

# LAVOSCH Basic 038



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## table of contents

|  |           |
|--|-----------|
| <b>COPYRIGHT</b> .....                           | <b>2</b>  |
| <b>TABLE OF CONTENTS</b> .....                   | <b>3</b>  |
| <b>INTRODUCTION</b> .....                        | <b>4</b>  |
| <b>INSTALLATION / MAINTENANCE / REPAIR</b> ..... | <b>4</b>  |
| <b>GENERAL</b> .....                             | <b>4</b>  |
| <b>HANDLING</b> .....                            | <b>4</b>  |
| <b>MAINTENANCE</b> .....                         | <b>4</b>  |
| <b>SPIRAL SPRING</b> .....                       | <b>5</b>  |
| <b>SPRING LOAD</b> .....                         | <b>5</b>  |
| <b>CABLE STOPPER</b> .....                       | <b>6</b>  |
| <b>ROLLER GUIDE</b> .....                        | <b>6</b>  |
| <b>LOCKING DEVICE</b> .....                      | <b>6</b>  |
| <b>CONNECTING</b> .....                          | <b>7</b>  |
| <b>EXTENSION CABLE</b> .....                     | <b>8</b>  |
| <b>PROTECTIVE DEVICES</b> .....                  | <b>8</b>  |
| <b>CHARGE CONTROLLER</b> .....                   | <b>9</b>  |
| <b>SIGNALING ELEMENTS</b> .....                  | <b>10</b> |
| <b>READY FOR USE</b> .....                       | <b>11</b> |
| <b>OPERATION</b> .....                           | <b>11</b> |
| <b>TECHNICAL DATA</b> .....                      | <b>12</b> |
| <b>INSTALLATION HEIGHT</b> .....                 | <b>13</b> |
| <b>FITTING INSTRUCTION</b> .....                 | <b>13</b> |
| <b>TIGHTENING TORQUE</b> .....                   | <b>15</b> |
| <b>DIMENSION</b> .....                           | <b>16</b> |
| <b>DECLARATION OF CONFORMITY</b> .....           | <b>17</b> |
| <b>SPARE PART ORDER</b> .....                    | <b>17</b> |
| <b>DISPOSAL</b> .....                            | <b>17</b> |
| <b>CONTACT</b> .....                             | <b>17</b> |
| <b>CHANGES</b> .....                             | <b>17</b> |

## introduction

All information necessary for a correct assembly to ensure trouble free operation of the cable reel are described in the present operating instructions. The warranty given by the manufacturer is only valid if these operating instructions are observed and adhered to. Terms and conditions are available upon request or at [https://www.schill.de/AGB\\_en](https://www.schill.de/AGB_en)

Additional user manuals for other product variants can be found at <https://www.schill.de/en/downloads/> or received on request (see "CONTACT").

## Installation / maintenance / repair

The controller can be worked on only by such qualified persons who have been entrusted with the tasks of the installation, maintenance or repair and are fully aware of the dangers resulting from these works.

Special care should be given to complying with general safety and accident prevention and fire protection related regulations.

Connection to the electricity network can only be carried out by an electrician (accordingly DIN VDE 1000-10). When performing installation, repair and maintenance works, local safety requirements as well as the stipulations of the applicable VDE (Electric, Electronic and Information Technology Association) and EN standards as well as the DGUV in public area must be complied with. The corresponding safety checks must be carried out and recorded.

For the commissioning of a charging station may require a license from your network operator!

The device can only be worked on in a voltage free state (disconnected from the mains).

## general

The automatic cable rewriter with integrated charging electronics provides the simple means for modern AC charging of electrically powered vehicles (EV). The rewriter is used to charge electric vehicles according to IEC 62196. The product can be mounted rotatable directly on a wall. It has a permanently connected charging cable with type 2 plug.

The cable is only pulled out when needed and in the required length. The remainder stays neatly stored on the cable reel and is protected from contamination and damage. The power connection is always accessible, but never in the way. The cable length can be easily adapted to a changing parking situation. There is no cable chaos, no tripping hazard anymore. If the charging connection is no longer needed, a short pull on the cable stopper will suffice and the cable will roll up neatly. The automatic cable rewriter ensures safety and order.

## handling

The coiled cable should be pulled out to the required length against the spring tension, but please refrain from the use of undue force. The cable is coiled and fixed in position as described under "LOCKING DEVICE". The cable should never be pushed in manually. If the cable becomes entangled when winding it onto the reel, simply pull the cable out again and then rewind.

Incorrect use caused by torsional stress together with simultaneous expansion of cable should be avoided.

### maintenance

The cable reel does not require any maintenance, The bearings are provided with grease so that relubrication is not necessary.

Die Informationen zum Umgang mit Ihren personenbezogenen Daten gemäß Art. 13 und 14 DSGVO finden Sie unter <https://www.schill.de>

## Annually:

- Checking the residual current protection by pressing the test button on the DC guard.
- Checking the charging cable and the charging plug for mechanical defects.
- Checking the operation of the status LED.



### **ATTENTION**

**Defective or damaged components must be replaced immediately!**

**Only use original spare parts!**

## **spiral spring**

The spiral spring is subject to natural wear and tear causing a fatigue fracture of the spring steel. Based on experience, we recommend changing the spring after approx. 30.000 operations. The term "operations" defines not only a complete winding and unwinding of the spring but also includes a partial movement of the spring.

In the event of spring breakage or spring fatigue, please contact us (see "CONTACT").

## **spring load**

The spring load is set at the factory. It may become necessary to adjust this setting. Before doing so, the locking device should be engaged. Then remove the cable stopper and draw the cable out of the roller guide. The load can be increased by additional windings of the cable anti clockwise and decreased by unwinding the cable in clockwise direction (rewind). Once this has been completed, it is very important that the cable is fed back through the roller guide and secured with the cable stopper. Increasing the spring load reduces the extractable cable length. A reduction of the spring load may affect the rewind function of the reel.

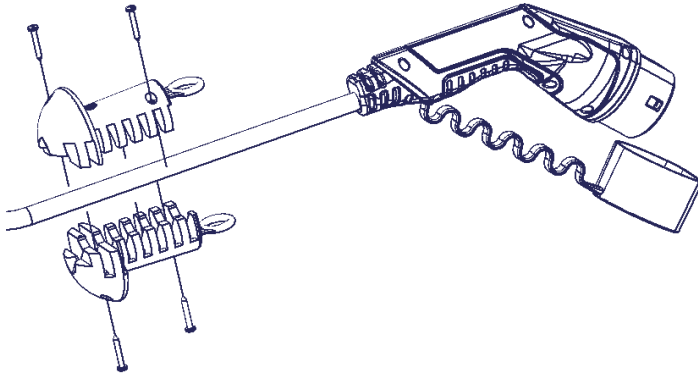


### **ATTENTION**

**Do not release the cable when rewinding, the tension of the spring can accelerate the winding speed to such a degree that the swinging cable end could cause injury.**

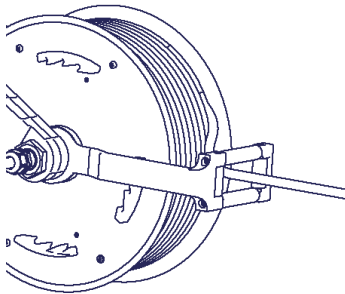
**Also damage to the cable and spring could be the result of such an action.**

## cable stopper



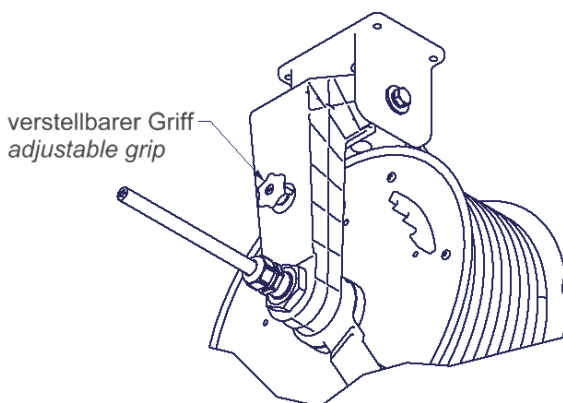
The length of the available cable can be individually adjusted with the provided cable stopper. The reliable clamping adapts to various cable diameters between 6 and 16 mm. For a thicker cable, a larger version is available. The stopper also serves as a safeguard against a full unload of the spring if the cable is unintentional released. It should therefore never be removed.

## roller guide



Fitted with four rollers, the roller guide ensures that the cable is correctly guided. It can be operated in a fixed or flexible mode. The roller guide adjusts then to the direction of the pull. The guide ensures that the cable is always guided onto the reel and prevents it from sliding of the drum.

## locking device



As a standard feature the cable reel has a disengageable cable locking device. The latching mechanism ensures that the pulled-out cable stays without traction fixed in place. When the cable is being pulled out, the spring detent passes over a series of grooves. An audible click indicates that the locking device is engaged. If you gently rewind the cable after the clicking sound, you will notice that the spring detent will engage into the notches, locking the cable in position. The cable can be disengaged by gently continuing to pull the cable until the click can no longer be heard. The loaded spring will pull the cable back onto the reel.

The locking device can be disengaged by pulling the knurled grip out by approx. 1 cm and turning it between 90° and 180°. This will disengage the locking device the cable is then constantly under tension.



### ATTENTION

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# automatic cable rewriter with integrated charging electronic installation and operating instruction

Do not release the cable when rewinding, the tension of the spring can accelerate the winding speed to such a degree that the swinging cable end could cause injury. Also damage to the cable and spring could be the result of such an action.

## connecting

Symmetrical operation: **The mains connection must necessarily be 3-phase.**

However, if the connected electric vehicle only charges in one or two phases, suitable measures must be taken to ensure that the asymmetry that occurs does not exceed 4.6 kVA. For this purpose, the charging current setting (DIP1-5) must be limited to a maximum of 20 A.

According to the desired charging current, the cable type, the cable lengths and the local and standardized regulations, the connection cable and the associated protection must be determined.

Each charging point must be designed with a separate fuse.

The circuit must be protected by a residual current circuit breaker (RCD) of type A with a tripping current of 30 mA. (e.g.: ABB F204 A-40/0.03)

The residual current circuit breaker must be installed in the house distribution in front of the supply line to the rewriter. Each charging point must be designed with a separate residual current circuit breaker.

The charge controller in the vehicle can produce a DC fault current, which is not recognized by the residual circuit breaker type A. To protect against these DC residual currents, the rewriter has an integrated DC guard. This component detects these faults and, in the event of a fault, triggers the residual current circuit breaker in the house distribution. Thus, no all-current-sensitive circuit breaker (type B) is required!



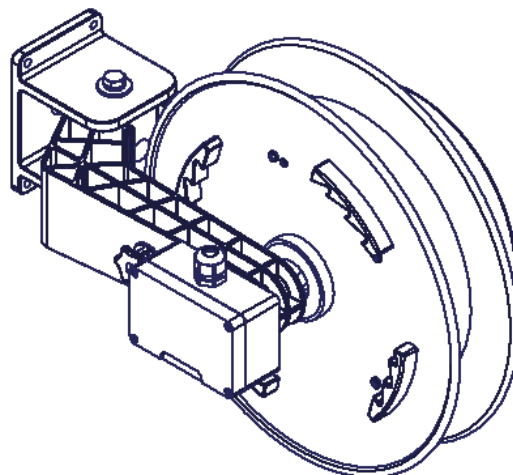
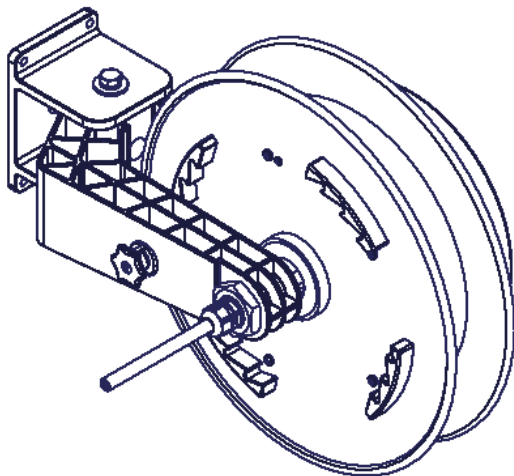
### **ATTENTION**

**Some vehicles generate such a high residual fault current during the charging process that the RCD installed in the distribution triggers sporadically.**

To connect the reel to the mains/supply service a connection cable is mounted. As a standard a plug-in connector is not included in the scope of supply.

Depending on the version, the reel can be delivered with

- a connection cable only (standard)
- with an on the reel mounted terminal block



### **ATTENTION**

**Observe installation instructions**

Die Informationen zum Umgang mit Ihren personenbezogenen Daten gemäß Art. 13 und 14 DSGVO finden Sie unter <https://www.schill.de>

# automatic cable rewriter with integrated charging electronic installation and operating instruction



According to DIN VDE 0100-722 (VDE 0100-722): 2013-01, a separate circuit must be set up for each charging socket (IEC 60364-7-722: Low-voltage electrical installations - Part 7-722: Requirements for special installations or locations - supply of electric vehicle)

Protection via residual current device (RCD) at least type A, which switches off with AC or pulsating residual current with  $I\Delta n \geq 30\text{mA}$

## extension cable

The included standard cables are designed to tolerate the weight of the pulled-out cable including the cable stopper. Additional weights are not allowed. The mounted cables are limited to the specified lengths. Never use excessive force to unwind the cable as this can damage both the cable and the reel. Should the cable be blocked while coiling up, please pull the cable out again and recoil. Attention should also be paid to section „GENERAL“.

- The charging cable may only be disconnected by pulling on the plug (not on the cable).
- The charging cable must not be extended.
- Protect the plug from dirt and moisture.
- The cable must not be kinked, pinched or run over.
- The protective cap of the plug must be properly inserted on the plug after charging.
- After charging, the charging cable is to rewind (see “HANDLING”)

If the cable is damaged, please contact us (see "CONTACT").

## protective devices

### Fuse:

The integrated charging electronic is fused with a 5x20 glass bulb fuse. This is located on the charge controller (see also "CHARGE CONTROLLER") in the core of the reel. To change the fuse, unscrew the cover from the reel. The glass bulb fuse on the charge controller can then be replaced.

### Temperature protection:

The series of these automatic cable reels with integrated charging electronics is dimensioned in such a way that no excessive heat is generated when the cable is reeled or unreeled. For protection in case of unusual heat development, a self-holding or self-switching temperature switch is installed, depending on the version. In the event of tripping, the charging of the electrically powered vehicle is interrupted. After a cooling phase, the temperature switch switches itself on or is reactivated by pressing the red temperature switch. Charging operation is resumed (see also "SIGNALING ELEMENTS").



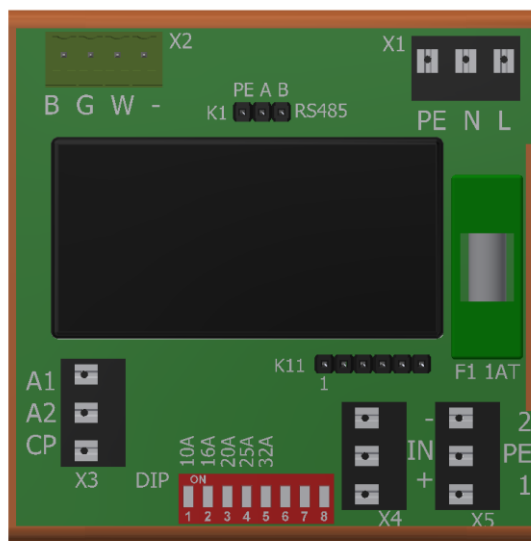
## Residual current protection



The DC guard integrated in the revider has a test button for checking the residual current protection. By pressing, a 6 mA DC residual current is generated. Then, the DC guard generates an AC residual current which triggers the residual current circuit breaker in the house distribution.

This functionality must be checked during the commissioning of the device and later once a year.

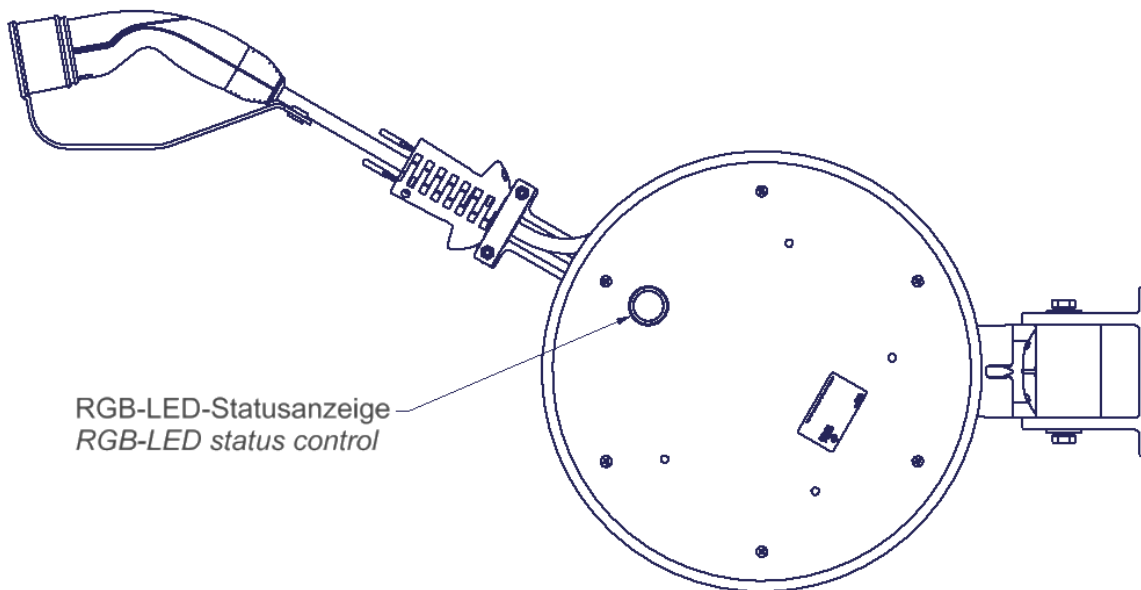
## charge controller



| Component | Description  |
|-----------|--|
| F1        | <b>Microfuse 5x20</b><br>1A slow   |
| DIP       | <b>Charge current setting</b><br>DIP 1 ON, DIP 2,3,4,5 OFF => 10 A<br>DIP 2 ON, DIP 1,3,4,5 OFF => 16 A<br>DIP 3 ON, DIP 1,2,4,5 OFF => 20 A<br>DIP 4 ON, DIP 1,2,3,5 OFF => 25 A<br>DIP 5 ON, DIP 1,2,3,4 OFF => 32 A<br><br>DIP 6 OFF, DIP 7 OFF => release contact<br><br><b>Attention:</b> The DIP setting may only be changed by a qualified electrician! |
| LED Power | <b>Power supply O.K.</b>   |
| LED Run   | <b>Flashing: processor in operational</b>  |

## signaling elements

### LAVOSCH Basic 038 (LVSB 038)



| Tint  | Description   |
|---|---|
| OFF   | Missing power supply<br>or micro fuse defective<br>or missing release (see release contact) |
| White permanent                                       | Operational   |
| GREEN permanent                                       | Vehicle detected  |
| BLUE permanent  | Charge active   |
| BLUE flashing<br>2 sec ON / 2 sec OFF                 | Request cooling   |
| GREEN/WHITE flashing<br>1 sec green / 1 sec white     | DIP switch set incorrectly  |
| GREEN/WHITE flashing<br>1,5 sec green / 0,5 sec white | Undefined voltage read in at the CP contact   |
| GREEN flashing<br>1 sec green / 1 sec OFF             | System error (please contact the manufacturer)  |

## ready for use

If necessary, the max. charging current must be set.

### Charging current setting:

The maximum charging current that the charging station provides the vehicle is set with DIP switches 1 - 5. This setting is made at the factory to the max. permissible value and sealed with locking varnish.

Before commissioning, please conduct an electrical check according to VDE 0100 or to the respective national standard. Check that the end of the pull-out cable is correctly fitted with a charging socket. After connecting to the power supply (see "CONNECTING"), the cable reel should be live and ready for use. The LED (status control) luminate permanent white.

If this is not the case, the protective devices must be checked (see "PROTECTIVE DEVICE").

**If the electronics of the automatic cable rewriter are defective, please contact the manufacturer (see "CONTACT").**



### **ATTENTION**

### **Danger to life from electric current!**

**Safety for life is only guaranteed if the monitoring device functions properly.**

## operation

### Starting charging process

1. The rewriter must be ready for operation the charging process. (LED: permanent white, see "READY FOR USE")
2. Pull out the extension cable to the desired length and lock.
3. The protection cap of the charging plug has to be removed.
4. The plug is to be inserted into the vehicle. The vehicle then recognizes the connected charging station. (LED: permanent green)
5. The charging process is started by the vehicle. (LED: permanent BLUE)

**Info:** For details about starting the charging process of the vehicle, please refer to the instructions of the vehicle manufacturer.

### Ending charging process

1. The charging process is ended by the vehicle. (LED: permanent GRÜN)
2. The charging plug has to be removed from the vehicle
3. the protection cap has to be pushed on the plug.
4. wind up the charging cable by pulling the cable briefly

**Info:** For details about ending the charging process of the vehicle, please refer to the instructions of the vehicle manufacturer.

## technical data

The cable reels consist of a plastic drum core with coated steel discs and a steel bracket. Is corrosion resistant and has very good winding and running characteristics due to the ball-bearing axle. The stable construction is designed for operation in factories and workshops.

- Spiral spring for approx. 30. 000 operations
  - Disengageable cable locking device
  - High quality flat slip rings 240 / 400V AC - 16A with double contacts
  - flexible and lockable cable guide
  - Mounting fixture WB 038 for wall installation (standard)
  - Mounting fixture DB 038 for ceiling installation (optional)
  - Weight: approx. 18,5kg
  - Ambient temperature range: -20°C bis 40°C
  - IP classification: IP 42
  - Construction: protection class I
  - Status-LED: 3 Colours (RYB)
  - Power consumption stand-by: 3,5W
  - Protection / internals
    - Temperature protection device: self-retaining Thermal switch (65°C±5°C)
    - Glass bulb fuse 5x20 400mA 1A slow
    - Installation contactor 4way 40A (control voltage 24V DC)
  - Input / power connection
    - Connecting cable (standard 2m / optional >2m)
      1. H07RN-F 3G2,5 (3,7kW) / H07RN-F 3G6 (7,4kW)
      2. H07RN-F 5G2,5 (11kW) / H07RN-F 5G6 (22kW)
    - Nominal Voltage 230V / 400V AC
    - Rated Current: 16A / 32A
    - Nominal frequency: 50Hz
    - 16A / 32A back-up fuse (optional or required by customer) recommended C-characteristic
    - RCCB type A, 30mA (optional or required on site)
    - DC residual current detection electronic, IΔn DC ≥ 6mA
  - Output / vehicle connection
    - Max. 10m extension cable with connector Typ 2 (optional Typ 1)
      1. 5G2,5 + 1x0,5 (11kW)                      3G2,5 + 1x0,5 (3,6kW)
      2. 5G6 + 1x0,5 (22kW)                      3G6 + 1x0,5 (7,2kW)
- Standards for the charging cable: IEC 60332-1; IEC 60228; DIN EN 50620; DIN EN 50363-10-2; DIN EN 50267-2-1; DIN EN 50363-10-2; ISO 4982-2
- Cable stopper with segmented gentle clamp 6 – 16 mm
  - Output Voltage: 230V / 400V AC
  - Maximum charging current [A]: 16 / 32
  - Maximum charging power [kW]: 3,6 / 7,4 (1ph) - 11 / 22 (3ph)
  - Communication EV according to IEC 61851-1, mode 3

The stated operating temperatures relate only to the standard cable reel as described above and do not apply to e.g. plug-in device. They are only as an exception part of the delivery. Specification for plug-in devices can be found within the relevant standard DIN EN 60390 or respectively DIN VDE 0620. **For other operating temperatures please contact us.**

Additional information with respect to cable types, spring tensions, power loads and weights can be found on the product rating plate, in our current product catalogue and also on our website

[www.schill.de/en](http://www.schill.de/en)

# automatic cable rewriter with integrated charging electronic installation and operating instruction

The dimensions, weights, lengths, colours and traction are subject to modifications. We cannot rule out discrepancies and we reserve the right to make technical changes to the product without giving advance notice.

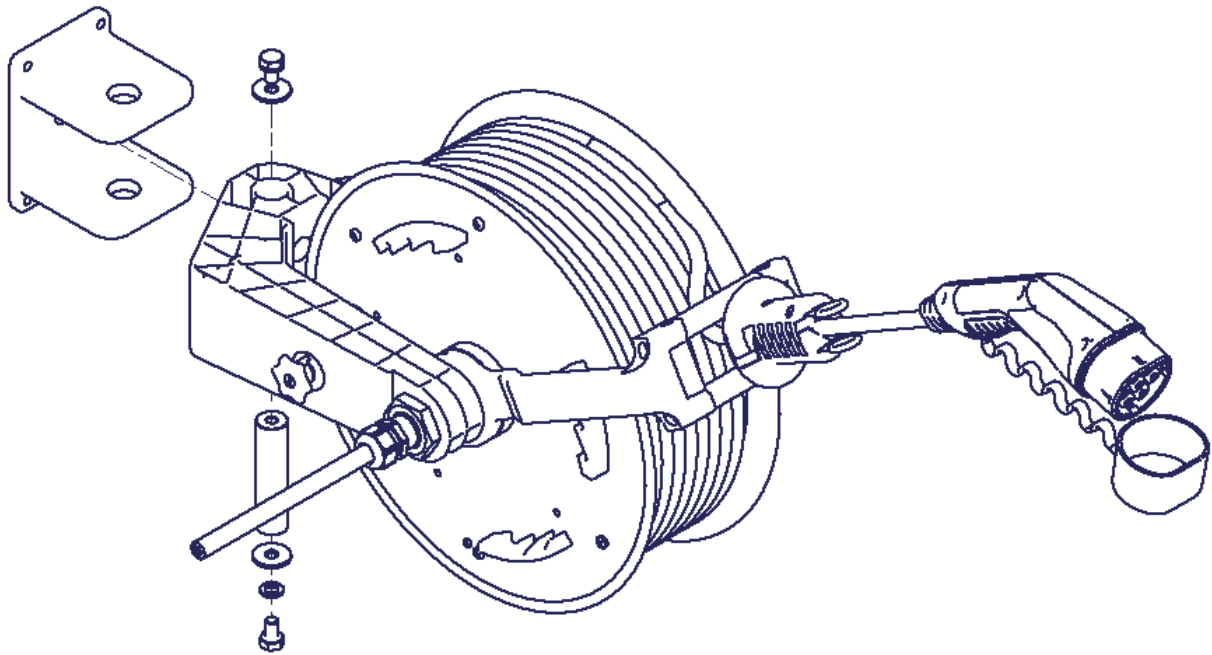
## installation height

The installation height of the cable rewriter is not limited. The maximum extension length is the specified cable length. The standard cables are designed to withstand the weight of the extended cable included cable stopper. Additional tensile forces (cause by additional weights for example) are not permitted.

When the cable is pull-out horizontally due to the weight of cable a slack occurs. This is about 10% of the cable pull-out length.

## fitting instruction

### Wall installation with universal holder WB038

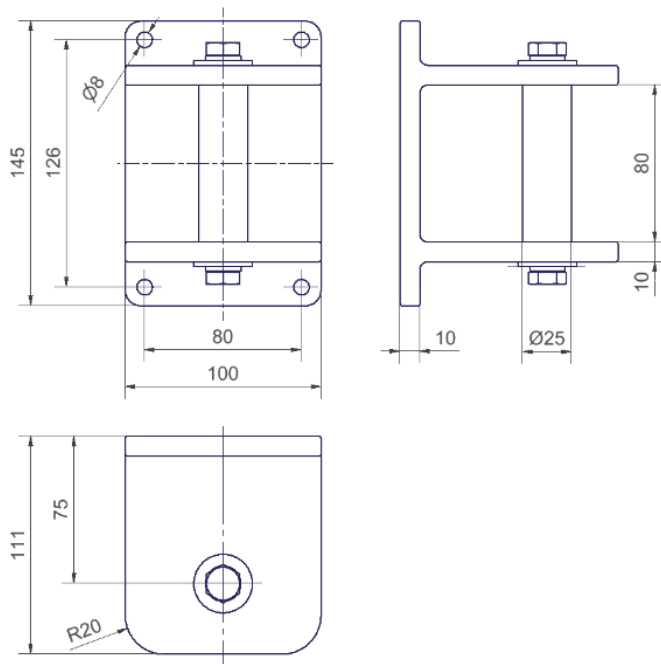


The cable reel can be rotated 150°.

Depending on the mounting height, the rotatable roller guide can be adjusted to the cable pull direction and fixed.

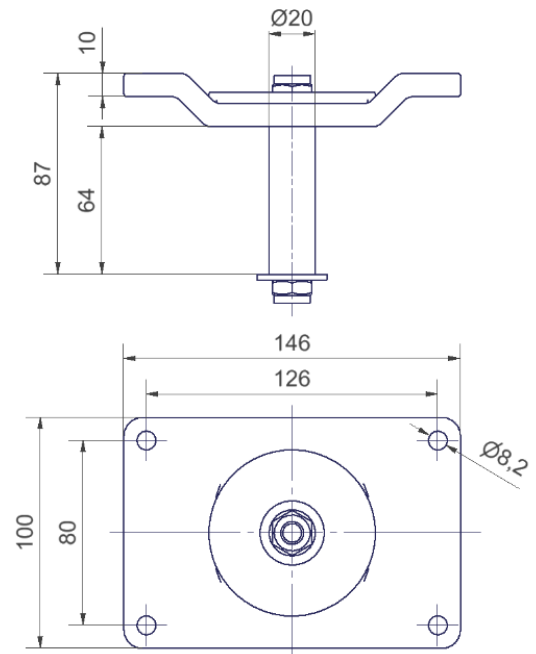
# automatic cable revider with integrated charging electronic installation and operating instruction

## Mounting fixture WB 038 for wall installation



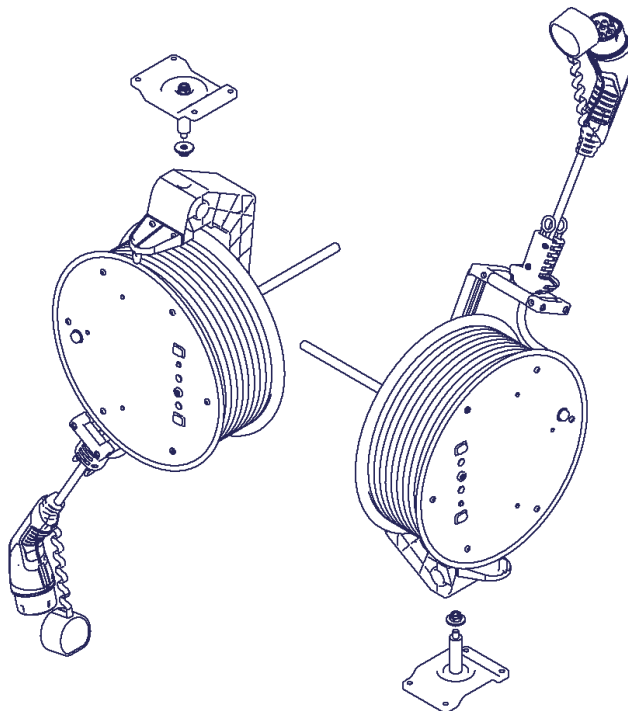
Mounting fixture WB 038 is included in the scope of supply, but no fastening screws.

## Ceiling installation rotating DB 038



Mounting fixture DB 038 and fastening screws are **not** in the scope of supply

## Ceiling and floor month with DB038



The swivel roller guide is to be adjusted to the cable extension direction and secured (screw connection) in this position.

### **⚠ ATTENTION**

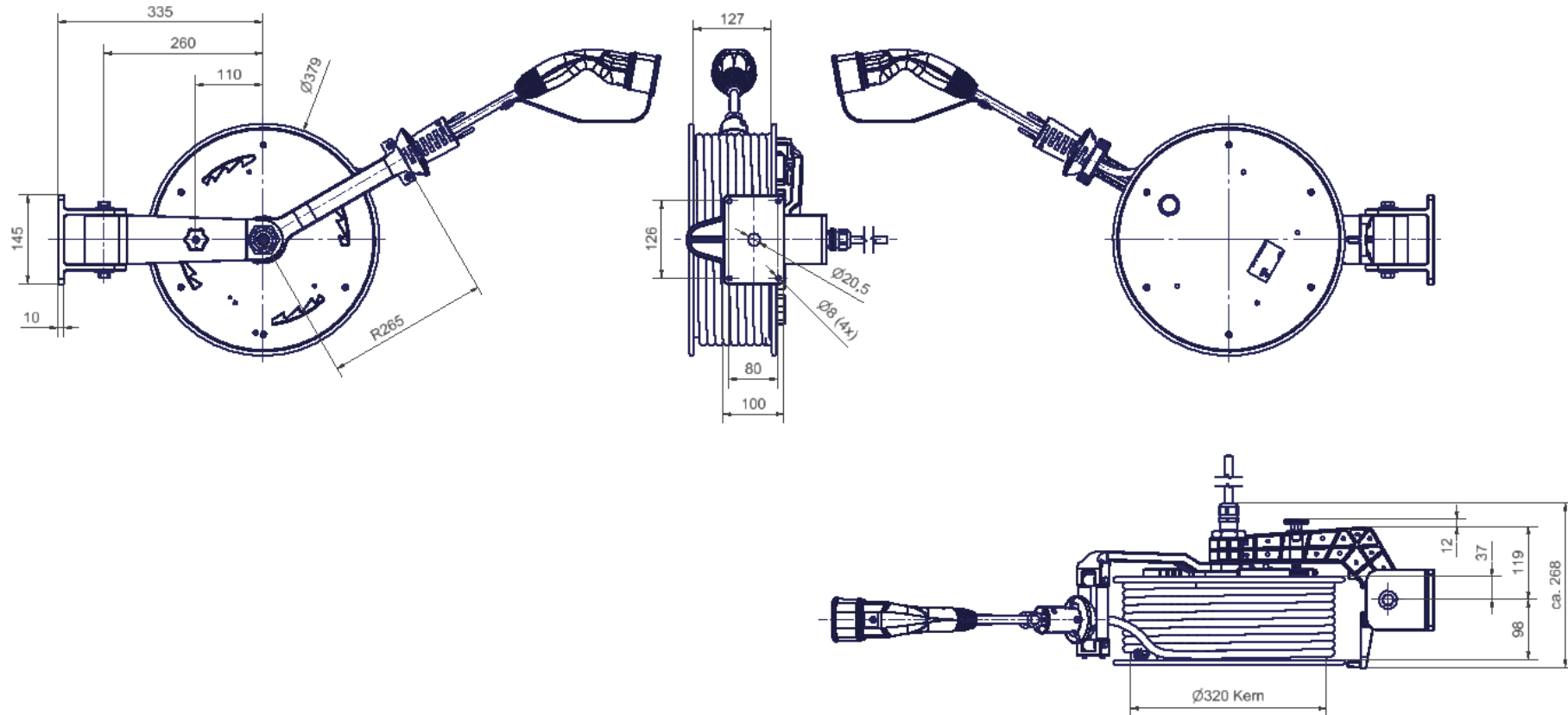
The extension cable swivels on a 360° axis. If repeated over-tightening, the connection cable can be mechanically stressed and torn off.

## tightening torque

|  |                   |
|--|-------------------|
| Gehäuseschrauben<br><i>Cover screws</i>                              | 0,8 Nm            |
| Sicherungsschraube. M8<br><i>Locking screw M8</i>                    | 0,8 Nm            |
| Zugentlastung<br><i>Strain relief</i>                                | 0,8 Nm            |
| Kabelstopper<br><i>Cable stopper</i>                                 | 0,8 Nm            |
| Schraubenmutter M30<br><i>Screw nut M30</i>                          | 40 Nm             |
| Kabelverschraubung<br><i>Cable gland</i>                             | 2,5Nm             |
| Elektrische Anschlüsse<br><i>Electrical connections</i>              | 0,5 Nm            |
| MS-Schleifring Mutter M3,5<br><i>MS slip ring nut M3,5</i>           | 0,3 - 0,35 Nm     |
| MS-Schleifring Schraube M3<br><i>MS slip ring screw M3</i>           | 0,6 - 0,7 Nm      |
| Doppelschenkelhalter M5/M6/M8<br><i>Double brush holder M5/M6/M8</i> | 2,8 / 4,8 / 10 Nm |
| Schleifringkörper M5/M6/M8<br><i>Slip ring body M5/M6/M8</i>         | 2,8 / 4,8 / 10 Nm |

# automatic cable rewriter with integrated charging electronic installation and operating instruction

## dimension



Die Informationen zum Umgang mit Ihren personenbezogenen Daten gemäß Art. 13 und 14 DSGVO finden Sie unter <https://www.schill.de>



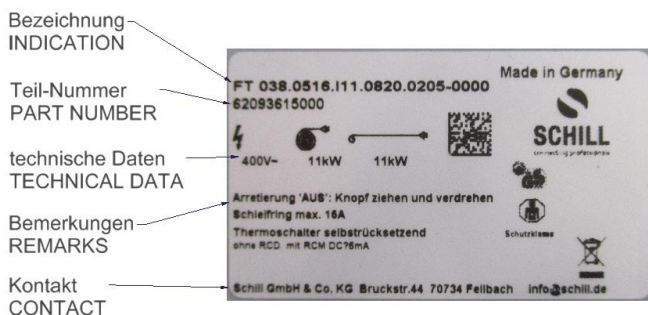
# Automatik-Kabelaufroller mit integrierter Ladeelektronik Montage- und Bedienungsanleitung

## declaration of conformity

Declarations of conformity are available at <https://www.schill.de/en/downloads/> or upon request (see "CONTACT")

## spare part order

If you require spare parts, please contact our local distribution partner or give us a ring on +49 711/ 578807-0 or send a mail at [sales@schill.de](mailto:sales@schill.de). Please have the product number or the part number and the indication ready.



## disposal

If the charging station is finally taken out of operation, the individual components must be disposed professionally in a recycling plant.

## contact

### Administration Fellbach

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E-Mail: [info@schill.de](mailto:info@schill.de)

## changes

| version | changes | date |
|---------|---------|------|
|         |         |      |
|         |         |      |
|         |         |      |