

# TWN4 MULTITECH NANO LEGIC 42

## MINIATURE HF RFID/NFC READER/WRITER FOR EXTERNAL 50 OHM 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 LEGIC 42 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
- + 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 option 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

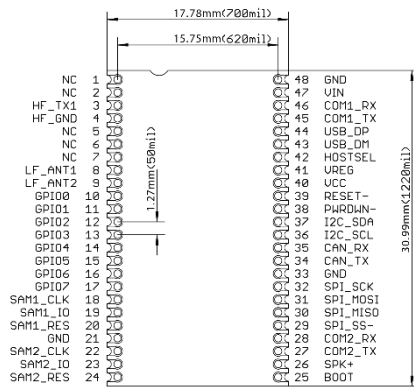
## TECHNICAL DATA

FREQUENCY	125 kHz/134.2 kHz (LF) / 13.56 MHz (HF)			
ANTENNA	Externally, 50 Ohm for 13.56 MHz – 490 $\mu$ 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 $\mu$ 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			
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, MIFARE Classic EV1<sup>1)</sup>, MIFARE Classic, MIFARE Mini, MIFARE DESFire EV1, MIFARE DESFire EV2<sup>1)</sup>, MIFARE Plus S, X, MIFARE Pro X<sup>2)</sup>, MIFARE Smart MX<sup>2)</sup>, MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1, NTAG2xx, PayPass<sup>2)</sup>, SLE44R35, SLE66Rxx (my-d move)<sup>2)</sup></p> <p><u>ISO14443B:</u> Calypso<sup>2)</sup>, CEPAS<sup>2)</sup>, HID iCLASS<sup>3)</sup>, Moneo<sup>2)</sup>, Pico Pass<sup>3)</sup></p> <p><u>ISO18092 ECMA-340:</u> NFC Peer-to-Peer, Sony FeliCa<sup>4)</sup>, NFC Active and passive communication mode, Passive peer-to-peer mode - initiator, NFC Tag 2, 3, 4</p> <p><u>ISO15693:</u> EM4x33<sup>2)</sup>, EM4x35<sup>2)</sup>, HID iCLASS<sup>3)</sup>, HID iCLASS SE/SR<sup>3)</sup>, ICODE SLI, LEGIC Advant, M24LR16/64, SRF55Vxx (my-d vicinity)<sup>2)</sup>, Tag-it, PicoPass<sup>3)</sup></p> <p><u>LEGIC Prime:</u> LEGIC Prime</p> <p><u>125 kHz, 134.2 kHz:</u> AWID, Cardax, CASI-RUSCO, Deister<sup>5)</sup>, EM4100, 4102, 4200<sup>6)</sup>, EM4050, 4150, 4450, 4550, EM4305<sup>7)</sup>, FDX-B, EM4105, HITAG 1<sup>8)</sup>, HITAG 2<sup>8)</sup>, HITAG S<sup>8)</sup>, ICT<sup>7)</sup>, IDTECK, Isonas<sup>7)</sup>, Keri, Miro, Nedap<sup>5)</sup>, PAC, Pyramid, Q5, T5557, T5567, T5577, TIRIS/HDX, TITAN (EM4050), UNIQUE, ZODIAC</p>			
SUPPORTED TRANSPONDERS (VERSION P)	All Standard Transponders, Cotag, G-Prox <sup>5)</sup> , HID DuoProx II, HID ISO Prox II, HID Micro Prox, HID ProxKey III, HID Prox, HID Prox II, Indala, ioProx, Nexwatch			
OS SUPPORT	Windows XP, Vista, Embedded CE <sup>7)</sup> , 7 (32-/64-bit), 8, 8.1, 10, Linux, Android <sup>7)</sup> , iOS <sup>7)</sup> , MAC OS X <sup>7)</sup>			
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>7)</sup> , Clock/Data, Wiegand, 1-Wire <sup>7)</sup>			
CERTIFICATION(S)	RoHS-II compliant			
ORDER CODE(S)	T4NM-B5C0	C0 Standard	T4NM-B5C0-T20	C0 Version, 20 pcs. tray
	T4NM-B5C0-P	C0 Version P	T4NM-B5C0-PT20	C0 Version P, 20 pcs. tray
	T4NM-B5C1	C1 Standard	T4NM-B5C0-R100	C0 Version, 100 pcs. reel
	T4NM-B5C1-P	C1 Version P	T4NM-B5C0-R500	C0 Version, 500 pcs. reel

<sup>1)</sup>r/w enhanced security features on request <sup>2)</sup>r/w in direct chip command mode <sup>3)</sup>UID only <sup>4)</sup>UID + r/w public area <sup>5)</sup>Hash value only <sup>6)</sup>Only emulation of 4100, 4102

<sup>7)</sup>On request <sup>8)</sup>Without encryption

DRAWING



Top view