

TWN4 MULTITECH NANO

MINIATURE LF + 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 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, 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 (re)configuration over network and over wireless interface with TWN4 CONFIG Card
- + TWN4 Upgrade Card for P and PI options available on request
- + 3D construction data (STEP) 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
Attendance



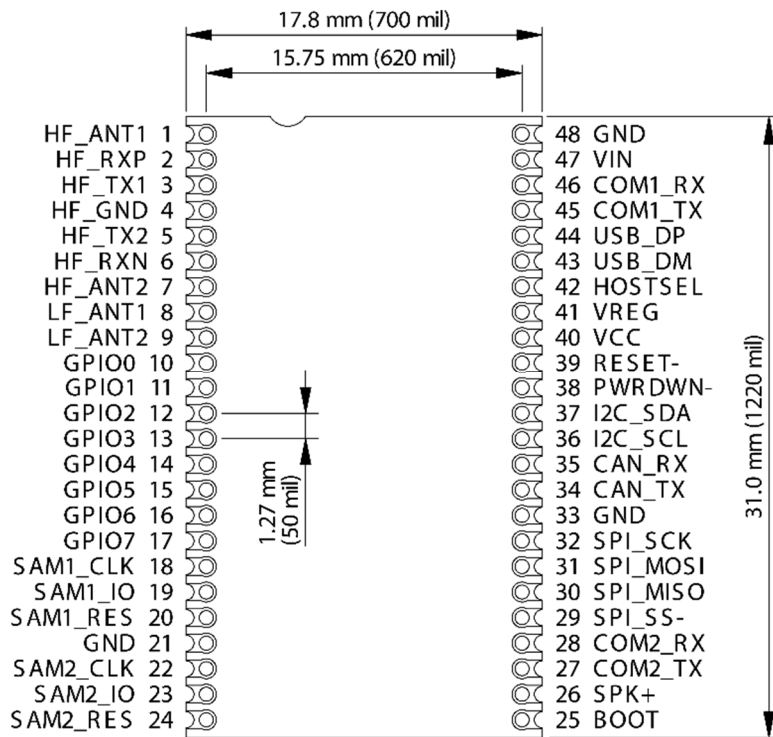
Industrial
PC

TECHNICAL DATA

FREQUENCY	125 kHz (LF) / 13.56 MHz (HF)
ANTENNA	Externally, direct matched for 13.56 MHz – 490 μ H \pm 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 μ A 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
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) 13.56 MHZ	ISO14443A: LEGIC Advant ¹⁾ , MIFARE Classic EV1 ²⁾ , MIFARE Classic, MIFARE Mini, MIFARE DESFire EV1, MIFARE DESFire EV2 ²⁾ , MIFARE DESFire Light ³⁾ , MIFARE Plus S, X, MIFARE Pro X ⁴⁾ , MIFARE Smart MX ⁴⁾ , MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1, NTAG2xx, PayPass ⁴⁾ , SLE44R35, SLE66Rxx (my-d move) ⁴⁾ , Topaz ISO14443B: Calypso ⁴⁾ , Calypso Innovatron protocol ⁴⁾ , CEPAS ⁴⁾ , HID iCLASS ¹⁾ , Moneo ⁴⁾ , Pico Pass ⁵⁾ , SRI4K, SRIX4K, SRI512, SRT512 ISO18092 ECMA-340: NFC Forum Tag 1-5, NFC Peer-to-Peer, Sony FeliCa ⁶⁾ , NFC Active and passive communication mode ISO15693: EM4x33 ⁴⁾ , EM4x35 ⁴⁾ , HID iCLASS ¹⁾ , HID iCLASS SE/SR ¹⁾ , ICODE SLI, LEGIC Advant ¹⁾ , M24LR16/64, MB89R118/119, SRF55Vxx (my-d vicinity) ⁴⁾ , Tag-it, PicoPass ⁵⁾
SUPPORTED TRANSPONDERS (STANDARD) 125 KHZ ⁷⁾	AWID, Cardax, CASI-RUSCO, Deister ⁸⁾ , EM4100, 4102, 4200 ⁹⁾ , EM4050, 4150, 4450, 4550, EM4305 ¹⁰⁾ , FDX-B ¹⁰⁾ , EM4105, HITAG 1 ¹¹⁾ , HITAG 2 ¹¹⁾ , HITAG S ¹¹⁾ , ICT ¹⁰⁾ , IDTECK, Isonas ¹⁰⁾ , Keri, Miro, Nedap ⁸⁾ , PAC ¹⁰⁾ , Pyramid, Q5, T5557, T5567, T5577, TIRIS/HDX ¹⁰⁾ , TITAN (EM4050), UNIQUE, ZODIAC
SUPPORTED TRANSPONDERS (OPTION P)	All Standard Transponders, Cotag, G-Prox ⁸⁾ , HID DuoProx II, HID ISO Prox II, HID Micro Prox, HID ProxKey III, HID Prox, HID Prox II, Indala, ioProx, Nexwatch
SUPPORTED TRANSPONDERS (OPTION PI)	Requires TWN4 SIO Card, All Standard Transponders, All Option P Transponders, HID iCLASS, HID iCLASS SE/SR/Elite, HID iCLASS SEOS (Facility Code/PAC) ¹²⁾
OS SUPPORT	Windows XP, Vista, Embedded CE ¹⁰⁾ , 7 (32-/64-bit), 8, 8.1, 10, Linux, Android ¹⁰⁾ , iOS ¹⁰⁾ , MAC OS X ¹⁰⁾
PERIPHERAL INTERFACES	USB, 2 x serial (logic level 3.3 V, CMOS 5 V tolerant), I ² C, SPI, 8 GPIOs, CAN ¹⁰⁾ , Clock/Data, Wiegand
TRANSMISSION SPEED	Host: USB Full speed (12 Mbit/s), Serial TTL: up to 115.200 baud, Air: up to 848 kbit/s
CERTIFICATION(S)	REACH and RoHS-III compliant
ORDER CODE(S)	T4NM-FDC0 C0 Standard T4NM-FDC0-P C0 Option P T4NM-FDC0-PI C0 Option PI T4NM-FDC1 C1 Standard T4NM-FDC1-P C1 Option P T4NM-FDC1-PI C1 Option PI

¹⁾UID only ²⁾r/w enhanced security features on request ³⁾In preparation ⁴⁾r/w in direct chip command mode ⁵⁾UID only, read/write on request ⁶⁾UID + r/w public area
⁷⁾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 ⁸⁾Hash value only ⁹⁾Only emulation of 4100, 4102 ¹⁰⁾On request ¹¹⁾Without encryption ¹²⁾r/w on request

DRAWING



Top view

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

ELATEC USA Inc.

4203 SW High Meadows Ave
 Palm City • FL 34990 • USA
 P +1 772 210 2263 • F +1 772 382 3749
 E-Mail: americas-info@elatec.com

ELATEC Technology (Shenzhen) LLC

No. 716 Industrial Bank Tower
 Futian District • Shenzhen • China
 P/F +86 755 2394 6014
 E-Mail: apac-info@elatec.com

ELATEC reserves the right to change any information or data in this document without prior notice. ELATEC declines all responsibility for the use of this product with any other specification but the one mentioned above. Any additional requirement for a specific customer application has to be validated by the customer himself at his own responsibility. Where application information is given, it is only advisory and does not form part of the specification. Disclaimer: All names used in this document are registered trademarks of their respective owners.