Megger

Operating Manual

Earth contact locating system
GL 660 1

Mess- und Ortungstechnik
Measuring and Locating Technologies

Elektrizitätsnetze
Power Networks

Kommunikationsnetze
Communication Networks

Rohrleitungsnetze
Water Networks

Leitungsortung
Line Locating

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Consultation with Megger

The present system manual has been designed as an operating guide and for reference. It is meant to answer your questions and solve your problems in as fast and easy a way as possible. Please start with referring to this manual should any trouble occur.
In doing so, make use of the table of contents and read the relevant paragraph with great attention. Furthermore, check all terminals and connections of the instruments involved.

Should any question remain unanswered or should you need the help of an authorized service station, please contact:

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Since some states do not allow the exclusion or limitation of an implied warranty or of consequential damage, the limitations of liability described above perhaps may not apply to you.

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1 Generator GLS 660-1 - General

The GEOLUX instrument system is mainly used for the location of earth faults in unearthed protective conductor systems of control and pilot cables of large enterprises, power plants (also nuclear power plants) and by operators of control and pilot cable networks. A special feature of the GEOLUX system is its capability to locate faults in single core airfield lighting cable networks. The earth fault can be located without operational interruption. With the GEOLUX system, a very low frequency current (5 Hz) is coupled directly to the faulty conductor. The electromagnetic field of this signal current which does not disturb the operation of the system, is picked up by means of inductive probes which leads to a location of the earth fault. For an easier identification, the signal current can be transmitted at a certain clock rate, whereby the transmission time of the generator is indicated on the receiver through a synchronizing circuit. With the help of a newly developed circuit, the cable capacitance can be compensated, enabling the location of faults with resistances of up to 200 kΩ.

1.1 Description of the generator

The complete test equipment consists of a generator (GLS 660-1), a receiver (GLE 660-1), various probes and a set of connection leads. Special accessories are available for extended application.
This operating manual describes the generator GLS 660-1 and the receiver GLE 660-1 individually.

1.2 Scope of supply

The scope of supply comprises of the fully operative basic equipment GL 660-1 and the optional special accessories .

1.2.1 Basic equipment

a) GEOLUX generator	GLS 660-1
b) Set of cables for generator consisting of :	VL 660
High voltage test lead	HSK 7-B
Test clip with fuse	PK 660-R
Test clip with fuse	PK 660-S
Earthing lead	EK 4
Earthing clamp	AK 49-B
Power cable	NKG 1
Connection cable	VK 50
c) Receiver	GLE 660-1
d) Probe for round conductor	GSK 1
e) Identification tongs with compensation	AZK 100

1.2.2 Special accessories :

f) Identification tongs 12 mm	AZK 12
g) Identification tongs 50 mm	AZK 50
h) Cable drum	KTG 50
i) Probe for buried cables	GS 5
j) Carrying bag for generator	GLT 661
k) Carrying bag for receiver	GLT 662

Technical data of the generator

a) Output frequency	5 Hz ± 0.1 Hz
b) Output voltage 1	10 V
c) Output voltage 2	20 V
d) Output voltage 3	40 V
e) Output voltage 4	80 V
f) Output current 1	> 5 mA
g) Output current 2	> 10 mA
h) Output current 3	> 18 mA
i) Output current 4	> 34 mA
j) Automatic pulse repetition rate	5 s ON - 2 s OFF

k) Blocking voltage	660 V AC 660 V DC
l) Analogue meter 1	Test current and battery check
m) Analogue meter 2	Voltage indication 0 - 1000 V 50 Hz 0 - 1000 V DC 0 - 100 V 5 Hz
n) Operating time (battery)	5 hours
o) Charging time	4 hours
p) Rechargeable battery	12 V, 2.4 Ah
q) Mains voltage	230 V, 45 - 60 Hz
r) Operating temperature	-10°C up to +50°C
s) Storage temperature	25°C up to +70°C
t) Weight	12 kg
u) Dimensions	366 x 183 x 260 mm

2 Putting into operation

2.1 Safety

No dangerous voltages are present on the generator or the receiver. Nevertheless, when operating the GEOLUX system, the following safety measures should be adhered to:

v) The housing of the generator is to be earthed, both on mains and battery operation. This is done via the socket (3).

w) The test lead clips of the high voltage connection lead HSK 7-B and the test voltage output of the generator are designed for a maximum voltage of 660 V AC and 100 V DC. Higher voltages are not permitted

x) The maximum insulation voltage of the identification tongs is 660 V AC/DC. They must not be connected to bus-bars or conductors carrying higher voltages.

y) Additionally, prior to the use of the GEOLUX system, in signal carrying cables, it should be ascertained as to whether a disturbance of the signal flow is permissible. Although no interference using low frequency has been experienced, this cannot be completely ruled out.

VERY IMPORTANT
Since under certain circumstances the test lead clips have to be connected directly to a bus-bar, severe danger exists in the event of a short-circuit in the test lead or in the generator. The voltages in the bus-bars would cause the test leads to vaporize and endanger the operator of the instrument. For this reason, each of the test-lead clips contains a short-circuit proof 20 A fuse. The fused test-lead point is shown in figure 1. If other contact elements are used, the possible source of danger mentioned above has to be taken into account. If necessary, instead of the test clips (terminals) supplied, smaller (insulated) clips can be used.

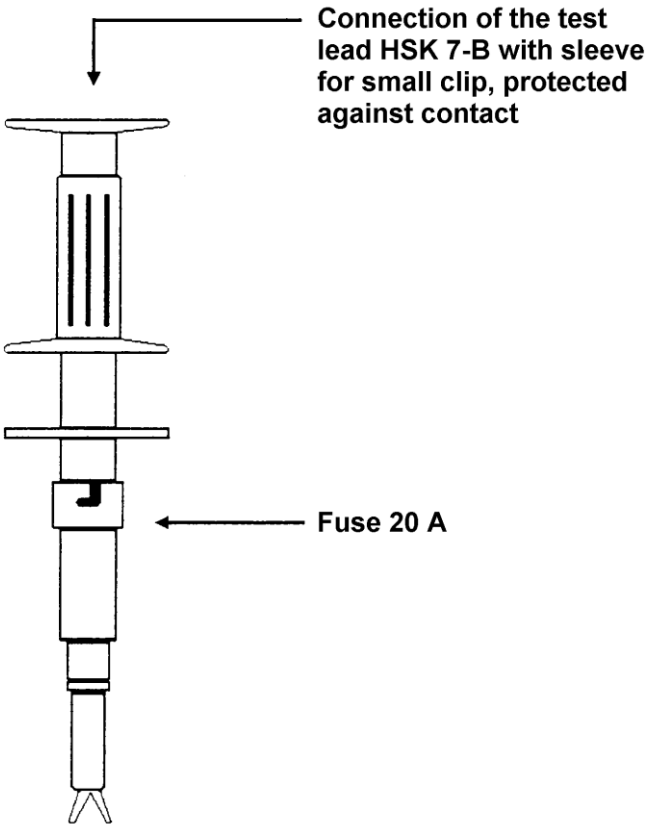

Figure 1 : Test clip PK 660

2.2 Operating and connection panel of the generator

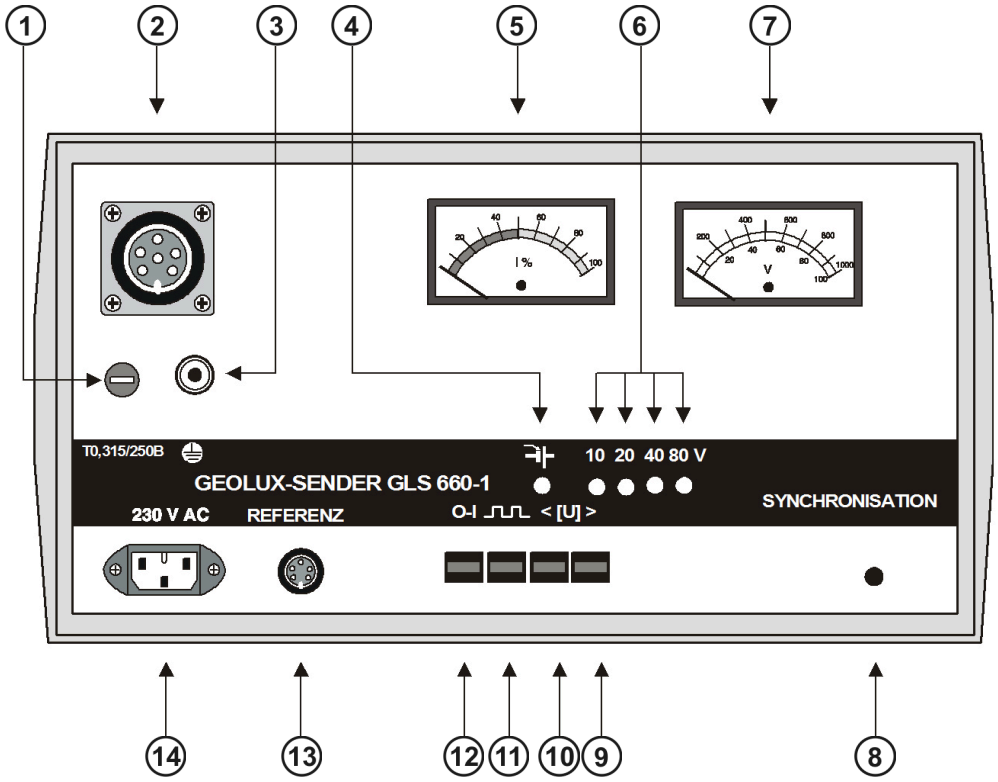

Figure 2 : Operating and connection panel of the GLS 660-1

1. Microfuse T0.315/250 V
2. Output socket
3. Earthing socket
4. Pilot lamp: Charging in process
5. Pilot lamp: Output voltage
6. Ammeter
7. Voltmeter
8. Pilot lamp: Synchronisation
9. Pushbutton: Voltage selector >
10. Pushbutton: Voltage selector <
11. Pushbutton: Clock pulse
12. Pushbutton: ON - OFF
13. Socket: Reference signal
14. Socket: Power input

2.3 Connection of the generator GLS 660-1.

The following connections shown in figure 3 have to be made:

1. Earthing lead EK 4 to the earthing socket (3) and to safety earth.
2. The red clip of the test lead HSK 8-A is to be connected directly to the faulty core.
3. The black clip is to be connected to the system earth of the cable network.
4. For mains operation, the mains connection lead NKG 1 is connected to the power input socket (14) and to a 230 V AC mains.

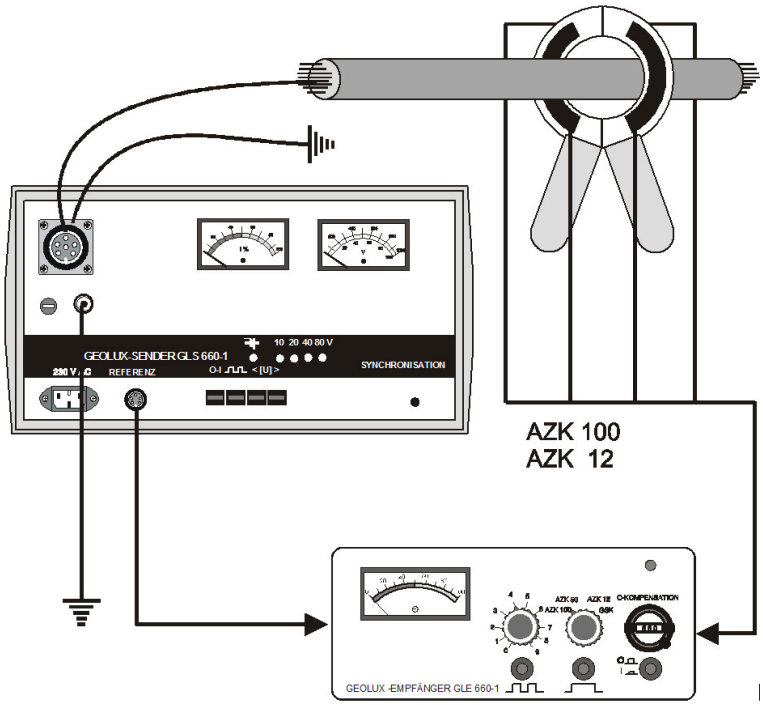

Figure 3 : Connection diagram of the generator GLS 660-1

2.4 Settings on the generator GLS 660-1

1. The instrument is switched on activating the pushbutton (12). An automatic battery check on the meter (6) follows. The ON condition is indicated by the pilot lamp (5) (underneath the 10 V label) which starts flashing.

2. The output voltage can be increased or decreased using the pushbuttons > (9) or < (10). After setting, the pilot lamp over the selected output voltage lights up and the respective value is indicated on the meter (7).

3. The pulsed signal of the generator is switched on by operating the pushbutton (11). As a confirmation, the pilot lamp (8) starts flashing.

4. Each time the generator GLS 660-1 is switched on, it is automatically set to external timing pulse. This is indicated by the pilot lamp (8) which lights continuously.

Note:	Additional possibilities of impulse operation are described in the operating instructions for the receiver.

5. If a test current is present, this is indicated as a percentage of the selected output voltage on the meter (6). If a lower output voltage is set with the pushbutton (10), the output current will decrease.

2.5 Determining the faulty conductor

This measurement is completely passive, i.e. the generator GLS 660-1 does not have to be switched on. After connecting the test lead, one of the clips has to be connected to system earth. The other clip is used to touch the three phase conductors one after the other (fig. 4). The two floating cores will indicate a voltage. The faulty core however will indicate a lower voltage in the event of higher earth contact resistances and Zero voltage in the case of a short-circuit.

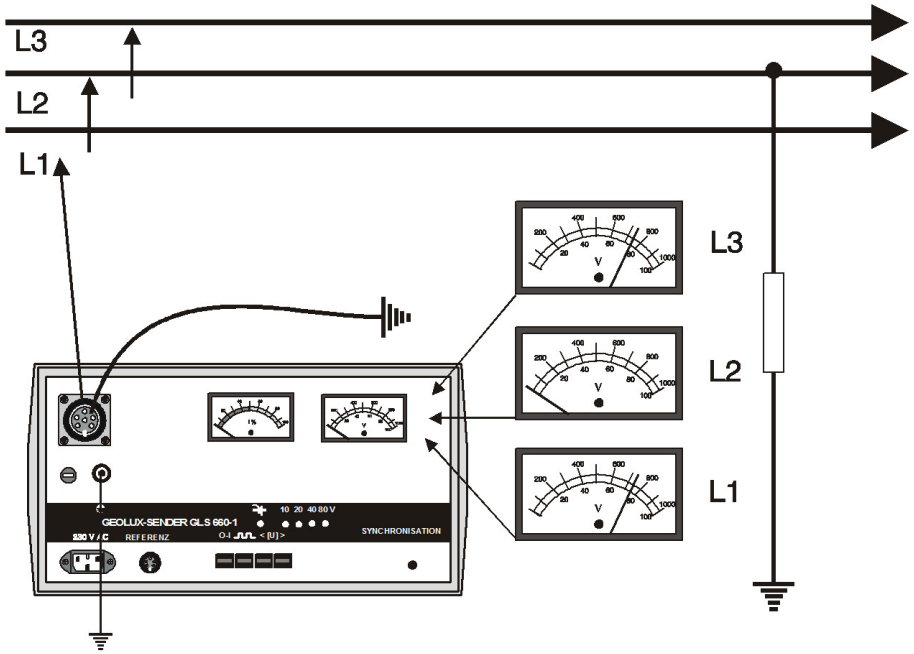

Figure 4 : Determination of the faulty conductor

For this measurement the upper graduated scale of the meter is used. The meter has the following scales:

1.	0 – 1000 V	AC	50 Hz
2.	0 – 100 V	DC	
3.	0 – 100 V	AC	5 Hz

Safety Instruction:
On completion of the measurement, first remove the clip from the live cable. Only after that, disconnect the clip from system earth.

2.6 Power supply of the generator GLS 660-1

The generator can be operated from the built-in rechargeable 12 V battery or from the mains. Battery operation is restricted to approx. 5 hours.

2.6.1 Charging the generator

The charging process commences on connection of the mains supply lead NKG 1 to the power input socket (14). The charging process is signalized by the pilot lamp (4). After approx. 4 hours, the 12 V battery is fully charged, the charging process is automatically terminated and the pilot lamp (4) extinguishes.

2.6.2 Generator battery check

After switching on the generator GLS 660-1, an automatic battery check is carried out. If the batteries are sufficiently charged, the pointer of the meter (6) will be in the green zone. After approx. 4 seconds, the pointer drops back and then indicates the current. If the pointer of the meter (6) is in the red zone, connect the unit to a mains supply. The battery automatically charges during mains operation.

3 Receiver GLE 660-1 – General

The GEOLUX system also includes the receiver GLE 660-1 and the various probes for picking up the 5 Hz electromagnetic field.

3.1 Description of the receiver

The battery operated GEOLUX receiver is a selective, powerful amplifier unit for reception and determination of the value of a 5 Hz signal fed to the faulty cable. With a 10-stage rotary switch, the gain can be set between 70 and 100 dB. Selection of the individual probes is also done with a rotary switch.

The facility for compensation of the capacitive current is a new feature. This is done in conjunction with a compensating probe and the rotary control (helical potentiometer) with numerical display of the set value. The measured value is displayed on an analog meter which also serves as a battery check.

For a synchronisation with the timing pulse, an opto coupler is mounted at the bottom of the housing. This opto coupler picks up the sync pulse lighting up a pilot lamp for the duration of the flow of the impulse current.

In addition to the synchronization through the generator, an automatic or manual timing-pulse frequency can be set on the receiver. This ensures an easy recognition of the applied (induced) test signal even under trying conditions and in the presence of heavy interferences.

3.2 Technical data of the receiver GLE 660-1

a.	Gain	70...100 dB
b.	Filter 1	16.66 Hz notch
	Filter 2	50 Hz notch
	Filter 3	5 Hz low pass/high pass
c.	Indicating meter (analogue)	relative fault current and battery check
d.	Earth fault measuring range:	
	with tongs	RF = 100 kΩ
	with U-probe	RF = 20 kΩ
e.	C-compensation	max. 50 µF
f.	Sync indication	LED (green)
g.	Parasitic current too high	LED (red)
h.	Pulse sequence (auto)	5 s ON - 2 s OFF
	Pulse sequence (manual)	freely selectable
i.	Power supply	8 x 1.5 V Mignon
j.	Operating time	approx. 40 hours
k.	Operating temperature	-10°C up to +50°C
l.	Storage temperature	-25°C up to +70°C
m.	Weight	1.2 kg
n.	Dimensions	220 x 100 x 130 mm

4 Putting the receiver into operation

The receiver can be switched on only after the insertion of the measuring probe.

4.1 Switching the receiver ON

As shown in figure 5, the receiver is switched on by pressing the luminous pushbutton (28), lighting up a red lamp. Simultaneously, for approx. 2 seconds, the automatic battery check is carried out. The result is indicated on the meter (22).

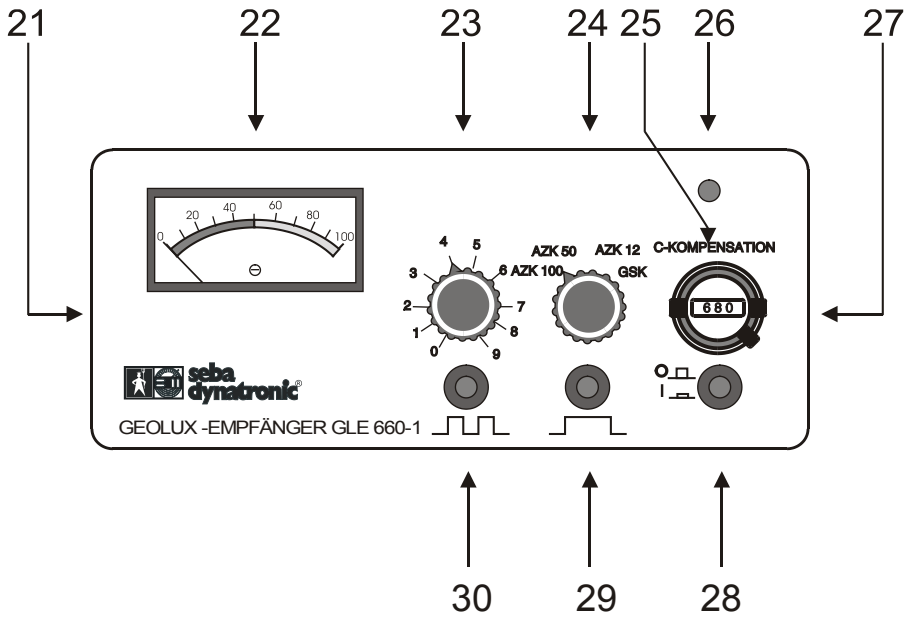

Figure 5 : Front connection panel of the receiver GLE 660-1

21. Socket 1: Compensation input
22. Meter: Measured value / battery check
23. Rotary switch: Gain
24. Rotary switch: Probe selection
25. Rotary control: Compensation control
26. Pilot lamp: Synchronization
27. Socket 2: Probe connection
28. Pushbutton with pilot lamp: ON - OFF
29. Pushbutton with pilot lamp: Manual pulse sequence
30. Pushbutton with pilot lamp: Automatic impulse sequence

4.2 Connection and selection of the probes

All probes have to be connected to the socket (27). (Without a probe connected the receiver cannot be switched on). The following probes are available:

a. Receiver tongs AZK 100 as standard accessory with an internal diameter of 100 mm.
b. Bar-type probe GSK 1 as standard accessory.
c. Receiver tongs AZK 12 as optional accessory with an internal diameter of 12 mm.
d. Receiver tongs AZK 50 as optional accessory with an internal diameter of 50 mm.

The rotary switch (24) is used for the selective connection of each of these probes. This ensures an optimal matching of each probe to the receiver.

4.3 Timing-pulse sequence

For a better identification of the test signal, the signal current can be pulsed. The following pulsing modes are available:

1. Inherent pulse clock sequence of the generator with synchronization of the receiver.
2. Pulse clock of the receiver auto transmitted to the generator by a connection lead.
3. Manual pulse mode of the receiver transmitted to the generator by a connection lead.

4.3.1 Pulse mode of the generator GLS 660-1

After switching on the generator GLS 660-1, it is automatically set to "continuous test current". This is indicated by the pilot lamp (8) which lights continuously. For an external ON-OFF switching or a timed pulse sequence through the receiver, pushbutton (11) has to be operated. This operation mode of the generator is indicated by the pilot lamp (8).

To synchronize the receiver GLE 660-1, place its bottom on the operating panel of the generator GLS 660-1 so that the opto coupler mounted at the bottom of the receiver picks up the light signals of the pilot lamp (8). See figure 5. On switching on, the receiver is synchronized. After the synchronisation, the pulse indicators (8) generator and (26) receiver must light up simultaneously.

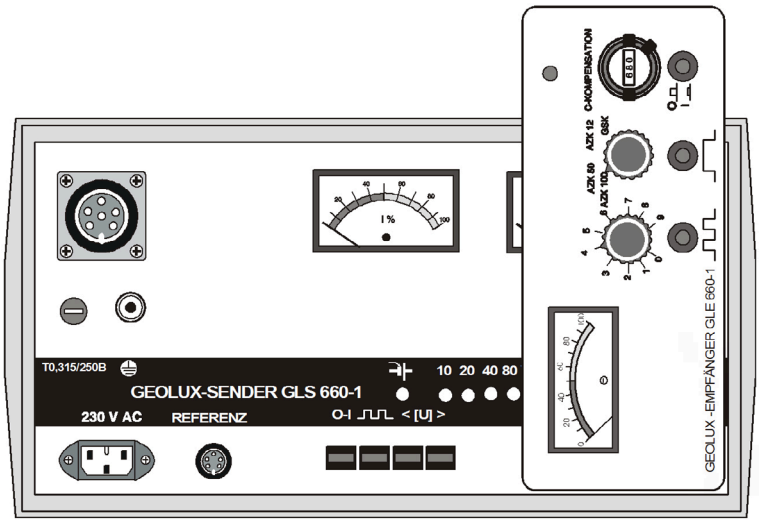

Figure 6 : Synchronization of the receiver

4.3.2 Automatic pulse mode of the receiver

For this mode of operation, the generator has to be connected to the receiver by means of the connection lead VK 50. Instead of this 10 m connection lead, one can also use the cable drum KTG 50 with 50 m of cable.

The generator has to be set to "continuous current" which is signalized by the pilot lamp (8) on the generator which lights continuously. Now the luminous pushbutton (29) on the receiver has to be pressed. The red pilot lamp in this pushbutton lights up. Then press the luminous pushbutton (30). The red pilot lamp in this pushbutton also lights up. Now, the pilot lamps (8) on the generator and (26) signalize synchronization.

4.3.3 Manual pulse mode of the receiver GLE 660-1

In the case of heavy interferences a manual timing-pulse rate can improve the test result considerably, since a pulsed test current can be applied during the interference-free intervals. For this purpose, the generator has to be set to continuous current (as described in para. 4.3.2.). After switching on the receiver press the pushbutton (29). In order to stop the test current, press pushbutton (29) again. Here also, the pilot lamps (8) on the generator and (26) on the receiver indicate the test current flow simultaneously.

To return to the automatic timing-pulse sequence, press the pushbutton (11) on the generator or the pushbutton (30) on the receiver.

4.4 Reactive current compensation

The location of high resistance earth faults in cable systems with a high capacitance is problematic. This is due to the fact that often the capacitive reactive current is considerably higher than the test current over the fault. The compensation facility of the GEOLUX system offers the possibility of compensating cable capacitances up to 50 µF.

4.4.1 Compensation procedure

Generator and receiver have to be connected using the connection lead VK 50, whereby one end is plugged into the socket (13) of the generator and the other into the socket (21) of the receiver. Instead of the connection lead, one can use the cable drum KTG 50.

One of the compensation tongs has to be clipped around the fault current carrying cable and the gain is to be set such that a deflection of approx. 80% is obtained on the meter. In transmitting operation (pilot lamp 6 lights), the pointer deflection is set to a minimum value by means of the compensation control (27). This compensation should be used for each measurement, since the capacitance per unit length constantly changes, leading to varying reactive currents.

After the compensation, the test signal should clearly differ from the reactive current signal. In the case of extreme disturbances, the compensation effect might be negatively influenced.

Tento symbol indikuje, že výrobek nesoucí takovéto označení nelze likvidovat společně s běžným domovním odpadem. Jelikož se jedná o produkt obchodovaný mezi podnikatelskými subjekty (B2B), nelze jej likvidovat ani ve veřejných sběrných dvorech. Pokud se potřebujete tohoto výrobku zbavit, obraťte se na organizaci specializující se na likvidaci starých elektrických spotřebičů v blízkosti svého působiště.

Dit symbool duidt aan dat het product met dit symbool niet verwijderd mag worden als gewoon huishoudelijk afval. Dit is een product voor industrieel gebruik, wat betekent dat het ook niet afgeleverd mag worden aan afvalcentra voor huishoudelijk afval. Als u dit product wilt verwijderen, gelieve dit op de juiste manier te doen en het naar een nabij gelegen organisatie te brengen gespecialiseerd in de verwijdering van oud elektrisch materiaal.

This symbol indicates that the product which is marked in this way should not be disposed of as normal household waste. As it is a B2B product, it may also not be disposed of at civic disposal centres. If you wish to dispose of this product, please do so properly by taking it to an organisation specialising in the disposal of old electrical equipment near you.

Този знак означава, че продуктът, обозначен по този начин, не трябва да се изхвърля като битов отпадък. Тъй като е B2B продукт, не бива да се изхърля и в градски пунктове за отпадъци. Ако желаете да извърлите продукта, го занесете в пункт, специализиран в изхвърлянето на старо електрическо оборудване.

Dette symbol viser, at det produkt, der er markeret på denne måde, ikke må kasseres som almindeligt husholdningsaffald. Eftersom det er et B2B produkt, må det heller ikke bortskaffes på offentlige genbrugsstationer. Skal dette produkt kasseres, skal det gøres ordentligt ved at bringe det til en nærliggende organisation, der er specialiseret i at bortskaffe gammelt el-udstyr.

Sellise sümboliga tähistatud toodet ei tohi käidelda tavalise olmejäätmena. Kuna tegemist on B2B-klassi kuuluva tootega, siis ei tohi seda viia kohalikku jäätmekäitluspunkti. Kui soovite selle toote ära visata, siis viige see lähimasse vanade elektriseadmete käitlemisele spetsialiseerunud ettevõttesse.

Tällä merkinnällä ilmoitetaan, että kyseisellä merkinnällä varustettua tuotetta ei saa hävittää tavallisen kotitalousjätteen seassa. Koska kyseessä on yritysten välisen kaupan tuote, sitä ei saa myöskään viedä kuluttajien käyttöön tarkoitettuihin keräyspisteisiin. Jos haluatte hävittää tämän tuotteen, ottakaa yhteys lähimpään vanhojen sähkölaitteiden hävittämiseen erikoistuneeseen organisaatioon.

Ce symbole indique que le produit sur lequel il figure ne peut pas être éliminé comme un déchet ménager ordinaire. Comme il s'agit d'un produit B2B, il ne peut pas non plus être déposé dans une déchetterie municipale. Pour éliminer ce produit, amenez-le à l'organisation spécialisée dans l'élimination d'anciens équipements électriques la plus proche de chez vous.

Cuireann an siombail seo in iúl nár cheart an táirgeadh atá marcáilte sa tslí seo a dhiúscairt sa chóras fuíoll teaghlaigh. Os rud é gur táirgeadh ghnó le gnó (B2B) é, ní féidir é a dhiúscairt ach oiread in ionaid dhiúscartha phobail. Más mian leat an táirgeadh seo a dhiúscairt, déan é a thógáil ag eagraíocht gar duit a sainfheidhmíonn i ndiúscairt sean-fhearas leictrigh.

Dieses Symbol zeigt an, dass das damit gekennzeichnete Produkt nicht als normaler Haushaltsabfall entsorgt werden soll. Da es sich um ein B2B-Gerät handelt, darf es auch nicht bei kommunalen Wertstoffhöfen abgegeben werden. Wenn Sie dieses Gerät entsorgen möchten, bringen Sie es bitte sachgemäß zu einem Entsorger für Elektroaltgeräte in Ihrer Nähe.

Αυτό το σύμβολο υποδεικνύει ότι το προϊόν που φέρει τη σήμανση αυτή δεν πρέπει να απορρίπτεται μαζί με τα οικιακά απορρίματα. Καθώς πρόκειται για προϊόν B2B, δεν πρέπει να απορρίπτεται σε δημοτικά σημεία απόρριψης. Εάν θέλετε να απορρίψετε το προϊόν αυτό, παρακαλούμε όπως να το παραδώσετε σε μία υπηρεσία συλλογής ηλεκτρικού εξοπλισμού της περιοχής σας.

Ez a jelzés azt jelenti, hogy az ilyen jelzéssel ellátott terméket tilos a háztartási hulladékokkal együtt kidobni. Mivel ez vállalati felhasználású termék, tilos a lakosság számára fenntartott hulladékgyűjtőkbe dobni.Ha a terméket ki szeretné dobni, akkor vigye azt el a lakóhelyéhez közel működő, elhasznált elektromos berendezések begyűjtésével foglalkozó hulladékkezelő központhoz.

Questo simbolo indica che il prodotto non deve essere smaltito come un normale rifiuto domestico. In quanto prodotto B2B, può anche non essere smaltito in centri di smaltimento cittadino. Se si desidera smaltire il prodotto, consegnarlo a un organismo specializzato in smaltimento di apparecchiature elettriche vecchie.

Šī zīme norāda, ka iztrādājumu, uz kura tā atrodas, nedrīkst izmest kopā ar parastiem mājsaimniecības atkritumiem. Tā kā tas ir izstrādājums, ko cits citam pārdod un lieto tikai uzņēmumi, tad to nedrīkst arī izmest atkritumos tādās izgāztuvēs un atkritumu savāktuvēs, kas paredzētas vietējiem iedzīvotājiem. Ja būs vajadzīgs šo izstrādājumu izmest atkritumos, tad rīkojieties pēc noteikumiem un nogādājiet to tuvākajā vietā, kur īpaši nodarbojas ar vecu elektrisku ierīču savākšanu.

Šis simbolis rodo, kad juo paženklinto gaminio negalima išmesti kaip paprastų buitinių atliekų. Kadangi tai B2B (verslas verslui) produktas, jo negalima atiduoti ir buitinių atliekų tvarkymo įmonėms. Jei norite išmesti šį gaminį, atlikite tai tinkamai, atiduodami jį arti jūsų esančiai specializuotai senos elektrinės įrangos utilizavimo organizacijai.

Dan is-simbolu jindika li l-prodott li huwa mmarkat b'dan il-mod m'għandux jintrema bħal skart normali tad-djar. Minħabba li huwa prodott B2B , ma jistax jintrema wkoll f'ċentri ċiviċi għar-rimi ta' l-iskart. Jekk tkun tixtieq tarmi dan il-prodott, jekk jogħġbok għamel dan kif suppost billi tieħdu għand organizzazzjoni fil-qrib li tispeċjalizza fir-rimi ta' tagħmir qadim ta' l-elettriku.

Dette symbolet indikerer at produktet som er merket på denne måten ikke skal kastes som vanlig husholdningsavfall. Siden dette er et bedriftsprodukt, kan det heller ikke kastes ved en vanlig miljøstasjon. Hvis du ønsker å kaste dette produktet, er den riktige måten å gi det til en organisasjon i nærheten som spesialiserer seg på kassering av gammelt elektrisk utstyr.

Ten symbol oznacza, że produktu nim opatrzonego nie należy usuwać z typowymi odpadami z gospodarstwa domowego. Jest to produkt typu B2B, nie należy go więc przekazywać na komunalne składowiska odpadów. Aby we właściwy sposób usunąć ten produkt, należy przekazać go do najbliższej placówki specjalizującej się w usuwaniu starych urządzeń elektrycznych.

Este símbolo indica que o produto com esta marcação não deve ser deitado fora juntamente com o lixo doméstico normal. Como se trata de um produto B2B, também não pode ser deitado fora em centros cívicos de recolha de lixo. Se quiser desfazer-se deste produto, faça-o correctamente entregando-o a uma organização especializada na eliminação de equipamento eléctrico antigo, próxima de si.

Acest simbol indică faptul că produsul marcat în acest fel nu trebuie aruncat ca şi un gunoi menajer obişnuit. Deoarece acesta este un produs B2B, el nu trebuie aruncat nici la centrele de colectare urbane. Dacă vreţi să aruncaţi acest produs, vă rugăm s-o faceţi într-un mod adecvat, ducând-ul la cea mai apropiată firmă specializată în colectarea echipamentelor electrice uzate.

Tento symbol znamená, že takto označený výrobok sa nesmie likvidovať ako bežný komunálny odpad.Keďže sa jedná o výrobok triedy B2B, nesmie sa likvidovať ani na mestských skládkach odpadu. Ak chcete tento výrobok likvidovať, odneste ho do najbližšej organizácie, ktorá sa špecializuje na likvidáciu starých elektrických zariadení.

Ta simbol pomeni, da izdelka, ki je z njim označen, ne smete zavreči kot običajne gospodinjske odpadke. Ker je to izdelek, namenjen za druge proizvajalce, ga ni dovoljeno odlagati v centrih za civilno odlaganje odpadkov. Če želite izdelek zavreči, prosimo, da to storite v skladu s predpisi, tako da ga odpeljete v bližnjo organizacijo, ki je specializirana za odlaganje stare električne opreme.

Este símbolo indica que el producto así señalizado no debe desecharse como los residuos domésticos normales. Dado que es un producto de consumo profesional, tampoco debe llevarse a centros de recogida selectiva municipales. Si desea desechar este producto, hágalo debidamente acudiendo a una organización de su zona que esté especializada en el tratamiento de residuos de aparatos eléctricos usados.

Den här symbolen indikerar att produkten inte får blandas med normalt hushållsavfall då den är förbrukad. Eftersom produkten är en så kallad B2B-produkt är den inte avsedd för privata konsumenter, den får således inte avfallshanteras på allmänna miljö- eller återvinningsstationer då den är förbrukad. Om ni vill avfallshantera den här produkten på rätt sätt, ska ni lämna den till myndighet eller företag, specialiserad på avfallshantering av förbrukad elektrisk utrustning i ert närområde.