Operating Manual and Mounting Instructions

English



C € 0102 0297

SLS



Hottinger Baldwin Messtechnik GmbH Im Tiefen See 45 D-64239 Darmstadt Tel. +49 6151 803-0 Fax +49 6151 803-9100 info@hbm.com www.hbm.com

Mat.: DVS: HBM SLS lifter scale manual I1640-7.0 - 01.10.2016 HBM: public 10.2016

© Hottinger Baldwin Messtechnik GmbH.

Subject to modifications. All product descriptions are for general information only. They are not to be understood as a guarantee of quality or durability.

BG

Ако не разбирате настоящото ръководство, можете да го поръчате преведено на родния ви език.

Декларация за съответствие на ЕК

С настоящата декларация и обозначението СЕ доставчикът, Hottinger Baldwin Messtechnik, гарантира, че продуктът съответства на приложимите европейски разпоредби. Директивите, стандартите и документите са посочени в Декларацията за съответствие.

CZ

Není-li tento návod srozumitelný, můžete si objednat návod, který přeložíme do vašeho rodného jazyka.

Prohlášení o shodě EC

Na základě tohoto prohlášení a značky CE dodavatel Hottinger Baldwin Messtechnik zaručuje, že produkt je v souladu s platnými Evropskými normami. Normy, směrnice a dokumenty jsou uvedeny v Prohlášení o shodě.

DK

Hvis denne brugsvejledning ikke er forståelig, kan du bestille brugsvejledninger oversat til dit modersmål hos os.

EF overensstemmelseserklæring

Med denne erklæring og CE-mærket garanterer leverandøren, Hottinger Baldwin Messtechnik, at produktet er i overensstemmelse med gældende europæiske direktiver. Direktiverne, standarder og dokumenter er angivet i Overensstemmelseserklæring.

DE

Sollte diese Anleitung nicht verständlich sein, können Sie bei uns eine in Ihre Landessprache übersetzte Anleitung bestellen.

EG-Konformitätserklärung

Der Lieferant Hottinger Baldwin Messtechnik garantiert mit dieser Erklärung und der CE-Kennzeichnung, dass das Produkt den geltenden europäischen Richtlinien entspricht. Die angewendeten Richtlinien, Normen und Dokumente sind in der Konformitätserklärung aufgeführt.

EL

Εάν αυτό το εγχειρίδιο δεν είναι κατανοητό, μπορείτε να μας το ζητήσετε μεταφρασμένο στη μητρική σας γλώσσα.

Δήλωση Συμμόρφωσης ΕΚ

Με αυτή τη δήλωση και το σήμα CE, ο προμηθευτής Hottinger Baldwin Messtechnik εγγυάται ότι το προϊόν είναι σύμμορφο με τις ισχύουσες ευρωπαϊκές οδηγίες. Οι οδηγίες, τα πρότυπα και τα έγγραφα παρατίθενται στη Δήλωση Συμμόρφωσης.

EN

If this manual is not understandable, you can order a manual translated into your native language from us.

EC Conformity Declaration

With this declaration and the CE mark, the supplier Hottinger Baldwin Messtechnik guarantees that the product complies with the applicable European directives. The directives, standards, and documents are listed in the Declaration of Conformity.

ES

En caso de no entender el presente manual, puede pedirnos un manual traducido al idioma de su país.

Declaración de conformidad CE

El proveedor Hottinger Baldwin Messtechnik garantiza con esta declaración y el marcado CE que el producto cumple con las directivas europeas aplicables. Las directivas, normas y documentos aplicados se enumeran en la declaración de conformidad.

EΤ

Kui see juhend pole arusaadav, saate meilt tellida teie emakeelde tõlgitud juhendi.

EÜ vastavusdeklaratsioon

Tarnija Hottinger Baldwin Messtechnik kinnitab käesoleva deklaratsiooni ja CE-vastavusmärgisega, et toode vastab kohaldatavatele Euroopa direktiividele. Direktiivid, standardid ja dokumendid on loetletud vastavusdeklaratsioonis.

FI

Jos tämä opas ei ole kielen vuoksi ymmärrettävä, voitte tilata meiltä äidinkielellenne käännetyn oppaan.

EU-vaatimustemukaisuusvakuutus

Tällä vakuutuksella ja CE-merkinnällä toimittaja Hottinger Baldwin Messtechnik takaa, että tuote noudattaa sovellettavia Euroopan unionin direktiivejä.

Direktiivit, standardit ja asiakirjat ovat lueteltu vaatimustenmukaisuusvakuutuksessa.

FR

Si la compréhension de ce manuel pose des problèmes, vous pouvez demander à obtenir une commande de manuel traduit dans votre langue maternelle.

Déclaration de conformité de la CE

Avec cette déclaration et le marquage de la CE, le fournisseur, Hottinger Baldwin Messtechnik, assure que le produit est conforme aux directives européennes en vigueur. Les directives, les normes, et les documents sont classés dans la déclaration de conformité.

IE

Mura bhfuil an lámhleabhar seo intuigthe, is féidir lámhleabhar arna aistriú chuig do theanga dhúchais féin a iarraidh orainn.

Dearbhú Comhréireachta an Comhphobail Eorpaigh

Ráthaíonn an soláthraí Hottinger Baldwin Messtechnik, leis an dearbhú seo agus leis an gcomhartha CE, go gcloíonn an táirge leis na Treoracha Eorpacha is infheidhme. Tá na treoracha, na caighdeáin agus na doiciméid liostaithe sa Dearbhú Comhréireachta.

ΗU

Amennyiben jelen kézikönyv nem érthető, megrendelheti tólünk, annak saját anyanyelvére fordított változatát.

EK Megfelelőségi nyilatkozat

Jelen nyilatkozattal és a CE jelöléssel együtt, a beszállító (Hottinger Baldwin Messtechnik) garantálja, hogy a termék megfelel a vonatkozó európai irányirányelveknek. Az irányelvek, szabványok és dokumentumok listája a Megfelelőségi Nyilatkozatban található.

HR

Ako ovaj priručnik nije razumljiv, možete od nas naručiti priručnik preveden na svoj materinji jezik.

EZ-izjava o sukladnosti

Ovom izjavom i oznakom CE dobavljač Hottinger Baldwin Messtechnik jamči da je proizvod sukladan s primjenjivim europskim direktivama. Direktive, norme i dokumenti navedeni su u Izjavi o sukladnosti

IT

Qualora questo manuale non fosse comprensibile, è possibile ordinare il manuale tradotto da noi, nella lingua richiesta.

Dichiarazione di conformità CE

Con questa dichiarazione e il marchio CE, il fornitore Hottinger Baldwin Messtechnik garantisce che il prodotto è conforme alle direttive europee applicabili. Le direttive, gli standard e i documenti sono elencati nella Dichiarazione di conformità.

LT

Jeigu šios naudojimo instrukcijos nesuprantate, pas mus galite užsisakyti naudojimo instrukciją, išverstą į Jūsų gimtąją kalbą.

EB atitikties deklaracija

Kartu su šia deklaracija ir CE ženklu tiekėjas, "Hottinger Baldwin Messtechnik", garantuoja, kad šis gaminys atitinka galiojančias Europos direktyvas. Direktyvos, standartai ir dokumentai yra išvardyti atitikties deklaracijoje.

LV

Ja šī rokasgrāmata nav saprotama, varat no mums pasūtīt jūsu dzimtajā valodā tulkotu rokasgrāmatu.

EK atbilstības deklarācija

Ar šo deklarāciju un CE marķējumu piegādātājs Hottinger Baldwin Messtechnik garantē, ka produkts atbilst attiecīgajām Eiropas direktīvām. Direktīvas, standarti un dokumenti ir norādīti atbilstības deklarācijā.

МΤ

Jekk dan il-manwal ma jiftiehemx, tista' tordna l-manwal tradott fil-lingwa tieghek minghandna.

Dikjarazzjoni ta' Konformità ĊE

B'din id-dikjarazzjoni u I-marka ĈE, il-fornitur Hottinger Baldwin Messtechnik jiggarantixxi li I-prodott jimxi ma' Direttivi Ewropej applikabbli. Id-direttivi, I-istandards u d-dokumenti huma elenkati fid-Dikjarazzjoni ta' Konformità.

NL

Als deze handleiding niet duidelijk is, kunt u bij ons een handleiding in uw moedertaal aanvragen.

EC-verklaring van naleving

Met deze verklaring en de CE-markering garandeert leverancier Hottingen Baldwin Messtechnik dat het product voldoet aan de van kracht zijnde Europese normen. De normen, standaarden en documenten staan vermeld in de Verklaring van naleving.

PL

Jeśli niniejsza instrukcja nie jest zrozumiała, można u nas zamówić instrukcję przełożoną na Państwa język ojczysty.

Deklaracja zgodności WE

Za pomocą niniejszej deklaracji oraz oznakowania CE dostawca, Hottinger Baldwin Messtechnik, gwarantuje, że wyrób spełnia wymagania obowiązujących wytycznych europejskich. Wytyczne, normy i dokumenty mające zastosowanie są wymienione w niniejszej Deklaracji zgodności.

PΤ

Se este manual não for compreensível, pode pedir-nos o manual traduzido na sua língua nativa.

Declaração de Conformidade CE

Com esta declaração e com a marcação CE, o fornecedor Hottinger Baldwin Messtechnik garante que o produto está em conformidade com as Diretivas Europeias aplicáveis. As diretivas, as normas e os documentos estão listados na Declaração de Conformidade.

RO

Dacă acest manual nu este înțeles, dumneavoastră puteți solicita de la noi traducerea acestuia în limba nativă.

Declarație de conformitate CE

Împreună cu această declarație și marcajul CE, furnizorul Hottinger Baldwin Messtechnik garantează că acest produs satisface directivele europene aplicabile. Directivele, standardele, și documentele sunt prezentate în Declarația de conformitate.

SK

Ak nie je tento návod zrozumiteľný, môžete si objednať návod, ktorý preložíme do vášho rodného jazyka.

Vyhlásenie o zhode EC

Na základe tohto vyhlásenia a značky CE dodávateľ Hottinger Baldwin Messtechnik zaručuje, že produkt je v súlade s platnými Európskymi normami. Normy, smernice, normy a dokumenty sú uvedené v Vyhlásenie o zhode.

SI

Če ta priročnik ni razumljiv, lahko pri nas naročite prevod priročnika v vaš materni jezik.

Izjava o skladnosti ES

S to izjavo in oznako CE dobavitelj Hottinger Baldwin Messtechnik zagotavlja, da je proizvod v skladu z veljavno evropsko direktivo. Direktive, standardi in dokumenti so navedeni v Izjavi o skladnosti.

SE

Om den här bruksanvisningen inte är begriplig kan du beställa en bruksanvisning översatt på ditt modersmål från oss.

EG-deklaration om överensstämmelse

Med den här deklarationen och CE-märkningen garanterar leverantören, Hottinger Baldwin Messtechnik, att produkten efterlever direktiven inom EU. Direktiv, standarder och dokument är listade i deklarationen om överensstämmelse.

Introd	uction	9
1 1.1 1.2	Safety instructionsMarking used in this documentMarking on the device	10 11 12
2 2.1 2.2	General information Appropriate use Cleaning, storage and maintenance	13 14 15
3 3.1 3.2	Information on verified scales Initial conformity assessment (initial manufacturer verification) Using verified scales in legal-for-trade operation	16 16 18
4 4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9 4.10 5 5.1	Operating the lifter scale Display and control functions Starting up Initial activation General weighing information Weighing when switching the scale on without a patient Weighing when switching the scale on without a patient Changing the unit (kg ↔ lb) Switching off Monitoring functions Display values (factory settings) Settings dialog Lifter scale default settings	 19 19 21 23 24 24 26 26 26 26 27 28 28
5.2	Scale adjustment (partial range calibration)	29
6 6.1 6.2 6.3 6.4 6.5	Standard dialog / extended standard dialog Power Off + Amplifier Filter Averaging (Internal Conversion rate) Automatic filter selection (Fast SettLing) Gravitational acceleration at the installation location Automatic zeroing (Zero Setting)	31 33 34 35 37 38

7	Replacing the battery	39
8	Attaching load application parts	40
9	Error messages	41
10	Specifications	43
11	Dimensions in mm (1 mm = 0.03937 inches)	45
Annex	1: Inspection plan	46
Annex	2: Declaration of conformity	48
Annex	3: Declaration of harmlessness	49
Annex	4: Electromagnetic compatibility	51
Annex	5: Replacement parts	55

Introduction

Thank you for opting for the HBM lifter scale. This product is equipped with all the features of state-of-the-art technology and is optimized to make operation easy.

If you have any questions or should there be any problems with your device that are not dealt with in the mounting instructions, please contact your dealer or service partner, or visit us on the Internet at <u>www.hbm.com</u>.

1 Safety instructions

These mounting and operating instructions are aimed at medical technicians in clinics, hospitals and old people's homes, who use and maintain a patient lifter with an SLS sling scale.

Intended use

The SLS... lifter scale is designed for weighing technology applications together with standing or ceiling lifters. Use for any purpose other than the above is deemed to be non-designated use.

In the interests of safety, the lifter scale should only be operated as described in the mounting and operating instructions. It is also essential to comply with the legal and safety requirements for the application concerned during use. The same applies to the use of accessories.

In particular, you should take into account the limit loads quoted in the specifications. The lifter scale specifications only apply to use within the stated load limits.

The lifter scale is not a safety element within the meaning of intended use. For safe and trouble-free operation, the lifter scale must not only be correctly transported, stored, sited and mounted, but must also be carefully operated and maintained.

General dangers of failing to follow the safety instructions

The lifter scale is state-of-the-art and failsafe. Lifter scales can give rise to residual dangers if they are inappropriately installed and operated by untrained personnel.

Everyone involved with siting, starting up, maintaining or repairing a lifter scale must have read and understood the operating and mounting instructions and in particular the technical safety instructions.

Residual dangers

10

The scope of supply and performance of the lifter scale covers only a small area of weighing technology. In addition, equipment planners, installers and operators should plan, implement and respond to the safety engineering considerations of the weighing technology in such a way as to minimize residual dangers.

1.1 Marking used in this document

Important instructions for your safety are specifically identified. It is essential to follow these instructions in order to prevent accidents and damage to property.

Symbol	Significance		
	This marking warns of a <i>potentially</i> dangerous situ- ation in which failure to comply with safety require- ments <i>can</i> result in death or serious physical injury.		
	This marking warns of a <i>potentially</i> dangerous situ- ation in which failure to comply with safety require- ments <i>can</i> result in slight or moderate physical injury.		
Note	This marking draws your attention to a situation in which failure to comply with safety requirements <i>can</i> result in damage to property.		
Important	This marking draws your attention to <i>important</i> in- formation about the product or about handling the product.		
i Information	This marking draws your attention to information about the product or about handling the product.		
Emphasis See	Italics are used to emphasize and highlight text and identify references to sections, diagrams, or external documents and files.		
Device -> New	Bold text indicates menu items, as well as dialog and window headings in the program environment.		
	The triangle at the start of a line indicates instructions to be followed.		

On-site regulations must be complied with at all times. Reference must be made to the residual dangers associated with the weighing technology.



1.2 Marking on the device

CE mark



The CE mark enables the manufacturer to guarantee that the product complies with the requirements of the relevant EC directives.

Statutory waste disposal mark



In accordance with national and local environmental protection and material recovery and recycling regulations, old devices that can no longer be used must be disposed of separately and not with normal household garbage.

If you need more information about disposal, please contact your local authorities or the dealer from whom you purchased the product.

2 General information

- The SLS lifter scale is a medical device and must only be used by persons whose training or know-how qualifies them to guarantee proper handling.
- To avoid putting patients at risk or exposing them to harm through incorrect operation, the operating manual enclosed with each lifter scale must be read in full before starting up the device, taking note of the information and instructions for proper operation.
- The operating manual must be safely kept with the lifter scale.
- Every time the device is used, users must first satisfy themselves that it functions reliably and is in the proper condition.
- A visual check of the SLS lifter scale must always be carried out before using the device. It is particularly important to check that
- there is no visible damage, wear or corrosion discernible at the mounting adapters or locating holes
- the locking cylinders are in place and their fastening bolts are tightened
- · the retaining ring is present in adapters with locating pins
- The measurement results of the scale must be checked for plausibility in connection with the therapy. Check measurements can be carried out with other scales, if necessary.
- The user or the doctor handling the treatment has sole responsibility for deciding whether it is enough to base the diagnosis to be made on weight conditions. Conclusions can only be drawn from successive measurements (weight trend) after at least three have been performed independently of one another. It is not acceptable to start treatment based only on the weight value.
- Please note the maximum capacity of the scale; this is given on the type plate on the back of the device.



A maximum scale loading of 350 kg must not be exceeded. Attention must also be paid to the lifter manufacturer's own safety requirements.



Once the scale has been mounted on the lifter and aligned, it must not be rotated. This would risk damaging the internal connecting elements! The scale can only be rotated in conjunction with suitable pivot bearings, mounted in the lifter.

- This device meets the requirements of 2009/23/EC and 93/42/EEC, and is radio interference-suppressed in accordance with the applicable harmonized standards EN 60601-1 and EN 60601-1-2.
- No devices that emit electromagnetic radiation, such as mobile phones or x-ray equipment, may be operated in the immediate vicinity of the SLS lifter scale. Please see the table in Annex 4 of this manual for additional information about recommended safe distances.
- The SLS lifter scale is not designed for use in a potentially explosive atmosphere. Potentially explosive atmospheres can be produced by the use of flammable anesthetic agents, skin-cleaning agents or skin disinfectants.
- The device must not be modified without the express agreement of the manufacturer. Any modification shall exclude all liability on the part of the manufacturer for any damage resulting therefrom.
- It is forbidden to carry out any repairs, or replace any components. Should the device malfunction, contact your dealer or the Service Department of HBM.

2.1 Appropriate use

The SLS... lifter scale is a non-automatic weighing instrument (NAWI) designed for a life of max. 12 years or 300,000 load cycles.

The maximum capacity and parameters relevant to verification appear on the type plate on the back of the device.

The scale can be used in legal-for-trade applications up to 2000 d = e.

1.5 V type AA batteries are used as the power supply.



Do not use rechargeable batteries or a direct voltage source! Please do not touch the contacts.

Notice

Batteries do not belong in household garbage. Please return used batteries to public collection points or recycle them through the trade. Avoid touching leaking battery fluid. Wear disposable gloves if necessary.

The lifter scale has an LCD display and 3 keys. One key is used to adjust the scale (concealed key) and is secured with a verification seal for legal-for-trade applications.

2.2 Cleaning, storage and maintenance

- The device must be protected against moisture penetration, it must not be sprayed. Wipe over with a damp cloth only, do not use abrasive or corrosive cleaning agents. The instructions provided by the cleaning agent or disinfectant manufacturers must be followed.
- If the SLS lifter scale is to be used in areas where there is infection, sterile drapes must be used.
- The SLS lifter scale must be stored somewhere dry, at temperatures between +10°C and +40°C. Condensation must be avoided.
- It is advisable to remove the batteries from the device if it is not going to be used for some time.
- The lifter scale does not need routine maintenance. But it does make sense to check the accuracy, as well as the mechanical connection elements at suitable intervals, in accordance with the inspection plan (see Annex).
 If you discover discrepancies in the weight value, or signs of wear on the mounting adapters, immediately take the device out of service and contact your dealer or the Service Department of HBM.
- If the device needs to be returned to HBM, the declaration of harmlessness form annexed to this manual must also be considered.



3 Information on verified scales

3.1 Initial conformity assessment (initial manufacturer verification)

In Germany, personal weighing and lifter scales used for diagnostic purposes must be verified (directives 93/42/EEC and 2009/23/EC).

Medical scales must have an initial EC verification and belong to accuracy class III.

HBM has the necessary certification to perform the statutory initial verification for scales used in medical applications. This is made possible by the HBM Quality Management System, that is approved by the Verification Directorate of the State of Hesse.

The labels on the rear strip and the lifter scale explained below describe the required marking for a medical product, as well as providing the information required by the weights and measures regulation to allow HBM to perform an initial verification.

CE M 16 0297 0102	Lifterwaage SLS C2 Max: 200kg Min: 2kg e: 100g Wottinger Baldwin Messtechnik GmbH Darmstadt. Im Tiefen See 45. Germany
Green M	In conjunction with the CE conformity mark, the metrology mark with the black M in the center indicates that the scales (non-automatic weighing instruments) meet the basic requirements of directive 2009/23/EC.
CE	EC conformity mark
JJ	Year in which conformity was assessed for the first time.
0102	As the nominated European Community station, registration number 01.02-04, HBM has been authorized by the Physikalisch-Technische Bundesanstalt (PTB) to perform the initial conformity assessment (formerly initial manufacturer veri- fication).
0297	HBM was granted a certificate under registration number 000001 M P 2012 for their QM system as per DIN ISO 13485 by the relevant German certification body (DQS).

Information relevant to verification

D04-09-023 III		Type approval number and accuracy class of the weighing in- strument
Max:	200kg	Maximum load of the weighing range
Min:	2kg	Minimum load
e:	100g	Verification interval (digit)

Blue reader symbol / safety instruction



Indicates that attention must be paid to the mounting and operating instructions before using the lifter scale

Factory symbol-

Marking of the scale manufacturer

Garbage can symbol



Old devices that can no longer be used must be disposed of separately and not with normal household garbage.

Serial number and year of manufacture



Marking showing the year of manufacture and the serial number (bar code and plain text)

HBM sealing



During the initial verification, this seal is used to protect scales of Accuracy Class III from unauthorized influence being exerted on the metrological characteristics.

If this seal is violated, the verification is no longer valid. The scale can then no longer be used in legal-for-trade operation.





18

So please check the state of this security seal on your scale!

3.2 Using verified scales in legal-for-trade operation

When the new law of metrology and verification came into force on 01.01.2015, § 32 of the act compelled users in Germany to notify the initial new and/or renewed measuring instrument type no later than 6 weeks after start-up.

The notice must be completed at the competent weights and measures office and must include the device type, the manufacturer, the type name and the address of the user.

The weights and measures office has set up a reporting platform at <u>www.eichamt.de</u>, so that the required data can be submitted quickly and easily.

At a subsequent verification, each scale must be promptly reported to the weights and measures office or an authorized office.

The time limit for a subsequent verification in Germany is 4 years, at least for personal weighing and lifter scales used in hospitals or clinics.

The period of validity of verification complies with the national standards applicable to the country in which the scale is being used. For information about the currently applicable legal standards in your country, please contact your local weights and measures office.

Using lifter scales in legal-for-trade operation in France requires each device to have an accompanying service manual (Carnet Metrologique) and a green vignette must be attached to mark the period of validity.

4 Operating the lifter scale

4.1 Display and control functions

The display is an LCD with numbers 20 mm high:



Description of symbols			
Δ	The battery symbol indicates that the battery needs to be changed		
▶0◀	Gross value in the accurate zero range (±0.25 d)		
Net	Net measurement display		
РТ	Interactive mode (parameter/adjustment menu)		
1 2	Adjustment mode: 1 = zero balance, 2 = sensitivity adjustment		
	Weighing mode (for multi-range weighing machines): 1 = measuring range 1, 2 = measuring range 2		
Lb kg t g	The weight unit is displayed when the scale is at rest (standstill)		

The scale is operated by means of two keys:





The following scale functions are controlled by the keys:

Key(s)	Short keystroke (standard function)	Long keystroke (>10 s)
ON OFF 2	Switching ON/OFF	Selecting kg ↔ lbs (non legal-for-trade operation only)
G/N G/N +0/T*	Gross/net selection or taring and net display	Zero setting (±2%)
ON+GN (simultaneously)	Interactive mode	-



In interactive mode (setting up the scale), the keys function differently and this is described elsewhere.

Hidden key for scale adjustment:



20

The scale has a hidden key (accessible when the left-hand housing cover is removed), which is secured by the verification seal in legal-for-trade applications. This key is used to adjust the scale.

4.2 Starting up

When starting up, unscrew the right-hand cover and insert the battery tray complete with batteries (4x 1.5 V - type AA), taking care to maintain the correct polarity! Push the tray into the battery compartment and screw the cover down again. The scale is now ready for operation.

Notice

Only 1.5 V batteries of type AA must be used. Do not use rechargeable batteries or a direct voltage source. Do not touch the contacts.

Inportant

Batteries do not belong in household garbage. Please return used batteries to public collection points or recycle them through the trade. Avoid touching leaking battery fluid. Wear disposable gloves if necessary.

4.3 Initial activation

Even if the scale has already been given a single-stage verification by HBM and provided with a verification seal, you still have this single opportunity to change or confirm the value for gravitational acceleration at the place of installation of the scale (Gd = Gravitation destination) without affecting the legal-for-trade counter. Also see section 6.4, page 37, "Gravitational acceleration at the installation location".



The following change/confirmation of Gd can be made once only!

The responsibility of ensuring that the *Gd* value is correct lies with the lifter manufacturer and the service engineer appointed to the scale at the place of installation. The scale verification is invalid if an incorrect value is entered at this point.





Press the ON/OFF key once: to switch the scale on

Display segment test (~5 seconds)

Please watch during the automatic segment test to make sure that as shown, all the segments are on for approx. 5 seconds and off for approx. 2 seconds. If you notice that a segment is faulty, the scale must be repaired.



Diaplay of coffware used

Then all the segments go out (\sim 2 seconds)



Display of software used





Important

If you press the ON/OFF key at this point, you can no longer cancel "change/confirm"! The individual numbers for Gd can be changed and/or confirmed. The next time the scale is activated, Gd will not be displayed: see section 4.5, "Weighing when switching the scale on without a patient".



If you press the G/N key without calling the Change/confirm sub-menu, Gd will be displayed again the next time the scale is activated.

Important

At this point, you can cancel the process by pressing the G/N key! The next time the scale is activated, Gd will again be displayed.

4.4 General weighing information

The patient to be weighed must sit without support in the load suspension device (e.g. sling). Please note that the permissible total load of the scale must not be exceeded.

Neither the patient nor the suspension device must be touched during weighing. The cradle should not swing back and forth.

The weight value should only be read once the scale is at rest. This is indicated when the kg weight unit shows continuously on the display.

If there is too much patient movement to allow the display to come to a standstill, modifying the filter setting as per *section 6.2 "Averaging (Internal Conversion rate)", page 34* can remedy the situation.

4.5 Weighing when switching the scale on without a patient

Once the segment test is completed as per *section 4.3 "Initial activation", page 21*, the display is set to 0.0 kg and the scale is ready for operation.

Before the patient can sit in the scale, the weight that is not to be included in the measurement (e.g. a towel) must be placed on the scale and tare key G/N ->0/T<- must be pressed.

Please note that the zero on start-up range for a 200 kg single-range balance is limited at the factory to 10 kg, and for a 320 kg multi-range weighing machine, to 16 kg. Automatic zeroing is not performed above this loading. Should it not be possible to avoid this situation, please press the tare key to force zeroing. Be aware, however, that the lifter scale weighing range is reduced by this amount.



Press the G/N key once: to tare

You can now weigh

- Press the G/N key once again to toggle between the scale zero setting and the gross weight.
- Only then should the patient sit in the sling. The weight can now be read on the display.

4.6 Weighing when switching the scale on with a patient

Once the segment test is completed as per *section 4.3 "Initial activation", page 21*, the scale shows an undefined weight value. (Caution: this is not the patient's weight value)



Press the ON/OFF key once: to switch the scale on

Display segment test (\sim 5 seconds)

Then all the segments go out



-208-

Followed by the display of software used



The total weight is displayed (with the cradle!)



If zero is displayed at this point, it is not possible to weigh like this.

Now press the tare key to determine the weight of the patient. Then remove the patient from the scale (display value is now negative).
 The weights of the sling, towel, etc., that are not to be measured stay on the scale or must be reattached.

The value that is now displayed without the minus sign corresponds to the actual body weight of the patient.



Press the G/N key once: to tare

The total weight is set to zero

Once the patient gets out of the cradle, their weight is displayed with a negative sign.



4.7 Changing the unit (kg \leftrightarrow lb)



Important

Only possible for scales that are not legal-for-trade!

Switch the scale on and wait for ~10 seconds (see section 4.3 "Initial activation", page 21).



Proceed in the same way to change from lb to kg. Whichever unit is last set is retained even when the scale is switched off.

4.8 Switching off



Pressing the ON/OFF key once switches the scale off.

4.9 Monitoring functions



Battery status

The batteries are flat and must be replaced (battery voltage < 4 V).



Standstill

The set weight unit is lit when the device is at a standstill $(\pm 1 \text{ d/s}) \text{ e.g. } 100.0 \text{ kg.}$





Overload

Please note the maximum capacity of the scale (see type plate on the back of the device).

Underload

Switch the scale off and then on again.



4.10 Display values (factory settings)

The lifter scale is set to the following display values for max. capacity at the factory:

	SLSC2		SLSC2-MR
Mode	Max. capacity (E _{max}) = 200 kg	Max. capacity (E _{max}) = 320 kg	
OIML 200.0 kg digit = 1d (= 100 g)		Max 1	200 kg d1=e1=100 g
		Max 2	320 kg d2=e2=200 g



5 Settings dialog

5.1 Lifter scale default settings

Max. capacity, decimal point, unit/digit/range (1 or 2-range scale)

Under the left-hand housing cover, the scale has a hidden key that is used to adjust it. In legal-for-trade applications, the housing cover is secured against unauthorized opening by a verification seal. The hidden key itself is generally (i.e. also in non legal-for-trade applications) protected by a separate sticker.



 With dual-range scales, the setting *m* applies to the first range. The digit for the second range is automatically the next-highest level !
 Examples: if the *m* setting = 01, the digit in the second range is 02



- 2) With single-range scales:
- 3) Once the scale has changed over to the second range, it will stay there, even if the value falls below the changeover point between the first and second ranges. It will only change back to the first range once the scale is fully unloaded.

5.2 Scale adjustment (partial range calibration)

The scale has a hidden key under the left-hand housing cover. This is used to adjust the scale with a calibration weight of > 20% < 120%.



Load the scale with the calibration weight (e.g. 100.0 kg) and wait until the scale is at rest (standstill)⁶



The previously set calibration weight is displayed (e.g. 100.0 kg), the calibration weight is measured (small $\mathbf{2}$ is lit)

Apply measured value + End dialog

Once the adjustment is complete, the scale automatically switches to weighing mode and displays the calibration weight that is still on.

¹⁾ To bypass the time-consuming process of gradually adding weight during verification, it is possible to activate 10-fold resolution of the measured value to allow direct reading of the analog measurement error [tr = 1]. But this is only possible for nominal (rated) values ≤9999d (4 numbers in the display), as larger values cannot be displayed at 10-fold resolution. This setting is only used to simplify the verification process and cannot be stored. When the

scale is switched off, this increased resolution is reset back to what it was. As access to the hidden key is protected by the verification seal, once legal verification is complete, this increased resolution can no longer be activated without destroying the seal.

- 2) Before activating Legal for trade, you must first make all the settings that can no longer be changed once Lt = 1 or 2 (see "Extended standard dialog").
- ³⁾ Gravitational acceleration at the calibration location (also see section 6.4 "Gravitational acceleration at the installation location", page 37).
- ⁴⁾ The last calibration weight to be entered is displayed and can also be applied without being changed. In this situation, the following displays are not the same as in the example shown.
- ⁵⁾ The partial load value can be entered in the range 20% to 120% of the max. capacity. If the entered value is outside this range, **Err: 1** is displayed and you exit the menu. The incorrect value is not applied. Use the hidden key to call the menu again. The maximum capacity of the scale is given on the type plate (MAX1 or MAX2 for dual-range scales).
- 6) If you omit the calibration weight, Err: 1 is displayed and you exit the menu. The parameters previously set are not applied. The old setting is retained. Use the hidden key to call the menu again.

Information

Automatic scale power-off is not active in this mode.

After adjusting the scale, re-close the hole of the hidden key with the sticker, re-fit the left-hand side cover and for legal-for-trade applications, secure with the verification seal.

Important

30

It is essential that the required settings have already been made in the standard dialog/ extended standard dialog!

6 Standard dialog / extended standard dialog

ON 2 + (J) +

Activate interactive mode (Parameter/adjustment menu)

Standard dialog

(Standard_Function)



Keeping the G/N key pressed for ~5 seconds activates the extended standard dialog.

Extended standard dialog



- 1) See section 6.2 "Averaging (Internal Conversion rate)", page 34
- ²⁾ Factory setting

32

³⁾ In legal-for-trade operation (Lt = 1 or 2, see "Legal for trade"), the value cannot be changed in the extended standard dialog. Display only.

6.1 Power Off + Amplifier Filter

Standard dialog

The following functions can also be changed/adapted at any time in verified/legal-fortrade scales:

Power Off (OFF time/characteristic) + Amplifier Filter (filter setting)



PO= Power Off (OFF time/characteristic)

- PO=0 manual power-off only (with ON/OFF key)
- PO=1 automatic power-off after 30 seconds (unloaded scale only)
- PO=2 automatic power-off after 60 seconds (unloaded scale only)
- PO=3 automatic power-off after 5 minutes (unloaded scale only)
- PO=4 automatic power-off after 10 minutes (unloaded scale only)

The scale only switches off automatically when it is in weighing mode and unloaded. The **ON/OFF** key can be used at any time in weighing mode to switch off the device.



AF=Amplifier **F**ilter (filter setting)

Transient response:

The SLS has automatic filter selection that shortens the settling time of the **AF** filter. If a change in the measured value goes above a set threshold (*see section 6.3 "Automatic filter selection (Fast SettLing)"* = extended standard dialog), AF=1 operates first. After a settling time of about 250 ms, the filter set with **AF** is selected. Filter **AF=1** quickly sets the internal filter status variables to the current measured value. The filter selected by **AF** then needs less time to settle to this measured value.

The filter setting needs to be such that the measurement display is steady (standstill) for the particular application. The scale has 9 filter levels (0...8). The higher the filter level selected, the steadier the display – although if the load is unsteady, it also takes longer for the measured value to come to a standstill.

6.2 Averaging (Internal Conversion rate)

Extended standard dialog

This function can be used in addition to the filter setting (see **AF=A**mplifier **F**ilter), to stabilize the measurement display.

IC	Internal data rate meas. values/sec.	Averaging over n measured values	Display update rate meas. values/sec.
0	100	n = 0 ¹⁾	6
1	50	n = 2	6
2	25	n = 4	6
3	12	n = 8	6
4	6	n = 16	6
5	3	n = 32	3
6	1	n = 64	1

1) Factory setting, averaging switched off

6.3 Automatic filter selection (Fast SettLing)

Extended standard dialog

The function FL can reduce the settling time, whichever filter is chosen, to $\sim 2 \text{ s}$ (=typical value). For automatic filter selection, a value from 00 ... 99 can be chosen. When FL=00, the function is deactivated. The factory setting is FL=40.

The FL function sets the threshold for automatic filter selection. The filter selected by AF then needs less time to settle to the measured value (standstill).

If the change between two measured values is greater than the set threshold, AF=1 operates. After a settling time of about 250 ms, the filter set with AF is selected.

Function

If there is a sudden load change that exceeds the switching threshold, the selected filter is switched off and back on again once the load value is reached. The switching threshold set with FL changes when the filter switches.

Selection

Before selecting a suitable FL setting, choose the necessary filter level for the particular application (*see section 6.1* "AF=Amplifier Filter"). You must deactivate FL for this (FL=00).

Procedure

- Deactivate fast settling (FL=00).
- Select the filter. Match AF to the operating conditions with regard to mechanical vibrations. Steady measurement display despite mechanical disturbance.
- Select a switching threshold for fast settling. Read off the required switching threshold from the table and enter FL=xx.



If too low a switching threshold is selected, mechanical disturbances can, under certain circumstances, cause the filter to switch constantly (filter ON/OFF). As a result, the display will be extremely unsteady.



i Important

The factory setting for this filter is optimized for the this application and should not be modified.

Switching threshold (FL) in kg



Fig. 6.1 Switching threshold (FL) subject to the filter setting (AF)

Filter frequency	0.25 Hz	0.125 Hz	0.062 Hz	0.031 Hz	
Filter level	5	6	7	8	
Settling time 100%	5s	8s	16s	32s	5 kg
For 20,000 d at FL 00	6s	10s	18s	36s	10 kg

The switching threshold (FL) chosen must be above the loading caused by vibration in the measuring set-up. This means that the internal dynamics must not exceed the set switching threshold.

6.4 Gravitational acceleration at the installation location

Extended standard dialog

The Gd = Gravitation destination function is used to enter the gravitational acceleration at the place where the scale is installed. Together with the gravitational acceleration at the place of calibration (GC = Gravitation Calibration), a correction factor is determined to compensate for measurement error as a result of different gravitational accelerations.

Example

Gravitational acceleration at the place of calibration (e.g. Darmstadt, g = 9.81029): GC = 9.81029Gravitational acceleration at the place of installation (e.g. Tokyo, g = 9.7977): Gd = 9.79770

The correction factor from this example (GC/Gd = 1.001285) is used internally by the SLS and ensures that the correct weight is displayed at the place where the scale is installed.

Notes

- In the extended standard dialog, the gravitational acceleration factor Gd only has to be entered if the gravitational acceleration at the place of calibration and at the place where the scale is installed are different.
- The value for Gd is automatically (re)set to the value entered under GC,
 - when the scale is re-adjusted (see section 5.2 "Scale adjustment (partial range calibration)", page 29),
 - when GC is re-entered or modified.
- In legal-for-trade operation (Lt=1 or 2, see section 5.2 "Scale adjustment (partial range calibration)", page 29), the value for Gd cannot be changed in the extended standard dialog.
- When starting up the scale at the place of installation, there is only one opportunity to enter Gd without affecting the legal-for-trade counter (also see section 4.3 "Initial activation", page 21).
- When the gravitational factor at the place of installation is known, it can be entered at the factory, before the scale is delivered. In this case, the "Initial activation" section is not applicable and the scale is started up as described in *section 4.6* "Weighing when switching the scale on with a patient", page 24.



6.5 Automatic zeroing (Zero Setting)

Extended standard dialog

In legal-for-trade operation (LT=1 or 2, see section 5.2 "Scale adjustment (partial range calibration)", page 29), the value for ZS cannot be changed in the extended standard dialog.

Ranges for automatic zeroing after activating the scale:

ZS=0	The function is switched off
ZS=1	Range of zero setting ±2% ¹⁾
ZS=2	Range of zero setting ±5% ¹⁾
ZS=3	Range of zero setting ±10% ¹⁾
ZS=4	Range of zero setting ±20% 1) 2)

If there is no standstill or if the gross value falls outside the selected limits, zero is not set. If the gross value at standstill falls within the selected range, the gross value is accepted into the zero memory.

Scale standstill is set at 1 d/s.

Notice

If the scale still does not show zero when the scale is at a standstill and the applied load is obviously lower than the set range of zero setting, you can assume that there is a fault. Please check the settings again or contact the service department.

- ¹⁾ of the nominal (rated) value of the scale
- ²⁾ factory settings

7 Replacing the battery

If the battery symbol in the display is lit, the battery voltage is too low.

Remove the right-hand cover (unscrew to release) to gain access to the battery holder for the 4 AA cells. Make sure that the batteries are inserted into the holder correctly (see the drawing inside the right-hand cover of the scale housing).



The pressure in batteries increases when they are discharged. So there is an integrated safety valve, which opens when the pressure gets too high. To prevent leakage, batteries must be replaced as soon as the battery symbol appears on the display.

Only ever use the type AA batteries that we have recommended.

Do not use new batteries together with used ones, and do not mix different types of battery, or batteries of different systems and brands.

Flat batteries must not remain in the device and must be disposed of in accordance with local regulations.

Remove the batteries from the device if it is not going to be used for some time.



8 Attaching load application parts

The SLS lifter scale must be suspended by suitable fittings in such a way that its measuring axis can automatically align to the center of the earth without moment.

This is achieved by using fittings that can move in all directions, so-called "universal joints", that must be attached above and below the scale. These parts must swivel freely at extremely low-friction without any noticeable "stick-slip effect", in a range of at least 5°.

The mechanical construction of the load application elements used in the scale is not designed for torque transfer in the axial direction. If this kind of torque cannot be avoided when using the scale, the design of the lifter must include suitable additional pivot bearings to intercept it.



When using adapters with locating pins (e.g. fork adapters), make sure that the retaining ring is fitted correctly.

The setscrews used in the top part of the adapter are for fixing after the scale has been aligned. The adapter must *not* turn when the scale is in operation.



Should it be necessary to replace the adapters because they are worn, please get in contact with HBM or your supplier. Please note that only the mounting adapters supplied with the lifter scale should be used.

When installing the scale on the lifter, make sure that the dimensions for the counterpart of the lifter are adequate, in accordance with EN 60601-2 section.9.8.2.



The user is personally responsible for suitability and for attaching the scale to a device. HBM accepts no responsibility!

In addition to this, the manufacturer of the patient lifter or the operator of the scale must ensure that the system can carry safely and is stable under load. It is essential to comply with the relevant standards and guidelines for use.

9 Error messages

Display	Comments	Error rectification:
	Scale adjustment:	
	• The value entered for the calibration weight is incorrect: 20% to 120% of the maximum capacity of the scale	Exit the dialog and re-perform the scale adjustment
	 Incorrect or no calibration weight put on 	
7 . 7	Counting scale	
Net PT	 The counting scale adjust- ment (Ct:Adjustment) was not performed properly or was not performed at all 	Activate interactive mode again (CT_F) and perform Ct:Ad first.
	 Scale not at rest when the zero point was measured 	Repeat the process; do not move the scale or modify the tare load while the zero point is being measured.
	Reference weight too low (<0.25 e)	Repeat the process with an allowed reference weight (≥0.25 e).
	Counting scale	
	 Scale not at rest when the zero point was measured 	Hold the weighing pan steady or increase the filter setting. Repeat CT:Ad with a greater number of reference parts.
Noter Err: 4	Faulty electronics	Contact service department
	Battery flat	Replace battery

42

Display	Comments	Error rectification:
Negative reading when the scale is not		Run zeroing (see section 6.5 "Automatic zeroing", page 38)
loaded		or
		Tare (see section 4.1 "Display and control functions", page 19)
••••	Scale overloaded	Remove weight
		or
		Run scale adjustment
		Switch the scale off and then on again.
		or
		Run scale adjustment
No standstill	Weight unit not visible/the	Increase the filter setting
	counting scale dot not visible	and/or
		Avoid mechanical vibrations at the place of installation

10 Specifications

				Medic	al product
Туре		SL	S	SLSC2	SLSC2-MR
Minimum load cell verification interval	d ₁ =e ₁ d ₂ =e ₂	2000	2500	2000	2000 1600
Maximum capacity Max ₁ Max ₂	kg	200	250	200	200 320
Minimum load cell verification interval legal-for-trade application					
e ₁ e ₂ d ₁	g	100	100	100	100 200
Maximum load (E _L)	kg			350	
Breaking load (E _d)				1000	
Display			Ę	5 digits	
Energy supply					
Battery			4 x	AA cells	
Battery life AA cell with 1600 mAh	h			270	
Battery voltage	V		3	8.6 6	
Current consumption, activated	mA			< 6	
Quiescent current, standby mode	mA		<	0.001	
Application limitations					
Operating temperature range	°C		-1	0 +40	
Humidity range for operation	% r.H	10.	95 (wit	hout conde	ensation)
Ambient pressure during opera- tion	hPa		800	0 1085	
Storage and transportation condi-	tions				
Temperature range	°C		-40	0 +55	
Humidity range	% r.H	10.	95 (wit	hout conde	ensation)
Acceptable ambient pressure	hPa		800	0 1085	

		Medical proc		al product
Туре		SLS	SLSC2	SLSC2-MR
General information				
Dimensions (W x H x D)	mm	164	x 87 x 70	
Weight	kg	ар	prox. 0.7	
Degree of protection per DIN 40050 (IEC 529)			IP54	

The scales are not sensitive to HF irradiation and conducted interference in accordance with OIML R765, EN 45501 or EN 55011B (noise emission) and EN 50082-2, as well as EN 60601-1-2

11 Dimensions in mm (1 mm = 0.03937 inches)



* The measurements will depend on the (customized) fittings being used



Annex 1: Inspection plan

SLSC2/SLSC2MR lifter scale

Inspections must be carried out at least once a year and every time the device is used again, after having been taken out of service.

Item	Checkpoint		ОК	
		yes	no	n.a.
Visua	l check			
1	Allowed combination of lifter scale and patient lifter			
2	Operating manual present			
3	General condition			
3.1	No unacceptable interventions, changes or missing parts			
3.2	No external damage (deformation, cracks, etc.)			
3.3	No relevant signs of wear and tear or corrosion			
3.4	No dirt or contamination			
4	Stickers and type plates			
The foll	owing stickers and type plates must be present and undamaged (legible):			
4.1	Rear strip, detailing the scale type, min/max for the weigh- ing range and the type approval number			
4.2	Green M sticker			
4.3	CE seal detailing the year of the initial conformity assess- ment and the registration numbers of the supervising au- thorities			
5	Mounting adapter			
5.1	No visible damage, wear or corrosion			
5.2	Locking cylinder present			
5.3	Locking cylinder fastening bolts tightened			
6	Additional, for adapters with locating pins			
6.1	No visible wear			
6.2	Retaining ring present			

ltem	Checkpoint		ОК	
		yes	no	n.a.
Func	tionality testing			
7	Switch scale on - startup routine runs normally			
8	All numbers complete			
9	Battery status: no symbol displayed, battery OK			
10	Check zero setting			
11	Check tare weight function			
12	Display check with any weight (if the reading is plausible and steady, it can be assumed that the device is working properly)			

Annex 2: Declaration of conformity

	(
EU-P	Conformitatser	klarung	EU Decla	ration of Conformity
Wir,			We,	
Hotti	nger Baldwin Messte	echnik GmbH, Im	Tiefen See 45, D-64	293 Darmstadt, Germany
erklären in all selbsttätige W Klasse I mit M	einiger Verantwortung /aage III und das lessfunktion	, dass die nicht- Medizinprodukt	declare under our automatic weighin Device Class I with	sole responsibility that the non- g instrument (III) and Medical h a measuring function
Lifter Scale	SLS C2[/200 MR/320]	kg [nicht zutreffende	s löschent] – Fabrikatio	nsnr. / Serial no: [Seriennumme
dem Baumust Bescheinigun	er entspricht, beschrie g über die Bauartzulas	eben in der ssung	corresponds to the type approval cert	production model described in the ificate
D04	-09-023 von/by Physikalis	sch-Technische Bunde	esanstalt (0102), Bundesal	lee 100, D-38116 Braunschweig
und die nachf rungsrechtsvo gültigen Fass	olgenden einschlägige orschriften der Union ir ungen erfüllt:	n Harmonisie- n den jeweils	and is in conformit harmonisation legi	y with the following relevant Union slation as amended:
2014/31/EU	Directive 2014/31/E the harmonisation o market of non-autor	U of the European f the laws of the M matic weighing ins	n Parliament and of th Member States relatin trument, see OJ L 96	ne Council of 26 February 2014 or g to the making available on the i/107 of 2014-03-29
93/42/EEC -	Council Directive 93 see OJ L169 of 199	8/42/EEC of 14 Ju 3-07-12	ne 1993 concerning r	nedical devices;
2011/65/EU -	Directive 2011/65/E restriction of the use see OJ L174 of 201	U of the European of certain hazard 1-07-01	n Parliament and of th lous substances in el	ne Council of 8 June 2011 on the ectrical and electronic equipment;
Die zugrunde	gelegten einschlägige	n Normen sind:	The relevant stand	lards used include:
EN 45	501:2015, EN 60601-	1:2006 / AC:2010	EN 60601-1-2:2007	/AC:2010, EN 50581:2012
Zusatzinform	ationen:		Additional inform	nation:
Überwacht du	rch benannte Stellen,	RegNr.:	Supervised by Not	tified bodies, identification number
Physikalisch-Te Bundesallee 10 DQS Medizinpr August-Schanz	echnische Bundesanstalt (0 10, D-38116 Braunschweig odukte GmbH (0297) -Straße 21, D-60433 Frank	102) furt am Main	C	E 0102 0297
Die Eichung v Gebrauchsort	vurde für folgende(n) A / Gebrauchszone dur	Aufstellungsort / chgeführt:	The verification is installation / location	valid for the following place on on / area of use:
		[Ort	/Zone]	
Anmerkung: Bei Konformitätserklä 2. Stufe der Eicht	der Eichung in Stufen kann irung vom Nachweis über d ung abhängen.	die Gültigkeit der ie Durchführung der	Note: In case of verific declaration of conformi carrying out of the sec	ation in two stages the validity of the ity may depend on the documentation of ond stage of verification.
Die Sicherheit dokumentatio	tshinweise der mitgelie n sind zu beachten.	eferten Produkt-	The safety instruct documentation mu	tions of the included product ist be complied with.
Unterzeichnet	für und im Namen vo	n:	Signed for and on	behalf of:
		Hottinger Baldwin	Messtechnik GmbH.	
Darmstadt, [J.	JJJ-MM-TT]			
		[1. stage verificat please replace by fu	ion / Eichung 1. Stufe first and family name, nction]	[2. stage verification / Eichung 2. Stufe please replace by first and family name function]
1	Rolf Röhn	[Name 2.	Unterzeichner,	Name 3. Unterzeichner,

Annex 3: Declaration of harmlessness

The operator's declaration of harmlessness

with regard to contamination of devices or accessories

Declaration of safety and harmlessness to health

The safety and health of our staff and the regulations for safety at work make it essential for this form to be completed for all devices and their accessories that are sent back to us.



Neither repair nor examination are possible without the duly completed form. It is impossible to accept devices polluted with substances hazardous to health.

A duly completed copy of the form shown below as an example should be faxed in advance to +49 6151 803 479 or e-mailed in advance to <u>rep-cal@hbm.com</u>, together with a request for an RMA (return) number, so that we have the information in our possession before the device arrives.

i Information

A print version of the form in various languages is available at <u>www.hbm.com/sls</u> by selecting "Product Data Sheet & Literature".

When returning the device, an additional copy *must be attached to the outside of the packaging (e.g. in the delivery note pocket)*. If details are missing, or this sequence is not followed, it will inevitably lead to delays in handling the matter.

Only authorized technical specialists are entitled to complete and initial this declaration.



The operator's declaration of harmlessness

with regard to contamination of devices or accessories

Unbedenklichkeitserklärung des Betreibers über die Kontamination von Geräten oder Zubehör

Declaration of safety and harmlessness to health

The safety and health of our staff and the regulations for safety at work make it essential for this form to be completed for all devices and their accessories that are sent back to us.

Neither repair nor examination are possible without the duly completed form. It is impossible to accept devices polluted with substances hazardous to health.

A duly completed copy of the form shown below as an example should be faxed in advance to +49 6151 803 479 or e-mailed in advance to rep-cal@hbm.com, together with a request for an RMA (return) number, so that we have the information in our possession before the device arrives.

When returning the device, an additional copy must be attached to the outside of the packaging (e.g. in the delivery note pocket). If details are missing, or this sequence is not followed, it will inevitably lead to delays in handling the matter.

Only authorized technical specialists are entitled to complete and initial this declaration.

Type of equipment: Gerätetyp	Serial Number: Seriennummer	Or Ku	der Number: Indenauftragsnur	nmer	
Description of malfunction o Fehlerbeschreibung oder so	r other statements: nstige Angaben				
Is the device free from harm Ist das Gerät frei von Schad	ful substances?		□ Yes Ja	□ No Nein	
Remarks: Bemerkungen	91202999		1	1	
Equipment cleaned before s Wurde das Gerät vor dem V	hipment? /ersand gereinigt?		Yes Ja	□ No Nein	
Device perfectly decontaminated and not dangerous to health? Ist das Gerät einwand/rei dekontaminiert und nicht gesundheitsgefährdend?			□ Yes Ja	□ No Nein	
Company name:					
Street:	10.7				
City:	Country:				
Telephone:	elephone: Fax:				
Email:	di Peri				
Name of contact person in c Name des Ansprechpartner	ase of questions: s für Rückfragen				
Ne assure that the information his. Legal consequences of	on is accurate and complete i incomplete or inaccurate info	n this Declaration an rmation are known.	d the signatory is	s able to judge	
Date	Position				
Name	Compar	ny seal/Signature			

Annex 4: Electromagnetic compatibility

Details of electromagnetic compatibility data as per DIN EN 60601-1-2, safe distances as per EN 60601-1-2.

Electromagnetic emission

The SLS lifter scale is intended for operation in an environment as specified below.

The customer or the user of the SLS should ensure that it will be operated in a similar environment.



Although the SLS lifter scale meets all the requirements of standard DIN EN 60601-1-2 (Medical electrical equipment Part 1-2: General requirements for basic safety Collateral standard: Electromagnetic compatibility - Requirements and tests) dated December 2007 (Draft July 2011), it is nevertheless still possible that portable and mobile HF-communication devices may affect the SLS lifter scale. If possible, such devices should not be operated in the vicinity of the lifter scale when measurements are being taken.

Interference emission measurements	Compliance	Electromagnetic environment guide
HF emissions as per EN 55011 Class B	30 — 1000 MHz	The SLS lifter scale is intended for use in all establishments, including home premises and those directly connected to a public supply network that also supplies buildings used for residential purposes.

Immunity testing	IEC 60601 test level and compliance level	Electromagnetic environment guide
Electrostatic discharge (ESD)	2/4/6 kV contact discharge 2/4/8 kV air discharge	Floors should be made of wood or concrete or furnished with ceramic tiles. If the floor is furnished with
Electrostatic discharge IEC 611000-4-2	8 kV contact discharge 2/4/8/15 kV air discharge	synthetic materials, the relative humidity must be at least 30%.



Immunity testing	IEC 60601 test level and compliance level	Electromagnetic environment guide
Radiated HF disturbance variables	80 MHz to 2.5 GHz 80% AM @ 1 kHz /2 Hz 3 V/m carrier	Portable and mobile radio systems are not used closer to the SLS lifter scale than the recommended safe distance, which is calculated in accordance with a suitable equation for the transmission frequency.
		Recommended safe distance: d = 1.2 P d = 1.2 P for 80 MHz to 800 Mhz d = 2.3 P for 800 MHz to 2.5 Ghz where P is the rated output of the transmitter in watts (W), as per the data provided by the transmitter manufacturer, and d is the recommended safe distance in meters (m).
		Based on an on-site examination, the field strength of fixed RF transmitters is lower than the compliance level in all frequencies.
		Interference is possible in the vicinity of devices bearing the following pictogram.

Immunity testing	IEC 60601 test level and compliance level	Electromagnetic environment guide
Radiated HF disturbance variables as per IEC 61000-4-3	Modulation signal in all frequency ranges: 80% AM @ 1 kHz (hospital, small clinic) 80 1000 MHz 3V/m carrier	Portable and mobile radio systems are not used closer to the SLS lifter scale than the recommended safe distance, which is calculated in accordance with a suitable equation for the transmission frequency.
	1.42.7 GHz 3V/m carrier 5.0 6.0 GHz 3V/m carrier Modulation signal 18 Hz (hospital, small clinic) 385, 455, 830, 870, 910 MHz	Recommended safe distance: d = 1.2 P d = 1.2 P for 80 MHz to 800 Mhz d = 2.3 P for 800 MHz to 2.5 Ghz where P is the rated output of the transmitter in watts (W), as per the data provided by the transmitter manufacturer, and d is the recommended safe distance in meters (m)
	30 V/m carrier Modulation signal 217 Hz (hospital, small clinic) 1720, 1805, 1890, 1950, 2450 MHz 30V/m carrier 5170, 5450, 5730 MHz 3V/m carrier	Based on an on-site examination, the field strength of fixed RF transmitters is lower than the compliance level in all frequencies. Interference is possible in the vicinity of devices bearing the following pictogram.

Recommended safe distances between portable and mobile HF telecommunications equipment and the SLS lifter scale

The lifter scale is intended for operation in an electromagnetic environment, in which radiated HF disturbance variables are controlled. The customer or the user of the SLS lifter scale can help to prevent electromagnetic interference by maintaining minimum distances between portable and mobile HF communication devices (transmitters) and the SLS lifter scale, as recommended below in accordance with the maximum output power.

Minimum safe distances			
Radio service	Distance [m]		
WLAN, Bluetooth	0.07		
DECT, UMTS	0.12		
GSM 1800	0.18		
802.11a	0.7		
GSM 1900	0.23		
GMS 800/900 TETRA 800	0.33		
TETRA 400	0.32		

If the stated safe distances are not maintained or if there are external electrostatic or electromagnetic influences, this could cause the display value to be affected. Once the interference effects stop, the lifter scale can again be used as intended, although it may be necessary to turn it on again. If this happens again, please contact HBM Customer Service.

54

Annex 5: Replacement parts

The following replacement parts can be ordered from HBM or your supplier:

Battery holder

Material no. E-9278.0001



Side part set

Material no. E-9278.0014



If reasons of wear make it necessary to replace the following mounting adapters, please get in contact with HBM or your supplier.



HBM SLS lifter scale manual 11640-7.0 -01.10.2016 HBM: public

НВМ

HBM Test and Measurement Tel. +49 6151 803-0 Fax +49 6151 803-9100 info@hbm.com

measure and predict with confidence