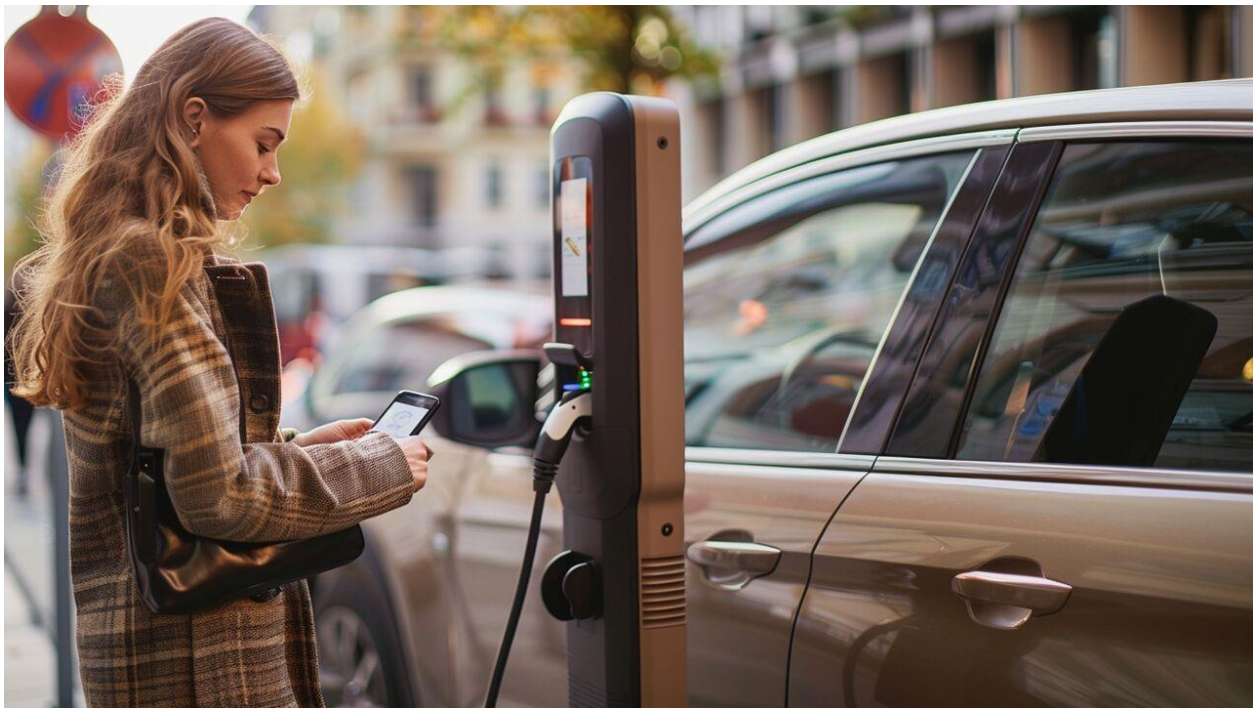
ELATEC
RFID Systems

EV charging points: safe and user-friendly with RFID and NFC

Card, app or keyfob: radio-based RFID, NFC and BLE solutions make the operation and use of e-charging stations secure yet convenient.



As of October 2023, 1.3 million electric vehicles were registered in Germany—and the trend is rising. As vehicle density grows, so does the network of public and non-public e-charging stations. Since they are critical infrastructure elements, they must meet particularly high safety requirements. Whether it's authorization checks for fleet drivers or the reconciliation of payment information for public charging stations, operators must be able to give only authorized persons access to their charging points in order to prevent illegal charging, misuse, data loss and cyberattacks.

RFID, NFC, BLE: Security at the highest level through encryption

Conventional authentication solutions based on PINs or passwords are susceptible to misuse, circumvention of security regulations and hacker attacks. A modern alternative is RFID (Radio-Frequency Identification), NFC (Near-Field Communication) or BLE (Bluetooth® Low Energy) based solutions, which exchange authentication data between the data source and reader via radio. Their big advantage: the data can be transmitted in encrypted form. "However, you should make sure that the hardware is flexible and can be updated centrally," says expert Jan Broz from authentication specialist ELATEC. "Operators should not only be able to efficiently support different transponder technologies, but also future technology and security standards or changes in legal requirements." This applies above all to readers. Manually updating many distributed devices is particularly time-consuming and labor-intensive.

More security through user-friendliness

However, another factor is crucial for the best possible security: user-friendliness. No passwords, no PINs, no credit card. Simply hold the card or smartphone briefly to the reader. RFID and mobile solutions are convenient for users. Mobile app solutions for smartphones in particular increase security even further, as users are far more hesitant to hand over a smartphone than an access card. These solutions are also user-friendly for operators. This is because precise identification simplifies cost calculations, user analyses and the tracking of misuse. All-in-one solutions are ideal. They grant users secure access to buildings, printers, elevators—and the e-charging station—with just one card or app.

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