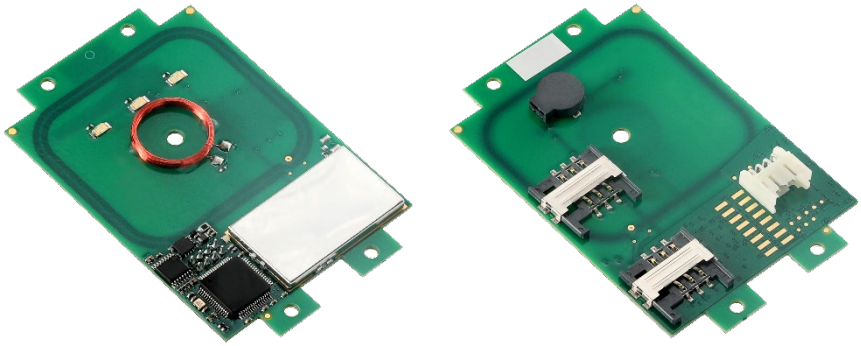
TWN4 MULTITECH 2 LEGIC M LF HF

(SM-4200/4500 FRONTEND)

MULTI-FREQUENCY RFID MODULE FOR LF, HF AND NFC



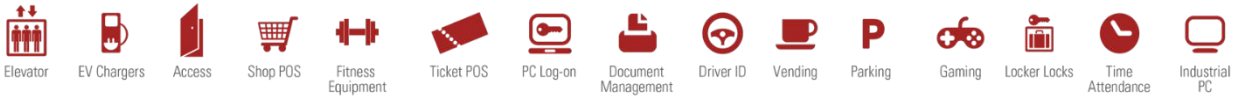
TWN4 MultiTech 2 LEGIC M LF HF
(exemplary illustrations)

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 LF HF 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 and a direct chip-commands support. 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 ones.

Special features:

+ Possibility to read more than 60 RFID technologies
+ Supports two RFID frequencies: 125 kHz and 13.56 MHz
+ Optimized HF read performance
+ Powerful SDK for writing apps which are executed directly on the module
+ Firmware update in the field possible
+ On-board 18 kB flash storage, e.g. for storing user accessible non-volatile data
+ Direct chip-commands support
+ CCID and PC/SC 2.01
+ Support of segment initialization function (LEGIC SM-4500 frontend only)
+ Compact form factor for easy integration



TECHNICAL DATA

FREQUENCY	125 kHz (LF) / 13.56 MHz (HF)
ANTENNA(S)	Integrated
DIMENSIONS (L X W X H)	Approx. 76 x 49 x 9 mm / 3.0 x 1.9 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 PS2 classified power source according to IEC 62368-1, 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
OPERATING MODES (USB)	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01
MTBF	500,000 hours
WEIGHT	Approx. 10 g / 0.35 oz (without cable)
OS SUPPORT	Windows 7 (32-/64-bit) and higher versions, Linux, Android[1)], iOS[1)], MAC OS X[1)]
PERIPHERAL INTERFACES	USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), I²C, 4 GPIOs, Clock/Data, Wiegand D0/D1, 2 SAM slots
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 LF HF
CERTIFICATION(S)	CE/RED, FCC, IC, REACH and RoHS-III compliant, and many more[2)]
ORDER CODE(S)	**Readers with LEGIC SM-4200** T4BO-B6 — Reader module, standard T4BO-B6-P — Reader module with P option T4BO-B6-PI — Reader module with PI option **Readers with LEGIC SM-4500** T4BO-B6-5 — Reader module, standard T4BO-B6-5P — Reader module with P option T4BO-B6-5PI — Reader module with PI option

SUPPORTED TRANSPONDERS[3)]

SUPPORTED TRANSPONDERS (STANDARD) 13.56 MHZ	ISO 14443A: LEGIC Advant, NTAG2xx, MIFARE Classic, MIFARE Classic EV1[5)], MIFARE DESFire EV1, MIFARE DESFire EV2[6)], MIFARE DESFire EV3[6)], MIFARE DESFire Light[1)], MIFARE Mini, MIFARE Plus S, MIFARE Plus X, MIFARE Smart MX[7)], MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1[5)], SLE44R35[7)], SLE66Rxx (my-d move)[7)] ISO 14443B: Calypso[7)], CEPAS[7)], Pico Pass[4)] ISO 15693: EM4x33[7)], EM4x35[7)], ICODE SLI, LEGIC Advant, M24LR16/64, PicoPass[4)], SRF55Vxx (my-d vicinity)[7)], Tag-it ISO 18092 / ECMA-340: NFC Forum Tag 1-5[8)], Sony FeliCa[9)] LEGIC Prime: LEGIC Prime LEAF Identity: LEAF[10)]
SUPPORTED TRANSPONDERS (STANDARD) 125 KHZ[11)]	AWID, Cardax[12)], CASI-RUSCO, Deister[12)], EM4050, EM4100, EM4102, EM4150, EM4200[13)], EM4305, EM4450, EM4550, HITAG 1[14)], HITAG 2[14)], HITAG S[14)], ICT[1)],

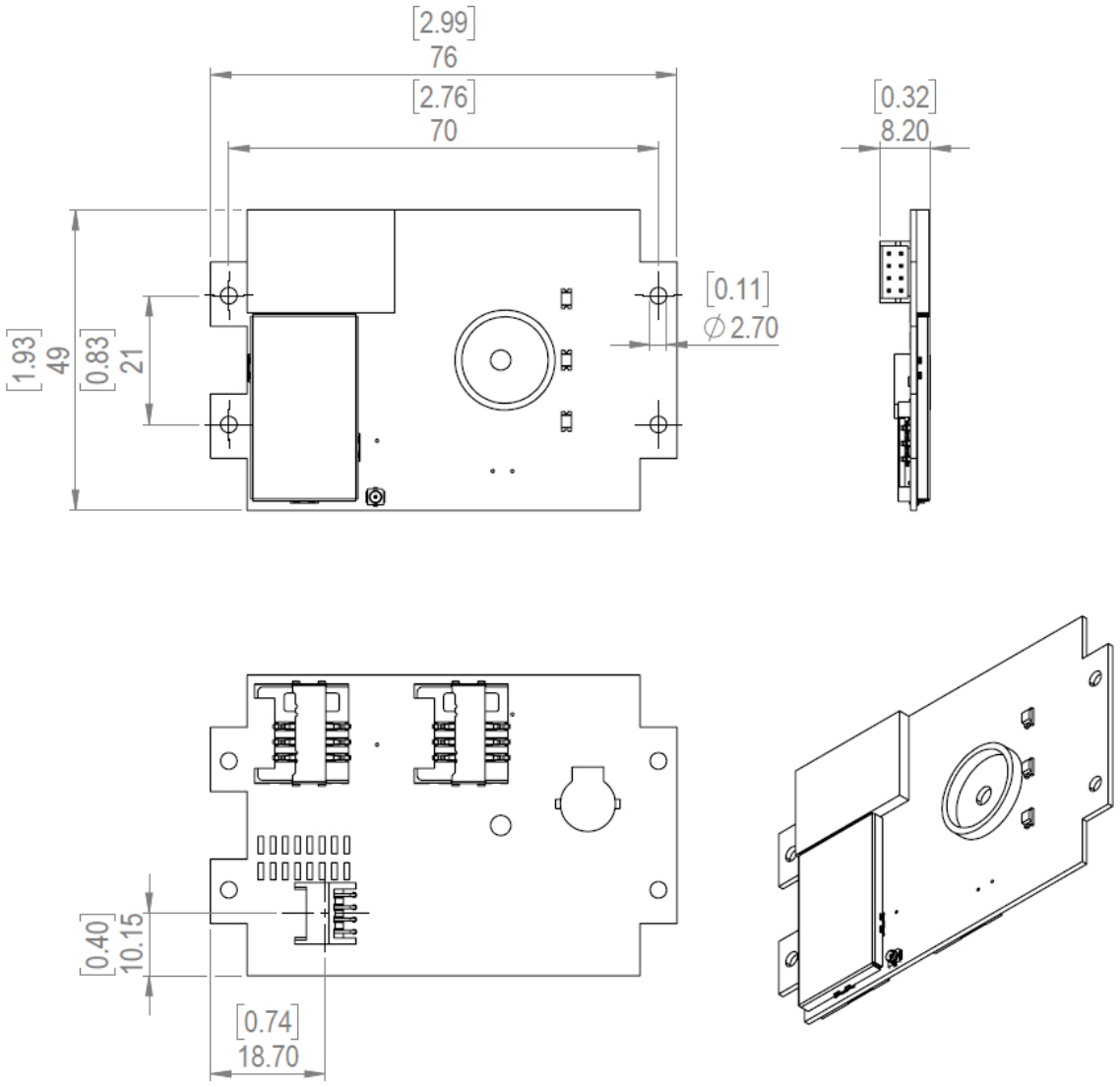
	IDTECK, ISONAS, Keri, Miro, Nedap[12], Pyramid, Q5, T5557, T5567, T5577, TITAN (EM4050), UltraProx, UNIQUE, ZODIAC
SUPPORTED TRANSPONDERS (P OPTION)	All standard transponders, G-Prox[12], HID 1326 Prox II, HID 1336 DuoProx II, HID 1346 ProxKey III, HID 1386 ISO Prox II, HID 1391 Micro Prox, HID Prox, Indala, ioProx, Nexwatch
SUPPORTED TRANSPONDERS (PI OPTION)[15]	All standard transponders, all P option transponders, Calypso Innovatron protocol[7], CTS, HID MIFARE DESFire SE, HID MIFARE Classic SE, HID SEOS, HID iCLASS Legacy/SR/SE, MB89R118/119, NFC Forum Tag 1-5, Pico Pass[16], SRI4K, SRI512, SRIX4K, SRT512, Topaz

[1]On request [2]More information on request [3]Unless otherwise agreed with ELATEC, the product is delivered with a standard firmware version that might be older than the latest firmware developed by ELATEC. This firmware version can be changed using the ELATEC AppBlaster tool. Please note that the information given in this document regarding the transponder technologies supported by the product is based on the latest firmware version. [4]UID only [5]r/w enhanced security features on request [6]Supported as part of the EV1 downward compatibility [7]r/w in direct chip command mode [8]NFC Forum Tag 1 not supported [9]UID + r/w public area [10]AV2 only, requires one free SAM slot for MIFARE SAM AV2 card [11]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. [12]Hash value only [13]Only emulation of 4100, 4102 [14]Without encryption [15]Requires one free SAM slot for HID iCLASS SE processor [16]UID only, r/w on request

ACCESSORIES

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
POWER SUPPLY	PWA-AUS4	Power supply (AUS)
	PWA-EU4	Power supply (EU)
	PWA-UK4	Power supply (UK)
	PWA-US4	Power supply (US)

TECHNICAL DRAWINGS



All measures in mm [inch]

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