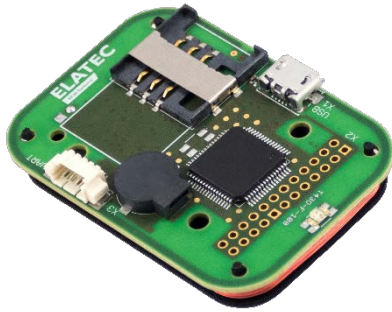# TWN4 MULTITECH 3 BLE
RFID READER/WRITER FOR LF, HF, NFC, BLE

TWN4 MultiTech 3 BLE
PCB top view

TWN4 MultiTech 3 BLE
PCB bottom view

The new TWN4 MultiTech 3 BLE integrates RFID (125 kHz, 134.2 kHz and 13.56 MHz), NFC and Bluetooth Low Energy capabilities into a compact but powerful reader. Its reduced size combined with excellent read/write performance makes it the perfect reader for all applications where small size and full performance matters, e.g. print solutions, healthcare applications, driver identification, POS integration and much more. Furthermore, the TWN4 MultiTech 3 BLE provides access to most common host interfaces such as USB, serial (TTL) or I2C which are readily accessible through an on-board connector.

The TWN4 MultiTech 3 BLE allows users to read and write almost all common worldwide 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 etc. and ISO standards like ISO14443A/B (T=CL), ISO15693, ISO18092 / ECMA-340 (NFC).

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
+ One onboard SAM socket (Secure Access Module)
+ CCID and PC/SC 2.01
+ 3 GPIOs
+ 3D construction data (STEP) available on request
+ supports quick centralized (re)configuration over network and over wireless interface with TWN4 CONFIG Card

| 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) / 2402 MHz - 2480 MHz (BT)
ANTENNA	Integrated
DIMENSIONS (L X W X H)	OEM Board (compact reader): 50 mm x 35 mm x 7 mm, maximum diameter < 55 mm.
POWER SUPPLY	4.3 V - 5.5 V via USB; via connector CNB 3.3 V +/- 5%
CURRENT CONSUMPTION	RF field on: 120 mA typically + 16 mA (BT) / 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)
RELATIVE HUMIDITY	5% to 95% non-condensing
READ- / WRITE DISTANCE	LF and HF: Up to 100 mm / 4 inch, depending on environment and transponder / BT: n/a
TRANSMISSION SPEED	Host: USB Full speed (12 Mbit/s), RS-232 up to 115.200 baud; HF Air: up to 848 kbit/s, BT Air: up to 100 kbit/s
MODES OF OPERATION	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01
BLUETOOTH LOW ENERGY	Bluetooth V4.1, software upgradable to V4.2; API; standards as GAP, SM, L2CAP, ATT; predefined GATT structure; up to 8 connections; AES128 supported
MTBF	500,000 hours
WEIGHT	Approx. 9 g
COMPATIBLE PIN HEADER	PTT-112-01-L-D or TMM-112-03-F-D by Samtec
SUPPORTED TRANSPONDERS (STANDARD)	ISO14443A: LEGIC Advant[1], MIFARE Classic 1k & 4k EV1[2], MIFARE Classic, MIFARE Mini, MIFARE DESFire EV1, MIFARE DESFire EV2[2], MIFARE Plus S, X, MIFARE Pro X[3], MIFARE Smart MX[3], MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1, NTAG2xx, PayPass[3], SLE44R35, SLE66Rxx (my-d move)[3], Topaz ISO14443B: Calypso[3], Calypso Innovatron protocol[3], CEPAS[3], HID iCLASS[1], Moneo[3], Pico Pass[4], SRI4K, SRIX4K, SRI512, SRT512 ISO18092 ECMA-340: NFC Forum Tag 1-5, NFC Peer-to-Peer, Sony FeliCa[5], NFC Active and passive communication mode ISO15693: EM4x33[3], EM4x35[3], HID iCLASS[1], HID iCLASS SE/SR[1], ICODE SLI, LEGIC Advant[1], M24LR16/64, MB89R118/119, SRF55Vxx (my-d vicinity)[3], Tag-it, PicoPass[4] 125 kHz, 134.2 kHz: AWID, Cardax, CASI-RUSCO, Deister[6], EM4100, 4102, 4200[7], EM4050, 4150, 4450, 4550, EM4305[8], 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
SUPPORTED TRANSPONDERS (VERSION P)	All Standard Transponder, Cotag, G-Prox[6], HID DuoProx II, HID ISO Prox II, HID Micro Prox, HID ProxKey III, HID Prox, HID Prox II, Indala, ioProx, Nexwatch
SUPPORTED TRANSPONDERS (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
PERIPHERAL INTERFACES	USB, RS232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), I²C, SPI, 3 GPIOs, CAN[8], Clock/Data, Wiegand, 1-Wire[8]
OS SUPPORT	Windows XP, Vista, Embedded CE[8], 7 (32-/64-bit), 8, 8.1, 10, Linux, Android[8], iOS[8], MAC OS X[8]
CERTIFICATIONS	RoHS-II compliant, CE/RED, FCC Single Modular Approval, IC, ACA

ORDER CODE(S)	T43O-F7C0	OEM Board Wiegand
	T43O-F7C0-P	OEM Board Wiegand Version P
	T43O-F7C0-PI	OEM Board Wiegand Version PI

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

CONNECTOR ASSIGNMENT

		X2		
RESET	24	23	PWRDWN-	O O
GPIO6	22	21	GPIO5	O O
GPIO4	20	19	VCC	O O
COM1_RX	18	17	COM1_TX	O O
USB_DP_P	16	15	UGND	O x
USB_DM_P	14	+13	UVCC	O O
GND	12	11	V24_RXD	O O
HOSTSENSE	10	9	V24_TXD	O O
SPI_SCK	8	7	SPI_SS-	O O
SPI_MISO	6	5	SPI_MOSI	O O
I2C_SDA	4	3	I2C_SCI	O O
CAN_RX	2	1	CAN_TX	O x