

# TWN4 MULTITECH\*

## 125 kHz/134.2 kHz & 13.56 MHz Contactless Reader/Writer

\*Previously known as TWN4 MIFARE NFC



TWN4 MultiTech  
PCB bottom view



TWN4 MultiTech  
PCB top view



Desktop  
Top view

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 (T=CL), ISO14443B (T=CL), ISO15693, ISO18092 / ECMA-340 (NFC).

The new generation is a direct enhancement to the successful TWN3 family as it comes in the same mechanical dimensions (OEM PCB and Desktop Housing). Desktop supports host communication via USB or RS232.



### Special Features:

- Powerful SDK for writing Apps which are executed directly on the reader
- Infield upgradeable firmware
- Direct chip-commands support
- Onboard 18 kB flash storage
- Two onboard SAM sockets (Secure Access Module)
- CCID and PC/SC 2.01<sup>1)</sup>
- Additional interfaces for OEM PCB version:  
Serial (logical level 3.3 V, CMOS 5 V tolerant), I<sup>2</sup>C, SPI<sup>2)</sup>, Clock/Data<sup>3)</sup>, Wiegand<sup>3)</sup>, CAN<sup>2)3)</sup>, 1-Wire<sup>2)</sup>
- Dedicated expansion bus for connection of LCD, mass storage, etc.
- 2 GPIOs (General Purpose Input/Output)
- 3D Model (STEP) on request

Certifications are available in many countries throughout Europe, Asia, North and South America, Australia and Africa. A detailed list is available on the next page.

Technical Data <sup>4)</sup>			
Frequency	125 kHz, 134.2 kHz (LF) / 13.56 MHz (HF)		
Housing	Material ABS UL94-V0, colour black or white		
Dimensions (L x W x H)	Desktop reader: 88 mm x 56 mm x 18 mm / 3.5 inch x 2.2 inch x 0.7 inch OEM board: 76 mm x 49 mm x 14 mm / 3.0 inch x 1.9 inch x 0.6 inch		
Power Supply	4.3 V..5.5 V via USB or RS232; RS232 requires 5 V external power supply; via connector CNB 3.3 V +/- 5%		
Current Consumption	Depending on antenna: 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)		
Read- / Write Distance	Up to 100 mm / 4 inch (depending on transponder)		
HOST Interface	USB, RS232, serial (logical level 3.3 V, CMOS 5 V tolerant), I <sup>2</sup> C, SPI <sup>2)</sup> , Clock/Data <sup>3)</sup> , Wiegand <sup>3)</sup> , 1-Wire <sup>2)</sup> CAN, RS422/485 require adapter board		
OS Support	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>		
Transmission Speed	Host: USB: full speed (12 Mbit) – RS232: up to 115.200 baud	Air: up to 848 kbit/s	
Modes of Operation	<ul style="list-style-type: none"> <li>USB keyboard emulation – USB virtual COM port – transparent (direct chip-commands support)</li> <li>CCID and PC/SC 2.01<sup>1)</sup></li> </ul>		
Relative Humidity	5% to 95%, non-condensing		
Supported Transponders	<p><b>Standard</b></p> <ul style="list-style-type: none"> <li>125 kHz / 134.2 kHz: 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<sup>2)</sup> <u>Optionally, in consideration:</u> 4305, Cardax, IDTECK</li> <li>13.56 MHz / ISO14443A: MIFARE (Classic 1k &amp; 4k (± EV1)<sup>7)</sup>, Mini, DESFire EV1, Plus S&amp;X, Pro X<sup>8)</sup>, Ultralight, Ultralight EV1<sup>7)</sup>, Ultralight C), SLE44R35, SLE66Rxx (my-d move), LEGIC Advant<sup>5)</sup>, PayPass<sup>8)</sup>, NTAG2XX<sup>7)</sup>, SmartMX<sup>8)</sup></li> <li>13.56 MHz / 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>8)</sup>, SRI512, SRT512, SRI4K, SRIX4K</li> <li>13.56 MHz / 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>8)</sup></li> <li>13.56 MHz / 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+Cotag, G-Prox<sup>12)</sup>, HID (Prox, Prox II, Duo Prox II, ISO Prox II, Micro Prox, ProxKey III), NexWatch, Indala, ioProx</p> <p><b>Version PI</b> Version P + HID iCLASS SE/SR/SEOS (CSN and Facility Code/PAC)<sup>13)</sup></p>		
Certifications	CE, R&TTE, RoHS-II compliant, FCC, IC, RCA, MIC, VCCI, KCC, ANATEL, CFT, ICASA, EAC, Israel, Taiwan, Venezuela		
MTBF	500,000 hours		
Weight	Approx. 20 g (without housing)		
Order Code	<b>Standard</b>	<b>Version P</b>	<b>Version PI</b>
OEM Board	T4DO-F	T4DO-F-P	T4DO-F-PI
USB black / white	T4DT-FB2BEL / T4DT-FB2WEL	T4DT-FB2BEL-P / T4DT-FB2WEL-P	T4DT-FB2BEL-PI / T4DT-FB2WEL-PI
RS232 black / white	T4DT-FR2BEL / T4DT-FR2WEL	T4DT-FR2BEL-P / T4DT-FR2WEL-P	T4DT-FR2BEL-PI / T4DT-FR2WEL-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 <sup>13)</sup>UID + PAC (CSN & Facility code), read/write on request

Accessories			
Order Code	Snap-in holder HKSI-B - black  HKSI-W - white	Bracket holder HKBR-B - black  HKBR-W - white	CAB-B2 - USB cable 200 cm/78.74 inch CAB-B3 - USB cable 12 cm/4.72 inch CAB-B4 - USB cable 45 cm/17.72 inch CAB-B7 - USB cable 120 cm/47.24 inch CAB-M1 - USB cable mini 12 cm/4.72 inch CAB-M2 - USB cable mini 25 cm/9.84 inch CAB-R2 - RS232 cable 200 cm/78.74 inch
Order Code	PWA-EU - Power supply (EU) PWA-AUS - Power supply (AU)	PWA-US - Power supply (US) PWA-UK - Power supply (UK)	

Drawing/Pin Out
Refer to document DS_TWN4 Pinout & Cables

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