

PRODUCT PORTFOLIO



A photograph of a large, grey, rectangular sign for Vahle. The sign features the word "VAHLE" in large, bold, blue capital letters, with "STROMZUFÜHRUNGEN" in smaller, blue capital letters below it. The sign is positioned in front of a brick building with several windows. The background is slightly blurred, and the sky is visible. The image is overlaid with a dark blue geometric shape in the bottom right corner and a light blue geometric shape in the top left corner.

VAHLE
STROMZUFÜHRUNGEN

WHO ARE WE

For more than 100 years, pioneering spirit and tradition, imbued with a drive for innovation and, superbly trained personnel, determine and shape actions of the VAHLE Group. Paul Vahle, the inventor of the Copperhead Conductor, founded this Company in 1912.

The VAHLE Group is an internationally engaged, family owned enterprise, specializing in intelligent energy and data transmissions systems for mobile industrial applications; its main offices are located in the German city of Kamen, Westphalia. VAHLE strives to combine basic social values of a family owned company, now in its fourth generation, with the creativity of an internationally leading high-tech business and a future-oriented outlook. VAHLE conceptualizes, engineers and manufactures innovative products and systems for many diverse applications.

VAHLE worldwide – Made in Germany

WHERE ARE WE

Since 1912 the VAHLE Group as specialist for intelligent and solution oriented energy and data transmission systems for mobile industrial applications, is at home in many, and often diverse industries.

- Crane technology
- Intralogistics
- Automotive
- Port technology
- People mover
- Amusement and entertainment

You will find a selection from our product portfolio at the following pages.

YOUR VISION - OUR SOLUTION

vCONDUCTOR

OPEN & INSULATED CONDUCTOR SYSTEMS

OPEN CONDUCTOR SYSTEMS

Wherever there are particularly harsh environmental influences, such as in coking plants and steel mills, we offer a safe and powerful power supply with our open conductor systems. You can easily supply your mobile applications (overhead travelling cranes, loading bridges, container handling equipment, monorails, coke-making machines, electric hoists, etc.) with current ratings of up to 3,000 A via the open conductor systems.



INSULATED CONDUCTOR SYSTEMS

U10 & FABA100

The VAHLE insulated conductor systems have been a proven and reliable means for the energy transmission of production lines in the automotive industry for decades. Individual compact hangers as well as mounting accessories enable you to easily adapt the system to your track layout even during assembly.

Safety is our number one priority. A special protective conductor guarantees trouble-free and accident-free maintenance.

Our tried and tested finished parts storage allows for short-term and unscheduled delivery.

Capacity: 10 – 100 A.



INSULATED CONDUCTOR SYSTEMS U15 – U40

Mobile applications, be it gantry cranes, loading bridges, elevators or roller shutters, need energy. VAHLE's unipole-insulated conductor systems are available in a wide variety of designs that are tailored to your needs.

The conductor systems U15 to U35 are particularly easy to maintain due to their open design. For use in harsh environments, the conductor is made of aluminium with a stainless-steel surface.

Capacity: 10 – 1250 A.

The heavy construction types U20 to U40 are particularly suitable for use in galvanizing plants, pickling plants, pressing plants, etc.

Capacity: 60 – 1000 A.



COMPACT CONDUCTOR SYSTEM VKS

Use of skilnet conveyors is the preferred method for assembly line manufacturing especially with the automobile industry.

VAHLE VKS compact conductor systems provide reliably electric current even when available space is very limited. Here also, safety is VAHLE's number one consideration. An especially engineered PE-conductor guarantees trouble-free maintenance without accidents.

Available from 63 A to 140 A.

COMPACT CONDUCTOR SYSTEM VKS10

Available space at an aisle is usually at premium with storage and retrieval installations. AS/R machines store or retrieve during a very short time span goods or equipment at high-rack storage bays. VAHLE compact conductor systems have been specifically engineered for this requirement. Simple snap-in design into a support profile enables very quick installation direct onto the rack upright. Expensive additional support structures are not needed. Available VAHLE positioning systems are easily integrated.

Available from 63 A to 280 A.



vCONDUCTOR CONDUCTOR SYSTEMS

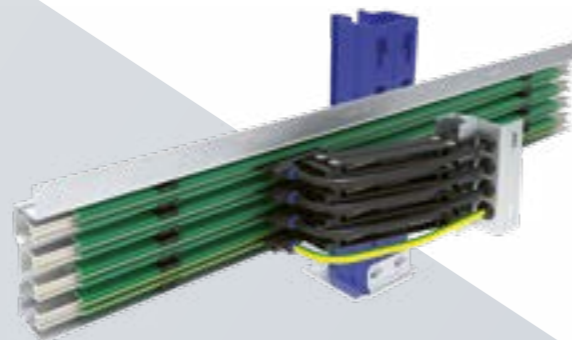


COMPACT CONDUCTOR SYSTEM VKL2

The two-pole compact conductor system VKL2 was developed specifically for various intralogistics applications. With its compact size and durability, the VKL2 possesses the ideal properties for small parts warehouse shuttle applications or for other transfer carriages. Additionally, installing VKL2 is simple due to minimal parts and an easy clip-fastening system.

VAHLE MULTI SUPPORT PROFILE VMT

VAHLE multi support profile VMT is engineered to be used with a number of differing track guided material handling systems such as AS/R machines or transfer conveyors. Several VAHLE conductor systems may be quickly installed utilizing the VMT support system.



ENCLOSED CONDUCTOR SYSTEM KBH

Overhead crane manufacturer and crane users must have a robust, economical, but also safe and reliable electrification system which can be easily and quickly installed. VAHLE's KBH enclosed safety conductor system is touch-proof as per IP 23 and may be installed indoors or outdoors. The plastic housing can accommodate different copper cross sections for nominal currents of 63 - 200 A. The ball-bearing mounted collectors are led in the housing. Special sections enable quick and easy replacement of defective sections.

Our tried and tested finished parts storage allows for short-term and unscheduled delivery.



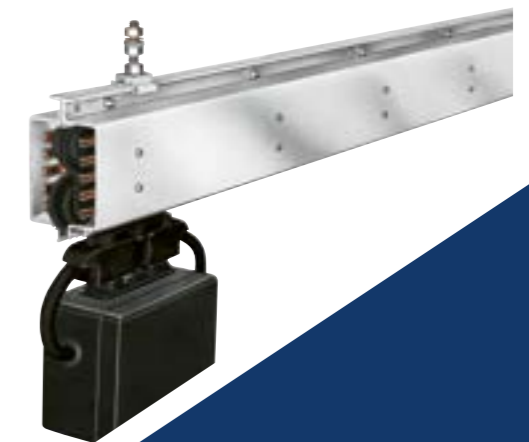
ENCLOSED CONDUCTOR SYSTEM MKH

Wherever in addition to standard current supply additional conductors are required, e.g. for control signals, VAHLE's MKH enclosed safety conductor system is the perfect choice. The MKH plastic housing can accommodate 6 to 10 conductors with nominal capacities from 63A to 200A, is touch-proof as per IP 23 and suitable for indoor or outdoor installation.

ENCLOSED CONDUCTOR SYSTEM LSV

xtensive heat and difficult environment does not present a problem for VAHLE's LSV aluminum enclosed conductor system. Because of the aluminum housing LSV may be installed where temperatures reach up to 120°C (248°F). LSV is suited for indoor and outdoor installation as current supply systems for overhead cranes, monorail systems, hoists, moveable electric tools, machine tools, AS/RS installations, foundries etc. and can be supplied with 4 to 11 conductors.

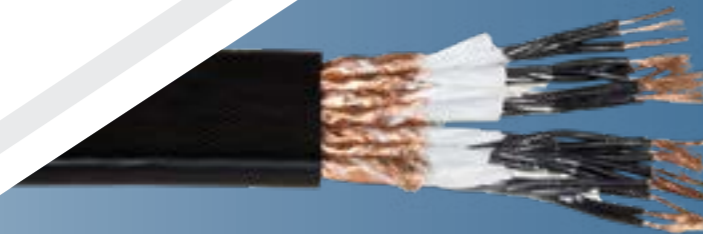
Depending on the number of conductors, nominal capacities range from 60A to 300A.



vFESTOON FESTOON SYSTEMS

VAHLE festoon systems guaranty process reliability even under extreme operating conditions. Flexible flat and round cable assemblies as well as water and hydraulic hoses are safely supported and moved. VAHLE's festoon systems have been in operation worldwide for many years, are very reliable and require only minimal maintenance.

VAHLE engineering will gladly configure a vFESTOON system for any specific requirement and, if so desired, will supply it pre-installed.



CABLES

Selection of the best suited cable either for cable carrier systems or cable reels is extremely important for reliable functioning of the entire installation. VAHLE offers for every application the best suitable flat or round cable.

Flat cables have a smaller bending radius and are therefore better suited for installations having limited carrier storage space available. Flat cables have either PVC or Neoprene-Rubber outer insulation. PVC flat cables are more economical and do best with systems with low travel speed and thus low mechanical demand. The much more robust Neoprene flat cable will easily tolerate high travel speeds and high mechanical force.

For cranes with very high mechanical demand special round cables are available. These can compensate for severe dynamic forces with integrated tension relief components.

Cables with included fiber-optic conductors to ensure absolute process reliable data transmission are also available.

vREELS CABLE REELS

SPRING OPERATED CABLE REELS

VAHLE spring operated cable reels are an economical method to supply mobile equipment with energy, control and communication data. Compressed air, gases, hydraulic oil etc. can also be handled with appropriate hoses installed. Utilization is spread over a wide variety of industrial settings such as material handling, assembly, construction equipment and mobile cranes, as well as crafts and trades, communal, environmental and entertainment venues.

Flat spiral springs with special tempering and high longevity are used to provide reliable coiling. A specific manufacturing strategy can produce a large number of reels for a wide variety of applications available within 48 hours.



MOTOR DRIVEN CABLE REELS

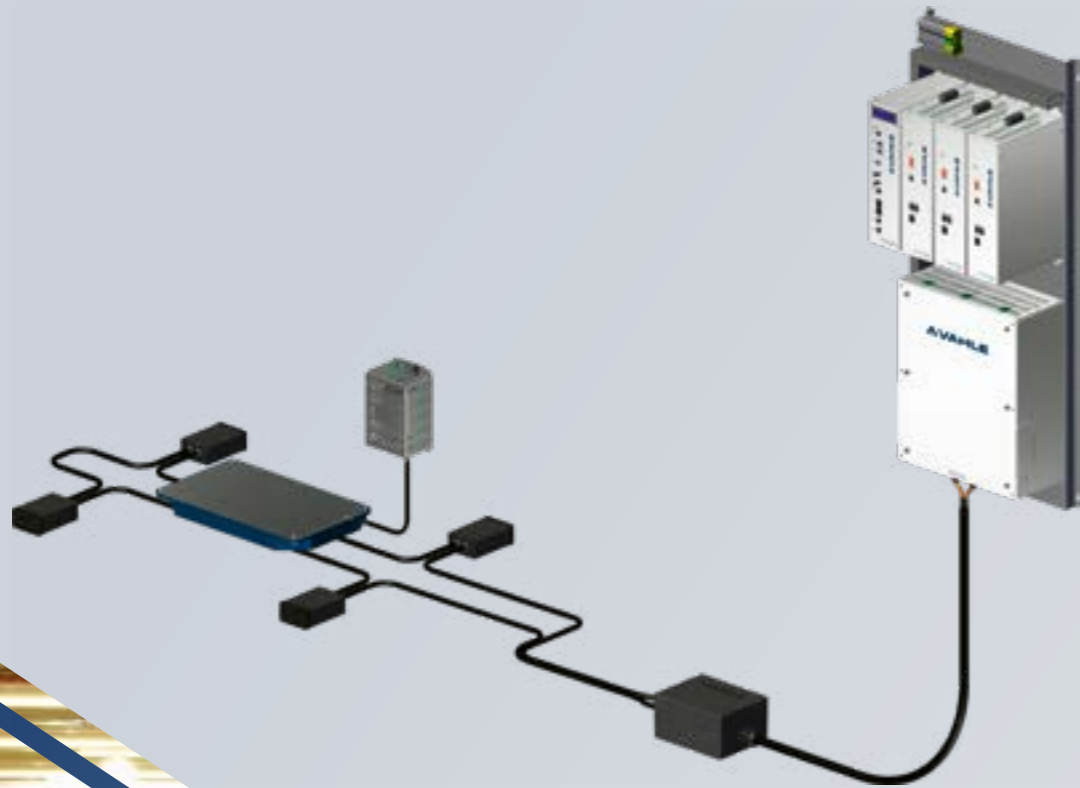
VAHLE motor driven cable reels are used at all industrial sectors employing moveable machinery and equipment. They are especially well suited for medium to long travel distances and highly dynamic vertical lift requirements. Engineering and special solutions are guided by applications such as Port technology, container handling, conveying machinery, material handling, storage etc.

Cables for high amperage and high voltage as well as data transmission are reliably handled by VAHLE motor driven cable reels. Specially engineered cable reels, customized to fit very specific requirements, are also available.

vPOWER CONTACTLESS POWER SUPPLY

20 KHZ / 140 KHZ

Rapidly increasing cycle frequencies together with reliability and flexibility are signs of successful modern production facilities. VAHLE's contactless power supply contributes a significant advantage to this task as it is wear-resistant, maintenance free, insensitive to contamination and has unrestricted travel speeds. Based on high-cycle frequencies, highest facility efficiencies can be achieved while using smallest possible components; regardless whether an AGV installation or an EMS monorail system is used.



vPOS POSITIONING SYSTEMS

APOS MAGNETIC

APOS positioning systems integrated with VAHLE conductor systems have been developed for use with automated material flow installations.

VAHLE APOS consists of a code tape with magnetic length coding and a reading head with integrated logic which reads and evaluates absolute position and relays it to the control system interface.

APOS OPTIC

Material flow installations, as used for instance at automobile assembly facilities, require with new installations continuous and precise position determination across the entire assembly cycle. APOS Optic has been engineered to optically determine absolute position and provide data to fulfil this task.



APOS



vCOM DATA COMMUNICATION SYSTEMS

SMGM / SMGX

Modern production requires for control and diagnostic functions continually increasing quantities data. For simple transporting task with mobile equipment lower data rates may be transmitted using conductor systems, this communication method is not possible with complex processes requiring high data rates.

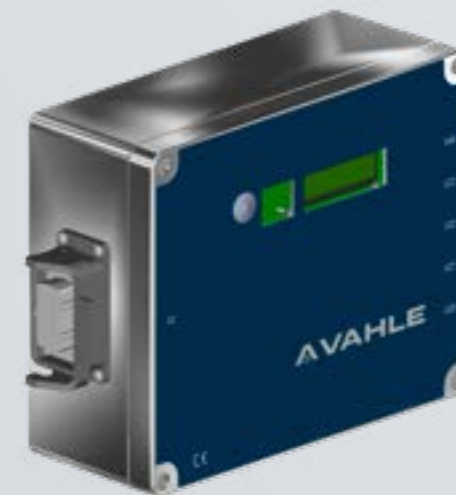
VAHLE's data transmission system, SMGM (Slotted Microwave Guide Mini), has been especially developed for these applications. SMGM is also protected from interference by any other system used in the vicinity and may be integrated with VAHLE conductor systems. For outdoor applications, we recommend the robust data communication system SMGX "Slotted Microwave Guide Extreme".



vDRIVE MOBILE CONTROL SYSTEMS

Automated fabrication and storage facilities utilize increasingly intelligent systems. During the entire supply chain components must be lifted, transported, turned around or otherwise be moved. All of this can be accomplished with VAHLE's mobile control system. The modular concept of vDRIVE facilitates uncomplicated integration with other equipment as well as readily availability of spare parts.

The VAHLE advantage: Energy supply, data transmission, positioning and control comes from a single supplier.



POWERCOM®

Data transmission systems using VAHLE conductor systems or slipping bodies have been developed for automated monorails and other industrial applications. Powercom® makes economic, uninterrupted data transfer between a centrally located host and moving transmitters installed at individual carriers possible.





VAHLE

**TRADITION COMBINED WITH INNOVATION
AND SUPERB TECHNOLOGY**

- Safe and reliable products for now more than hundred years
- Worldwide leading technology and competency
- Excellent customer service
- Energy transmission, data transmission, positioning and control from a single supplier

YOUR VISION – OUR SOLUTION



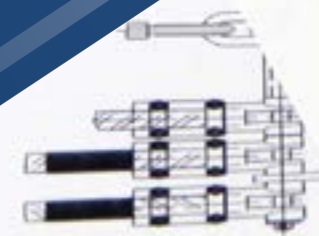
SERVICE & SUPPORT

CUSTOMIZED SOLUTIONS FOR YOUR REQUIREMENTS

VAHLE's extensive product portfolio is enhanced by a comprehensive array of services tailored to meet specific demands:

- Project management
- Commissioning
- Engineering and Customizing
- Installation and installation monitoring
- After Sales Service
- Product trainings
- Maintenance packages

We would be pleased to use our know-how to develop specific solutions for your Company. Please call to arrange for a meeting to explore VAHLE's products and services.





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