

TWN4 MULTITECH 2

MULTI-FREQUENCY RFID READER FOR LF, HF, NFC AND BLE



TWN4 MultiTech 2
(exemplary illustration)

The TWN4 MultiTech 2 family of contactless RFID readers and modules allows users to read and write to almost any LF and HF tags and labels. All products support NFC and, optionally, Bluetooth Low Energy (BLE). In addition, they are also compatible with the two most commonly used smartphone operating systems, Android and iOS, which gives the option to integrate them in mobile identification applications. The desktop readers are available as Plug & Play devices that can be easily customized (i.e. inlay and housing color), whereas the PCB modules offer a large amount of interfaces and a perfect form factor for an easy and quick integration in any host device. This broad range of product features makes the TWN4 MultiTech 2 family an excellent solution for almost every project.

Key features of the TWN4 MultiTech 2 desktop reader include a powerful SDK for writing apps that are executed directly on the reader, the possibility to upgrade the firmware in the field and a direct chip-commands support. Additionally, the reader can simultaneously read more than 60 RFID technologies from low (LF) and high frequency (HF) bands, including NFC. This gives the option to select as many of the technologies required instead of being forced to select just a few ones.

Special features:

- + Possibility to read more than 60 RFID technologies
- + Supports two RFID frequencies (125 kHz/13.56 MHz), NFC and BLE
- + Supports Apple VAS and ECP 2.0¹⁾
- + Powerful SDK for writing apps which are executed directly on the reader
- + Firmware update in the field possible
- + On-board 18 kB flash storage, e.g. for storing user accessible non-volatile data
- + Direct chip-commands support
- + CCID and PC/SC 2.01



Elevator



EV Chargers



Access



Shop POS



Fitness
Equipment



Ticket POS



PC Log-on



Document
Management



Driver ID



Vending



Parking



Gaming



Locker Locks



Time
Attendance



Industrial
PC

TECHNICAL DATA

FREQUENCY	125 kHz (LF) / 13.56 MHz (HF) / 2.4 GHz (BLE)
ANTENNA(S)	Integrated
HOUSING	Material: ABS UL94-V0 Color: black or white
DIMENSIONS (L X W X H)	Approx. 88.00 x 56.00 x 18.50 mm / 3.46 x 2.20 x 0.73 inch
POWER	USB: 4.3 V - 5.5 V RS-232: requires 5 V external power supply PS2 classified power source according to IEC 62368-1, short-circuit current < 8 A
CURRENT CONSUMPTION	RF field on: 120 mA typically + 16 mA (BT) / Sleep: 500 µA typ.
TEMPERATURE RANGE	Operating: -25 °C up to +70 °C (-13 °F up to +158 °F) Storage: -40 °C up to +75 °C (-40 °F up to +167 °F)
RELATIVE HUMIDITY	5% to 95% non-condensing
READ/WRITE DISTANCE	LF and HF: up to 100 mm / 4 inch, depending on environment and transponder BLE: up to several meters/feet
OPERATING MODES (USB)	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01
BLUETOOTH LOW ENERGY	Bluetooth V4.1 (upgradable to V4.2) or V5.x, depending on BLE module generation ²⁾
MTBF	500,000 hours
WEIGHT	Approx. 120 g / 4.23 oz (with cable)
OS SUPPORT	Windows 7 (32-/64-bit) and higher versions, Linux, Android ³⁾ , iOS ³⁾ , MAC OS X ³⁾
PERIPHERAL INTERFACES	USB, RS-232, SAM slot(s) ⁴⁾
TRANSMISSION SPEED	Host: USB full speed (12 Mbit/s), RS-232: up to 115,200 baud, HF Air: up to 848 kbit/s, BT Air: up to 100 kbit/s
CERTIFICATION NAME	TWN4 MultiTech 2
CERTIFICATION(S)	CE/RED, FCC, IC, UL listed, REACH and RoHS-III compliant, Apple VAS and ECP 2.0 certified ¹⁾ , and many more ⁵⁾
ORDER CODE(S)	<p>Readers equipped with BLE module 1st Gen</p> <p>T4BT-FB2BEL7 standard reader, USB cable, black housing T4BT-FB2WEL7 standard reader, USB cable, white housing T4BT-FR2BEL7 standard reader, RS-232 cable, black housing T4BT-FR2WEL7 standard reader, RS-232 cable, white housing T4BT-FB2BEL7-P reader with P option, USB cable, black housing T4BT-FB2WEL7-P reader with P option, USB cable, white housing T4BT-FR2BEL7-P reader with P option, RS-232 cable, black housing T4BT-FR2WEL7-P reader with P option, RS-232 cable, white housing T4BT-FB2BEL7-PI reader with PI option, USB cable, black housing T4BT-FB2WEL7-PI reader with PI option, USB cable, white housing T4BT-FR2BEL7-PI reader with PI option, RS-232 cable, black housing T4BT-FR2WEL7-PI reader with PI option, RS-232 cable, white housing</p> <p>Readers equipped with BLE module 2nd Gen</p> <p>T4BT-FB2BEL7-XB standard reader, USB cable, black housing T4BT-FB2WEL7-XB standard reader, USB cable, white housing T4BT-FR2BEL7-XB standard reader, RS-232 cable, black housing T4BT-FR2WEL7-XB standard reader, RS-232 cable, white housing T4BT-FB2BEL7-XBP reader with P option, USB cable, black housing T4BT-FB2WEL7-XBP reader with P option, USB cable, white housing T4BT-FR2BEL7-XBP reader with P option, RS-232 cable, black housing T4BT-FR2WEL7-XBP reader with P option, RS-232 cable, white housing T4BT-FB2BEL7-XBPI reader with PI option, USB cable, black housing T4BT-FB2WEL7-XBPI reader with PI option, USB cable, white housing T4BT-FR2BEL7-XBPI reader with PI option, RS-232 cable, black housing T4BT-FR2WEL7-XBPI reader with PI option, RS-232 cable, white housing</p>

SUPPORTED TRANSPONDERS⁶⁾

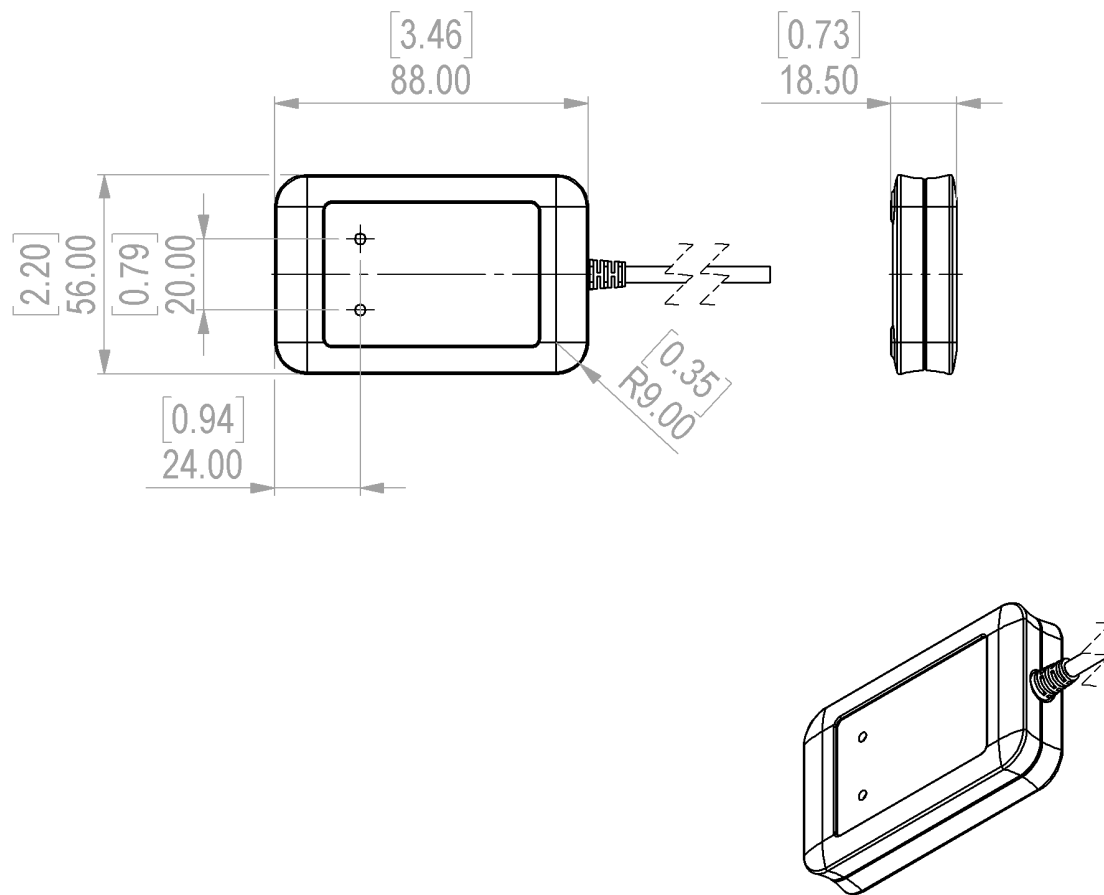
SUPPORTED TRANSPONDERS (STANDARD) 13.56 MHZ	<p><u>ISO 14443A:</u> LEGIC Advant⁷⁾, NTAG2xx, MIFARE Classic, MIFARE Classic EV1⁹⁾, MIFARE DESFire EV1, MIFARE DESFire EV2⁹⁾, MIFARE DESFire EV3⁹⁾, MIFARE DESFire Light³⁾, MIFARE Mini, MIFARE Plus S, MIFARE Plus X, MIFARE Smart MX¹⁰⁾, MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1⁸⁾, SLE44R35¹⁰⁾, SLE66Rxx (my-d move)¹⁰⁾, Topaz</p> <p><u>ISO 14443B:</u> Calypso¹⁰⁾, Calypso Innovatron protocol¹⁰⁾, CEPAS¹⁰⁾, CTS, Pico Pass¹¹⁾, SRI4K, SRI512, SRX4K, SRT512</p> <p><u>ISO 15693:</u> EM4x33¹⁰⁾, EM4x35¹⁰⁾, ICODE SLI, LEGIC Advant⁷⁾, M24LR16/64, MB89R118/119, PicoPass¹¹⁾, SRF55Vxx (my-d vicinity)¹⁰⁾, Tag-it</p> <p><u>ISO 18092 / ECMA-340:</u> NFC Forum Tag 1-5, Sony FeliCa¹²⁾</p> <p><u>LEAF Identity:</u> LEAF¹³⁾</p>
SUPPORTED TRANSPONDERS (STANDARD) 125 KHZ ¹⁴⁾	<p>AWID, Cardax¹⁵⁾, CASI-RUSCO, Deister¹⁵⁾, EM4050, EM4100, EM4102, EM4150, EM4200¹⁶⁾, EM4305, EM4450, EM4550, HITAG 1¹⁷⁾, HITAG 2¹⁷⁾, HITAG S¹⁷⁾, ICT³⁾, IDTECK, ISONAS, Keri, Miro, Nedap¹⁵⁾, Pyramid, Q5, T5557, T5567, T5577, TITAN (EM4050), UltraProx, UNIQUE, ZODIAC</p>
SUPPORTED TRANSPONDERS (P OPTION)	<p>All standard transponders, G-Prox¹⁵⁾, HID 1326 Prox II, HID 1336 DuoProx II, HID 1346 ProxKey III, HID 1386 ISO Prox II, HID 1391 Micro Prox, HID Prox, Indala, ioProx, Nexwatch</p>
SUPPORTED TRANSPONDERS (PI OPTION) ¹⁸⁾	<p>All standard transponders¹⁹⁾, all P option transponders, HID MIFARE DESFire SE, HID MIFARE Classic SE, HID SEOS, HID iCLASS Legacy/SR/SE</p>
SUPPORTED TRANSPONDERS (A OPTION)	<p>Apple ECP 2.0¹⁾</p>
SUPPORTED TRANSPONDERS (AV OPTION)	<p>Apple VAS¹⁾</p>

¹⁾For Apple licensees only and eligible implementers. Please contact ELATEC for details. ²⁾Depending on product variant ³⁾On request ⁴⁾Readers equipped with a BLE module of 1st generation contain two free SAM slots, whereas readers equipped with a BLE module of 2nd generation only have one free SAM slot. ⁵⁾More information on request ⁶⁾Unless otherwise agreed with ELATEC, the product is delivered with a standard firmware version that might be older than the latest firmware developed by ELATEC. This firmware version can be changed using the ELATEC AppBlaster tool. Please note that the information given in this document regarding the transponder technologies supported by the product is based on the latest firmware version. ⁷⁾UID only ⁸⁾r/w enhanced security features on request ⁹⁾Supported as part of the EV1 downward compatibility ¹⁰⁾r/w in direct chip command mode ¹¹⁾UID only, r/w on request ¹²⁾UID + r/w public area ¹³⁾AV2 only, requires one free SAM slot for MIFARE SAM AV2 card ¹⁴⁾125 kHz technology requires a Russian local test and import license from the ministry of Trade and Industry (MINPROMTORC). This license has to be in place before ELATEC can accept any order to be shipped to Russia. ¹⁵⁾Hash value only ¹⁶⁾Only emulation of 4100, 4102 ¹⁷⁾Without encryption ¹⁸⁾Requires one free SAM slot for HID iCLASS SE processor ¹⁹⁾Readers equipped with a BLE module of 2nd generation have one free SAM slot only and cannot support LEAF and the PI option at the same time.

ACCESSORIES

HOLDER(S)	HKSI-B	Snap-in holder, black
	HKSI-W	Snap-in holder, white
	HKBR-B	Bracket holder, black
	HKBR-W	Bracket holder, white
POWER SUPPLY	PWA-AUS4	Power supply (AUS)
	PWA-EU4	Power supply (EU)
	PWA-UK4	Power supply (UK)
	PWA-US4	Power supply (US)

TECHNICAL DRAWINGS



All measures in mm [inch]

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