Elatec’s TWN4 MultiTech SmartCard is a combination of the TWN4 MultiTech (RFID) with an integrated contact card reader/writer (ISO7816). It allows users to read and write almost any 125 kHz, 134.2 kHz and 13.56 MHz transponders supporting all major technologies from various suppliers like ATMEL, EM, ST, NXP, TI, HID, LEGIC, etc. and many ISO standards such as ISO14443A/B (T=CL), ISO15693, and ISO18092 / ECMA-340 (NFC). The integrated chip card reader is designed for easy integration into various applications.

The readers can be programmed with a script language for autonomous execution of even complex commands like login procedures, increment/decrement functions and many more. The reader supports host communication via USB.

Special features:

+ 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
+ CCID and PC/SC 2.01
+ two onboard SAM sockets (Secure Access Module)
+ 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
- Integrated

### HOUSING
- Material: ABS UL94-V0, color: black or white

### DIMENSIONS (L X W X H)
- Desktop Reader: 88 mm x 68 mm x 19 mm / 3.46 inch x 2.68 inch x 0.75 inch
- OEM Board: 76 mm x 62 mm x 11 mm / 3 inch x 2.44 inch x 0.43 inch

### POWER SUPPLY
- 4.3 V - 5.5 V via USB

### TEMPERATURE RANGE
- Desktop, Operating: -25 °C up to +70 °C (-13 °F up to +158 °F)
- Desktop, Storage: -45 °C up to +85 °C (-49 °F up to +185 °F)
- PCB, Operating: -25 °C up to +80 °C (-13 °F up to +176 °F)
- PCB, 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 environment and transponder

### TRANSMISSION SPEED
- Host: USB Full speed (12 Mbit/s), Air: up to 848 kbit/s

### MODES OF OPERATION
- USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01

### MTBF
- 500,000 hours / Min. 100,000 card insertion cycles

### WEIGHT
- Approx. 35 g (without housing) / Approx. 140g (with housing and USB Cable)

### SUPPORTED SMARTCARDS
- 5V, 3V and 1.8V, ISO/IEC7816 Class A/B/C

### POWER TO SMARTCARD
- 60mA in Class A; 55mA in Class B; 35mA in Class C

### SMARTCARD DETECTION
- Card present switch / Automatic power on/off / Short-circuit protection

### SMARTCARD CARD SIZE
- 2xID-000 (SAM) ID-1

### SMARTCARD CONTACT TYPE
- 8 pin Sliding Contact Socket, C4/C8 support ID-1

### SUPPORTED TRANSPONDERS

#### STANDARD
- ISO14443A:
  - LEGIC Advant\(^1\), MIFARE Classic 1k & 4k EV1\(^3\), MIFARE Classic, MIFARE Mini, MIFARE DESFire EV1, MIFARE DESFire EV2\(^2\), MIFARE Plus S, X, MIFARE Pro X\(^2\), MIFARE Smart MX\(^3\), MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1, N TAG2xx, PayPass\(^9\), SLE44R35, SLE66Rxx (my-d move)\(^3\), Topaz
- ISO14443B:
  - Calypso\(^3\), Calypso Innovatron protocol\(^3\), CEPAS\(^3\), HID iCLASS\(^1\), Moneo\(^8\), Pico Pass\(^8\), 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\(^3\), EM4x35\(^3\), HID iCLASS\(^1\), HID iCLASS SE/SR\(^1\), I CODE SLI, LEGIC Advant\(^1\), M24LR16/64, SRF55Vxx (my-d vicinity)\(^3\), Tag-it, PicoPass\(^6\)
- 125 kHz, 134.2 kHz:
  - AWID, Cardax, CASI-RUSCO, Deister\(^6\), EM4100, 4102, 4200\(^7\), EM4050, 4150, 4450, 4550, EM4305\(^6\), FDX-B, EM4105, HITAG 1\(^9\), HITAG 2\(^9\), HITAG S\(^9\), ICT\(^8\), IDTECK, Isonas\(^8\), Keri, Miro, Nedap\(^6\), PAC, Pyramid, Q5, T5557, T5567, T5577, TiRIS/HDX, TITAN (EM4050), UNIQUE, ZODIAC

#### VERSION P
- All Standard Transponder, G-Prox\(^6\), HID DuoProx II, HID ISO Prox II, HID Micro Prox, HID ProxKey III, HID Prox, HID Prox II, Indala, ioProx, Nexwatch

#### VERSION PI
- Requires external TWN4 SIO Card, All Standard Transponder, All Version P Transponder, HID iCLASS\(^10\), HID iCLASS SE/SR/SEOS(CSN and Facility Code/PAC)\(^10\), HID iCLASS Elite & SE Elite
<table>
<thead>
<tr>
<th>PERIPHERAL INTERFACES</th>
<th>USB</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS SUPPORT</td>
<td>Windows XP, Vista, Embedded CE¹, 7 (32-/64-bit), 8, 8.1, 10, Linux, Android⁸, iOS⁸, MAC OS X³</td>
</tr>
<tr>
<td>CERTIFICATION NAME</td>
<td>TWN4 SmartCard MIFARE NFC</td>
</tr>
<tr>
<td>CERTIFICATIONS</td>
<td>RoHS-II compliant, CE, FCC, RED</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ORDER CODE(S)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>T4SO-F</td>
<td>OEM Board</td>
</tr>
<tr>
<td>T4SD-FB2BE1</td>
<td>USB Black</td>
</tr>
<tr>
<td>T4SD-FB2WE1</td>
<td>USB White</td>
</tr>
<tr>
<td>T4SO-F-P</td>
<td>OEM Board Version P</td>
</tr>
<tr>
<td>T4SO-FB2BE1-P</td>
<td>USB Version P Black</td>
</tr>
<tr>
<td>T4SO-FB2WE1-P</td>
<td>USB Version P White</td>
</tr>
<tr>
<td>T4SO-F-PI</td>
<td>OEM Board Version PI</td>
</tr>
<tr>
<td>T4SO-FB2BE1-PI</td>
<td>USB Version PI Black</td>
</tr>
<tr>
<td>T4SO-FB2WE1-PI</td>
<td>USB Version PI White</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>ACCESSORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CABLES</td>
</tr>
</tbody>
</table>

- CAB-B2: USB cable type A 200 cm / 78.74 inch
- CAB-B3: USB cable type A 12 cm / 4.72 inch
- CAB-B4: USB cable type A 45 cm / 17.72 inch
- CAB-B7: USB cable type A 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