

**Contactless power transmission – maintenance-free and up to 240 W**  
**FreeCon Contactless: high power density, maximum efficiency**  
Let's connect.

Contactless transmission systems



# You are working on advancing your automation

## We support you with a revolutionary solution

We are on the cusp of the “fourth industrial revolution”, where the virtual and the real world merge ever closer together. The industrial future will be shaped by highly individualised products. This requires highly flexible, largely automated and resource-efficient production, where customers and partners can be involved in ongoing value creation processes.

As “Industry 4.0” becomes increasingly automated, contactless energy transmission will continue to gain in significance. Why? Because unlike with conventional energy transmission with plug-in connectors, contactless energy transmission is fully automated and causes no mechanical wear whatsoever. This eliminates the need for time-consuming and costly maintenance work on the contacts, in addition to extending the service life and preventing downtimes. Furthermore, contactless energy transmission opens up completely new opportunities for automation and process optimisation.

With FreeCon Contactless, Weidmüller is the first company to present a new connection component for contactless energy transmission which was specially developed for extensive use in the industrial environment. The innovative system has optimised inductive resonance coupling technology. Thanks to innovative heat management, it transmits up to 240 watts with an extraordinary degree of efficiency of up to 93 percent. Its extremely compact design means that FreeCon Contactless can be used in virtually any environment. It can also be switched by means of PLC and can be integrated in a control program. Consequently, it satisfies all the requirements of a demanding industrial environment. With this wealth of advantages, FreeCon Contactless is meeting the requirements of future automation solutions today and is getting your production processes ready for “Industry 4.0”.





# Contactless power transmission – maintenance-free and up to 240 W

## High power density and maximum efficiency with small dimensions

Burnt, bent or dirty contacts are often the cause of time-consuming and costly production failures. This is all the more true of applications requiring frequent plugging cycles. To name but one example, these include industrial robots performing frequent tool changes. Here, the level of wear is especially high. FreeCon Contactless allows power to be transmitted via an air gap by means of an inductive resonance coupling – it's a solution that's completely wear-free and especially efficient. Double the power density and a far higher degree of efficiency is achieved compared with comparable solutions that are available on the market.

Thanks to FreeCon Contactless, you can avoid contact-related failures and cut your maintenance costs considerably. It even opens up completely new areas of application, since for the first time ever an automated process can be used to establish a connection which previously would have to be plugged manually. The process of charging driverless transport systems, for instance, can be automated. High-maintenance slip ring transmitters can be replaced too, since FreeCon Contactless securely transmits power even in the case of rotational movements.

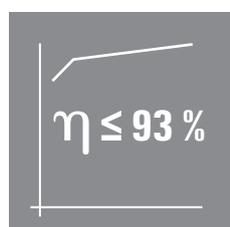
### **Wear-free electrical connection that can be switched as part of a controlled process**

FreeCon Contactless enables reliable and contactless transmission of up to 240 W of power with compact dimensions and maximum efficiency. The transmission can even be controlled via PLC. It is therefore possible to switch 10 A directly via the PLC without the need for an additional contactor.



### **High power density with maximum efficiency**

For the first time ever, 240 W of power can be transmitted contactlessly via two especially small modules. Extremely low transmission losses translate into an efficiency level of up to 93 %



### Flexible mounting options

Fastening can optionally take place on three different sides by means of direct mounting on the relevant machine component, or by using a mounting bracket or a groove profile. This allows for maximum flexibility during installation.



### High flexibility thanks to unlimited approach options

The secondary side can be approached by the primary side from any direction. The connection is established as soon as both modules are positioned opposite one another. The connection remains stable even in the event of rotational movements.



### Complete protection against humidity and dirt

Unlike conventional plug-in connections, which only provide IP 20 protection when unplugged and are therefore unprotected, FreeCon Contactless offers IP 65 – permanently. So, with FreeCon Contactless, contacting problems caused by dirt are a thing of the past.



### Fast commissioning with PROFINET PushPull Power connection

Our proven standard plug-in connector for 24 V DC applications enables fast installation and ensures that the modules are provided with a secure and reliable supply.



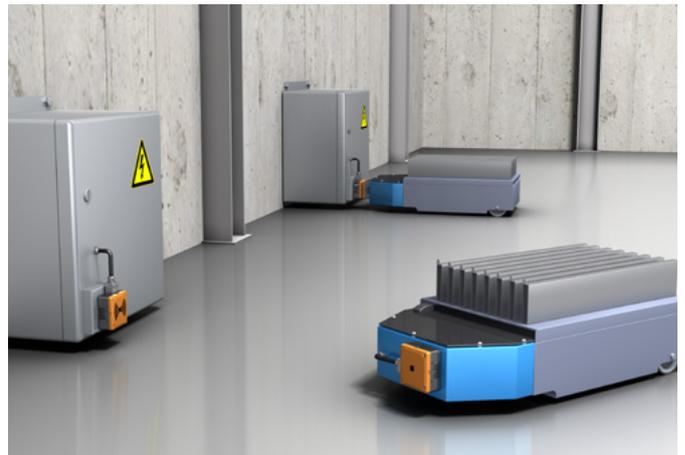
## Drive automation forwards – the intelligent way

### FreeCon Contactless makes your applications more efficient on many levels

FreeCon Contactless was developed in close collaboration with leading German car manufacturers. The system is suitable for an extremely wide range of sectors, such as machine construction, robotics, materials handling and even renewable energy. It can be retrofitted with ease and is thus an appealing solution for existing plants, too. With this multitude of advantages, it helps to increase the level of automation and optimises the production process. And best of all, FreeCon Contactless does more than simply help to avoid contact-related failures and cut maintenance costs. Completely new designs and areas of application are possible with a view to optimising production processes.



The automotive industry makes use of applications that require frequent plugging cycles, such as industrial robots performing tool changes. They work with a variety of tools, which they independently change for different tasks – such as gripping or welding. The high level of wear that occurs on the mechanical plug-in connections can be avoided entirely with FreeCon Contactless. This saves both time and money in terms of contact maintenance and replacement, in addition to minimising machine failures caused by maintenance work or defects.

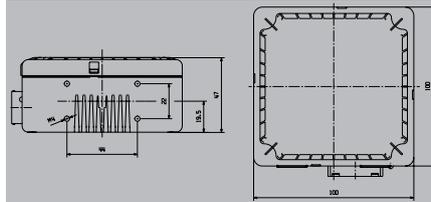


Automatic transport systems, which are a common feature of many warehouses and production halls nowadays, complete all work without mechanical support. A member of staff only has to be present to make the plug-in connection, which is required for charging the battery. FreeCon Contactless makes even this manual work step superfluous. The driverless transport systems move to the charging station independently just before the battery goes flat, at the end of the working day, or at shutdown periods. The result is effective time and cost savings, which means your investment pays for itself in no time at all.

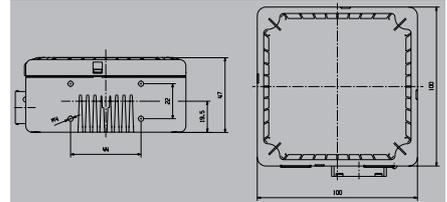
## FreeCon Contactless

- Contactless power transmission via air gap

### Primary side (base)



### Secondary side (remote)



## Technical data

### General data

Housing main material  
 Technologie, version  
 Loads  
 Turn-on time  
 Coupling time  
 Air gap  
 Centre offset  
 Power interface  
 Protection degree  
 Ambient temperature (operational)  
 Weight

### Electrical data

Primary voltage  
 Secondary voltage  
 Secondary current max.  
 Degree of efficiency  
 LED indicator  
 Approvals

### Note

Diecast zinc, painted, Cover PBT  
 Inductive resonance coupling  
 Inductive and resistive loads  
 1 s

0...5 mm  
 max. 5 mm  
 PROFINET PushPull Power  
 IP 65  
 -20...45 °C (note derating)  
 1020 g  
 24 V DC (21.6...26.4 V DC)

max. 91 %  
 Status indication via multi-coloured LED

Diecast zinc, painted, Cover PBT  
 Inductive resonance coupling  
 Inductive and resistive loads

< 500 ms  
 0...5 mm  
 max. 5 mm  
 PROFINET PushPull Power  
 IP 65  
 -20...45 °C (note derating)  
 1020 g

24 V DC (19.2...28.8 V DC)  
 10 A  
 max. 91 %  
 Status indication via multi-coloured LED

## Ordering data

### Note

Type	Qty.	Order No.
IE-CL240W-PP-BASE	1	1547440000

Type	Qty.	Order No.
IE-CL240W-PP-REMOTE	1	1547450000

## Accessories

Plug PushPull Power

Marker white

Type	Qty.	Order No.
IE-PS-VAPM-24V	10	1068910000

ESG 6/17 K MC NE WS	200	1880120000
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Type	Qty.	Order No.
IE-PS-VAPM-24V	10	1068910000

ESG 6/17 K MC NE WS	200	1880120000
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### Note

We cannot guarantee that there are no mistakes in the publications or software provided by us to the customer for the purpose of making orders. We try our best to quickly correct errors in our printed media.

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As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Industrial Connectivity.

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