



GB/USGH3 Twin Ceiling Hoist

Vers. 7.00

CE

Guldmann™



GH3 Lifting modules, version type nomenclature													
Guldmann hoist type	Product line	Load in kg	Number of lifting straps	Number of lifting motors	Number of horizontal drive motors	Scale module	CLM module	Service module	User interface				
GH3	(x)	xxx	x	x	x	x	x	x	x				
GH3		200	1	1	1								
		250	1	1	1								
	+	200	1	1	1					None : 0 Scale : 1	None : 0 CLM : 1	None : 0 Service: 1	Hand control: 0 IR : 1
	250	1	1	1									
	275	1	1	1									
	300	1	2	2									
	350	1	2	2									
	375	1	2	2									
	Twin	250	2	2	0								
	500	2	2	0									
GH3	X	Y	Z	Z	Z	Q	Q	Q	Q				

GH3 Twin Ceiling Hoist

Item nos:

xxxx

1.00	Purpose and use	6
1.01	Manufacturer	6
1.02	Intended use	6
1.03	Conditions for use	6
1.04	Important/Precautions	7
1.05	Load limits on GH3 system	8
1.06	Unpacking and Preparation	8
1.07	Placing a new GH3 Hoist in an existing rail system	8
1.08	Power supply	9
1.09	Installation of GH3 Cross hanger and Horizontal lifter	10
1.10	Lifting sling	12
2.00	Description of functions	13
2.01	Pictograms	13
2.02	Indicator lamps and audio signals	14
2.03	Operation	15
2.04	Supplementary modules, GH3	17
	Menu structure, Supplementary modules GH3	17
2.05	Configuration of supplementary modules, GH3	19
2.06	Scale module (GH3 with integrated scale module)	20
2.07	CLM module (GH3 with statistical function for management use)	23
2.08	Service module (GH3 with service module)	25
2.09	Safety functions	27
2.10	Charging/connection	29
2.11	Accessories	29
3.00	Environmental conditions	30
4.00	Maintenance and storage	31
4.01	Cleaning and disinfection	31
4.02	Storage	31
4.03	How to prevent/avoid corrosion?	31
4.04	The owner's daily maintenance duty	32
4.05	Disposal of the GH3 including batteries	32
5.00	Service and lifetime	32
5.01	Lifetime	32
5.02	Safety/service inspections	32
5.03	Troubleshooting	33
6.00	Classification	33

7.00	Certificates	35
8.00	Technical specifications	35
9.00	EC-Declaration of conformity	38
10.00	Environmental policy statement - V. Guldmann A/S	39
11.00	EMC Information	39
	USA and countries outside the EU	43
	A. Users guide	43
	B. WARRANTY	43

1.00 Purpose and use

1.01 Manufacturer

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Fax + 45 8741 3131
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1.02 Intended use

The GH3 Twin (hereafter called GH3) is a ceiling-mounted hoist, which covers the requirements for heavy and special lifting or moving of persons.

GH3 is intended for use in professional healthcare facility environments where operators with medical training are continually available.

1.03 Conditions for use

The use of the GH3 is subject to the following:

- The GH3 should only be used by trained personnel.
- The maximum nominal load, 250 kg (550 lbs), 500 kg (1100 lbs), respectively, must not be exceeded.
- The instruction offered by Guldmann to all customer groups in connection with the purchase of a ceiling-mounted hoist has been received.
- The helper pays attention to the well-being of the user when using the hoist.
- The hoist is used in rail systems which are installed, tested and approved according to Guldmann's stipulation.
- Only technicians who have been certified by Guldmann may install and test the rail systems.
- The hoist is used with the Guldmann lifting hanger or with other suitable hanger (*section 1.09*).
- The hoist is used with a Guldmann lifting sling or with other suitable slings (*section 1.10*).

1.04

Important/Precautions

- Read the instructions carefully before using the GH3 and in connection with cleaning and service of the hoist.
- The GH3's maximum load must never be exceeded.
- The GH3 may only be used to lift a person.
- The red strap for the emergency stop and the emergency lowering must be adjusted to the helpers reach, and must not be removed.
- The GH3 must not be used where there is a risk of it being splashed with water.
- If a defect appears during use of the GH3, stop using the hoist and contact the Guldmann Service Team for repairs.
- The GH3 is controlled by a microprocessor PCB, which can be damaged by static electricity if touched without the necessary precautions, (*see point 1.08*)
- The electronics may only be serviced by Guldmann approved service technicians.
- The lifting hanger must not be mounted or replaced when the GH3 hoist is positioned over the patient.
- Do not modify this equipment without authorization of the manufacture
- The GH3 needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in Chapter 11 EMC Information.
- Portable and mobile RF communications equipment can affect the GH3.
- The use of ACCESSORIES, transducers and cables other than those specified, with the exception of transducers and cables sold by Guldmann A/S of the GH3 as replacement parts for internal components, may result in increased EMISSIONS or decreased IMMUNITY of the GH3.
- The GH3 should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, the GH3 should be observed to verify normal operation in the configuration in which it will be used.
- Transport of this equipment should only be undertaken after conditions described in section 3.00 (Environmental conditions).

Re: EMC

If electromagnetic or other influences occur between this product and other products, these products must not be used together.

1.05 Load limits on GH3 system

Read the label which indicate the maximum load limits for each component. The components, e.g. lifting hanger, lifting sling, etc. labelled with the lowest load limit determines the maximum load limit for the entire system. This maximum load limit must not be exceeded. Please note that the max load may change when different components are used, such as lifting hangers, lifting slings, etc.

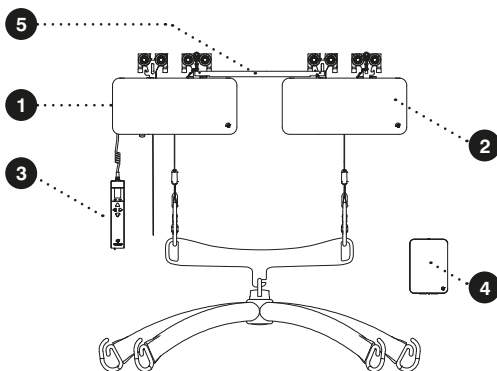
1.06 Unpacking and Preparation

Visual check of the GH3.

If the GH3 is thought to be damaged upon reception, the GH3 must not be used before it has been checked and approved by a qualified person or the Guldmann Service Team.

Contents of the box

1. GH3 hoist (leader)
2. GH3 hoist (follower)
3. Hand control
4. Transformer
5. Connector bar and cable
6. Manual (not illustrated)
7. Label for rail system (not illustrated)



1.07 Placing a new GH3 Hoist in an existing rail system

Please notice, placing a new GH3 hoist in an existing rail system it must be ensured that:

- The rated max load of the rail system, must be equal or higher than the max load of the new hoist.
 - If there is no max load mentioned on the rail system, the rail system must then be checked according to the guideline in the Installation guide (distance between bracket according to max load)
 - If the brackets are not visible, then a load test with 1,5 x max load of the hoist must be performed minimum 20 min. The deflection of rails must not be higher than 1/200 of the length of the rail.
 - If it is not possible to do any of the above mentioned, please contact Guldmann or their representative.
- If the rail system can not be rated to the same max load as the hoist, then extra brackets must be installed according to the Installation guide (distance between bracket according to max load).

Class I equipment

Fixed rail systems are class I equipment and **must** be installed by a qualified technician or by Guldmann Service Team.

Equipment is disconnected from Supply Mains by breaking the mains breaker switch.

Emergency stop device

The emergency stop device must be reset in order to connect power to the product. To do this, push the yellow reset button (*see point 2.09*).

1.08

Power supply

GH3 is equipped with batteries that require regular recharging. The power supply for charging and the battery charging point must be connected by a qualified engineer or by Guldmann Service Team.

The transformer supplied must **always** be used.

Safety concerning static electricity (ESD)

Service technicians and installers must use an ESD-safety package consisting of a mat, a ground wire, and a bracelet. The technician/installer connects the mat to a grounding point. The technician/installer must then put on the bracelet and connect it to the mat. If it is not possible to find a grounding point, the mat and the bracelet must be used as a minimum.

Only then is it allowed to work with the PCB Board or components where it is possible to come into contact with the PCB Board

Lifting hangers from other manufacturers

Guldmann shall not be liable for faults or accidents that may occur as a result of using lifting hangers made by other manufacturers.

If there is any doubt about the selection or use of a lifting hanger, please contact your supplier.

The lifting hanger can be installed to the lifting strap without the use of any tools.

Installation of GH3 Cross lifting hanger

1. Start with the installation of the GH3 lifting beam. Place each of the lifting straps oval hook in the eye of the GH3 lifting beam, one on each side (*Fig. 1 and 2*).

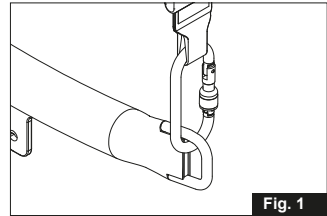


Fig. 1

Important:

Check that none of the lifting straps are twisted after the installation of the lifting beam and ensure that the lifting beam is horizontal during the lift!

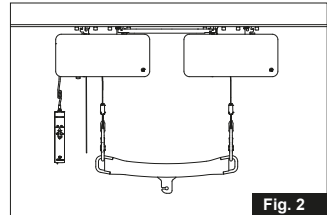


Fig. 2

2. Tilt GH3 Cross hanger to slide the round hoop in to the hook (*Fig. 3*)

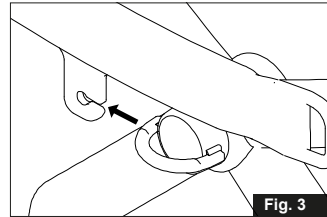


Fig. 3

3. Turn the flat part of the Hoop out of the hook before lowering the GH3 Cross hanger to horizontal position (*Fig. 4 and 5*)

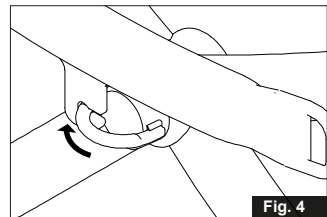
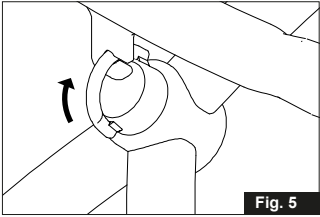
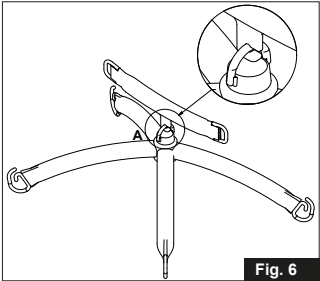


Fig. 4



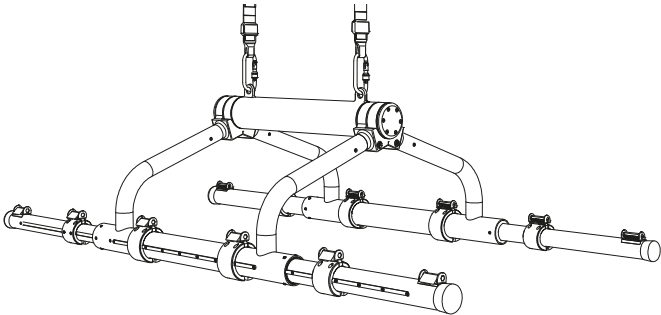
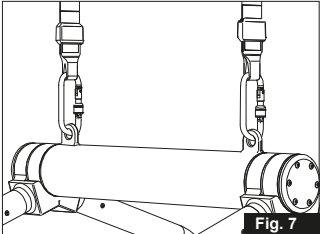
5. The GH3 Cross hanger is ready to use, when it is able to move freely in a horizontal position (Fig. 6)



Installation of GH3 Horizontal lifter

Use the oval hook to install the Horizontal lifter. (Fig. 7 and 8)

Important:
Check that none of the lifting straps are twisted after the installation of the GH3 Horizontal lifter



Lifting sling

A lifting sling with four to six lifting straps designed for mounting on hooks should be used when using a Guldmann lifting hanger. Place the straps on the hooks.

Slings made by other manufacturers

Guldmann shall not be liable for faults or accidents that may occur as a result of using lifting slings made by other manufacturers.

If there is any doubt about the selection or use of a lifting sling, please contact your supplier.

Guldmann shall not be liable for faults or accidents due to incorrect use of the lifting sling, or for reasons of inadequate attention on the part of the carer or user.

Working with the GH3

The GH3 runs easily in the rail system and does not have any special requirements for space or power in connection with moving. Attention can thus be fully focused on the user's functional level and the helper's technique.

If the hoist is used correctly, the user should only be lifted to the extent that she/he is clear of the surface and should be moved at this height.

Attaching the lifting sling to GH3 Cross hanger

Place the straps from the lifting sling on the hooks on the lifting hanger. Start with the uppermost set of straps (from the back) and then take the lowest set of straps (from the legs).

Attaching the lifting sheet to Horizontal lifter, foldable

Read the instructions in the user manual for the Horizontal lifter.

Important!

Only persons who have received competent instruction regarding the use of lifting equipment and fitting of slings should use the hoist.

Plan the move. Avoid leaving the user in the lifting sling unattended.

The hoist lifts quickly and powerfully. Before lifting, check that the user is completely free of his/her surroundings. The user's head, arms, hands and feet must not be in danger of becoming trapped. Be careful with any tubes and wires that are attached to the user. The user should not hold the lifting strap during the moving procedure as there is a risk of crushing between the strap's hook and the hoist. Check that the hand control and hand control cable is free of hanger, patient and other object before the hoist is activated up or down moved.

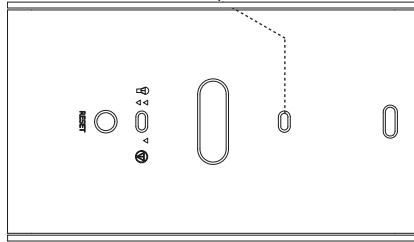
If the hoist is used correctly, the user should only be lifted to the extent that she/he is clear of the surface and should be moved at this height.

2.00

Description of functions

Information panel on the GH3 bottom surface on leader hoist.

Lamp indicator

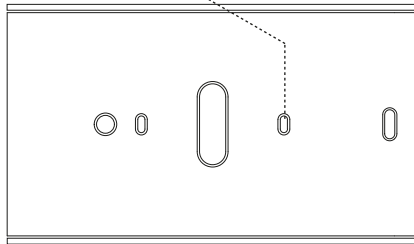


Information on strap



Information panel on the GH3 bottom surface on follower hoist.

Lamp indicator



2.01

Pictograms



Emergency stop



Emergency lowering function

RESET

Reset emergency stop



Tilt function

2.02

Indicator lamps and audio signals

Status	Indicator lamps	Audio signals	Possible GH3 Functions				
			Up	Down	Emergency lowering	Horizontal drive motor	Communication
Off – stand by	Off						
All OK	Green		x	x	x	x	x
No charging	Yellow, after 15 sec	3 x Beep after 60 sec	x	x	x	x	x
Low battery	Yellow		x	x	x	x	x
Fault on hoist	Yellow	Beeps at button activation			x		x
Battery critically low	Yellow	Beeps at button activation that is not permitted		x	x		x
Over load	Yellow	Beeps at button activation			x		x
Service date exceeded more than 60 days ^{x)}	Yellow	Beeps at button activation	x	x	x	x	x

^{x)} Only if the hoist is with Service modul

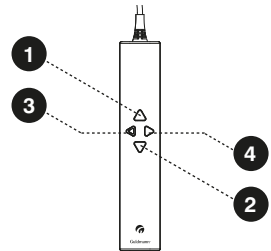
Hand control

The GH3 is switched on automatically when a button on the hand control is pressed.

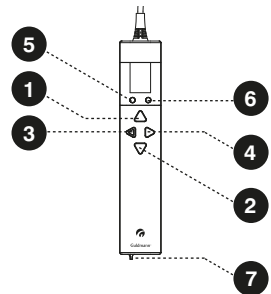
The GH3 is switched off automatically after approx. 8 minutes without activation.

GH3

1. Lift
2. Lower
3. Lift leader hoist. (Tilt fuction)
4. Lower leader hoist. (Tilt fuction)

**GH3 with supplementary modules**

1. Lift
2. Lower
3. Lift leader hoist. (Tilt fuction)
4. Lower leader hoist. (Tilt fuction)
5. Function selection button
(*section 2.05, supplementary modules*)
6. Function selection button
(*section 2.05, supplementary modules*)
7. PDA interface (mini USB) x)
PDA /Netbook

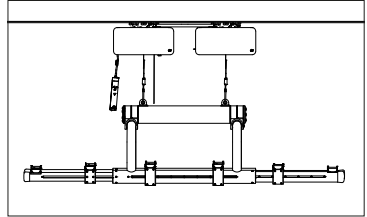


x) Accessories to CLM module
(see *Supplementary modules, GH3 (section 2.04)*)

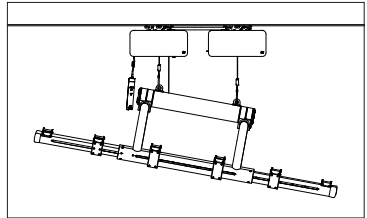
Using tilt function on GH3

The GH3 has a tilt function. This function can only be used with a horizontal lifter. (See section 2.03 for positions of hand control buttons)

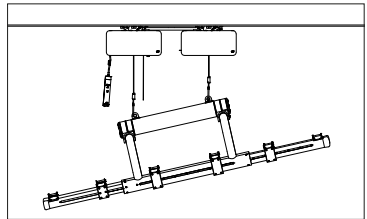
1. When the buttons 1 or 2 are pressed both hoists will lift or lower the horizontal lifter.



2. When the button 3 is pressed only the leader hoist lifts the horizontal lifter.





3. When the button 4 is pressed only the leader hoist will lower the horizontal lifter.



2.04

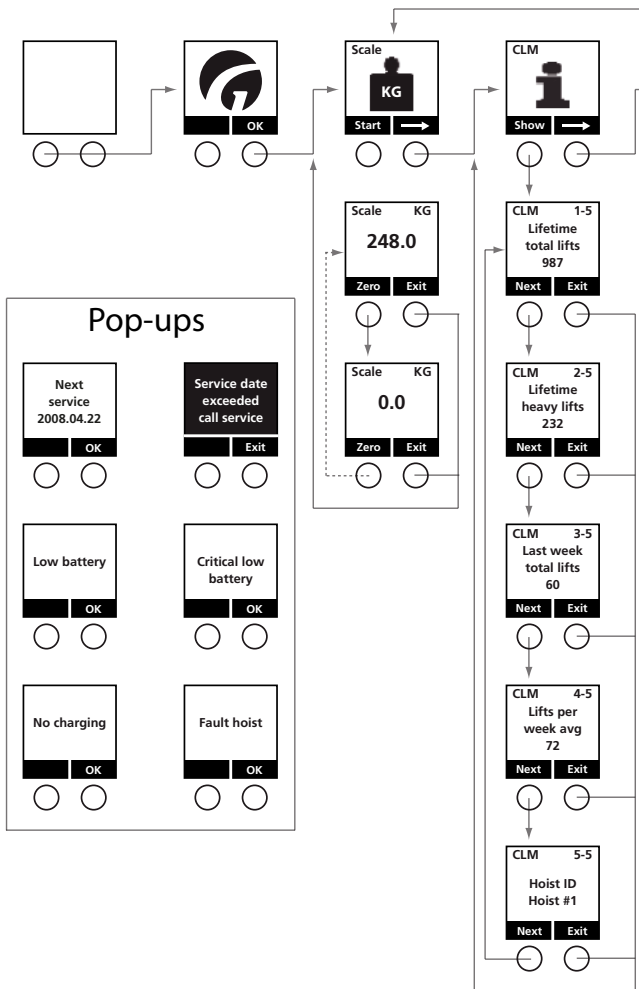
Supplementary modules, GH3

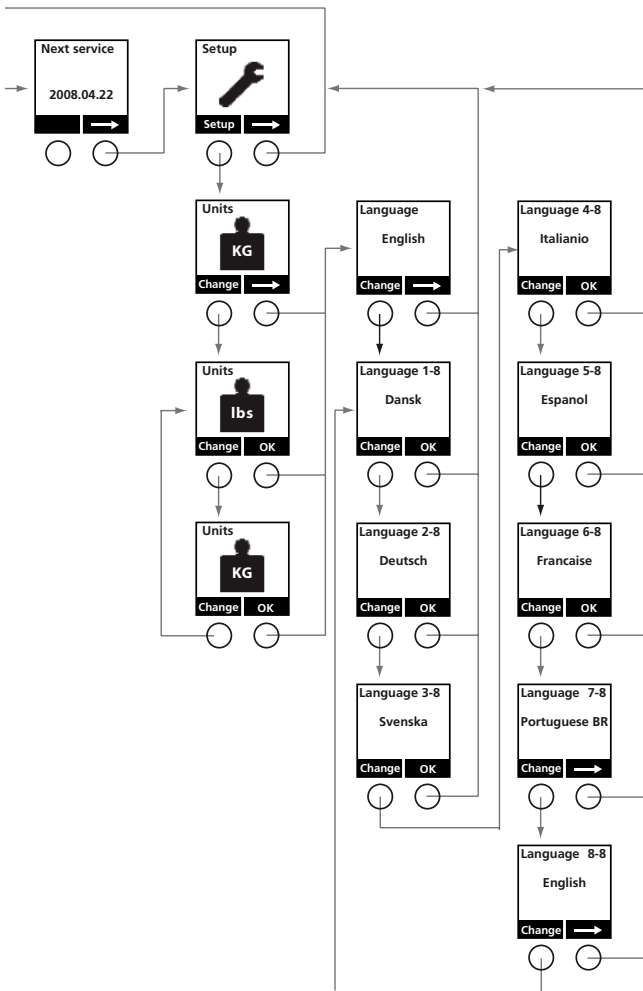
There are various supplementary modules for the GH3

- Scale module (GH3 with integrated scale) 
- CLM module (GH3 with statistical function for management use)
- Service module (GH3 with Service module) 

Menu structure, Supplementary modules GH3

(Detailed description follows in sections 2.05-2.09)





2.05

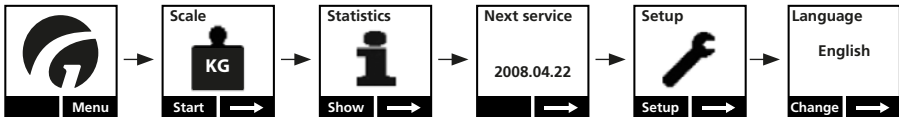
Configuration of supplementary modules, GH3

Before the GH3 is put into use, the hoist must be configured. Configuration covers language (Scale module/CLM module/Service module) and the unit for specification of weight (Scale module).

Factory setting: Language: English (UK)
 Unit of weight: kg

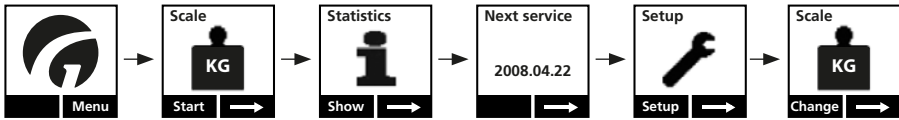
Configuration of supplementary modules takes place from the GH3 hand control.

Setting the language



1. Press any key on the GH3 hand control to activate the hoist.
When the hoist is activated, the display on the hand control is switched on and the Guldmann logo "G" appears.
2. Select "Menu" using the function key located immediately below the display and then select → until the "Setup" menu appears in the display.
3. Select "Setup" and then → until the "Language" menu appears in the display.
4. Select "Change" until the preferred language appears in the display, and confirm the selection by pressing "OK".
5. Then return to "Setup". Select → to return to the start menu.

Setting the units, kg/lbs (Scale module)



1. Press any key on the hand control to activate the hoist.
When the lifting module is activated, the display on the hand control is switched on and the Guldmann logo “G” appears.
2. Select “Menu” using the function key located below the display
3. Then select → until the “Setup” menu appears in the display.
4. Select “Setup” and then → until the “Units” menu appears in the display.
5. Select “Change” to switch between the units kg and lbs, and confirm the selection by pressing “OK”.
6. Select → to return to the start menu.
7. The display in the hand control switches off automatically after use (approx. 8 min). (See *the complete menu summary, section 2.04, Supplementary modules, GH3*)

2.06

Scale module (GH3 with integrated scale module)



The GH3 with scale module (option) provides the facility to determine the user's weight.

Warning!

The integrated scale in GH3 is not approved to determine mass in medical practice, including the weighing of patients in connection with health monitoring, diagnosis and medical treatment.

(The provisions for medical weighing are specified in accordance with EEC Directive 90/384)

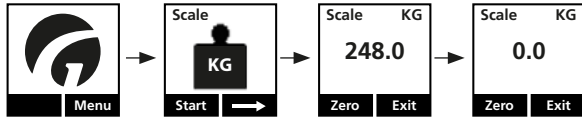
Shock effects

The GH3 with scale module includes high-sensitive sensors to register mass corresponding to the nominal recommended load. The sensors are highly sensitive and can be damaged by the effects of shock, for example pulling the GH3 at extreme speed into an end stop.

Operation

Always reset the scale module before weighing takes place. When resetting the unit, the lifting hanger and the desired lifting sling must be attached under the hoist.

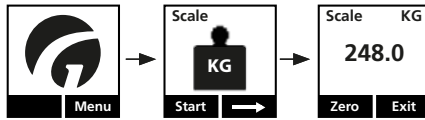
Resetting the unit (tara)



1. Press any key on the hand control to activate the hoist.
When the lifting module is activated, a display on the hand control is switched on and the Guldmann logo “G” appears.
2. Select “Menu” using the function key located immediately below the display
3. Then select → until the “Scale” menu appears in the display.
4. Then select “Start”.
5. When the lifting hanger with the lifting sling is at rest, select “Zero” to reset the GH3 scale module.

The scale module has now been reset and weighing can commence.

Weighing



1. Always reset the GH3 scale module before weighing takes place, see section entitled “Resetting the unit”.
2. Place the lifting sling on the user and attach it to the lifting hanger.
3. Lift the user with care.
4. Park the hand control on the lifting hanger.
5. Select “Menu” using the function key located immediately below the display and then select → until the “Scale” menu appears in the display.
6. Then select “Start”.
7. When the sling and the user are at rest and hanging freely, the current weight can be read on the display. (The weight can be read to an accuracy of 1 decimal place).
8. Select “Exit” to return to the main menu.

Note:

The display in the hand control switches off automatically after use (approx. 8 min.)

2.07

CLM module (GH3 with statistical function for management use)

The GH3 with CLM module (option) includes a management tool that saves important information on the use of the lifting module and which can be used to evaluate the system’s efficiency and utilisation, as well as to optimise its use and hoist name/location.

The following data can be shown on the hand control’s display: number of lifts, number of heavy lifts, number of lifts in last week, average number of lifts per week.

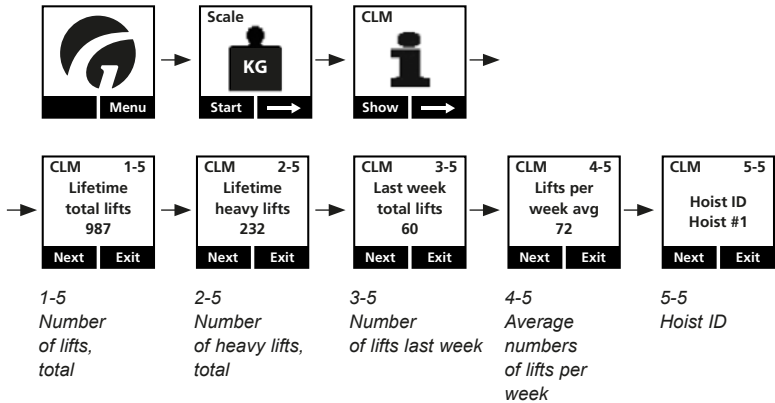
As an additional option, by connecting a PDA/Net Book to the hand control it is possible to gain access to a number of other saved data, e.g. the number of lifts since the last strap change, number of critically low battery readings, number of weighings, total lifting time, etc.

This information can be downloaded and used for further analysis. (PDA/Net Book readouts requires a PDA/Net Book with Guldmann Service and Information consol).

Number of lifts, total	<p>A lift is registered automatically when the following events are registered simultaneously</p> <ul style="list-style-type: none"> • Hand control is activated (Direction UP) for more than 2 seconds • The load on the lifting strap is registered as being within the range: 15 kg – Recommended load kg (33 lbs – Recommended load lbs) <p>Total includes the number of lifts performed after the lifting module was first taken into use.</p>
Number of heavy lifts, total	<p>A heavy lift is registered automatically when the following events are registered simultaneously</p> <ul style="list-style-type: none"> • Hand control is activated (Direction UP) for more than 2 seconds • The load on the lifting strap is registered as being within the range: 150 kg – Recommended load kg (330 lbs – Recommended load lbs) <p>Total includes the number of heavy lifts performed after the lifting module was first taken into use.</p>
Number of lifts, last week	The total number of lifts performed within the last seven calendar days
Average number of lifts per week	Average number of lifts per week (performed after the lifting module was first taken into use)

The data for “Number of lifts, last week” and “Average number of lifts per week” can, if necessary, be reset using a PDA/Net Book.

Operation



1. Press any key on the GH3 hand control to activate the hoist.
When the lifting module is activated, the display on the hand control is switched on and the Guldmann logo “G” appears.
2. Select “Menu” using the function key located below the display.
3. Then select → until the “CLM” menu appears in the display.
4. Then select “Show”.
5. Then select “Next” until the required information appears in the display.
6. Select “Exit” to return to the main menu.

Note:

The display on the hand control will automatically revert to the screensaver after approx. 8 min.

Accessories for the CLM module, GH3

The CLM module includes an extended management menu which can be operated via a PDA/Net Book (with Guldmann Service and Information console installed).

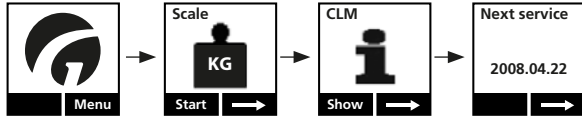
The PDA/Net Book is connected to the hand control via a mini USB plug located in the base of the hand control (see section 2.04).

Contact supplier or the Guldmann Service Team for further information about CLM accessories.

The GH3 with Service module (option) saves all of the information about time and indication of next safety/service inspection.

The GH3 with Service module specifies the date of the next safety/service inspection.

Operation



1. Press any key on the hand control to activate the hoist. When the lifting module is activated, a display on the hand control is switched on and the Guldmann logo "G" appears.
2. Select "Menu" using the function key located immediately below the display.
3. Then select → until the "Next service:" menu item appears in the display.
4. Read off the date of the next safety/service inspection (Year, Month, Date).

Pop-Up's for Service module (supplementary module)

There are two different Pop-Up's (brief messages on the display) on the GH3 with Service module. These pop-up's notify the user of upcoming and exceeded dates for service inspections.

Both Pop-Up's appear immediately after the hand control has been switched on.

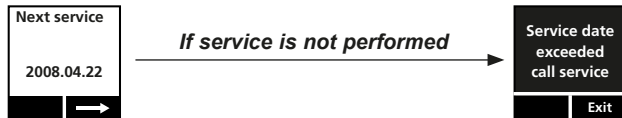
Pop-Up's before and after "Service Date"



1. Pop-Up, 60 days

The next service inspection must be undertaken within 60 days.

Select "OK" to return to the main menu (returns automatically after approx. 5 seconds).



2. Pop-Up, Service date exceeded

The date of the service inspection has been exceeded, contact the Guldmann Service Team.

Select "Exit" to return to the main menu (returns automatically after approx. 5 seconds).

Attention!

If the service date is exceeded by more than 60 days, the hoist makes an acoustic signal, at any button activation.

The Acoustic signal can be disabled by the "Guldmann Service and Information Consol" software.

Note:

The display on the hand control will automatically revert to the screensaver after approx. 8 minutes.

The emergency stop and emergency lowering device should only be used in an emergency

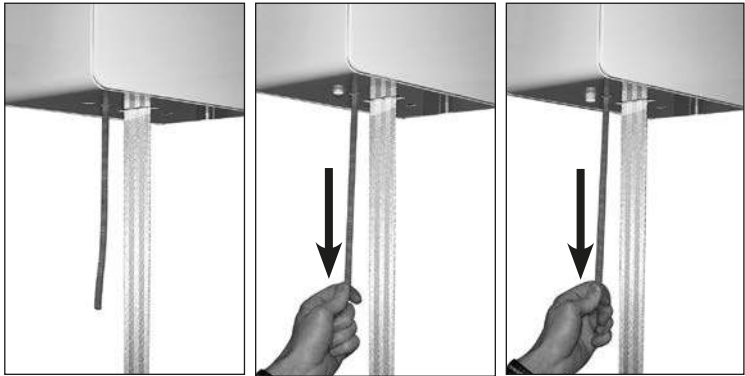
In the event that it is necessary to use the safety functions, the fault must be identified and rectified before the GH3 is taken into use again.

Please contact your supplier.

Emergency and lowering strap

The red strap has the following functions:

- One pull: Emergency stop is activated.
- Constant pull (2 steps): Emergency lowering is activated. It will work with following load:
GH3 Twin up to 500 kg/1100 lbs from approx. load 160 kg/350 lbs.



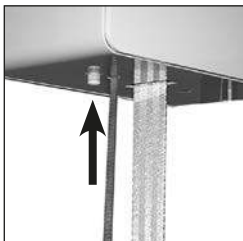
Emergency stop

If the GH3 does not stop/react to the hand control when the GH3 is in use, pull the red strap and all lifting/lowering/horizontal driving functions (except emergency lowering) are deactivated.

When the emergency stop is activated, the hoist will not function. The green lamp is switched off.

Reset emergency stop

Reset the emergency stop by pressing the yellow button on the bottom of the hoist.



The yellow button that appears when the emergency stop is pulled, must be pressed manually before the GH3 is ready for use.

After deactivating the emergency stop, activate the hand control twice.

Emergency lowering function, electric

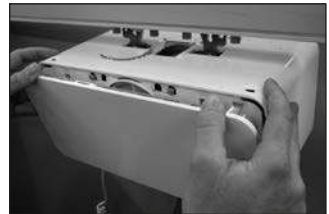
If the GH3 fails, the electrical emergency lowering function is used to lower the user safely. The emergency lowering function is operated by a constant pull on the red strap that is used for the emergency stop.

When releasing the red strap, the emergency lowering function will be replaced by the emergency stop.

Emergency lowering function, mechanical

If the electrical emergency lowering function in the GH3 fails, the emergency lowering can be done mechanically. This must be done on the leader hoist and follower hoist.

1. Remove the side covers.
Release the side covers from the top of the hoist by means of a gentle push on the fixing points on each side. The covers are tipped free of the hoist and can be removed.
2. Then release the hoist's motor by turning the handle bearing the words "EMERGENCY DOWN". This handle is located immediately behind the side cover and must be turned clockwise.



3. When the brake(s) has/have been released, the user will be lowered slowly. If the total weight of the user and the lifting accessories is low (e.g. less than 100 kg (220 lbs)), it may be necessary to help the user down by turning the large belt wheel located on the opposite side of the handle and in the direction of arrow marked on the belt wheel.



Note:

In case of a critical mechanical failure, the hoist contains a mechanical protective system that stops the strap reel.

Warning!

After the mechanical emergency lowering function or the mechanical protective system has been activated in the GH3, the hoist **MUST** be serviced by a qualified technician or by the Guldmann Service Team.

2.10

Charging/connection

The GH3 is automatically charged along the entire length of the straight rails. This guarantees the hoist functionality and maintains the batteries to ensure a long lifetime.

The indicator lamp on the bottom of the hoist turns yellow if the charge status becomes low or if there is a complete interruption to the charging function. The GH3 then has a limited number of lifts available at a time and must be re-charged.

The transformer must be connected and switched on before charging can take place. A green indicator lamp on the transformer indicates that it is connected and switched on.

2.11

Accessories

Guldmann – ABC slings and lifting hangers

Obtain a brochure from your distributor, manufacturer or at www.guldmann.com

Extension strap 550459

The extension strap is used where the distance between the lower part of the rails and the floor exceeds 3.5 m (11' 7"). The extension strap is available as an accessory.

Cross hanger 550444

The cross hanger can be used in two ways depending on what kind of hoist is being used.

Lifting sling with divided leg straps:

Place the sling with the wide side facing the user. Hook the back straps on the hoist onto the hooks closest to the user and the leg straps to the hooks farthest away from the user.

Lifting sling with undivided leg straps (Sit-On sling):

It is an advantage to position the lifting sling with the narrow side facing the user. Hook the back straps on the hoist onto the hooks closest to the user and the leg straps to the hooks farthest away from the user.

Horizontal lifter, foldable 28444

The horizontal lifter is a lifting device which is used together with a hoist and rail systems to move people in a horizontal position. It can be stored completely or partially folded in order to minimise space requirements, or it can hang ready to use in the hoist.

The horizontal lifter may be used only for horizontal relocation of people lying on a level, horizontal surface. The person must be lying on a Guldmann sling or on another suitable sling. A level surface can be, for example, a bed, a stretcher or the floor.

Batteries

NiMH Battery 24V/2000mAh, Guldmann type number 550574.

Transformer

Transformer, Class 1, Guldmann item number 550391

3.00

Environmental conditions

Operation

The products operational environment:

- Operation temperatures between 10°C and +35°C / 50°F and 95°F
- A relative air humidity of between 30% and 70%
- An air pressure of between 700 hPa and 1060 hPa

Information is illustrated by symbols on packaging including:

- Fragile
- This side up

Beside temperature, the same environmental conditions apply for transportation and storage.

- Transport and storage temperatures between -10°C and +40°C / 14°F and 104°F

The equipment is not designed to be used at altitudes higher than 2000m. above sea level.

Key to symbols on the packaging:



Transport and storage

Guldmann recommends that the products are always transported and stored in the original packaging.

4.00 Maintenance and storage

4.01 Cleaning and disinfection

We recommend that the products and the parts patients and caregivers can come in contact with, are cleaned with a damp cloth using warm water and a mild soap solution.

When disinfection is needed, use disinfectant wipes with up to a 85% solution of isopropyl, or a damp cloth using warm water and a disinfectant cleaner, e.g. an chlorine dissolving up to 1500 ppm.

If other chemicals and/or liquids with higher resolution should be used to clean or disinfect these products, please contact Guldmann providing the item's safety sheet chemical composition for consideration.

Caution: Take great care to ensure that no liquids get inside the lift. The lift is not waterproof. Failure to protect the lift from liquids may result in damage to the lift and/or may cause personal injury.

4.02 Storage

See 3.00

For long-term storage, disconnect the battery plugs and the plug at the charging PC from the battery.

4.03 How to prevent/avoid corrosion?

When the GH3 is mainly used in an corrosive environment, e.g. swimming pool, the hoist must be ordered with a special corrosion-preventive surface treatment.

4.04 The owner’s daily maintenance duty
Check the lifting sling for wear and damage before use.
Do not use the lifting sling if it is damaged or defective.
Do not use the GH3 if the lifting strap is damaged or defective.
Contact your supplier and order a new lifting sling or a replacement of the lifting strap. Replacement of the lifting strap must only be performed by the Guldmann Service Team or by a qualified technician in accordance with Guldmann’s instructions.

4.05 Disposal of the GH3 including batteries
Local and national regulations on environmentally correct recycling must be observed.
Batteries (type NiMH) must always be delivered to an approved recycling point.

5.00 Service and lifetime

5.01 Lifetime
The products have an expected lifetime of 15 years, on the condition of correct use and correct service inspections, see section 5.02.

Replacement of components
Replacement of batteries, PCBs and lifting straps must be performed by a qualified service technician or the Guldmann Service Team.
No part of the equipment shall be serviced when in use with a patient.

5.02 Safety/service inspections
In accordance with international standard EN/ISO 10535 “Hoist for the transfer of disabled persons – Requirements and test methods” an inspection should be performed on the hoist at least once a year.
Guldmann recommends that regular safety/service inspection is performed at least once a year with regard to the pattern of usage.

Inspection of the GH3 must be performed by a qualified service technician or the Guldmann Service Team.
In connection with the purchase of the GH3, Guldmann may offer a service agreement for this inspection.

NB!
The GH3 with service module may only be serviced by the Guldmann Service Team or by a qualified service technician with access to the PDA/Net Book with Guldmann Service and Information consol.

During the safety/service inspection a report must be prepared on what was checked and replaced. Parts that are worn or defective must be replaced with new parts from Guldmann. Spare parts drawings and documentation can be obtained from the manufacturer or supplier.

Documentation/checklist regarding safety/service inspection can be obtained from the manufacturer or supplier.

5.03 Troubleshooting

The GH3 does not respond to the hand control's keys

1. Check the emergency stop is not activated
2. Check the hoist has power supply
3. Check the transformer is switched on and connected to the rail system
4. Contact the Guldmann Service Team

6.00 Classification



CE marking



Type B in accordance with UL/EN 60601-1



Read the manual before use



Must not be disposed of as standard household waste, must be recycled.

Class I equipment: Permanent installation with protective ground

Class II equipment: Non-permanent installation without protective ground

The equipment is not suitable for use in the presence of flammable mixtures.

Degree of protection against harmful ingress of liquids (water)

Hoist	IP20
Hand control	IP44
Remote control	IP20
Transformer	IP20

Examples of serial number label

Lifting module

GH3+ xxx xxx xxxx	
max xxx kg/xxx lbs	
REF xxxxxx	33V AC, 2.5A, IP20 Duty cycle 2 min ON/18 min OFF
SN xxxxxx	
V. Guldmann A/S Graham Bells Vej 21-23A 8200 Aarhus N, Denmark Made in Denmark yyyy-mm-dd	
Guldmann™	GS1-128

Transformer Class 1

V. Guldmann A/S Graham Bells Vej 21-23A 8200 Aarhus N, Denmark Made in China		Guldmann™	
Type	DK-13991	Batch No.	
Input	100 - 115V AC 50-60 Hz, 1A	year/week	
Input	230V AC 50-60 Hz, 0.5A		
Input	220V AC 60 Hz, 0.5A		
Output	33V AC 2.5A		
IP20			

Lifting hanger

max	
xxx kg/xxx lbs	
Part no.	xxxxxx
Edition	xxx
Prod. date	yyyy-mm-dd
Serial no.	xxxxx
Barcode 128C	
V. Guldmann A/S www.guldmann.com	

Hand control

Part no.	xxxxxx
Edition	xxx
Date	xxxx-xx-xx
IP44	

7.00

Certificates

EN/ISO10535

HMI No. 08.49A, 09.14A, 09.15A

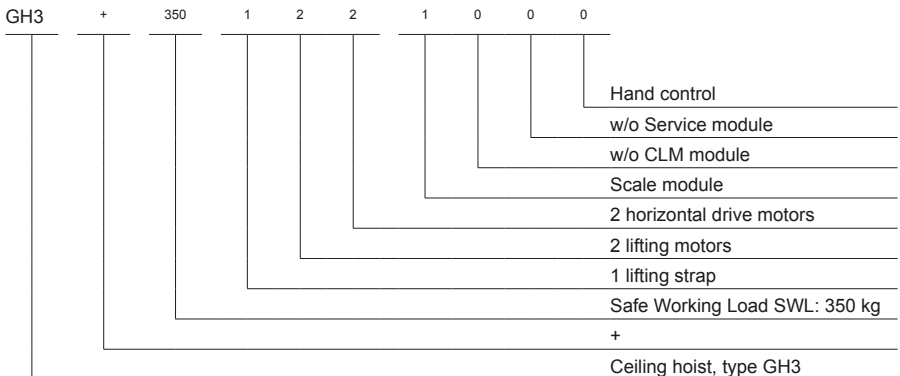
8.00

Technical specifications

GH3 Lifting modules, version type nomenclature									
Guldmann hoist type	Product line	Load in kg	Number of lifting straps	Number of lifting motors	Number of horizontal drive motors	Scale module	CLM module	Service module	User interface
GH3	(x)	xxx	x	x	x	x	x	x	x
GH3		200	1	1	1	None : 0 Scale : 1	None : 0 CLM : 1	None : 0 Service: 1	Hand control: 0 IR : 1
		250	1	1	1				
	+	200	1	1	1				
		250	1	1	1				
		275	1	1	1				
		300	1	2	2				
		350	1	2	2				
	Twin	375	1	2	2				
		250	2	2	0				
		500	2	2	0				

GH3	X	Y	Z	Z	Z	Q	Q	Q	Q
-----	---	---	---	---	---	---	---	---	---

Example: GH3+ 350 122 1000



Functions

Lifting capacity,
 SWL 250 kg (550 lbs), 500 kg (1100 lbs)
 Operation Hand control / IR
 Sound level 52 dB (A)

GH3 Twin

Lifting speed

85 kg (187 lbs) load	60 mm/sec (2.4 inch/sec)
150 kg (330 lbs) load	60 mm/sec (2.4 inch/sec)
Max capacity load, SWL	55 mm/sec (2.2 inch/sec)
Max 5 kg (11 lbs) load	60/100 mm/sec
Max 11 lbs load	2.4/3.9 inch/sec

Weight and materials

SWL 250 kg (550 lbs), 500 kg (1100 lbs)
 Own weight, SWL 250 kg (550 lbs), 500 kg (1100 lbs) 19.2 kg (42.3 lbs)

Covers Impact-resistant UL 94 V-0 flame retardant recyclable plastic

Digital Scale Specifications (Non medical). Optional for GH3 Twin

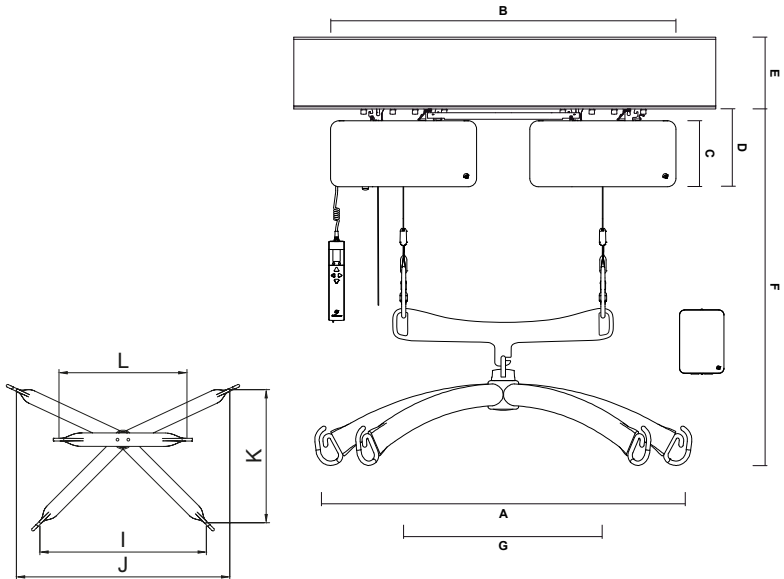
Capacity 0 – SWL
 Accuracy +/- 0.1 % at max load
 Display resolution (d) 0.1 kg (0.22 lbs)
 Repeatability < 0.1 kg at 0-250 kg (0 – 550 lbs)
 Minimum weight 5 kg (11 lbs)
 Display type LCD in Hand Control

Dimensions

A	1800 mm (70.9 inch)
B	700 mm (27.6 inch)
C	156 mm (6.1 inch)
D	184 mm (7.2 inch)
E, min	194 mm (7.6 inch)
F, min	630 mm (24.8 inch)
F, max	3130 mm (98.4 inch)
G	473 mm (18.6 inch)
I	620 mm (24.4 inch)
J	790 mm (28.3 inch)
K	490 mm (19.3 inch)
L	473 mm (18.6 inch)
Depth of hoist	205 mm (8.1 inch)

Safety

Emergency stop	Yes, mechanical and electrical
Emergency lowering device	Yes
Control of lifting strap	Yes
Cut-off angle	45° along the rail 10° across the rail



Electronics

On/off Automatic when used. Soft start/stop
Overload protection Automatic
Low Battery protection Automatic
Power supply 33V AC, 2.5 A
Supply voltage, transformer 100-115/230V AC, 50-60 Hz

Battery 24V NiMH
SWL: 250 kg (550 lbs), 500 kg (1100 lbs). 2 x 2.00 Ah

Continuous operation with short time loading with:
3 hours without recharging 10/90% (2 min operation/18 min pause)

Max number of lifts in series with:
85 kg (187 lbs). 55/1000 mm (39.4 inch)
SWL: 250 kg (550 lbs), 500 kg (1100 lbs). 21/1000 mm (39.4 inch)

Max charging time at 25°C:
SWL: 250 kg (550 lbs), 500 kg (1100 lbs). 4 hours

Operating temperature. 10°C-35°C (50°F-95°F)

Degree of protection against harmful ingress of liquids (water)

Hoist. IP 20
Hand control. IP 44
Remote control. IP 20
Transformer IP 20

9.00

EC-Declaration of conformity

The products are manufactured in compliance with the Council Directive 93/42/EEC of 14 June 1993 – with amendments, as medical device class 1.

10.00 Environmental policy statement - V. Goldmann A/S

Guldmann is continuously working towards ensuring that the company's impact on the environment, locally and globally, is reduced to a minimum.

It is Guldmann's goal to:

- Comply with the current environmental legislation (e.g. WEEE and REACH directives)
- Ensure that we, at the widest possible range, use RoHS compliant materials and components
- Ensure that our products do not have an unnecessary negative impact on the environment regarding use, recirculation or disposal
- Ensure that our products contribute to a positive working environment in the places they are utilised

Inspections are made annually by the Department for Nature and Environment from the Municipality of Aarhus using the Danish Environmental Protection Act, section 42 as a reference.

11.00 EMC Information

Tabel 1

Guidance and manufacturer's declaration – electromagnetic emissions

The GH3 is intended for use in the electromagnetic environment specified below.

The customer or the user of the GH3 should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The GH3 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Class A	The GH3 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Tabel 2**Guidance and manufacturer's declaration – electromagnetic immunity**

The GH3 is intended for use in the electromagnetic environment specified below.
The customer or the user of the GH3 should assure that it is used in such an environment.


IMMUNITY test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV differential mode ± 2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % U_T (>95 % dip in U_p) for 0,5 cycle	<5 % U_T (>95 % dip in U_p) for 0,5 cycle	Mains power quality should be that of a typical commercial or hospital environment. If the user of the GH3 requires continued operation during power mains interruptions, it is recommended that the GH3 be powered from an uninterruptible power supply or a battery.
	40 % U_T (60 % dip in U_p) for 5 cycles	40 % U_T (60 % dip in U_p) for 5 cycles	
	70 % U_T (30 % dip in U_p) for 25 cycles	70 % U_T (30 % dip in U_p) for 25 cycles	
	70 % U_T (30 % dip in U_p) for 25 cycles	<5 % U_T (>95 % dip in U_p) for 5 s	
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	The power frequency magnetic field should be measured in the intended installation location to assure that it is sufficiently low.

NOTE U_T is the a.c. mains voltage prior to application of the test level.

Tabel 4

Guidance and manufacturer's declaration – electromagnetic immunity

The GH3 is intended for use in the electromagnetic environment specified below.
 The customer or the user of the GH3 should assure that it is used in such an environment.

IMMUNITY test	IEC 60601 TEST LEVEL	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 3 V/m 80 MHz to 2,5 GHz	3 Vrms 3 V/m	<p>Portable and mobile RF communications equipment should be used no closer to any part of the GH3, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance $d = 1,2\sqrt{Pd} = 1,2\sqrt{P}$ 80 MHz to 800 MHz $d = 2,3\sqrt{P}$ 800 MHz to 2,5 GHz</p> <p>Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey^{a)} should be less than the compliance level in each frequency range^{b)} Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

^{a)} Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the GH3 is used exceeds the applicable RF compliance level above, the GH3 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the GH3.

^{b)} Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Tabel 6**Recommended separation distances between portable and mobile RF communications equipment and the GH3**

The GH3 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the GH3 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the GH3 as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d=1,2\sqrt{P}$	80 MHz to 800 MHz $d=1,2\sqrt{P}$	800 MHz to 2,5 GHz $d=2,3\sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

USA and countries outside the EU

A. Users guide

Before using the product, read the entire operation manual including warranty.

B. WARRANTY

Guldmann warrants its equipment is free from material defects under normal use, and will perform substantially in accordance with the specifications set forth in documentation provided with the equipment.

This express warranty shall be in effect for one year from the date of original purchase and installation (the "Warranty Period"). If a valid claim is made during the Warranty Period for malfunction or equipment defect, Guldmann will repair or replace the equipment at no additional cost to you. Guldmann retains sole discretion as to whether the equipment will be repaired or replaced.

This warranty shall be null and void if the equipment is operated and maintained in any manner inconsistent with its intended use or the instructions provided with the product. Further, in order for the warranty to remain in effect for the full Warranty Period, all service to the equipment must be provided by a Guldmann designated technician. Any parts or components repaired or replaced by a Guldmann designated technician will be guaranteed for the remainder of the Warranty Period.

The warranty does not cover any part of the equipment which has been subject to damage or abuse by the user or others. The warranty does not cover any part of the equipment which has been altered or changed in any way by the user or others. Guldmann does not warrant that the lifting device functions will meet your requirements, be uninterrupted or error free.

The warranty set forth is in lieu of all other express and implied warranties, whether oral, written or implied, and the remedies set forth above are your sole and exclusive remedies. Only an authorized officer of Guldmann may make modifications to this warranty, or additional warranties binding on Guldmann. Accordingly, additional statements such as advertising or presentations, whether oral or written, do not constitute warranties by Guldmann.

Service or Repair

Contact Guldmann Repair for an authorization to return any defective item during the Warranty Period. You will be provided with a return authorization number and address for returning the item for warranty service or replacement. Do not return items to Guldmann under warranty without receiving a Return Authorization Number.

If mailing the item, pack it carefully in a sturdy carton to prevent damage. Include your Return Authorization Number, a brief description of the problem and your return address and phone number. Guldmann does not assume the risk of loss or damage while in transit, so it is recommended you insure the package.

| Time to care |

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