drc Smart Key

Technology

❯ Range-independent transmission of vehicle data and flexible control of comfort options via LTE M2M connection & OEM cloud

❯ Keyless vehicle access and start via UWB TWR (Two-Way Ranging) technology and two UWB vehicle antennas

❯ Perfect comfort for all types of vehicles: BEV, FCV, PHEV, HEV, ICE

❯ No display: long-lasting wireless rechargeable battery

Smart Logic

❯ **Patented** Intelligent Transmission Select technology (ITS)
  › System selects optimal and most efficient transmission technology depending on vehicle distance and selected function

Functions

❯ Completely **range-independent** control of comfort functions and vehicle access

❯ Remote **battery preconditioning** for BEVs possible (extended range of up to **30 %** for user)

❯ Flexible operating concept, the **most user-friendly** all-in-one key fob

❯ Updates over the air

❯ **Functions on demand**

Climate Control

Battery Conditioning

Smart Access

Vehicle Data

Advantages

for OEM manufacturers

❯❯ The **cost-efficient** smart **platform solution** sets standards with its all-new system for highly secure vehicle access and theft protection.

❯ Additional business opportunities
  › Key as an option
  › Functions on demand

❯ Increased physical brand awareness and customer loyalty

❯ Remote start system available for the North American market

❯ No additional hardware required for state-of-the-art vehicles

for consumers

❯❯ Most comfortable and secure **all-in-one** remote control solution on the market.

❯ Ease of use
  › Much smaller than smartphones
  › Most easy to share with different users
  › No distraction, focus on key features

❯ Independent from smartphone
  › Access possible even with low battery and without network coverage
  › Control and access even when phone has changed/is broken/stolen/at home

❯ Key fob as a status symbol

Next generation
smart climate control and access
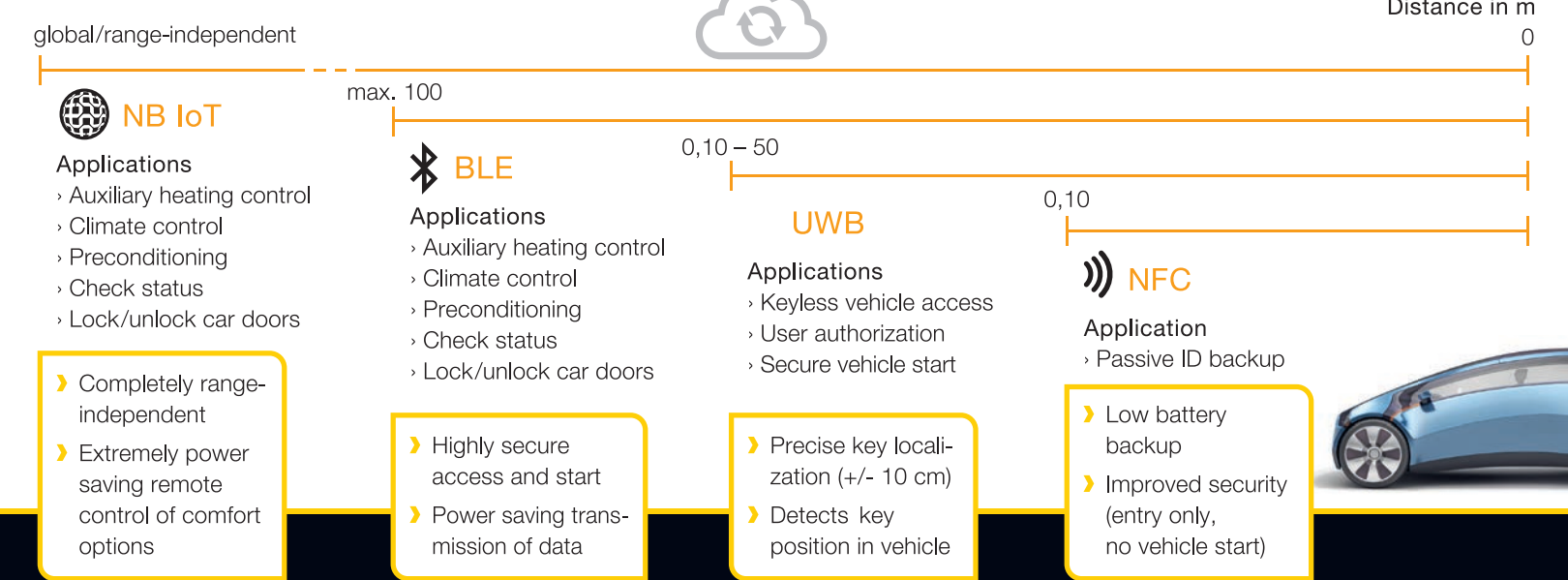
drc Smart Key
Climate control & Access

❯❯ **Range-independent remote control with integrated UWB technology**

❯❯ **Expands the functionality of modern UWB vehicle access systems**

❯❯ **Expands your existing OEM app**

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Unlock trunk

Battery preconditioning

Lock doors

Start/Stop climate control

Unlock doors

Original size – approx. 4 x 7 cm (Width x Height)

System overview

global/range-independent

Distance in m

0

NB IoT

Applications
› Auxiliary heating control
› Climate control
› Preconditioning
› Check status
› Lock/unlock car doors

› Completely range-independent
› Extremely power saving remote control of comfort options

max. 100

BLE

Applications
› Auxiliary heating control
› Climate control
› Preconditioning
› Check status
› Lock/unlock car doors

› Highly secure access and start
› Power saving transmission of data

0,10 – 50

UWB

Applications
› Keyless vehicle access
› User authorization
› Secure vehicle start

› Precise key localization (+/- 10 cm)
› Detects key position in vehicle

0,10

NFC

Application
› Passive ID backup

› Low battery backup
› Improved security (entry only, no vehicle start)

Access option – Security concept

› Four independent channels of communication (NFC, UWB, BLE, NB IoT)
› Logic for identification of unauthorized access (e.g. unreasonable response messages and deviations of distance – via BLE and UWB)
› Safety lock over the air possible after loss/theft
› Key tracking via GPS*

* Optional

Narrowband IoT

NB IoT Channel
› Mobile radio communication technology
› Secure communication via cryptographic protocols (TLS)
› Commercially proven
› Highly secure

› For live demonstration of the drc® Smart Key and its patented key security concept please scan QR-Code below:

digades.de/en/drc-smart-key-demo

Bluetooth LE/UWB

BLE/UWB Channel
› Encrypted communication according to SIG specifications
› Highly secure
› Integrated solutions for all common attack patterns:
 · Spoofing via interference signal
 · Capture-and-replay attack
 · Decoding of encryption
 · Brute-force attack
 · Relay/Man-in-the-middle attack

Near Field Communication

NFC Channel
› Vehicle access even when battery is low
› Dynamic NFC tag with random one-time pre-shared key (OTP)
› Not possible to start vehicle with stolen NFC tag

EN20211101