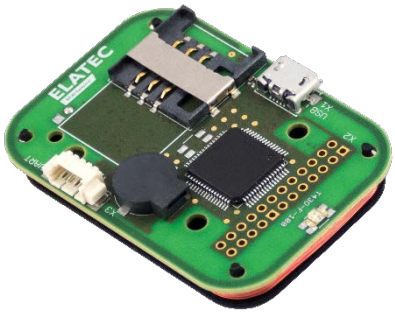
TWN4 MULTITECH 3

125/134.2 KHZ, 13.56 MHZ CONTACTLESS READER/WRITER WITH NFC & BLUETOOTH LOW ENERGY



TWN4 Multitech 3 PCB top view

TWN4 Multitech 3 PCB bottom view

Elatec's TWN4 transponder readers/writers allow users to read and write worldwide all common 125 kHz, 134.2 kHz and 13.56 MHz tags and/or labels. They support all major transponders from various suppliers like ATMEL, EM, ST, NXP, TI, HID etc. and ISO standards like ISO14443A, ISO14443B , ISO15693, ISO18092 / ECMA-340 (NFC).

The new TWN4 MultiTech 3 compact reader has integrated RFID (LF & HF), NFC and Bluetooth Low Energy capabilities. Its reduced size combined with the extraordinary Elatec read/write performance make it the perfect reader for all applications where small size and full performance matter, e.g. in print solutions, healthcare applications, driver identification, POS integration and much more. Furthermore, with its multiple connection interface, most required host interfaces like serial (TTL) or Wiegand are immediately available directly on the board and can be easily accessed with connector pins.

Special features:

+ More compact size and reduced weight than TWN4 MultiTech 2
+ OSDP/RS485[12)]
+ Powerful SDK for writing Apps which are executed directly on the reader
+ Direct chip-commands support
+ In-field programmable with RFID configuration card
+ On-board 18 kB flash storage, e.g. for storing user accessible non-volatile data
+ CCID and PC/SC 2.01
+ 4 GPIOs
+ Onboard SAM sockets (Secure Access Module)
+ Additional interfaces for OEM PCB version Serial (logic level 3.3 V, CMOS 5 V tolerant), I²C, SPI[9)], Clock/Data[12)], Wiegand[12)], CAN[9)12)], 1-Wire[9)]
+ Certifications are available in Europe and North America, detailed list on the next page.

TECHNICAL DATA

FREQUENCY	125/134.2 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. 3D model (STEP) available on request
POWER SUPPLY	4.3 V - 5.5 V via USB; via connector CNB 3.3 V +/- 5%
CURRENT CONSUMPTION	Depending on activated antenna: 120 mA (RF Field on) + 16 mA (BT) typically / Sleep: 500 µA typ. / Cyclic Operation: TBD
TEMPERATURE RANGE	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) (PCB)
RELATIVE HUMIDITY	5% to 95% non-condensing
READ- / WRITE DISTANCE	LF and HF: Up to 100 mm / 4 inch, depending on tag / BT: n/a
TRANSMISSION SPEED	Host USB: full speed (12 Mbit/s), Host RS232: 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 – Transparent (direct chip-commands support) CCID and 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. 20 g without on-board SAM socket (Secure Access Module) populated
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, MIFARE Classic 1k & 4k EV1[2)], MIFARE Classic, MIFARE Classic EV1[2)], MIFARE Mini, MIFARE DESFire EV1, 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) ISO14443B: Calypso[3)], Calypso Innovatron protocol[4)], CEPAS[3)], Moneo[3)], Pico Pass[1)], SRI4K, SRIX4K, SRI512, SRT512 ISO18092 ECMA-340: NFC Forum Tag 1-5[5)], NFC Peer-to-Peer, Sony FeliCa[6)], NFC Active and passive communication mode ISO15693: EM4x33[3)], EM4x35[3)], HID iCLASS, ICODE SLI, LEGIC Advant[1)], M24LR16/64, SRF55Vxx (my-d vicinity)[3)], Tag-it, PicoPass[1)] 125 kHz, 134.2 kHz: AWID, Cardax[7)], CASI-RUSCO, Cotag, Deister, EM4100, 4102, 4200[8)], EM4050, 4150, 4450, 4550, EM4305[9)], FDX-B, HITAG 1[10)], HITAG 2[10)], HITAG S[10)], Keri, Miro, Nedap[7)], Pyramid, Q5, T5557, T5567, T5577, TIRIS/HDX, TITAN (EM4050), UNIQUE, ZODIAC[9)]
SUPPORTED TRANSPONDERS (VERSION P)	All standard transponders, G-Prox[7)], HID DuoProx II (1336), HID ISO Prox II (1386), HID Micro Prox (1391), HID ProxKey III (1346), HID Prox, HID Prox II (1326), Indala, ioProx, Nexwatch
SUPPORTED TRANSPONDERS (VERSION PI)	All standard transponders, all version P transponders, HID iCLASS, HID iCLASS SE/SR/SEOS(CSN and Facility Code/PAC)[11)]
HOST INTERFACE	USB, RS232, 2 x serial (logic level 3.3 V, CMOS 5 V tolerant), TTL serial (logical level 3.3 V, CMOS 5 V tolerant), I²C, SPI, 3 GPIOs, CAN[12)], Clock/Data, Wiegand, 1-Wire
OS SUPPORT	Windows XP, Vista, Embedded CE, 7 (32-/64-bit), 8, 8.1, 10, Linux, Android, iOS, MAC OS X
CERTIFICATIONS	RoHS-II compliant, CE, FCC Single Modular Approval, IC, ASA

ORDER CODE	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]NFC Forum Tag 1 on request only [6]UID + r/w public area [7]Hash value only [8]Only emulation of 4100, 4102 [9]On request [10]Without crypto [11]UID + PAC (CSN & Facility Code), r/w on request [12]External interface required

CONNECTOR ASSIGNMENT

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

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