

PR2 Shuttle Power

Continuous Energy, Your Business' Backbone



KEY CUSTOMER BENEFITS

- ✓ Proven Continuous Copper AKAPP LongLife Design.
- ✓ Designed for compact shuttle and crane systems with minimum maintenance and maximum uptime.

KEY FEATURES

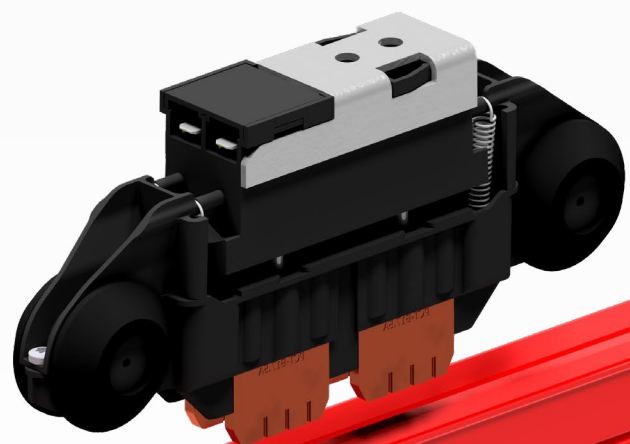


Wheel guided, spring loaded current collector.



Continuous Copper 'AKAPP LongLife'.

At Akapp-Stemmann, we deliver high-quality transmission systems that ensure reliable power and data transfer for moving equipment in industrial environments.



PR2

Shuttle Power

Made for reliability.



TABLE OF CONTENTS

AKAPP LongLife Technology	4
System features	5
Technical specifications	5
Rail housing	6
Mounting bracket	7
Rail connector	7
Fixed point	8
Copper conductor	8
Transfer guide	9
End feed connection box	9
End cap	10
Collector trolley	10
Copper pulling tools	11
Rotating copper pulling assembly	12
Service and maintenance	13
Applications	14

Why AKAPP?

AKAPP-Stemmann, part of Wabtec, is a trusted specialist in design, manufacturing and supply of dynamic power supply solutions since 1953.

In today's dependable industries and fast-moving intralogistics environments, power delivery can't be the bottleneck. That is why we design flexible and robust conductor bar systems that support industries where continuity and uptime are essential.

Guided by decades of engineering expertise, we develop solutions that seamlessly align with the operational needs of customers worldwide. With a clear focus on long-term performance, AKAPP provides the dependable power infrastructure your systems need to operate efficiently, day after day.



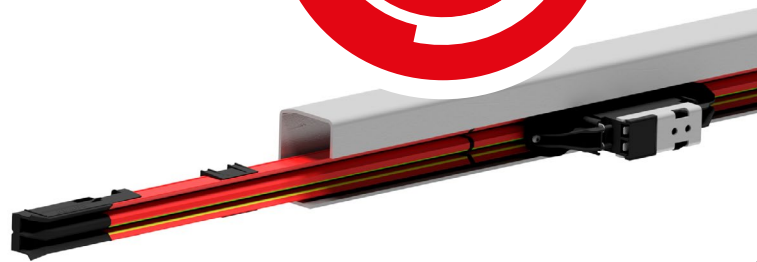
OUR MISSION

At Akapp-Stemmann, we deliver high-quality data and energy transmission systems for moving equipment, ensuring reliable power and signal transfer in industrial environments

AKAPP LongLife Technology

AKAPP's continuous copper conductor technology eliminates the mechanical joints found in traditional conductor bar systems, removing the weak points that cause resistance peaks, heat build-up and premature wear. Combined with inventive current collector features engineered for perfect rail alignment, the uninterrupted copper surface allows carbon brushes to run smoothly with lower friction and no arcing.

The result is smooth, stable and predictable trolley movement that keeps production running, shifting maintenance to predictable, scheduled interventions. This reduces lifecycle costs and lowers total cost of ownership over time, making AKAPP LongLife-equipped conductor bar systems the reliability standard for energy transfer to moving machines.



BENEFITS

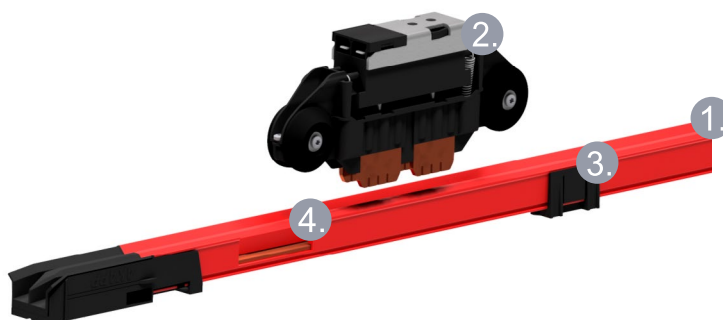
-  Continuous copper conductors for uninterrupted power.
-  No sparking — prevents unplanned stops and increasing safety.
-  Wheel-guided alignment eliminates rail profile wear and ensures smooth trolley travel.
-  Maximum uptime with minimal maintenance requirements.

FEATURES

-  Spring loaded carbon brushes for optimal contact and minimal wear.
-  No mechanical joints, eliminating openings that accelerate conductor wear.
-  LongLife carbon brushes engineered for extended service life.
-  Collector body with integrated springs for flexible movement and perfect alignment.

Engineered for modern AS/RS systems

1. **Compact 2-pole conductor bar system** in industry-standard dimensions, supporting currents up to 100 A at 100% DC.
2. **Wheel-guided**, spring loaded collector for precise alignment and low wear under dynamic acceleration profiles.
3. **Durable mounting clip** with precise snap-fit design, ensuring fast and secure conductor bar fixation in all operating conditions.
4. **Continuous copper** conductor for silent, stable operation and a significantly longer carbon brush life.



Technical specifications

Electrical

Rail system capacity	100A 100% DC (Duty Cycle), 125A 80% DC (Duty Cycle)
Rated current collector trolley	Max 35A at 100% Duty cycle
Nominal voltage with protective earth (PE)	Max 600V AC
Nominal voltage without protective earth (PE)	Max 48V AC/DC
Number of poles	2
Electrical setup	2 phase, 1 phase + PE, 1 phase + zero
Conductor material	Copper

Mechanical

Max travel speed	500m/min, 30km/h
Direction of travel	2-way
Gap between the poles	15.2mm
Suspension distance (between mounting brackets)	800mm

Dimensions

Max. system/track length	130m
Rail housing	Max 4000mm standard rail length 85mm to 3970mm on request
Minimum track length	253mm total length - 199mm usable length
External dimensions	36.1/39.5 x 98mm

Operating conditions

Temperature range	-30 to 60°C
Max operating temperature difference	Depending on the track layout
Max. relative humidity	95%
Installation environment	Indoors
Protection class	IP2XB

Tolerances

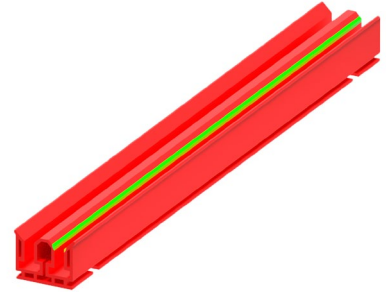
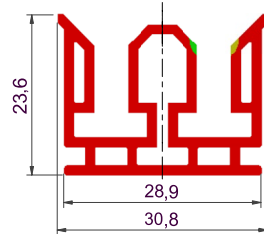
Conductor bars	Horizontal (X) $\pm 3\text{mm}$ Vertical (Y) $\pm 1\text{mm}$
PCT current collector tolerances:	Horizontal (X) $\pm 5\text{mm}$ Vertical (Y) $\pm 5\text{mm}$

PR2, 2-pole conductor bar system

Rail housing with earth marking

Standard rail, length 4m.
Form-stable enclosure.
Can accommodate 2 copper conductors (to be ordered separately).

- Standard length: 4000mm
- Insulation material: PVC

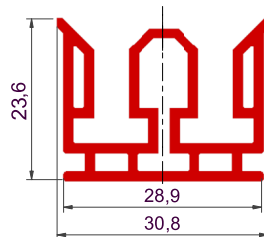


Part No.	Type	Description	Weight [kg]
1230100	PR2-HE	2-pole rail housing, with earth marking	1,629 kg/4000mm

Rail housing without earth marking

Standard rail, length 4m.
Form-stable enclosure.
Can accommodate 2 copper conductors (to be ordered separately).

- Standard length: 4000mm
- Insulation material: PVC



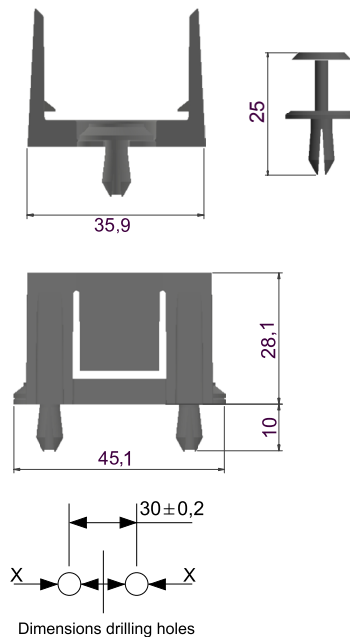
Part No.	Type	Description	Weight [kg]
1230150	PR2-H	2-pole rail housing, without earth marking	1,629 kg/4000mm

PR2, 2-pole conductor bar system

Mounting bracket (spreader nails included)

Mounting bracket, mounting by spreader nails (included).
Rail housing easy to fit 'click' in the bracket. Rail housing can slide in bracket (for expansion).

- Mounting with spreader nails
- Maximum mounting surface material thickness: 7mm
- Minimum mounting surface material thickness: 2mm
- Rated suspension distance: 800mm max.
- Insulation material: High impact POM



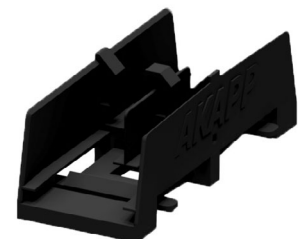
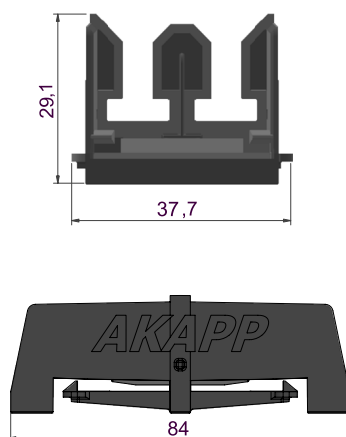
Diameter X (mm)	Total material thickness
Ø 4,6mm	2mm
Ø 4,7mm	3mm
Ø 4,8mm	4mm
Ø 4,9mm	5mm
Ø 5,0mm	6mm
Ø 5,1mm	7mm

Part No.	Type	Description	Weight [kg]
1230210	PR2-MB	Rail mounting bracket, including spreader nails	0,01

Rail connector, joint clamp

Connector for rail housings.

- To connect 2 rail housings
- Easy 'click' fit to a 4000mm standard rail housing
- Easy 'slide-in' of rail housings
- Insulation material: PA6 30%GF



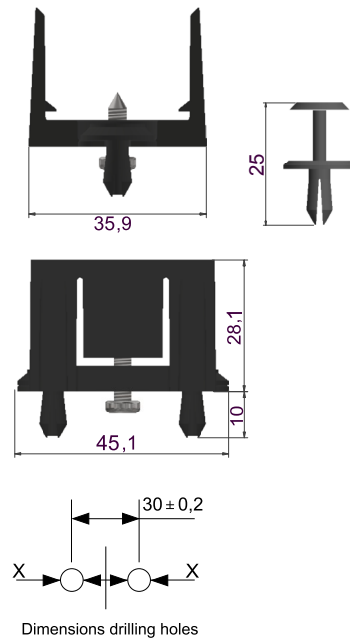
Part No.	Type	Description	Weight [kg]
1230400	PR2-JC	Rail connector, joint clamp	0,016

PR2, 2-pole conductor bar system

Fixed point (spreader nails included)

Fixed point (anchor point), to secure the rail track on 1 location.
The rail track is to expand/contract from this point (due to temperature changes).

- Mounting with spreader nails
- Maximum mounting surface thickness: 7mm
- Minimum mounting surface thickness: 2mm
- Insulation material: High impact POM



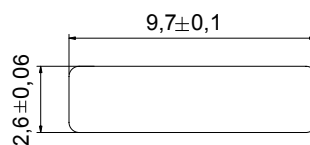
Diameter X (mm)	Total material thickness
Ø 4,6mm	2mm
Ø 4,7mm	3mm
Ø 4,8mm	4mm
Ø 4,9mm	5mm
Ø 5,0mm	6mm
Ø 5,1mm	7mm

Part No.	Type	Description	Weight [kg]
1230220	PR2-FP	Fixed point, spreader nails included	0,04

Copper conductor

Continuous copper conductor to be pulled into the conductor bar after installation of the rail housings.

- 100A at 100% DC
- 125A at 80% DC
- Weight: 0,224 kg/m



Part No.	Type	Description	Weight [kg]
1230020	CU125-PR2	Copper conductor, 100A/100%, 125A/80% DC	0,224 kg/m

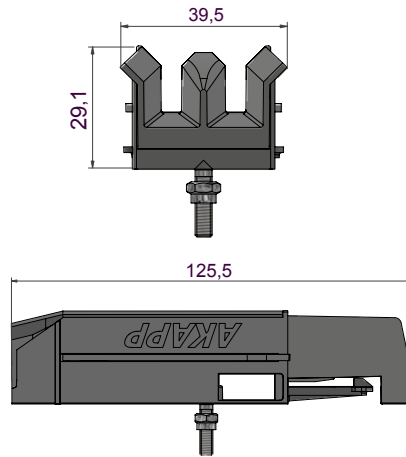
PR2, 2-pole conductor bar system

Transfer guide, with power feed option

Transfer guide, to be placed at end of the rail track. Can also be used as a power feed box. Fixed point integrated (Ø 4,5mm).

Funnel rail entry to feed/remove shuttles/machines.

- Easy 'click' fit to a 4000mm standard rail housing
- Optional power cable connection max. 6mm²
- Insulation material: PA6 30%GF



Part No.	Type	Description	Weight [kg]
1230300	PR2-TG	Transfer guide	0,044

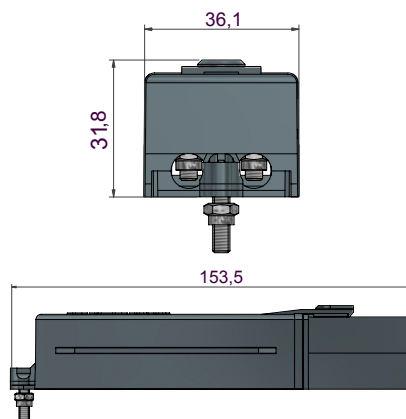
End feed connection box

Electrical power feed box.

Copper expansion integrated.

Fixed point integrated (Ø 4,5mm).

- Easy 'click' fit to a 4000mm standard rail housing
- Cable connection: max. 10mm² Ø 8mm
- Insulation material: PA6 30%GF



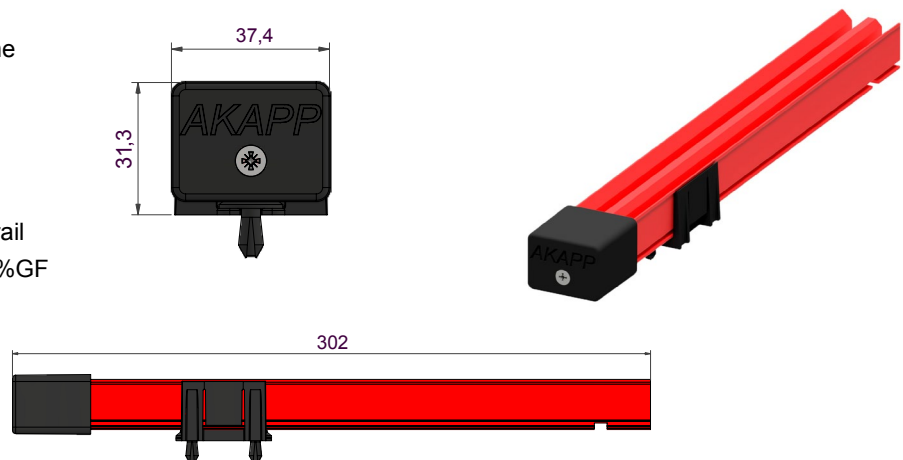
Part No.	Type	Description	Weight [kg]
1230450	PR2-EB	End feed connection box	0,058

PR2, 2-pole conductor bar system

End cap

End cap to be placed at the end of the rail track.

- Length: 302mm
- Without earth marking
- Can be used on either side of the rail
- Insulation material: PVC + PA6 30%GF
- + High impact POM



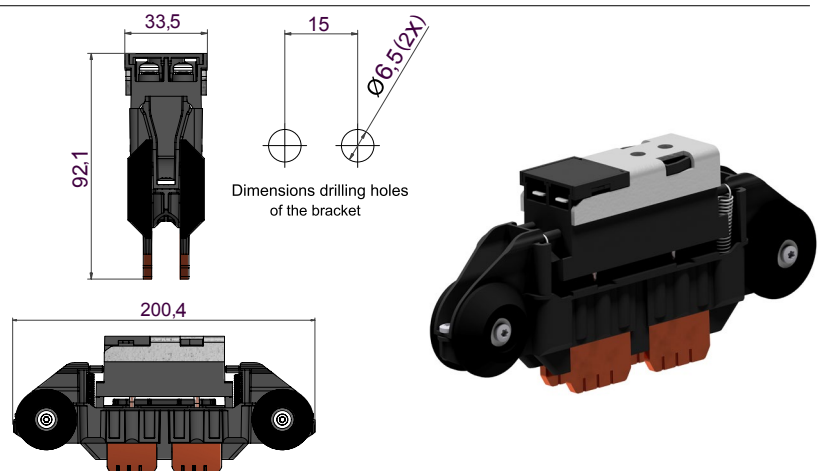
Part No.	Type	Description	Weight [kg]
1230380	PR2-EC	End cap, length: 302mm	0,147

Collector trolley, including mounting bracket

Wheel guided and spring loaded body for perfect alignment to the PR2 rail housing.
4 carbon brushes, individual spring loaded (2 carbon brushes for each copper conductor).

Bracket for easy mounting & replacement

- Electrical: max. 600V AC, 35A, (at 100% duty cycle)
- Connections: 2x faston
- Mounting: 2x M6 bolts (not included).



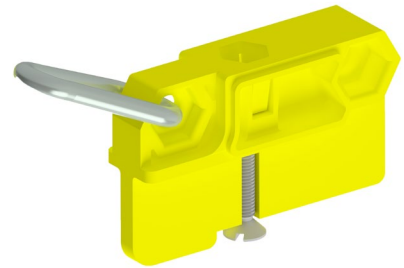
Part No.	Type	Description	Weight [kg]
1230500	PR2-PCT2-35C	Collector trolley, mounting bracket included	0,326

PR2, 2-pole conductor bar system

Copper pulling tool, single

To pull in single copper conductor in the PR2 rail housing.
Copper is secured with countersunk screw.

- Pull in 1 copper conductor
- Copper max. 100A
- Equipped with snap-hook

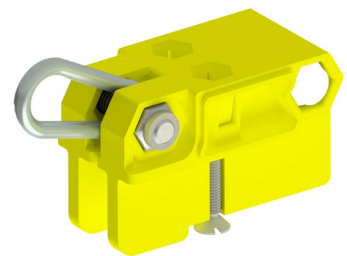


Part No.	Type	Description	Weight [kg]
1230700	PR2-CPT-S	Single copper pulling tool	0,024

Copper pulling tool, double

To pull in 2 separate copper conductors simultaneously in the PR2 rail housing.
Copper is secured with countersunk screw.

- Pull in 2 copper conductor simultaneous
- Copper max. 100A
- Equipped with snap-hook



Part No.	Type	Description	Weight [kg]
1230710	PR2-CPT-D	Double copper pulling tool	0,062

PR2, 2-pole conductor bar system

Rotating copper pulling assembly

To rotate/unwind and pull 2 copper conductors simultaneous in the PR2 rail housing.

Can handle various copper conductor thicknesses

- Equipped with copper conductor straightener (listed below)
- To operate; unit to be fixed/mounting on a lifting device

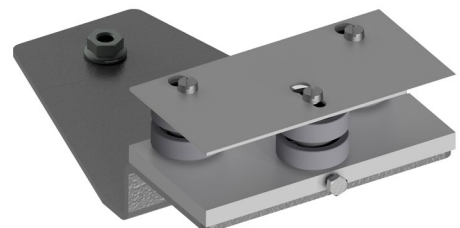


Part No.	Type	Description	Weight [kg]
1230720	PR2-Rotator2	Rotating copper pulling assembly	19,94

Copper straightener

To straighten copper conductors for easy/smooth pulling into the PR2 rail housing.

- This is a spare/replacement part for the PR2-Rotator2 rotating copper pulling assembly



Part No.	Type	Description	Weight [kg]
1230740	PR2-STR2	Copper straightener	1,02

AKAPP for Service and Maintenance

Our Service department ensures that your Akapp conductor bar system is installed correctly, safely, and with minimal impact on your operations. We coordinate planning and on-site work efficiently and provide clear follow-up after inspections, including maintenance recommendations and replacement where needed.



SERVICE ADVANTAGES

- ✓ Efficient planning with minimal disruption.
- ✓ Installation and maintenance by well-trained technicians who are specialists in their field
- ✓ Replacement of wear parts **only where needed**, based on actual condition.
- ✓ Direct support through our dedicated service and planning department.

CONTACT SERVICE & MAINTENANCE

Carel Sanders
Service Coördinator
Tel. +31 886004509

Valentijn Pegman
Sales Front Office Manager
Tel. +31 886004308

Or send your request to: WNL_Installation_Maintenance@wabtec.com

Applications for the PR2, 2-pole conductor bar system

Shuttle Systems

Shuttle systems are the driving force behind modern intralogistics. They deliver ultra-fast storage and order picking, maximize space utilization, and offer a flexible, scalable design that grows with your business. With high reliability and 24/7 availability, shuttles ensure a continuous and efficient material flow—ideal for e-commerce, production environments, and fulfillment operations that demand top performance.

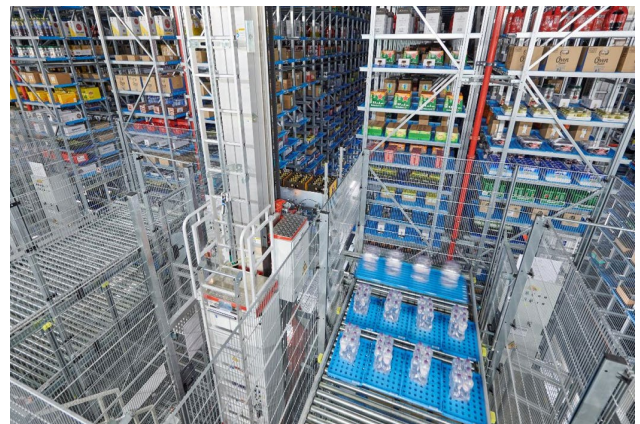
As shuttles become faster, lighter, and more compact, the new AKAPP PR2 conductor bar system provides a highly efficient, low-profile power supply that perfectly meets the requirements of next-generation shuttle technology.



Mini-load 'Light' Cranes

Mini-load 'light' cranes play a vital role in modern intralogistics, enabling fast and automated storage and retrieval of small parts with outstanding precision and space efficiency. As these machines become faster, more compact, and significantly lighter, the need for equally efficient and lightweight power supply solutions continues to rise.

AKAPP's 2-pole PR2 conductor bar system supports these developments with a compact and reliable power supply specifically suited to new-generation mini-load cranes. Its slim profile integrates seamlessly into narrow crane structures, ensuring stable and efficient power transmission.



Transfer Cars

Transfer cars play an important role in modern intralogistics, enabling fast and reliable cross-aisle transport to keep material flows running efficiently. As these vehicles become increasingly compact and lightweight, a smart, low-profile power supply is essential.

Because transfer cars operate with frequent starts, stops, and lateral movements, a conductor bar system such as PR2 offers a stable and space-efficient power supply that supports continuous operation. Its compact profile ensures reliable power transmission even in installations with very limited mounting space.

When additional IP protection is required, we recommend using Akapp Multiconductor systems.



PR2 Shuttle Power

Continuous Energy, Your Business' Backbone



CONTACT

Visit us (appointment only)

Darwinstraat 10
6718 XR Ede
The Netherlands

Phone number

+31 (0)88 600 4500

E-mail address

info.akapp@wabtec.com