



WIN-CONTROL WS 20.1

Hybrid - window closer

Ventilating rooms - sure, dry and comfortable

A contribution to reduce your energy footprint



Translation of the original instructions



WIN-CONTROL WS 20.1

Dear customer,
thank you very much for choosing a high quality product by ABE Arnhold and placing your trust in us. On the following you will get important information permitting you an optimal and safe use of your window closer. Please read these instructions carefully and completely before the device is used for the first time.

Keep these instructions ready to hand for future reference when required. If you pass the device to another user, be sure to pass these instructions, too. They are also available for download as pdf file from our homepage <http://www.abe-arnhold.de>.

Enjoy your new
HYBRID - Window closer!

Sincerely Yours,
ABE Arnhold Technische Erzeugnisse GmbH & Co. KG

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These instructions have been compiled with the greatest possible care. Nevertheless we reserve the right to optimize and to adapt technically these instructions at any time.



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Explanation of symbols



F o l l o w t h e i n s t r u c t i o n s !
 This symbol is located on the device. For a safe and correct operation of the device it is absolutely necessary to follow the instructions in this manual!



A t t e n t i o n ! Automatic start of the device! The device starts automatically after a pre-set closing time, after activating the closing button and - if a rain sensor is installed - , if it starts to rain!



Warning against hand injuries!
 When the closing signal is sounded do n o t touch between the window casement and the window frame! While dismounting the device and while extending the spring do n o t touch between the device and the clip!



A t t e n t i o n ! The device is intended for indoor use only.

1. Intended use and safety instructions

1.1. Intended use

The window closer is constructed according to the state of the art and the recognised safety regulations. Nevertheless, improper or not intended use can cause serious danger for the user or others as well as material damage of the device and/or other equipment.

The window closer is a tool for closing window casements made of plastic, wood or aluminium, which are in a tilt position. The window lower edge must not be lower than 85 cm.

A different application or use extending beyond this purpose is not a considered use for the intended purpose. The use of the device is entirely at the user's own risk. Acknowledgement of the contents of these operating instructions forms part of the intended use.

1.2. Safety instructions

Warning: Important safety instructions!
For safety of persons it is important to follow these instructions. These instructions are to be stored.

1.2.1. General safety information

Always comply the general safety- and accident prevention advice! In addition to the information in these instructions the general safety and accident prevention advices of the legislator must be kept in mind.

Pass these operating instructions on to third parties! Take care that third parties only use this device after receipt of the operating instructions!

Always pay attention and note what you do! Do not work with this device under the influence of drugs, alcohol or medication!

Note who may use the device! The device may be used by children aged 8 and above as well as persons with limited physical, sensory or mental aptitudes or lack of experience and/or knowledge if they are supervised or they are instructed in the safe use of the device by responsible persons and if they understand the resulting risk to human health. Children under 8 years have to be kept away from the device.

Children may not play with the device. Cleaning and maintenance are not allowed to be made by children without supervision!

Do not dismantle the window closer into its component parts! Do not insert spiky objects into the inside of the device!

Do not touch the electronic! Electrostatic discharges may result in damage of the device.

The use of the device in potentially explosive atmospheres with substances as for instance flammable liquids, gases, vapours or mist is not allowed.

Use only original equipment as shown or recommended in these instructions.

1.2.2. Specific safety information

Closing signal: To keep away children, persons with limited physical, sensory or mental aptitudes or pets from the device and to prevent possibly injuries through caught fingers and more, about three seconds before the window closes automatically, a close signal sounds (see p. 31/4.5).

Make sure that there are no children, persons with limited physical, sensory, mental aptitudes or pets in the near of the closing window when the close signal sounds.

If it is not possible to keep away children and persons with limited physical, sensory, mental aptitudes or lack of experience and/or knowledge or pets from the device, you have to take further measures (see operation of the window closer / p. 31/4.5 / protective equipment for the tilt window).

A t t e n t i o n ! The guard function of the close signal will not exist in case of **hearing loss!**

Interruption of the close signal: The closing operation will be interrupted by pulling and holding the release cord (A2) during the closing operation (see p. 31/4.6). If you will release it the closing operation will continue.

Complete closing of the window: The window is only *completely* closed by automatic closing after preset time or by use of the „closing button“ (p. 29/4.3). By pulling on the release cord (A2) the window is closed but not completely. **A t t e n t i o n !** There is no automatic locking by window handle!

Testing of the device: Check after any change in device status (e.g. use of new batteries, installation of the rain sensor, mounting and dismounting of the device, opening of the device etc.) their functionality, especially of the acoustic close signal!

To protect small children the window closer may not be installed on windows and doors with a lower edge less than 85 cm.

Residual risk: Despite safety measures a residual risk for injuries remains while operating the window closer through touching between window sash and window frame during the closing operation or by disregarding of the close signal as well as if the spring is tensioned.

Injuries can not be completely eliminated by the safety measures. All persons who operate the window closer have to know this residual risk.

For longer stays out-of-home: Closed windows are better protected against burglary as uncontrolled open windows. Insofar the window closer WIN-CONTROL ensures better security.

For longer stays out-of-home we recommend for insurance reasons to close the window by the window handle. Your insurance might consider the respective window in case of burglary as not closed.

Information on batteries

- Never recharge non-rechargeable batteries! Danger of explosion!
- Keep batteries away from children! Do not throw them into fire! Do not disassemble or short circuit them!
- Observe correct polarity when inserting the batteries!
- If needed, clean the battery and the contacts before using them!
- Remove exhausted batteries immediately out of the device! Danger of leakage!
- Do not expose batteries to extreme conditions such as on top of radiators, under direct sunlight! Danger of leakage!
- Avoid contact of battery leakage with skin, eyes and mucous membranes! When getting in touch with battery acid instantly irrigate the affected parts with clear water and call a doctor!
- Replace always all two batteries at the same time!
- Use only the same kind of batteries! Don't mix different types or used and new batteries!

Disposal

I. Packaging

The product packaging has been made from materials which can be recycled. Dispose of them in an environmentally sound and unmixed manner in the provided containers.

II. Device and batteries

Do not throw used devices and batteries with normal household waste. According to the European directives 2012/19/EU at the end of its service the device has to be disposed of according to the current disposal regulations. Materials included in the device have to be provided for recycling to avoid environmental impact of waste.



Please find out about collection points for recycling electrical and electronic devices provided by your local authority.



Before disposal remove the batteries from the device and dispose them separately. Every consumer is committed by law to bring back used batteries to distributors and other collections points.

2. The HYBRID-Window Closer - Utility and functioning

The window closer is a device for automatic closing of window sashes of tilt & turn windows made from plastic, wood or aluminium. For safety reasons the window closer may not be installed on windows or doors with a lower edge less than 85 cm.

Room ventilating ensures not only fresh air, but also the removal of carbon dioxide, of various smells or excess humidity and avoids the formation of mould. In this respect it is necessary and extremely useful.

Tilted windows are often forgotten to be closed after ventilation. Especially in toilets, bathrooms or bedrooms it is a problem. So in the cold season valuable heating is lost. On hot days the heat comes into the room.

Room ventilation is *only energy efficient* in case it is time controlled. This applies for ventilation by opening the window entirely and by opening the tilted window. The often recommended ventilation by opening the window entirely - because it is faster - should not exceed 4-7 min in the cold season!

Daily room ventilation by opening the window entirely is only possible to a limited extent. The hustle and bustle of the day, often gives you too little time or the effort involved is too high because the window sill is full of utilities. So the window is brought to a tilt position and in most cases **unchecked**.

The safety aspect should not be underestimated, too. Tilted windows are almost an invitation for burglaries.

The new window closer WIN-CONTROL takes care of these problems and closes the tilted window after your time setting von 5 minutes to 6 hours.

The possibility to add a rain sensor prevents rain entering in the room and your carpets and wooden floors stay dry.

The Hybrid Window Closer - a combination of pen and electrical drive

The new closing system combines a pen drive with an electrical drive.

When opening the window a spring mechanism is tensioned. This spring mechanism is connected via a gear box to a small electric motor powered by two LR6 (AA) - batteries. An intelligent very little power using electronic part now issues the command to initiate the closing operation after a specified time. The motor releases the gear box and the spring mechanism closes the window. As the performance of the spring mechanism during the closing operation loses force, the motor takes over the pressing force at the end of the closing operation.

- ★ *Simple and wireless installation*
- ★ *Long battery power*
- ★ *Hybrid drive technology*

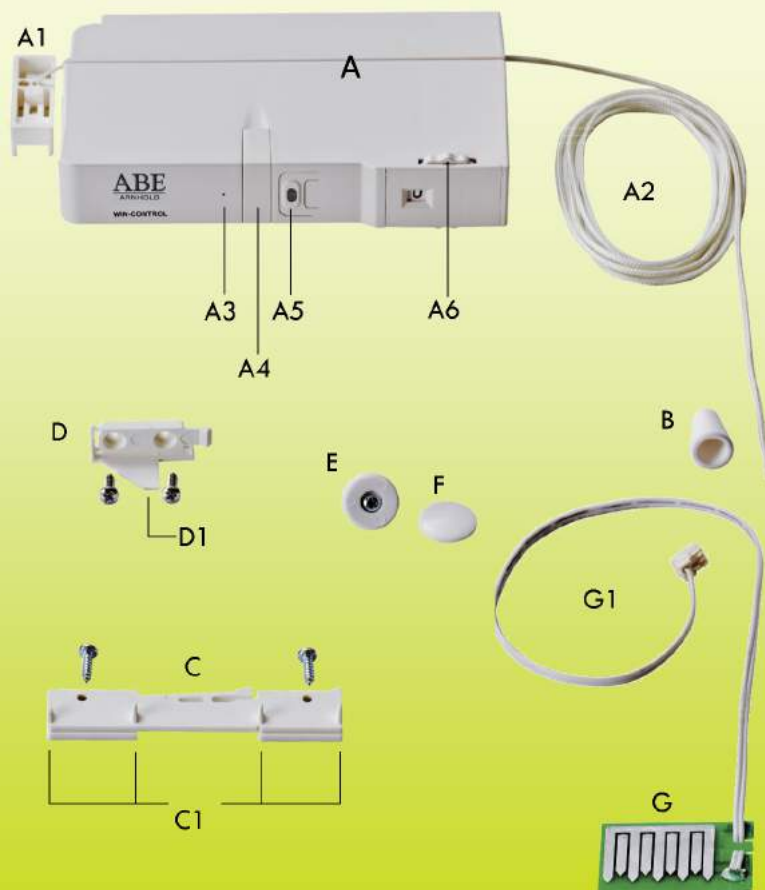
The automatic window closer WIN-CONTROL...

- will be mounted within 30 minutes.
- operates wireless and needs only two LR6 (AA) - batteries to close at least **1500 times** an average sized window.
- let you leave your bathroom after a shower comfortably and closes your window automatically after the time you specify from 5 minutes to 6 hours.
- closes in case of rain your window automatically. A rain sensor (accessory) sends the command to close the window ensuring to keep dry your carpet, laminate or parquet floor.
- contributes to retain your building structure, to reduce your energy balance and your costs.

- . **To save energy and costs** . **To retain building structure** .
- . **To prevent mould** . **To increase safety** .

3. Installation of the window closer

3.1. Figures of the components



3.2. Scope of delivery

A - a window closer two with already contained inside the device LR6 (AA) batteries / 1,5 V as well as

- A1 - clip with pull cord
- A2 - approx. 1,50 m release cord
- A3 - control LED
- A4 - bracket
- A5 - closing button
- A6 - time slice

B - a cord end

C - a window casement bracket incl. 2 screws (PH1) with
C1 - four noses

D - a window frame bracket incl. 2 screws (PH1) with
D1 - fit-up aid a sail like

E - a guide roller including a screw (PH1)

F - a guide roller cover

Optional accessory:

G - rain sensor inclusive

G1 - male connector with cable

3.3. Tools



Warning: Important instruction on safe installation! Follow all instructions! Incorrect installation may cause serious injury!



Check after completing the installation the proper functioning of the device, the control-LED, the acoustic close signal and the release cord!



Having the following components ready:

- Drill or rechargeable driller 2,5 mm (for aluminium windows 3 mm)
- Phillips screwdriver (model PH1)
- Scissors or card board cutter
- pencil
- ladder according the height of the window

3.4. Mounting instructions

3.4.1. Screw the brackets on window casement and window frame

Close the window. First, put the **window casement-bracket (C)** preferably in the middle at the window casement in such a way that the noses (C1) rest on the frame. Mark the position of the holes for the screws (fig. 1).

Pre-drill both holes and tighten the bracket (fig. 2, 3). After take the **window frame bracket (D)** and put the sail (D1) at the window casement bracket as in fig. 4. Mark with a pencil both holes for the screws on the window frame (fig. 5). Open the window and pre-drill the holes (fig. 6).

Now cut the fit-up-aid „sail“ (D1) carefully with scissors or a knife (fig. 7). Afterwards screw the window frame bracket (D) at the window frame.



Fig. 1: Putting the window casement bracket (C) and marking the holes



Fig. 2: Pre-drilling the holes at the window casement bracket (C)



Fig. 3: Screwing on window casement



Fig. 4: Putting the window casement-bracket using the fit-up-aid (sail)



Fig. 5: Marking the position of screws for the window frame bracket



Fig. 6: Pre-drilling the holes at the window frame



Fig. 7: Cutting the fit-up-aid „sail“ (D1) of the window frame bracket (D)

If you have bought the rain sensor (G) as an accessory, you may fasten it now. Just follow the procedure as described in 3.5.

3.4.2. Fasten the window closer on the brackets



To connect the window closer including the clip (A, A1) with the window frame bracket (D) you have to stretch the spring mechanism at first. On doing so drag at the same time at clip inclusive pull cord (A1) and release cord (A2) as shown in fig. 9. On doing so you have to pull out the pull cord about 10 cm. It is important to release the release cord (A2) at first and after that the clip inclusive pull cord (A1). Attention! Important point! Watch your fingers!

Close the window! Are both brackets screwed as seen in fig. 8 you have now to connect the window closer (A) with the window casement bracket (C). To do so slide the window closer from left to right across the window casement bracket until it clicks into place (fig. 10/11).



Fig. 8: Ready screwed brackets

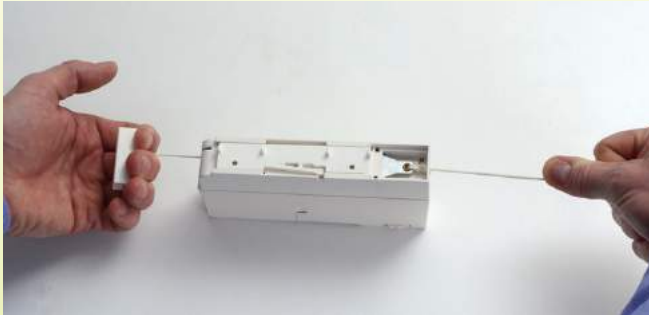


Fig. 9: Pulling the clip inclusive pull cord (A1) and release cord (A2) simultaneously



Fig. 10/11:
Connecting the window
closers with the window
casement bracket

The clip at the end of the pull cord (A1) is pushed now from left to right on the window frame bracket until it clicks into place (fig. 12/13).



Fig. 12/13: Pushing the clip (A1) on the window frame bracket

3.4.3. Mounting the guide roller

The guide roller is mounted at the right side of the window. On doing so, mark the position of holes again (fig. 14). Pre-drill an hole (fig. 15) and screw the **guide roller (E)** on the right hand side of the window closer on the window frame (fig. 16).

Pass the release cord (A2) around the guide roller and fit its cover (F) (fig. 17/18). Cut it into the desired length (fig. 19), connecting it with the cord end (B) doing a double knot (fig. 20).



Fig. 14: Marking the position of holes for the guide roller



Fig. 15: Pre-drilling for mounting the guide roller



Fig. 16: Screwing the guide roller



Fig. 17/18: Passing the release cord around the guide roller



Fig. 19: Cutting the release cord into the desired length

Fig. 20: Connecting the cord end doing a double knot



The window closer is now mounted and can be put into operation.

Please check after mounting the proper function of the device, the control LED, the acoustic indicator and the release cord (see operation of the window closer / p. 28).

3.5. Optional accessory: rain sensor (G)

The rain sensor reacts to water drops hitting the sensor and pass this information on the window closer. It consists of a connector with a cable (G1) and the sensor itself (G). The window is closed immediately in the case of rain no matter whether which time is set on.

Mounting the rain sensor

On the left side of the window closer there is a protective cover 'RS' which requires to be broken out. If you have bought the rain sensor later, you first have to remove the window closer from the window. Proceed as described in 4.8 (p. 33).

After you take the window closer into your hands breaking out the protective cover 'RS' using a screw driver (fig. 21/22). Put the male connector of the rain sensor in the now free female connector. For fastening the rain sensor there are two possibilities.



Fig. 21/22:
Broking out the
protective cover
'RS'



Fig. 23: Passing the cable outward

Using the **simple** version pass the rain sensor cable outward (fig. 23). To do so open the window as a whole as described in 4.4 (p. 30).

Remove now the protective foil of the rain sensor (fig. 24) and stick the sensor in such a way that at the outer window frame that rain drops can be reached (fig. 25).



Fig. 24: Removing the foil



Fig. 25: Fastening the rain sensor

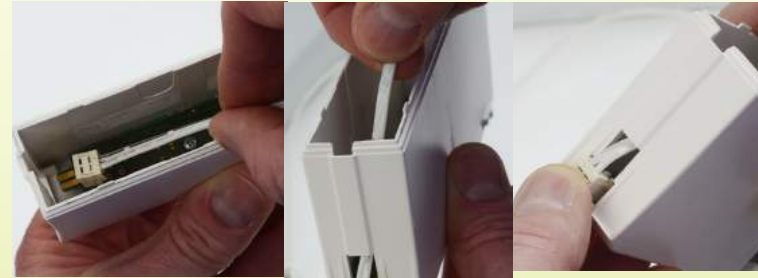


Fig. 26/27: Passing the
male connector through the
opening

Fig. 28: Pushing the
male in the female con-
nector

Using the more **elegant** version the window closer has to be opened. Proceed as described in section battery change (4.7 / p. 31).

Take the upper housing of the window closer, pass the male connector of the rain sensor inclusive cable through the opening (fig. 26/27) and push it in the female connector (fig. 28).

Reconnect the upper housing of the window closer with the lower housing (fig. 29). Reinsert the bracket (fig. 30). Reconnect the window closer with the window casement bracket (p. 20/21 / fig. 10/11).

Before sliding the clip on the window frame bracket again fasten the cable with the rain sensor outside the window.



Fig. 29: Connecting the upper housing with the lower



Fig. 30: Reinserting the bracket

To do that guide the rain sensor cable straight on (p. 25 /fig. 23) or sideways (fig. 31) over the window, remove the protective foil on the sensor (fig. 24) and stick the rain sensor on the outer window frame in a way that rain drops can reach it (fig. 32).



Fig. 32: Rain sensor completely fixed



Fig. 31: Placing the cable sideways and fixing it with adhesive tape

4. Operation of the window closer

4.1. Time set

Enter at the window closer by turning the time slice (A6) clockwise to the desired closing time (5 min until 6 h). Activate the window closer as described in 4.2. ! Flashing control-LED (A3) indicates that the window closer is in operation and will close the window after the time set has passed.

If the time slice is on '0', the control-LED does not flash and this means there is no time set. The time set can be changed any time. The last time set is always valid for the closing operation.

Fig. 33: Setting the time slice - clockwise



Attention!

The window will only completely be closed by automatic closing after the time set or by the „closing button“ (4.3). There is no automatic locking by the window handle!

4.2. Activating window closer

To activate the window closer you move the window into tilt position. This happens by simultaneously pulling on the window handle and the release cord (A3) in direction of your body (fig. 34).



Fig. 34: Activating the window closer / Moving the window into tilt position

4.3. Closing the window by the closing button

By operating the „closing button“ (A5) at the window closer the window is immediately automatically closed.



Fig. 35: Operating the closing button (A5)

4.4. Opening the window completely

To open the window completely, for example to clean it or to ventilate extensively, close the window, pull the clip (A1) from right to left from the window frame bracket (fig. 36) and after open the window completely (fig. 37).

To reactivate the window closer, push the clip, when the window is closed, onto the window frame bracket.



Fig. 36: Removing the clip (A1)



Fig. 37: Opening the window completely

4.5. Warning by a closing signal

Approx. three seconds before the window closer closes after your time set, a signal sounds.



If in your household children and persons with limited physical, sensory, mental aptitudes or lack of experience and/or knowledge or pets are present, the lower area of the window has to be equipped with a sideward pinch protection (such as suitable profiles from the D-I-Y store, accessory trade etc.). In this case please consult a specialist in order to avoid possible dangers. Normally it is sufficient to protect the lower third of the window. Has the window e.g. a height of 1 m, the tilt window protection has to be approx. 30 cm.

4.6. Interruption of the closing operation

When you pull the release cord (A2) during the closing operation and hold it, the closing operation is interrupted. If you release it, the closing operation will continue.

4.7. Battery change

Power supply of the window closers takes place via two LR6 (AA) - batteries. Rechargeable batteries must not be used.

We recommend the use of brand name alkaline batteries. Assuming that a medium sized window two times a day is closed, the batteries are to be changed after approx. two years, that means after approx. 1500 closing operations.

The battery change takes place with window closed. When the accessory rain sensor is installed, pull out first the male connector (G1) of the rain sensor.



Fig. 38 / 39: Removing the bracket



Remove now the bracket (A4). Hold the window closer with one hand while removing the upper part of the housing of the window closer in which are located the batteries by using the other hand (fig. 38 / 39). Change the batteries as in fig. 40, 41, 42 shown.



Fig. 40: Removing the batteries



Fig. 41: Positive and negative polarity of the batteries



Fig. 42: Inserted batteries

Attention! During the battery change **never** touch the electronic components!

Do not reverse positive and negative polarity (+/-) of the batteries (fig. 41).! When the batteries are inserted, fit the two housing parts together until they click into place.

Check after every opening of the housing the correct function of the device especially the closing signal!

4.8. Dismounting the window closers

First you have to close the window. Remove the clip with pull cord (A1) (see 4.4, p. 28) and if available the male connector (G1) of the rain sensor (G). Set the time slice to „0“. Before the window closer is released from its bracket, the tension spring has to be removed in order to avoid injuries.



Attention! Do not place your fingers between device and clip!

Pull the release cord (A2)! On doing so the clip with pull cord (A1) is pulled out and releases the tension. Now remove the window closer from the window casement bracket. The parts can be separated by pressing in the recess with a screwdriver or a similar pointed object (see fig. 43) and simultaneous removing the window closer from right to left (fig. 44).



Fig. 43: Separating the parts



Fig. 44: Removing the window closer

On the window frame and the window casement are small holes (diameter about 2 mm) originating from drilling and screws, which are less visible. We recommend the use of coloured coordinated and for windows suitable hard wax, hard dough or putty.

We wish you always fresh air and a good energy balance using our hybrid-window closer WIN-CONTROL WS 20.1 !

Tested is better and safer!

5. Product information

5.1. CE-mark, declaration of conformity and certifications

The window closer WIN-CONTROL WS 20.1 fulfils the requirements of the valid harmonist European directives. The conformity was proven (see p. 36).



Certifications „LGA-tested Quality“ and „TÜV-building class test mark“

WIN-CONTROL WS 20.1 were awarded by TÜV-Rheinland the certifications „TÜV-building class test mark“ (safety inspection, regular monitoring of the production by a neutral testing organisation) and "LGA-tested Quality". Awarded are these certifications to first class products, products, which truly correspond to their purpose.

Tested are operating instructions, performance characteristics and safety (see www.tuv.com/de/deutschland/gk/produktpruefung/produktpruefung.html)

5.2. Guarantee

The guarantee is two years and begins on the day of purchase. Prerequisite for granting the performance of the guarantee is a valid original invoice or sales receipt indicating the date of purchase and the product name.

Damage caused by improper handling, operation, storage, faulty mounting as well as force majeure or other external influences are not covered by the guarantee. Batteries are excluded from the guarantee.



EC-Declaration of Conformity / EG-Konformitätserklärung
Original-Deklaration / Original declaration

| | |
|---------------------------------|---|
| We, the manufacturer / importer | ABE Arnhold GmbH & Co. KG |
| Wir, der Hersteller / Importeur | Bahnhofstr. 55 63755 Alzenau / Germany |

Declare under our sole responsibility that the following product
Erklären in alleiniger Verantwortung, dass das nachfolgend genannte Produkt


| | |
|------------------------------|---|
| Type of product / Geräteart: | window closer incl. rain sensor / Fensterschließer inkl. Regensensor |
| Model / Modell : | WS 20.1 incl. RS 20.1 |

meets the requirements of the following EC-Directive(s) including amendments and applied harmonized standards:
die Anforderungen der aufgeführten EU-Richtlinie(n) mit Änderungen und angewandten harmonisierten Vorschriften erfüllt:

- Machinery Directive 2006/42/EC / Maschinen-Richtlinie MRL 2006/42/EG
- Electromagnetic Compatibility EMC 2014/30/EU / EMV 2014/30/EU
- RoHS (Restriction of certain Hazardous Substances) - Directive 2011/65/EU / ROHS-Richtlinie 2011/65/EG

- EN 60335-1: 2012
- EN 60335-2-103: 2003 und A11: 2009
- EN 55014-1: 2006 und A1: 2009 und A2:2011
- EN 55014-2: 1997 und A1:2001 und A2:2008
- EN 61000-3-2: 2006 + A1: 2009 + A2: 2009
- EN 61000-3-3: 2008
- EN 50581: 2012

location / Ort / Datum: Alzenau, 09.06.2014
signature of authorized person


 Hans Arnhold / Managing Director
 Geschäftsführer

5.3. Window closer WS 20.1 — Technical Data

| | |
|---------------------------|---|
| U= 3V DC | P= max. 4W |
| Traction: 40N | Max. operating time: 3 min (short-time duty) |
| Material: plastic | Colour: white |
| Weight: 380 g | Batteries: 2 LR6 (AA) |
| Dimensions: 147x85x30 mm | No use of rechargeable batteries! |
| Operation mode: pull cord | |



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