Akapp-Stemmann
A Wabtec Activity

*Flexible with energy!*

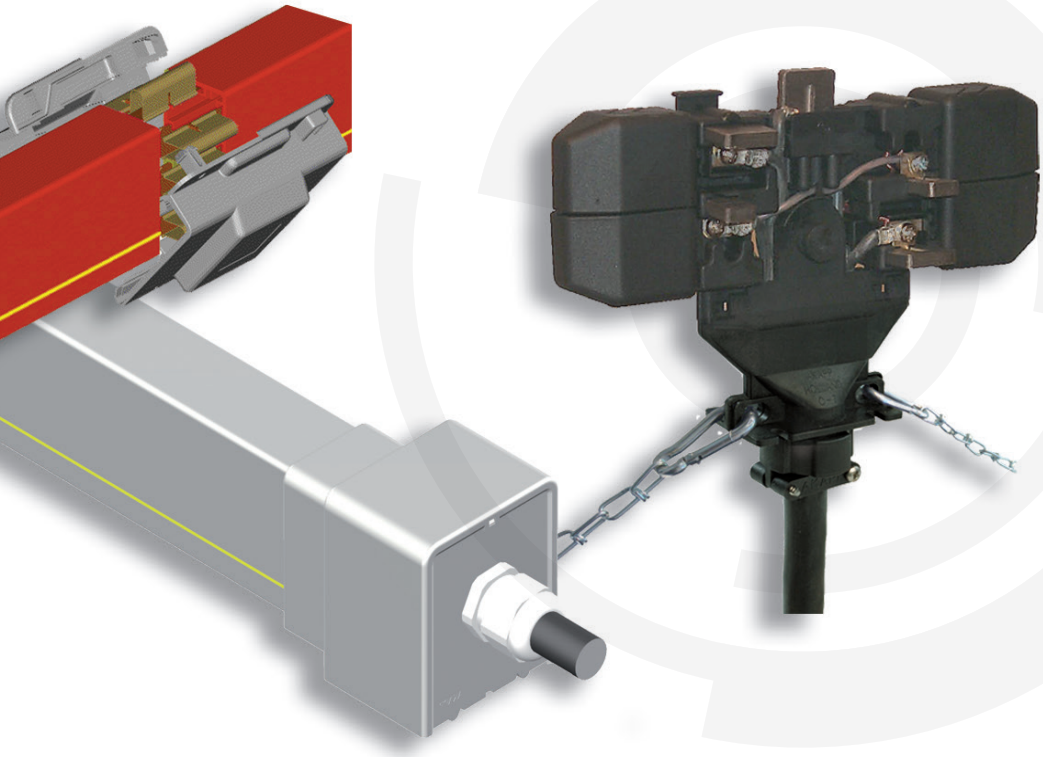
Wabtec Netherlands B.V.
Darwinstraat 10
NL 6718 XR Ede
The Netherlands

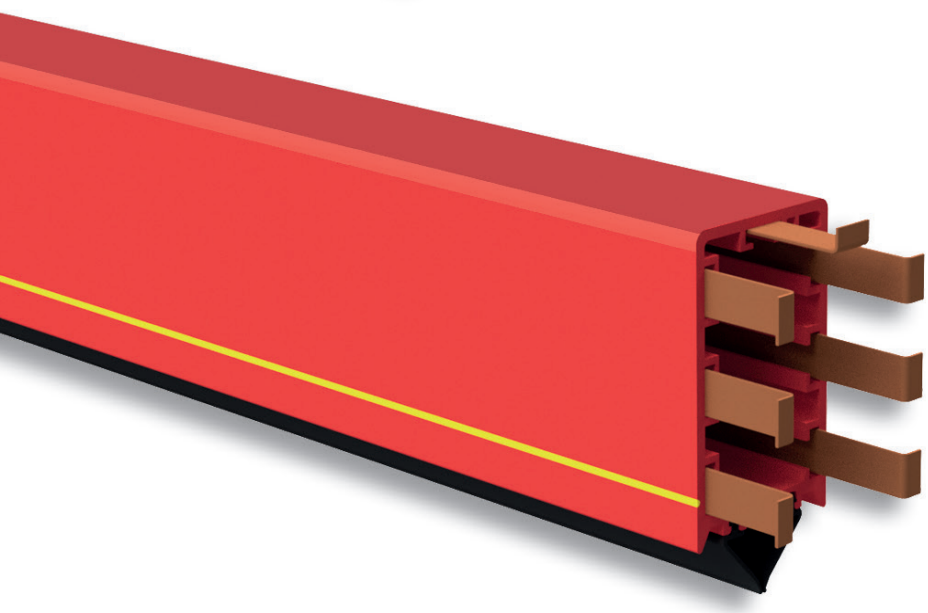
Phone +31 (0)88 600 4500
E-mail info@akapp.com
URL www.akapp.com

# Conductor system Click-Ductor®

## Insulated conductor system with 4, 5 or 7 conductors

*Technical information*











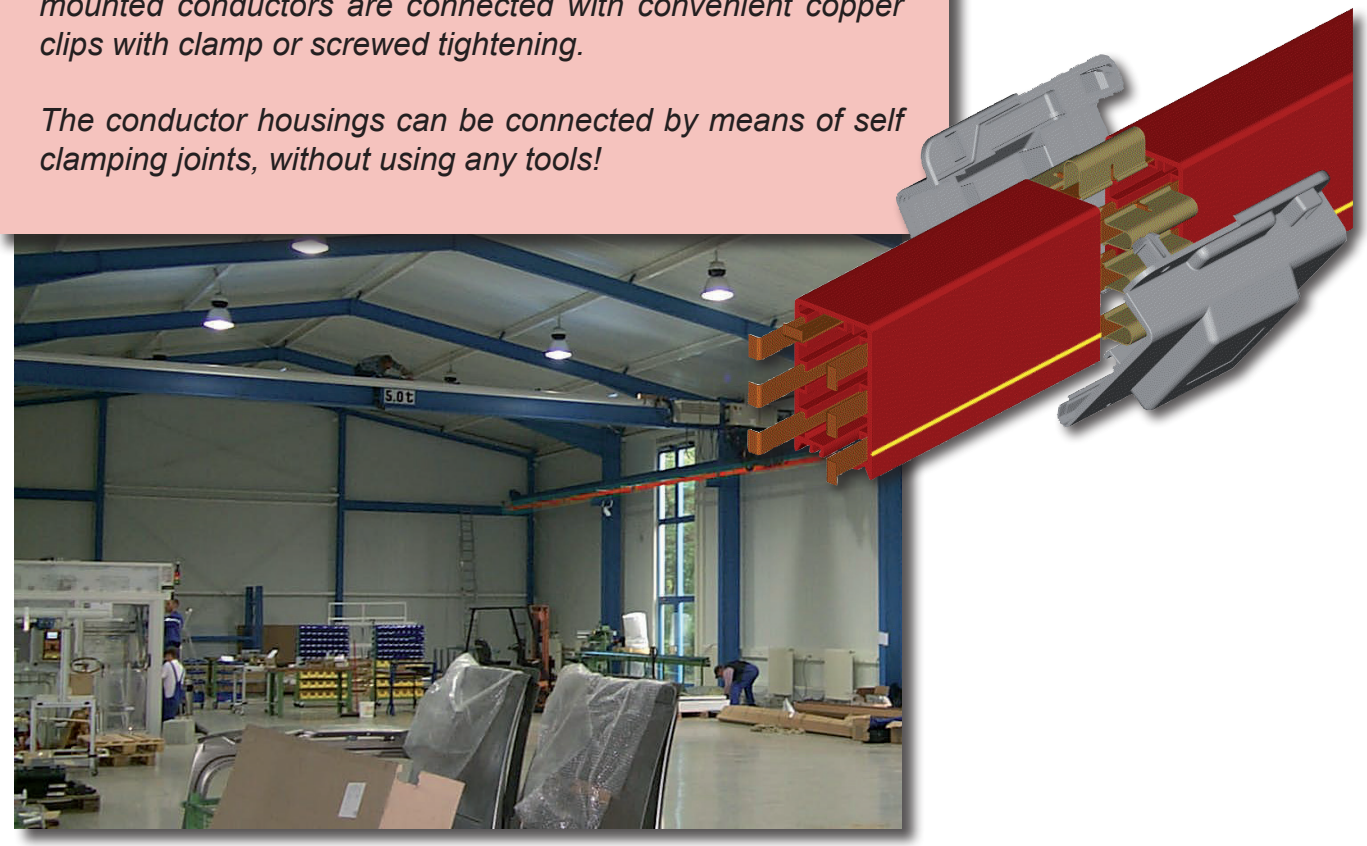

# Akapp-Stemmann Click-Ductor®

- **The reliable conductor system for cranes, hoists, conveyors and many other applications**
- **Current capacities: 50, 80, 110, 125, 160, 200, 250, 320 and 400A**
- **Conductor housing available with 4, 5 or 7 conductors**
- **Adjustable to almost all heights**
- **Flexible sealing against dust, moisture and humidity**
- **Long tracks possible**
- **Easy and fast mounting**
- **Virtually maintenance free**



*Akapp-Stemmann Click-Ductor system has a unique concept. Based on free expansion of housing and conductors. The pre-mounted conductors are connected with convenient copper clips with clamp or screwed tightening.*

*The conductor housings can be connected by means of self clamping joints, without using any tools!*




All dimensions in this brochure in mm, unless stated otherwise.
All data and versions mentioned in this brochure are subject to change without notice.
No rights can be derived from this information in any way.
Wabtec Netherlands B.V. is not liable for damage resulting from the use of this information.

# Click-Ductor® conductor system

## combination of flexibility and efficiency!

Compact, reliable and safe power supply fitted with an easy click-system, for e.g. cranes and hoisting equipment.

The unique construction combines flexibility and efficiency. Click-Ductor can be used for both indoor and outdoor applications.

This brochure provides a brief summary of the extensive possibilities of the system.

For further information we refer to our web site: www.akapp.com.

We refer to the front cover of this brochure for detailed information on our address.

---

**Some important features:**

**Optimum reliability** is assured by the advantages listed below.

**Quick and easy installation**, based on the well-designed click-system by which the conductors are mutually connected and the joint clamps without screw connection.

**Up to 7 copper channels**. The copper channels offer sufficient room for 4, 5 or 7 conductors, as required. The 7-pole performance offers parallel mounting of the conductors for higher current capacities.

**6 types of conductors.** The flat copper conductors, suitable for current capacities up to 50A, 80A, 110A, 125A, 160A and 200A.

**High current capacity**. Standard up to 400A with parallel-mounted conductors.

**Easy-to-connect conductors.** The flat copper conductors, which have been provided within the synthetic housing, can be connected quickly and easily by means of a simple, patented, click-system. Unique! For current capacities higher than 110A the conductors will be connected by means of screw connectors.

**Joint clamps without screw connection.** The joint clamps are clicked on effortlessly, whilst no tools are used!

**Easy to be removed rail sections.** Due to the fact that the outer ends of the copper conductors are positioned against one another, the housing can easily be removed whilst the other housings do not need to be moved.

**Yellow uninterrupted earth marking.** Clearly indicates the earth conductor. Safety!

**Compact construction.** The housing is 51.4 mm wide and the height is 86.25 mm. It is therefore nearly always suitable for all situations.

**Long track lengths possible.** Track lengths up to 800 m (including central feeding) can be obtained. This is applicable for outdoor installations as well.

**Subsequent system extensions possible.** It is generally possible to increase the length of an existing system utilising standard components.

**Dust, moisture and humidity protection**. For these conditions the Click-Ductor housing RC7 can be totally closed by the use of special flexible sealing strips.

**Anti reverse rib.** Prevents improper installation of the collector trolley into the conductor housing.

**Contact safe.** Due to the high insulation value of the synthetic material, the operational safety has significantly improved. Moreover, the conductor RC7 has a conspicuous red colour, which improves safety as well.

**Self-extinguishing**. For safety reasons the housing materials are self-extinguishing.

**Degree of protection IP 44**. Click-Ductor **with** flexible sealing strips meets degree of protection IP 44. Without sealing strips the degree of protection is IP23.

*Akapp-Stemmann Click-Ductor offers easy and quick mounting, low maintenance, is contact safe and has a very attractive price/quality ratio!*

# Click-Ductor® housings RC4 and RC7

## complete segments, connection accomplished in seconds!

In the PVC housing RC4 4 copper conductors are provided. The PVC housing RC7 has 7 channels in which 4, 5 or 7 conductors, upon demand, are positioned. The capacity depends on the requirement.

The availability of the housing is either 3 or 4 metres. Connection of the housings is established by means of joint clamps. Clamps connect the conductors. No screws are needed; installation is effected by means of simply clicking!

An anti-reverse rib (A) on top of the housing prevents cross phasing, incorrect placement of a collector trolley in the conductor system. A continuous yellow marking (B) on one side of the housing simplifies correct mounting of the system. The PVC-housing is self-extinguishing.

The housing RC7 can be provided with flexible rubber strips. As such penetration of dust and moisture can be minimised as a result of which an optimum of reliability is ensured!

**Type RC4**
with 4 copper conductors.

Color housing: grey.
Temperature range: -20 °C up to +50 °C.
Suitable for indoor applications.

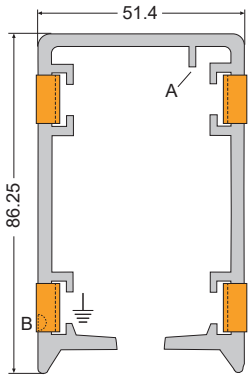
**Type RC7-4**
with 4 copper conductors. Housing suitable for AS7 sealing strips (see picture right).

Color housing: signal red.
Temperature range: -20 °C up to +50 °C.
Suitable for indoor and outdoor applications.

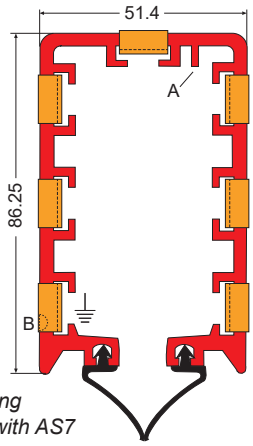
**Type RC7-5**
Housing equal to RC7-4, however with 5 copper conductors. Temperature range: -20 °C up to +50 °C. Suitable for indoor and outdoor applications.
*Only available on special request.*

**Type RC7-7**
Housing equal to RC7-4, however with 7 copper conductors. Temperature range: -20 °C up to +50 °C. Suitable for indoor and outdoor applications.

All Click-Ductor rail types are available in lengths of 3 metres and 4 metres. For a complete overview of all available rail types including copper conductors, please see the table on page 5.



*Housing RC4*



*Housing RC7 with AS7*

### Technical data of housings

**Material**
Unplasticized Hard-PVC with approximate values:

| | |
|---|---|
| Notch shock strength | 5-10 kJ/m² |
| E-modulus | 2500-3000 N/mm² |
| Softening point (Vicat) | 81-83°C |
| Lineair expansion | 70.10⁻⁶ m/m/°C |

**Elektrical data**

| | |
|---|---|
| Max. voltage | 690V (CE/CCC)<br>600V (UL) |
| Volume resistivity with 100 V | >4.10¹⁵ Ω/cm |
| Dielectric strength with 50 Hz | >30 kV/mm |
| Flame class UL94 | V0 |

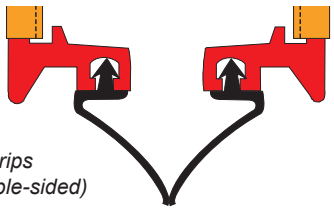
Length of housing 3 m and 4 m

### Flexible sealing strips AS7 (art.no. 1004000)

**Type AS7-C chloroprene, duplo**, color black

This is used to ensure the suitability of a Click-Ductor RC7 system for application in a **dusty** or **humid** atmosphere. This **double-sided** sealing (see figure next) is also a very effictive protection against corrosion of the copper conductors! It is recommended for **all outdoor systems**.

Rail type RC7 **with AS7** meets protection degree **IP44** and is permitted to be mounted on every desired height.

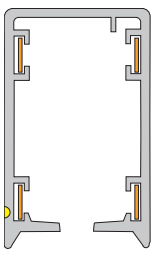

*Sealing strips AS7 (double-sided)*

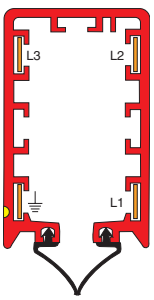
### Conductors in the housings

The conductors have been positioned into the housings as illustrated on the right-hand side.

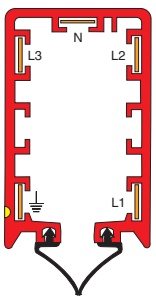
Indication of a conductor housing including copper strips is e.g. **RC7-7-50**.

RC7 = type of housing
7 = number of conductors
50 = capacity of the conductors

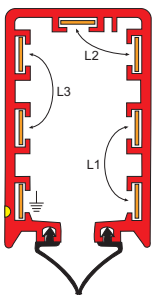

*Housing RC4, standard 4-poles*



*Housing RC7, standard 4-poles*



*Housing RC7, 5-poles (available only on request)*



*Housing RC7, standard 7-poles, parallel conductors*

# Click-Ductor® railtypen RC4 and RC7:

## overview of available types

This page shows an overview of all available Click-Ductor RC4 and RC7 types.

Alle types are deliverable in both 3 metre and 4 metre sections. Combining these lengths makes practically every system length possible.

Housing types RC7 can be fitted with double sided chloroprene sealing strips AS7 (see also page 4). These strips need to be ordered separately.

The maximum current capacity per rail type, presented in the table below, is valid with duty cycle (D.C.) of 80%, however the current capacity for 200A conductor systems is valid with 60% D.C..

If you need more information about the possibilities of Click-Ductor housings, please contact our sales department.

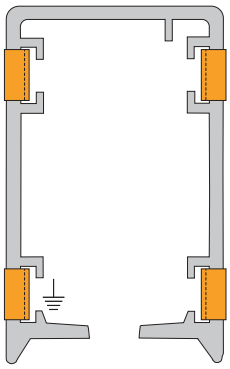
| AKAPP NO. | DESCRIPTION | Imax 80% D.C. (A) | max 80% D.C. (A) Parallel Cu | max. track length (m) ** |
|---|---|---|---|---|
| **Rail type RC4 Length 3 metres** | | | | |
| 2101065.B0000 | Rail section grey RC4-4-50/3M, 4 poles, 50 A | 50 | | 200 |
| 2101265.B0000 | Rail section grey RC4-4-80/3M, 4 poles, 80 A | 80 | | 360 |
| 2110490 | Rail section grey RC4-4-110/3M, 4 poles, 110A | 110 | | 500 |
| 2110500 | Rail section grey RC4-4-125/3M, 4 poles, 125A | 125 | | 800 |
| 2110510 | Rail section grey RC4-3-160/1-125/3M, 4 poles, 160A | 160 | | 800 |
| 2110520 | Rail section grey RC4-3-200/1-125/3M, 4 poles, 200A | 200 *) | | 800 |
| **Rail type RC4 Length 4 metres** | | | | |
| 2101075.B0000 | Rail section grey RC4-4-50/4M, 4 poles, 50 A | 50 | | 200 |
| 2101275.B0000 | Rail section grey RC4-4-80/4M, 4 poles, 80 A | 80 | | 360 |
| 2110370 | Rail section grey RC4-4-110/4M, 4 poles, 110A | 110 | | 500 |
| 2110380 | Rail section grey RC4-4-125/4M, 4 poles, 125A, | 125 | | 800 |
| 2110390 | Rail section grey RC4-3-160/1-125/4M, 4 poles, 160A | 160 | | 800 |
| 2110400 | Rail section grey RC4-3-200/1-125/4M, 4 poles, 200A | 200 *) | | 800 |
| **Rail type RC7 Length 3 metres** | | | | |
| 2103065.B0000 | Rail section red RC7-4-50/3M, 4 poles, 50 A | 50 | | 200 |
| 2103365.B0000 | Rail section red RC7-4-80/3M, 4 poles, 80 A | 80 | | 360 |
| 2110530 | Rail section red RC7-4-110/3M, 4 poles, 110A | 110 | | 500 |
| 2110540 | Rail section red RC7-4-125/3M, 4 poles, 125A | 125 | | 800 |
| 2110550 | Rail section red RC7-3-160/1-125/3M, 4 poles, 160A | 160 | | 800 |
| 2110560 | Rail section red RC7-3-200/1-125/3M, 4 poles, 200A | 200 *) | | 800 |
| 2103155.B0000 | Rail section red RC7-7-50/3M, 7 poles, 50 A | 50 | | 200 |
| 2103455.B0000 | Rail section red RC7-7-80/3M, 7 poles, 80 A | 80 | | 360 |
| 2110570 | Rail section red RC7-7-110/3M, 7 poles, 110A | 110 | 220 | 500 |
| 2110580 | Rail section red RC7-7-125/3M, 7 poles, 125A | 125 | 250 | 800 |
| 2110590 | Rail section red RC7-7-160/3M, 7 poles, 160A | 160 | 320 | 800 |
| 2110600 | Rail section red RC7-7-200/3M, 7 poles, 200A | 200 *) | 400 *) | 800 |
| **Rail type RC7 Length 4 metres** | | | | |
| 2103075.B0000 | Rail section red RC7-4-50/4M, 4 poles, 50 A | 50 | | 200 |
| 2103375.B0000 | Rail section red RC7-4-80/4M, 4 poles, 80 A | 80 | | 360 |
| 2110410 | Rail section red RC7-4-110/4M, 4 poles, 110A | 110 | | 500 |
| 2110420 | Rail section red RC7-4-125/4M, 4 poles, 125A | 125 | | 800 |
| 2110430 | Rail section red RC7-3-160/1-125/4M, 4 poles, 160A | 160 | | 800 |
| 2110440 | Rail section red RC7-3-200/1-125/4M, 4 poles, 200A | 200 *) | | 800 |
| 2103165.B0000 | Rail section red RC7-7-50/4M, 7 poles, 50 A | 50 | | 200 |
| 2103465.B0000 | Rail section red RC7-7-80/4M, 7 poles, 80 A | 80 | | 360 |
| 2110450 | Rail section red RC7-7-110/4M, 7 poles, 110A | 110 | 220 | 500 |
| 2110460 | Rail section red RC7-7-125/4M, 7 poles, 125A | 125 | 250 | 800 |
| 2110470 | Rail section red RC7-7-160/4M, 7 poles, 160A | 160 | 320 | 800 |
| 2110480 | Rail section red RC7-7-200/4M, 7 poles, 200A | 200 *) | 400 *) | 800 |
| **Sealing strip AS7** | | | | |
| 1004000 | Sealing strip AS7-C chloroprene, duplo | | | |

*) *60% D.C.*

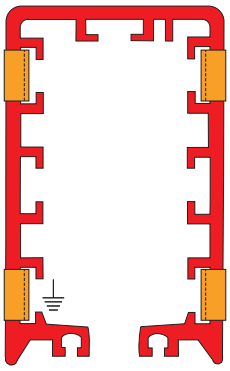
**) *Lengths valid for systems with centre feed (fixed point in the middle); for systems with end feed these lengths should be divided by 2.*

Rail type RC7-5 on request

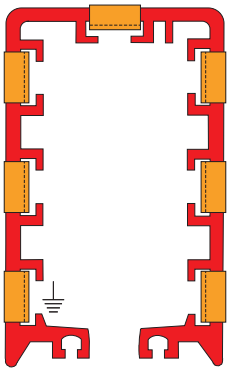
*Click-Ductor type RC4-4-..*



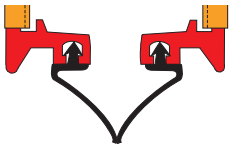
*Click-Ductor type RC7-4-..*



*Click-Ductor type RC7-7-..*



*Sealing strip type AS7-C*



# Hanging and fixing of the housing:

## free expansion at all times!

The principle of Akapp-Stemmann conductor bar systems with clicked or screwed conductors is based on the free expansion of the pvc housing and the internal conductors. The conductor housing is therefore suspended in sliding hangers in which these conductors - upon the occurrence of differences of expansion - can slide continuously and who are fixed at the feed point only by means of a **fixed point clamp** at the construction. Sliding hangers and fixed point clamps are available in 2 types, for maximal adaption to the environmental conditions. See adjacent frame.

**Finishing of metal sliding hangers and joints**

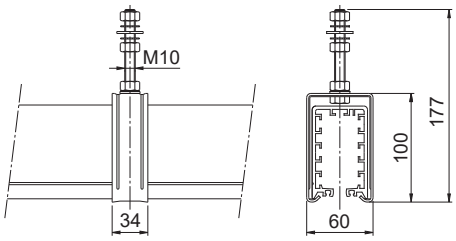
**Type Z** - Galvanised, for **normal indoor installations**.

**Type L** - Galvanised + epoxy coated, for **indoor and outdoor installations**.

### Sliding hanger

**Type BN7-Z** and **Type BN7-L**
The sliding hangers are fastened to the suspension frame by means of a bolt. As such the installation can be **aligned vertically**.
Centre distance of hanger supports:

1355 mm : all copper capacities; indoor and outdoor installations
2032 mm : all copper capacities; indoor installations only.

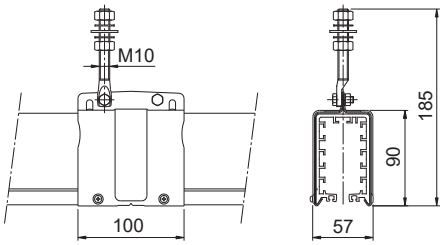


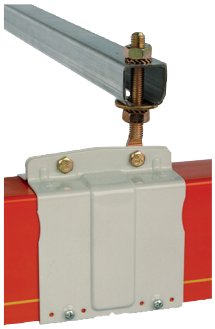



*BN7-L*

### Fixed point clamp

**Type VMN7-Z** and **Type VMN7-L**
The complete conductor installation is to be fastened to the suspension frame by means of a self-gripping fixed point clamp. As of this location, the conductor housing can slide freely in the sliding hangers when expansion differences, due to temperature variation, occurs.



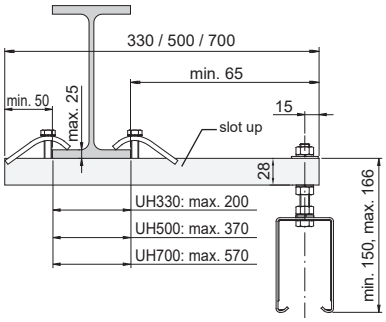
*VMN7-L*

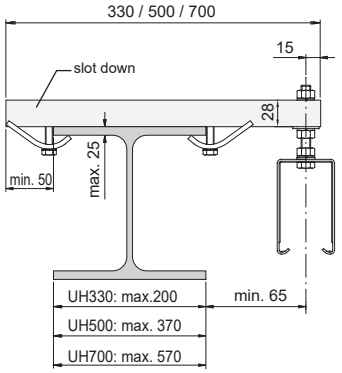
### Support bracket

**Type UH330** : L=330 mm, galvanised
**Type UH500** : L=500 mm, galvanised
**Type UH700** : L=700 mm, galvanised

Special length on request. These brackets have clamps attached to sliding nut assemblies thus facilitating a flexible mounting arrangement capable of accomodating various sizes of RSJ (INP) beams, allowing simple **horizontal alignment**.

**Note**: For fast mounting on site, **pre-mounted** support brackets with sliding hanger are available on request! See page 16 for more info.




| AKAPP NO. | DESCRIPTION | | ambient is dry | ambient is humid |
|---|---|---|---|---|
| 1004570 | Sliding hanger galvanised | BN7-Z | x | |
| 1004650 | Sliding hanger epoxy coated | BN7-L | | x |
| | | | | |
| 1004960 | Fixed point clamp galvanised | VMN7-Z | x | |
| 1005070 | Fixed point clamp galv. + epoxy c. | VMN7-L | | x |

| AKAPP NO. | DESCRIPTION | length (mm) |
|---|---|---|
| 1018010 | Support bracket galv. 330mm UH330 | 330 |
| 1018160 | Support bracket galv. 500mm UH500 | 500 |
| 1018320 | Support bracket galv. 700mm UH700 | 700 |

# Click-Ductor® copper connections

## quick and sure by clicking or screwing

The opposite segments of the copper conductors within each housing of a Click-Ductor system are connected to each other in a fast, simple and effective way.

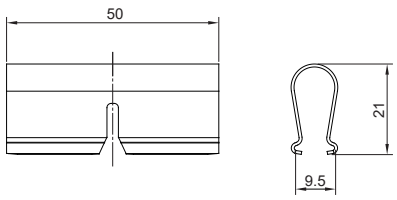
Copper connectors are available with click or screwed fastening. Which type is applied, depends on the maximum current of the mounted copper conductors.

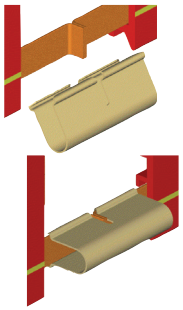
Copper connectors with click fastening is applicable for copper conductors 50A, 80A and 110A. For higher current capacities copper connectors with screwed fastening should be used.

The copper connections are covered by means of a joint clamp, consisting of 2 halves with a simple click fastening.

### Connectors

1. **Copper connectors with click fastening**:
   **Type Cu-C**: For joining copper conductors 50A and 80A. The resilient brass clamps automatically click on the outer ends of the strips. A recess as provided within the clamp ensures that the strips will continuously be held together. The requiered number of connectors is to be ordered separately.



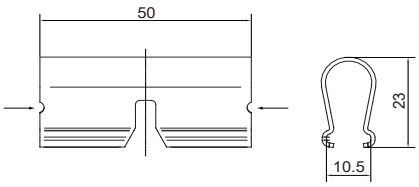



*Mounting the connector Cu-C*

2. **Copper connectors with click fastening**:
   **Type Cu-CL**: For joining copper conductors 110A. These clamps are similar to the type Cu-C, however suitable for current capacities up to 110A (80% D.C.). On both sides a marking is provided (see drawing).

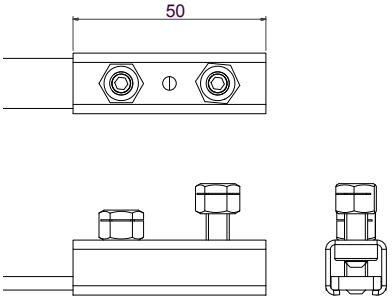
   The requiered number of connectors needs to be ordered separately.

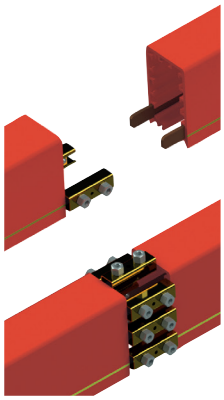
   For current capacities above 110A copper connectors with screw fastening are used (see below).




3. **Copper connectors with screw fastening**:
   **Type Cu-S**: For joining copper conductors 125A, 160A and 200A. The copper conductors are connected to each other by means of a solid screw fastening. Fastening the nuts results in a very dependable and sure connection. The special lock nut ensures the correct tightening torque of the pin and ensures that it does not vibrate loose.

   These systems with copper conductors 125A, 160A and 200A have **pre-mounted** clamps, that do not have to be ordered separately.



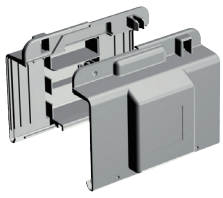



*Mounting the connector Cu-S*

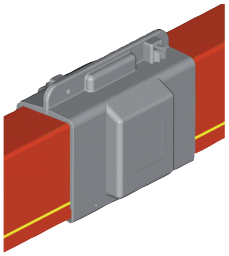
### Joint clamp

**Type VC**: plastic
The joint clamp consists of 2 half parts which can easily be mutually connected by means of a click-connection.
The joint clamps have two recesses, which are provided at the inner side, in order to fasten the clamps and conductor housings.

Protection degree IP23. Also available in protection degree IP44.



*Joint clamp VC seperate halves*



*Joint clamp VC mounted*

| AKAPP NO. | DESCRIPTION | |
|---|---|---|
| 2105450 | Copper connection clamp for RC4/7, 50A-80A | Cu-C |
| 2105460 | Copper connection clamp for RC4/7, 110A | Cu-CL |
| 2105060 | Screw connector for RC4/7, 125A-160A-200A | Cu-S |
| 2105400 | Joint clamp | VC |
| 2105420 | Joint clamp, protection degree IP44 | VC-IP44 |

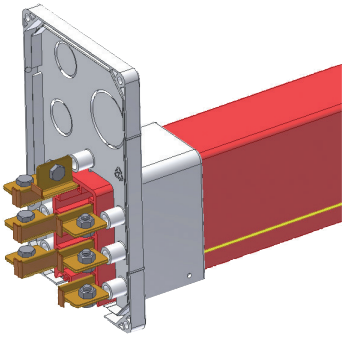
# End feed boxes

## efficient and reliable solutions

End feed boxes are used for the connection of the feeder cable to the extreme end of the Click-Ductor system (see picture).

All feed boxes are fitted with metric glands. It is possible to use extra glands and/or several diameter ranges from type EB40.

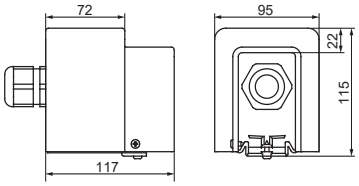
End feed clamps are required for connection of copper conductors 125A or 160A (see details below).

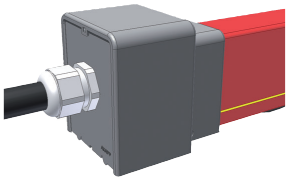


*EB40 (opened)*

### End feed boxes

**Type EBS32**
Compact end feed box with cable gland M32, suitable for cables Ø18-Ø21 mm. Connecting screws M6 included.

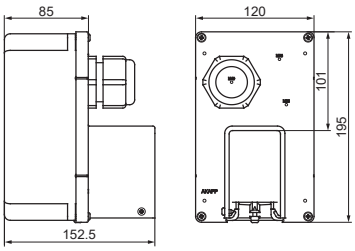


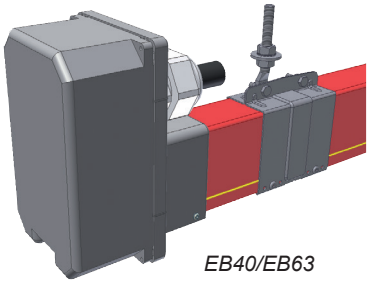



*EBS32*

**Type EB40**
End feed box for with cable gland M40, suitable for cables Ø22-Ø27 mm. The push-through holes offer easy mounting of various cable glands. Connecting screws M6 included.

**Type EB63**
As end feed box EB40, with cable gland M63, suitable for cables Ø37-Ø44 mm.

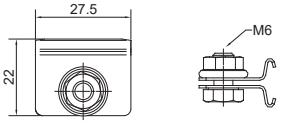


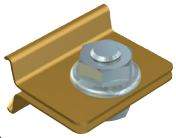



*EB40/EB63*

### End feed clamps

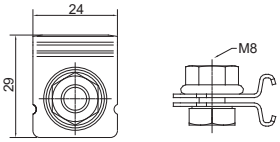
**Type RC-EC80**
Required for connecting copper conductors Cu50A or Cu80 to the end feed box. To be ordered separately.

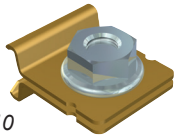


*RC-EC80*

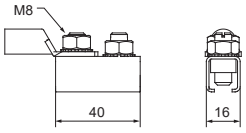
**Type RC-EC110**
Required for connecting copper conductors Cu110 to the end feed box. To be ordered separately.

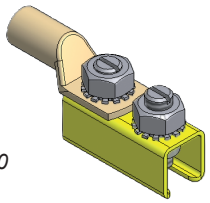


*RC-EC110*

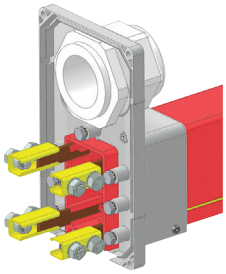
**Type LC200**
Required for connecting copper conductors 125A, 160A or 200A to the end feed box (**max. 4 conductors**). To be ordered separately.



*LC200*

| AKAPP NO. | DESCRIPTION | | outer diameter feeder cable Ø (mm) | max. occupation copper conductors | Imax (80% D.C.) non-parallel (A) | IP-class excl. AS7 sealing strip | IP-class incl. AS7 sealing strip |
|---|---|---|---|---|---|---|---|
| 1006830 | End feed box 1xM32 | EBS32 | 18-21 | 4xCU80 / 7xCU50 | 80 | IP23 | IP44 |
| 1006800 | End feed box 1xM40 | EB40 | 22-27 | 4xCU125 / 7xCU80 | 125 | IP23 | IP44 |
| 1006810 | End feed box 1xM63 | EB63 | 37-44 | 4xCU200 / 7xCU80 | 173 | IP23 | IP44 |
| 1006820 | End feed box | EB | no cable glands | | | IP23 | IP44 |
| 2109000 | End feed clamp | RC-EC80 | | | 80 | | |
| 2109005 | End feed clamp | RC-EC110 | | | 110 | | |
| 1013000 | Feed clamp | LC200 | | | 200 | | |



*EB63 + LC200*

# Line feed boxes

## designed for more flexibility

Lines feed boxes are used for the connection of the feeder cable on any random point of the system. The feeder cable, connected to line feed clamps, is kept in place by the line clamp holder that partly slides over the 2 housing parts in which up to 7 line feed clamps can be fitted.

Basis of all the line feed boxes is the modular collar that is equipped with push through holes to fit various glands M32 to M63 in size. For custom configurations, you can easily add glands by removing the pre-cut sections.

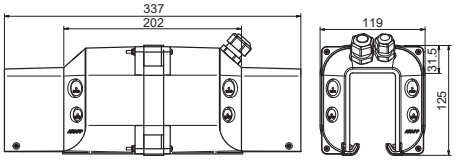
The line feed clamp holder (LCH) connects 2 adjacent rail housings and holds the line feed clamps at the same time.

Then the line feed clamps are connected to a power cable. Cover comes over the collars and clicks into position.

### Line feed boxes types LB

**Type LBS**

Line feed box for connection of copper conductors up to 80A. With 1 gland M20 for cables Ø7-Ø12 mm and 1 gland M16 for cables Ø5-Ø8 mm.





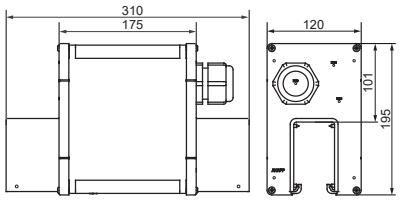

*LBS*

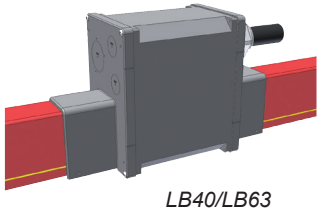
**Type LB40**

Line feed box for connection of copper conductors up to 125A. With 1 gland M40 for cables Ø22-Ø27 mm.

**Type LB63**

Line feed box for connection of copper conductors up to 200A. With 1 gland M63 for cables Ø37-Ø44 mm.



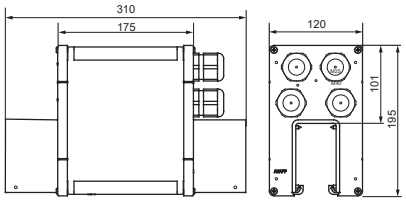
*LB40/LB63*

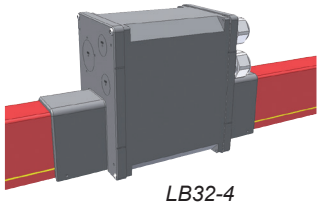
**Type LB32-4**

Similar to LB63, with 4 glands M32 for cables Ø18-Ø21 mm.

**Type LB32-7**

Similar to LB32-4, with 7 glands M32 for cables Ø18-Ø21 mm.



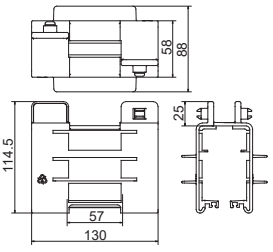
*LB32-4*

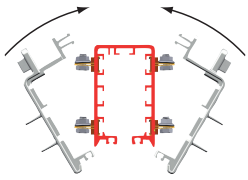
### Line feed clamp holders

**Type RC-LCH**

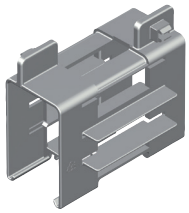
Applicable for line feed connections with continuous copper (all sizes), irrespective the number of poles. When mounting, the line feed clamp holder (2 halves) clamps over 2 adjacent rail housings with the line feed clamps already fitted to the copper conductors. See figure.

The required line feed clamps have to be ordered separately.



*Mounting RC-LCH*



*RC-LCH*

| AKAPP NO. | DESCRIPTION | | outer diameter feeding cable Ø (mm) | max. number of copper conductors | Imax (80% D.C.) non-parallel (A) | Imax (80% D.C.) parallel switched (A) | IP-class excl. AS7 sealing | IP-class incl. AS7 sealing |
|---|---|---|---|---|---|---|---|---|
| 1011890 | Line feed box 1xM20/1xM16 | LBS | 1x 7-12 - 1x 5-8 | 4xCU50 / 7xCU80 *) | 80 | - | IP23 | IP44 |
| 1006900 | Line feed box 1xM40 | LB40 | 22-27 | 4xCU125 / 7xCU80 | 125 | - | IP23 | IP44 |
| 1006910 | Line feed box 1x M63 | LB63 | 37-44 | 4xCU200 / 7xCU125 | 173 | 250 | IP23 | IP44 |
| 1006920 | Line feed box 4xM32 | LB32-4 | 4x 18-21 | 4xCU200 | 173 | - | IP23 | IP44 |
| 1006930 | Line feed box 7xM32 | LB32-7 | 7x 18-21 | 7xCU200 | 173 | 346 | IP23 | IP44 |
| 1006940 | Line feed box | LB | no cable glands | | | | IP23 | IP44 |
| 2109050 | Line feed clamp holder | RC-LCH | | | | | | |

**) When using additional glands M20*

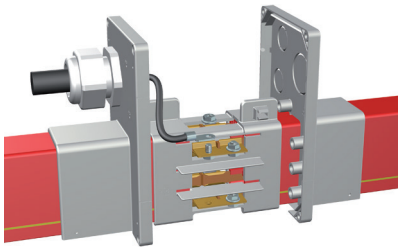
# Connecting the copper conductors

## skillful solutions with clamps and boxes

All line feed systems require clamp holders and feed clamps to connect the copper conductors within the rail housing to the cores of the supply cable (see also page 9).

There are 3 types of feed clamps: RC-LC80, RC-LC110 and RC-LC200.

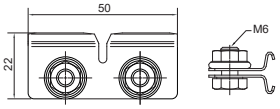
To connect the copper conductors to a cable terminal in a transition box, the transition cables OK25, OK35 or OK50 can be used. In some cases, it can replace a feeder cable with a too large outer diameter.

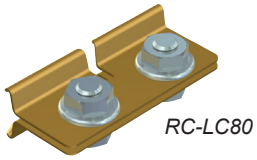


*RC-LCH + RC-LC80*

### Feed clamps

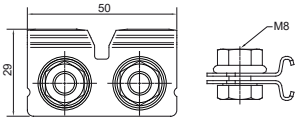
**Type RC-LC80**
To be applied for mounting copper conductors Cu50 - Cu80. Click connection.

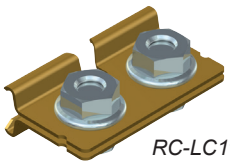


*RC-LC80*

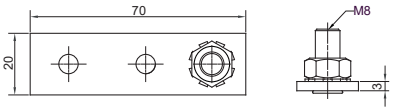
**Type RC-LC110**
To be applied for mounting copper conductors Cu110. Click connection

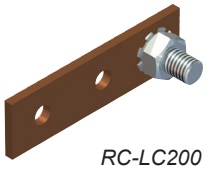


*RC-LC110*

**Type RC-LC200**
To be applied for mounting copper conductors Cu125, Cu160 and Cu200. Screwed connection.



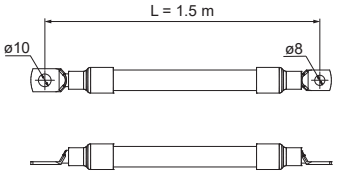
*RC-LC200*

### Transition cables

**Type OK25**
Cable 1x 25 mm2, length 1.5 m, with cable lugs. Max. current capacity 125A* or 250A* (2 cables in parallel connection) and Cu125 conductor. To be used with transition box OGV320 (see below).

**Type OK35**
Similar to OK25, however for max. current capacity 320A* (with 2 cables in parallel connection and Cu160 conductor).

**Type OK50**
Similar to OK25, however for max. current capacity 400A* (with 2 cables in parallel connection and Cu200 conductor).



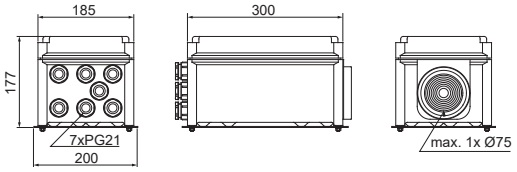



*Transition cable series OK*

* = 80% D.C.

### Transition box for feed connection Click-Ductor

**Type OGV320**
Complete with 2x5 bolts M10 for cable lug connections, 7 glands PG21 and a special grommet for cables of Ø20 - Ø75 mm.






*OGV320*

| LINE FEED CLAMPS<br>AKAPP NO. | DESCRIPTION | NUMBER | max. current (A) 80% D.C. | with type line feed holder |
|---|---|---|---|---|
| 2109010 | Feed clamp small RC-LC80 | 1 per conductor | 80 | RC-LCH |
| 2109020 | Feed clamp large RC-LC110 | 1 per conductor | 110 | RC-LCH |
| 2109030 | Feed clamp RC-LC200 | 1 per conductor | 200 *(60% D.C.)* | RC-LCH |

| TRANSITION CABLES<br>AKAPP NO. | DESCRIPTION | NUMBER | max. current (A) (100% D.C.) | with type transition box |
|---|---|---|---|---|
| 1499560 | Cable, 1x25 mm², L=1.5m OK25 | 1 per conductor | 127 | OGV320 |
| 1499640 | Cable, 1x35 mm², L=1.5m OK35 | 1 per conductor | 158 | OGV320 |
| 1499720 | Cable, 1x50 mm², L=1.5m OK50 | 1 per conductor | 192 | OGV320 |

| TRANSITION BOX<br>AKAPP NO. | DESCRIPTION | NUMBER | max. current (A) (100% D.C.) | protection degree |
|---|---|---|---|---|
| 1010510 | Overgangskast OGV320 | 1 per feed box | 286.3 | IP44 |

# Collector trolleys series C7/G

## standard series for high performance

The current conduction of the Click-Ductor to the device to be fed is effected through the collector trolley. The contact with the flat copper conductors is maintained uninterruptedly by means of flexible, extreme wear-resistant carbon brushes manufactured from a specific alloy.
The collector trolley is pulled into the Click-Ductor by the moving machine to be fed and by means of a trolley towing arm mounted onto this machine. Traverse speeds **standard** up to **80 m/minute**, with **special 'GS' high speed trolleys** up to **250 m/minute** (see page 12).

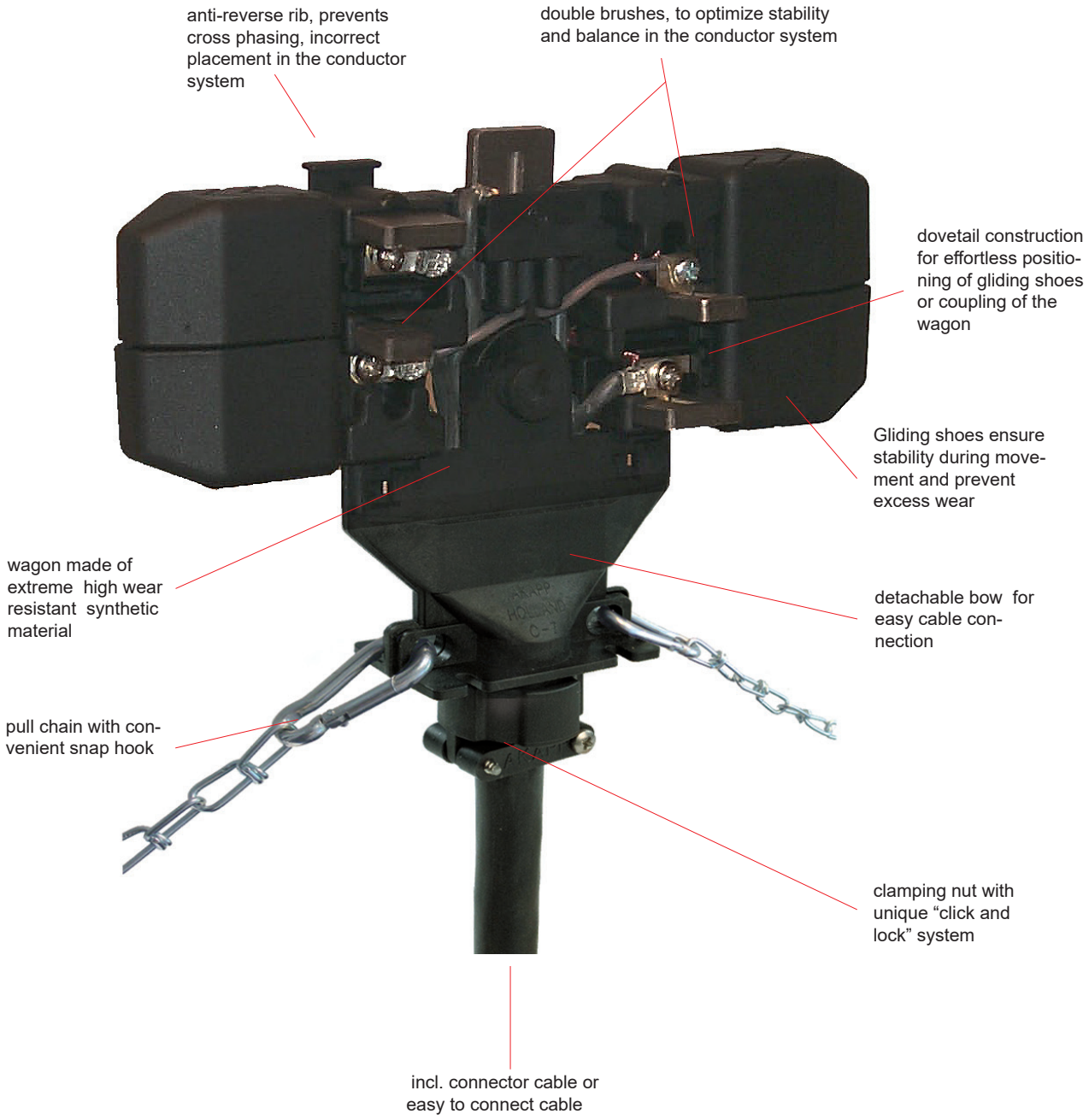
The picture below shows the main characteristics of the collector trolley. It shows in brief why these trolleys are highly dependable and efficient.

On the next pages you'll find detailed information on the series collector trolleys and accompanying parts.

We also supply collector trolley assemblies, complete with transition box and towing arm.

Pages 15 shows an overview of all options.

## The standard collector trolley with its specific characteristics:



# Collector trolleys series C7/G

## excellent contact characteristics!

The collector trolleys are available for systems with 4, 5 or 7 conductors and suitable for nominal current capacities of 35A, 70A and 100A (DC 60%). Travel speed up to **80 m/min**.

The collector trolley series 'CL' are standard fitted with approx. 1m supply cable with numbered cores. Collector trolley series 'C' are delivered without cable.

The collector trolleys of these series can easily be adapted, e.g. linking 2 collector trolleys together for increasing the maximum current capacity.

C(L)7/G collector trolleys are equipped with wear-resistant gliding shoes, perfectly gliding over the surface of the rail housing and performing a very high stability of the collector trolley during moving.

C(L)7/GS collector trolleys are suitable for **high-speed** operation (up to 250 m/min.). Provided with extra long gliding shoes with integrated **wheel set**. An additional **middle wheel set** ensures maximum stability during travelling.

See picture, table below and selection chart on page 15.

### Standard collector trolleys

Click-Ductor collector trolleys are available with 4, 5 or 7 poles with current carrying capacities of **35A**, **70A** and **100A** (duty cycle 60%). Applicable from -20°C up to +80°C (please note that the max. temperature of the Click-Ductor housing is +50°C).

These collector trolleys are fitted as standard with a supply cable. The connection with the apparatus/machine to be fed is via a transition box (ordered separately) which can be located adjacent to the collector trolley towing arm position.

#### Selection chart of standard collector trolleys + transition boxes

| A max. | 35 | | 70 | | 100 | |
|---|---|---|---|---|---|---|
| number of poles | type collect.trolley | type trans. box | type collect.trolley | type trans. box | type collect.trolley | type trans. box |
| 4 | CL7-4-35/G | TTB35-4 | CL7-4-70/G | TTB70-4 | CL7-4-100/G | TTB100-4 |
| 5 | CL7-5-35/G | TTB35-7 | CL7-5-70/G | TTB70-7 | CL7-5-100/G | TTB100-7 |
| 7 | CL7-7-35/G | | CL7-7-70/G | | CL7-7-100/G | |

When application of **2 separate collector trolleys per apparatus to be fed** (e.g. for transfer installations), the following transition boxes are used:

| number of collector trolleys | collector trolley type | transition box type |
|---|---|---|
| 2 collector trolleys | CL7-4-35/G | TTB70-4 |
| 2 collector trolleys | CL7-5-35/G or CL7-7-35/G | TTB70-7 |
| 2 collector trolleys | CL7-4-70/G or CL7-5-70/G | OG300-7 |
| 2 collector trolleys | CL7-7-70/G | OG300-7 |
| 2 collector trolleys | CL7-4-100/G | OG300-7 |
| 2 collector trolleys | CL7-5-100/G or CL7-7-100/G | OG300-7 |

For complete trolley assemblies with transition box and towing arm, please see the table on page 15.

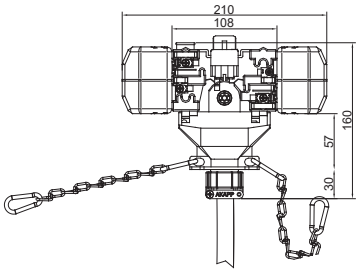
### Carbon brushes and gliding shoes

The collector trolleys are supplied as standard with carbon brushes for 35A, positioned according to the table below.

The brushes in positions 4 and 5 are both fitted as double brushes ("twin brushes"). Twin brushes are smaller than the others and their capacity is 35A per set. Advantage of this construction is a **perfect balanced** collector trolley.

**Gliding shoes** can very easily be mounted to the collector trolley by means of a dovetale construction. See also page16. Per collector trolley 4 gliding shoes are required. There are special gliding shoes for **high-speed** applications (suffix '../GS').

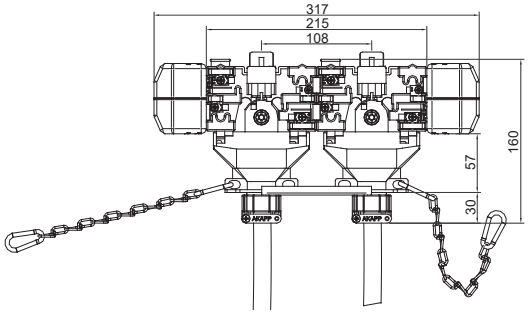
| CARBON BRUSH TYPES | | Standard carbon brushes | |
|---|---|---|---|
| Application | Brush position in collector trolley | Art. no. | for normal conductors |
| Phase brush** norm. | 1,2,3 and 6 | 1411021 | K91P |
| Phase brush** twin | 4 and 5 | 1410601 | C91D |
| Ground brush | 7 | 1410521 | C91A |
| **GLIDING SHOES** | | Art. no | |
| Gliding shoe | 4 pcs. per trolley | 1331930 | |
| Gliding shoe for 'GS' | 4 pcs. per trolley | 2130105.B0000 | |



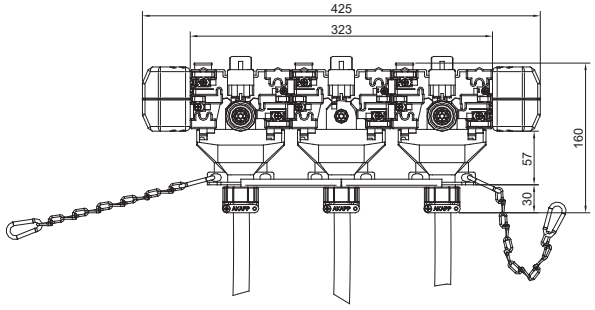

*CL7-7-35/G*



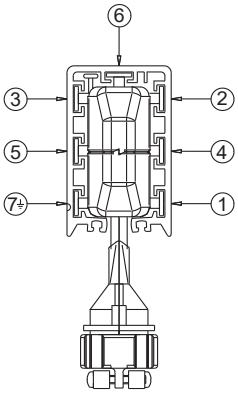
*CL7-7-35/G*




*CL7-7-70/G*



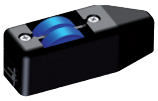

*CL7-7-100/G*




*Schedule brush positions in CL7../G*



*CL7-7-35/GS*



*Gliding shoe with wheel set for type 'GS'-collector trolleys*

# Collector trolleys series CL4-40/G

## the compact solution for double brushes per phase

There is a possibility to use a singular collector trolley, type CL4-40/G, with double brushes. This trolley applies to the IEC standard, describing the situations whereas conductor bar systems need to apply double carbon brushes.

The CL4-40/G trolley is an excellent and very cost effective solution for those cases whereas the above standard is applied.

The CL4-40/G is a 4 pole trolley, capacity 40 Amps at 60% duty cycle. Applicable from -20°C up to +80°C (attention: the max. temperature of the Click-Ductor housing is +50°C).

The CL4-40/G uses twin carbon brushes C91D for phases and special twin ground brushes C91DA.

All CL4-40/G trolleys are available with cable lengths of 1m (standard), 3m or 5m.

Cable lengths are added to the type description as follows: /1M, /3M or /5M.

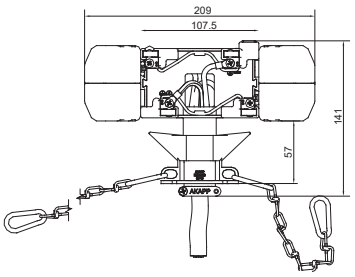
### Standard collector trolleys

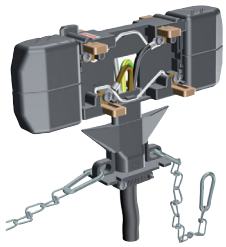
#### Type CL4-40/G

4-pole trolley with standard wheels. Max. speed 80 m/min.
For all RC-types of housings.
Standard fitted with 1m cable.

Note: Trolleys without cable are also possible. Please cancel the “L” in the type description; e.g. type ‘C4-40’ is a 40 Amps trolley without cable.

The table below shows an overview of available collector trolley types with the respective article numbers.



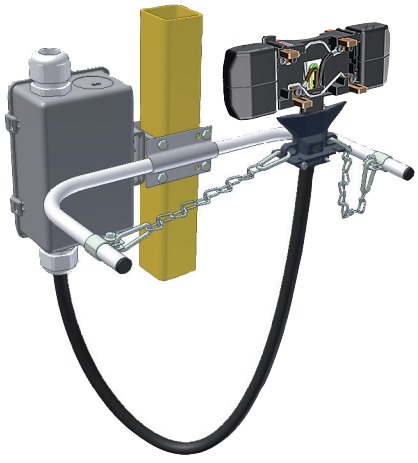



*CL4-40/G*

### Collector trolley complete with towing arm and trolley transition box

#### Type CL4-40/G/BMV/TTB (art. no. 1088650)

For easy ordering, we created a fully assembled version of the collector trolley CL4-40/G, complete with towing arm BMV35 and trolley transition box TTB35. See table below for order reference. For dimensions see table on page 14 (top).



*CL4-40/G/BMV/TTB*

### Carbon brushes and gliding shoes

The following parts are applicable:

| AKAPP NO. | DESCRIPTION | TYPE |
|---|---|---|
| 1410601 | Carbon brush twin phase | C91D *) |
| 1410631 | Carbon brush twin ground | C91DA |
| 1331930 | Gliding shoes | --- |

**) similar as on CL7 collector*

### Available collector trolleys

| AKAPP NO. | DESCRIPTION | EXTENSION | max In (DC=60%) (A) | number of poles | max. speed m/min. |
|---|---|---|---|---|---|
| 1088610 | Collector trolley + cable CL4-40/G | /1M | 40,00 | 4 | 80 |
| 1088610.B0003 | Collector trolley + cable CL4-40/G | /3M | 40,00 | 4 | 80 |
| 1088610.B0005 | Collector trolley + cable CL4-40/G | /5M | 40,00 | 4 | 80 |
| 1088650 | Collector trolley CL4-40/G/BMV/TTB | | 40,00 | 4 | 80 |

# Other components

## towing arms, transition boxes

A towing arm is attached to the moving machinery and connected to the collector trolley via chains.

The arrangement is such that when pulling in either direction one of the collector towing chains is taut, the other remaining slack. In this way lateral movements of the crane, hoist, etc. are not transmitted to the trolley.

This tolerance provides ultimate **security of service**!

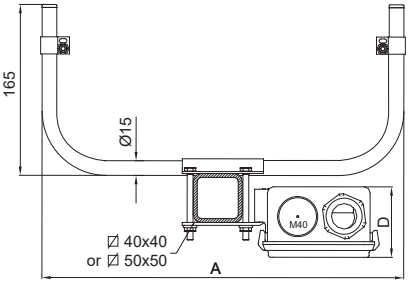
**Attention**: The towing connector on the arm should be installed 10 - 30 mm lower than the towing connection on the trolley and should be aligned directly below the housing opening in the vertical plane.

A transition box can be mounted on the towing arm or close by the apparatus/machine. This unit facilitates the connection of the flexible cable from the collector trolley with the fixed wiring from the apparatus/machine being fed.

### Standard performances of towing arms

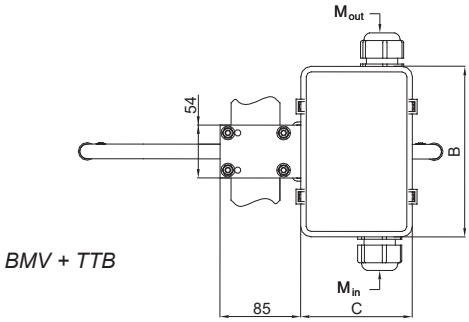
| TYPE | for collector trolleys |
|---|---|
| BMV35 | 35A / 40A |
| BMV70 | 70A |
| BMV100 | 100A |

| | BMV35 + TTB35 | BMV70+ TTB70 | BMV100 + TTB100 |
|---|---|---|---|
| A | 370 | 505 | 640 |
| B | 175 | 175 | 195 |
| C | 115 | 115 | 160 |
| D | 70 | 70 | 80 |
| In | 1xM32 | 2xM32 | 3xM32 |
| Out | 1xM32 | 1xM40 | 1xM40 |




### Transition boxes for collector trolleys

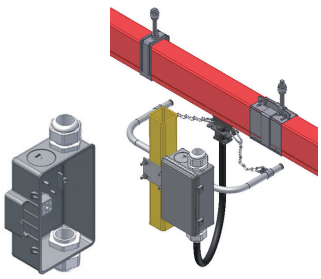
| type of transition box | dimensions LxWxH mm | connecting terminals | cable inlet |
|---|---|---|---|
| TTB35-4 and TTB35-7 | 175x115x70 | 4 pc. 4 mm² | 2 glands M32 |
| | | 7 pc. 4 mm² | |
| TTB70-4 and TTB70-7 | 175x115x70 | 4 pc. 10 mm² | 2 glands M32 1 gland M40 |
| | | 7 pc. 10 mm² | |
| TTB100-4 and TTB100-7 | 195x160x80 | 4 pc. 16 mm² | 3 glands M32 1 gland M40 |
| | | 7 pc. 16 mm² | |
| TTB140-4-2 | 195x160x80 | 4 pc. 35 mm² | 2 glands M32 1 gland M50 |
| OG300-7 | 300x190x180 | 7 pc. bolts M10 | 6 glands PG21 1 inlet 20-70 mmØ |



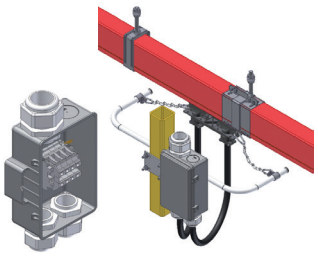

*BMV + TTB*

The box types TTB35 up to TTB140 can be mounted directly on the fastening clamp of the towing arm type BMV. The box type OG300 is supplied with a mounting plate, which ensures easy mounting of this box to the apparatus to be fed.

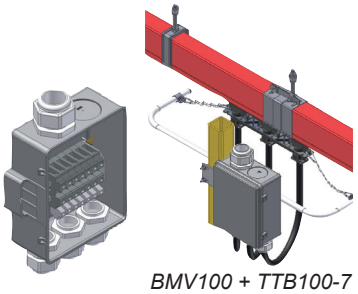
For an overview and article numbers of the transition boxes and towing arms, see the table on page 15.



*BMV35 + TTB35-4*



*BMV70 + TTB70-4*



*BMV100 + TTB100-7*

# Overview standard collector trolleys

## incl. towing arms and transition boxes

In the chart below **on the left** you can view the most common standard collector trolleys of the series CL7-../G and CL4-40/G. The Akapp-Stemmann reference numbers and some details are listed for each type.

This overview however does not show all possibilities. For further information on this, we recommend you to contact your Akapp-Stemmann supplier.

In the chart below **on the right** you can view the standard collector trolleys of the series CL7-../GS, for high speed operation. See also page 12 for more details. The Akapp-Stemmann reference numbers and some details are listed for each type.

The other charts show all towing arms and transition boxes including their reference numbers.

### Selection chart collector trolleys

### ($v_{max}$ 80m/min.)

| AKAPP NO. | DESCRIPTION | EXTEN-SION | max In (DC=60%) (A) | NUMBER OF POLES |
|---|---|---|---|---|
| 1093505.B0000 | Collector trolley + cable CL7-4-35/G | /1M | 35 | 4 |
| 1093505.B0002 | Collector trolley + cable CL7-4-35/G | /3M | 35 | 4 |
| 1093505.B0003 | Collector trolley + cable CL7-4-35/G | /5M | 35 | 4 |
| 1093510.B0019 | Collector trolley + cable CL7-5-35/G | /1M | 35 | 5 |
| 1093530.B0003 | Collector trolley + cable CL7-5-35/G | /5M | 35 | 5 |
| 1093712 | Collector trolley + cable CL7-7-35/G | /1M | 35 | 7 |
| 1093650.B0024 | Collector trolley + cable CL7-7-35/G | /3M | 35 | 7 |
| 1093650.B0033 | Collector trolley + cable CL7-7-35/G | /5M | 35 | 7 |
| 1093925.B0000 | Collector trolley + cable CL7-4-70/G | /1M | 70 | 4 |
| 1093925.B0002 | Collector trolley + cable CL7-4-70/G | /3M | 70 | 4 |
| 1093925.B0003 | Collector trolley + cable CL7-4-70/G | /5M | 70 | 4 |
| 1097570.E0000 | Collector trolley + cable CL7-5-70/G | /1M | 70 | 5 |
| 1097570.E0005 | Collector trolley + cable CL7-5-70/G | /5M | 70 | 5 |
| 1094132 | Collector trolley + cable CL7-7-70/G | /1M | 70 | 7 |
| 1094070.B0012 | Collector trolley + cable CL7-7-70/G | /3M | 70 | 7 |
| 1094070.B0014 | Collector trolley + cable CL7-7-70/G | /5M | 70 | 7 |
| 1094200 | Collector trolley + cable CL7-4-100/G | /1M | 100 | 4 |
| 1094220 | Collector trolley + cable CL7-4-100/G | /5M | 100 | 4 |
| 1094350.B0005 | Collector trolley + cable CL7-5-100/G | /1M | 100 | 5 |
| 1094400 | Collector trolley + cable CL7-7-100/G | /1M | 100 | 7 |
| 1094420 | Collector trolley + cable CL7-7-100/G | /5M | 100 | 7 |
| 1088610 | Collector trolley + cable CL4-40/G | /1M | 40 | 4 |
| 1088610.B0003 | Collector trolley + cable CL4-40/G | /3M | 40 | 4 |
| 1088610.B0005 | Collector trolley + cable CL4-40/G | /5M | 40 | 4 |

### Collector trolley assemblies with transition box and towing arm

| AKAPP NO. | DESCRIPTION | EXTEN-SION | max In (A) (DC=60%) | NUMBER OF POLES |
|---|---|---|---|---|
| 1093505.B0001 | Collector trolley + cable CL7-4-35/G | /BMV/TTB | 35 | 4 |
| 1093712.B0001 | Collector trolley + cable CL7-7-35/G | /BMV/TTB | 35 | 7 |
| 1093925.B0001 | Collector trolley + cable CL7-4-70/G | /BMV/TTB | 70 | 4 |
| 1094132.B0001 | Collector trolley + cable CL7-7-70/G | /BMV/TTB | 70 | 7 |
| 1094300 | Collector trolley + cable CL7-4-100/G | /BMV/TTB | 100 | 4 |
| 1094500 | Collector trolley + cable CL7-7-100/G | /BMV/TTB | 100 | 7 |
| 1088650 | Collector trolley + cable CL4-40/G | /BMV/TTB | 40 | 4 |

### Selection chart collector trolleys

### (high speed, $v_{max}$ 250m/min.)

| AKAPP NO. | DESCRIPTION | max In (DC=60%) (A) | NUMBER OF POLES |
|---|---|---|---|
| 1093500.B0000 | Collector trolley + cable CL7-4-35/GS | 35 | 4 |
| 1093565.B0000 | Collector trolley + cable CL7-5-35/GS | 35 | 5 |
| 1093645.B0000 | Collector trolley + cable CL7-7-35/GS | 35 | 7 |
| 1093500.B0001 | Collector trolley + cable CL7-4-70/GS | 70 | 4 |
| 1093565.B0001 | Collector trolley + cable CL7-5-70/GS | 70 | 5 |
| 1093645.B0005 | Collector trolley + cable CL7-7-70/GS | 70 | 7 |
| 1093500.B0002 | Collector trolley + cable CL7-4-100/GS | 100 | 4 |
| 1093565.B0002 | Collector trolley + cable CL7-5-100/GS | 100 | 5 |
| 1093645.B0010 | Collector trolley + cable CL7-7-100/GS | 100 | 7 |

### Selection chart towing arms

| AKAPP NO. | DESCRIPTION | | COLLECTOR TROLLEY |
|---|---|---|---|
| 1019055 | Towing arm | BMV35 | ..-..35/..-..40 |
| 1019135 | Towing arm | BMV70 | ..-..70 |
| 1019215 | Towing arm | BMV100 | ..-..100 |
| 1018940 | Towing arm, stainl.st. | BMV35-R | ..-..35 |
| 1019830 | Towing arm, stainl.st. | BMV70-R | ..-..70 |
| 1019910 | Towing arm, stainl.st. | BMV100-R | ..-..100 |

### Selection chart transition boxes

| AKAPP NO. | DESCRIPTION |
|---|---|
| 1020000 | Transition box for collector trolleys TTB35-4 |
| 1020010 | Transition box for collector trolleys TTB35-7 |
| 1020020 | Transition box for collector trolleys TTB70-4 |
| 1020030 | Transition box for collector trolleys TTB70-7 |
| 1020040 | Transition box for collector trolleys TTB100-4 |
| 1020050 | Transition box for collector trolleys TTB100-7 |
| 1020060 | Transition box for collector trolleys TTB140-4-2 |
| 1010430 | Transition box for collector trolleys OG300-7 |

# Akapp-Stemmann Click-Ductor® system

## efficiency per linear metre!

By using Akapp-Stemmann Click-Ductor, you save on costs. This starts and is evident, immediately during installation. All components are adapted to one another, as a result of which the components can be applied easily.

Ensure an even easier task and have our Technical Service install all, quickly and with expertise!

The fast experience and know-how of the material involved guarantees an optimal functioning installation.

You would prefer advice on your installation first? No problem, our advisors can assist you with all your questions, free of charge and no strings attached !

No technique without maintenance! Maintenance is however kept at a minimum and when you decide on a contract via our Technical Service, we will periodically perform the maintenance for you. As a result of such a contract, maintenance is out of your hands! More information can be found on page 18.

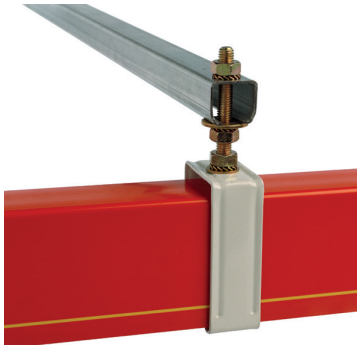
### Support brackets with pre-mounted sliding hangers

Akapp-Stemmann Multiconductor can easily be fastened to a profiled beam. In most cases the standard support brackets (available in various lengths) will suffice. These bolt connections are to be applied and adjusted easily.

A selection of support brackets can also be supplied with pre-mounted sliding hangers. This reduces the mounting time on site considerably!

The table below shows the available support bracket types with pre-mounted sliding hangers. For performances and dimensions see page 5.

| AKAPP NO. | DESCRIPTION | length (mm) |
|---|---|---|
| 1018011.B0000 | Support bracket UH330/BN7-Z pre-mounted, slot up | 330 |
| 1018011.B0001 | Support bracket UH330/BN7-Z pre-mounted, slot down | 330 |
| 1018011.B0002 | Support bracket UH330/BN7-L pre-mounted, slot up | 330 |
| 1018011.B0003 | Support bracket UH330/BN7-L pre-mounted, slot down | 330 |
| 1018161.B0000 | Support bracket UH500/BN7-Z pre-mounted, slot up | 500 |
| 1018161.B0001 | Support bracket UH500/BN7-Z pre-mounted, slot down | 500 |
| 1018161.B0002 | Support bracket UH500/BN7-L pre-mounted, slot up | 500 |
| 1018161.B0003 | Support bracket UH500/BN7-L pre-mounted, slot down | 500 |
| 1018321.B0000 | Support bracket UH700/BN7-Z pre-mounted, slot up | 700 |
| 1018321.B0001 | Support bracket UH700/BN7-Z pre-mounted, slot down | 700 |
| 1018321.B0002 | Support bracket UH700/BN7-L pre-mounted, slot up | 700 |
| 1018321.B0003 | Support bracket UH700/BN7-L pre-mounted, slot down | 700 |



*The Akapp-Stemmann support brackets are of the type 'universal fitting' and easy to position and adjust!*

### Inspection of the collector trolley

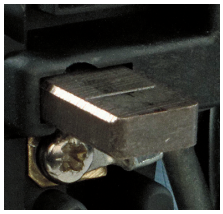
Wabtec Netherlands has ensured that the inspection of the conductor trolley can be effected quickly.

All vital components of the conductor trolley are to be replaced in a trice!

The carbon brushes are marked, this marking indicates if and when exchange is required. Due to the smooth surface of the conductors and the absence of the plug connectors, the wear of the carbon brushes minimal!

The gliding shoes are made of a high quality and wear-resistant synthetic material and require virtually no maintenance, if standard operational conditions apply. Provided with marking stripes for visual inspection of the wear (see photo).

*Visual inspection of carbon brushes is rather simple due to the markings as applied.*



*The gliding shoes can quickly and easily be positioned due to the dovetail construction. A visual inspection is possible, for a marking is provided.*



# Configuration of Click-Ductor® systems

## important remarks

Click-Ductor systems offer a high level of mounting flexibility.

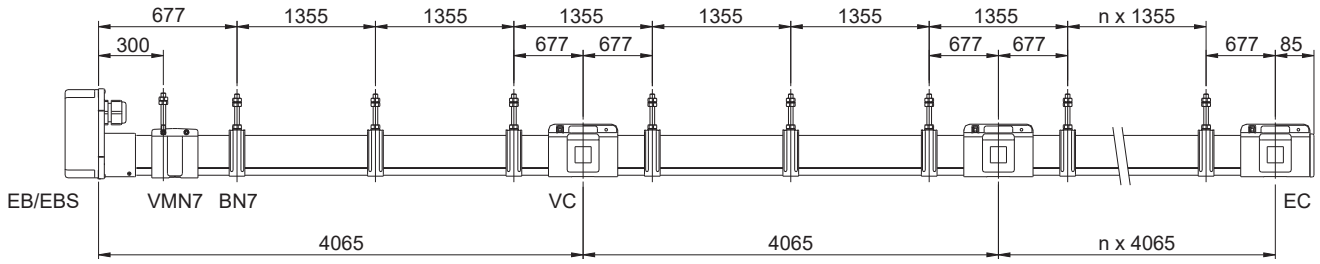
You can determine the most suitable location of the feed point (end- or line feed), considering the local situation and voltage drop.

The minimum mounting height (from the surface to the top of the collector trolley) is 250 mm.

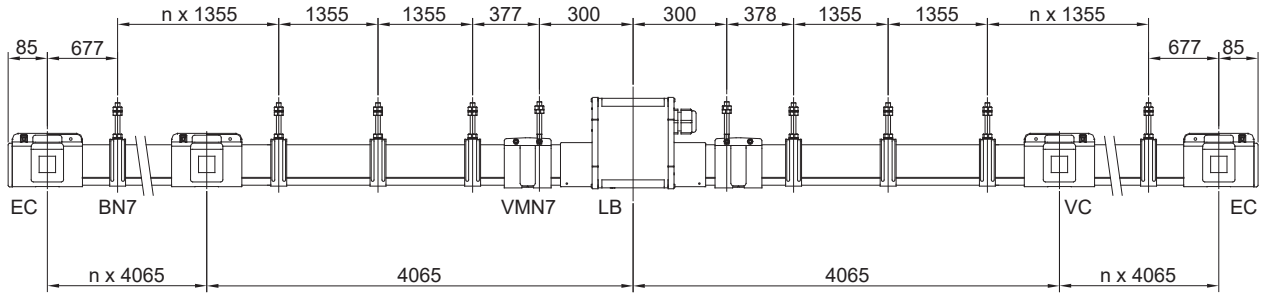
Support distances up to 2.032 metre are possible.

The graphics below show the typical configuration options for RC4 and RC7 systems.

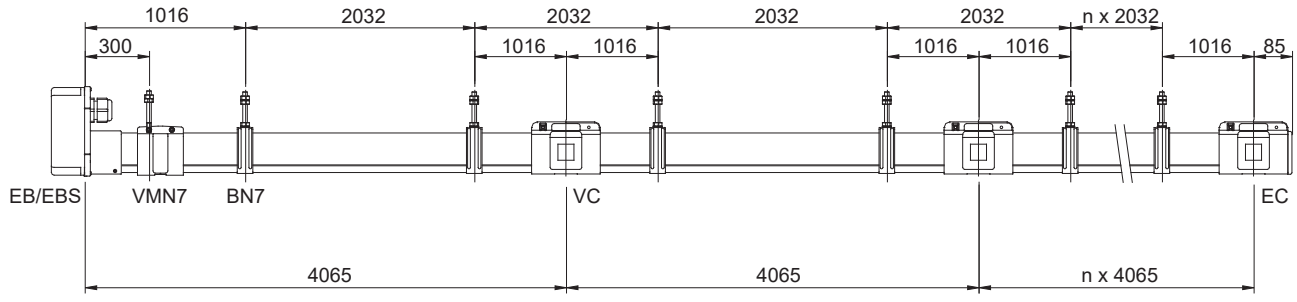
① **Rail profile** type RC4/RC7, End feed, support distance 1355 mm



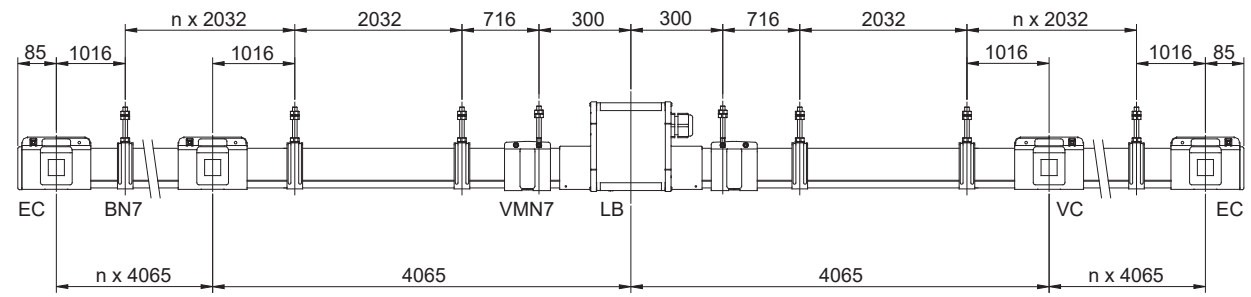

② **Rail profile** type RC4/RC7, Line feed, support distance 1355 mm




③ **Rail profile** type RC4/RC7, End feed, support distance 2032 mm




④ **Rail profile** type RC4/RC7, Line feed, support distance 2032 mm



# Akapp-Stemmann Service Department

## perfect installation, preventive maintenance

Akapp-Stemmann Click-Ductor can be installed quickly and easily due to the well-matched components and the modular construction. The necessary instructions are included with each installation and, of course, we can advise you further on the procedure to be followed if desired.

You can also have our **Service Department** take care of the **installation** of your system(s). Our experienced and expert engineers take all the work off your hands and ensure perfectly functioning system(s).

We are also happy to take care of the **maintenance** of your existing installation(s). We keep your installation(s) in excellent condition through a thorough inspection and possible replacement of wearable parts.

If desired, we will conclude a maintenance contract with you, in which all activities and terms are agreed with you.

### Planning and preparation

If you want our Service Department to install an Akapp-Stemmann system, we will coordinate our activities in close consultation with you. First of all, this requires planning. It is very important that when the work has to be carried out, the location is easily accessible, the materials to be installed can be delivered to the location (or are already available) and that safety is guaranteed for both your and our staff. Any climbing equipment (ladders, scaffolding, etc.) must also be able to be used at the location where necessary.

Naturally, your current business processes must be hindered as little as possible during installation. We therefore make **clear agreements** with you in advance about the planning of the work, so that no undesirable situations arise.

Installation can, if necessary, also be carried out outside normal office hours; also on weekends. The special conditions that apply to this will be discussed with you in advance. We also consult with you in advance about any safety instructions that need to be followed at your location.

Which materials must be installed is in most cases determined in the installation quotation, which we will send you based on your request. It also specifies everything about the mounting conditions.

### Mounting activities

Our experienced engineers are equipped with professional aids and tools and ensure fast and perfect installation, which will fully meet the specifications agreed with you in advance. All components are mounted in accordance with the regulations. This is very important with a view to the **reliability** and **safety** of the installation and the **lifespan** of the components.

It goes without saying that a guarantee can only be given on a system that has been installed and used in accordance with the regulations.

Would you like to have the installation of one or more Click-Ductor systems carried out by our Service Department? You can request this through our Sales Department. We provide a suitable offer.




### Maintenance

Every installation needs (periodic) maintenance in order to continue to function reliably and this also applies to the Akapp-Stemmann Click-Ductor system.

It is therefore very important that **periodic preventive inspection** and **maintenance** is carried out. The periods within which this must be done depend on the operating conditions and intensity of use of the relevant installation(s).

Wearable parts, such as carbon brushes and trolley wheels, can be replaced during this work before a failure can occur. The condition of other vital parts, such as suspension brackets, connecting joints and copper conductors, must also be carefully checked and repaired where necessary.

You can also call in our Service Department for inspection and maintenance. We know exactly which systems are present at the relevant location and, with the right preparation, we can carry out maintenance as efficiently as possible. Of course we will coordinate with you when it suits you best to prevent or minimize any disruption to your other business processes.

When you conclude a **maintenance contract** with us, we ensure that you are automatically approached by us when the next maintenance is due. You no longer have to worry about this and your systems remain in the best possible condition!

We are happy to inform you about all the possibilities of our Service Department.

# Akapp-Stemmann conductor bar systems

always the perfect solution!

Akapp-Stemmann Click-Ductor is an ultimate reliable and efficient conductor system, which is world-wide, successfully used in indoor and outdoor installations.

This brochure details a brief outline of the unique characteristics.

However, Wabtec Netherlands supplies many con-ductor systems, a fitting solution for the most divers situations.

Wabtec Netherlands aims to provide all information you need: our professional team is available for non committal advice.

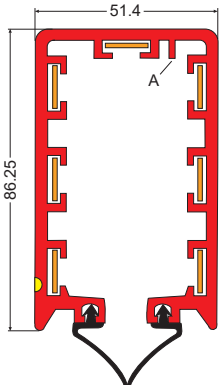
Further information required? Just a single telephone call or e-mail will suffice. See the front cover for details or check www.akapp.com to find your nearest distributor.

## Multiconductor

A compact and multi purpose conductor system. The **uninterrupted** conductors ensure a perfect transmission of **current feed-** as well as **control-** and **data signals**. Current capacities up to 320A. A flexible rubber sealing prevents penetration of dust or liquids. Well suited for extremely long tracks and high travel speeds.

Used world-wide for cranes, traverse cars, (automated) warehouses, elevators, textile production, sluices, trains etc., even under in extremely dusty, humid or even corrosive environments!



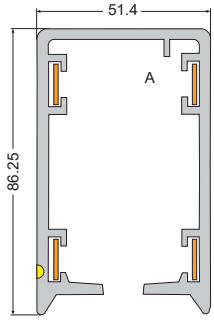



## 4-Ductor

If four conductors suffice, no flexible rubber sealing is required, but you do want to make use of all the advantages of the uninterrupted conductors, opt for the most ideal conductor system for your organisation, opt for the Akapp-Stemmann 4-Ductor!

Ideal, for it has: no expansion problems, a constant and low voltage loss, a choice of 5 current intensities (see above) and virtually no maintenance. In all, an uninterrupted current supply for a variety of movable and/or mobile equipment at a **very profitable cost-benefit analysis**.





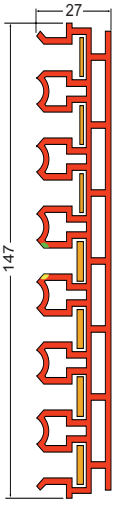

## Pro-Ductor

The most compact, varied conductor system for automated warehouses and many other applications! Suitable for up to 4 copper conductors (PR4), up to 7 copper conductors (type PR7), or up to 10 copper conductors (type PR10).

The p.v.c. housing PR7 has a height of only 147 mm and is 27 mm wide and can be applied only centimetres above floor level. The **uninterrupted** conductors ensure a perfect transmission of both **feed, control and data signals**. Suitable for **extreme long travelling lengths** and **high travel speeds**.

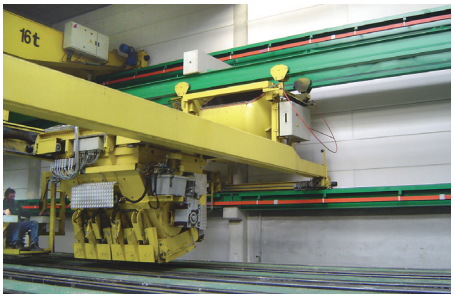
Choices in current capacity from 50A, 80A, 125A, 160A up to 200A (80% D.C.).





# Wabtec Netherlands: Flexible with energy!




Wabtec Netherlands is a market leader with our made to order conductor bar systems. We offer you the best possible solution for almost any application in whatever the circumstances. We welcome your inquiries!



Our cable reels prove their worth daily in numerous applications, indoors as well as outdoors. Reliable power consumption and control for cranes, hoists, internal transport carts, electrical tools etc. We can also supply the correct high-flexible cable to meet your needs!



Our festoon systems offer extensive options for the safe and efficient transport of your cables. Thanks to the high quality and reliability, you can use it for  situations, both indoors and outdoors.




Akapp-Stemmann products are designed by the highest standards and are certified by UL, CCC and/or CE.

More information on our products can be found in our brochures, which we are happy to send you on request.
Or visit our website www.akapp.com, where you can find more relevant information, download brochures and make online inquiries; fast and easy!

Wabtec
NETHERLANDS

AS-RC-2206R4.11