



New transponder standards: Cramer provides new possibilities for your logistics.

The serial-production transponder equipment for the CR1 and CR3 pallets is being changed by Craemer from the 13.56 MHz HF frequency range to the 868 MHz UHF frequency. With this step, Craemer is moving towards the future-oriented EPC Gen2 standard: The EPC Gen2 standard was recently adopted by the ISO standardization organization to supplement norm ISO / IEC 18000-6C.

Motivation

Experience gained in practice in handling RFID technology coupled with heightened requirements in the use of transponders show that the change in frequency makes sense, both technically and practically. The switch enables future-oriented solutions with many functionalities.

The EPC Gen2 Standard

The EPC (Electronic Product Code) builds upon the tried and tested EAN standard and serves to enable the radio frequency-based tagging and identification of objects. The objective was to develop cross-sector and international standards for better RFID technology usability. For this purpose, many large global corporations agreed on the benefits of the EPC Gen2 standard. This standard was developed by leading technology companies and describes the way in which communication between the reader / writer and transponder works. The EPC Gen2 standard is a core piece of an RFID technology based on standard interfaces.

The transponders

In the selection of transponders, Craemer has based its choice on the EPC Gen2 standard. The transponders used by Craemer are passive transponders. They are equipped with many features which are activated depending on the individual case on hand. Depending on the project, the HF transponders can be used both within the 13.56 MHz frequency range as well as other frequency ranges.

Customer benefits

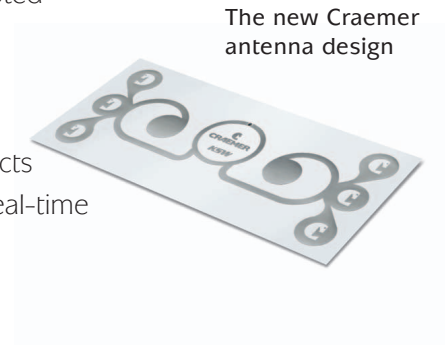
The UHF 868 MHz frequency range offers tangible benefits in terms of usefulness and possible fields of application.

- Sustainable and long-term solution:
The standard is defined and implemented on the hardware side. Experts expect a minimum lifespan of one to two decades.
- At up to 3 metres, the range which is covered is much greater
- Gate solutions for the practical management of goods in and goods out
- Fast and reliable bulk (multi-tag) capture for actual forklift operation
- Fast reading and writing speed
- The EPC Gen2 compliant recording standard is harmonised worldwide, even with other RFID solutions
- Originality of each pallet is guaranteed via the TID number (Unique Serial Number)

The antenna design

Craemer has developed its own antenna design. This is specially adapted to the performance of the Craemer plastic pallets:

- Optimal adaptation to the pallet material and the application
- Secured availability
- Independent of the unpredictable dynamics of standard label products
- Adaptation of the designs to the new RFID tags can take place in real-time



Technical information

- 868 MHz in accordance with ISO 18000-6C
- Chip: NXP EPC Gen2 passive
- EPC memory: 96 bit (12 byte)
- TID memory: 64 bit (8 byte) Tag identifier
- Free data memory: 224 bit (28 byte)
- Operational temperature: -20 °C to +70 °C.
- Bulk (multi-tag) recognition: Yes (anti-collision)
- Range: Up to 3 metres (depending on the antenna size, ambient temperature and type of writing/reading device)

