

Instruction Manual for portable Thickness Gauge

(Original Instruction Manual – English)



NIVUS GmbH
Im Taele 2
75031 Eppingen, Germany
Phone +49 (0)72 62 - 91 91 - 0
Fax +49 (0)72 62 - 91 91 - 999
E-mail: info@nivus.com
Internet: www.nivus.com

NIVUS AG

Hauptstrasse 49
CH - 8750 Glarus
Tel.: +41 (0)55 6452066
Fax: +41 (0)55 6452014
E-Mail: swiss@nivus.com
Internet: www.nivus.de

NIVUS Austria

Mühlbergstraße 33B
A-3382 Loosdorf
Tel.: +43 (2754) 567 63 21
Fax: +43 (2754) 567 63 20
E-Mail: austria@nivus.com
Internet: www.nivus.de

NIVUS Sp. z o.o.

ul. Hutnicza 3 / B-18
PL - 81-212 Gdynia
Tel.: +48 (0) 58 7602015
Fax: +48 (0) 58 7602014
E-Mail: poland@nivus.com
Internet: www.nivus.pl

NIVUS France

14, rue de la Paix
F - 67770 Sessenheim
Tel.: +33 (0)3 88071696
Fax: +33 (0)3 88071697
E-Mail: france@nivus.com
Internet: www.nivus.com

NIVUS U.K.

Wedgewood Rugby Road
Weston under Wetherley
Royal Leamington Spa
CV33 9BW, Warwickshire
Tel.: +44 (0)1926 632470
E-mail: info@nivus.com
Internet: www.nivus.com

NIVUS U.K.

1 Arisaig Close
Eaglescliffe
Stockton on Tees
Cleveland, TS16 9EY
Phone: +44 (0)1642 659294
E-mail: info@nivus.com
Internet: www.nivus.com

NIVUS Middle East (FZE)

Building Q 1-1 ap. 055
P.O. Box: 9217
Sharjah Airport International
Free Zone
Tel.: +971 6 55 78 224
Fax: +971 6 55 78 225
E-Mail: Middle-East@nivus.com
Internet: www.nivus.com

NIVUS Korea Co. Ltd.

#411 EZEN Techno Zone,
1L EB Yangchon Industrial Complex,
Gimpo-Si
Gyeonggi-Do 415-843,
Tel. +82 31 999 5920
Fax. +82 31 999 5923
E-Mail: korea@nivus.com
Internet: www.nivus.com

NIVUS GmbH

10520 Yonge Street,
Unit 35B, Suite 212
Richmond Hill, Ontario
L4C 3C7 Canada
Phone: + 1 647 860 8844
E-mail: info@nivus.com
Internet: www.nivus.com

Translation

If the device is sold to a country in the European Economic Area (EEA) this instruction handbook must be translated into the language of the country in which the device is to be used.

Should the translated text be unclear, the original instruction handbook (German) must be consulted or the manufacturer contacted for clarification.

Copyright

No part of this publication may be reproduced, transmitted, sold or disclosed without prior permission. Damages will be claimed for violations. All rights reserved.

Names

The use of general descriptive names, trade names, trademarks and the like in this handbook does not entitle the reader to assume they may be used freely by everyone. They are often protected registered trademarks even if not marked as such.

1 Contents

1.1 Table of Contents

1	Contents	4
1.1	Table of Contents	4
1.2	Overview and use in accordance with the requirements	5
1.3	Features	5
2	Specifications	6
2.1	Accessories	6
2.2	Danger Notes	6
2.2.1	General Danger Signs.....	6
3	Material Selection	7
4	Calibration	8
5	Measuring Procedure	8
6	Measuring by velocity setting.....	9
7	Battery Replacement.....	10
8	Declaration of Conformity.....	11

1.2 Overview and use in accordance with the requirements

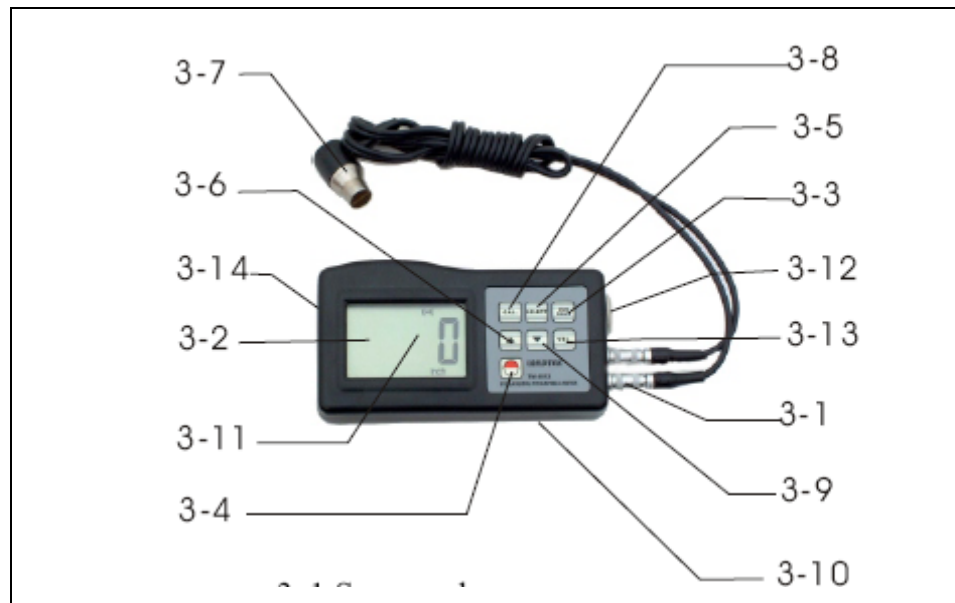


Figure 1 Overview – Front, Top and Bottom

- 3-1 Sensor plug
- 3-2 Display
- 3-3 mm/inch key
- 3-4 Power key
- 3-5 Material selection key
- 3-6 Plus key
- 3-7 Ultrasonic sensor
- 3-8 Calibration key
- 3-9 Minus key
- 3-10 Battery Compartment/Cover
- 3-11 Coupling indicator
- 3-12 Standard block
- 3-13 Velocity key
- 3-14 RS232C interface

1.3 Features

Used the exclusive Micro-computer LSI circuit and crystal time base to offer high accuracy measurement.

With high power of emission and broad band of receiving sensitivity, the gauge can match probes of different frequencies.

That makes it easy to measure the rough surface, even cast iron. It is widely used in almost all kinds of industries.

Applicable to measure the thickness of many materials, e. g. Steel, Cast iron, Aluminum, Red copper, Brass, Zinc, Quartz glass, Polyethylene, PVC, Gray cast iron, Nodular cast iron.

Automatic power off to conserve power. Can communicate with PC computer for statistics and printing by the optional cable and the software for RS232C interface

2 Specifications

Power supply	4x1.5v AAA (UM-4) battery
Range	1.2~200mm (45# steel)
Resolution	0.1 mm/0.001inch
Display	4 digits, 10 mm LCD
Accuracy	+/- (0.5%n+0.1)
Sound velocity	1000 ~9000 m/s
Operating condition	Temp. 0~50°C
Humidity	<80%
Size	120x62x30mm (4.7x2.4x1.2inch)
Weight	about 164g (including batteries)

2.1 Accessories

- Carrying case 1 pc.
- Operation manual 1 pc.
- Ultrasonic sensor 1 pc.

3 General Notes on Safety and Danger

3.1 Danger Notes

3.1.1 General Danger Signs



Cautions
are framed and labelled with a warning triangle.



Notes
are framed and labelled with a "hand".



Danger by electric voltage
is framed and labelled with the Symbol on the left.



Warnings
are framed and labelled with a "STOP"-sign.

4 Material Selection

- Press the power key 3-4 to turn on the unit.
- Press the Material Selection key 3-5 and the display 3-2 will show the code `cdxx` or `xxxx`. `cd` is the abbreviation for `code` and `xx` is one number among 01~11. `xxxx` is a 4-digit number which is the sound velocity of material defined by the user.. The `cdxx`-material relationship is as follow

No.	CODE	Material
1	cd01	Steel
2	cd02	Cast iron
3	cd03	Aluminum
4	cd04	Red copper
5	cd05	Brass
6	cd06	Zinc
7	cd07	Quartz glass
8	cd08	Polyethylene
9	cd09	PVC
10	cd10	Gray cast iron
11	cd11	Nodular cast iron
12	xxxx	Sound velocity

- Press the Plus key 3-6 or Minus key 3-9 to select the material code to measure and then press the Material Selection key to confirm. The display will show `0`. If you select a material code but do not confirm the selection, the code will automatically change to `0` after several seconds. In such case, the meter will still reserve the material code before exiting.
- A 4-digit number will be shown on the Display if pressing the Plus key 3-6 when displaying `cd11` or pressing the Minus key 3-9 when displaying `cd01`.
The 4-digit number is last sound velocity to define by the user. By selecting this velocity, you could measure the thickness of the same material as last.
- It is unnecessary to select the material code once the material code is confirmed (automatically stored to the memory of the meter) unless the material to measure is different from that before.
- To browse the material code selected, if only press the Select key 3-5. To quit browsing, if only press the Select key 3-5 again or wait till the code automatically change to `0` after several seconds or the meter will Automatically return to measurement state if measuring.

5 Calibration

- Drop a little oil on the 5 mm standard block 3-12 .
- Press the Calibration key 3-8, the `CAL` be shown on the Display. `CAL` is the short for calibration.
- Press the sensor 3-7 on the standard block. The coupling symbol is on if coupling well. `5.0` mm (or `0.197` inch) and `CAL` will be shown on the Display in turn. When steady, Press CAL key 3-8 to confirm and then the unit return to the state of measurement.
- The calibration result will be auto-saved to the unit once confirmation. It is unnecessary to calibrate often unless you suspect the accuracy of measurement

6 Measuring Procedure

- Press the power key 3-4 to turn on the unit.
- Press the mm/inch key 3-3 to select the right measurement unit.
- Press the Sensor 3-7 onto the material surface to measure on the premise that the material code selected is right. Be sure that coupling is well (see Fig. 1) and the symbol is on. The reading on display is the measurement value.
- The reading is held till a new measurement value is coming. The last value is held on the display till the power is off.
- 2 modes to turn off the power. Manual off at any time by pressing the power key or Auto power off after about 1 Minutes from last key operation.



Fig. 1 using coupling grease



Fig. 2 measure the pipe thickness

7 Measuring by velocity setting

- Press the VEL key 3-13 and the display shows the velocity set last time.
- How to measure its thickness by the velocity known? The velocity can be changed by pressing the plus key or minus key to the value of known velocity. The increment is 10 m/s every time when pressing the plus or minus key. And the increment is 100m/s if depressing the key for more than about 4 seconds. Drop a little oil onto the material to measure and press the Sensor 3-7 onto the surface. The reading on the display is the thickness if coupling well. So if we have known the velocity of a certain material, it is easy to measure the thickness by 7.2.
- How to measure the thickness by a sample of known thickness? Just get a sample of known thickness. Then repeat 7.2 and 7.3 till the measurement value is totally same as the known thickness. In such a case, the set value is the velocity of the material to measure, by which you can measure any unknown thickness of same material.
- To browse the velocity, if only press the VEL key 3-13. To quit browsing, if only press the VEL key 3-13 again or wait till the meter automatically show '0'.
- By use of velocity measurement, it is easy to measure the thickness of any hard materials.

8 Battery Replacement

- When the battery symbol appears on the display, it is time to replace the batteries.
- Slide the Battery Cover away from the instrument and remove the batteries.
- Install batteries paying careful attention to polarity.

EU Konformitätserklärung

EU Declaration of Conformity

Déclaration de conformité UE

NIVUS GmbH
Im Täle 2
75031 Eppingen

Telefon: +49 07262 9191-0
Telefax: +49 07262 9191-999
E-Mail: info@nivus.com
Internet: www.nivus.de

Für das folgend bezeichnete Erzeugnis:

For the following product:

Le produit désigné ci-dessous:

Bezeichnung:	Wandstärkemesser
<i>Description:</i>	<i>Thickness Gauge</i>
<i>Désignation:</i>	<i>Appareil de mesure d'épaisseur de paroi</i>
Typ / Type:	NBM0TG...

erklären wir in alleiniger Verantwortung, dass die auf dem Unionsmarkt ab dem Zeitpunkt der Unterzeichnung bereitgestellten Geräte die folgenden einschlägigen Harmonisierungsvorschriften der Union erfüllen:

we declare under our sole responsibility that the equipment made available on the Union market as of the date of signature of this document meets the standards of the following applicable Union harmonisation legislation:

nous déclarons, sous notre seule responsabilité, à la date de la présente signature, la conformité du produit pour le marché de l'Union, aux directives d'harmonisation de la législation au sein de l'Union:

- 2014/30/EU
- 2014/35/EU
- 2011/65/EU

Bei der Bewertung wurden folgende einschlägige harmonisierte Normen zugrunde gelegt bzw. wird die Konformität erklärt in Bezug auf die nachfolgend genannten anderen technischen Spezifikationen:

The evaluation assessed the following applicable harmonised standards or the conformity is declared in relation to other technical specifications listed below:

L'évaluation est effectuée à partir des normes harmonisées applicable ou la conformité est déclarée en relation aux autres spécifications techniques désignées ci-dessous:

- EN 61326-1:2013
- EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019
- EN 302372 - V2.1.1
- EN 302729 - V2.1.1

Diese Erklärung wird verantwortlich für den Hersteller:

This declaration is submitted on behalf of the manufacturer:

Le fabricant assume la responsabilité de cette déclaration:

NIVUS GmbH
Im Taele 2
75031 Eppingen
Germany

abgegeben durch / represented by / faite par:

Ingrid Steppe (Geschäftsführerin / *Managing Director / Directeur général*)

Eppingen, den 24.10.2022

Gez. *Ingrid Steppe*

UK Declaration of Conformity

NIVUS GmbH
Im Täle 2
75031 Eppingen

Telefon: +49 07262 9191-0
Telefax: +49 07262 9191-999
E-Mail: info@nivus.com
Internet: www.nivus.de

For the following product:

Description: **Thickness Gauge**

Type: **NBM0TG...**

we declare under our sole responsibility that the equipment made available on the UK market as of the date of signature of this document meets the standards of the following applicable UK harmonisation legislation:

- SI 2016 / 1091 The Electromagnetic Compatibility Regulations 2016
- SI 2016 / 1101 The Electrical Equipment (Safety) Regulations 2016
- SI 2012 / 3032 The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

The evaluation assessed the following applicable harmonised standards or the conformity is declared in relation to other technical specifications listed below:

- BS EN 61326-1:2013
- BS EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019
- BS EN 302372 - V2.1.1
- BS EN 302729 - V2.1.1

This declaration is submitted on behalf of the manufacturer:

NIVUS GmbH
Im Taele 2
75031 Eppingen
Germany

represented by:

Ingrid Steppe (Managing Director)

Eppingen, 24/10/2022

Signed by *Ingrid Steppe*