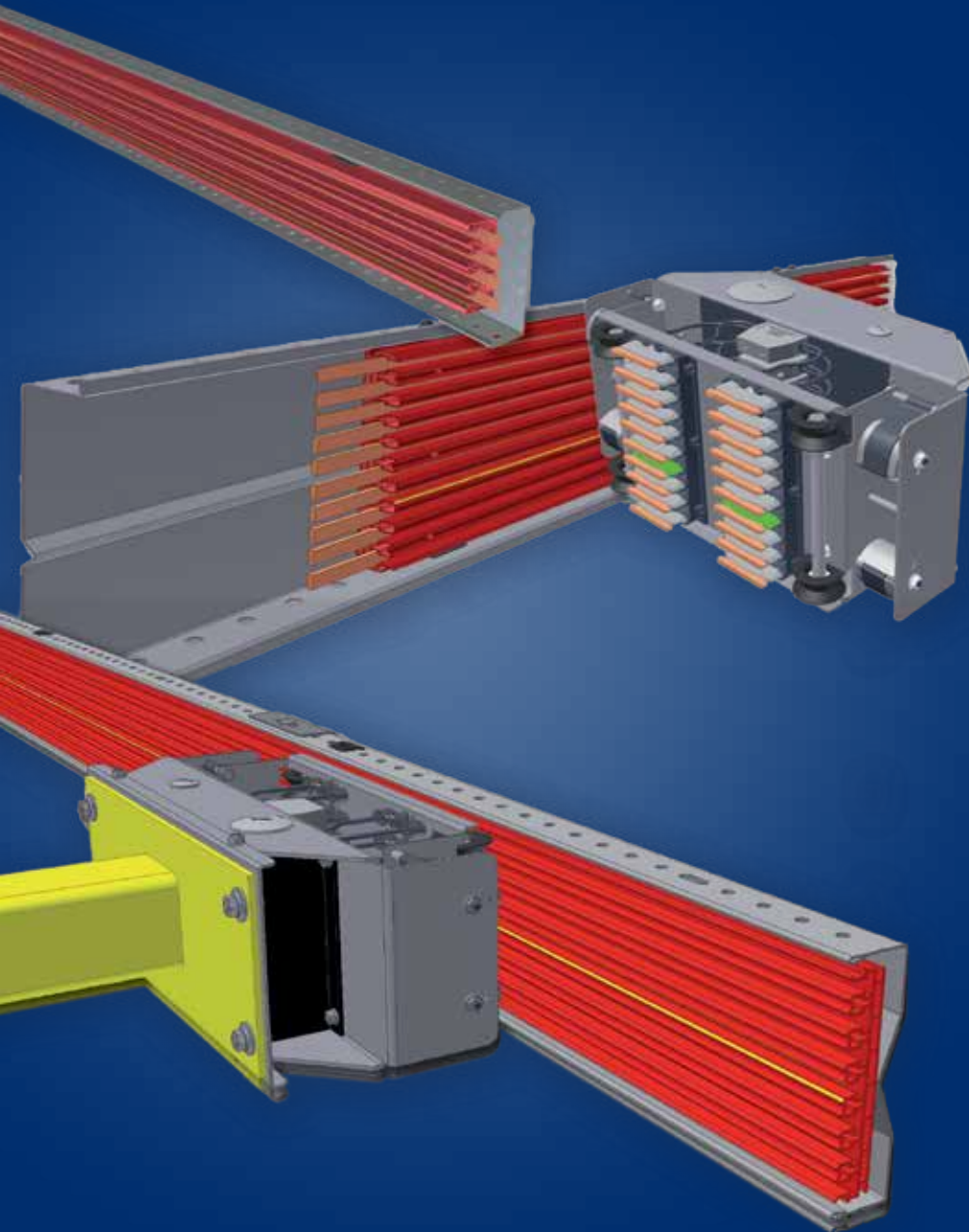


Pro-Ductor

Insulated Flat Conductor Bar
for 4, 7 or 10 conductors



TranStech[™]
POWER TRANSFER SYSTEMS



**The ideal flat
conductor system for
automated warehouses
and many other
applications**

**Current capacity 50A,
80A, 125A, 160A,
200A, 250A, 300A,
320A and 400A**

**Housing up to 4, 7,
or 10 uninterrupted
conductors**

Usable at most heights

**Self-aligning collector
trolleys**

**High travel speeds; up
to 500 m/min possible**

**Highly suited to
transmission of control
and data signals**

**Extremely low
maintenance costs**

709 Augusta Arbor Way
Piedmont, SC 29673
800.245.4552 ph
864.277.7100 fx

transtech.com



Unique concept, permitting the ultimate in possibilities

TransTech Pro-Ductor is a unique concept specifically designed for use in automated warehouses, which are characterized by a range of extremely challenging demands.

Any length more than 4 meters is possible. Connecting the sections is done using the click and lock system. No drilling or screws necessary.

Up to 4 conductors can be positioned in the channels within the PVC conductor housing PR4; up to 7 conductors within the PVC conductor housing PR7, up to 10 conductors within the PVC conductor housing PR10. The number and capacity of the conductors depends on the requirements. It is possible to combine conductors for feed and control.

You are always welcome to contact us directly, please refer to the back cover of this brochure for detailed contact information.

Some Important Features:

Housings with 4 (PR4), 7 (PR7), or 10 (PR10) copper channels

Due to the clearance between the conductors and their location, the copper channels offer sufficient room for up to 10 uninterrupted conductors, without plug connectors. Ideally suited for both control and data signal transmission. No expansion problems!

5 different types of copper conductors

The flat copper conductors are available in 50A, 80A, 125A, 160A (80% D.C.) and 200A (100% D.C.). Parallel-mounted systems (PR7 and PR10) provide a maximum current capacity of 400A (100% D.C.).

Uninterrupted yellow/green ground-marking

Clearly indicates the ground conductor for safety purposes.

Chute for conductor-wheels

The perfect mechanical conduction enhances the life expectancy of the collector trolleys and brushes. It also ensures optimal transmission of line and control voltage.

Easy installation

The individual lengths (max. 4 m) can easily be connected to each other, after which the copper conductors are pulled through the channels.

Compact construction

With inclusion of the support profile SP7, the system measures 45 x 165 mm (for profile SP10 this is 40 x 240 mm), making it suitable for most automated warehouses. Furthermore, it can be installed virtually at floor level!

Double-walled housing

This gives a considerable rigidity, allowing the distance of the suspension to be relatively large. When the steel support profile is used, a span of up to 3.30 m can be realized.

Feed and control in a single housing

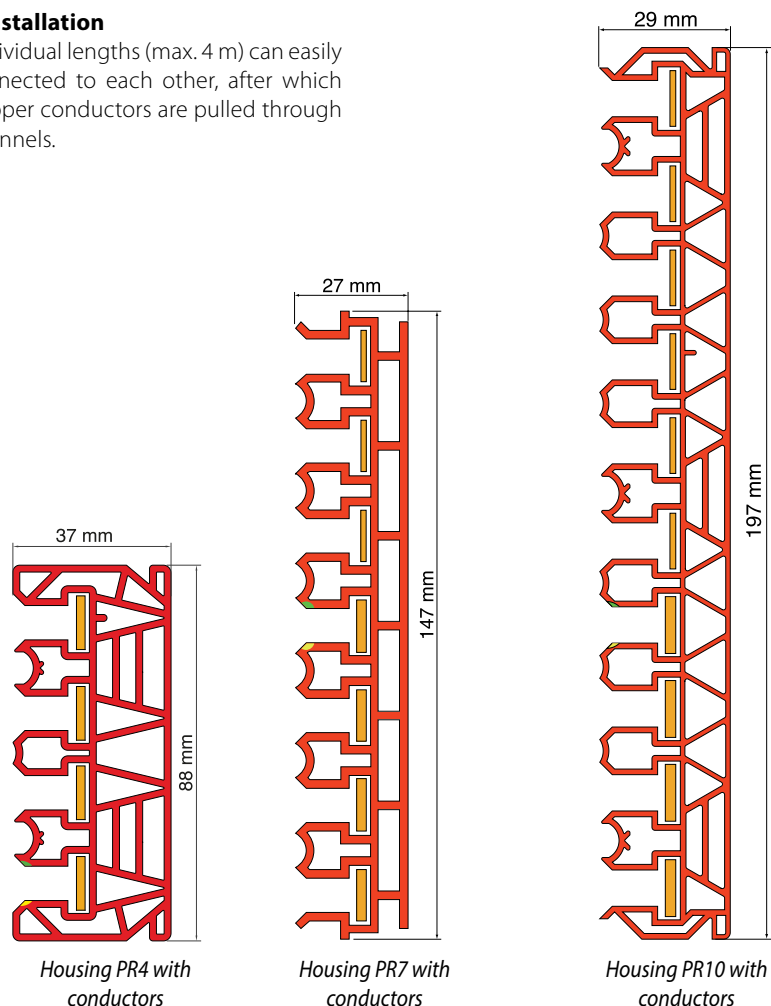
Combine the feed strips with those for the control.

Safety first

The PVC-housing is self-extinguishing and has a conspicuous red color for additional safety. Furthermore the housing is contact safe (IP2X according to the standard IEC529).

No expansion problems.

The copper conductors lie separately in each channel, so that these can expand and contract independently of the PVC housing.



Ultimate Logistical Control: Uninterrupted Feed at All Times

For each Pro-Ductor installation, the flat copper conductors can be pulled from rolls into the previously installed PVC housing in long, continuous lengths.

There are no connections in the conductor. This offers considerable advantages!

The fixed electric feed point can be placed at either the end or at various points in the installation.

Even if the latter option is chosen, the copper conductors are not interrupted!

What is the advantage of uninterrupted copper conductors?

Optimal Contact

The flat, smooth copper surface guarantees an optimal contact with the carbon brush.

No Plug Connectors

The best method to reduce voltage loss is an uninterrupted copper conductor. This is essential when it concerns reliable transmission of control signals.

Capacity Extendable

The installation can be extended at all times and at any moment. Additional or heavier copper conductors can be installed for changes in the system situation.

Extremely Low Maintenance

Due to the absence of plug connectors the surface of the copper conductors is extremely smooth, which ensures minimal brush wear. Therefore, the copper conductors and the carbon brushes are extremely low maintenance.

Alternative Strips

Silver-plated copper strips can be installed in the copper channels, for use in extreme weather conditions or other challenging applications.

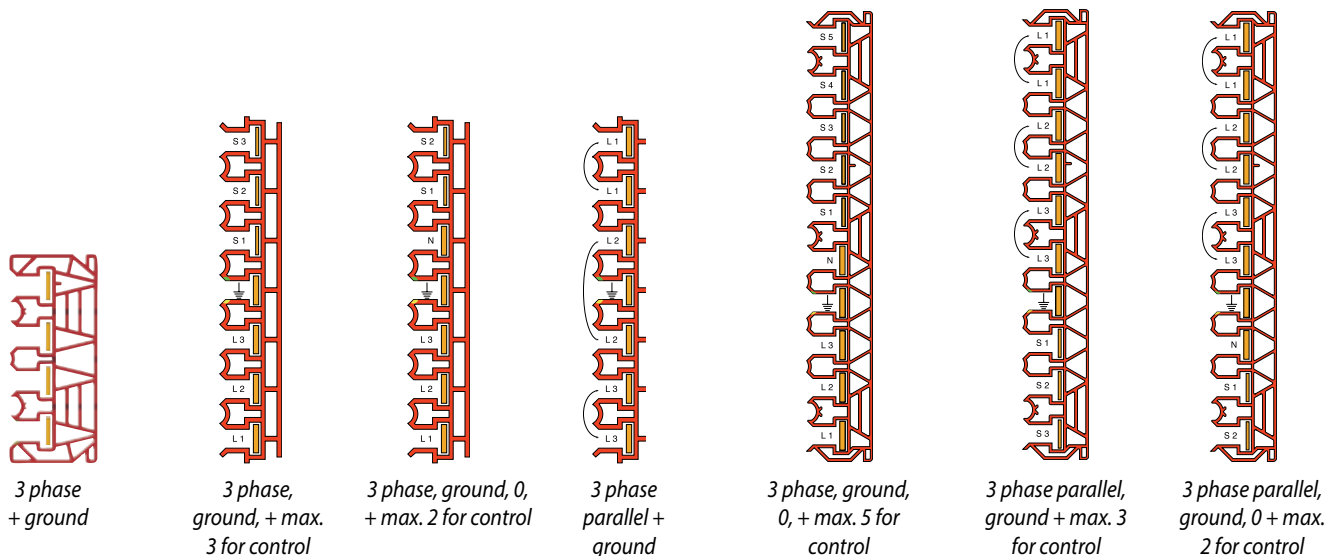
Quick Installation

The strips can quickly and easily be pulled into the channels, using the copper puller (see photograph) and a copper puller.



Arrangement of the Copper Conductors

A large number of combinations are possible, using the standard housings and 5 different copper conductors.



Pro-Ductor® Feeding Boxes: Practical and Easy Ways to Connect

There are several possibilities for connecting feed and control cables to a Pro-Ductor installation.

The cables can either be connected at a chosen point in the Pro-Ductor installation (line feed) or, in special cases, at the end feed.

In most cases, a line feed can be applied as an end feed.

Pro-Ductor PR7 or PR10 can be applied when parallel

mounting of the copper conductors is required, e.g. to increase the maximum current capacity or to decrease the voltage drop.

Pro-Ductor PR10 offers sufficient space for parallel mounted conductors for feed, combined with conductors for control functions.

See detailed descriptions in the section below.

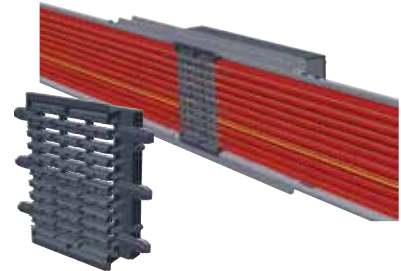
Feed boxes (For all Pro-Ductor Types).

Line Feed Boxes (Normal Connection):

Connects the feed cable (and/or control cable) at a chosen point or at the end of a Pro-Ductor system (see picture). Line feed boxes for PR4 systems are fitted with cable gland M63. Line feed boxes for PR7 and PR10 systems are fitted with cable glands M63 and M20.

A line feed box requires a clamp holder, including the required feed clamps, needed for mounting between two rail housing ends (see picture). The copper conductors can be connected easily and safely to the feed clamps. The copper conductors will not be interrupted.

Pro-Ductor housing with clamp holder and with line feed box on the back



detail of clamp holder

line feed box, mounted on support profile



line feed box with special clamp set for parallel connection of the conductors



Line Feed Boxes (Parallel Connection):

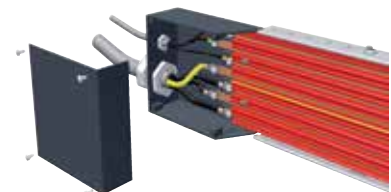
The same procedure as mentioned above, except there is a special clamp set available for parallel mounting, which fits within the clamp holder. It enables connection of the connection cable simultaneously to 2 copper conductors. See the picture on the right.

Feed boxes (For Pro-Ductor PR7 Only).

End Feed Boxes (On Request):

Connects the feed cable (and/or control cable) to the end of a Pro-Ductor system (see picture). The end feed box is fitted with cable glands M40 and M20. It is provided with inserts for fast and reliable connection of the copper conductors using the connecting bolts.

end feed (interior)



Special cable inlets on request.

Collector Trolleys: Excellent Contact Characteristics

Pro-Ductor trolleys are available for a range of 2 to 10 conductors with current carrying capacities up to 63A and 125A nominal value. Duty cycle (DC) 80%.

As standard, the collector trolley can be used at temperatures as low as -30 C, ideal for conditions in deep freeze storage cells.

Collector trolleys are fitted with terminals for cables up to 25 mm².

The uninterrupted copper conductors of the Pro-Ductor system enable high travel speeds (up to 500 m / minute).

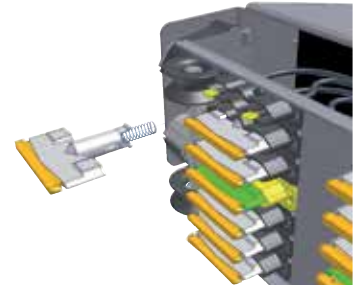
There are collector trolleys available for every application; not only for straight movements, but for aisle changing cranes as well. (see page 7).

Automatic Correcting System

The four leaf spring sets ensure the road wheels of the collector trolleys are kept in the section grooves. The trolley always follows its course perfectly.

Perfect Signal Transmission

As a result of the optimal correcting characteristics, the carbon brushes always glide straight on the flat, smooth copper conductors. This ensures optimal feed and control. Furthermore, each brush is equipped with a compression spring (see picture below).



Quick Installation

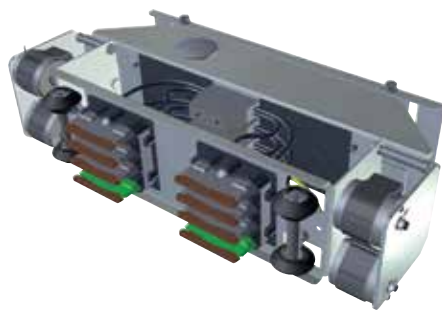
It is simple to mount the collector trolley to the mobile construction. The terminal box and the supporting profile both have the same height. This makes adjusting the collector trolley easy. Swinging of the warehouse crane during travelling is eliminated by the unique spring construction of the trolleys.

Suited for Curved Tracks, Switches, and Transfer Switches

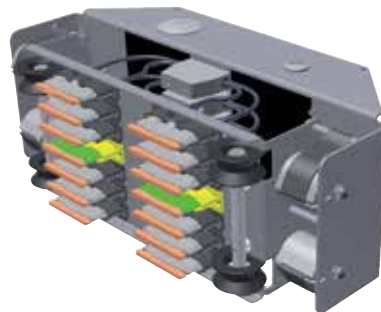
The collector trolleys can travel within or outside the rail section, for instance, when the crane travels from one aisle to the next. In order to maintain an uninterrupted signal the two collector trolleys can be switched parallel.

Very low Maintenance

The road wheels and carbon brushes have minimum wear, because they are made of high-quality, wear-resistant materials. This results in high reliability and performance, with minimal maintenance. The construction of the collector trolley permits quick and easy replacement of the wheels and carbon brushes.



PCT4-4-125BI



PCT7-7-125BI



PCT10-10-125BI-63-20

**More On Collector Trolleys:
Leading Edge Design; Optimal Performance**

When developing the collector trolleys, reliability and durability were the most important issues.

The leading edge design, combined with the high-quality components, form the basis for outstanding trolley performance.

Mounting and adjusting the trolleys is quick and simple.

The solid construction and easy alignment of the collector trolleys contribute to the extremely low wear and optimal performance!

Mounting of the Collector Trolley

The collector trolleys are easily mounted to the moving apparatus using a mounting bracket (ordered separately), see picture.

The glands for the connection cables can be mounted on any of the sides of the steel terminal box by removing the appropriate blank hole.

After fixing of the mounting bracket, the trolley needs to be aligned.

Horizontal Alignment

It is very important that the carbon brushes maintain the proper spring force when determining the exact length of the towing arm. See pictures to check the distances between towing arm end and the backside of the support profile. A tolerance of 20 mm is permitted.

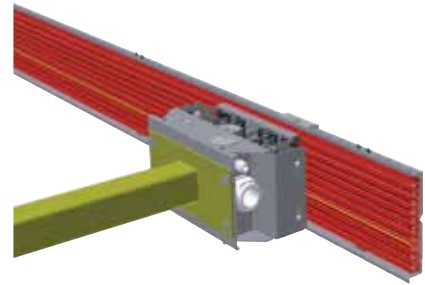
Vertical Alignment

The height of the mounting bracket and the steel support profile are the same. This makes vertical alignment easy, e.g. by means of a level. A tolerance of 10 mm is permitted.

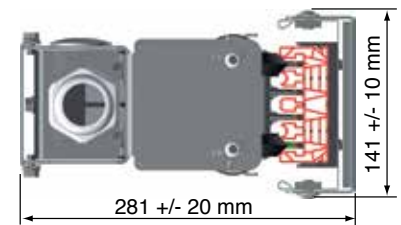
After alignment of the mounting bracket, the collector trolley can be mounted to it. Then the appropriate cables can be connected to the terminals.

Special Collector Trolleys

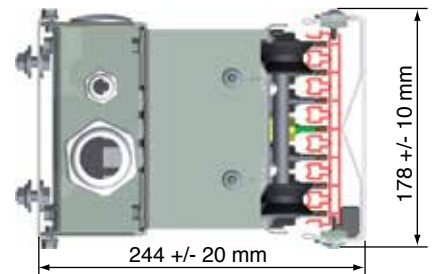
There are special types available for aisle changing cranes, which demand the use of transfer guides. See page 7 for more information about these applications.



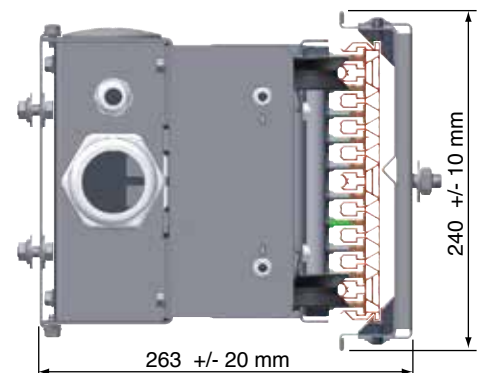
Collector trolley, mounted on the towing arm



Mounting of trolley PCT7-x-125 on towing arm



Mounting of trolley PCT7-x-125 on towing arm



Mounting of trolley PCT10-x-125 on towing arm

TransTech Pro-Ductor® Conductor Systems: Efficiency Per Linear Meter

TransTech Pro-Ductor saves costs beginning during installation. This because all components are tuned to each other, resulting in quick and efficient installation.

The Pro-Ductor housing is supported by the steel support profiles SP4, SP7, or SP10 and fits almost every application.

The support profile can, in most cases, be mounted directly

onto the storage racks without extra construction parts. Fast and easy mounting of the insulated Pro-Ductor housing is possible without using screws, which saves time and money during installation.

The solid support profile also protects the Pro-Ductor housing against falling subjects.

Suspension of Rail Section

The steel support profile (standard length 6 m) is easily fixed to the storage racks. In most cases, the rail will be installed with the conductors below one another. The minimum mounting height is 160 mm (top PCT4), 200 mm (top PCT7) and 275 mm (top PCT10).

The shape of the support profile combines high rigidity with a low weight and minimal size. The sections are fitted with punched holes that allow free positioning of support brackets and/or joints for quick and easy installation. No welding, drilling, etc. on site is necessary.

After mounting the support profile, the insulated Pro-Ductor housing can be fixed without using any tools!

The Pro-Ductor housing is supported along the complete track, providing high stability and allowing high travel speeds.

Up to 3.3 m between the various suspensions is possible, due to application of this supporting section. Without a supporting profile this distance is reduced to 0.8 m maximum.

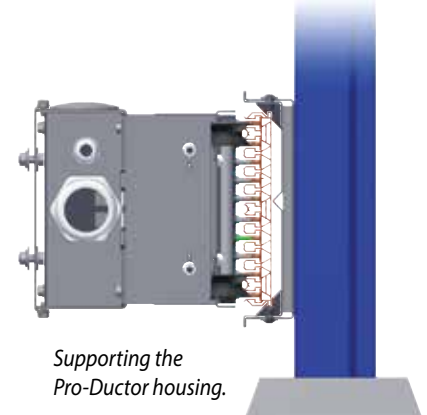
Inspection of the Collector Trolley

Easy inspection of the collector trolley is achieved by removing it from its housing. Then, the carbon brushes, road wheels and wiring can be inspected at a glance.

Minimum brush wear is ensured, due to the smooth surface of the conductors and the absence of plug connections. The road wheels have minimum wear as well, since they are made of high-quality, wear-resistant, synthetic material.



Replacing the carbon brushes.



Supporting the Pro-Ductor housing.



Due to the lightweight steel supporting profile, a distance between the suspension of 3.3 meters is possible.



For inspection, the collector trolley can be taken off the rail easily.

Configuration of Pro-Ductor Systems: Some Important Remarks

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

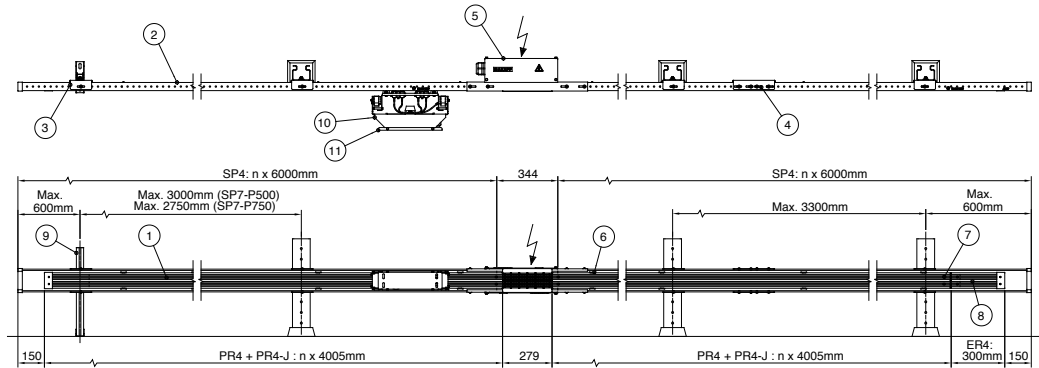
You can determine the most suitable location of the feed point (end or line feed) by considering the local situation and voltage drop.

The minimum mounting height is 160 mm (top PCT4), 200 mm (top PCT7 and 275 mm (top PCT10).

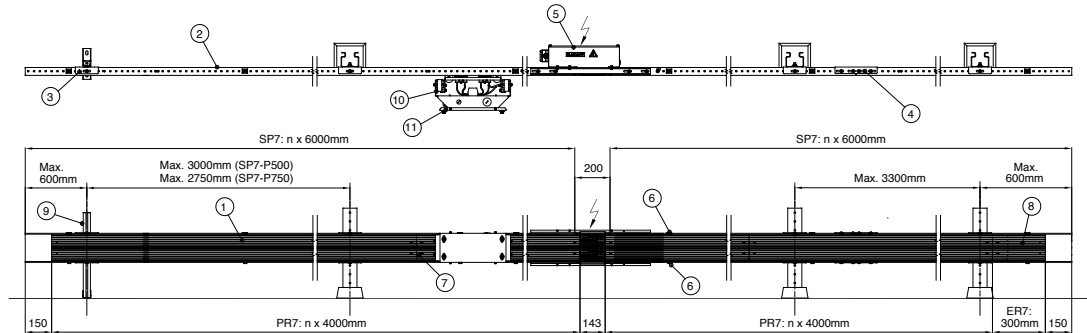
Support distances up to 3.30 meter are possible, provided that the steel support profile SP4, SP7, or SP10 is applied.

The graphics below show some typical configuration options for PR4, PR7, and PR10 systems. For more information on this please contact us.

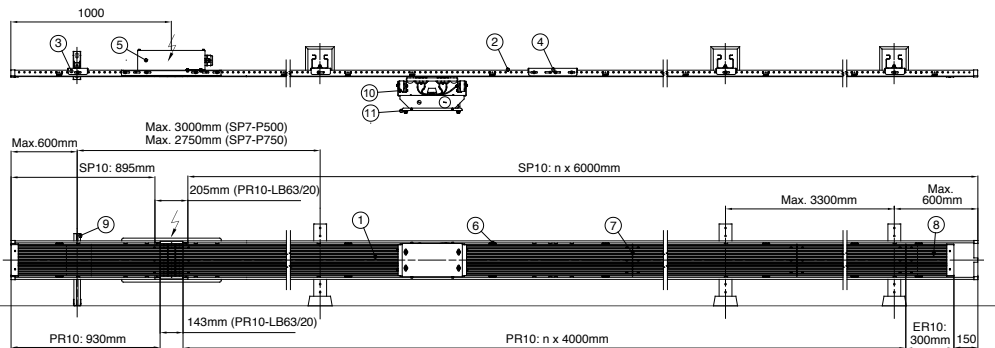
System Type PR4. Line feed



System Type PR7/PR10. Line feed



System Type PR7/PR10. Line feed as End feed



LEGEND:

- | | | |
|---|------------------------------|--|
| 1. Housing PR4/PR7/PR10 | 4. Joint for support profile | 8. End cap |
| 2. Support profile SP4/SP7/SP10 | 5. Feed box | 9. Support |
| 3. Mounting bracket for support profile | 6. Mounting clip for housing | 10. Collector trolley |
| | 7. Joint for housing | 11. Mounting bracket for collector trolley |

Special Applications with Pro-Ductor®: Even More Possibilities

The TransTech Pro-Ductor system is extremely flexible and versatile because of the unique design.

It offers solutions for feeding problems in numerous applications and in a wide variety of circumstances.

Pro-Ductor systems can be applied for aisle changing (warehouse) cranes.

It is also possible to apply TransTech Pro-Ductor systems in combination with electronic control systems, such as PROFIBUS®.

Advanced methods of positioning (e.g. with barcode) are also possible. The support profile can be extended with a special barcode strip.

Below are some examples.

Aisle-Changers for Pro-Ductor (PR7/PR10)

Collector Trolleys

An aisle changing crane must be fitted with 2 collector trolleys (63A), using a special guide construction.

These trolleys are parallel mounted to prevent interruption of the current while the crane is changing aisles.

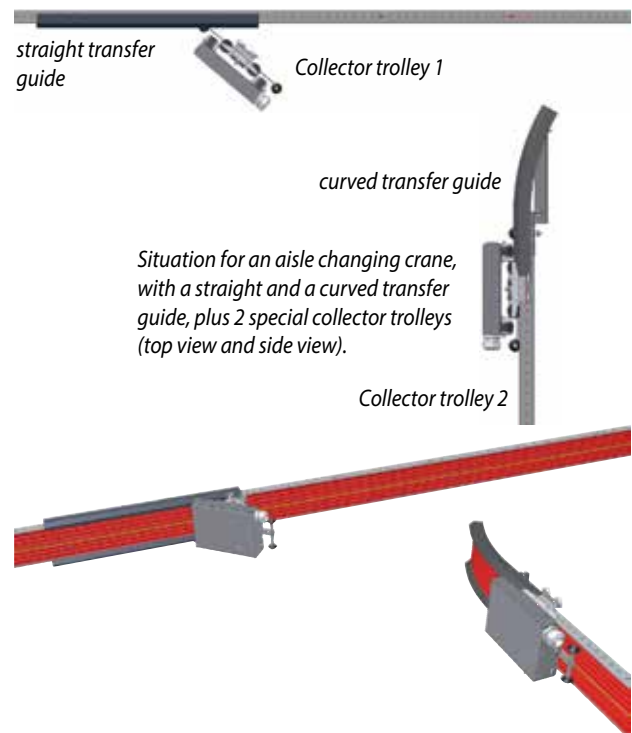
Transfer Guide Sections

At the end of each aisle is a curved transfer guide, while in the main aisle straight transfer guides must be installed.

These transfer guides are needed to lead the collector trolleys smoothly into the other track.

The crane can approach transfer sections from both sides, so the traveling direction is not relevant.

The traveling speed at the transfer guide may not exceed 80 m/minute.



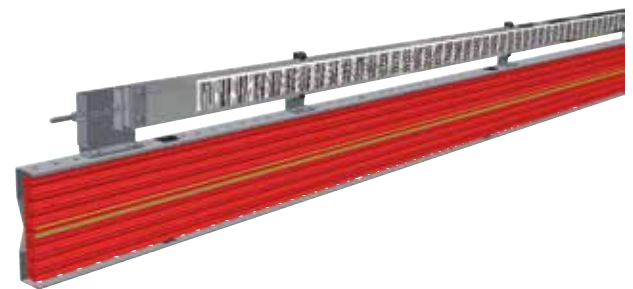
Positioning Systems for Pro-Ductor (PR4/PR7/PR10)

Barcode Tape

An optical measurement system operating with a visible red light laser, commonly known as DOPS (Digital Optical Positioning System)

A metal strip provided with barcode tape is mounted on the top or below the support profile SP4, SP7, or SP10. The laser fitted on the (warehouse) crane reads the barcode and determines the crane position relative to the barcode tape.

Depending on the operating system, this information can be sent through the Pro-Ductor system to a processor for further use with additional software.



Example of a Pro-Ductor system with positioning by means of barcode strip.

Transtech Conductor Bar Systems: Always a Perfect Solution

TransTech Pro-Ductor is a very reliable and efficient conductor system, successfully used in many warehouses, but it is only one of our products.

TransTech supplies many more conductor systems, to create

an optimal solution for each and every application. Whatever system you opt for, you can always count on the perfect functioning of the installation.

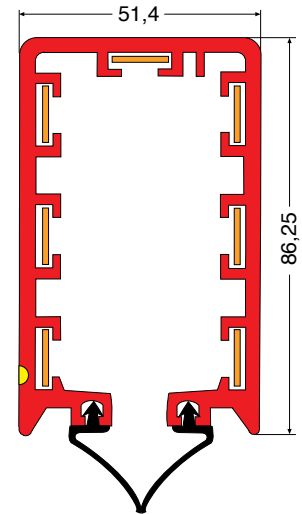
Please contact us for more information.

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 from 35, 50, 80, 125, up to 160A. A flexible double sided rubber sealing prevents penetration of dust or liquids and allows functioning in extreme weather conditions. There are no expansion problems due to the clearance that exists between the conductors and the PVC housing. The rubber sealing strip has no effect on the performance of the system. The Multiconductor is well suited for extremely long tracks and high travel speeds.



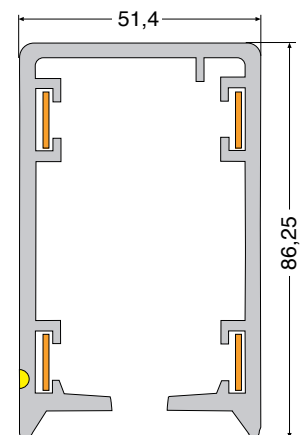
TransTech Multiconductor is used world-wide for cranes, traverse cars, (automated) warehouses, elevators, textile production, sluices, trains etc., even in extremely dusty, humid, or corrosive environments.



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 organization, opt for the TransTech 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, the 4-Ductor is a very reasonable and cost-effective solution for an uninterrupted current supply to a variety of movable and/or mobile equipment.



Flexible with Energy

TransTech is a market leader with our made-to-order conductor bar systems. We offer the best possible solutions for almost any application, no matter the circumstance. We welcome your inquiries.





TranStech
POWER TRANSFER SYSTEMS

The Leaders In Power Transfer Technology

TranStech is a subsidiary of Fandstan Electric, a global group of companies focusing on energy transfer systems with installations in over 100 countries. Working synergistically with our European sister companies such as Brecknell-Willis, Stemmann and AKAPP, we are able to leverage a broad product portfolio and a wealth of technical expertise. Our goal is to better serve our power transfer markets by continuing to provide solutions that improve product life, performance, and reliability.

709 Augusta Arbor Way
Piedmont, SC 29673

800.245.4552 ph | 864.277.7100 fx
transtech.com

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