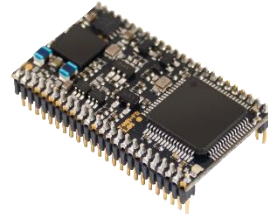


# TWN4 MULTITECH NANO

## MINIATURE HF RFID/NFC READER/WRITER FOR EXTERNAL DIRECT MATCHED ANTENNA



Version C0 (SMT)  
31 x 17.8 x 2.7 mm



Version C1 (THT)  
31 x 17.8 x 8.11 mm

Elatec's TWN4 family of transponder readers and writers allows users to read and write to almost any 125 kHz, 134.2 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 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 a printed circuit board (125 kHz/134.2 kHz, 13.56 MHz or both).

### Special features:

- + compact design (31 x 17.8 x 2.7 mm / 1.22 x 0.7 x 0.12 inch)
- + components mounted only on one side for easy integration on the main application
- + edge plated pads for surface mounting (C0) allows easy and reliable PCB mounting, connector option (C1) also available for THT mounting
- + powerful SDK for writing apps which are executed directly on the reader
- + firmware update in the field possible
- + onboard 18 kB flash storage, e.g. for storing user accessible non-volatile data
- + direct chip-commands support
- + compliance to EMV contactless protocol specification V2.32)
- + supports connection of external ISO7816 compatible SAM cards
- + CCID and PC/SC 2.01
- + 8 GPIOs
- + supports quick centralized (re)configuration over network and over wireless interface with TWN4 CONFIG Card
- + 3D construction data (STEP) available on request



## TECHNICAL DATA

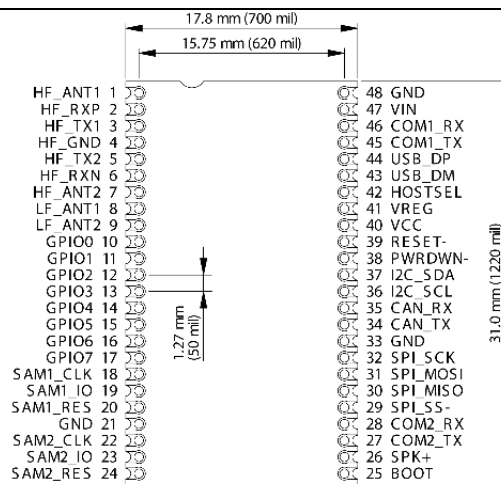
FREQUENCY	125 kHz/134.2 kHz (LF) / 13.56 MHz (HF)
ANTENNA	Externally, direct matched for 13.56 MHz – 490 µH ± 5% for 125 kHz/134.2 kHz
DIMENSIONS (L X W X H)	31 mm x 17.8 mm x 2.7 mm / 1.22 inch x 0.7 inch x 0.12 inch
POWER SUPPLY	3.3 V +/- 5% (direct supply) or 4.3 V - 5.5 V (use of on-board voltage regulator)
CURRENT CONSUMPTION	RF field on: 120 mA typically / Sleep: 500 µA typ. / Cyclic Operation: TBD
TEMPERATURE RANGE	Operating: -25 °C up to +80 °C (-13 °F up to +176 °F) Storage: -45 °C up to +85 °C (-49 °F up to +185 °F)
RELATIVE HUMIDITY	5% to 95% non-condensing
READ- / WRITE DISTANCE	Up to 100 mm / 4 inch, depending on antenna, environment and transponder
TRANSMISSION SPEED	Host: USB Full speed (12 Mbit/s) Serial TTL: up to 115.200 baud Air: up to 848 kbit/s
OPERATING MODES (USB)	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01
MTBF	500,000 hours
WEIGHT	Approx. 7 g
SUPPORTED TRANSPONDERS (STANDARD)	<p><u>ISO14443A:</u> LEGIC Advant<sup>1)</sup>, MIFARE Classic EV1<sup>2)</sup>, MIFARE Classic, MIFARE Mini, MIFARE DESFire EV1, MIFARE DESFire EV2<sup>2)</sup>, MIFARE Plus S, X, MIFARE Pro X<sup>3)</sup>, MIFARE Smart MX<sup>3)</sup>, MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1, NTAG2xx, PayPass<sup>3)</sup>, SLE44R35, SLE66Rxx (my-d move)<sup>3)</sup>, Topaz</p> <p><u>ISO14443B:</u> Calypso<sup>3)</sup>, Calypso Innovatron protocol<sup>3)</sup>, CEPAS<sup>3)</sup>, HID iCLASS<sup>1)</sup>, Moneo<sup>3)</sup>, Pico Pass<sup>4)</sup>, SRI4K, SRIX4K, SRI512, SRT512</p> <p><u>ISO18092 ECMA-340:</u> NFC Forum Tag 1-5, NFC Peer-to-Peer, Sony FeliCa<sup>5)</sup>, NFC Active and passive communication mode</p> <p><u>ISO15693:</u> EM4x33<sup>3)</sup>, EM4x35<sup>3)</sup>, HID iCLASS<sup>1)</sup>, HID iCLASS SE/SR<sup>1)</sup>, ICODE SLI, LEGIC Advant<sup>1)</sup>, M24LR16/64, MB89R118/119, SRF55Vxx (my-d vicinity)<sup>3)</sup>, Tag-it, PicoPass<sup>4)</sup></p> <p><u>125 kHz, 134.2 kHz:</u> AWID, Cardax, CASI-RUSCO, Deister<sup>6)</sup>, EM4100, 4102, 4200<sup>7)</sup>, EM4050, 4150, 4450, 4550, EM4305<sup>8)</sup>, FDX-B, EM4105, HITAG 1<sup>9)</sup>, HITAG 2<sup>9)</sup>, HITAG S<sup>9)</sup>, ICT<sup>8)</sup>, IDTECK, Isonas<sup>8)</sup>, Keri, Miro, Nedap<sup>6)</sup>, PAC, Pyramid, Q5, T5557, T5567, T5577, TIRIS/HDX, TITAN (EM4050), UNIQUE, ZODIAC, Cotag, G-Prox<sup>6)</sup></p>
SUPPORTED TRANSPONDERS (VERSION P)	All Standard Transponders, Cotag, G-Prox <sup>6)</sup> , HID DuoProx II, HID ISO Prox II, HID Micro Prox, HID ProxKey III, HID Prox, HID Prox II, Indala, ioProx, Nexwatch
SUPPORTED TRANSPONDERS (VERSION PI)	Requires external TWN4 SIO Card, All Standard Transponders, All Version P Transponders, HID iCLASS <sup>10)</sup> , HID iCLASS SE/SR/SEOS(CSN and Facility Code/PAC) <sup>10)</sup> , HID iCLASS Elite & SE Elite
PERIPHERAL INTERFACES	USB, 2 x serial (logic level 3.3 V, CMOS 5 V tolerant), I <sup>2</sup> C, SPI, 8 GPIOs, CAN <sup>8)</sup> , Clock/Data, Wiegand, 1-Wire <sup>8)</sup>
OS SUPPORT	Windows XP, Vista, Embedded CE <sup>8)</sup> , 7 (32-/64-bit), 8, 8.1, 10, Linux, Android <sup>8)</sup> , iOS <sup>8)</sup> , MAC OS X <sup>8)</sup>
CERTIFICATION(S)	RoHS-II compliant, REACH

<sup>1)</sup>UID only <sup>2)</sup>r/w enhanced security features on request <sup>3)</sup>r/w in direct chip command mode <sup>4)</sup>UID only, read/write on request <sup>5)</sup>UID + r/w public area <sup>6)</sup>Hash value only <sup>7)</sup>Only emulation of 4100, 4102 <sup>8)</sup>On request <sup>9)</sup>Without encryption <sup>10)</sup>UID + PAC (CSN & Facility Code), r/w on request

ORDER CODE(S)	T4NM-FDC0	C0 Standard
	T4NM-FDC0-P	C0 Version P
	T4NM-FDC0-PI	C0 Version PI
	T4NM-FDC1	C1 Standard
	T4NM-FDC1-P	C1 Version P
	T4NM-FDC1-PI	C1 Version PI

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## DRAWING



Top view