

# TWN4 MULTITECH NANO LEGIC 63 M

## MINIATURE LF/HF/NFC/BLE RFID READER/WRITER FOR EXTERNAL 50 OHM ANTENNA



PCB top view



PCB bottom view

ELATEC TWN4 family of RFID 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 ISO 14443A/B (T=CL), ISO 15693, ISO 18092 / ECMA-340 (NFC).

TWN4 MultiTech Nano LEGIC 63 M 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).

An integrated Bluetooth Low Energy (BLE) module supports a broad range of mobile ID and authentication solutions as well.

### Special features:

- + Compact design (31 x 17.8 x 2.7 mm / 1.22 x 0.7 x 0.12 inch)
- + Equipped with LEGIC front-end chip SM-6300 with LEGIC Connect support
- + Components mounted only on one side for easy integration on the main application
- + Edge-plated pads for surface mounting allow easy and reliable PCB mounting
- + 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
- + 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

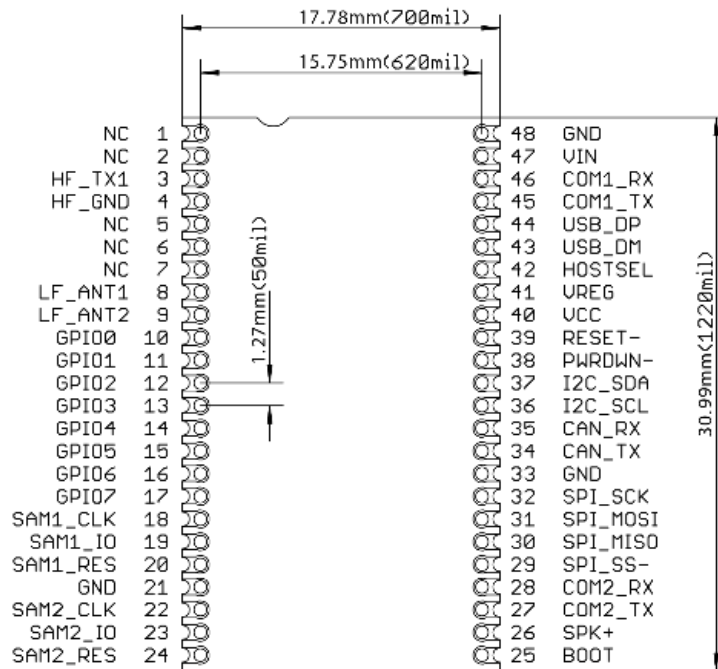
Time  
AttendanceIndustrial  
PC

### TECHNICAL DATA

FREQUENCY	125 kHz (LF) / 13.56 MHz (HF) / 2.4 GHz (BLE)								
ANTENNA(S)	Externally, 50 Ohm for 13.56 MHz – 490 µH ± 5% for 125 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	3.3 V ± 5% (direct supply) or 4.3 V - 5.5 V (use of on-board voltage regulator) Limited power source according to the safety norms listed in the respective declaration of conformity, short-circuit current < 8 A								
CURRENT CONSUMPTION	RF field on: 160 mA typically / Sleep: 500 µA typ. / Cyclic Operation: 130 mA 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								
BLUETOOTH LOW ENERGY	Bluetooth v5.0, software upgradable; predefined GATT structure; AES128 supported; LEGIC Connect on demand								
MTBF	500,000 hours								
WEIGHT	Approx. 8 g / 0.28 oz								
SUPPORTED TRANSPONDERS (STANDARD) 13.56 MHZ	<p><u>ISO14443A:</u> LEGIC Advant, MIFARE Classic EV1<sup>1)</sup>, MIFARE Classic, MIFARE Mini, MIFARE DESFire EV1, MIFARE DESFire EV2<sup>2)</sup>, MIFARE DESFire Light<sup>3)</sup>, MIFARE Plus S, X, MIFARE Pro X<sup>4)</sup>, MIFARE Smart MX<sup>4)</sup>, MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1<sup>1)</sup>, NTAG2xx, SLE44R35<sup>4)</sup>, SLE66Rxx (my-d move)<sup>4)</sup></p> <p><u>ISO18092 ECMA-340:</u> NFC Forum Tag 1-5<sup>5)</sup>, Sony FeliCa<sup>6)</sup>, NFC Active and passive communication mode, Passive peer-to-peer mode - initiator, NFC Tag 2, 3, 4</p> <p><u>ISO14443B:</u> Calypso<sup>4)</sup>, CEPAS<sup>4)</sup>, HID iCLASS<sup>7)</sup>, Moneo<sup>4)</sup>, Pico Pass<sup>7)</sup></p> <p><u>ISO15693:</u> EM4x33<sup>4)</sup>, EM4x35<sup>4)</sup>, HID iCLASS<sup>7)</sup>, HID iCLASS SE/SR<sup>7)</sup>, ICODE SLI, LEGIC Advant, M24LR16/64, SRF55Vxx (my-d vicinity)<sup>4)</sup>, Tag-it, PicoPass<sup>7)</sup></p> <p><u>LEGIC Prime:</u> LEGIC Prime</p>								
SUPPORTED TRANSPONDERS (STANDARD) 125 KHZ <sup>8)</sup>	AWID, Cardax <sup>9)</sup> , CASI-RUSCO, Deister <sup>9)</sup> , EM4100, 4102, 4200 <sup>10)</sup> , EM4050, 4150, 4450, 4550, EM4305 <sup>11)</sup> , FDX-B <sup>12)</sup> , EM4105 <sup>12)</sup> , UltraProx <sup>12)</sup> , HITAG 1 <sup>13)</sup> , HITAG 2 <sup>13)</sup> , HITAG S <sup>13)</sup> , ICT <sup>3)</sup> , IDTECK, Isonas, Keri, Miro, Nedap <sup>9)</sup> , PAC <sup>3)</sup> , Pyramid, Q5, T5557, T5567, T5577, TIRIS/HDX <sup>12)</sup> , TITAN (EM4050), UNIQUE, ZODIAC								
SUPPORTED TRANSPONDERS (OPTION P)	All Standard Transponders, Cotag, G-Prox <sup>9)</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 Embedded CE <sup>3)</sup> , 7 (32-/64-bit), 8, 8.1, 10, Linux, Android <sup>3)</sup> , iOS <sup>3)</sup> , MAC OS X <sup>3)</sup>								
PERIPHERAL INTERFACES	USB, 2 x serial (logic level 3.3 V, CMOS 5 V tolerant), I <sup>2</sup> C, SPI, 8 GPIOs, Clock/Data, Wiegand								
TRANSMISSION SPEED	Host: USB Full speed (12 Mbit/s), Serial TTL: up to 115,200 baud, RFID Air: up to 848 kbit/s, BT Air: up to 1 Mbit/s								
CERTIFICATION(S)	CE/RED, REACH and RoHS-III compliant Further information on request								
ORDER CODE(S)	<table border="0"> <tr> <td>T4NM-D5C0</td> <td>C0 Standard</td> </tr> <tr> <td>T4NM-D5C0-P</td> <td>C0 Option P</td> </tr> <tr> <td>T4NM-D5C1</td> <td>C1 Standard</td> </tr> <tr> <td>T4NM-D5C1-P</td> <td>C1 Option P</td> </tr> </table>	T4NM-D5C0	C0 Standard	T4NM-D5C0-P	C0 Option P	T4NM-D5C1	C1 Standard	T4NM-D5C1-P	C1 Option P
T4NM-D5C0	C0 Standard								
T4NM-D5C0-P	C0 Option P								
T4NM-D5C1	C1 Standard								
T4NM-D5C1-P	C1 Option P								

<sup>1)</sup>r/w enhanced security features on request <sup>2)</sup>EV2/EV3 supported as part of the EV1 downward compatibility <sup>3)</sup>On request <sup>4)</sup>r/w in direct chip command mode  
<sup>5)</sup>NFC Forum Tag 1 not supported <sup>6)</sup>UID + r/w public area <sup>7)</sup>UID only <sup>8)</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>9)</sup>Hash value only <sup>10)</sup>Only emulation of 4100, 4102 <sup>11)</sup>From FW V4.05 <sup>12)</sup>134.2 kHz only <sup>13)</sup>Without encryption <sup>14)</sup>Pending

## 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](mailto:info-rfid@elatec.com)  
Website: [elatec.com](http://elatec.com)

### ELATEC Systems GmbH

Schwieberdinger Str. 44  
71636 Ludwigsburg  
Germany  
P +49 7141 309736 0  
E-Mail: [info-rfid@elatec.com](mailto:info-rfid@elatec.com)  
Website: [elatec.com](http://elatec.com)

### ELATEC Inc.

1995 SW Martin Hwy  
Palm City • FL 34990  
USA  
P +1 772 210 2263  
F +1 772 382 3749  
E-Mail: [americas-info@elatec.com](mailto:americas-info@elatec.com)  
Website: [elatec.com](http://elatec.com)

### ELATEC Technology (Shenzhen) LLC

918, Main Building, Tian An Cyber Times  
Tower, No. 6, Tairan Fourth Road, Tian 'an  
Community, Shatou Neighborhood  
Futian District • Shenzhen • China  
P/F +86 755 2394 6014  
E-Mail: [apac-info@elatec.com](mailto:apac-info@elatec.com)  
Website: [elatec.com](http://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.