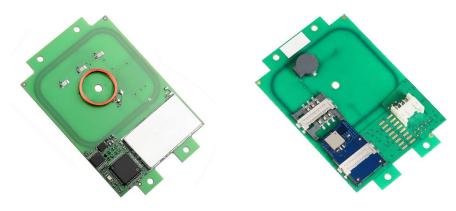


TWN4 MultiTech 2 LEGIC M

(SM-4200/4500 frontend)

Multi-frequency RFID module (LF/HF) with NFC and BLE support



TWN4 MultiTech 2 LEGIC M (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.

Key features of the TWN4 MultiTech 2 LEGIC M reader module include a powerful SDK for writing apps that are executed directly on the module, the possibility to upgrade the firmware in the field, transparent data exchange with the RFID media, and a powerful BLE module. Additionally, the module can 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
- + Two RFID frequencies (125 kHz/13.56 MHz), NFC and BLE in a compact form factor for easy integration
- + Optimized HF and BLE 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
- + Supports transparent data exchange with RFID media
- CCID and PC/SC 2.01
- + Support of segment initialization function (LEGIC SM-4500 frontend only)



































TECHNICAL DATA

Integrated ANTENNAS Integrated DIMENSIONS (L X W X H) Approx. 76.00 x 49.00 x 8.20 mm / 2.99 x 1.93 x 0.32 inch USB: 4.3 V - 5.5 V Generic interface (X1): 3.3 V ± 5% RS-232: requires 5 V external power supply PSC classified power source according to IEC 62368-1, short-circuit current < 8 A CURRENT CONSUMPTION RF field on: 140 mA typically Operating: 26° Cu pt 0 +80° C(-13° Fu pt 0 +176° F) Storage: 40° Cu pt 0 +85° C(-40° Fu pt 0 +185° F) RELATIVE HUMIDITY Five to 95% non-condensing LF and HF: up to 100 mm / 4 inch, depending on environment and transponder BLE: up to several meters/feet OPERATING MODES (USB) BLUETOOTH LOW ENERGY BLE version 5.x MTBF S00,000 hours WEIGHT Approx. 15 g / 0.53 oz (without cable) Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at www.elatec-rifd.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product. Windows 7 (32-64-bit) and higher versions, Linux, Android'), ioS³, MAC OS X¹) USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), FC, 4 GPIOs, Clock/Data, Wiegand D0D1, 1 free SAM slot? ¹ for ID-000 card format 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 ORDER CODES Modules with LEGIC SM-4200 T4BO-B7-XBP Reader module with P option T4BO-B7-XBP Reader module with P Option T4BO-B7-SXBP Reader module with P Option	TECHNICAL DATA			
DIMENSIONS (L X W X H) Approx. 76.00 x 49.00 x 8.20 mm / 2.99 x 1.93 x 0.32 inch 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 Operating: -25 °C up to +80 °C (-13 °F up to +176 °F) Storage: -40 °C up to +80 °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) Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at https://www.elatec-rfid.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product. OS SUPPORT Windows 7 (32-164-bit) and higher versions, Linux, Android*), iOS*), MAC OS X*I) PERIPHERAL INTERFACES USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), iPC, 4 GPIOs, Clock/Data, Wiegand D0/D1, 1 free SAM slot ² for ID-000 card format TRANSMISSION SPEED Host: USB fill speed (12 Mibits), RS-232: up to 115,200 baud, HF Air: up to 848 kbit/s CERTIFICATION NAME TWN4 MultiTech 2 LEGIC M Non-exhaustive list ⁹ : CE/RED, FCC, IC, REACH and ROHS-III compliant Modules with LEGIC SM-4500 T4BO-B7-XBP Reader module with P option Reader module with P option T4BO-B7-XBP Reader module with P option Reader module with P option	FREQUENCIES	. , , , , , , , , , , , , , , , , , , ,	GHz (BLE)	
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POWER 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 Five to 95% non-condensing 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 MTBF 500,000 hours WEIGHT Approx. 15 g / 0.53 oz (without cable) Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at www.elatec-frid.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product. OS SUPPORT Windows 7 (32-64-bit) and higher versions, Linux, Android'), iOS¹), MAC OS X¹) USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), PC, 4 GPIOs, Clock/Data, Wiegand D0/D1, 1 free SAM slot² for ID-000 card format TRANSMISSION SPEED Host: USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), PC, 4 GPIOs, Clock/Data, Wiegand D0/D1, 1 free SAM slot² for ID-000 card format TWM MultiTech 2 LEGIC M Non-exhaustive list³: CE/RED, FCC, IC, REACH and ROHS-III compliant Modules with LEGIC SM-4200 T4BO-B7-XBP Reader module with P1 option Modules with LEGIC SM-4500 T4BO-B7-SXBP Reader module with P1 option	DIMENSIONS (L X W X H)	Approx. 76.00 x 49.00 x 8.20 mm / 2.99 x 1.93 x 0.32 inch		
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 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) Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at www.elatec-rfid.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product. OS SUPPORT Windows 7 (32-/64-bit) and higher versions, Linux, Android¹¹i, iOS¹¹i, MAC OS X¹¹ PERIPHERAL INTERFACES USB full speed (12 Mbits), RS-232: up to 115,200 baud, HF Air: up to 848 kbit/s TRANSMISSION SPEED Host: USB full speed (12 Mbits), RS-232: up to 115,200 baud, HF Air: up to 848 kbit/s CERTIFICATIONS Reader module with P option T4BO-B7-XBP Reader module with P option ORDER CODES Modules with LEGIC SM-4500 T4BO-B7-XBP Reader module with P option	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 Operating: -25 °C up to +80 °C (-13 °F up to +176 °F) Storage: -40 °C up to +86 °C (-40 °F up to +185 °F) RELATIVE HUMIDITY S% 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) Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at www.elatec-rfid.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product. OS SUPPORT Windows 7 (32-64-bit) and higher versions, Linux, Android'), iOS¹, MAC OS X¹) USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), FC, 4 GPIOs, Clock/Data, Wiegand D0/D1, 1 free SAM slot² for ID-000 card format 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 TWNN4 MultiTech 2 LEGIC M ORDER CODES Modules with LEGIC SM-4500 T4BO-B7-XBP Reader module with PI options Modules with LEGIC SM-4500 T4BO-B7-SXBP Reader module with PI option		Generic interface (X1): 3.3 V ± 5%		
CURRENT CONSUMPTION RF field on: 140 mA typically 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 Storage: -40 °C up to +85 °C (-40 °F up to +185 °F) RELATIVE HUMIDITY EXAMPLE DISTANCE READ/WRITE DISTANCE 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) Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at https://www.elatec-rfid.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product. OS SUPPORT Windows 7 (32-/64-bit) and higher versions, Linux, Android¹¹, iOS¹, MAC OS X¹¹ USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), i²C, 4 GPlOs, Clock/Data, Wiegand D0/D1, 1 free SAM slol²¹ for ID-000 card format TRANSMISSION SPEED Host: USB full speed (12 Mbit/s), RS-232: up to 115,200 baud, HF Air: up to 848 kbit/s CERTIFICATIONS ORDER CODES Modules with LEGIC SM-4200 T4BO-B7-XBP Reader module with P option AND POSTANDER Standard reader module Reader module with P option T4BO-B7-SXBP Reader module with P option		RS-232: requires 5 V external power supply		
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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) BLUETOOTH LOW ENERGY BLE version 5.x MTBF 500,000 hours WEIGHT Approx. 15 g / 0.53 oz (without cable) Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at www.elatec-frid.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product. OS SUPPORT Windows 7 (32-/64-bit) and higher versions, Linux, Android¹), iOS¹), MAC OS X¹) VSB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V toleranty), I°C, 4 GPIOs, Clock/Data, Wiegand D0/D1. free SAM slot²) for ID-000 card format TRANSMISSION SPEED Host: USB full speed (12 Mbit/s), RS-232: up to 115,200 baud, HF Air: up to 848 kbit/s CERTIFICATIONS CERTIFICATIONS CERTIFICATIONS ORDER CODES Modules with LEGIC SM-4200 T4BO-B7-XBP Reader module with P option T4BO-B7-XBP Reader module with Pl options Modules with LEGIC SM-4500 T4BO-B7-SXB Standard reader module T4BO-B7-SXB Reader module with P option		Storage: -40 °C up to +85 °C (-40 °F up to +185 °F)		
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) Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at www.elatec-rfid.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product. OS SUPPORT Windows 7 (32-/64-bit) and higher versions, Linux, Android¹¹, IOS¹¹, MAC OS X¹¹ USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), I²C, 4 GPIOs, Clock/Data, Wiegand D0/D1, 1 free SAM slot²¹ for ID-000 card format 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 Non-exhaustive list³): CE/RED, FCC, IC, REACH and RoHS-III compliant Modules with LEGIC SM-4200 T4BO-B7-XB T4BO-B7-XBP Reader module with P option T4BO-B7-XBPI Reader module with PI options Modules with LEGIC SM-4500 T4BO-B7-SXB Standard reader module T4BO-B7-SXBP Reader module with P option	RELATIVE HUMIDITY			
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BLUETOOTH LOW ENERGY MTBF 500,000 hours WEIGHT Approx. 15 g / 0.53 oz (without cable) Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at www.elatec-rfid.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product. OS SUPPORT Windows 7 (32-/64-bit) and higher versions, Linux, Android**), iOS**), MAC OS X**) USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), i*PC, 4 GPIOs, Clock/Data, Wiegand D0/D1, 1 free SAM slot**) for ID-000 card format 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 Non-exhaustive list**): CE/RED, FCC, IC, REACH and ROHS-III compliant Modules with LEGIC SM-4200 T4BO-B7-XBP Reader module with P option T4BO-B7-XBP Reader module with P1 options Modules with LEGIC SM-4500 T4BO-B7-SXB Standard reader module T4BO-B7-SXB Standard reader module Reader module with P2 option		·		
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WEIGHT Approx. 15 g / 0.53 oz (without cable) Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at www.elatec-rfid.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product. OS SUPPORT Windows 7 (32-/64-bit) and higher versions, Linux, Android¹, iOS¹), MAC OS X¹¹ USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), I²C, 4 GPIOs, Clock/Data, Wiegand D0/D1, 1 free SAM slot²) for ID-000 card format TRANSMISSION SPEED Host: USB full speed (12 Mbit/s), RS-232: up to 115,200 baud, HF Air: up to 848 kbit/s CERTIFICATIONS CERTIFICATIONS Non-exhaustive list³0: CE/RED, FCC, IC, REACH and RoHS-III compliant Modules with LEGIC SM-4200 T4BO-B7-XBP Reader module with P option T4BO-B7-XBPI Reader module with P options ORDER CODES Modules with LEGIC SM-4500 T4BO-B7-5XB Standard reader module T4BO-B7-5XB Reader module with P option				
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¹⁾On request

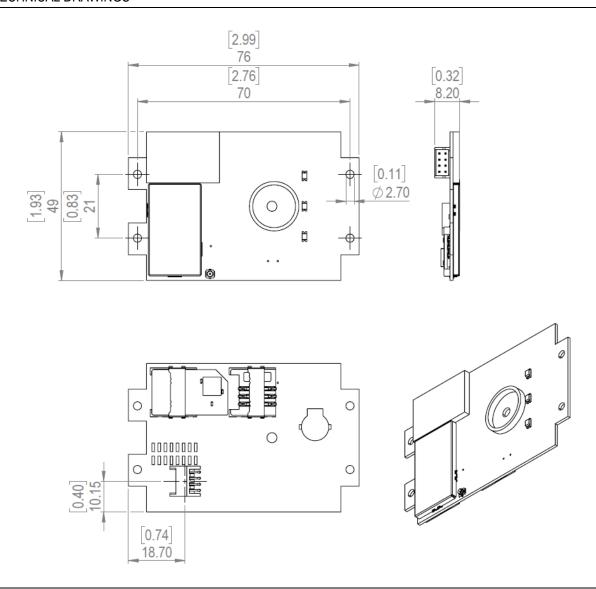
ACCESSORIES

	ELATEC RFID readers and modules can be delivered with additional cables or external
CABLES AND POWER SUPPLIES	power supplies. Refer to the data sheet Cables for ELATEC devices for detailed
	information.

²⁾The reader module has one free SAM slot only, as one SAM slot is equipped ex-works with the BLE SAM card. It is strictly prohibited to take the BLE SAM card out of the SAM slot

³⁾The product has been certified for use in many countries and regions. Contact your Sales representative for detailed information about all certifications and approvals granted to the product.





All measures in mm [inch]

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