

Wampfler Product Overview





Solutions for a moving world

It takes **ideas** to create solutions - and **products** to implement them!

Like the over 50,000 different products marketed by Wampfler, for example. With its broad array of different "tools" for the transmission of energy and data, Wampfler is a single-source supplier with products that cut across virtually all industries. Our formula for success is based upon the use of standardized components to configure custom solutions. Over the years, we have developed and perfected a series of modular systems to meet the needs of industry and the trades.



Wampfler Product Overview:

Systems for Energy and Data Transmission

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- Systems for industrial workstations
- Overhead monorails

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- Bumpers
- Switch strips/Switch mats
- Signal transmission systems for doors and gates
- Buffers



Cable Trolleys

A Flexible Approach

- A complete line of proven standardized modular components
- For straight, circular and curved tracks
- Travel speed of up to 400 ft/min
- Power transmission with flat and round cable or hoses
- Stainless-steel, acid-resistant and explosion-proof construction



Flexible energy supply for straight and circular paths



Cable trolley supported by a wire rope
For loads up to 44 lbs

Cable trolley for C-rail track

For loads up to 275 lbs, for straight tracks, also for curved tracks under certain conditions



Cable trolley for square rail track

For loads up to 80 lbs, for straight, circular or curved track



Cable trolley for I-beam track

For loads up to 44 lbs

Wampfler's line of cable trolleys includes systems designed for travel along wire rope or a track consisting of C-rails, square rails or I-beams. Wampfler cable trolleys are extremely versatile and permit configuration of systems to meet virtually any specific needs. Modular design makes it possible to use straight, circular and curved tracks, and all components and accessories required to obtain the optimum solution are available.

Wampfler cable trolleys guarantee perfect operation and maximum availability even in harsh environments such as, for example, silos, sewage treatment plants, etc.

Cable trolley system in a humid environment





Heavy-Duty Cable Trolleys For Big Jobs

Wampfler's heavy-duty cable trolleys are the choice of preference for applications that call for high-speed operation with high loads such as, for example, grab cranes, container cranes, automated bridge cranes and skid systems. Other applications are found in the area of environmental technology, including, for example, composting plants, silos, etc.).

These systems can be completely preassembled for installation prior to shipment, and we can also dismantle and dispose of old systems if desired.

We have developed a special standardized line for all applications involving container cranes that call for high-speed operation under extreme conditions. This product line permits optimum performance and prolongs the service life of the entire system.

Cable trolley for I-beam track
For loads up to 176 lbs,
an ideal solution for bridge cranes



Cable trolley for I-beam track
For loads up to 550 lbs,
an ideal solution for composting plants



Motorized cable trolley for I-beam track
For loads up to 1760 lbs, specifically
intended for ship-to-shore container cranes



Motorized cable trolley system on a ship-to-shore container crane

- Standardized systems for high-speed operation (up to 656 ft/min) and heavy festoons (up to 1760 lbs)
- With frequency-controlled auxiliary drive units for speeds above 656 ft/min
- Stainless-steel, acid-resistant and explosion-proof construction
- Low-noise operation

Spring Cable Reels *Pulling Ahead*

- Spool diameters from 6 inches to 20 inches
- Modular design
- Long spring life
- Spring in separate compartment for safe replacement
- Lightweight construction
- Protection: Standard IP65
- Pay-out lengths up to 230 ft
- Take-up speed up to 205 ft/min



Spring cable reel mounted on an all-terrain crane

Wampfler spring cable reels provide the optimum solution for all hoisting and material-handling applications. Rugged, heavy-duty construction guarantees exceptional reliability under extreme operating conditions.

Spools feature double ball bearings with lifelong lubrication, and the slip ring bodies containing live parts are separated from the springs, which come in separate compartments to permit safe replacement. As a result, Wampfler spring cable reels also comply with the most stringent international safety regulations.



Spring cable reel (type BEF)
With universal flange mounting,
available with installed and connected cable

Spring cable reel on a bridge crane



Standard spring cable reels

For power and control lines with cable diameters of between 1 and 35 mm², take-up speed of up to 205 ft/min



Motorized Cable Reels *For the Long Haul*

Bulk wrap motorized cable reel
With spool designed to rewind and store
2620 ft of 20-kV cable



Wampfler engineers were from the very beginning convinced that permanent magnetic couplings offered a host of advantages. As a result, they developed a complete series of motorized cable reels that make it possible to configure efficient, economical standardized systems to meet all power requirements and cover virtually all applications. In addition, customers can choose from various drive options.

In order to meet all conceivable requirements, frequency-controlled drive units are used for long travel distances and high speeds. Wampfler supplies all necessary components and a wide range of accessories to guarantee that cable and hoses rewind reliably without any problems.

Reels can be ordered with pre-installed and preconnected cables, and many cable types and cross sections are available for immediate shipment. All modular components are installed on the gearbox.

Reels are available in galvanized steel or stainless steel for bulk wrap, monospiral or level wind operation.

Monospiral wrap motorized cable reel
Diameters up to 26 ft



Motorized cable reel on a scraper
in a sewage treatment plant



- Optimum choice of models for all applications
- Compact, space-saving design
- Low maintenance
- Spool diameters from 10 inches to 26 ft
- Pay-out lengths up to 2620 ft
- For travel speeds up to 590 ft/min



Cobra energy guiding chain installed on a stacking crane

Energy Guiding Chains

Power Management



Cobra

Inside heights of 38, 58, 72 mm, inside widths up to 800 mm, for loads up to 50 kg/m and travel distances up to 240 m; wide range of different configurations

Viper
Inside heights of 20, 26, 38, 44 mm, inside widths up to 250 mm, for loads up to 10 kg/m and travel distances up to 100 m; wide range of standard models



Wampfler energy guiding chains feature a host of advantages for all applications involving the transport of a wide variety of different control, power, data or bus lines.

Energy guiding chains make it possible to move the interface for access to energy and digital data at high speeds. In addition to horizontal travel, vertical and circular configurations are also possible.



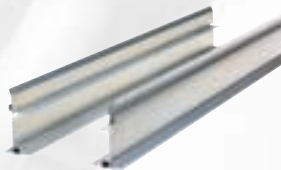
Boa

Inside heights of 31, 46, 72, 109 mm, inside widths up to 900 mm, for loads up to 60 kg/m and travel distances up to 200 m; wide range of options

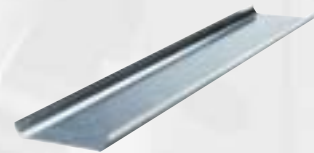
The basic chain design makes it possible to configure a mobile system with the optimum length. Since minimal space is required, costs for interfaces at the point of application are lower.

Aluminum channels

Available in six sizes, with or without glides, variable width, easy installation, seawater-resistant



Track for self-supporting chains, available in galvanized steel or stainless steel, one-piece construction



- Plastic, steel and combination plastic-aluminum chains
- Special materials available for any operating environment (including explosion protection, cold storage, etc.)
- Special cables available
- Anti-friction skids for travel distances up to 790 ft
- Aluminum frame stays to keep cable wear to a minimum



Energy guiding chain designed for long travel distance on a ship-to-shore container crane

Cable and Accessories

Single-Source Convenience

Wampfler offers a complete range of flat and round cable for reels, energy guiding chains and cable trolley system, including extra-wide, cold-flexible and multiple-conductor cable as well as fiberoptic cable.

In addition, customers can choose from a wide range of shielded and non-shielded cables with PVC, PUR and rubber jackets, all of which comply with VDE and international standards and norms. Available accessories include screw-type fittings for round and flat cable as well as terminal blocks and plug connectors.



Cable for energy guiding chains with clips for strain relief

- Complete range to cover all hoisting and material-handling applications
- Choice of many different cross sections and types
- Wide range available for immediate shipment
- Up to 48 conductors
- Cross sections up to 500 MCM

Flat and round cable

For all applications, power and control lines, shielding optionally available



Plug and socket connectors

For reliable, non-permanent connections for power and control lines

Housings

Wide range of different sizes and materials available

Energy and data lines on a container crane



Cable fittings

For reliable strain relief and sealing

Conductor Rails

Reliable Contact

- For safe, reliable transmission of energy and data
- Designed of loads of 10 A to 2000 A
- Variable number of poles
- Dedicated solutions for specific applications



People-mover on a ski jump



Enclosed conductor rails

With 5 or 7 poles, individual configuration, various connection systems available as a function of assembly and operating conditions, for indoor and outdoor operation, for straight or curved travel, for loads between 35 A and 140 A

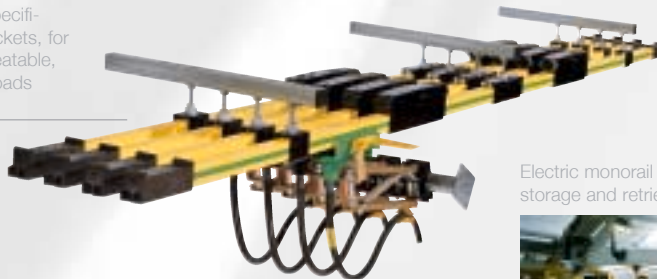
Multipole conductor rails

Standard models with 3, 4 or 5 poles, compact hanger clamps (with a single screw) permit configuration of systems with 6, 7 or 8 poles, for loads between 10 A and 125 A



Single-pole insulated conductor rails

Number of poles according to specifications, universal installation brackets, for indoor and outdoor operation, heatable, for straight or curved travel, for loads between 10 A and 2000 A



Wampfler conductor rails are the choice of preference for the transmission of power (up to 2000 A) and digital data. Special metal rails are used for the transmission of data. Wampfler's electronic Powertrans® system represents an extremely efficient solution that permits reliable data transmission even under difficult operating conditions.

Wampfler conductor rails are available with any desired number of poles and in any desired length, and they are designed for simple, easy installation. Rails feature robust construction and are suitable for use in harsh industrial environments. Heavy-duty connective elements guarantee reliable transmission without interruption for problem-free operation.

Current collectors move along three axes to compensate for variations in assembly tolerances and inevitable deviations in travel due to operating conditions. This permits uninterrupted transmission of energy and digital data and keeps wear to a minimum. Conductor rails are available for travel speeds of up to 33 ft/s.

Electric monorail conveyor between transfer cars and a high-bay storage and retrieval system in a brewery





Rotating injection molder

Slip Ring Bodies *Coming Full Circle*

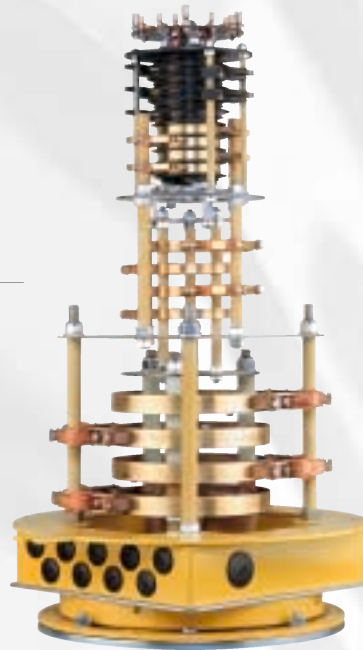
Wampfler slip ring bodies are used to provide power for all types of rotating consumers. Applications include slewing cranes, skimmers in sewage treatment plants, amusement park rides, pick-and-place systems, rotary tables, antennas, theater stages, packaging machinery and cable reels.

Rotating components are also available for fluids (water, hydraulic oil, etc.) and gases (compressed air, argon, etc.).

Wampfler also offers a wide range of accessories and special equipment (e.g., with large diameters, for extreme operating conditions, for fiberoptic cable, for high-voltage applications, etc.).

Combined slip ring body

Built to meet customer-specific requirements for the transmission of power and digital data



Slip ring body for an elevated platform

- Standard and special models for the transmission of power, digital signals, liquids and gases
- Ring diameters from 1¼ inches to 12½ inches
- Loads up to 1200 A
- Voltages up to 24 kV
- Transmission of:
analog signals 0 - 20 mA,
digital signals up to 500 kbps
- Up to 100 poles



Enclosed slip ring body

For standard applications with cover of impact-resistant fiberglass-reinforced PA6.6 polyamide

Exposed modular slip ring bodies

with terminal board consisting of standard modular components for various currents and voltages





Floor conveyor system featuring inductive power transfer

IPT®-Rail, IPT®-Charge, iDAT^{Plus} *No Contact*

- Contactless power and data transmission, guiding and positioning
- No moving parts, no wear
- Installation possible underground or underwater
- Various models available: 500 W to 10 kW or combination solutions to obtain higher ratings



Unlike power transfer systems that use mechanical contacts or components, IPT®-Rail functions completely without contact. As a result, there are no mechanical parts that can wear out or limitations in terms of travel speed or acceleration. Since wear is completely eliminated, IPT® is especially recommended for use in environments that call for special requirements with respect to cleanliness or hygiene.

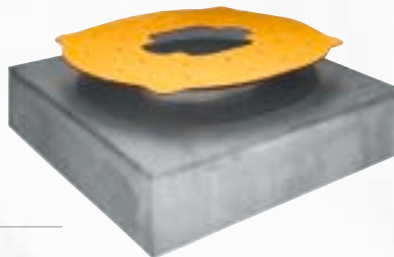
IPT® (Inductive Power Transfer) is a system that makes it possible to transfer power and digital data without mechanical or electrical contact. The system involves the use of a primary and a secondary circuit which are electromagnetically coupled using the principle upon which conventional transformers are based. However, the stationary primary winding and the mobile secondary winding are not permanently coupled. IPT® can even be used to transfer power through floors or water. An IPT® system can be embedded in a plant floor used by fork-lift trucks and similar equipment. This makes it ideal for material-handling systems in industry because it eliminates obstacles and complicated festoons.

Charging stations up to 60 kW, consisting of:
- Primary winding
- Flat pick-up



Flat pick-ups
From 750 W to 2.2 kW

E-type pick-ups
From 500 W to 10 kW



Unlike conventional charging systems, IPT®-Charge systems function without plug connectors and require no manual operation. IPT®-Charge makes it possible to completely automate charging so that it takes place whenever an opportunity arises, at bus stops, for example. This increases the operational range of electric vehicles and keeps the required battery weight to a minimum.

Electric bus designed for contactless battery charging



Powertrans® Ib, Powertrans® II *Data on the Move*

Powertrans® Ib

By increasing the performance levels of the bus protocols to be transmitted, it is possible to guarantee reliable data transmission when using conductor rails and slip rings since the brief interruptions that may occur due to impurities and oxidation, especially in the case of surfaces in contact with one another, can be bridged. Transparent transmission, i.e., the bus protocols to be transmitted are not affected, and time lags and time-intensive transmission protocols are avoided.

Powertrans® Ib

For data transmission with the use of conductor rails and slip rings

In the case of conductor rails, it is possible to achieve distances of up to 5250 ft (at 19.2 kbps, 984 ft at 500 kbps, max. 1.5 Mbps). All RS 485 based protocols (e.g., Profibus) and DH+ can be used for transmission (others optionally available).

Powertrans® II

permits simultaneous transmission of digital, video and audio signals at rates of up to a max. of 4 Mbps in full-duplex operation without physical contact.

Powertrans® II

For contactless data transmission



The use of DSSS encoding makes the system resistant to interference and unauthorized reception. A leak wave cable that has been found to be suitable for a wide range of different industrial applications is used to transmit data to rail-guided vehicles. In addition, omnidirectional



and directional antennas (range of up to 1 km) are also suitable for this purpose. The use of these transmission modes makes it possible to avoid the extensive installation work required by other systems found on the market previously. Several mobile units can be operated in a network simultaneously without additional components. RS 485 or RS 422 based bus systems can be used for transmission. Powertrans® II transmits over the globally available unlicensed 2.4 GHz ISM band. Starting in the year 2003, it will also be possible to transmit emergency stop signals according to EN954-1 Cat. 4.

Transfer car used in the food industry with Powertrans® Ib data transmission



Powertrans® Ib

- Transparent, reliable data transmission
- All RS 485 protocols
- Transfer rate up to 1.5 Mbps

Powertrans® II

- Simultaneous transmission of digital, video and audio signals
- 2.4 GHz in unlicensed ISM band
- Transfer rate up to 4 Mbps
- Ranges up to 3300 ft

Media Management and Overhead Monorails *Customer-Specific Solutions*

- Media management for loads of 440 lbs or more
- Transmission of various media: compressed air, vacuum, respiratory air, power and data
- Delivery of complete systems, virtually preassembled
- Modular solutions
- Also available for very high or very low ceiling heights
- Also suitable for heavy equipment



Media management with W⁴-airsolution for the production of commercial vehicles

Wampfler handling systems are used to make compressed air, respiratory air, electrical power and digital data available where needed. Configurations can be implemented with C-rail systems, ManAir, WAKAIR®-II, or W⁴-airsolution, all of which make it possible to use different modular components to create customer-specific systems for virtually any application.



ManAir

Media management without sagging hoses, C-rail mounted trolley, energy guiding chain to one side, suitable for retrofitting existing C-rails

WAKAIR®-II

Energy guiding chain in aluminum rail, various lengths and features, large distance between fixation points (up to 19 ft)

W⁴-airsolution

A complete media-management system with integrated compressed air storage, available in various lengths, up to 12 ft between fixation points, ideal for assembly lines



Cutting table for fabrics in a flag factory





Media management and tool carriers for the automobile industry



Jib booms

Available in different models to accommodate various media, lengths of 2 ft to 19 ft, for loads between 22 lbs up to 440 lbs

Systems for industrial workstations can support underslung cranes, jib booms, integrated tool carriers and workbench modules as well as various types of cable and hose reels and retractors.

Hose reels

Rated diameters between 1/4 inch and 1 inch, pay-out lengths up to 150 ft

Balancers

For loads up to 440 lbs



Cable reels

For cable lengths up to 90 ft, for cable with 1 to 16 conductors



Overhead monorail with junctions for warehousing

Wampfler overhead monorails can be used to configure virtually any desired layout. In addition to straight sections, the modular system includes curves and transition elements as well as underslung cranes and hoisting and lowering stations.

Overhead monorails

Modular system with 4 different rail systems, for loads of up to 1750 lbs



- Choice of 4 rail systems for loads ranging from 440 lbs to 1750 lbs
- Temperatures up to 430°F
- All components permit custom travel configurations
- Installation possible in any industrial plant
- Convenient modification / expansion of the system is possible at any time

Bumpers, Switch Mats/Switch Strips Buffers *Safety First*

- High availability
- Based upon simple principles
- High level of safety, compliance with EN 954-1 Cat. 3
- Fast installation
- Positive opening system for direct integration into emergency stop circuit
- Designed for indoor or outdoor operation
- EC type approval



Bumpers for material flow system for coils

Wampfler safety devices are used in a wide range of areas to safeguard hazardous zones. Possible applications are virtually unlimited. Wampfler systems prevent personal injury through:

- Doors and gates
- Machinery
- Automated guided vehicles

Wampfler systems and equipment also prevent damage to the following:

- Vehicles in car washes
- Widebody aircraft
- Airport ground equipment

Our proprietary sensors with positive opening contacts make it possible to design switch strips and safety bumpers so that they can be directly integrated into emergency stop circuits without additional electronic components.

Simple, ready-to-install construction permits quick and easy installation of components and systems.

Safety bumpers

For indoor and outdoor use, response distance max. 1¼ inches, effective switching range of 180° from the longitudinal axis, sealed with replaceable, wear-resistant cloth cover



Switch strips

Pressure-sensitive opening contacts, sealed hose construction, possibility of changing lead exit at any time

Safety bumpers for driverless transport system





Electric hangar door with conductor rails and safety bumpers, protected height 52 ft

WARO®

Spiral cable system for electric doors, 5 ft to 77 ft



Switch mat

Designed to withstand vehicular traffic, temperature range +40°F to +130°F



Wampfler safety switch mats feature heavy-duty plate construction. They are designed to withstand the weight of shopfloor equipment in harsh industrial environments. In addition to protection in dangerous areas, switch mats and foot mats are used to signal the presence of people or vehicles. Applications include automated toilets, facilities for the handicapped, bank vaults and elevators.

Transfer car in a brewery



- Complete range of products
- High level of safety
- Long service life
- High energy absorption
- Integrated cable protection
- Customer-specific solutions

Wampfler offers a complete range of standard buffers for a host of applications for the automobile industry and manufacturers of cranes and heavy machinery. These products include everything from elastomer models to hydraulic models. In addition, special-purpose buffers are available for vehicles and baggage conveyors, to mention only two examples.



Cellular buffers

Energy absorption up to 180 kJ

Rubber buffers

Energy absorption up to 13 kJ

Hydraulic buffers

Energy absorption up to 17,000 kJ/h

Wampfler

Worldwide Partnership

Industry-specific experience and expertise

We speak our customers' language. Our specialists consult with customers on site to develop custom-configured solutions.

Our leading-edge innovations enable us to help our customers increase productivity and optimize production.



A single-source supplier

Wampfler designs, develops and produces a complete range of products to supply non-stationary consumers with power and digital data. As a result, our customers receive product-neutral consulting and can count on us for the optimum solution for any industrial application.

Wampfler offers not only products, but also total custom solutions:

- Product-neutral consulting
- Engineering
- Customer-specific solutions
- Preamsembled systems
- Quality controls according to customer standards
- On-site installation
- Maintenance and service





Global presence

Like our customers and the projects we handle, we are present worldwide:

- Headquarters located in Germany with 10 subsidiaries throughout the world
- 8 sales offices in Europe and abroad
- 18 representative offices worldwide
- Global networking for uniform standards in the areas of consulting, sales and service



With production locations in Europe and North America, Wampfler can guarantee available capacity and fast delivery worldwide.

Perfect coordination

Networked thinking and action are just as important to Wampfler as relationships with our customers. After all, that provides the basis for the future and lets us forge ahead together by providing solutions for a moving world.



www = wampfler world wide

*The easy way:
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