WIRELESS CHARGING

The unique and fashionable way to charge mobile devices!

The charging of smartphones in the car can represent an unpleasant issue. With Molex Wireless Charging, mobile devices can be charged smoothly and quickly without any cable. No unaesthetic cradles anymore! However the phone is placed in the tray – a multi-coil system always ensures the best possible charging.

What is the value proposition?

The intensive usage of the smartphone during the daily life generates anxiety in the frequent case of out of battery. Molex solves this issue for drivers and passengers offering a comfortable and quick charge of their mobile devices in the car without any cable.

How it works?

To achieve maximum device coverage, the Wireless Charging Units by Molex feature hardware to meet the broadest possible requirements. Therefore Molex’s wireless charging solutions are compatible with both existing communication protocols: „Qi“ (pronounced „Chee“) part of the Wireless Power Consortium (WPC) as well as „Powermat“ from Power Matters Alliance (PMA). „Qi“ currently possesses a broader distribution range being adopted by more than 200 companies, including Microsoft, Apple (from iPhone 8), Samsung, Sony and almost all Android smartphone providers.

It is based on the principle of inductive coupling by using an electromagnetic field. The charging process automatically starts and it switches off, if the battery is full or the device is removed. In the case that the end user smartphone is not compatible with the Qi standard, the system switches off immediately and protects the smartphone from any interference. The „Consumer Electronics for Automotive“ (CE4A) Group represents the leading car manufacturers such as BMW, Audi and Daimler and has set „Qi“ as the common standard.

Why it matters?

Molex Wireless Charging creates a perfect environment to integrate the end user’s smartphone in the car: Comfortable, through a multi inductive coil system, efficient, through Qi standard and fashionable, avoiding the use of cables and cradles. It is the solution for wireless charging on the market, by a potential variety of implementation in all market segments, premium and generalist.
## Technical Specifications

### Compatibility Standards
- Qi (WPC = Wireless Power Consortium)
- CAN/LIN
  - Optional
    - Coupling antenna (GSM/UMTS/LTE)
    - NFC
    - BTLE

### Signalization
- Via CAN/LIN -> Head Unit
- LED

### Power
- Transmission power: 5W (Receiver side)
- 15W (in development)
- Efficiency: up to 65%
- Power supply: 9 – 16V
- Operating frequency: 105 kHz – 205 kHz
- Multi Coil Solution
- Smart Device Cooling:
  - Passive
  - Active (Integrated):
    - Cooling of the smartphone during charging and independently from charging

### Memberships & Technology Cooperations
- WPC full member; member of automotive application group
- NFC-Forum associated member
- Texas Instruments
- Freescale

### Key-Fob Interference Reduction
- Self-contained by Wireless Charging system
- Initiated by the car

### Automotive Requirements
- Temperature: – 40 to + 85°C
- PCB Coils/Litz Wire Coils
- Flexible Ferrite (for automotive)
- EMI: Shielding for electronic and electrical field
- Safety:
  - Detection of foreign objects
  - Fixing the mobile phone in its original position

### Cyber Security
- Physical Security
- Security Assessment

### Complete Solutions to Achieve Your Vision

Our capabilities are constantly evolving to meet the demanding requirements for autonomous driving, infotainment and connectivity. We take an holistic solution mentality to achieve end-to-end connectivity and optimal performance.