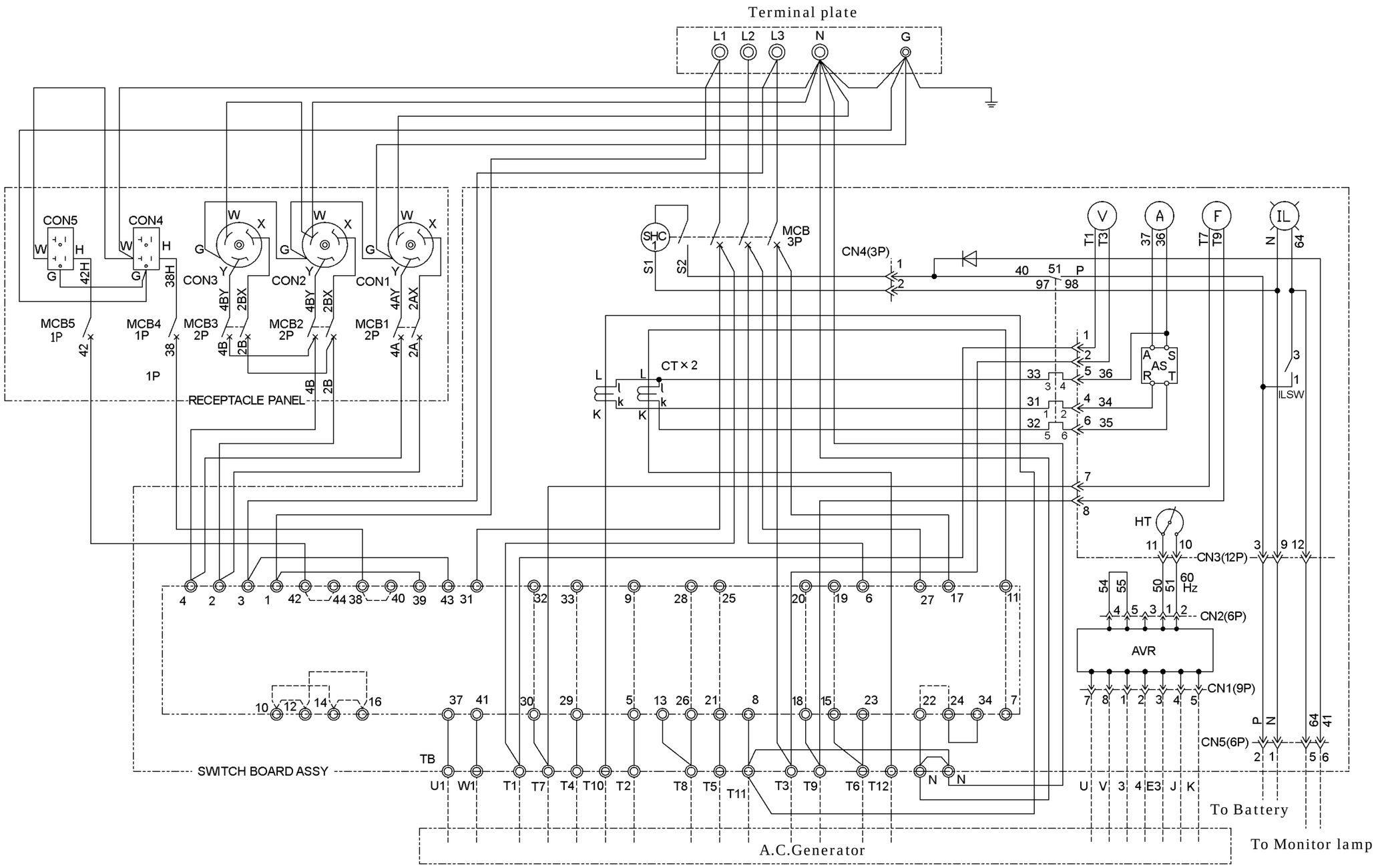
9. Wiring Diagram

SDG100S-6A6



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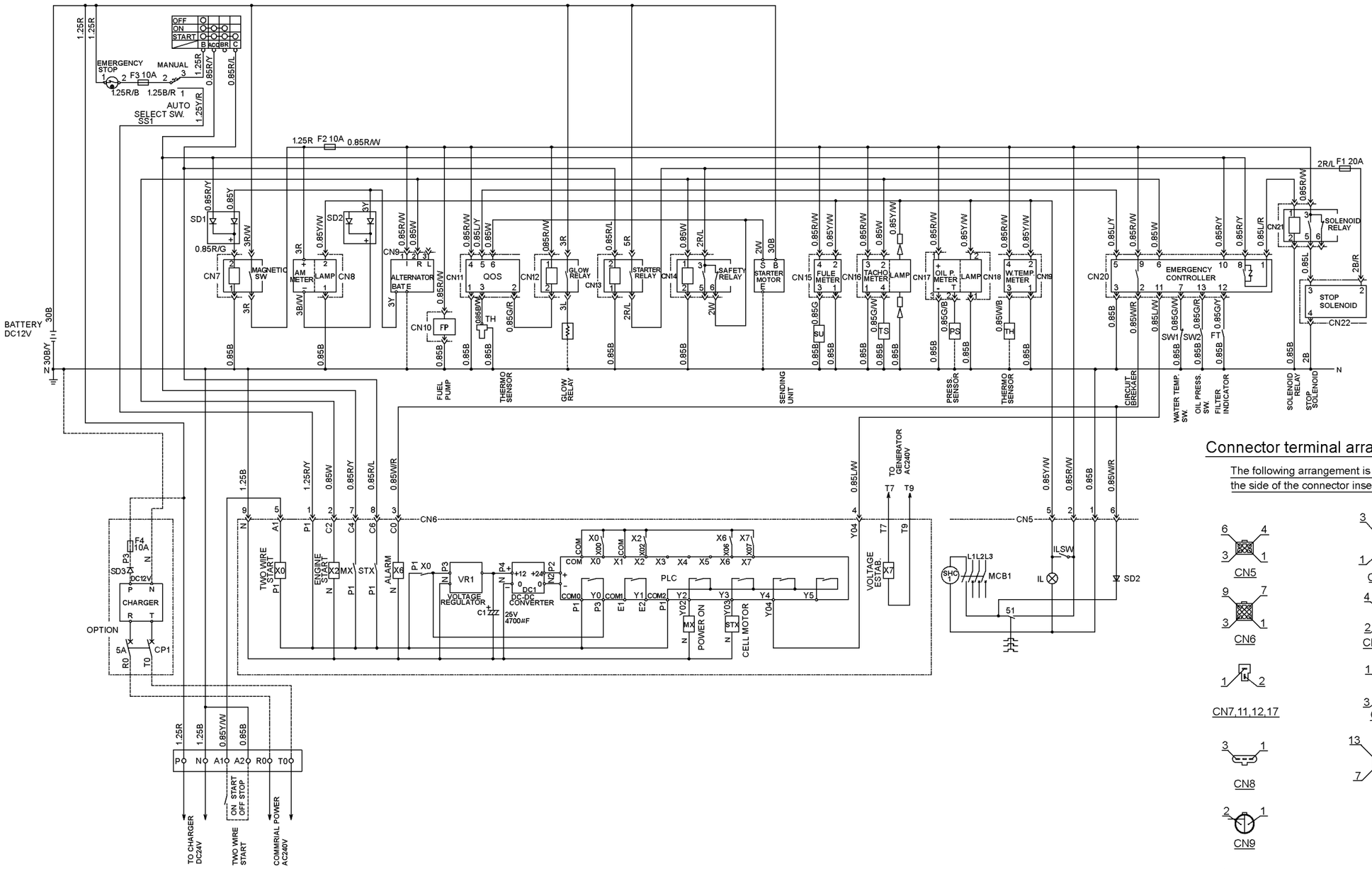
9.2 Engine Wiring Diagram

SDG25S-6A7



Connector terminal arragement

The following arrangement is seen from the side of the connector inserting part.

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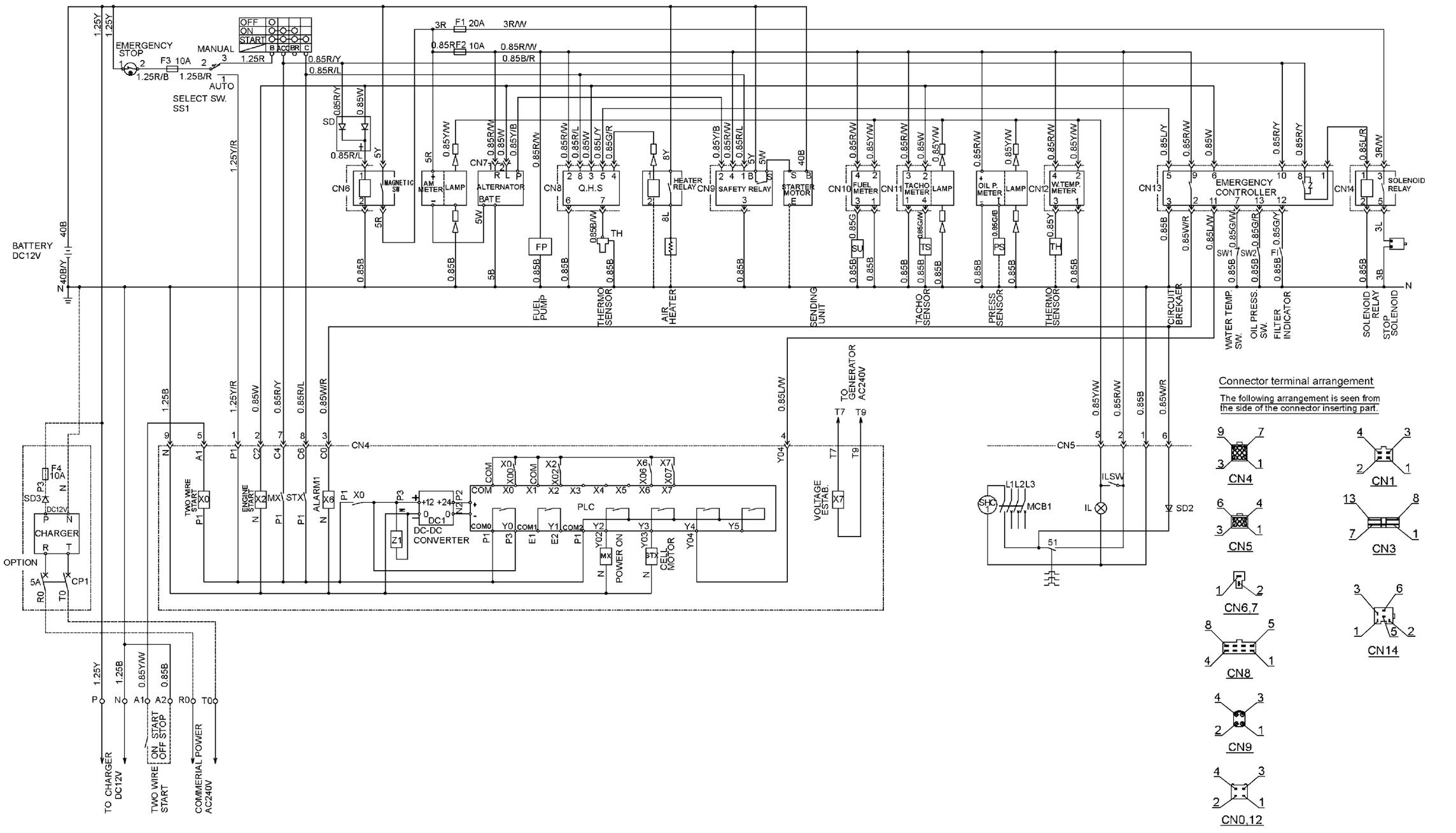
SDG45S-6A6



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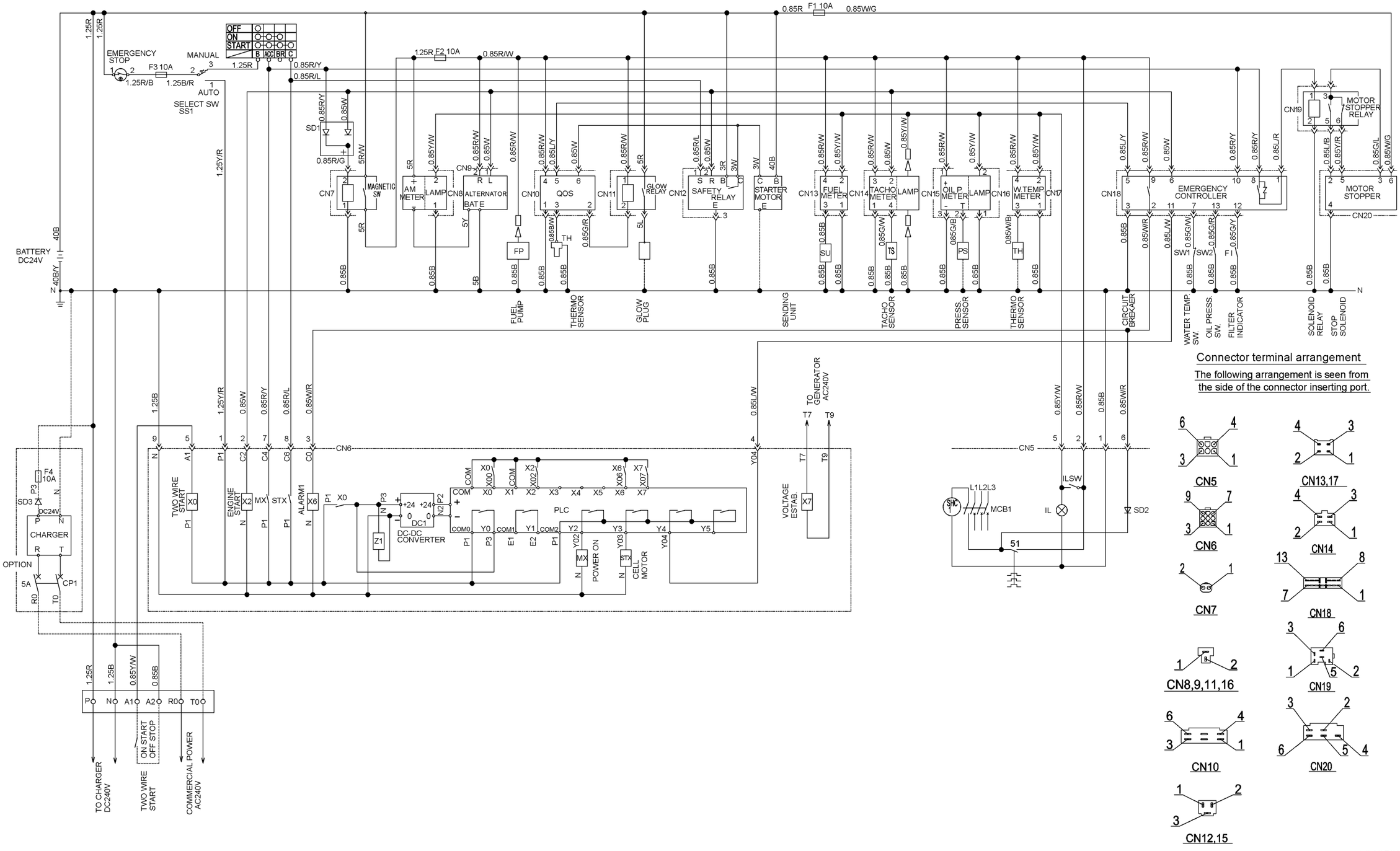
SDG65S-6A6



Connector terminal arrangement

The following arrangement is seen from the side of the connector inserting port.

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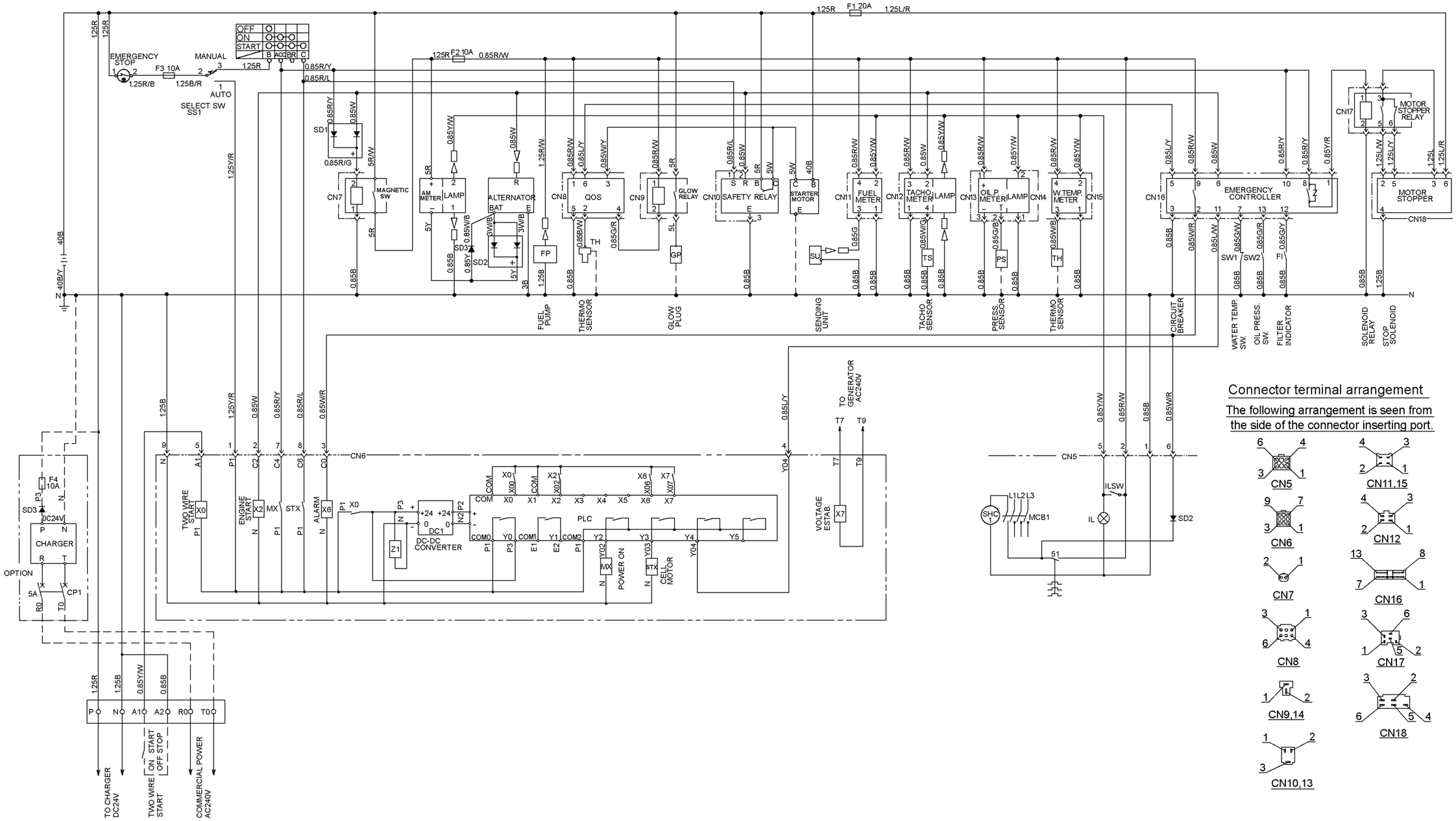
SDG100S-6A6



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