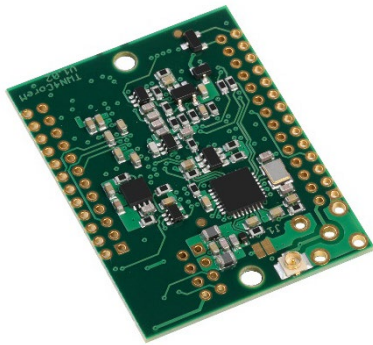


# TWN4 MULTITECH CORE M

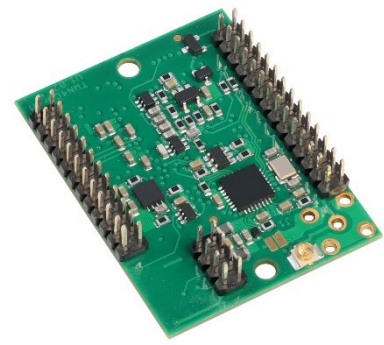
## MULTI-FREQUENCY RFID MODULE FOR LF, HF AND NFC WITHOUT ANTENNA



C0 version



C1 version



C2 version

ELATEC TWN4 family of RFID readers and modules allows users to read and write to almost any 125 kHz and 13.56 MHz tags and/or labels – it supports all major transponders from various suppliers like ATMEL, EM, ST, NXP, TI, HID, LEGIC, etc. and ISO standards like ISO 14443A/B (T=CL), ISO 15693 and ISO 18092 / ECMA-340 (NFC).

TWN4 MultiTech Core M is designed for integration into machines or any other device to be used with an external antenna (125 kHz, 13.56 MHz or both).

### Special features:

- + 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
- + Supports connection of external ISO 7816 compatible SAM cards
- + Supports 50 Ohm external antennas via SMA, SMB, SMC, MCX, UMCC/U.FL connectors
- + CCID and PC/SC 2.01
- + Dedicated expansion bus for connection of LCD, mass storage, etc.
- + Supports quick (re)configuration over network and over wireless interface with TWN4 CONFIG Card
- + TWN4 Upgrade Card for P and PI options available on request



Elevator



EV Chargers



Access



Shop POS

Fitness  
Equipment

Ticket POS



PC Log-on

Document  
Management

Driver ID



Vending



Parking



Gaming



Locker Locks

Time  
AttendanceIndustrial  
PC

## TECHNICAL DATA

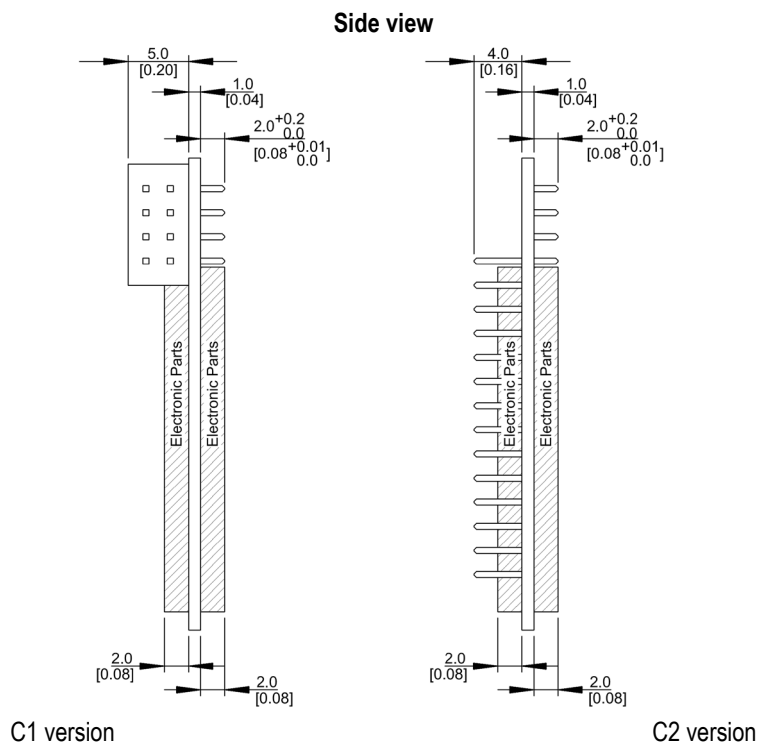
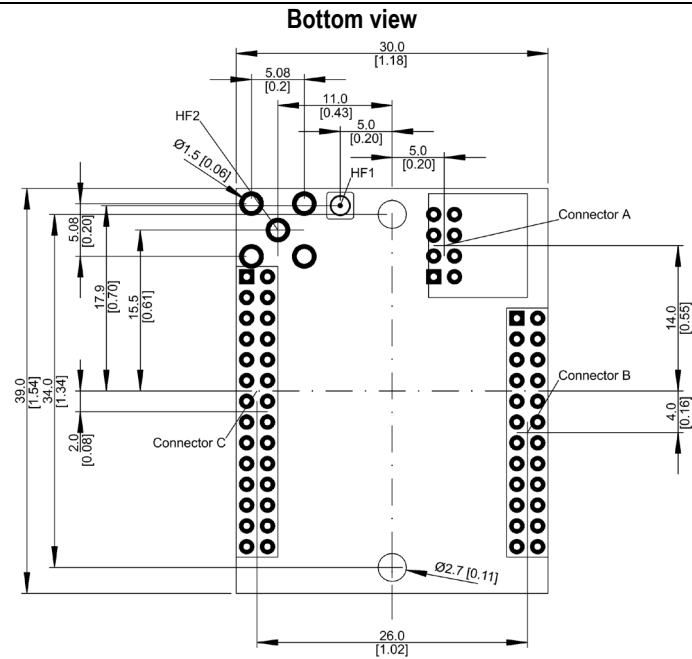
FREQUENCY	125 kHz (LF) / 13.56 MHz (HF)	
ANTENNA(S)	Externally, 50 Ohm for 13.56 MHz – 490 µH ± 5% for 125 kHz	
DIMENSIONS (L X W X H)	C0 version: approx. 39 x 30 x 4.6 mm / 1.54 x 1.18 x 0.18 inch C1 version: approx. 39 x 30 x 8 mm / 1.54 x 1.18 x 0.31 inch C2 version: approx. 39 x 30 x 9 mm / 1.54 x 1.18 x 0.35 inch	
POWER	3.3 V ± 5% or (by using onboard voltage regulator) 4.3 V - 5.5 V PS2 classified power source according to IEC 62368-1, short-circuit current < 8 A	
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	
OPERATING MODES (USB)	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01	
MTBF	500,000 hours	
WEIGHT	Approx. 7 g / 0.25 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, 2x serial (logic level 3.3 V, CMOS 5 V tolerant), I <sup>2</sup> C, SPI, 8 GPIOs, Clock/Data, Wiegand D0/D1	
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 Core M	
CERTIFICATION(S)	CE/RED, REACH and RoHS-III compliant	
ORDER CODE(S)	T4CM-FC0	Standard reader module, C0 version
	T4CM-FC1	Standard reader module, C1 version
	T4CM-FC2	Standard reader module, C2 version
	T4CM-FC0-P	Reader module, C0 version, with P option
	T4CM-FC1-P	Reader module, C1 version, with P option
	T4CM-FC2-P	Reader module, C2 version, with P option
	T4CM-FC0-PI	Reader module, C0 version, with PI option
	T4CM-FC1-PI	Reader module, C1 version, with PI option
	T4CM-FC2-PI	Reader module, C2 version, with PI option

## SUPPORTED TRANSPONDERS<sup>2)</sup>

<p>SUPPORTED TRANSPONDERS (STANDARD) 13.56 MHZ</p>	<p><u>ISO 14443A:</u> HID iCLASS DESFire<sup>3)</sup> HID iCLASS MIFARE Classic<sup>3)</sup> HID iCLASS SEOS<sup>3)</sup> LEGIC Advant<sup>3)</sup>, NTAG2xx, MIFARE Classic, MIFARE Classic EV1<sup>4)</sup>, MIFARE DESFire EV1, MIFARE DESFire EV2<sup>5)</sup>, MIFARE DESFire EV3<sup>5)</sup>, MIFARE DESFire Light<sup>1)</sup>, MIFARE Mini, MIFARE Plus S, MIFARE Plus X, MIFARE Smart MX<sup>6)</sup>, MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1<sup>4)</sup>, SLE44R35<sup>6)</sup>, SLE66Rxx (my-d move)<sup>6)</sup>, Topaz</p> <p><u>ISO 14443B:</u> Calypso<sup>6)</sup>, Calypso Innovatron protocol<sup>6)</sup>, CEPAS<sup>6)</sup>, CTS, HID iCLASS<sup>3)</sup>, Pico Pass<sup>7)</sup>, SRI4K, SRI512, SRIX4K, SRT512</p> <p><u>ISO 15693:</u> EM4x33<sup>6)</sup>, EM4x35<sup>6)</sup>, HID iCLASS<sup>3)</sup>, HID iCLASS Elite/SE/SR<sup>3)</sup>, ICODE SLI, LEGIC Advant<sup>3)</sup>, M24LR16/64, PicoPass<sup>7)</sup>, SRF55Vxx (my-d vicinity)<sup>6)</sup>, Tag-it</p> <p><u>ISO 18092 / ECMA-340:</u> NFC Forum Tag 1-5, Sony FeliCa<sup>8)</sup></p>
<p>SUPPORTED TRANSPONDERS (STANDARD) 125 KHZ<sup>9)</sup></p>	<p>AWID, Cardax<sup>10)</sup>, CASI-RUSCO, Deister<sup>10)</sup>, EM4050, EM4100, EM4102, EM4150, EM4200<sup>11)</sup>, EM4305, EM4450, EM4550, HITAG 1<sup>12)</sup>, HITAG 2<sup>12)</sup>, HITAG S<sup>12)</sup>, ICT<sup>1)</sup>, IDTECK, ISONAS, Keri, Miro, Nedap<sup>10)</sup>, Pyramid, Q5, T5557, T5567, T5577, TITAN (EM4050), UltraProx, UNIQUE, ZODIAC</p>
<p>SUPPORTED TRANSPONDERS (P OPTION)</p>	<p>All standard transponders, G-Prox<sup>10)</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</p>
<p>SUPPORTED TRANSPONDERS (PI OPTION)<sup>13)</sup></p>	<p>All standard transponders, all P option transponders, HID iCLASS, HID iCLASS DESFire, HID iCLASS Elite, HID iCLASS MIFARE Classic, HID iCLASS SE/SEOS/SR</p>

<sup>1)</sup>On request <sup>2)</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>3)</sup>UID only <sup>4)</sup>r/w enhanced security features on request <sup>5)</sup>Supported as part of the EV1 downward compatibility <sup>6)</sup>r/w in direct chip command mode <sup>7)</sup>UID only, r/w on request <sup>8)</sup>UID + r/w public area <sup>9)</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>10)</sup>Hash value only <sup>11)</sup>Only emulation of 4100, 4102 <sup>12)</sup>Without encryption <sup>13)</sup>Requires one free SAM slot for TWN4 SAM SIO card

## TECHNICAL DRAWINGS



All measures in mm [inch]

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