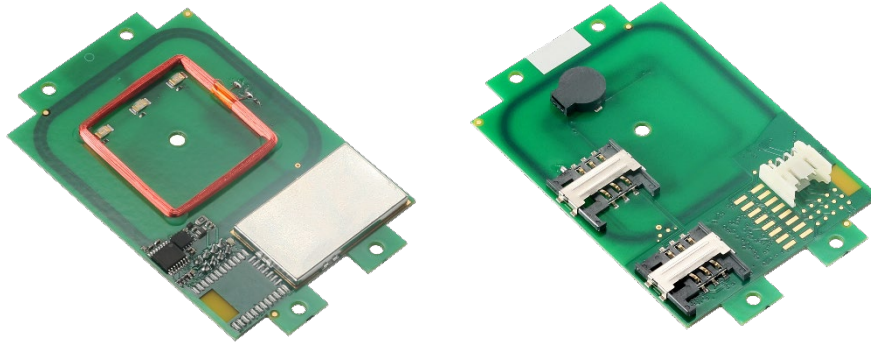


TWN4 MULTITECH 2 M LF HF

MULTI-FREQUENCY RFID MODULE FOR LF, HF AND NFC



TWN4 MultiTech 2 M LF HF
(exemplary illustrations)

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 M LF HF RFID module 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 module 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 and 13.56 MHz
- + Supports Apple VAS (Apple ECP 2.0 ready)¹⁾
- + Powerful SDK for writing apps which are executed directly on the module
- + 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
- + Compact form factor for easy integration



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)
ANTENNA(S)	Integrated
DIMENSIONS (L X W X H)	Approx. 76 x 49 x 9 mm / 3.0 x 1.9 x 0.4 inch
POWER	USB: 4.3 V - 5.5 V Generic interface (X1): 3.3 V ± 5% RS-232: requires 5 V external power supply PS2 classified power source according to IEC 62368-1, short-circuit current < 8 A
POWER OUTPUT	125 kHz: -9.95 dbμA/m at 10 meters 13.56 MHz: -2.25 dbμA/m at 10 meters
MODULATION	ASK / ASK
CURRENT CONSUMPTION	RF field on: 120 mA typically / Sleep: 500 μA typ.
TEMPERATURE RANGE	Operating: -25 °C up to +80 °C (-13 °F up to +176 °F) Storage: -40 °C up to +85 °C (-40 °F up to +185 °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
OPERATING MODES (USB)	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01
MTBF	500,000 hours
WEIGHT	Approx. 10 g / 0.35 oz (without cable)
OS SUPPORT	Windows 7 (32-/64-bit) and higher versions, Linux, Android ²⁾ , iOS ²⁾ , MAC OS X ²⁾
PERIPHERAL INTERFACES	USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), I ² C, 4 GPIOs, Clock/Data, Wiegand D0/D1, 2 SAM slots
TRANSMISSION SPEED	Host: USB full speed (12 Mbit/s), RS-232: up to 115,200 baud, HF Air: up to 848 kbit/s
CERTIFICATION NAME	TWN4 MultiTech 2 M LF HF
CERTIFICATION(S)	CE/RED, FCC, IC, REACH and RoHS-III compliant, Apple VAS certified (Apple ECP 2.0 ready) ¹⁾ , and many more ³⁾
ORDER CODE(S)	T4BO-F6 Reader module, standard T4BO-F6-P Reader module with P option T4BO-F6-PI Reader module with PI option

SUPPORTED TRANSPONDERS⁴⁾

SUPPORTED TRANSPONDERS (STANDARD) 13.56 MHZ	<p><u>ISO 14443A:</u> HID iCLASS DESFire⁵⁾ HID iCLASS MIFARE Classic⁵⁾ HID iCLASS SEOS⁵⁾ LEGIC Advant⁵⁾, NTAG2xx, MIFARE Classic, MIFARE Classic EV1⁶⁾, MIFARE DESFire EV1, MIFARE DESFire EV2⁷⁾, MIFARE DESFire EV3⁷⁾, MIFARE DESFire Light²⁾, MIFARE Mini, MIFARE Plus S, MIFARE Plus X, MIFARE Smart MX⁸⁾, MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1⁶⁾, SLE44R35⁸⁾, SLE66Rxx (my-d move)⁸⁾, Topaz</p> <p><u>ISO 14443B:</u> Calypso⁸⁾, Calypso Innovatron protocol⁸⁾, CEPAS⁸⁾, CTS, HID iCLASS⁵⁾, Pico Pass⁹⁾, SRI4K, SRI512, SRX4K, SRT512</p> <p><u>ISO 15693:</u> EM4x33⁸⁾, EM4x35⁸⁾, HID iCLASS⁵⁾, HID iCLASS Elite/SE/SR⁵⁾, ICODE SLI, LEGIC Advant⁵⁾, M24LR16/64, MB89R118/119, PicoPass⁹⁾, SRF55Vxx (my-d vicinity)⁸⁾, Tag-it</p> <p><u>ISO 18092 / ECMA-340:</u> NFC Forum Tag 1-5, Sony FeliCa¹⁰⁾</p> <p><u>LEAF Identity:</u> LEAF¹¹⁾</p>
SUPPORTED TRANSPONDERS (STANDARD) 125 KHZ ¹²⁾	<p>AWID, Cardax¹³⁾, CASI-RUSCO, Deister¹³⁾, EM4050, EM4100, EM4102, EM4150, EM4200¹⁴⁾, EM4305, EM4450, EM4550, HITAG 1¹⁵⁾, HITAG 2¹⁵⁾, HITAG S¹⁵⁾, ICT²⁾, IDTECK, ISONAS, Keri, Miro, Nedap¹³⁾, Pyramid, Q5, T5557, T5567, T5577, TITAN (EM4050), UltraProx, UNIQUE, ZODIAC</p>

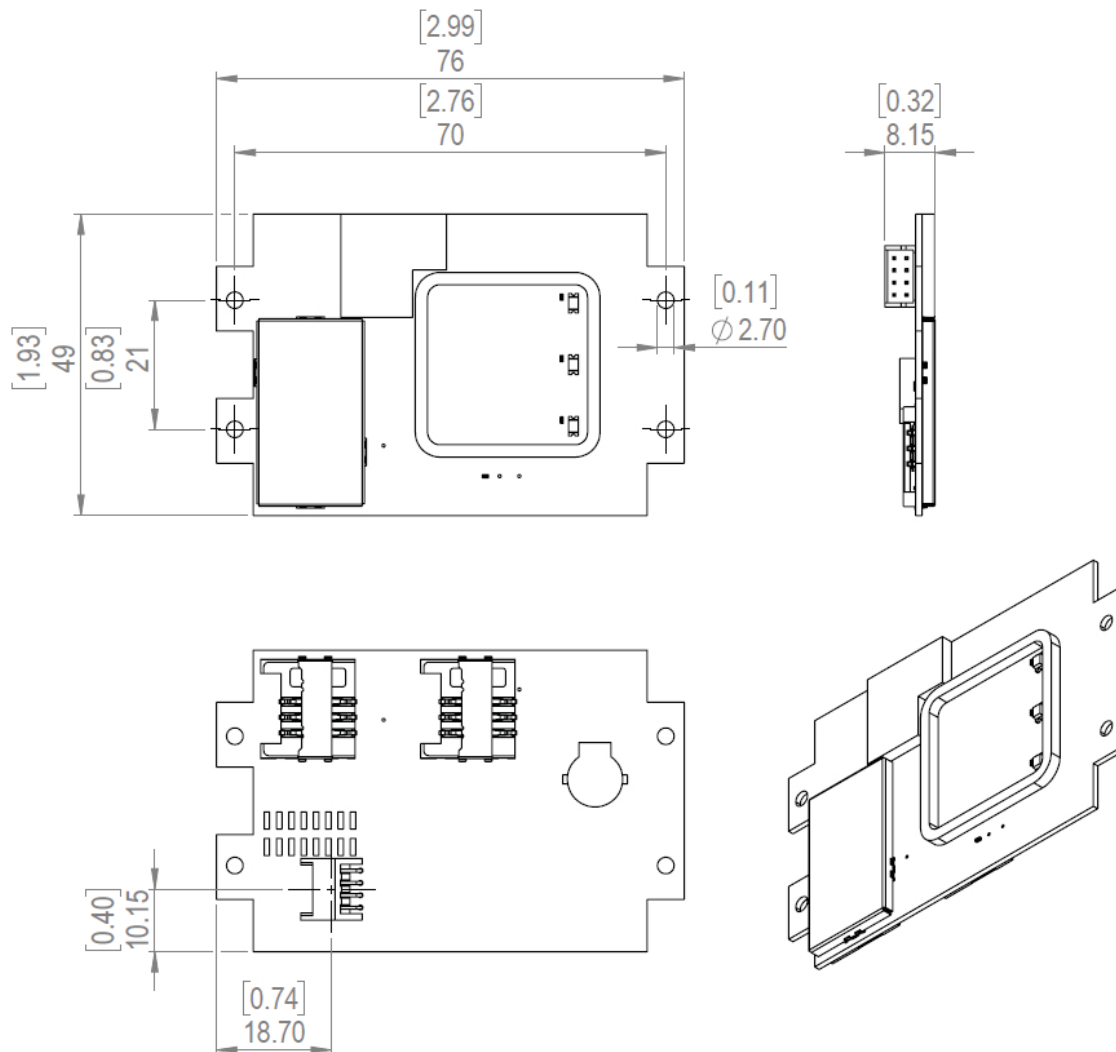
SUPPORTED TRANSPONDERS (P OPTION)	All standard transponders, G-Prox ¹³⁾ , HID 1326 Prox II, HID 1336 DuoProx II, HID 1346 ProxKey III, HID 1386 ISO Prox II, HID 1391 Micro Prox, HID Prox, Indala, ioProx, Nexwatch
SUPPORTED TRANSPONDERS (PI OPTION) ¹⁶⁾	All standard transponders, all P option transponders, HID iCLASS, HID iCLASS DESFire, HID iCLASS Elite, HID iCLASS MIFARE Classic, HID iCLASS SE/SEOS/SR
SUPPORTED TRANSPONDERS (AV OPTION)	Apple VAS ¹⁾

¹⁾For Apple licensees only and eligible implementers. Please contact ELATEC for details. ²⁾On request ³⁾More information on request ⁴⁾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. ⁵⁾UID only ⁶⁾r/w enhanced security features on request ⁷⁾Supported as part of the EV1 downward compatibility ⁸⁾r/w in direct chip command mode ⁹⁾UID only, r/w on request ¹⁰⁾UID + r/w public area ¹¹⁾AV2 only, requires one free SAM slot for MIFARE SAM AV2 card ¹²⁾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. ¹³⁾Hash value only ¹⁴⁾Only emulation of 4100, 4102 ¹⁵⁾Without encryption ¹⁶⁾Requires one free SAM slot for TWN4 SIO card

ACCESSORIES

CABLES	CAB-B2	USB cable type A 200 cm / 78.74 inch
	CAB-B3	USB cable type A 12 cm / 4.72 inch
	CAB-B4	USB cable type A 45 cm / 17.72 inch
	CAB-B7	USB cable type A 120 cm / 47.24 inch
	CAB-M1	USB cable mini 12 cm / 4.72 inch
	CAB-M2	USB cable mini 25 cm / 9.84 inch
	CAB-R2	RS-232 cable 200 cm / 78.74 inch
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]

ELATEC GmbH
 Zeppelinstr. 1
 82178 Puchheim
 Germany
 P +49 89 552 9961 0
 F +49 89 552 9961 129
 E-Mail: info-rfid@elatec.com
 Website: elatec.com

ELATEC Systems GmbH
 Schwieberdinger Str. 44
 71636 Ludwigsburg
 Germany
 P +49 7141 309736 0
 E-Mail: info-rfid@elatec.com
 Website: elatec.com

ELATEC Inc.
 1995 SW Martin Hwy
 Palm City • FL 34990
 USA
 P +1 772 210 2263
 F +1 772 382 3749
 E-Mail: americas-info@elatec.com
 Website: elatec.com

ELATEC Technology (Shenzhen) LLC
 918, Main Building, Tian An Cyber Times
 Tower, No. 6, Tairan Fourth Road, Tian 'an
 Community, Shatou Neighborhood
 Futian District • Shenzhen • China
 P/F +86 755 2394 6014
 E-Mail: apac-info@elatec.com
 Website: elatec.com

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