# STAND.GUARD G1

Collision sensor for STAND.CONTROL C1

Oelschläger **Metalltechnik** GmbH
Hertzstraße 1-3 | 27318 Hoya / Germany
Fon +49 (0) 4251 816-0
www.oelschlaeger.de

# Contents

Contents ..... 2
1 Preface ..... 4
2 Explanation of terms and index of abbreviations ..... 5
3 Safety ..... 6
3.1 Purpose-conformant use of the product ..... 6
3.2 Target Group ..... 6
3.3 Symbols used in the instructions ..... 6
3.4 Safety instructions ..... 7
3.4.1 General safety instructions ..... 7
3.4.2 Safety instructions für resellers ..... 8
3.5 Repairs ..... 9
4 Warranty ..... 10
5 Overview ..... 11
6 Scope of supply and necessary as well as optional accessories ..... 12
6.1 Delivery scope ..... 12
6.2 Necessary accessories ..... 12
6.3 Optional accessories ..... 12
7 Installation ..... 13
7.1 Unpacking ..... 13
7.2 Installation ..... 13
8 Commissioning ..... 15
8.1 Commissioning the controller, general ..... 15
8.2 Commissioning the STAND.GUARD G1 ..... 15
9 Operation ..... 16
9.1 Normal operation ..... 16
9.2 Cascading controllers ..... 16
9.3 Notes regarding the functioning of the sensor ..... 16
10 Disassembly/Maintenance ..... 18
10.1 Disassembly ..... 18
10.2 Maintenance ..... 18
10.3 Cleaning and maintenance ..... 18
11 Easy to rectify faults ..... 19
12 Technical data ..... 21
13 Tests and certificates ..... 23
14 Disposal ..... 24
15 Additional Information ..... 25

15.1 Copyright ..... 25
15.2 Licences ..... 25
15.3 Trademarks ..... 25
15.4 Address ..... 25

# 1 Preface

Dear Customer,

we are pleased that you have decided to purchase our product. These operating instructions explain how to assemble, use and maintain this sensor. All the sensors are put through a function test and quality inspection before they leave our factory. Should you nonetheless have problems with your sensor, you can contact our service department at any time.

The sensor must be installed in accordance with these instructions. Any changes to the sensor or any improper usage can have an effect on the safety, functionality and service life.

These operating instructions have been written for the STAND.GUARD G1 sensor.

Oelschläger **Metalltechnik** GmbH

# 2 Explanation of terms and index of abbreviations

| Abb./Term | Meaning |
|---|---|
| OMT | Oelschläger **Metalltechnik** GmbH |
| Controller | Table controller STAND.CONTROL C1 |
| Reset position | Lowermost mechanical end position of the table |
| Minimal position | Lowermost software end position of the table |
| Sensor | Collision sensor STAND.GUARD G1 |

# 3 Safety

This operating manual is to be preserved for future use. If a new copy nonetheless becomes necessary, it is available, during the expected service life of the described product, from Customer Service of Oelschläger **Metalltechnik** GmbH. Operating manuals of products that are currently being sold can be downloaded from the website of the manufacturer. The manufacturer's operating manual takes precedence and must be followed without fail.

## 3.1 Purpose-conformant use of the product

This sensor has been developed for use on office desks in professional environments. Changes to the sensor or use in the private sector are not permissible. Contravention will render the warranty null and void and void the liability of the manufacturer.

The sensor must be assembled, put into operation and functionally checked by skilled personnel.

Special ambient conditions for using the sensor can be found in chapter 12.

## 3.2 Target Group

These operating instructions are aimed at the following group of persons:

- The commissioning staff who assembles and commissions the sit/stand desks.
- Furniture installers, maintenance staff who commission the sit/stand desk in sales rooms or at the final customer.

The following knowledge is required to commission and assemble the STAND.GUARD G1 sensors

- Mechanical and electrical basic knowledge (a corresponding training)
- Reading the operating instructions

## 3.3 Symbols used in the instructions

| | |
|---|---|
| **Danger** | Stands for an immediate, threatening danger. If not warded off, it will result in death or severe injuries. |
| **Warning** | Stands for a possibly threatening danger. If it is not avoided, death or very serious injuries may result. |
| **Caution** | Stands for a possibly threatening danger. If it is not avoided, light or minor injuries may result. |
| **Note** | Designates a possibly harmful situation. If it is not avoided, the plant or something in its surroundings can get damaged. |

Warning of a source of danger.

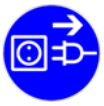
Non-compliance with these warnings can result in harm to health, life-threatening injuries and property damage.

Warning of electrical voltage.

Non-compliance with these warnings can result in injuries and property damage!

Warning of injuries caused by crushing.

Non-compliance with these warnings can result in harm to health, life-threatening injuries and property damage.

| | |
|---|---|
|  | Warning of damage from electrostatic discharge (ESD). |
|  | Points to important information that must be heeded for safe operation of the described product. |
|  | Note on the obligation to read the operating instructions. |
|  | Note to pull the power cord before the next action. |

## 3.4 Safety instructions

These operating instructions contain safety instructions that inform you about potential hazards and thus facilitate safe operation of the STAND.GUARD G1. Please be sure you comply with these safety instructions!

This section provides you with general safety information that does not refer to any specific work step. You can find the job-specific safety instructions in the respective section of the operating instructions. There are more safety instructions on the STAND.GUARD G1 itself

### 3.4.1 General safety instructions

| | |
|---|---|
|  | **Note:** Before assembling/commissioning the STAND.GUARD G1, be certain to read these operating instructtions. |
|  | **Danger:** This unit can be used by children aged 8 years and above and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, if they are supervised or instructed in the safe use of the device and understand the resulting risks. |
|  | **Danger:** Do not let children play with the device! |
|  | **Danger:** Unsupervised children must not carry out cleaning and user maintenance |
|  | **Danger:** You must disconnect the power supply cable from the mains supply before switching drives, manual switches or any other accessories on the motor controller on or off. |
|  | **Caution:** Use the original sensor from Oelschläger **Metalltechnik** GmbH only. The use of sensors from third parties is prohibited! If unsuitable sensors are used, damage or destruction of the table controller can occur |
|  | **Warning:** If there is a fault (for example, unwanted movement of the table top if, for example, a button of the hand switch gets stuck), please immediately unplug the power cord. |
|  | **Danger:** Protect the desk base and, in particular, all electrical components on the desk base from moisture, dripping water and spray water! |

**Danger:** There is a danger of being crushed when the desktop position is changed. For this reason, make sure there are no objects or persons present in the danger zone and do not reach into the danger zone.

**Attention:** Modifications to the sensor are strictly prohibited!

**Danger:** The STAND.GUARD G1 must not be operated in potentially explosive atmospheres!

**Danger:** In case of a failure, it is possible that the desktop moves a bit during every start-up attempt before the safety shut-down comes into play. Watch out for the possible danger of being crushed.

**Danger:** The collision protection described is not active during any reset process.

**Danger:** If the product is visibly damaged, do not assemble it or continue to use it!

**Note:** When unpacking, ensure ESD-compliant handling of the electronic components.

**Danger:** Under no circumstances may the sensors be immersed in liquids, and keep the connecting cable away from heated surfaces.

### 3.4.2 Safety instructions für resellers

We consider resellers to be those companies that purchase the STAND.GUARD G1 sensors from Oelschläger **Metalltechnik** and resell it as their own product.

**Note:** For reasons of EU conformity and product safety, we recommend that the users provide their products with operating instructions in the respective official EU language.

**Note:** Be sure to enclose the operating instructions with your finished product. These also include all safety instructions that are required by the consumer to ensure the safe handling of your product.

**Note:** The operating manual for your product must contain the following information:
You are obligated to read and understand the operating manual before you start using the product.
Point out to your consumer that the operating instructions must be kept near the product.

**Danger:** Make sure you subject your product to a risk analysis so that you can respond to possible residual risks (e.g. through constructive measures or by notices in the operating manual and/or safety instructions for your product).

**Note:** Make sure that unauthorised persons (for example, small children, persons under the influence of medication, etc.) do not handle your product or the STAND.GUARD G1.

## 3.5 Repairs

**Attention:** In the interest of preventing mal-functions, only authorised service personnel are permitted to make any repairs.

**Attention:** If the sensor is opened, there is a risk of subsequent malfunctions.

In case of a technical defect on the STAND.GUARD G1, please contact an authorised customer service representative. Section 11 contains solutions for the most common errors.

# 4 Warranty

Oelschläger **Metalltechnik** GmbH provides a 24-month warranty on the STAND.GUARD G1 sensor. The warranty covers all material and production errors and takes effect from the date of delivery. The warranty is only valid on the condition that the sensors are assembled and used in an appropriate and technically correct manner within the framework of the parameters described, maintenance is carried out correctly, and repairs are only carried out by authorised service personnel.

STAND.GUARD G1 must not be incorrectly handled or used and no changes are permitted to be made to the sensor; otherwise, the warranty expires. Please see our General Terms and Conditions of Business for more information.

Legal warranty or guarantee obligations remain unaffected by these regulations.

# 5 Overview

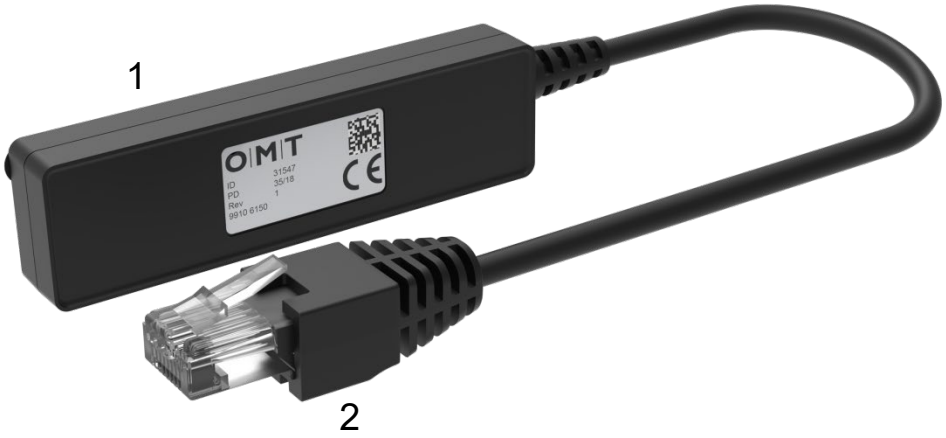



**Figure 1: Depiction of the sensor STAND.GUARD G1**

1 Sensor

2 RJ-45 plug with coding

# 6 Scope of supply and necessary as well as optional accessories

**Note:** The STAND.GUARD G1 sensor may only be used with the table controller STAND.CONTROL C1.

## 6.1 Delivery scope

The delivery scope contains:

- STAND.GUARD G1

Other accessories required for operation can be obtained from OMT.

## 6.2 Necessary accessories

At least the following accessories are required for purpose-conformant use.

- Table-top support frame with operationally ready STAND.CONTROL C1

## 6.3 Optional accessories

For more comfort, additional accessories are available to our customers.

- RJ45 multi-plugs for expanding the number of device connections: STAND.CONNECT hub
- connecting cables: STAND.CONNECT connecting cables

# 7 Installation

## 7.1 Unpacking

**Note:** When unpacking, ensure ESD-compliant handling of the electronic components.

**Caution:** Oelschläger **Metalltechnik** GmbH does not provide any warranty for faults and damage to the device that are the result of electrostatic discharge.

For unpacking electronic devices, please proceed as follows:

1. Remove the packaging material.
2. Check the contents of the package for completeness:
3. Dispose of the packaging material in an environment-friendly manner, in accordance with the applicable national regulations in your country. Recycle reusable packaging.

## 7.2 Installation

Assemble the table controller STAND.CONTROL C1 in accordance with the relevant instructions. Install the sensor STAND.GUARD G1 centrally on the underside of your table. The position and alignment of the sensor can be chosen at will. The sensor can be positioned both on/in the longitudinal beam of the table as well as on the underside of the table top.

You need neither additional material nor tools for the installation. The sensor is already provided with double-sided adhesive tape at the factory. Fasten the sensor with this strip of double-sided adhesive at the desired place.

**Note:** Before fitting, the control system and the sensor must be electrically deenergised.

**Note:** It is recommended that the sensor be fastened centrally below the table top.

If you wish to retrospectively upgrade the sensor on a table-top support frame, to start with, isolate the controller from the power grid.

You need neither additional material nor tools for installing the sensor. The sensor leaves the factory with double-sided adhesive tape. Fasten the sensor using this adhesive tape at the desired place. The surface on which the sensor is to be stuck must be free of dust and dirt.

There is no provision for the position of the sensor to be changed retrospectively. When the sensor gets detached from it, the adhesive tape becomes unusable and if required, has to be replaced by a new one.

**Note:** It is recommended that the sensor should be fastened centrally below the table-top.

Connect the sensor to one of the RJ45 sockets (D1 or D2) in the STAND.CONTROL C1. Ensure that when it is inserted, the RJ45 plugs snaps into place audibly. Check the firmness of the hold if required by pulling lightly on the cable.

If all the available sockets are occupied, you can use a STAND.CONNECT hub and a STAND.CONNECT connecting cable to expand the number of ports available.

If the cable of the sensor is too short for your table, you can extend the length using a STAND.CONNECT hub and a STAND.CONNECT connecting cable.

In case of need, several sensors can also be connected to a system, for example, with large table-top support frames (angle combinations); the exact number depends on the overall configuration of the system.

Upon completion of all the installation steps for your table-top support frame (in accordance with the table-top support frame instructions), as the last step, set up the connection between the controller STAND.CONTROL C1 and the power supply.

# 8 Commissioning

**Note:** Before commissioning, the controller must be electrically deenergised.

**Note:** Before commissioning, ensure that the sensor is acclimatised to the values given in the technical data.

## 8.1 Commissioning the controller, general

STAND.GUARD G1 is used as the sensor for the controller STAND.CONTROL C1. For the commissioning, please follow the operating manual of the STAND.CONTROL C1.

## 8.2 Commissioning the STAND.GUARD G1

**Note:** It is recommended that the controller should be connected to the mains supply only after installation and connection of the sensor.
The sensor must be at absolute standstill approx. 10 s after the supply is connected so that it can calibrate itself. Otherwise, the calibration must be repeated.

After installation and commissioning of the controller, no further steps need to be taken for the sensor STAND.GUARD G1. As soon as the controller is once again being supplied from the mains, it automatically recognises the sensor.

For optimum functioning, the sensor automatically carries out a calibration run after a Reset. In order that the sensor works in an optimal manner, it is important that during the calibration, there are no vibrations at the sensor. The table may not be touched or moved. After switching on the controller, or after reaching the minimal position at the end of an initialisation, the sensor needs approx. 5-10 s for the calibration.

Calibration of the sensor is carried out after every initialisation / reset of the table-top frame support. Thus, calibration can be carried out afresh at any time.

**Caution:** After commissioning, accessory components may not be separated from the controller during the movement. This can result in unpredictable behaviour of the table and is a danger to the user.

**Note:** It is recommended that the table controller be isolated from the mains supply before every enhancement or replacement of accessories.

# 9 Operation

In the operating manual of the STAND.CONTROL C1 controller, you will find a general description of the operation off the table-top support frame.

## 9.1 Normal operation

If the desk is moved and there is a collision with an object, the sensor recognises the collision and moves a short distance in the opposite direction. If there is a hand switch with a display connected to the controller, it shows COL . This is shown on the display unit till a button is pressed again or the display goes off.

When the hindrance has been removed, the table can be moved again as usual.

**Note:** Remove the hindrance after a collision.

The sensitivity of the sensor can be set with the CON.STAND PC software. So also, the sensor can be completely disabled with it. There are instructions for doing so in the operating manual of the CON.STAND software.

If the sensor is removed during operation, this is indicated on a Comfort hand switch as Code E40 and in addition, the controller signals the fault acoustically by going ‘click-clack’ 3 times; the fault must be acknowledged by pressing any key on the respective hand switch. Then, when a key is pressed again, the system resumes working as usual, but without the additional protection provided by the sensor.

**Danger:** If the disabling of the sensor after the occurrence of a connection fault with the sensor is confirmed, the danger of crushing increases, since then, operation is without the extended system protection of the sensor.

## 9.2 Cascading controllers

This sensor can be connected to any controller of a cascaded system. Several sensors can be simultaneously operated on one system. The number of all possible system components depends on the configuration of the entire system.

## 9.3 Notes regarding the functioning of the sensor

The sensor reacts to vibrations and impacts. Basically, even because of the movement of the table-top support frame, there are already some vibrations, which are recognised by the sensor, and therefore, the sensor can only detect collisions that return a measurement value that is greater than that of the vibrations during a normal movement.

The sensitivity of the sensor can be set in the parameters of the controller for the up and down directions.

It is not possible to define an exact force as a collision, since a collision is determined by several factors. This includes, for example, the exact position of the collision on the table-top support frame.

In a collision, there arises a movement that exceeds the previously programmed threshold, and thus triggers a collision.

Another influencing factor is the current “loaded state” of the table-top support frame. Weights on or at the table influence how the force can be transmitted up to the sensor. For evaluation of a collision, it is decisive whether the weights on the table and the force of a collision act in the same direction or in opposite directions. If the directions of the force transmitted owing to the collision, and the weights on the table are opposite, the sensitivity may get reduced, but additionally, the exact position of the collision on the table and hence, the possibility of transmission up to the sensor is an influencing factor.

Vibrating components by or on the table can influence the sensitivity of the sensor, or result in wrong collision detections. Owing to increased natural oscillations, the following components may make it necessary to reduce the sensitivity of the sensor:

- Table tops not rigidly joined to the table-top support frame (sliding tops)
- Monitors, especially when they are fastened to the table-top support frame with monitor arms.
- Screening walls, modesty panels, CPU-holders or cable ducts, if they tend to vibrate when the table moves.

# 10 Disassembly/Maintenance

## 10.1 Disassembly

1. Disconnect the controller from the mains.
2. Separate the connections between the controller or the STAND.CONNECT Hub and the sensor.
3. Then carefully detach the glued joint between the sensor and the table-top support frame. The double-sided adhesive tape of the sensor becomes unusable when this is done.
4. If the sensor is to be re-used, carefully detach all the residues of the adhesive tape from the sensor housing and replace the double-sided adhesive tape with a new one.
5. If the table-top support frame is to be made operational again after removing the sensor, note that the controller then first detects a sensor fault, this is indicated on a Comfort hand switch as Code E40 and in addition, the controller signals the fault acoustically by going 'click-clack' 3 times; the fault must be acknowledged by pressing any key on the respective hand switch. Then, when a key is pressed again, the system resumes working as usual, but without the additional protection provided by the sensor.

## 10.2 Maintenance

**Warning:** Do not open the sensor. Opening the sensor will render all warranties from OMT null and void.

**Danger:** If you find defective cables, immediately isolate the controller from the mains. Pull the mains plug.

Check the plug-and-connector joints at the controller regularly for firm fitting. Check all the cables regularly for defects. If you find defective cables, plugs or loose plug-and-connector joints, replace the cables. If that is not possible, or does not bring about any improvement, contact OMT customer service

## 10.3 Cleaning and maintenance

**Warning:** Aggressive cleaning agents can cause damage or discolouration on the product. Therefore, only agents with a pH value of 6-8 may be used.

The STAND.GUARD G1 sensor can be wiped from the outside with a soft cloth. Coarse soiling may only be removed with a soft, damp cloth. Ensure that no moisture penetrates into the housing.

# 11 Easy to rectify faults

**Warning:** Before troubleshooting, especially on faulty cables, the controller must be isolated from the network.

If a fault cannot be rectified as described, isolate the product from the voltage supply, wait for at least 3 minutes and try again.

If the fault continues to occur, isolate the product from the voltage supply and contact our customer service.

If the fault is because of the sensor, you can isolate the sensor from the controller for the time being. The table is then ready to move.

**Danger:** Remember the increased danger of injury during motion without the sensor.

Table 1: Fault description of the faults that are easy to rectify.

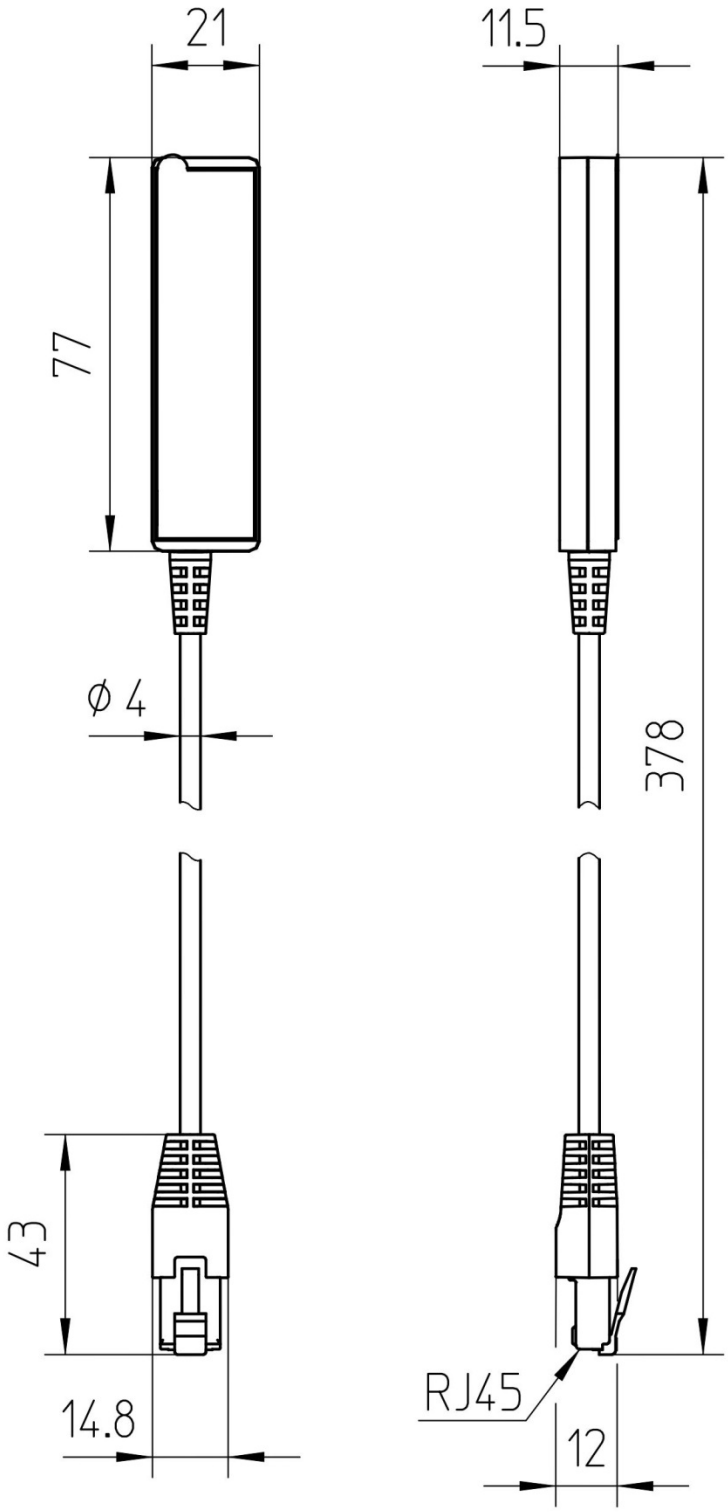
| Error description | Troubleshooting |
|---|---|
| Collisions are not detected | Check if the sensor is connected to the controller. |
| | Calibration failed (see chapter 8.2)<br>Perform an initialisation run. |
| | Sensor switched off on the software side<br>Switch on the sensor with the CON.STAND-software |
| | Sensor parameterised to be too insensitive<br>Adjust the parameter with the CON.STAND software |
| | Check the position of the sensor<br>(see chapter 7.2) |
| | Sensor faulty<br>Contact customer service. |
| Too many collisions detected | Calibration failed (see chapter 8.2)<br>Perform an initialisation run. |
| | Sensor parameterised to be too sensitive<br>Adjust the parameter with the CON.STAND software |
| | Cable to the sensor stretched too tight: check the cable routing or re-position the sensor |
| | Check correct positioning of the sensor<br>at the system (table-top support frame) |
| | Vibrating components at the table-top support frame<br>for example, monitor arms, partition walls, modesty panels, CPU holders or sliding table tops |
| | Sensor faulty<br>Contact customer service. |

| | |
|---|---|
| Controller clicks (goes click-clack 3 times)<br>Comfort manual switch shows a code  | The connection between the sensor and the controller was broken; check the plug-and-socket connections and the cable of the sensor<br>**ATTENTION!**<br>*The next time a key is pressed, this error is acknowledged, the table moves thereafter, but without the protection of the sensor.*<br>Restore the connection or replace the sensor if it has been damaged. |

## 12 Technical data

The technical data of the STAND.GUARD G1:

| | |
|---|---|
| dimensions (L x B x H) | 77 x 21 x 11.3 mm<br>3.03 x 0.83 x 0.44” |
| Cable length | 0.3 m |
| Weight | 0.023 kg |
| Environment conditions during transport and storage | -25 °C to +70 °C at 5 % to 90 % relative atmospheric humidity (non-condensing), with +38 °C max. dew point;<br>Temperatures from +55 °C to +70 °C only for maximum 24h |
| Environment conditions in the factory | +5 °C to +40 °C at 10 % to 85 % relative atmospheric humidity (non-condensing), with +27 °C max. dew point; |
| IP class (protection class as per EN 60529) | Unassembled: IP 00<br>Correctly assembled: IP 20 |
| connections | RJ45 plug |


21
77
ø 4
43
14.8
11.5
378
RJ45
12

## 13 Tests and certificates

The drive system is tested according to the following standards:

**Electromagnetic compatibility (EMV-Directive 2014/30/EU):**

| | |
|---|---|
| EN 61000-6-2:2005 | Electromagnetic Compatibility (EMC) |
| EN 61000-6-3:2007+A1 | Electromagnetic Compatibility (EMC) |
| EN 61000-3-2:2014 | Electromagnetic Compatibility (EMC) |
| EN 61000-3-3:2013 | Electromagnetic Compatibility (EMC) |

**Electrical safety (low voltage directive 2014/35/EU):**

| | |
|---|---|
| EN 62233:2008 | Safety of persons in electromagnetic fields |
| EN 60335-1:2012+A13 | Household and similar electrical appliances<br>Internal and similar uses |

**Safety-related parts of controllers:**

| | |
|---|---|
| EN ISO 13849-1:2015 | Safety of machinery<br>Safety-related parts of control systems<br>Performance Level “b” |


# 14 Disposal

The FREE.STAND table-top support frame in which the STAND.CONTROL G1 is fitted is an electrical and electronics device that must be disposed of separately from household waste, in accordance with the applicable WEEE-directive 2012/19/EU

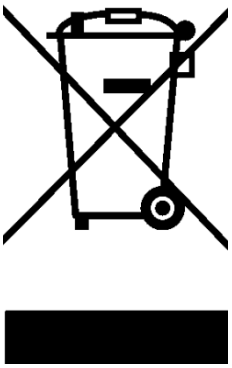


**Figure 2: Identification markings for products in accordance with WEEE Directive 2012/19/EU**

Dispose of the product and all other materials and parts in an environment-friendly manner, in accordance with the applicable national regulations in your country. Ensure that the disposal is sustainable for humans and nature.

Check for recyclability before disposal. As far as possible, take all the parts for recycling.

# 15 Additional Information

## 15.1 Copyright



## 15.2 Licences

After procurement and complete payment of the product, the customer may use the running texts and graphics in chapter 9 for generating the end user documentation for the height-adjustable table, in which the STAND.GUARD G1 was integrated, for 10 years from delivery, free of charge. This licence does not include any logo, design or page layout elements of Oelschläger **Metalltechnik** GmbH. The customer may make all the necessary changes to the text and graphics to match them to the purpose of the end-user documentation. The texts and graphics may not by published or sub-licensed, either unchanged or modified, through the digital route. The transfer of this license to third parties without permission from Oelschläger **Metalltechnik** GmbH is also prohibited. The entire right of ownership and copyright to the text and graphics remains with Oelschläger **Metalltechnik** GmbH. The texts and graphics are offered as is, without any warranty or assurances of any kind.

Contact our customer service to get the text and graphics in an editable format.

## 15.3 Trademarks

Documentation can also contain, among other things, the depiction of registered trademarks of goods or services as well as information on copyright or other protected know-how of Oelschläger **Metalltechnik** GmbH or third parties. In all cases, all the rights remain exclusively with the respective holder.

## 15.4 Address

Oelschläger **Metalltechnik** GmbH
Hertzstraße 1-3
27318 Hoya – Germany
Tel.: +49 (0) 4251 – 816 – 0
Email: **info@oelschlaeger.de**
Internet: **www.oelschlaeger.de**

Registered office of the company: Hoya (Germany)
District Court of Walsrode - HRB 31030
CEO: Daniela Hoge | Harald Grams