TWN4 MULTITECH 2 LEGIC
(SM-4200/4500 FRONTEND)

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

TWN4 MultiTech 2 LEGIC
(exemplary illustration)

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 key features include a powerful SDK for writing apps that are executed directly on the reader, the possibility to upgrade the firmware in the field, a direct chip-commands support and an optimized BLE module. Additionally, the reader 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 and BLE read performance
+ Powerful SDK for writing apps which are executed directly on the reader
+ 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)

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

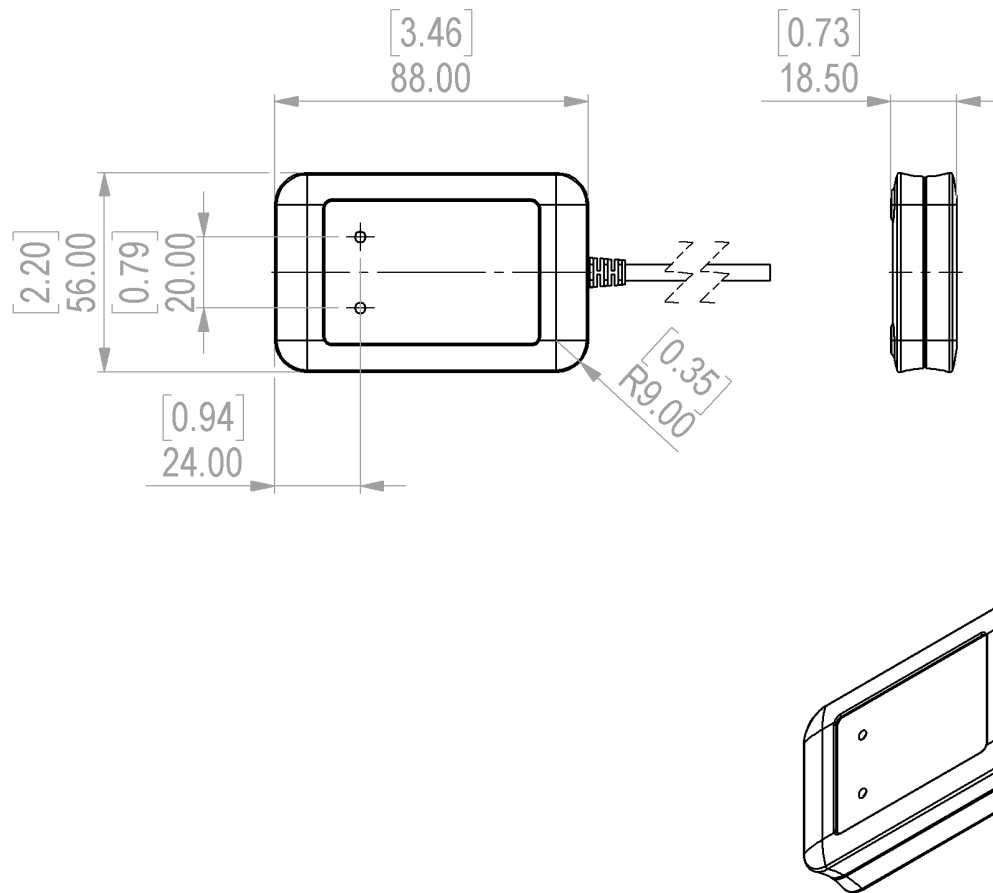|	
FREQUENCY	125 kHz (LF) / 13.56 MHz (HF) / 2.4 GHz (BLE)
ANTENNA(S)	Integrated
HOUSING	Material: ABS UL94-V0 Color: black or white
DIMENSIONS (L X W X H)	Approx. 88.00 x 56.00 x 18.50 mm / 3.46 x 2.20 x 0.73 inch
POWER	USB: 4.3 V - 5.5 V RS-232: requires 5 V external power supply PS2 classified power 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 +70 °C (-13 °F up to +158 °F) Storage: -40 °C up to +75 °C (-40 °F up to +167 °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. 120 g / 4.23 oz (with 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, 1 free SAM slot
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
CERTIFICATION(S)	CE/RED, FCC, IC, REACH and RoHS-III compliant, and many more[2]
ORDER CODE(S)	**Readers with LEGIC SM-4200** T4BT-BB2BEL7-XB: Standard reader with USB cable, black T4BT-BB2WEL7-XB: Standard reader with USB cable, white T4BT-BR2BEL7-XB: Standard reader with RS-232 cable, black T4BT-BR2WEL7-XB: Standard reader with RS-232 cable, white T4BT-BB2BEL7-XBP: Reader with USB cable and P option, black T4BT-BB2WEL7-XBP: Reader with USB cable and P option, white T4BT-BR2BEL7-XBP: Reader with RS-232 cable and P option, black T4BT-BR2WEL7-XBP: Reader with RS-232 cable and P option, white T4BT-BB2BEL7-XBPI: Reader with USB cable and PI option, black T4BT-BB2WEL7-XBPI: Reader with USB cable and PI option, white T4BT-BR2BEL7-XBPI: Reader with RS-232 cable and PI option, black T4BT-BR2WEL7-XBPI: Reader with RS-232 cable and PI option, white **Readers with LEGIC SM-4500** T4BT-BB2BEL7-5XB: Standard reader with USB cable, black T4BT-BB2WEL7-5XB: Standard reader with USB cable, white T4BT-BR2BEL7-5XB: Standard reader with RS-232 cable, black T4BT-BR2WEL7-5XB: Standard reader with RS-232 cable, white T4BT-BB2BEL7-5XBP: Reader with USB cable and P option, black T4BT-BB2WEL7-5XBP: Reader with USB cable and P option, white T4BT-BR2BEL7-5XBP: Reader with RS-232 cable and P option, black T4BT-BR2WEL7-5XBP: Reader with RS-232 cable and P option, white T4BT-BB2BEL7-5XBPI: Reader with USB cable and PI option, black T4BT-BB2WEL7-5XBPI: Reader with USB cable and PI option, white T4BT-BR2BEL7-5XBPI: Reader with RS-232 cable and PI option, black T4BT-BR2WEL7-5XBPI: Reader with RS-232 cable and PI option, white

SUPPORTED TRANSPONDERS[3)]

SUPPORTED TRANSPONDERS (STANDARD) 13.56 MHZ	ISO 14443A: HID iCLASS DESFire[4)] HID iCLASS MIFARE Classic[4)] HID iCLASS SEOS[4)], 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)], HID iCLASS[4)], Pico Pass[4)] ISO 15693: EM4x33[7)], EM4x35[7)], HID iCLASS[4)], HID iCLASS Elite/SE/SR[4)], 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[16)], all P option transponders, Calypso Innovatron protocol[7)], CTS, HID iCLASS, HID iCLASS DESFire, HID iCLASS Elite, HID iCLASS MIFARE Classic, HID iCLASS SE/SEOS/SR, MB89R118/119, NFC Forum Tag 1-5, Pico Pass[17)], 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 TWN4 SIO card [16)]The reader has one free SAM slot only and cannot support LEAF and the PI option at the same time. [17)]UID only, r/w on request

ACCESSORIES

HOLDER(S)	HKSI-B	Snap-in holder, black
	HKSI-W	Snap-in holder, white
	HKBR-B	Bracket holder, black
	HKBR-W	Bracket holder, white
POWER SUPPLY	PWA-AUS4	Power supply (AUS)
	PWA-EU4	Power supply (EU)
	PWA-UK4	Power supply (UK)
	PWA-US4	Power supply (US)

All measures in mm [inch]