



AgroWatt

**MANUALE D'USO E MANUTENZIONE
USE AND MAINTENANCE MANUAL
MANUEL POUR L'EMPLOI ET L'ENTRETIEN
BEDIENUNGS - UND WARTUNGSANLEITUNG
MANUAL PARA EL USO Y MANTENIMIENTO**



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FOREWORD

SINCRO DECLINES ALL LIABILITY FOR DAMAGES TO PERSONS OR OBJECTS DUE TO IMPROPER, INCORRECT OR UNREASONABLE USE OR FAILURE TO RESPECT CURRENT ACCIDENT PREVENTION REGULATIONS.

The user instructions represent an integral part of the machine, they must be consulted before, during and after start up.

For you to get the best out of the appliance you have purchased and to avoid errors when using it, please read carefully all the pages that follow.

The instructions manual, together with adequate user experience, guarantees appropriate use of the product.

This user manual has been drawn up in conformity to EEC Machine Directive 98/37 and later amendments. Special care has been given to all aspects regarding safety and accident prevention.

The instructions manual must be kept for future reference until the machine is scrapped; it must always be available for consultation in the vicinity of the machine and kept properly (in a dry, protected place, out of direct sunlight, etc.).

The instructions given in this manual are not a substitute but an integration of the responsibilities prescribed by current legislation on safety and accident prevention.

WARRANTY

Sincro S.r.l. guarantees the Agrowatt and Agroweld series for a period of 24 months starting from the invoice issue date. We confirm that warranty is directed only to Sincro customers to which we respond. Sincro does not grant warranty to those who have not directly purchased the product from the factory, in spite of the possession of it.

Within the above mentioned terms, Sincro commits itself to supply free of charge those spare parts that, according to its judgment or to the one of an authorized representative, appear with manufacturing or material defects or, always to its judgment, to directly or through an authorized centre carry out the repairing without undertaking transport costs.

We anyhow exclude forms of responsibility or obligation for other costs, damages and direct or indirect loss caused by the total or partial usage or impossible usage of the products.

The repairing or the substitution will not extend or renew the warranty duration.

Warranty will not be granted: whenever break-downs or problems may appear because of lack of experience, usage over the nominal performances, if the product had been modified or should return incomplete, disassembled or with modified nameplate data.

For the warranty request, the customers must follow the procedure described on the yellow card included in the user's manual, which is supplied with each product.

TECHNICAL INFORMATION

The alternator is an electrical appliance designed to transform mechanical energy into electrical energy.

In this application mechanical energy is obtained from the power take off of a tractor by means of a gimbal ring (sized according to the power in question). The gimbal ring is coupled to an overgear that adapts the tractor's revolutions to the speed required by the alternator.

The generator's frequency and voltage depend directly on its speed of rotation; so this must be kept as constant as possible under any kind of load.

The tractor's speed regulation system gives a slight drop in revolutions between idle and under load. Therefore it is recommended to adjust the idle speed to 3÷4% over rated speed which, in terms of voltage means 400÷410V and in terms of frequency means about 52 [62]Hz. If different values are found, check the number of revolutions.

The alternator is self-excited by its residual magnetism and self-regulating by a compound system (i.e. series-parallel excitation). The regulation system enables a voltage precision (steady, with constant revolutions and with balanced loads) of ±5%.

The alternator's output terminals are factory wired in a star connection. This allows the supply of 400V three phase voltage across the three terminals U1 -V1 -W1, and a 230V single phase voltage across any one of these three terminals and neutral.

The rated power can only be supplied with three phase, the maximum power supplied in single phase is 40% of rated power. A single phase load creates a considerable unbalance between the three phase voltages so make sure that this unbalance is acceptable with mixed loads.

The machine is supplied with IP23 protection (according to CEI EN 60034-5, CEI EN 60529), this means that it is protected against the entry of solid bodies having a diameter over 12mm (e.g. a finger), and against vertical water droplets.

The machine's rated power is guaranteed up to an ambient temperature of 40°C.

INSTALLATION

The gimbal generator is an electrical machine that must be handled, installed, started up, inspected and repaired **solely by qualified specialists** who must have:

- specific technical training
- knowledge of applicable technical standards
- knowledge of safety provisions.

The gimbal generator is mechanically coupled to another machine. Therefore the installer is responsible for ensuring that during operation there is adequate protection against the hazard of contact with moving parts or with live parts.

1. DELIVERY - HANDLING - STORAGE

- 1.1 On receiving the machine, inspect it to check that it has not been damaged during transport.
- 1.2 When handling use hoisting equipment with adequate load-bearing capacity. The lifting ring, or eyebolt, on the generator has been made for lifting only the alternator. Do not tip the packing; protect it from rain or damp.
- 1.3 When unpacking the machine, all packing material (i.e. plastic bags, polystyrene foam, nails, cardboard, etc.) must be kept out of the reach of children since it is a potential hazard.
- 1.4 If the machine is not installed immediately it should be stored in a covered, clean and damp-proof place. Before starting up after long shutdowns it is advisable to ascertain the insulation resistance of all the windings. With the machine at ambient temperature the resistance should measure over 1 MΩ. If this is not the case it should be oven dried (at approx. 50-60°C).
- 1.5 The packing material supplied with the machine must be disposed of in compliance with the respective regulations in force.

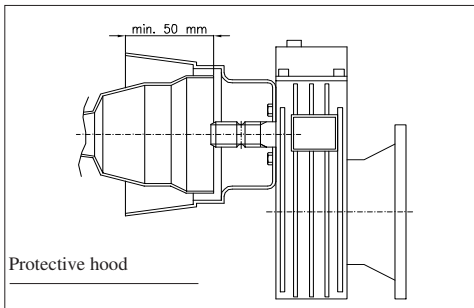


fig. 1

2. START UP

- 2.1 Before starting up the machine check that:
 - a) the protective hood (fig.1) is attached, in good order and properly anchored. The hood must cover the gimbal ring guard by at least 50mm and must prevent accidental hand contact with moving parts.
 - b) the generator shaft and the gimbal ring are properly aligned with the tractor's power take off.
 - c) the three links (fig.2) are perfectly fastened and locked with the accessories provided. **If wrongly anchored the machine could tip over causing a severe hazard for the operator.**
- 2.2 On the first start up the overgear must be filled with oil and changed after the first 50 hours of operation. After this its level should be checked. In the version with sight glass the level should be near to its centre. In the version without sight glass slacken the sump cap until oil begins to leak out. If the level is too low top up the oil from the top of the overgear. For a quick, total oil change unscrew both the top and sump cap of the overgear body. Only use SAE 90EP gear oils. To dispose of the old oil, apply only to specialised centres and follow the respective national regulations in force.
- 2.3 Before starting up, check all connections are in order and that nothing is obstructing rotation of the moving parts. Make sure that the cooling air suction and exhaust ducts are free.
- 2.4 For the electrical connections comply with current safety standards. Check that the ID plate data comply with the characteristics of the plant to which the machine is connected.
Connect the machine to earth by means of a peg connected to the earth terminal on the chassis.
- 2.5 **Check that the switches are set to OFF and that all guards are mounted and in working order, both on the generator and on the tractor.**

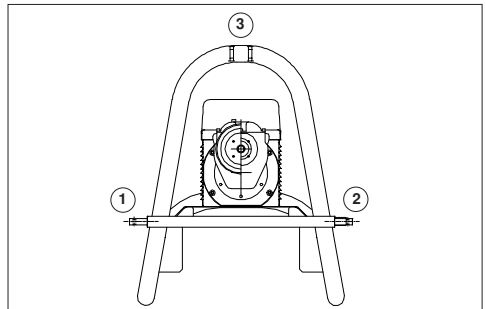


fig. 2

USER INSTRUCTIONS

CAUTION

Rotating electrical machinery contains hazardous parts since they are equipped with live or moving parts during operation, therefore:

- improper use,
 - removal of guards and disconnection of safeties,
 - lack of inspections and maintenance,
- can cause severe damage to persons or objects.

Consequently any operation of an electrical or mechanical nature requires a qualified specialist.

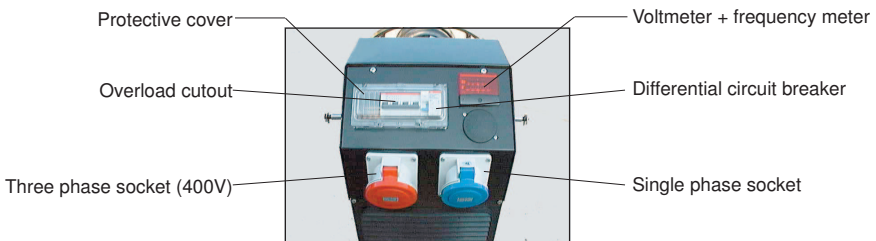
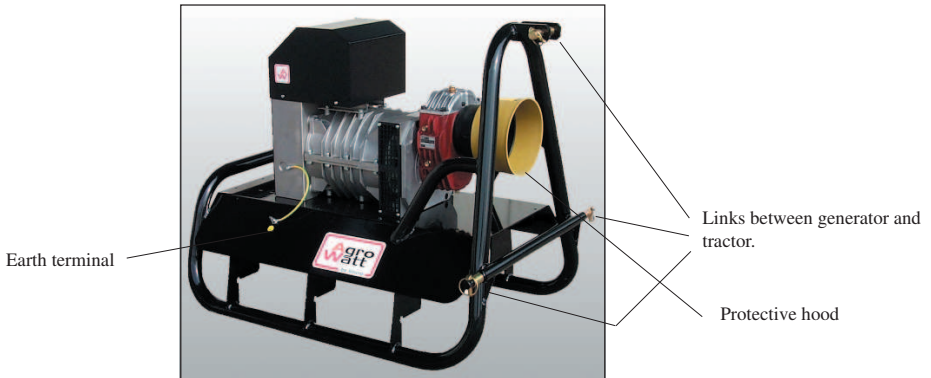
During all phases of disassembly, maintenance, lubrication and assembly of the gimbal ring, the personal safety of the operator must be ensured as contemplated by accident-prevention regulations.

1. Firmly tighten the machine at its three links using the pins and sockets provided: any mistakes in the installation could cause damage to persons and objects, for which the constructor shall not be held liable.
2. Fit the gimbal ring between generator and tractor (**with the tractor turned off**) making sure it is coupled perfectly so that when the machine runs both idle and under load there are no vibrations whatsoever.
3. **Make sure that the generator's support structure rests firmly on the ground: never run the generator in a raised position.** Vibrations can cause bad operation of the alternator and a hazard for accident prevention.
4. Start the tractor and switch on the power takeoff that drives the generator, progressively increasing the revolutions until the frequency meter on the switchboard reads 52 Hz with no load.
5. Hook up the plugs in their relevant sockets. Make sure that the

loads connected to the generator are suited to the voltage being supplied. Make sure that the load is in a suitable condition to be powered, **in particular ensure that nobody is in a hazardous position around the load with respect to moving or live parts.** Turn the switches ON. To power the sockets (and the loads) lift the hatch over the switch and turn both circuit breaker and overload cutout to ON.

6. Contact with moving parts can cause severe accidents, so it is absolutely forbidden to stand in front of the gimbal ring during operation. Throughout the time of operation of the alternator, ensure that no one gets too near any moving parts or live parts.
7. In the event that the tractor does not supply the necessary power under load and the revolutions drop excessively, (below 48 [58]Hz), press on the accelerator to restore the revolutions to the correct level. (50 [60]Hz). Remember that, if the tractor power is insufficient with respect to the alternator, as well as losing speed under load, it causes voltage overloads and excess speeds when disconnecting the loads from the alternator. These variations of voltage and frequency can be harmful for other loads connected at the same time.

To stop the machine: disconnect the individual loads, starting from the lightest ones, or turn the main switch OFF, switch off the tractor, disconnect the plugs.



MAINTENANCE



CAUTION:

Never work on the machine, whether with hands or tools, while it is operating. Before any maintenance work make sure that the machine is at a standstill and disconnected from the tractor, or that the tractor is turned off and the ignition key has been removed, and the switches have been turned OFF.

1. If any malfunctions should arise in the machine, check that they do not depend on a lack of routine maintenance.
2. Mechanical controls:
 - 2.1 Check on a monthly basis or whenever starting up that there are no unusual noises or vibrations. Check that the alternator's air ducts are not clogged.
 - 2.2 Periodically check the oil level in the overgear. Change oil every 500 working hours and at least every year.
3. Electrical controls:
 - 3.1 Check on a monthly basis or whenever starting up that the circuit breaker works: while the machine is running (at rated voltage) press the test button and the breaker must trip. Check the efficiency of the earth connection.
 - 3.2 Every 500 working hours and at least every year, check the wear of the brushes and manifold and the correct operation of the switchboard's measurement instruments, checking their readings with a standard instrument.
4. Never wash the machine with direct or high pressure jets of water or with aggressive agents.
5. Never rest liquid containers or inflammable materials on the machine
6. Keep the machine away from heat sources or humidity and never install it in explosive atmospheres.
7. In case of fire use a powder fire extinguisher.

NOTES ON THE OPERATION OF THE SWITCHES

The overload cutout may trip for two reasons:

- when the appliance or group of appliances connected require a greater current than the breaker can support.
- because of a short circuit.

In the first case it is sufficient to reduce the load and restart the generator, while in the second case find the cause behind the short circuit and eliminate it.

The circuit breaker trips because of a defect in the circuit insulation downline to the generator. This safety (if combined with an efficient earth plant) guarantees the best protection against hazards of indirect contact.

SCRAPPING THE MACHINE

If the machine has to be scrapped, proceed as follows:

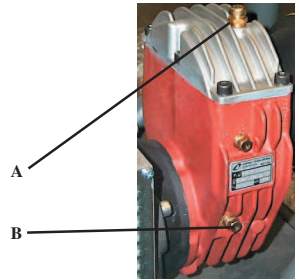
- drain the oil from the overgear and dispose of it as for old oil
- separate the plastic parts from the metal parts and have them collected by authorised disposal companies.

CHECKS

To check or top up the oil level, proceed as follows:

1. unscrew the caps from the holes A and B as in fig.3
2. add oil through the top hole A until oil begins to leak out of the hole B.
3. replace the caps.

fig. 3



For multipliers different from the previous one, check the oil level through the sight glass. (fig.4-5)



fig. 4

SIGHT GLASS



fig. 5

To check the wear of the brushes and of the manifold, proceed as follows:

1. slacken the screws and remove the rear grille
2. measure the length of the brushes:
 - 2.1 (fig.6) in series GT and GS generators there must be at least 10mm of carbon outside the brush-holders,
 - 2.2 (fig.7) in series ET and FT generators, slacken the screw, remove the brush-holder and check that the brushes protrude by at least 4mm
3. check that the manifold looks and feels smooth
4. replace the grille.

fig. 6

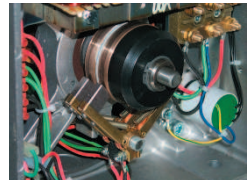


fig. 7





Restituzione macchine in riparazione
Returning machines repaired
Retour marchandises pour réparation
Rückgabe der maschinen zur reparatur
Devolución máquinas en reparación



Lo scopo della presente scheda è assicurare al Cliente un valido ed efficiente servizio di assistenza. Questa scheda dovrà essere consegnata all'utilizzatore finale da parte del venditore locale.

PROCEDURA

Nel caso di guasti o anomalie di funzionamento delle macchine Sincro, il Cliente è invitato ad interpellare il nostro "Servizio Assistenza" telefonando allo 0445-450500.

Se, dopo tale contatto, risultasse necessaria la restituzione del prodotto, il nostro "Servizio Assistenza" fornirà al Cliente un numero di "Rientro Materiale Autorizzato" (RMA), che dovrà essere riportato sia sui documenti di accompagnamento del materiale che nella presente Scheda di Riparazione.

Prodotti resi senza aver seguito la descritta procedura e privi della scheda di riparazione, verranno respinti al mittente dal magazzino accettazione.

Per l'eventuale concessione della garanzia è indispensabile che la Sincro sia contattata esclusivamente dal proprio Cliente. Richieste di riparazione provenienti direttamente dall'utilizzatore finale saranno in ogni caso considerate NON in garanzia.

Prima di procedere a riparazioni verrà comunicato un preventivo e si attenderà l'autorizzazione da parte del Cliente

SCHEDA DI RIPARAZIONE

La scheda di riparazione deve essere compilata per ogni prodotto ed inclusa nell'imballo di restituzione. L'accuratezza nella compilazione renderà il nostro intervento rapido e risolutivo.

SPEDIZIONE

La merce resa viaggia esclusivamente a spese e a rischio del Cliente indipendentemente dalla concessione dell'intervento in garanzia.

Curare che le macchine siano in ordine, pulite e che l'olio di eventuali moltiplicatori di giri sia stato vuotato.

Si raccomanda di restituire il materiale entro un imballo adeguato curando di proteggere il prodotto dagli urti.

The scope of this card is to ensure the client with a valid and efficient assistance service. This card must be given to the purchaser by the local dealer.

PROCEDURE

Whenever any Sincro machine malfunctions, the client is invited to contact our "Assistance Service" by calling +39 0445 450500. If the decision is made to return the product, we will provide you with an "Authorized Material Return" (RMA) number that must be included both in the delivery documents that accompany the material and this Repair Card. Products that have been returned without following the procedure above and without a Repair Card will be returned to sender.

In order to obtain coverage under the warranty, Sincro must be contacted exclusively by its authorized dealer. Requests for repairs received directly from final user clients will be considered outside the terms of warranty coverage. Prior to performing repair, an estimate will be provided and authorization must be received from the authorized dealer before proceeding with the repair.

REPAIR CARD

A repair card must be compiled for every product and enclosed in the packaged product sent for repair. Providing accurate and complete information in the Repair Card will help us repair the product faster and better.

SHIPMENT

All products to be repaired are shipped at the risk and expense of the client regardless of whether warranty coverage will be claimed or not. The client must make sure that the machines sent for repair are in good order, clean, and that the oil in the overgear system has been drained. We recommend returning the products in adequate packaging that ensures protection against impact.

Le but de la présente fiche est d'assurer au client un service après-vente rapide et efficace. Cette fiche devra être communiquée à l'utilisateur final de la part du revendeur agréé.

PROCEDURE

En cas de pannes ou d'anomalies de fonctionnement des machines Sincro, le client est invité à contacter notre "Service Assistance" en téléphonant au +39 0445 450500. Si à la suite de ce contact, la restitution du produit s'avère nécessaire, notre "Service Assistance" communiquera au client un numéro pour le "Retour Matériel Autorisé" (RMA) qui devra être reporté sur le document d'accompagnement du matériel comme sur la présente Fiche technique de réparation.

Les produits rendus sans avoir suivi la procédure décrite et privés de la Fiche technique de réparation seront retournés à l'envoyeur. Pour une éventuelle concession de garantie il est indispensable que la Sincro soit contacté directement par le revendeur agréé. Les demandes de réparation effectuées par l'utilisateur final seront considérées comme étant hors garantie. Toute demande de réparation fera l'objet d'un devis.

FICHE TECHNIQUE DE REPARATION

La fiche technique de réparation doit être remplie pour chacun des produits et jointe à la marchandise restituée. La clarté des données fournies permettra une intervention rapide et décisive.

EXPEDITION

Les frais d'expédition sont à la charge du client et cela, indépendamment du fait que la marchandise soit encore sous garantie. Faire en sorte que les machines soient au complet, nettoyées et que l'huile des éventuels multiplicateurs de tours ait été évacuée. Il est conseillé d'expédier la machine dans un emballage adapté et antichoc.

Zweck dieser Karte ist, dem Kunden einen guten und wirksamen Kundendienst zu gewährleisten. Diese Karte soll dem Endbenutzer vom lokalen Verkäufer übergeben werden.

VERFAHREN

Bei Schäden oder Betriebsstörungen der Sincro-Maschinen, ist der Kunde gebeten, unseren "Kundendienst" unter der Nummer +39 0445 450500 anzurufen.

Falls nach dieser Kontaktaufnahme eine Rückgabe des Produkts erforderlich sein sollte, gibt unser "Kundendienst" dem Kunden eine "Nummer für die Rückgabe von autorisiertem Material" (RMA), die sowohl in die Begleitunterlagen des Materials als auch in diese Reparaturkarte einzutragen ist. Produkte, die ohne o.g. Vorgang und ohne Reparaturkarte zurückgegeben werden, werden nicht akzeptiert und von der Annahmestelle an den Absender zurückgegeben. Für eine eventuelle Garantiegewährung ist es erforderlich, daß die Fa. Sincro ausschließlich vom Kunden selbst kontaktiert wird. Vom Endbenutzer gemachte Reparaturanfragen werden in jedem Fall als NICHT unter Garantie stehende Fälle bearbeitet.

Vor der Reparaturausführung wird ein Kostenvoranschlag mitgeteilt und eine Genehmigung seitens des Kunden abgewartet.

REPARATURKARTE

Die Reparaturkarten müssen für jedes Produkt ausgefüllt werden und in der Rückgabeverpackung eingeschlossen sein. Die sorgfältige Ausfüllung ermöglicht einen unsersseitigen raschen und problemlosen Eingriff.

VERSAND

Unabhängig von der Gewährung des Garantieingriffs, reist die zurückgegebene Ware ausschließlich auf Kosten und Risiken des Kunden. Sich überzeugen, daß die Maschinen in Ordnung und sauber sind und daß das Öl eventueller Drehzahlübersetzer ausgeleert wurde. Es wird empfohlen, das Material in einer entsprechend geeigneten Verpackung zurückzugeben, um das Produkt vor Stößen zu schützen.

Esta ficha se remite al Cliente con la finalidad de garantizarle un servicio de postventa válido y eficiente. El revendedor local tiene que suministrarla al usuario final.

PROCEDIMIENTO

En caso de averías o anomalías de funcionamiento de las máquinas Sincro, aconsejamos al Cliente que se ponga en contacto con el Servicio Postventa llamando al número +39 0445 450500. Si a continuación de la llamada fuera necesario devolver el producto, el Servicio de Postventa suministrará al Cliente un número de "Regreso Material Autorizado" (RMA), que deberá encontrarse tanto en los documentos de expedición del material, como en la presente Ficha de Reparación.

Productos devueltos sin haber efectuado el procedimiento descrito anteriormente y los que no tengan la ficha de reparación, se rechazarán al Cliente del Almacén de aceptación.

Por lo que respecta a la posible concesión de la garantía, es preciso que Sincro se contacte únicamente por el Cliente; la petición de reparaciones directamente por parte del usuario final han de considerarse NON en garantía. Antes de proceder a la reparación se comunicará un presupuesto al Cliente y se esperará la autorización del mismo.

FICHA DE REPARACIÓN

La ficha de reparación debe completarse para cada producto e incluirse en el embalaje de devolución. La esmerada completación de la ficha permitirá una reparación rápida y eficiente.

ENVÍO

Los gastos de transporte corren por cuenta y riesgo del Cliente, independientemente de la concesión de la intervención en garantía.

Cerciorarse de que las máquinas están limpias y en buen estado, y que el aceite de los posibles multiplicadores de vueltas ha sido vaciado. Aconsejamos devolver el material en un embalaje que permita protegerlo durante el transporte.

Scheda di riparazione:
Repair card:
Fiche technique de réparation:
Reparaturkarte:
Ficha de reparación:

RMA: _____ DATA: _____

Tecnico contattato: _____
 Technician contacted: _____
 Technicien contacté: _____
 Kontakterter Techniker: _____
 Técnico contactado: _____

Descrizione del prodotto: Description of product: Description du produit: Produktbezeichnung: Descripción del producto:	Modello: Model: Modèle: _____ Modell: Modelo:	Matricola: Serial number: N° de série: _____ Kennummer: Matrícula:
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Ditta: Company: Entreprise: _____ Firma: Empresa:	Tel/Fax: _____ Persona da contattare: Contact person: Contact: _____ Ansprechpartner: Persona a contactar:
---	---

Barrare la casella corrispondente:
Put an "X" in the corresponding box:
Barrer la case correspondante:
Das entsprechende Kästchen ankreuzen:
Rellenar la casilla correspondiente:

Motivo della restituzione: Reason for return: Motif(s) de la restitution: Begründung d. Rückgabe: Motivo de la devolución:	Riparazione: Repair: <input type="checkbox"/> Réparation: <input type="checkbox"/> Reparatur: <input type="checkbox"/> Reparación:	Manutenzione: Maintenance: <input type="checkbox"/> Entretien: <input type="checkbox"/> Wartung: <input type="checkbox"/> Mantenimiento:
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IDENTIFICAZIONE CLIENTE - CLIENT IDENTIFICATION - DONNEES D'IDENTIFICATION CLIENT - KUNDENBEZEICHNUNG - IDENTIFICACIÓN DEL CLIENTE	
Assenza di tensione: No voltage: <input type="checkbox"/> Absence de tension: Spannungsmangel: <input type="checkbox"/> Falta de tensión:	Problemi sul quadretto elettrico: Electrical control panel problems: Problème au niveau des circuits électriques: <input type="checkbox"/> Probleme am Schaltbrett: Problemas en el cuadro eléctrico:
Tensione bassa: Low voltage: <input type="checkbox"/> Tension insuffisante: Niederspannung: <input type="checkbox"/> Tensión baja:	Tensione alta: High voltage: <input type="checkbox"/> Surtension: Hochspannung: Tensión alta:
Problemi meccanici: Mechanical problems: _____ Problèmes mécaniques: Mechanische Probleme: _____ Problemas mecánicos:	
Note: Notes: _____ Remarques: Anmerkungen: _____ Notas:	



La lista dei centri assistenza autorizzati si trova nel nostro sito web : www.sogagroup.com

The service center list is available in our web site : www.sogagroup.com

La liste des centres de service après-vente agréés se trouve sur notre site web: www.sogagroup.com

Die Liste unserer autorisierten Kundendienststellen findet sich auf unserer Website: www.sogagroup.com

Uds. encontrarán la lista de los centros de asistencia autorizados en nuestro sitio web: www.sogagroup.com

DISEGNO D'INGOMBRO OVERALL DIMENSION DIMENSION D'ENCOMBREMENT ABMESSUNGEN DIMENSIONEN DIMENSIONES

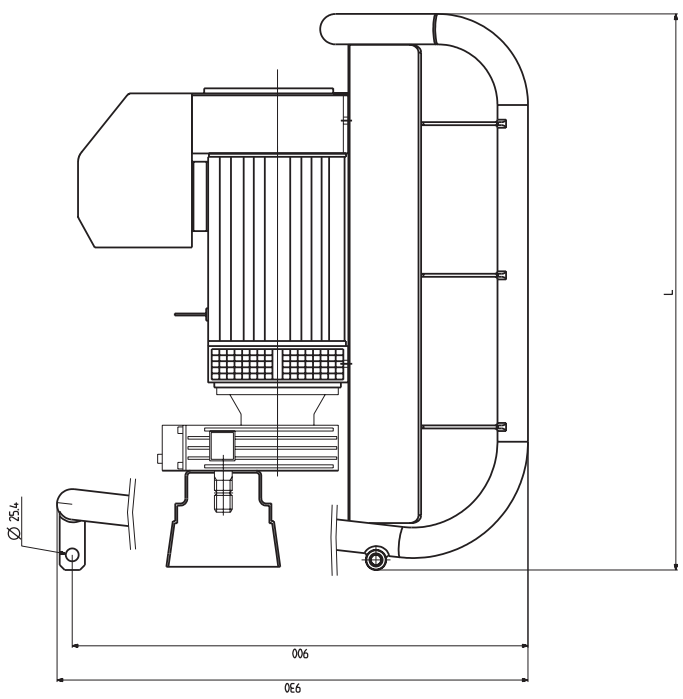
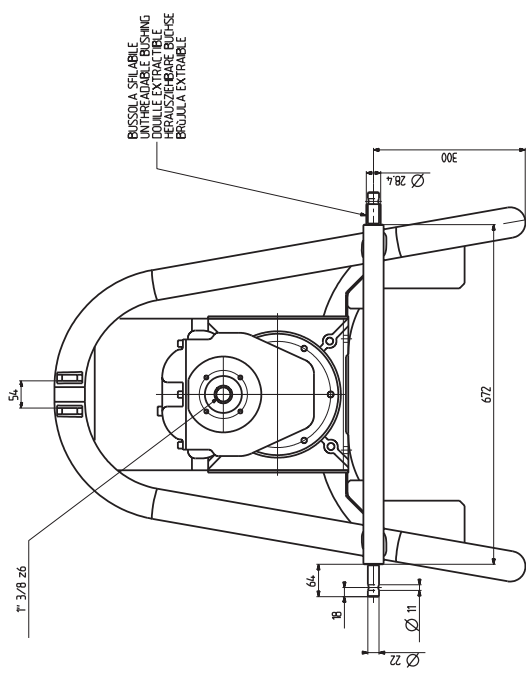
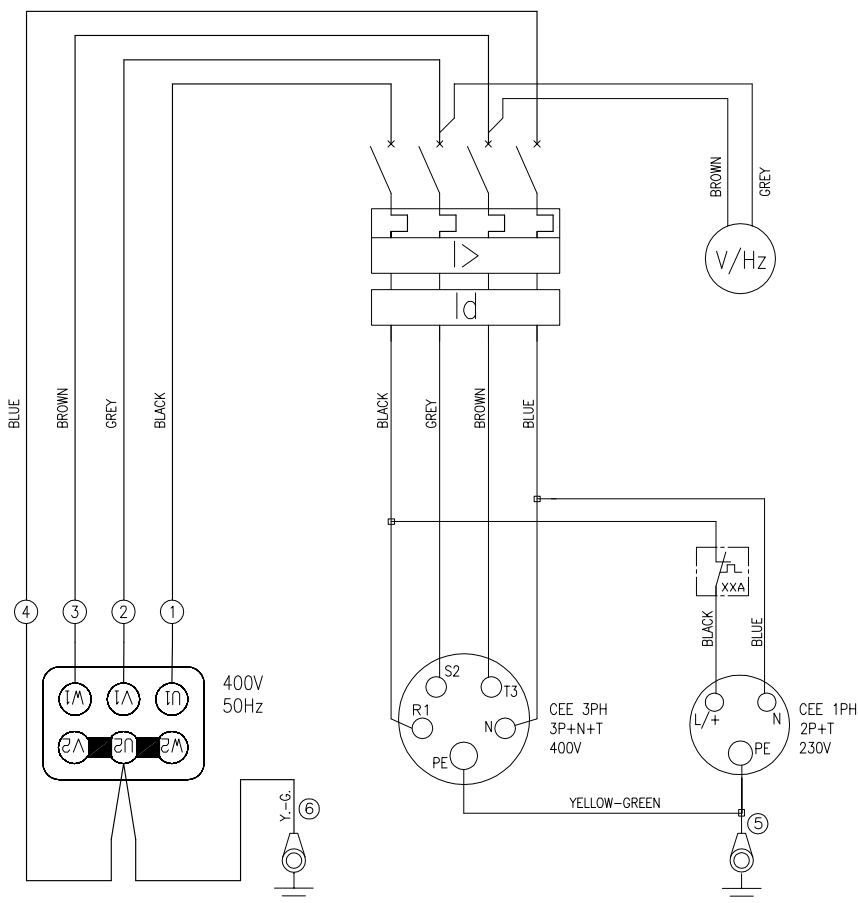
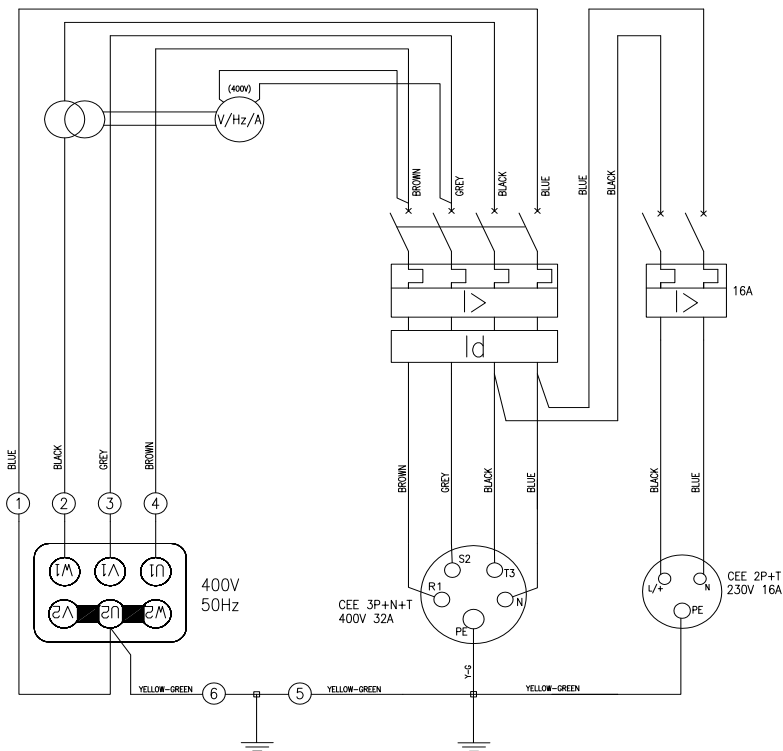


TABELLA CARATTERISTICHE ELETTICHE / MECCANICHE						
ELECTRICAL/MECHANICAL CHARACTERISTICS TABLE						
TABLEAU DES CARACTERISTIQUES ELECTRIQUES / MECANIKUES						
TABELLE DER ELEKTRISCHEN / MECHANISCHEN EIGENSCHAFTEN						
TABLA CARACTEÍSTICAS ELÉCTRICAS / MECÁNICAS						
1. Three-phase synchronous brushless alternators - 2 poles - 3000 rpm - cos 0.8						
Three-Phase	Code	50Hz	Tractor HP on PTO for 50Hz	Power Take Off	Weight	Lenght
TYPE		kVA	HP	rpm	kg	L (mm.)
FT 2 MZS	81312120WX203	12	24	430	107	929
FT 2 MAS	81312140WX203	13,5	26	430	115	929
FT 2 MBS	81312160WX203	16	31	430	124	929
GT 2 MAS	81306145WX203	22	43	430	144	929
GT 2 MBS	81306170WX203	27	52	430	154	929
GS 140 LT2 A	80306210WX203	31,5	60	430	188	1135
GS 140 LT2 B	80306260WX203	38	71	430	209	1135
2. Three-phase synchronous brushless alternators - 4 poles - 1500 rpm - cos 0.8						
Three-Phase	Code	50Hz	Tractor HP on PTO for 50Hz	Power Take Off	Weight	Lenght
TYPE		kVA	HP	rpm	kg	L (mm.)
GT 4 MBS	81304170WX203	16	32	430	157	929
GS 140 L T4 A	80304240WX203	22,5	44	430	202	1135
GS 140 L T4 B	80304265WX203	27	52	430	212	1135
GS 140 L T4 C	80304265WX223	30	57	430	214	1135



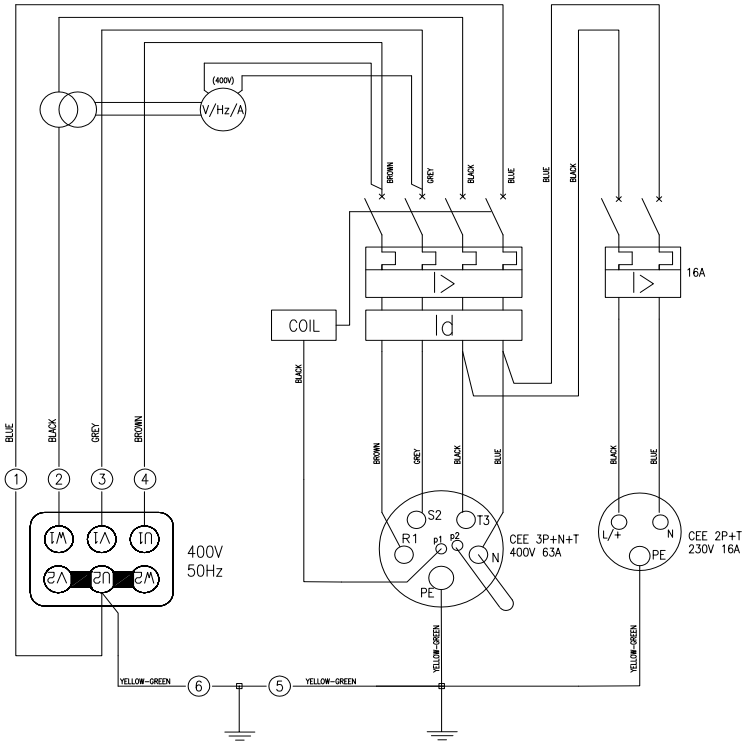
ISTRUZIONI PER IL COLLEGAMENTO	CONNECTION INSTRUCTIONS	INSTRUCTIONS POUR LA CONNEXION	ANLEITUNG ZUM ANSCHLUSS	INTRUCCIONES PARA LA CONEXIÓN
1) Collegare i cavi nero-grigio-marrone (1-2-3) ai morsetti U1-V1-W1 della morsettieria dell'alternatore.	1) Connect the black-grey-brown (1-2-3) cables to the U1-V1-W1 terminals of the alternator terminal board.	1) Connecter les câbles noir-gris-marron (1-2-3) aux bornes U1-V1-W1 du bornier de l'alternateur.	Die Kabel mit den Farben Schwarz-Grau-Braun (1-2-3) an die Klemmen U1-V1-W1 des Klemmenbretts des Drehstrom-generators anschließen.	1) Conectar los cables negro-gris-marrón (1-2-3) a los bornes U1-V1-W1 de la caja de bornes del alternador.
2) Collegare il cavo blu (4 - neutro) al morsetto sul lato della morsettieria dove è realizzato il centro stella.	2) Connect the blue cable (4 - neutral) to the star connection of the terminal board.	2) Connecter le câble bleu (4 - neutre) à la borne placée sur le côté du bornier où se trouve la connexion en étoile.	Das blaue Kabel (4 - Nulleiter) an die Klemme auf der Seite des Klemmenbretts, auf der das Sternschaltungszentrum realisiert ist, anschließen.	2) Conectar el cable azul (4-neutro) al lado de la caja de bornes donde está colocado el centro estrella.
3) Collegare il cavo giallo-verde (5 - massa) sullo scudo dell'alternatore.	3) Connect the yellow-green (5 - ground) cable to the alternator shield.	3) Connecter le câble jaune vert (5 - masse) sur la protection de l'alternateur.	Das gelb-grüne Kabel (5 - Masse) am Schild des Drehstrom-generators anschließen.	3) Conectar el cable amarillo-verde (5 - tierra) al escudo alternador.
4) Collegare il cavetto giallo-verde (6) tra il centro stella e la massa. Collegare tutta la struttura a terra.	4) Connect the short yellow-green cable (6) between the star connection and ground. Connect the whole structure to earth.	4) Connecter le câble jaune-vert (6) entre la connexion en étoile et la masse. Mettre toute la structure à la terre.	Das gelb-grüne Kabel (6) zwischen dem Sternschaltungs-zentrum und der Masse anschließen. Den Erdungsanschluß der gesamten Struktur vornehmen.	4) Conectar el cablecito amarillo-verde (6) entre el centro estrella y la tierra. Conectar todo a tierra.

WIRING DIAGRAM OF GT-GS PANEL (code 7030041--)

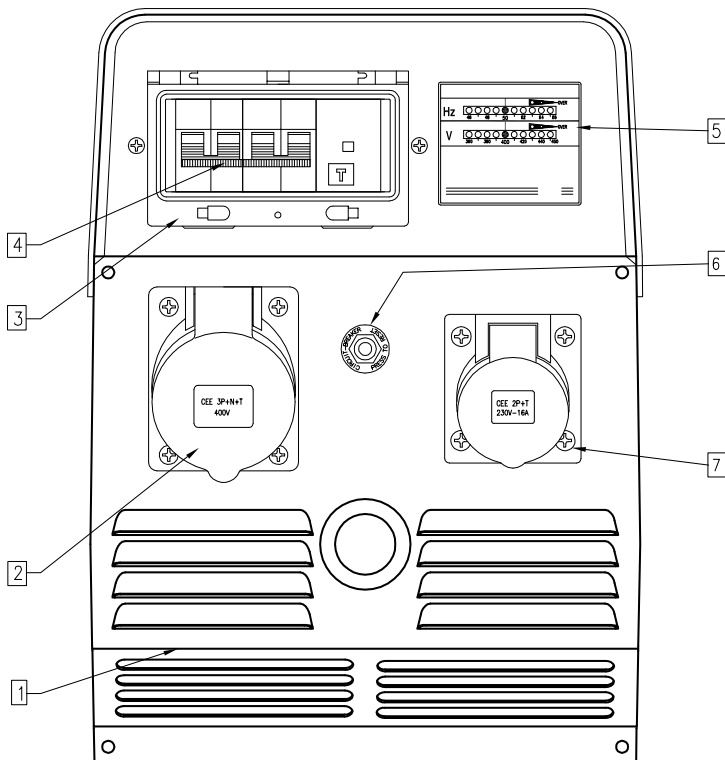


ISTRUZIONI PER IL COLLEGAMENTO	CONNECTION INSTRUCTIONS	INSTRUCTIONS POUR LA CONNEXION	ANLEITUNG ZUM ANSCHLUSS	INTRUCCIONES PARA LA CONEXIÓN
1) Collegare i cavi nero-grigio-marrone (2-3-4) ai morsetti W1-V1-U1 della morsettieria dell'alternatore.	1) Connect the black-grey-brown (2-3-4) cables to the W1-V1-U1 terminals of the alternator terminal board.	1) Connecter les câbles noir-gris-marron (2-3-4) aux bornes W1-V1-U1 du bornier de l'alternateur.	Die Kabel mit den Farben Schwarz-Grau-Braun (2-3-4) an die Klemmen W1-V1-U1 des Klemmbretts des Drehstrom-generators anschließen.	1) Conectar los cables negro-gris-marrón (2-3-4) a los bornes W1-V1-U1 de la caja de bornes del alternador.
2) Collegare il cavo blu (1 - neutro) al morsetto sul lato della morsettieria dove è realizzato il centro stella.	2) Connect the blue cable (1 - neutral) to the star connection of the terminal board.	2) Connecter le câble bleu (1 - neutre) à la borne placée sur le côté du bornier où se trouve la connexion en étoile.	Das blaue Kabel (1 - Nulleiter) an die Klemme auf der Seite des Klemmbretts, auf der das Sternschaltungszentrum realisiert ist, anschließen.	2) Conectar el cable azul (1-neutro) al lado de la caja de bornes donde está colocado el centro estrella.
3) Collegare il cavo giallo-verde (5-massa) sullo scudo dell'alternatore.	3) Connect the yellow-green (5 - ground) cable to the alternator shield.	3) Connecter le câble jaune vert (5 - masse) sur la protection de l'alternateur.	Das gelb-grüne Kabel (5 - Masse) am Schild des Drehstrom-generators anschließen.	3) Conectar el cable amarillo-verde (5-tierra) al escudo alternador.
4) Collegare il cavetto giallo-verde (6) tra il centro stella e la massa. Collegare tutta la struttura a terra.	4) Connect the short yellow-green cable (6) between the star connection and ground. Connect the whole structure to earth.	4) Connecter le câble jaune-vert (6) entre la connexion en étoile et la masse. Mettre toute la structure à la terre.	Das gelb-grüne Kabel (6) zwischen dem Sternschaltungszentrum und der Masse anschließen. Den Erdungsanschluß der gesamten Struktur vornehmen.	4) Conectar el cablecito amarillo-verde (6) entre el centro estrella y la tierra. Conectar todo a tierra.

WIRING DIAGRAM OF GT-GS PANEL (code 7030042--)



ISTRUZIONI PER IL COLLEGAMENTO	CONNECTION INSTRUCTIONS	INSTRUCTIONS POUR LA CONNEXION	ANLEITUNG ZUM ANSCHLUSS	INTRUCCIONES PARA LA CONEXION
1) Collegare i cavi di potenza (2-3-4) ai morsetti W1-V1-U1 della morsetteria dell'alternatore.	1) Connect the input cables (2-3-4) to the W1-V1-U1 terminals of the alternator terminal board.	1) Connecter les câbles (2-3-4) aux bornes W1-V1-U1 du bornier de l'alternateur	Die Kabel mit den Farben Schwarz-Grau-Braun (2-3-4) an die Klemmen W1-V1-U1 des Klemmenbretts des Drehstromgenerators anschließen.	1) Conectar los cables (2-3-4) a los bornes W1-V1-U1 de la caja de bornes del alternador.
2) Collegare il cavo blu (1 - neutro) al morsetto sul lato della morsetteria dove è realizzato il centro stella.	2) Connect the blue cable (1 - neutral) to the star connection of the terminal board.	2) Connecter le câble bleu (1 - neutre) à la borne placée sur le côté du bornier où se trouve la connexion en étoile	Das blaue Kabel (1 - Nulleiter) an die Klemme auf der Seite des Klemmenbretts, auf der das Sternschaltungszentrum realisiert ist, anschließen.	2) Conectar el cable azul (1 - neutro) al lado de la caja de bornes donde está colocado el centro estrella.
3) Collegare il cavo giallo-verde (5 - massa) sullo scudo dell'alternatore.	3) Connect the yellow-green (5 - ground) cable to the alternator shield.	3) Connecter le câble jaune vert (5 - masse) sur la flasque de l'alternateur.	Das gelb-grüne Kabel (5 - Masse) am Schild des Drehstromgenerators anschließen.	3) Conectar el cable amarillo-verde (5-tierra) al escudo alternador.
4) Collegare il cavetto giallo-verde (6) tra il centro stella e la massa. Collegare tutta la struttura a terra.	4) Connect the short yellow-green cable (6) between the star connection and ground. Connect the whole structure to earth.	4) Connecter le câble jaune-vert (6) entre la connexion en étoile et la masse. Mettre toute la structure à la terre.	Das gelb-grüne Kabel (6) zwischen dem Sternschaltungszentrum und der Masse anschließen. Den Erdungsanschluß der gesamten Struktur vornehmen	4) Conectar el cablecito amarillo-verde (6) entre el centro estrella y la tierra. Conectar todo a tierra.
ATTENZIONE: il dispositivo "COIL" realizza un interblocco sulla presa da 63A. Per chiudere l'interruttore generale deve essere inserita la spina sulla presa.	WARNING: the "COIL" device makes a safety block on the 63A EEC socket. To switch on the main switch the plug must be fitted on the socket.	ATTENTION: le dispositif "COIL" réalise un interverrouillage sur la prise de 63A. Pour fermer l'interrupteur général, la fiche doit être branchée dans la prise.	ACHTUNG: Die Vorrichtung "COIL" stellt eine Verblockung auf der Steckdose 63A her. Um den Hauptschalter zu schließen, muß der Stecker in die Steckdose eingeführt werden.	ATENCIÓN: el dispositivo "COIL" hace un bloque de seguridad en la toma CEE de 63A. Para encender el interruptor principal se debe inserir el enchufe en la toma.



Ref.	Code	Descrizione	Description	Description
1	165002025	Pannello porta-accessori quadro 7031306--	7031306-- portable accessories panel	Panneau porte-accessoires tableau 7031306--
	165002043	Pannello porta-accessori quadro 7031311--	7031311-- portable accessories panel	Panneau porte-accessoires tableau 7031311--
2	305014016415	Presà CEE 3P+N+T 16A 415V	CEE 3P+N+T 16A 415V socket	Prise CEE 3P+N+T 16A 415V
	305014032415	Presà CEE 3P+N+T 32A 415V	CEE 3P+N+T 32A 415V socket	Prise CEE 3P+N+T 32A 415V
3	266064012	Coperchietto di protezione 6 moduli IP54	IP54 protection cover 6 modules	Couvercle de protection 6 modules IP54
4	3045040--	Int. magnetotermico 4P + differenziale 0,03A	4 poles magnetotermic switch + differential 0,03A	Int. magnéto-thermique 4 poles + différentiel 0,03A
5	303302055450	Voltmetro 400V + frequenzimetro 50Hz	400V voltmeter + frequencymeter 50Hz	Voltmètre 400V + fréquencemètre 50Hz
6	3002000--	Protettore termico	Thermal protection	Protection thermique
7	305062016240	Presà CEE 2P+T 16A 240V	CEE 2P+T 16A 240V socket	Prise CEE 2P+T 16A 240V

CODICE QUADRO	POTENZA ALTERNATORE (kVA)	Int. magnetot.+diff. (Rif.4)	Prot. termico
PANEL CODE	ALTERNATOR POWER (kVA)	Main switch (Ref.4)	Thermal prot.
CODE TABLEAU	PUISSANCE ALTERNATEUR (kVA)	Interr. general (Ref.4)	Prot. thermique
703130610	7	10A	12A
703130615	9 - 11 - 12	15A	20A
703131120	13,5	20A	20A
703131125	16	25A	20A

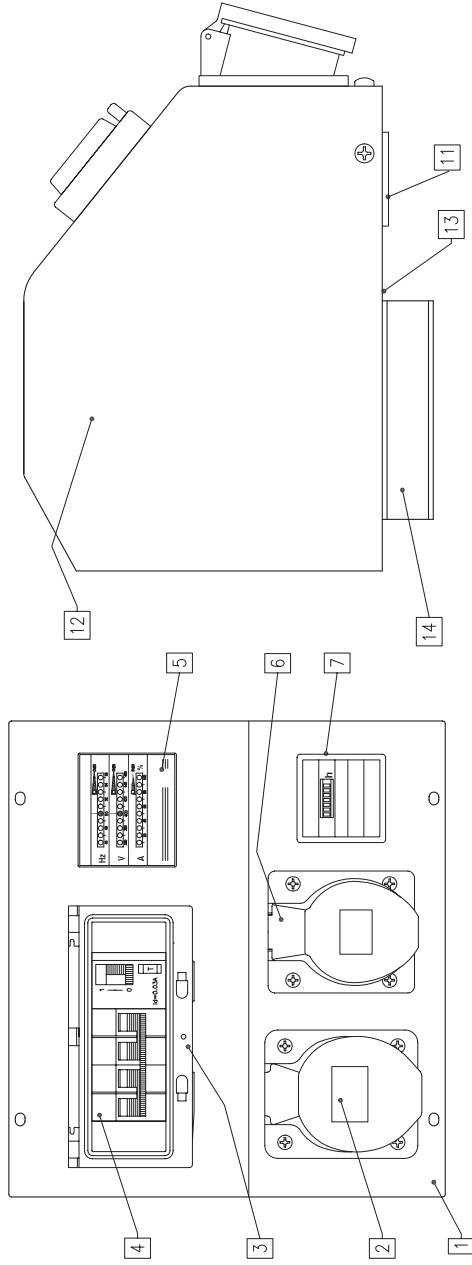
PARTI DI RICAMBIO QUADRO GT-GS POTENZE FINO A 24.3kVA (400V)

SPARE PARTS SWITCHBOARD GT-GS POWERS UP TO 24.3kVA (400V)

PIECES DE RECHANGE GT-GS PUISSANCES JUSQ'À 24.3kVA (400V)

ERSATZTEILE SCHALTTAFEL GT-GS LEISTUNGEN BIS ZU 24.3kVA (400V)

PIEZAS DE RECAMBIO GT-GS POTENCIAS HASTA 24.3 kVA (400V)



Ref.	Code	Descrizione	Description
1	165019020	Pannello porta-accessori	Portable accessories panel
2	305014032415	Pressa CEE 3P+N+T 32A 400V socket	Prise CEE 3P+N+T 32A 400V socket
3	266064015	Coperchietto di protezione	Couvercle de protection
4	3045040--	Int. magnetotermico 4P + differenziale 0.03A	8 modules IP54 4 poles magnetotermic switch + differential 0.03A
5	304202015	Int. magnetotermico 2P 16A	2 poles 16A MTB switch
6	305062016240	Pressa CEE 2P+T 16A 240V socket	Prise CEE 2P+T 16A 240V socket
7	3029044005--	Voltmetro 400V + frequenzimetro 50Hz + amperometro	Voltmètre 400V + fréquencemètre 50Hz + ampèremètre
11	269001030	Passacavo	Pass-cable
12	165014014	Coperchietto quadro G140	Couvercle tableau G140
13	165095001	Base quadro G140	Base tableau G140
14	165098015	Staffa di bloccaggio	Bride de blocage

CODICE QUADRO	POTENZA ALTERNATORE (kVA)	Int. magnet.+diff. (Ref.4)	Ampereometro
PANEL CODE	ALTERNATOR POWER (kVA)	Main switch (Ref.4)	Ammeter
CODE TABLEAU	PUISSANCE ALTERNATEUR (kVA)	Interr. general (Ref.4)	Ampèremètre
703004125	16 - 19,8 - 20,2	25A	25A
703004132	22 - 22,5 - 24,3	32A	32A

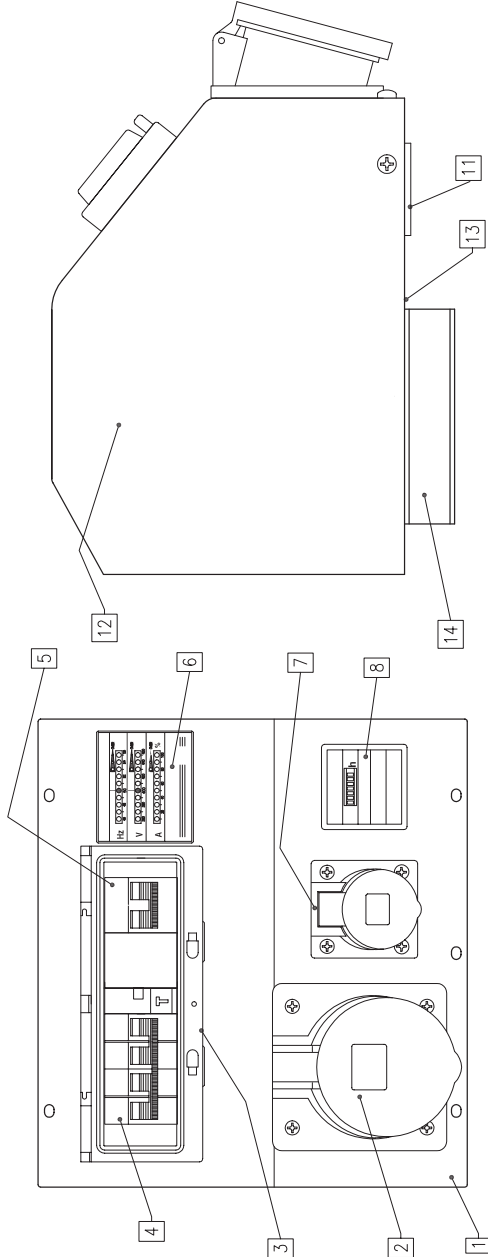
PARTI DI RICAMBIO QUADRO GT-GS POTENZE DA 27kVA (400V)

SPARE PARTS SWITCHBOARD GT-GS POWERS FROM 27kVA (400V)

PIECES DE RECHANGE GT-GS PUISSANCES A PARTIR DE 27kVA (400V)

ERSATZTEILE SCHALTTAFEL GT-GS LEISTUNGEN AB 27kVA (400V)

PIEZAS DE RECAMBIO GT-GS POTENCIA DE 27 kVA (400V)



Ref.	Code	Descrizione	Description	Description
1	165019021	Pannello porta-accessori	Portable accessories panel	Pannello porta-accessori
2	305014063415	Presa CEE 3P+N+T 63A 400V	CEE 3P+N+T 63A 400V socket	Presa CEE 3P+N+T 63A 400V
3	266064016	Coperchietto di protezione	IP54 protection cover	Copertura di protezione
4	3046040--	Int. magnetotermico 4P +	10 moduli IP54	Int. magnetotermico 4 poles +
		10 moduli IP54	10 modules IP54	Int. magnetotermico 4 poles +
		Int. magnetotermico 4P +	4 poles magnetotermic switch +	Int. magnetotermico 4 poles +
		Int. magnetotermico 4P +	differential 0,03A	differential 0,03A
5	304202015	Int. magnetotermico 2P 16A	2 poles 16A MTB switch	Int. magnetoterm. 2 poles 16A
6	305062016240	Presa CEE 2P+T 16A 240V	CEE 2P+T 16A 240V socket	Presa CEE 2P+T 16A 240V
7	3029044005--	Volmetro 400V +	400V voltmeter +	Volmetro 400V +
		Frequenzimetro 50Hz +	50Hz frequencymeter +	Frequenzimetro 50Hz +
		Ampèremetro	ampèremètre	Ampèremetro
11	269001030	Passacavo	Cables protector	Passacavo
12	165014014	Coperchio quadro G140	G140 panel cover	Copertura quadro G140
13	165095001	Base quadro G140	G140 panel base	Base quadro G140
14	165098015	Staffa di bloccaggio	Fixing clamp	Bride di bloccaggio

CODICE QUIA-DRO	POTENZA ALTERNATORE (kVA)	Int. magnetot.+diff. (Ref.4)	Amperometro
PANEL CODE	ALTERNATOR POWER (kVA)	Main switch (Ref.4)	Ammeter
CODE TAB-LIEAU	PUISSANCE ALTERNATEUR (kVA)	Interr. general (Ref.4)	Amperemètre
703004240	27 - 28,4	40A	40A
703004245	30 - 31,5	40A	45A
703004250	34,2	50A	50A
703004255	38	50A	55A

DICHIARAZIONE DI CONFORMITA'**CONFORMITY CERTIFICATE****DECLARATION DE CONFORMITE'**

La società

The company

La société

SINCRO S.R.L.

Via Tezze,3 36073 Cereda di Cornedo Vicentino - Vicenza ITALY

dichiara sotto la propria responsabilità che gli alternatori

declares under its own responsibility that the alternators:

déclare sous sa propre responsabilité que les alternateurs

serie AGROWATT**serie AGROWATT****série AGROWATT**

sono costruiti e collaudati in accordo alle norme di seguito indicate:

have been manufactured and tested in compliance with the following standards

sont construits et testés dans le respect des normes indiquées ci-après:

CEI EN 60034-1 (CEI 2-3 - NF 51.100 - VDE 0530 - BS 4999-5000)
 CEI EN 60204-1 (CEI 44-5)
 EN 292-1, 292-2
 IEC 34.1, 34.5

e risultano conformi:

and thereby conform to:

et sont conformes:

1) ai requisiti generali di sicurezza stabiliti dalla Direttiva Bassa Tensione del 19 Febbraio 1973 (73/23 CEE), recepita in Italia con la legge n°791 del 18 Ottobre 1977.

1) all General Safety Requirements as provided by the EEC Low Voltage Directive dated 19 February 1973 (73/23 EEC).

1) Aux conditions générales de sécurité établies par la Directive relative à la basse tension du 19 Février 1973 (73/23 CEE), adoptée par l'Italie par promulgation de la loi n°791 du 18 Octobre 1977.

2) alla Direttiva 89/336 CEE (mod. dalla 93/68 CEE) riguardante il ravvicinamento delle legislazioni degli stati membri in materia di compatibilità elettromagnetica. La verifica di compatibilità è stata condotta in base alle seguenti norme:

2) all principal safety requirement specified by the Committee for Adapting Member States Legal Regulation on Electromagnetic Compatibility (89/336 EEC, 93/68 EEC). The following standards were used to evaluate the electromagnetic compatibility:

2) A la Directive 89/336 CEE (et modification successive 93/68 CEE) concernant l'harmonisation des législations des états membres en matière de comptabilité électromagnétique. La vérification de compatibilité a été effectuée conformément aux normes suivantes:

EN 55011 (CEI 110-6)
 EN 50081-1 (CEI 110-7)
 EN 50082-1 (CEI 110-8)

Cereda di Cornedo, li 07/2005

Sincro s.r.l.
L'amministratore delegato
The Managing Director
L'Administrateur Délégué

Flavio Pistollato


KONFORMITÄTSERKLÄRUNG**DECLARACIÓN DE CONFORMIDAD**

Die Firma

La sociedad

SINCRO S.R.L.

Via Tezze,3 36073 Cereda di Cornedo Vicentino - Vicenza ITALY

erklärt unter der eigenen Verantwortung, daß der Bau und die Abnahme der Generatoren

declara bajo la propia responsabilidad que los alternadores

Baureihe AGROWATT**serie AGROWATT**

den nachstehenden Vorschriften entspricht:

han sido fabricados y probados siguiendo la normativa que se detalla a continuación:

CEI EN 60034-1 (CEI 2-3 - NF 51.100 - VDE 0530 - BS 4999-5000)
 CEI EN 60204-1 (CEI 44-5)
 EN 292-1, 292-2
 IEC 34.1, 34.5

darüberhinaus erfüllen sie:

y cumplen:

1) die allgemeinen Sicherheitsanforderungen der Richtlinie für Niederspannung vom 19 Februar 1973 (73/23 CEE), in Italien mit dem Gesetz Nr. 791 vom 18 Oktober 1977 aufgenommen.

1) las prescripciones que sobre seguridad quedan definidas en la Norma sobre la Baja Tensión del 19 de Febrero del 1973 (73/23 CEE) introducida en Italia con la ley n° 791 del 18 de Octubre del 1977.

2) die Richtlinie 89/336CEE (Mod. der 93/68 CEE) bezüglich der Annäherung der Gesetzgebungen der Mitgliedsstaaten in Sachen elektromagnetischer Kompatibilität. Die Kompatibilitätsprüfung wurde mit Zugrundelegung folgender Normen ausgeführt:

2) la Norma 89/336 CEE (y sucesiva modificación 93/68 CEE) sobre la compatibilidad electromagnética.
 La prueba de compatibilidad se ha realizado en base a las siguientes normas:

EN 55011 (CEI 110-6)
 EN 50081-1 (CEI 110-7)
 EN 50082-1 (CEI 110-8)

Cereda di Cornedo, li 07/2005

Sincro s.r.l.
Delegierter des Verwaltungsrats
El Administrador Delegado

Flavio Pistollato



La SINCRO si riserva di apportare modifiche senza preavviso.
 The manufacturer reserves the right to modify features without notice.
 Les valeurs peuvent subir des variations sans préavis.
 Die Werte können ohne Vorankündigung Änderungen unterzogen werden.
 La Sincro se reserva el derecho de aportar las modificaciones sin preaviso.

Cod/0900229 - 07/05 Rev/01