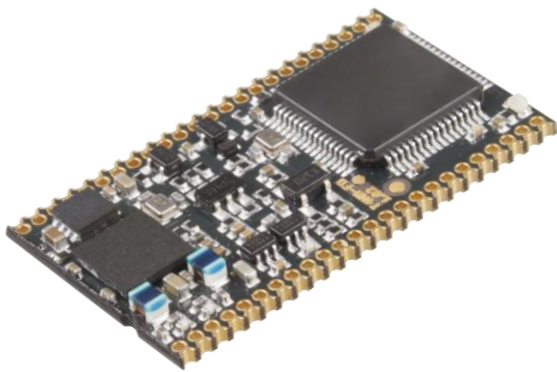
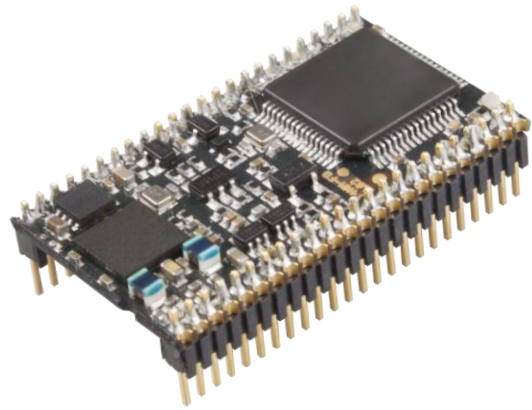


# TWN4 MULTITECH NANO

## 125kHz/134.2kHz & 13.56MHz Contactless Reader/Writer External Direct Matched Antenna



Version C0  
(SMT)



Version C1  
(THT)


Elatec's TWN4 family of transponder readers and writers allows users to read and write to almost any 125kHz / 134.2kHz and 13.56MHz 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 ISO14443A/B (T=CL), ISO15693, ISO18092 / ECMA-340 (NFC).

The TWN4 MultiTech Nano is designed for integration into machines or other devices. It can be connected to an external antenna through printed circuit board. The powerful hardware allows the extension of supported transponders to meet your individual request.

### Special Features:

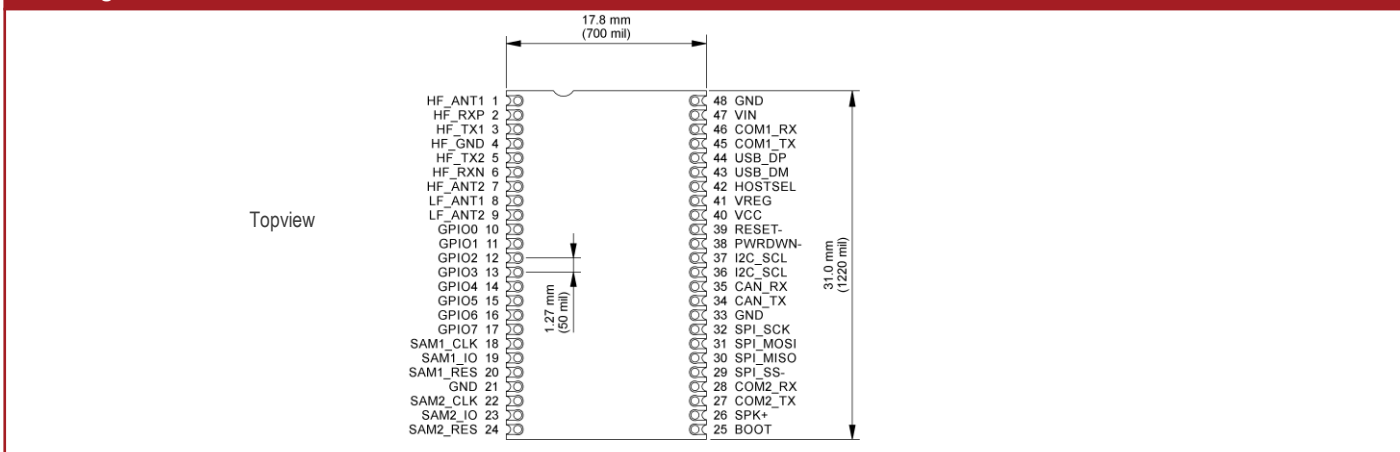
- Powerful SDK for writing apps which are executed directly on the reader
- Infield updateable
- Onboard 18kB flash storage, e.g. for storing user accessible non-volatile data
- Edge plated pads for surface mounting (C0) allows easy and reliable PCB mounting & connector option (THT) (C1)
- Compliance to EMV contactless protocol specification V2.3<sup>2)</sup>
- Direct chip-commands support
- Supports multiple SAMs (Secure Access Modules)
- CCID and PC/SC 2.01
- Interfaces:  
USB, 2 x Serial (logic level), I<sup>2</sup>C, SPI<sup>2)</sup>, Clock/Data<sup>3)</sup>, Wiegand<sup>3)</sup>, 1-Wire<sup>2)</sup>, CAN<sup>2)</sup>
- 8 GPIOs
- 3D Model (STEP) on request

## Technical Data<sup>4)</sup>

<b>Frequency</b>	125kHz, 134.2kHz (LF) / 13.56MHz (HF)									
<b>Antenna</b>	Externally, direct matched for 13.56MHz – 490µH ±5% for 125kHz/134.2kHz									
<b>Dimensions (LxWxH)</b>	31mm x 17.8mm x 2.5mm / 1.22inch x 0.7inch x 0.12inch									
<b>Power Supply</b>	3.3V +/-5% (direct supply) or 4.3-5.5V (use of on-board voltage regulator)									
<b>Current Consumption</b>	Depending on antenna: RF field on: 120mA typ. / Sleep: 500µA typ. / Cyclic Operation: TBD									
<b>Temperature Range</b>	Operating: -40°C up to +80°C (-40°F up to +176°F) Storage: -45°C up to +85°C (-49°F up to +185°F)									
<b>Read- / Write Distance</b>	Up to 100mm / 4inch, depending on antenna and tag									
<b>HOST Interface</b>	USB, 2 x serial (logic level 3.3V,CMOS 5V tolerant), I2C, SPI <sup>2)</sup> , Clock/Data <sup>3)</sup> , Wiegand <sup>3)</sup> , 1-Wire <sup>2)</sup> CAN, RS232/422/485 require adapter board									
<b>OS Support</b>	Windows XP, Vista, Embedded CE <sup>2)</sup> , 7(32-/64-bit), 8, 8.1,10, Linux, Android, iOS <sup>2)</sup> , MAC OS X <sup>2)</sup>									
<b>Transmission Speed</b>	HOST: USB: Full speed (12Mbit)	AIR: up to 848Kbit/s								
<b>Modes of Operation</b>	USB key board emulation – USB virtual COM port – Transparent – CCID mode / PC/SC 2.01									
<b>Relative Humidity</b>	5% to 95% non-condensing									
<b>Supported Transponders</b>	<p><b>Standard</b></p> <ul style="list-style-type: none"> <li>125kHz / 134.2kHz: 4100, 4102, 4200<sup>10)</sup>, 4050, 4150, 4450, 4550, AWID, CASI-RUSCO, HITAG 1<sup>11)</sup>, HITAG 2<sup>11)</sup>, HITAG S<sup>11)</sup>, Keri, Miro, Pyramid, TIRIS/HDX, UNIQUE, FDX-B, Q5, TITAN, T55x7, ZODIAC</li> <li><u>Optionally, in consideration:</u> 4305, Cardax, IDTECK</li> <li>13.56MHz / ISO14443A: MIFARE Classic 1k &amp; 4k EV<sup>17)</sup>, Mini, DESFire EV1, Plus S&amp;X, Pro X<sup>8)</sup>, SmartMX<sup>8)</sup>, Ultralight, Ultralight EV<sup>17)</sup>, Ultralight C, SLE44R35, SLE66Rxx (my-d move), LEGIC Advant<sup>5)</sup>, PayPass<sup>8)</sup>, NTAG2XX<sup>7)</sup></li> <li>13.56MHz / ISO14443B: Calypso<sup>8)</sup> incl. Innovatron radio protocol 14443-B<sup>6)</sup>, CEPAS<sup>8)</sup>, HID iCLASS<sup>5)</sup>, Moneo<sup>8)</sup>, PicoPass<sup>6)</sup>, SRI512, SRT512, SRI4K, SRX4K</li> <li>13.56MHz / ISO15693: EM4x33<sup>8)</sup>, EM4x35<sup>8)</sup>, HID iCLASS<sup>5)</sup>, ICODE SLI, LEGIC Advant<sup>5)</sup>, M24LR16/64, Tag-it, SRF55Vxx (my-d vicinity)<sup>8)</sup>, PicoPass<sup>6)</sup></li> <li>13.56MHz / ISO18092 / NFC: NFCIP-1: Active and passive communication mode, Peer-to-Peer, NFC Forum Tag Type 1-4, Sony FeliCa<sup>9)</sup></li> </ul> <p><b>Version P</b> Standard+Contag,G-Prox<sup>12)</sup>, HID (Prox,Prox II,Duo Prox II,ISO Prox II,Micro Prox,ProxKey),Honeywell NexWatch, Indala, ioProx</p> <p><b>Version PI (requires external TWN4 SIO Card)</b> Version P + HID iCLASS, HID iCLASS SE/SR/SEOS (CSN and Facility Code/PAC)<sup>6)</sup></p>									
<b>Certifications</b>	RoHS-II compliant									
<b>MTBF</b>	500.000 hours									
<b>Weight</b>	Approx. 7g									
<b>Order Codes</b>	<table border="0"> <tr> <td>C0</td> <td>C1</td> </tr> <tr> <td>Standard: T4NM-FDC0</td> <td>T4NM-FDC1</td> </tr> <tr> <td>Version P: T4NM-FDC0-P</td> <td>T4NM-FDC1-P</td> </tr> <tr> <td>Version PI: T4NM-FDC0-PI</td> <td>T4NM-FDC1-PI</td> </tr> </table>	C0	C1	Standard: T4NM-FDC0	T4NM-FDC1	Version P: T4NM-FDC0-P	T4NM-FDC1-P	Version PI: T4NM-FDC0-PI	T4NM-FDC1-PI	TWN4 MultiTech-P DevKit Nano  T4NK-F-P 
C0	C1									
Standard: T4NM-FDC0	T4NM-FDC1									
Version P: T4NM-FDC0-P	T4NM-FDC1-P									
Version PI: T4NM-FDC0-PI	T4NM-FDC1-PI									

<sup>1)</sup>In Preparation <sup>2)</sup>On Request Only <sup>3)</sup>External Interface Required <sup>4)</sup>Target Specification <sup>5)</sup>UID Only <sup>6)</sup>UID Only, read/write On Request <sup>7)</sup>r/w enhanced security features on request <sup>8)</sup>r/w in direct chip command mode <sup>9)</sup>UID + r/w public area  
<sup>10)</sup>Only emulation of 4100,4102 <sup>11)</sup>Without encryption mode <sup>12)</sup>Hash Value Only

## Drawings



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