

VAHLE's Contactless Power Systems (CPS)provide inductive power transfer for a variety of applications. CPS has no limit to travel speed or acceleration, no maintenance from wear components, and is unaffected by environmental conditions. VAHLE's CPS is an innovative solution to demanding applications.

Why do we need a contactless transfer of electrical power?

In these cases, the necessity of a contactless transfer of electrical power usually comes from the need of supplying moving parts, such as rotating disks or sliding loads.

What is contactless power transfer (CPT)?

Contactless Power Transfer (CPT) was introduced to the world in the 1890's, when after successful experiments, Nikola Tesla demonstrated a lightbulb powered wirelessly by a tesla coilat the 1893 Chicago World fair. The tesla coil in this demonstration produced a very high voltage that oscillated at a high frequency, but with a low current.

What are the advantages and disadvantages of contactless transmission?

The advantage of contactless transmission is that inflexible electromechanical couplings are no longer required while the radio technology offers a high degree of additional flexibility. For example, at times when systems need to be changed.

Is contactless high speed signal transmission integrated in a compact rotatable power transformer?

Esser, A.; Nagel, A.: Contactless high speed signal transmission integrated in a compact rotatable power transformer, in Proc. 1993 IEEE Fifth European Conf. Power Electronics and Applications, Brighton, UK, 1993, vol. 4, 409 - 414. Google Scholar Theodoridis, M.P.: Effective capacitive power transfer.

What is freecon contactless?

Its plug and play capability makes FreeCon Contactless easy to use and retrofitted for existing systems. FreeCon Contactless, enables reliable and contactless transmission of up to 240 W of power. The transmission is controlled via PLC. It is therefore possible to switch 10 A directly without the need for an additional contactor.





The proposed system reduces the negative influences of the alignment and metallic obstacle through contactless power transmission using the metallic-surface-guided mode. The proposed technology was designed with the premise ???



We suggest the contactless power transmission system "Cordless Power Station (CLPS)" that will radiate little noise by making the coil geometry noise-reducible. The system makes use of electromagnetic induction among the coils. So far we have studied the structures of CLPS consisting of some spiral coils, and found out that CLPS could be small-sized and thin.



Contactless transmission of electrical power to the rotor solves these problems and makes it possible to use an EESM as a maintenance-free traction drive. The development objective is an economically neutral substitute for conductive transmission technology. When the conductive system is replaced by an inductive transmitter system, the





II. INDUCTIVE POWER TRANSFER. The IPT technology for WPT exploits the variation of the magnetic field flux shared among two or more physically decoupled coils to transfer electric power to one, two, or more loads [Reference Covic and Boys 11]. Electric transformers are based on inductive coupling too, although are usually designed to transform ???



The FreeCon Contactless system from Weidm?ller transmits up to 240 watts via an air gap. It's a completely wear-free and especially efficient solution. The high power transmission means the ???



Abstract: In underwater applications of contactless power transmission (CLPT) systems, high pressure and noncoaxial opera-tions will change the parameters of electromagnetic (EM) couplers. As a result, the system will divert from its optimum per-formance. Using a reluctance modeling method, we investigated the gap effects on the EM coupler in





Data Transmission Systems. LJU Mobile Controls.
Compressed Air and Electric Supply Systems.
Ergonomic Handling Systems. Buffers & Bumpers
The Inductive Power Transfer solution from
Conducitx-Wampfler was the first large scale
contactless power transfer system which has
revolutionized the way all kinds of moving machines
may be supplied with



Two concepts for drive-integrated contactless energy transfer from the stator to the rotor of an electric motor are presented in this paper. Both drive systems offer the possibility of not only producing torque on the motor shaft, but also to power a rotating load. The power transfer is realized using the magnetic air gap fields. Problems inherent to contact-based methods (slip ???



In underwater applications of contactless power transmission (CLPT) systems, high pressure and noncoaxial operations will change the parameters of electromagnetic (EM) couplers. As a result, the system will divert from its optimum performance. Using a reluctance modeling method, we investigated the gap effects on the EM coupler in deep-sea





This paper discusses the contactless power transmission system. The magnetic coupling model and structure required by contactless power transforming system with high efficiency are set up according to the analysis results. Then, advantages and disadvantages of various power converter models are investigated with circuits of compensation and efficiency ???



The new compact transmission systems from SPINNER ingeniously combine contactless data transfer, which has proved itself in real-time bus systems, with the ability to supply up to 750 watts. As an added benefit, there is room in the hollow cores for device-specific connections to ???



The above consideration shown is well-known for contactless system estimations, if the secondary current (of a card or tag) is considered negligibly small, e.g. for Vicinity systems. The authors used the theory in terms of kinetic energy for mapping and calculating field quantities to maximise contactless power transmission by inductive





VAHLE's contactless power systems (CPS) provide inductive power transfer for a variety of applications. With no limit to travel speed or acceleration, no maintenance from wear components and unaffected by environmental ???



In this study, we investigated an inductive contactless power transmission system for safe and efficient power transmission underwater. First, the transmission efficiency of ICPT was derived analytically using a mutual inductance circuit model and by solving Maxwell's equations. By calculating and analysing the effect of the transmission



The above consideration shown is well-known for contactless system estimations, if the secondary current (of a card or tag) is considered negligibly small, e.g. for Vicinity systems. The authors used the theory in ???





Contactless power transmission provides the vision for the future development of energy distribution in industrial, business or consumer electronics or where a constructive conditional air gap must be bridged. By using the inductive technology, sliding contacts, trailing cables or slip rings can be eliminated and the safety and reliability of the energy supply can be improved. To ???



An IPT system with a high frequency power source, two resonance circuits, a power conditioner and a load are shown in Fig. 1 a. In Fig. 1 b a system model with series resonant capacitors for the primary and secondary coils (SS), is shown. Also, Fig. 1 c shows a model with a series resonant capacitor and a parallel capacitor (SP) for the primary and the secondary coils ???



on the transmitted torque was analyzed. The veried contactless MPT mode also has the advantages of self-stability and overload protection, which can avoid the drawbacks of traditional permanent magnetic transmission mode. Keywords Mechanical power transmission? Contactless? High-T c superconducting pinning mechanism? Magnetic flux lines





Design of a position tolerant wireless charging system; Transmission power of 3,7 kW (scalable up to 11 kW) Charging without user intervention ("autonomous" electric driving) The goal of the project is to develop a technology for the contactless transfer of power and data in small moving components in harsh environments.



Li, Z, Li, D, Lin, L and Chen, Y (2010) Design considerations for electromagnetic couplers in contactless power transmission systems for deep-sea applications. Journal of Zhejiang University-Science C 11, 824 ??? 834.CrossRef Google Scholar



DOI: 10.1016/J.OCEANENG.2012.12.047 Corpus ID: 110237298; Frequency selection of an inductive contactless power transmission system for ocean observing @article{Zhou2013FrequencySO, title={Frequency selection of an inductive contactless power transmission system for ocean observing}, author={Jie Zhou and De-jun Li and Ying Chen}, ???





For power supply of autonomous underwater vehicles (AUV), a novel underwater contactless power transmission (CPT) system based on the arc electromagnetic coupler (EC) is proposed in this paper. The equivalent circuit model of EC is established to analyze the transmission efficiency theoretically, thus the working frequency and the load resistance are optimized. Then the ???



Compared to conventional power transmission with connectors, contactless energy transmission is completely automated and entirely without mechanical wear. This eliminates the need for time-consuming and costly maintenance work on the contacts, increases the lifetime and avoids downtimes. Furthermore, contactless power transmission opens up completely new ???



The Inductive Power Transfer solution from Conducitx-Wampfler was the first large scale contactless power transfer system which has revolutionized the way all kinds of moving machines may be supplied with electrical power.





In rotary ultrasonic machining (RUM), the contactless energy transfer (CET) system based on the rotary transformer can replace the well-established slip ring technology to supply power for the



A contactless power delivery system is presented to transfer power to moving objects [15]. However, the optimal conditions are not investigated. An IPT system is proposed for a rotatable transformer in which the effects of load and air gap variations are studied for different compensation structures [10].



The FluxJet vehicle is powered using a patented plasma-based high-speed power transmission system [1, 3]. This paper analyzes the measured data, represents the plasma arc current, in the context of contactless power transmission system for a TransPod FluxJet line. This kind of energy transferring could become a source of impulsive noise.





In multi-actuator mechatronic systems, power transmission with bunch of cables via rotary joints is difficult for structure design, system test and maintenance. In this paper, a contactless power transmission (CPT) system at rotary joint is developed, while its power



The proposed system reduces the negative influences of the alignment and metallic obstacle through contactless power transmission using the metallic-surface-guided mode. The proposed technology was designed with ???