DATASHEET

CANBUS Reader MPX

The CANBUS Reader MPX is a battery-powered smart RFID reader which can work as a lock for E-Mobility vehicles, such as electric scooters, electric cars or e-bikes. Its integrated HF and NFC reader supports DESFire and NFC tags and transponders. During production you can program DESFire tags to become RFID keys.

In standard mode, the reader automatically detects a valid RFID key, wakes up the ECU and sends the key number to the ECU. The key number is password-protected and encrypted in the DESFire file system. It communicates with a CANbus (SAE J1939 or CANopen) interface.

The CANBUS Reader MPX was developed for demanding outdoor usage with its integrated IP64 protection class. It also withstands temperature fluctuations from -10 °C to +50 °C.

The CANBUS Reader MPX is certified according to RoHS 2 and REACH. It is supplied with a software development kit for Windows systems.
This supports the programming languages: Binary command protocol, VS2005 C++ Library. The SDK simplifies the integration into your existing systems.

Applications:

- Elecric Mopeds / Scooters
- Elecronic Cars & Trucks
- E-Bikes
- Golf Carts, Go-Karts, Quads
- Any conventional vehicle with CANbus

Smart Technologies ID GmbH
Tichelweg 9
47623 Kevelaer

Tel.: +49 2832 973 20 52
E-Mail: info@smart-technologies.eu
Web: www.smart-technologies.eu

ELECTRICAL SPECIFICATIONS	
Power Supply	7.6 … 13.8 Vdc (battery powered)
Current Consumption	< 120 mA, standby current < 1 mA (low power mode)
Operating Frequency	HF | NFC: 13.56 MHz*
Antenna	integrated
Reader IC	CL 663
RF TX Speed	up to 848 kBd
Interfaces	CANbus (SAE J1939 or CANopen) with custom-specific communication protocol
Baudrate CANbus	250 kbit/s
Connector	JST 04T-JWPF-VSLE-S, 0.33 mm²/ AWG22 wire gauge

* Reading distance depends on tag type and orientation.

MECHANICAL SPECIFICATIONS	
Dimensions	81.4 × 68.6 × 24.1 mm
Material	ABS (Acrylonitrile butadiene styrene)
Weight	90 g (incl. cable)

ENVIRONMENTAL CONDITIONS	
Operating Temperature	-10 °C to +50 °C
Storage Temperature	-20 °C to +60 °C
Humidity	up to 95 %, non condensing
MTBF	200‘000 h
Protection Class	IP64 (potted electronics)

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SUPPORTED STANDARDS | TAGS	
ISO 14443 A and compatible	Read/write: MIFARE® Classic Mini/1K /4K, MIFARE Ultralight®, MIFARE Ultralight® C, MIFARE Ultralight® Nano, MIFARE® DESFire®EV1, MIFARE® DESFire® Light, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x, NTAG 424 Read UID only of all other ISO14443A RFID tags
ISO 14443 B and compatible	SRI4K, SRIX4K, AT88RF020, 66CL160S, SR176
ISO 15693 and compatible	EM4135, EM4043, EM4x33, EM4x35, I-Code SLI/SLIX/DNA, M24LR16/64, TI Tag-it HF-I, SRF55Vxx (my-d vicinity)
ISO 18092:2013	NFC-IP1, NFC-IP2

APPLICABLE STANDARDS	
EMC	EN 301489-1:2012-04 (v1.9.21) EN 301489-3:2013-12 (V1.6.1)
Radio Regulation	EN 300330-1:2015-08 (V1.8.1) EN 300330-2:2015-08 (V1.6.1)
Safety	EN 60950-1:2014-08 EN 62369-1:2010-03 EN 50364:2010-11
RoHS 2	EC Guideline 2011/65/EU and amendment 2015/863/EU, updated by 2017/2102/EU EN 50581:2012 (valid till 2024-07-07) EN 63000:2018
REACH	EU Guideline 1907/2006, updated by 2020/171/EU
Certificates	FCC, CE

SDK INFORMATION	
Supported OS	Windows 7, 8, 8.1, 10
Supported Languages	C++, Binary command protocol
Demo Software	Windows

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