

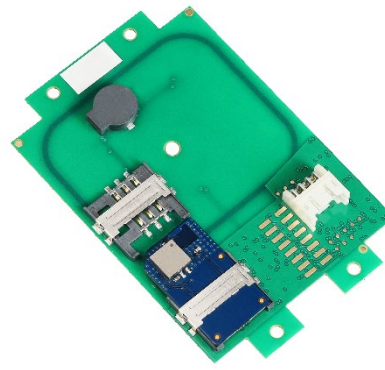
TWN4 MULTITECH 2 LEGIC M

(SM-4200/4500 FRONTEND)

MULTI-FREQUENCY RFID MODULE FOR LF, HF, NFC AND BLE



TWN4 MultiTech 2 LEGIC M
PCB top view (exemplary)



TWN4 MultiTech 2 LEGIC M
PCB bottom view (exemplary)

The contactless RFID readers and modules of the ELATEC TWN4 MultiTech 2 LEGIC family are a direct enhancement of the TWN4 MultiTech LEGIC readers with the same form factors (PCB modules and desktop readers with housing). During the development of the TWN4 MultiTech 2 LEGIC family, special emphasis has been placed on optimizing the HF performance (13.56 MHz). Compared to the predecessor TWN4 MultiTech LEGIC, the read range could be increased by more than 50% for LEGIC transponders and even doubled for some HF transponders.

TWN4 MultiTech 2 LEGIC M key features include a powerful SDK for writing apps that are executed directly on the module, the possibility to upgrade the firmware in the field, a direct chip-commands support, and a powerful BLE module. Additionally, the module can simultaneously read more than 60 RFID technologies from low (LF) and high frequency (HF) bands, including NFC. This gives the option to select as many of the technologies required instead of being forced to select just a few, like most other readers.

Special features:

- + Optimized HF and BLE read performance
- + Powerful SDK for writing apps which are executed directly on the reader
- + Support of segment initialization function (LEGIC SM-4500 frontend only)
- + Supports two RFID frequencies: 125kHz and 13.56 MHz
- + Supports quick (re)configuration over network and over wireless interface with TWN4 CONFIG Card
- + Compact form factor for easy integration
- + Firmware update in the field possible
- + Direct chip-commands support
- + CCID and PC/SC 2.01



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 (LF) / 13.56 MHz (HF) / 2.4 GHz (BLE)
ANTENNA(S)	Integrated
DIMENSIONS (L X W X H)	76 mm x 49 mm x 9 mm / 3.0 inch x 1.9 inch x 0.4 inch
POWER	USB: 4.3 V - 5.5 V Generic interface (X1): 3.3 V ± 5% RS-232: requires 5 V external power supply 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: 140 mA typically
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
READ / WRITE DISTANCE	LF and HF: Up to 100 mm / 4 inch, depending on environment and transponder BLE: up to several meters/feet
OPERATING MODES (USB)	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01
BLUETOOTH LOW ENERGY	BLE version 5.x
MTBF	500,000 hours
WEIGHT	Approx. 15 g / 0.53 oz (without cable)
SUPPORTED TRANSPONDERS (STANDARD) 13.56 MHZ	<u>ISO 14443A:</u> HID iCLASS DESFire ¹⁾ , HID iCLASS MIFARE Classic ¹⁾ , HID iCLASS SEOS ¹⁾ , LEGIC Advant, NTAG2xx, MIFARE Classic, MIFARE Classic EV1 ²⁾ , MIFARE DESFire EV1, MIFARE DESFire EV2/EV3 ³⁾ , MIFARE DESFire Light ⁴⁾ , MIFARE Mini, MIFARE Plus S/X, MIFARE Smart MX ⁵⁾ , MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1 ²⁾ , SLE44R35 ⁵⁾ , SLE66Rxx (my-d move) ⁵⁾ <u>ISO 14443B:</u> Calypso ⁵⁾ , CEPAS ⁵⁾ , HID iCLASS ¹⁾ , Pico Pass ¹⁾ <u>ISO 15693:</u> EM4x33 ⁵⁾ , EM4x35 ⁵⁾ , HID iCLASS ¹⁾ , HID iCLASS SE/SR/Elite ¹⁾ , ICODE SLI, LEGIC Advant, M24LR16/64, PicoPass ¹⁾ , SRF55Vxx (my-d vicinity) ⁵⁾ , Tag-it <u>ISO 18092 / ECMA-340:</u> NFC Forum Tag 1-5 ⁶⁾ , Sony FeliCa ⁷⁾ <u>LEGIC Prime:</u> LEGIC Prime <u>LEAF Identity:</u> LEAF ⁸⁾
SUPPORTED TRANSPONDERS (STANDARD) 125 KHZ ⁹⁾	AWID, Cardax ¹⁰⁾ , CASI-RUSCO, Deister ¹⁰⁾ , EM4050, EM4100, EM4102, EM4150, EM4200 ¹¹⁾ , EM4305, EM4450, EM4550, HITAG 1 ¹²⁾ , HITAG 2 ¹²⁾ , HITAG S ¹²⁾ , ICT ⁴⁾ , IDTECK, ISONAS, Keri, Miro, Nedap ¹⁰⁾ , Pyramid, Q5, T5557, T5567, T5577, TITAN (EM4050), UNIQUE, ZODIAC
SUPPORTED TRANSPONDERS (P OPTION)	All standard transponders, G-Prox ¹⁰⁾ , HID 1326 Prox II, HID 1336 DuoProx II, HID 1346 ProxKey III, HID 1386 ISO Prox II, HID 1391 Micro Prox, HID Prox, Indala, ioProx, Nexwatch
SUPPORTED TRANSPONDERS (PI OPTION)	Requires TWN4 SIO Card, all standard transponders, all P option transponders, Calypso Innovatron protocol ⁵⁾ , CTS, HID iCLASS, HID iCLASS DESFire/Elite/MIFARE Classic/SE/SEOS/SR, MB89R118/119, NFC Forum Tag 1-5, Pico Pass ¹³⁾ , SRI4K, SRI512, SRIX4K, SRT512, Topaz
OS SUPPORT	Windows 7 (32-/64-bit) and higher versions, Linux, Android ⁴⁾ , iOS ⁴⁾ , MAC OS X ⁴⁾
PERIPHERAL INTERFACES	USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), I ² C, 4 GPIOs

TRANSMISSION SPEED	Host: USB Full speed (12 Mbit/s), RS-232: up to 115,200 baud, HF Air: up to 848 kbit/s
CERTIFICATION NAME	TWN4 MultiTech 2 LEGIC M
CERTIFICATION(S)	CE/RED, FCC, IC, REACH and RoHS-III compliant, and many more ¹⁴⁾

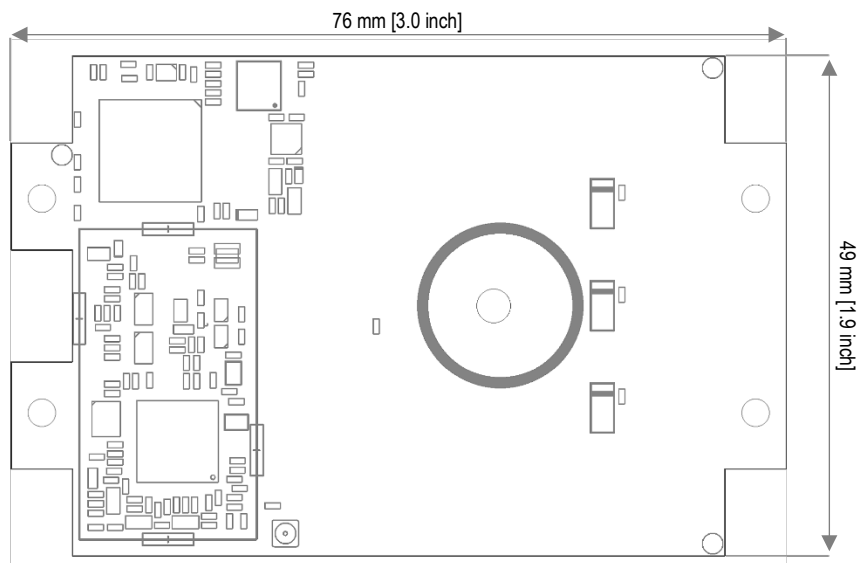
¹⁾UID only ²⁾r/w enhanced security features on request ³⁾supported as part of the EV1 downward compatibility ⁴⁾On request ⁵⁾r/w in direct chip command mode ⁶⁾NFC Forum Tag 1 not supported ⁷⁾UID + r/w public area ⁸⁾AV2 only, requires one free SAM slot for MIFARE SAM AV2 card ⁹⁾125 kHz technology requires 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 ¹⁰⁾Hash value only ¹¹⁾Only emulation of 4100, 4102 ¹²⁾Without encryption ¹³⁾UID only, read/write on request ¹⁴⁾More information on request

ORDER CODE(S)	Reader modules with LEGIC SM-4200	
	T4BO-B7-XB	OEM board
	T4BO-B7-XBP	OEM board, P option
	T4BO-B7-XBPI	OEM board, PI option
	Reader modules with LEGIC SM-4500	
	T4BO-B7-5XB	OEM board
	T4BO-B7-5XBP	OEM board, P option
	T4BO-B7-5XBPI	OEM board, PI option

ACCESSORIES

POWER SUPPLY	PWA-AUS4	Power Supply (AUS)
	PWA-EU4	Power Supply (EU)
	PWA-US4	Power Supply (US)
	PWA-UK4	Power Supply (UK)
CABLES	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
	CAB-R2	RS-232 cable 200 cm / 78.74 inch

DRAWING



All measures in mm [inch]

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