GB/US . . . . GH3+ Twin Ceiling Hoist

User manual – vers. 107.0

MD · UL certified · E351786 · CE

Guldmann™

GH3+ Twin Ceiling Hoist

Item nos:
5xxxxx

1.00 Purpose and use

1.01 Manufacturer
V. Guldmann A/S
SRN: DK-MF-000003602
Graham Bells Vej 21-23A
DK-8200 Aarhus N
Tel.   + 45 8741 3100
www.guldmann.com

1.02 Intended purpose
The GH3+ Twin lifting modules modules are intended for persons with limited mobility or those who are unable to move independently for the following functions:
- Lifting
- Patient transfers
- Rehabilitation training

Lifting modules with the Class III Scale module is intended for determination of bodyweight in the practice of medicine for the purpose of monitoring, diagnosis and medical treatment.

1.03 Area of use
The GH3+ Twin (hereafter called GH3) is suitable for professional use in hospitals, nursing homes, rehabilitation centers, institutions, riding schools, swimming pools, mortuaries and in private homes and buildings, where healthcare professionals with clinical training are continually on-site or on-call.

1.04 Conditions for use
GH3 is a ceiling-mounted hoist that moves in a rail system.
GH3 is designed to be used with a variety of lifting hangers and lifting slings.
GH3 is designed to cover the requirements for heavy and special lifting or moving of a user.

The use of the GH3 is subject to the following:

- GH3 should only be used by trained personnel
- The healthcare professional 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 must install and test the rail systems.
- The electronics must only be serviced by Guldmann approved service technicians.

- The equipment must not be modified without the authorization of the Guldmann.
- Accessories, transducers and cables must always be original Guldmann components.
- The hoist is to be used with the Guldmann lifting hanger or with another suitable hanger *(see section 1.11)*.
- The hoist is to be used with a Guldmann lifting sling or with other suitable slings *(see section 1.12)*.

1.05   **Indications**
Persons within safe working load (SWL) of the lifting modules who require safe lifting, transfer, training and weighing.

1.06   **Contraindications**

Lifting modules
- The GH3 maximum safe working load (SWL) must never be exceeded; label indicates SWL for each component, such as lifting module, lifting hanger, and sling. The lowest SWL determines the maximum for the entire system.
- Absence of healthcare professionals with clinical training on-site or on-call.
- Certain positions may be unsuitable for specific medical conditions; caregiver expert assessment and nursing considerations are required for all individual cases.
- Do not connect any devices to the serial port in hand control while the GH3 is in use.
- Use in extreme environmental conditions, including high humidity, temperature fluctuations, strong electromagnetic interference, or exposure to fluids or oxygen-rich environments, may affect the scale's accuracy and the GH3 performance *(see section 12)*.

Class III Scale module
- Not suitable for high-precision medical or laboratory use, such as laboratory application or neonatal weighing.
- Not designed for weighing individuals moving significantly.
- Programmed with a specific G factor for the place of operation and may only be used at the designated location.
- Use beyond the required periodic re-verification per local legislation may result in inaccuracies.
- Unloading from the scale during weighing will require resetting the unit to ensure accurate measurements.

Scale module
Not intended for diagnostic purposes.

1.07   **Important/Precautions**
- Read the instructions carefully before using, cleaning or servicing.
- The red strap for the emergency stop and the emergency lowering must be adjusted to the healthcare professionals reach, and must not be removed.
- The GH3 must not be used where there is a risk of water splashing onto it.
- If a defect appears during use, stop using the hoist and contact the Guldmann Service Team for repairs.
- The GH3 can be damaged by static electricity if touched without the necessary precautions *(see section 1.10)*.
- The lifting hanger must not be mounted or replaced when the GH3 hoist is directly above the user.
- Transport of GH3 should only be undertaken as per prescribed conditions *(see section 3.00)*.
- Any serious incident that occurred in relation to GH3 should be reported to the Guldmann and the local competent authority.

1.08   **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 Guldmann service team or by a Guldmnn authorized technician.

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

1.09   **Placing a new GH3 Hoist in an existing rail system**
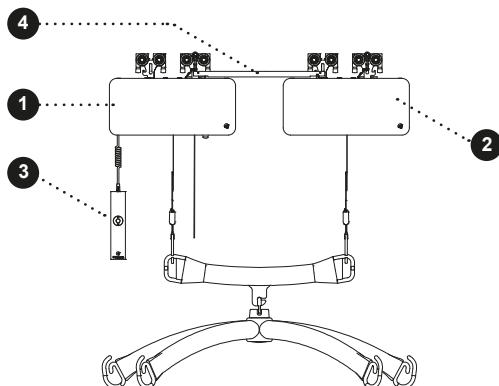
Please notice that when, placing a new GH3 hoist in an existing rail system it must be ensured that:

- The rated max load of the rail system, must be equal to 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 for a minimum of 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)*.

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

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 or components where it is possible to come into contact with the PCB.

1.11   Installation of GH3 Cross hanger and Horizontal lifter

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 the lifting strap hook in the eye of the GH3 lifting beam, one on each side *(Fig. 1 and 2).*
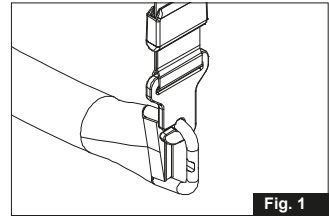
Fig. 1

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!
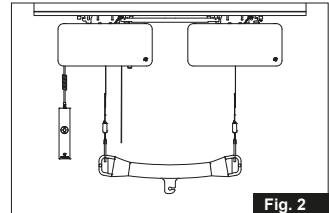
Fig. 2

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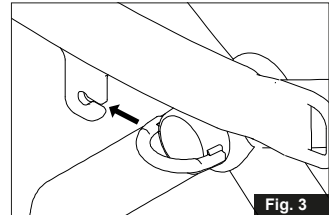
Fig. 3

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

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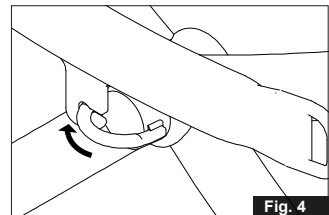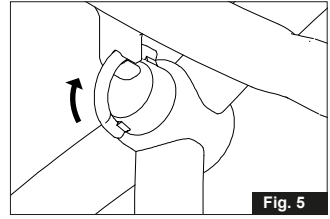
4. The GH3 Cross hanger is ready to use,
   when it is able to move freely in a
   horizontal position *(Fig. 6)*

Fig. 6
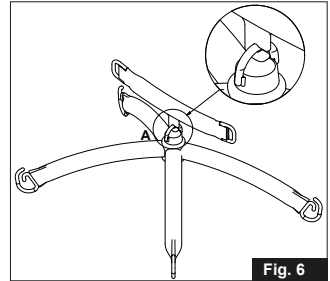
Installation of GH3 Horizontal lifter

Connect the lifting strap hook to the quick
connect adapter of the Horizontal lifter *(Fig.
7 and 8)*

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

Fig. 7

Fig. 8
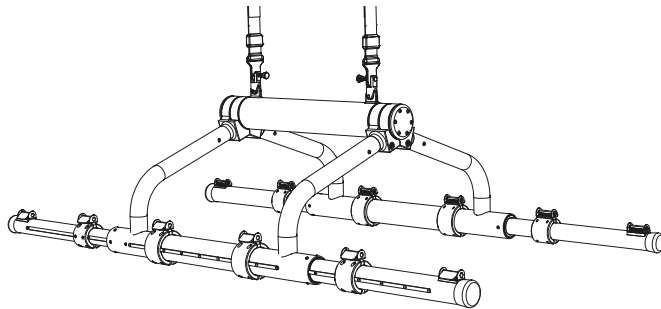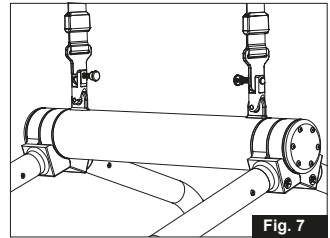
1.12   **Lifting sling**
A lifting sling with four to eight lifting straps designed for mounting on hooks should be utilized when using a Guldmann lifting hanger. Place the straps on the hooks.

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 healthcare professional or user.

Attaching the lifting sling to the 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). Refer to section 1.11 Cross Hanger with Connecting Bar.

Attaching the lifting sheet to Horizontal lifter, foldable
Read the instructions in the user manual for the Horizontal lifter.

Important!
For further information, please refer to the user manual for the lifting sling in question.
Only people 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.

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 users functional level and the healthcare professional 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.

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, user and other object before the hoist is activated up or down moved.

2.00   Description of functions

Information panel on the GH3 bottom surface on leader hoist.

Lamp indicator
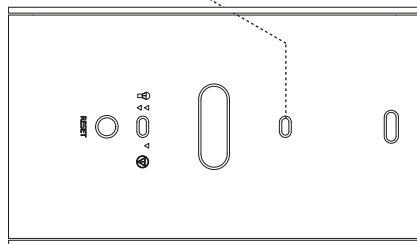
Information panel on the GH3 bottom surface on follower hoist.

Lamp indicator
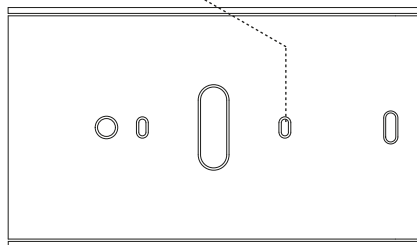
2.01   Pictograms

      Emergency stop

      Emergency lowering function

RESET   **Reset emergency stop**

      Direction of travel denoted by grey arrow

↑◁ ▷↓   **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 critical low	Yellow	Beeps at button activation for functions that are not possible		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
Less than 60 sec of training available with Trainer module	Yellow	Continuous short beeps for 60 sec	x	x	x	x	x
Battery hyper critically low	Yellow	Beeps at button activation. Will shut down after 5 sec.					

[x)] Only if the hoist is with Service modul

2.03   **Operation**

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.

The USB in the hand control is only intended for connection of PDA/Netbook with Guldmann SIC software and may only be used by Guldmann service team or by a Guldmann authorized technician.

GH3 hand control

1. Lift
2. Lower
3. Lift leader hoist. (Tilt function)
4. Lower leader hoist. (Tilt function)
5. PDA interface (micro USB)
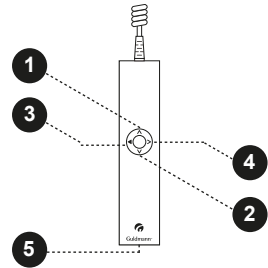
GH3 with sumplementary modules

1. Lift
2. Lower
3. Lift leader hoist. (Tilt function)
4. Lower leader hoist. (Tilt function)
5. Function selection button
   (section 2.04, supplementary modules)
6. Function selection button
   (section 2.04, supplementary modules)
7. PDA interface (micro USB)
   PDA /Netbook
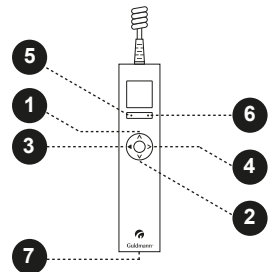
Using tilt function on GH3

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.
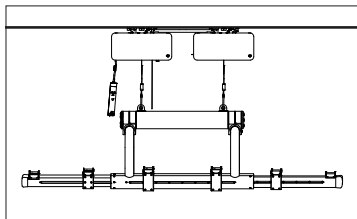
2. When the button 3 is pressed only the
    leader hoist lifts the horizontal lifter.
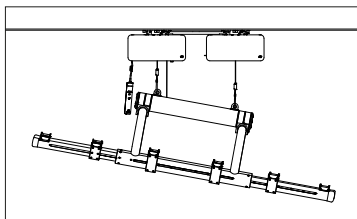
3. When the button 4 is pressed only the
    leader hoist will lower the horizontal
    lifter.
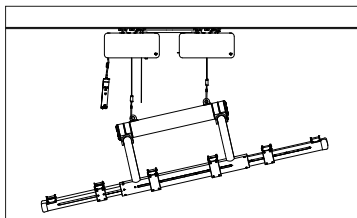
2.04 Supplementary modules, GH3

There are various supplementary modules for the GH3

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

Menu structure, GH3 with supplementary modules
- Scale module
- CLM module
- Service module

Scale	CLM	Next service
KG		2019.07.01
Start →	Show →	→

Scale	CLM 1-5
248.0 kg	Lifetime total lifts 987
Tare Exit	Next Exit

Scale	CLM 2-5
0.0 kg	Lifetime heavy lifts 232
Tare Exit	Next Exit

CLM 3-5
Last week total lifts 60
Next Exit

CLM 4-5
Lifts per week avg 72
Next Exit

CLM 5-5
Hoist ID Hoist #1
Next Exit

Pop-ups

Next service 2019.07.01	Service date exceeded call service
OK	Exit

Low battery	Critical low battery
OK	OK

No charging	Fault hoist
OK	OK

OK

Setup

| Setup | ➡ |

Units
KG

| Change | ➡ |

Units
lbs

| Change | OK |

Units
KG

| Change | OK |

Language
English

| Change | ➡ |

Language 1-8
Dansk

| Change | OK |

Language 2-8
Deutsch

| Change | OK |

Language 3-8
Svenska

| Change | OK |

Language 4-8
Italianio

| Change | OK |

Language 5-8
Espanol

| Change | OK |

Language 6-8
Francaise

| Change | OK |

Language 7-8
Portuguese BR

| Change | ➡ |

Menu structure, GH3 with supplementary modules
- Class III Scale
- CLM module
- Service module

		Scale	Scale Info 1-2	CLM
		III	Version 01.00	**i**
	OK	Start →	Next →	Show →

Scale	W1	Scale Info 2-2	CLM	1-5
80.3 kg NET		Changes 001	Lifetime total lifts 987	
Tare	Exit	Next Exit	Next Exit	

Scale W1
0.0 kg NET
Tare Exit

CLM 2-5
Lifetime heavy lifts 232
Next Exit

CLM 3-5
Last week total lifts 60
Next Exit

CLM 4-5
Lifts per week avg 72
Next Exit

CLM 5-5
Hoist ID Hoist #1
Next Exit

Pop-ups

Next service 2019.07.01	Service date exceeded call service
OK	Exit

Low battery	Critical low battery
OK	OK

No charging	Fault hoist
OK	OK

	OK

```
┌──────────────┐          ┌──────────────┐
│ Next service │          │ Setup        │
│              │          │              │
│  2019.07.01  │          │    🔧        │
│              │          │              │
│        ──►   │          │ Setup   ──►  │
└──────────────┘          └──────────────┘
     ○      ○                 ○      ○

        ┌──────────────┐     ┌──────────────┐
        │ Language     │     │ Language 4-8 │
        │              │     │              │
        │  English     │     │  Italianio   │
        │              │     │              │
        │ Change  ──►  │     │ Change   OK  │
        └──────────────┘     └──────────────┘
           ○      ○             ○      ○

        ┌──────────────┐     ┌──────────────┐
        │ Language 1-8 │     │ Language 5-8 │
        │              │     │              │
        │  Dansk       │     │  Espanol     │
        │              │     │              │
        │ Change   OK  │     │ Change   OK  │
        └──────────────┘     └──────────────┘
           ○      ○             ○      ○

        ┌──────────────┐     ┌──────────────┐
        │ Language 2-8 │     │ Language 6-8 │
        │              │     │              │
        │  Deutsch     │     │  Francaise   │
        │              │     │              │
        │ Change   OK  │     │ Change   OK  │
        └──────────────┘     └──────────────┘
           ○      ○             ○      ○

        ┌──────────────┐     ┌──────────────┐
        │ Language 3-8 │     │ Language  7-8│
        │              │     │              │
        │  Svenska     │     │ Portuguese BR│
        │              │     │              │
        │ Change   OK  │     │ Change   ──► │
        └──────────────┘     └──────────────┘
           ○      ○             ○      ○
```

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

Scale module: The weight unit can be set to kg or lbs.
Class III Scale: The weight is always shown in kg.

Configuration of supplementary modules is done using the GH3 hand control with display

Setting the language
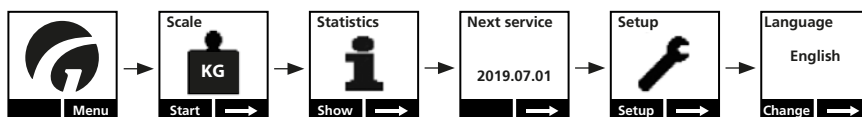
1. Press any key on the GH3 hand control to activate the hoist.
   When the hoist is activated, the display on the hand control is switched on and the Guldmann logo "G" appears.

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.

2.06   **Important/Precaution before using the Scale module and Class III scale**

⚠ **Warning**
Only the Class III Scale shall be used for determination of bodyweight in the practice of medicine for weighing patients for the purpose of monitoring, diagnosis and medical treatment due to its Class III accuracy in accordance with EU Directive 2014/31/EU.

The scale module is not intended for diagnosic purposes

The maximum load must not be exceeded. The safety requirements and the notes on appropriate use must also be observed.

Important

- Read the user manual carefully before using any weighing instrument for the device.
- Not suitable for high-precision medical or laboratory use, such as laboratory application or neonatal weighing.
- Not designed for weighing individuals moving significantly
- During weighing, never pull the hand control cable, and ensure the user is free from surroundings objects to avoid affecting the weighing accuracy.
- Careful not to damage the high-sensitive sensors to register mass by shock, for example pulling the hoist at extreme speed into an end stop.
- Use in extreme environmental conditions, including high humidity, temperature fluctuations, strong electromagnetic interference, or exposure to fluids, may affect the scale's accuracy and performance
- Sealing label (communication module) on Class III scale module must not be broken
- Unloading from the scale during weighing will require resetting the unit to ensure accurate measurements.
- The Class III Scale module is programmed with a specific G factor for the place of operation and may only be used at the designated location.
- Use beyond the required periodic re-verification per local legislation may result in inaccuracies for the Class III Scale module.
  All testing and certification must be carried out by qualified personnel.
  The facility operation is responsible for ensuring the required testing frequency and testing procedure of the weighing system is carried out.
- Any modification exempt the supplier from liability for any damage as a result of modification.
- It is strictly forbidden to carry out any repairs and soldering work on the motherboards or to replace any components.
  Repairs must only be undertaken by Guldmann service team or by a Guldmann authorized technician.
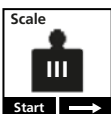
Operation

Always reset the GH3+ scale module before weighing takes place. When resetting the unit, the lifting hanger and the desired lifting sling must be attached under the hoist.
Never pull the hand control wire while weighing.
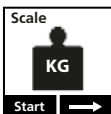
Menu icon showing that the Scale module is present.

Menu icon showing that the Class III scale module is present.
The structure of the menus are the same.

2.07 Scale module and Class III scale module

The scale module (option) can be used as an indicative measurement of the weight, not for the purpose of monitoring, diagnosis and medical treatment.

A Class III Scale comply with the requirements for with calibrated, accurate and repeatable weight measurements with Class III accuracy in accordance with EU Directive 2014/31/EU.

Setting the units, kg/lbs (Scale module)
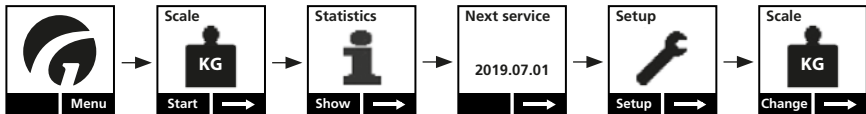
1. Press any key on the hand control to activate the hoist.
   When the lifting module is activated, the display on the hand control is switched on and the Guldmann logo "G" appears.

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)*

Resetting (tare) of the Scale module and Class III Scale
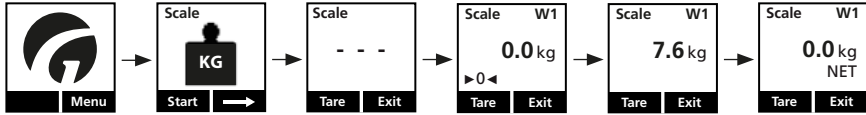
1. Press any key on the hand control to activate the hoist.
   Guldmann logo "G" appears in the display.
   Select "Menu" using the function key located immediately below the display.

2. Then select ➤ until the "Scale" menu appears in the display.
   Then select "Start".

3. - - - flashes until the scale finds its zero point.

4. When the zero point has been detected, the display will read 0.0 automatically.

5. Mount the lifting hanger with sling onto the lifting strap. The weight of the hanger and strap will be displayed on the scale. Select "tare" to reset. It is only possible to press tare when "kg" is shown in the display. Do not pull the hand control while taring and weighing, as doing so will affect the result.

6. "0.0" is shown once again in the display, and "NET" appears under the "kg" sign. The scale is now ready for weighing.

Weighing with a Scale module and Class III Scale

```
┌──────────────┐        ┌──────────────┐
│ Scale    W1  │        │ Scale    W1  │
│              │        │              │
│     0.0 kg   │   →    │    80.3 kg   │
│         NET  │        │         NET  │
│ Tare   Exit  │        │ Tare   Exit  │
└──────────────┘        └──────────────┘
```
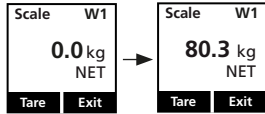
1. Always reset the scale module / Class III Scale before weighing. See section "Resetting of the scale".

2. Lift the lifting sling off the hanger. Place the user in the lifting sling before mounting it on the lifting hanger.

3. Lift the user. The correct weight can be read when "kg" appears in the display. When "kg" is permanently shown in the display, the scale is at rest and can be read. When "kg" disappears, the scale is no longer at rest and the weight displayed may be incorrect.
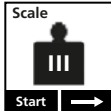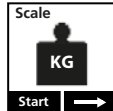
    While being weighed, the user must be free of the surroundings in order to not affect the weighing. Do not pull the hand control while weighing, as doing so will affect the result.

4. Select "Exit" to return to the main menu.

Screen utilised when using the Scale module and Class III Scale

	Start-up logo: Press "menu" to select the function
	Menu icon for Scale module: **KG** Menu icon for Class III scale: **III** Press the left navigation button "Start" to enter the menu.
	Scale (in the scale menu): the scale starts up and resetting occurs automatically: • Weight indication replaced by flashing lines • Wait up to 10 sec before weight is shown
	Weight (in scale menu): symbol for 0 is shown and means: • The scale has been reset but has not yet been tared • Weighing is being performed in weighing area 1 (W1)
	Scale (in the scale menu): normal weighing. • Here the weight is shown in weighing area 1 (W1) • The sling is at rest and the weighing is therefore valid (as indicated by the "kg" sign)
	Weight (in scale menu): normal weighing • The scale is in weighing area 1 (W1) • The sling is not at rest, and the scale is therefore not ready for weighing ("kg" sign is not shown)
	Weight (in scale menu): • Net weight (NET) is shown as a result of the scale being tared • Weighing range 1 (W1) • The sling is at rest and the scale is ready for weighing (kg)
	Weight (in scale menu): • Net weight ("NET" is turned off): the weight has not been tared • Weighing range 2 (W2) • The sling is at rest and the scale is ready for weighing (kg)
	Version (information screen 1 of 2 in scale menu): • The number before the decimal counts the software versions and larger modifications • The number after the decimal counts minor software modifications and bug fixes Only available for Class III
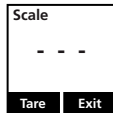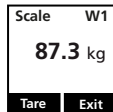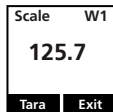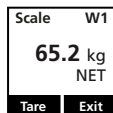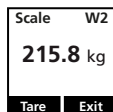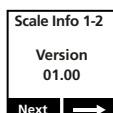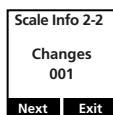
	Changes (information screen 2 of 2 in scale menu): change counter
Scale Info 2-2 **Changes** **001** `Next` `Exit`	• Counts changes in software parameters such as calibration and values for G factor Only available for Class III

Error notifications
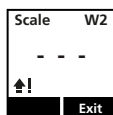
Scale W2 **- - -** ⬆! `Exit`	⬆! The scale is overloaded. Please follow the scale's prescribed load (see identification label on the hoist).
Scale W1 **- - -** ⬇! `Reset` `Exit`	⬇! The scale is below the minimum possible reading value (in other words, the load weighed is under 2 kg). Select "Reset" and start over with setting the scale.
Scale ⚠ 004 `Reset` `Exit`	An error has occured in the scale. The display shows an error code. Contact Guldmann to help solve the problem.
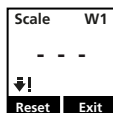
2.08   Class III Scale (GH3 with Class III Scale)

The Class III Scale (option) is a built-in digital scale which complies with the requirements for determination of mass in the practice of medicine for weighing patients for the purpose of monitoring, diagnosis and medical treatment due to its accuracy class in accordance with EU Directive 2014/31/EU.

Resetting is performed electronically with the push of a button, which makes it fast and easy for the healthcare profesional to weigh the user.

Accuracy levels
The Class III Scale weighs with different levels of accuracy in two weighing ranges.

Product variants	GH3+ Twin 250	GH3+ Twin 375	GH3+ Twin 500
Max capacity kg	250	375	500
e_1 kg	0.2		
Min_1 kg	4		
Max_1 kg	200		
n_1	1000		
e_2 kg	0.5		
Min_2 kg	10		
Max_2 kg	250	375	500

e_1/e_2: Verification scale interval in weighing range (W1/W2), Min_1/Min_2: Minimum capacity in weighing range (W1/W2), Max_1/Max_2: Maximum capacity in weighing range (W1/W2). n_1: Maximum number of verification scale intervals

The specific weighing ranges and accuracy that apply to the individual hoist are indicated on the hand control immediately above the display:

	e = kg	Min kg	Max kg
W1	xxx	xxx	xxx
W2	xxx	xxx	xxx

W1/W2: Weighing ranges

Important!
If unloading from the scale during weighing, it will require resetting the unit to secure accurate measurements.

2.09   Calibration/verification of Class III Scale

In order to maintain compliance, the digital scale must be calibrated/verified according to national regulatory requirements at an accredited testing institute.

Software version and change counter are verified on the hand control's display.

In daily use it can be verified that the system is in compliance by confirming that "Software version counter" reads 1 and the "Event counter" on the display corresponds with the counter values on the verification label.

Both values are 1 from the factory and until the first re-verifications.
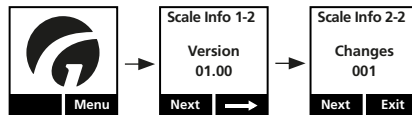
1. Press any key on the hand control to activate the display.

2. Select "Menu" using the function key located immediately below the display.

3. Next, select ➔ until the "Version" menu appears in the display.

   Version (information screen 1 of 2 in scale menu):
   • The number before the decimal counts the software versions and larger modifications;
   • The number after the decimal counts minor software modifications and bug fixes

4. Select "next" to read "Changes".

   Changes (information screen 2 of 2 in scale menu): change counter
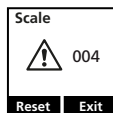   • Counts changes in software parameters such as calibration and values for G factor

5. Press EXIT to get back to the main menu.

2.10   **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 SIC/CLM software).

The USB in the hand control is only intended for connection of PDA/Net Book and may only be used by Guldmann service team or by a Guldmann authorized technician.

Number of lifts, total	A lift is registered automatically when the following events are registered simultaneously • Hand control is activated (Direction UP) for more than 2 seconds • The load on the lifting strap is registered being heavier than: 15 kg (33 lbs) Total includes the number of lifts performed after the lifting module was first taken into use.
Number of heavy lifts, total	A heavy lift is registered automatically when the following events are registered simultaneously • Hand control is activated (Direction UP) for more than 2 seconds • The load on the lifting strap is registered being heavier than: 150 kg (330 lbs) Total includes the number of heavy lifts performed after the lifting module was first taken into use.
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 or reset by the Guldmann SIC/CLM software)

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
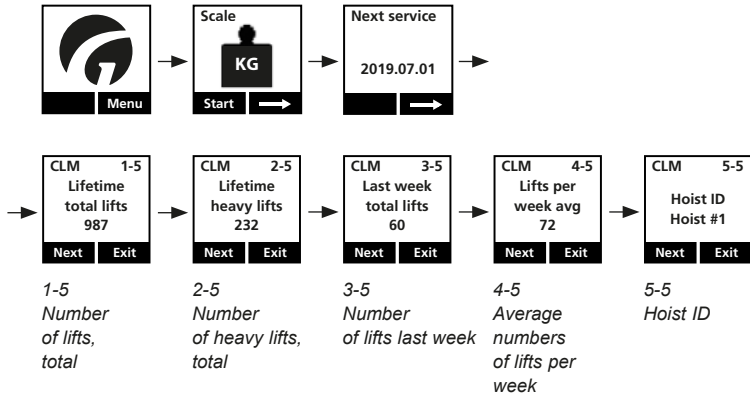
1-5	2-5	3-5	4-5	5-5
Number of lifts, total	*Number of heavy lifts, total*	*Number of lifts last week*	*Average numbers of lifts per week*	*Hoist ID*

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 SIC/CLM software installed).
   The PDA/Net Book is connected to the hand control via a micro USB plug
   located in the base of the hand control (see section 2.03).
   Contact supplier or the Guldmann Service Team for further information about
   CLM accessories.

2.11   Service module (GH3 with service module)

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
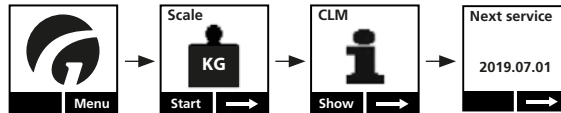
1. Press any key on the hand control to activate the hoist. When the lifting module is activated, a display on the hand control is switched on and the Guldmann logo "G" appears.

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).

Next service		Service date
2019.07.01	*If service is not performed* →	exceeded call service
▢ ➡		▢ Exit
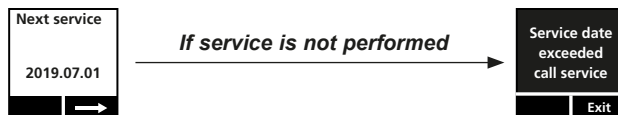
2. Pop-Up, Service date exceeded
   The date of the service inspection has been exceeded, contact the
   Guldmann Service Team or a Guldmann authorized technician.

   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 Informa-
   tion Consol" software.

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

2.12   **Turbo speed**
   The GH3 hoists are equipped with an turbo speed feature, which can be swit-
   ched on and off with the hand control. The turbo speed feature is switched on
   at delivery.

   The turbo speed is active when the strap is unloaded (GH3 with scale module
   = less than approx. 5 kg / 11 lbs. and GH3 without scale module = less than
   approx. 30 kg /66 lbs.). When turbo speed is activated the hoist increases the
   speed of the lifting strap to 100 mm / 4" pr second. This allows the lifting han-
   ger to be positioned in parking or returned quickly from parking unloaded.
   When lifting there is a delay of 1 second before turbo speed activates, when
   lowering there isn't any delay.

   The turbo speed feature will be switched on or off by holding the up and
   down buttons simultaneously at the hand control for 5 seconds. If the turbo
   speed feature is switched on, an acoustic signal of 2 beeps will be emitted. If
   the turbo speed feature is switched off, 4 beeps will be emitted.

2.13   **Safety functions**

The emergency stop and emergency lower should only be used in the event of hoist failure or fault. The fault must be identified and rectified by a Guldmann certified service technician before the hoist can be taken back into use. The Emergency stop should not be reset unless by a suitably qualified technician.

Under no circumstances should the user attempt to reset and continue to use the hoist where the emergency stop has been activated due to fault or failure. The hoist issue should be referred for service and rectification by a suitably qualified technician.

Emergency stop and emergency lowering strap

The red strap has the following functions:
- One pull: Emergency stop is activated.
- Constant pull: Emergency lowering is activated.
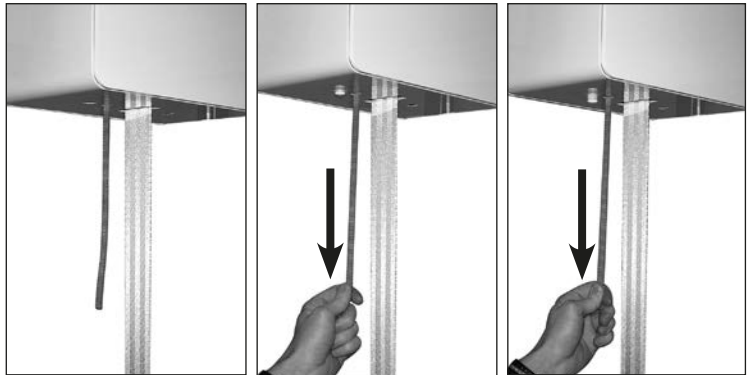
Emergency stop

If the GH3 does not stop/react to the hand control when the GH3 is in use, pull the red strap and the lifting/lowering 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.
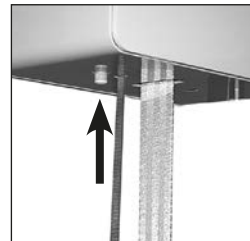
Emergency lowering function, electric
The emergency lowering function is identified as the essential performance. If the GH3 fails, the electrical emergency lowering function is used to lower the user safely. The emergency lowering function is operated by a constant pull on the red strap that is used 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.
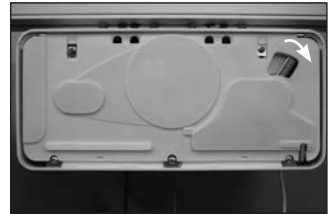
3. When the brake(s) has/have been released, the user will be lowered slowly. If the total weight of the user and the lifting accessories is low (e.g. less than 100 kg (220 lbs), it may be necessary to help the user down by turning the large belt wheel located on the opposite side of the handle and in 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 protective system has been activated in the GH3, the hoist MUST be serviced by a qualified technician or by the Guldmann Service Team.

2.14   Charging/connection
The GH3 is automatically charged trough charging liners in the 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 of the charging function. The GH3 then has a limited number of lifts available before it 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.

2.15   Accessories

Guldmann – ABC slings and lifting hangers
Obtain a brochure from your distributor, manufacturer or at www.guldmann.com

Extension strap
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 with Connecting Bar
Positioning the sling:
Cross Hanger is positioned with the lifting arms marked "FRONT" farthest away from the user. The rear straps of the sling are to be positioned on the two hooks closet to the user and the leg straps on the hooks farthest away from the user.

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.

Horizontal lifter, foldable
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 user 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
Guldmann NiMH Battery 24 V/2.1 Ah

Transformer
Guldmann Transformer, Class I
Guldmann Transformer, Class II, 230V
Guldmann Transformer, Class II, 115V

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 3000 m. 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 users and healthcare professionals 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 with warm water and a disinfectant cleaner, e.g. an chlorine solution 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-therm 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.

Estimated life time before change (status can be seen in the SIC program):

Lifting strap   –   20.000 normal lift (85 kg/1000 mm)
Timing Belt   –   20.000 normal lift (85 kg/1000 mm)
Battery   –   20.000 normal lift (85 kg/1000 mm)
                    or after 5 years, whichever comes first

Replacement of components

Replacement of batteries, PCBs, load cells and lifting straps must be performed by a qualified service technician or the Guldmann Service Team. Class III scales must be verified by a Notified Body after servicing.

Any modification to Class III scales, to the metric system and the legal software shall free the supplier of any responsibility for damages that may occur as a result of errors in weighing users.

No part of the equipment shall be serviced when in use with a user.

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.

Special guidelines must be observed when installing the rail system in cor-
rosive environments, like swimmingpools, riding stables etc. Guldmann
recommends that safety and service inspections must be performed every 6
months in these enviroments. A complete overhaul of the rail system (replace-
ments of brackets, fixings, hanger, etc.) must be done at least every 5 year.

Safety/service inspections of the products must be performed by a qualified
service technician or the Guldmann Service Team.
In connection with the purchase 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 part 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.

Re-verifying Class III scales
To maintain the medical approval of a Class III scale, the digital scale must
be re-verified/calibrated in accordance with local regulatory requirements and
by a Notified Body.

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

Medical equipment with respect to electrical shock, fire and mechanical hazards only.
In accordance with UL 60601-1, CAN/CSA c.22.2 No. 601.1

Medical Device Class I in accordance with EU MDR Regulation

Type B in accordance with UL/EN 60601-1

UK Responsible Person
European Device Solutions Ltd. 15 Coanwood Drive,
Whitley Bay, Tyne & Wear, NE25 9GB, United Kingdom.
Email: info@europeandevicesolutions. co.uk Tel: +44-754-559-5464

Read the manual before use

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

Do not incinerate and put battery on fire

Battery recycling, nickle-metal hybride battery

Class II

Class I equipment: Permanent installation with protective ground
Class II equipment: Non-permanent installation without protective ground

The equipment is surface-contacting medical devices which are in contact with intact skin and the duration of contact is limited exposure – 24h.

The applied parts, identified as the buttons on the ceiling hoist, the hand control, lifting strap and power supply, provide means of protection against electric shock.

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

Degree of protection against harmfull ingress of liquids (water)
Hoist   IP20
Hand control   IP44
Remote control   IP20
Transformer Class I   IP20
Transformer Class II   IP21

Examples of serial number label

Lifting module with Class III Scale module
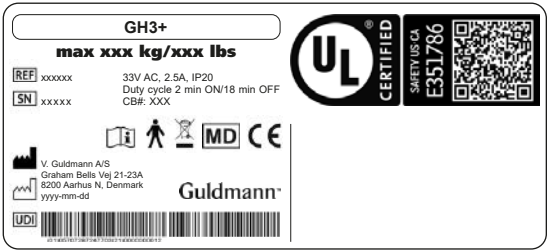
Transformer Class I
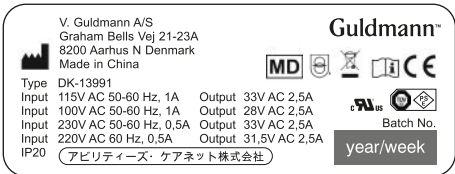
Transformer Class II
115 V version

```
V. Guldmann A/S
Graham Bells Vej 21-23A
8200 Aarhus N Denmark
Made in China
Type   DK-15002
Input  115V AC 50-60 Hz, 1A    Output  33V AC 2,5A
Input  100V AC 50-60 Hz, 1A    Output  28V AC 2,5A
IP21
```

Guldmann™

□ MD ⊖ ⌧ 🏷 CE

c ℞us

Batch No.
year/week

アビリティーズ・ケアネット株式会社

Transformer Class II
230 V version

```
V. Guldmann A/S
Graham Bells Vej 21-23A
8200 Aarhus N, Denmark
Made in China
Type   DK-15001
Input  230V AC 50-60 Hz, 0,5A   Output  33V AC 2,5A
Input  220V AC 60 Hz, 0,5A      Output  31,5V AC 2,5A
IP21
```

Guldmann™

□ MD ⊖ ⌧ 🏷 CE

c ℞us

Batch No.
year/week

アビリティーズ・ケアネット株式会社

Lifting hanger   Hand control

```
MD                GH Lifting Hanger
                  max xxx kg/xxx lbs     CE
V. Guldmann A/S
Graham Bells Vej 21-23A   REF xxxxxx   LOT xxxxxx   🔲i
DK-8200 Aarhus N
www.guldmann.com
yyyy-mm-dd
                  Barcode 128C / GS1-128
Guldmann®
```

```
Part no.   xxxxxx
Edition        xxx
Date xxxx-xx-xx
IP44
```
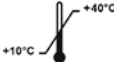
Type approval label,
lifting module with Class III scale

Guldmann Scale Class   Ⅲ

EU TEC 0200-NAWI-03847
Event Counter: 1

CE $\boxed{\text{M xx}}$ 0200

	e = kg	Min kg	Max kg
W1	xxx	xxx	xxx
W2	xxx	xxx	xxx

+40°C
+10°C

7.00   Certificates

IEC 60601-1   UL No. E351786
EN/ISO 10535   136863-4

8.00   Technical specifications

8.01   Module label, quick info

A module label on the strap relief indicates which optional modules are built into the specific GH3 lifting module together with a clear indication of the Safe Working Load.
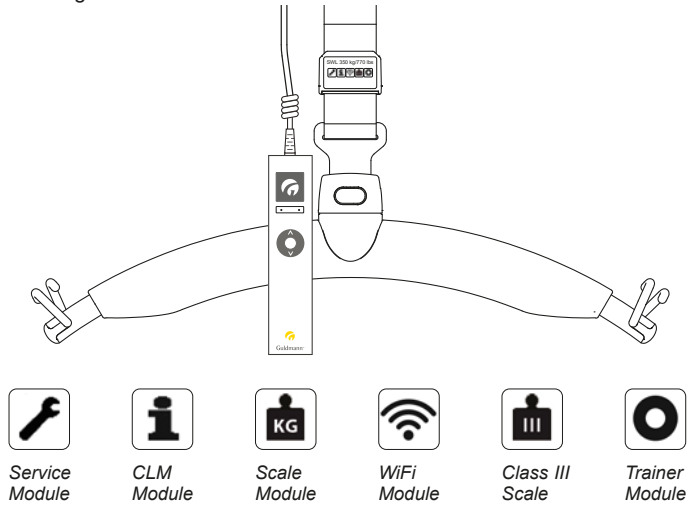
| Service Module | CLM Module | Scale Module | WiFi Module | Class III Scale | Trainer Module |

Basic configuration

The GH3 lifting modules are configured in a large number of variants. The 6 first columns in the chart below describes the basic configuration: ceiling hoist family, specific type, Safe working load, number of lifting straps, number of lifting motors, number of horizontal drive motors.

Options

The options of the hoist (IR remote, service module, scale module etc) can be chosen where applicable. All applicable options are indicated in the chart below.

Configuration code

The final configuration of the options is indicated by a configuration code, for example 7C. The code is found on the serial number label, lifting module.

Use our Product Information App on smartphones to translate the code into configuration details. Download the app here: https://productinformation.guld-mann.com. The app will also run on Chrome browser.

GH3 Lifting modules, configurations						Options									
Guldmann hoist type	Product line	Load in kg	Number of lifting straps	Number of lifting motors	Number of horizontal drive motors x)	IR remote x)	Service module	CLM module	Scale module	WiFi module	Class III scale	Trainer module	Coating	UL	Charg. HC x)
GH3	(x)	xxx	x	x	x	Configuration code (xxxxx)									
GH3	GH3+ Twin	250	2	2	0	•	•	•	•	•	•		•	•	
		375	2	2	0	•	•	•	•	•			•	•	
		500	2	2	0	•	•	•	•	•	•		•	•	

x)   *Not compatible with UL*

8.03   **Technical specifications**

Functions

Lifting capacity,
SWL . . . . 250 kg (550 lbs), 375 kg (825 lbs), 500 kg (1100 lbs)
Operation . . . . Hand control / IR
Sound level . . . . .52 dB (A)

Lifting speed	GH3 Twin
85 kg (187 lbs) load	60 mm/sec ($2^3/_8$ inch/sec)
150 kg (330 lbs) load	60 mm/sec ($2^3/_8$ inch/sec)
Max capacity load, SWL	55 mm/sec ($2^1/_8$ inch/sec)
Max 5 kg (11 lbs) load GH3+ with scale	60 / 100 mm/sec ($2^3/_8$ / 4 inch/sec)
Max 30 kg (66 lbs) load	60 / 100 mm/sec ($2^3/_8$ / 4 inch/sec)

Weight and materials

SWL . . . . 250 kg (550 lbs), 375 kg (825 lbs),500 kg (1100 lbs)
Own weight, SWL
250 kg (550 lbs), 375 kg (825 lbs), 500 kg (1100 lbs). . . . . . 19.2 kg (42.3 lbs)

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

Scale module Specifications. Supplementary module

Accuracy . . . . +/- 500 g
Repeatability . . . . < 0.1 kg at 0-250 kg (0 – 550 lbs)
 . . . . < 0.2 kg at 0-500 kg (0 – 1100 lbs)
Maximum capacity . . . . .SWL
Minimum capacity . . . . 5 kg (11 lbs)
Display type . . . . .LCD in Hand Control

Class III Scale Specifications. Supplementary module

Accuracy class. III
Weighing range . . . . Multi-range (dual)
Maximum number of Verification Scale Intervals (n1). 1000
Maximum capacity (Max). . . . . 250 kg to SWL
Verification Scale Interval (e1). . . . . 0.2 kg
Minimum capacity (Min). . . . . .20 e
Maximum tare effect . . . .≤ -Max
Operational temperature, scale . . . . .10°C - 35°C

Dimensions

A . . . . 860 mm (33 $^7/_8$")
B . . . . 817 mm (32 $^1/_8$")
C . . . . 156 mm (6 $^1/_8$")
D . . . . 184 mm (7 $^1/_4$")
E, min . . . . 82 mm (3 $^1/_4$")
F, min . . . . 583 mm (23")
F, max . . . . 3083 mm (121 $^3/_8$")
G . . . . 473 mm (18 $^5/_8$")
Depth of hoist . . . . 205 mm (8 $^1/_8$")

Safety

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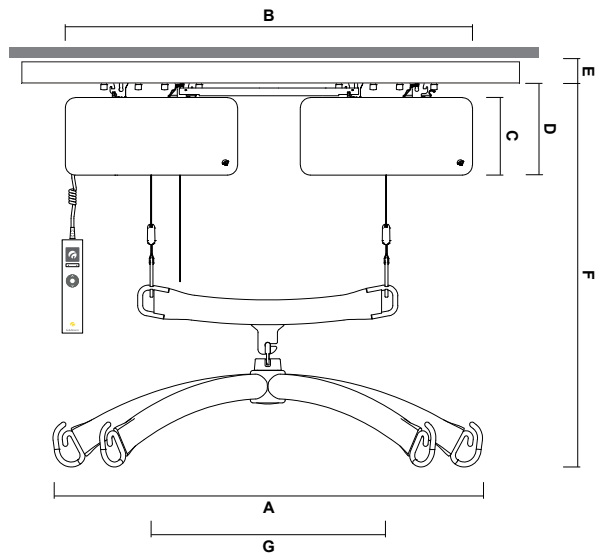
Electronics

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), 375 kg (825 lbs), 500 kg (1100 lbs). . . . . . . 2 x 2.1 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 (39¼ inch)
SWL: 250 kg (550 lbs),
375 kg (825 lbs), 500 kg (1100 lbs) . . . . 21/1000 mm (39¼ inch)

Max charging time at 25ºC:
SWL: 250 kg (550 lbs), 375 kg (825 lbs), 500 kg (1100 lbs) . . . . 4 hours

Operating temperature 10ºC-35ºC (50ºF-95ºF)

Degree of protection against harmful ingress of liquids (water)
Hoist . . . . IP 20
Hand control . . . . IP 44
Remote control . . . . IP 20
Transformer Class I . . . . IP 20
Transformer Class II . . . . IP 21

9.00   **EU-Declaration of conformity**

The product is manufactured in compliance with regulation (EU) 2017/745 of the European parliament and of the Council of 5 April 2017, as medical device Class I.

Class III Scale is complying with the directive 2014/31/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of non-automatic weighing instruments.

10.00   Type approval certificate

The Class III scale has the EU type examination certificate number 0200-NAWI-14151.

DANAK
PROD Reg. nr 7026

FORCE Certification

EU Type Examination Certificate

No. 0200-NAWI-14151

GH3+

NON-AUTOMATIC WEIGHING INSTRUMENT

Issued by	**FORCE Certification** EU - Notified Body No. 0200

In accordance with the requirements in Directive 2014/31/EU of the European Parliament and Council.

Issued to	**V. Guldmann A/S** Graham Bells Vej 21-23A, 8200 Aarhus N DENMARK

In respect of	Non-automatic weighing instrument designated GH3+ with variants of modules of load receptors and load cells. Accuracy class III, single-interval or multi range (dual) Maximum capacity, Max: From 200 kg to 700 kg Verification scale interval: $e_i = $ Max$_i$/ n_i Maximum number of verification scale intervals: $n \leq 2000$. Variants of models are set out in the annex.

The conformity with the essential requirements in annex 1 of the Directive is met by the application of EN 45501:2015 and of OIML R76:2006.

The principal characteristics and approval conditions are set out in the descriptive annex to this certificate.

The annex comprises 8 pages.

Issued on	**2023-02-03**
Valid until	**2033-02-03**

Jens Hovgård Jensen
2023-02-03
Digitally signed by Jens Hovgård Jensen
jhje@force.dk
Certification Manager

FORCE Certification references:
Task no.: 121-27890 and ID no.: 0200-NAWI-14151-1   **Signatory: J. Hovgård Jensen**

FORCE Certification A/S · Park Alle 345 2605 Brøndby Tel+45 43 25 01 77 Fax +45 43 25 00 10 info@forcecertification.com www.forcecertification.com
forcecertification.com/en/weighing

11.00   Environmental policy statement - V. Guldmann A/S

At Guldmann we will work actively to ensure that the negative impact that we can control is minimised.

Guldmann's Ambition is to ensure ongoing improvement of our environmental management system and its performance by:

- Working closely with our suppliers to ensure that we use materials and processes that are as sustainable as possible
- Continuously minimising the relative amount of waste and emissions and to ensure the highest possible degree of recycling
- Ensuring that our products do not have an unnecessary negative environmental impact in connection with use, recirculation and possibly destruction
- Complying with the applicable legislation
- Ensuring ongoing improvement of our environmental management system and associated environmental performance

All subsidiaries in the Guldmann group are covered by the above policy, and we expect that our Partners (suppliers and distributors) live up to this policy.

All Guldmann employees are obliged to immediately inform the management if they become aware of any violation of the environmental policy internally in the organisation or at our Partners.

This considers the economic and technological resources at our disposal and our general financial goals for the company and based on our fundamental values.

12.00   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_T) for 0,5 cycle	<5 % U_T (>95 % dip in U_T) 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_T) for 5 cycles	40 % U_T (60 % dip in U_T) for 5 cycles	
	70 % U_T (30 % dip in U_T) for 25 cycles	70 % U_T (30 % dip in U_T) for 25 cycles	
	70 % U_T (30 % dip in U_T) for 25 cycles	<5 % U_T (>95 % dip in U_T) 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	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. **Recommended separation distance** $d=1{,}2\sqrt{P}$ 80 MHz to 800 MHz $d=2{,}3\sqrt{P}$ 800 MHz to 2,5 GHz 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:

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.

13.00 Warranty and service conditions

A.   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.

The warranty does not cover any part of the equipment that has been subject to damage or abuse by the user or others. The warranty does not cover any part of the equipment that 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.

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 certified technician. Any parts or components repaired or replaced by a Guldmann certified technician will be guaranteed for the remainder of the Warranty Period.

Only for USA
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 Certified Technician. A Guldmann Certified Technician is a technician who has successfully completed Guldmann Service Training, and who holds a valid Service Training Certificate from Guldmann, and is in possession of a valid password to access Guldmann's Service and Information Console (SIC). A Guldmann Service Training Certificate and SIC password are valid for three years (only USA) from the date the technician is first certified. Thereafter, the technician must undergo re-certification training to obtain a new valid certificate and password. Any parts or components repaired or replaced by a Guldmann Certified Technician will be guaranteed for the remainder of the Warranty Period. In the event the warranty is rendered null and void, the purchaser shall indemnify and hold Guldmann harmless of and from any and all claims or liability arising as a result of equipment malfunction or misuse.

B.   **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 |