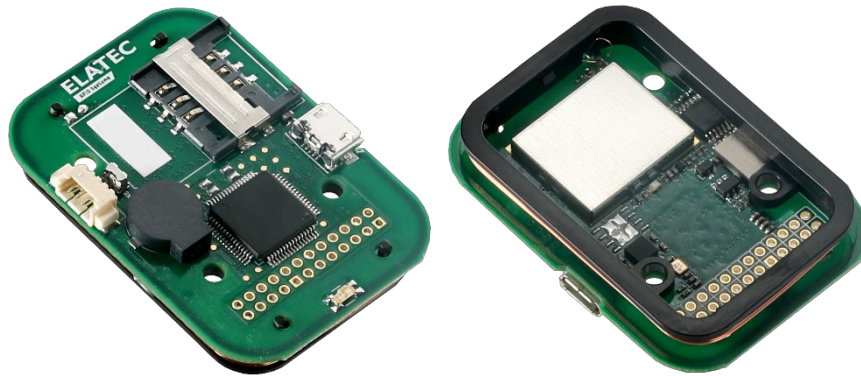


# TWN4 MULTITECH 3 M

## MULTI-FREQUENCY RFID MODULE FOR LF, HF, NFC AND BLE



TWN4 MultiTech 3 M  
(exemplary illustrations)

\*Product images may show product variants or additional components that are not available.

The powerful reader modules of the ELATEC TWN4 MultiTech 3 family combine a compact form factor with optimized read/write performance. All devices integrate RFID (125 kHz and 13.56 MHz), NFC and, optionally, Bluetooth Low Energy (BLE) capabilities. Thanks to their reduced size, the modules can be easily integrated in almost all applications where small size and full performance matter. Furthermore, they are compatible with the most common host interfaces, such as USB, and they can also be configured with different connector options.

TWN4 MultiTech 3 M key features include a powerful SDK for writing apps that are executed directly on the module, the possibility to upgrade the firmware in the field, a direct chip-commands support, and a powerful BLE module. 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/13.56 MHz), NFC and BLE
- + Optionally available with a 24-pin header, further configurations available on request
- + 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
- + Optimized read/write performance combined with a compact form factor



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
DIMENSIONS (L X W X H)	Approx. 50 x 35 x 7 mm, maximum diameter < 55 mm Approx. 1.97 x 1.38 x 0.28 inch, maximum diameter < 2.17 inch
POWER	Micro USB: 4.3 V - 5.5 V Generic interface (X2): 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
CURRENT CONSUMPTION	RF field on: 120 mA typically + 16 mA (BT) / 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 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
MTBF	500,000 hours
WEIGHT	Approx. 10 g / 0.35 oz
OS SUPPORT	Windows 7 (32-/64-bit) and higher versions, Linux, Android <sup>1)</sup> , iOS <sup>1)</sup> , MAC OS X <sup>1)</sup>
PERIPHERAL INTERFACES	USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), I <sup>2</sup> C, SPI, 3 GPIOs, Clock/Data, Wiegand D0/D1, 1 SAM slot Compatible pin header: PTT-112-01-L-D or TMM-112-03-F-D by Samtec
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 3 M
CERTIFICATION(S)	CE/RED, FCC, IC, REACH and RoHS-III compliant, and many more <sup>2)</sup>
ORDER CODE(S)	T430-F7C0 Reader module, standard T430-F7C0-P Reader module with P option T430-F7C0-PI Reader module with PI option

## SUPPORTED TRANSPONDERS<sup>3)</sup>

SUPPORTED TRANSPONDERS (STANDARD) 13.56 MHZ	<p><u>ISO 14443A:</u> LEGIC Advant<sup>4)</sup>, NTAG2xx, MIFARE Classic, MIFARE Classic EV1<sup>5)</sup>, MIFARE DESFire EV1, MIFARE DESFire EV2<sup>6)</sup>, MIFARE DESFire EV3<sup>6)</sup>, MIFARE DESFire Light<sup>1)</sup>, MIFARE Mini, MIFARE Plus S, MIFARE Plus X, MIFARE Smart MX<sup>7)</sup>, MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1<sup>5)</sup>, SLE44R35<sup>7)</sup>, SLE66Rxx (my-d move)<sup>7)</sup>, Topaz</p> <p><u>ISO 14443B:</u> Calypso<sup>7)</sup>, Calypso Innovatron protocol<sup>7)</sup>, CEPAS<sup>7)</sup>, CTS, Pico Pass<sup>8)</sup>, SRI4K, SRI512, SRX4K, SRT512</p> <p><u>ISO 15693:</u> EM4x33<sup>7)</sup>, EM4x35<sup>7)</sup>, ICODE SLI, LEGIC Advant<sup>4)</sup>, M24LR16/64, MB89R118/119, PicoPass<sup>8)</sup>, SRF55Vxx (my-d vicinity)<sup>7)</sup>, Tag-it</p> <p><u>ISO 18092 / ECMA-340:</u> NFC Forum Tag 1-5, Sony FeliCa<sup>9)</sup></p> <p><u>LEAF Identity:</u> LEAF<sup>10)</sup></p>
SUPPORTED TRANSPONDERS (STANDARD) 125 KHZ <sup>11)</sup>	<p>AWID, Cardax<sup>12)</sup>, CASI-RUSCO, Deister<sup>12)</sup>, EM4050, EM4100, EM4102, EM4150, EM4200<sup>13)</sup>, EM4305, EM4450, EM4550, HITAG 1<sup>14)</sup>, HITAG 2<sup>14)</sup>, HITAG S<sup>14)</sup>, ICT<sup>1)</sup>, IDTECK, ISONAS, Keri, Miro, Nedap<sup>12)</sup>, Pyramid, Q5, T5557, T5567, T5577, TITAN (EM4050), UltraProx, UNIQUE, ZODIAC</p>

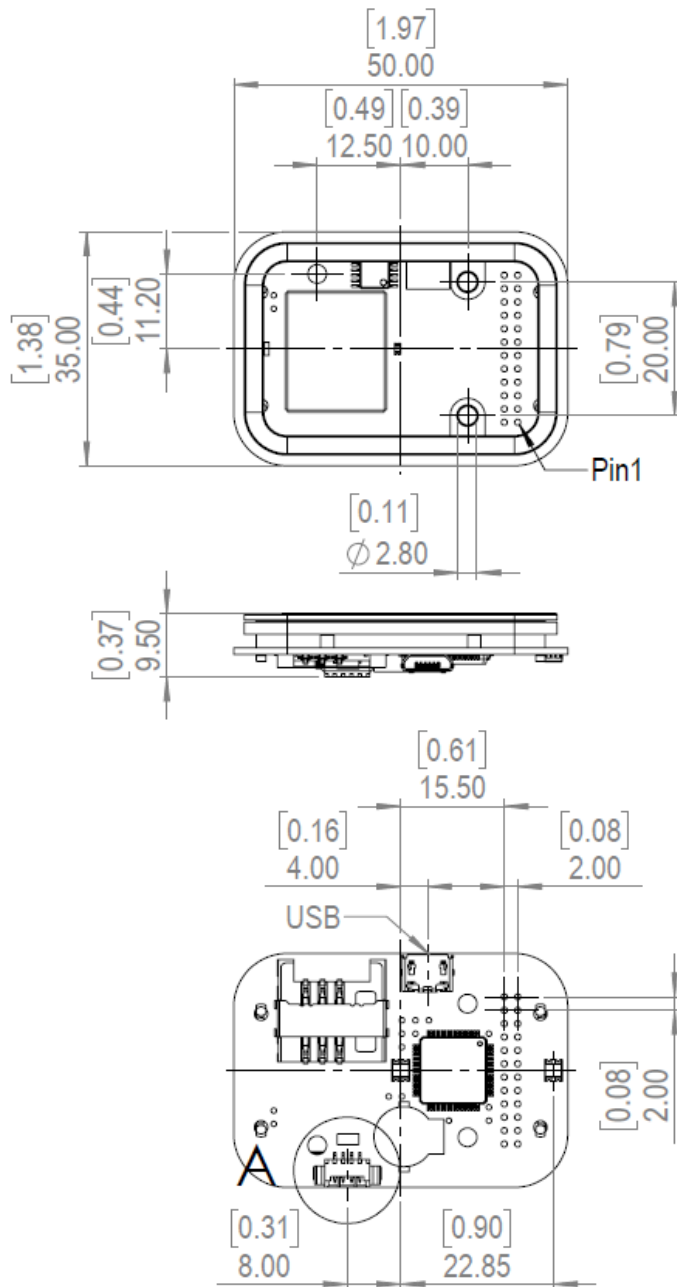
SUPPORTED TRANSPONDERS (P OPTION)	All standard transponders, G-Prox <sup>12)</sup> , HID 1326 Prox II, HID 1336 DuoProx II, HID 1346 ProxKey III, HID 1386 ISO Prox II, HID 1391 Micro Prox, HID Prox, Indala, ioProx, Nexwatch
SUPPORTED TRANSPONDERS (PI OPTION) <sup>15)</sup>	All standard transponders <sup>16)</sup> , all P option transponders, HID MIFARE Classic SE, HID MIFARE DESFire SE, HID SEOS, HID iCLASS Legacy/SR/SE

<sup>1)</sup>On request <sup>2)</sup>More information on request <sup>3)</sup>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. <sup>4)</sup>UID only <sup>5)</sup>r/w enhanced security features on request <sup>6)</sup>Supported as part of the EV1 downward compatibility <sup>7)</sup>r/w in direct chip command mode <sup>8)</sup>UID only, r/w on request <sup>9)</sup>UID + r/w public area <sup>10)</sup>AV2 only, requires one free SAM slot for MIFARE SAM AV2 card <sup>11)</sup>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. <sup>12)</sup>Hash value only <sup>13)</sup>Only emulation of 4100, 4102 <sup>14)</sup>Without encryption <sup>15)</sup>Requires one free SAM slot for HID iCLASS SE processor. <sup>16)</sup>The module has one SAM slot only and cannot support LEAF and the PI option at the same time.

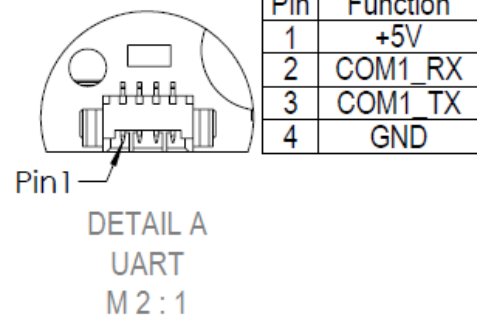
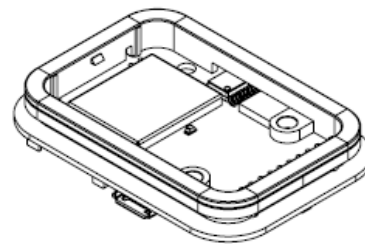
## ACCESSORIES

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

## TECHNICAL DRAWINGS



	Pin		
RESET	24	23	PWRDWN-
GPIO6	22	21	GPIO5
GPIO4	20	19	VCC
COM1_RX	18	17	COM1_TX
USB_DP_P	16	15	UGND
USB_DM_P	14	13	UVCC
GND	12	11	V24_RXD
HOSTENSE	10	9	V24_TXD
SPI_SCK	8	7	SPI_SS-
SPI_MISO	6	5	SPI_MOSI
I2C_SDA	4	3	I2C_SCI
CAN_RX	2	1	CAN_TX



All measures in mm [inch]

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