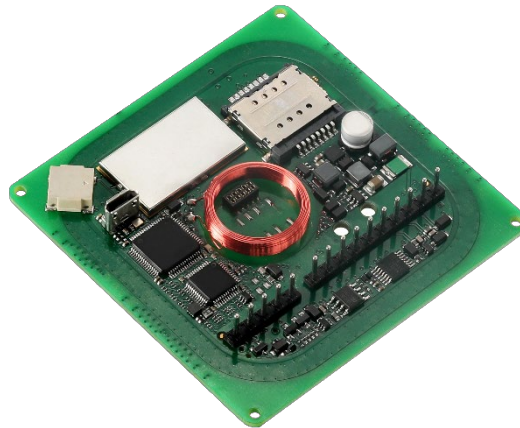# TWN4 Palon Square M LF HF

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

TWN4 Palon Square M LF HF
(exemplary illustration)

The RFID modules of the TWN4 Palon Square M family are versatile reader/writer modules with a wide range of interfaces, like RS-485 or Wiegand. All modules support NFC and, optionally, further interfaces like the OSDP protocol or I^{2}C. Although the modules are general-purpose devices, they are particularly appropriate for time attendance and access control applications. Thanks to their compact dimensions, they are the ideal solution for integration into third-party products.

Key features of the TWN4 Palon Square M LF HF reader module include an optimized form factor for easy integration into any host device, the possibility to use many different interfaces, a tamper detection input and an on-board MEMS gyro sensor. 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
+ Supports many interfaces, like USB, RS-485, Wiegand and Clock/Data (OSDP protocol and I^{2}C optionally)
+ Two RFID frequencies (125 kHz/13.56 MHz) and NFC support
+ Equipped with a tamper detection input and an on-board MEMS gyro sensor
+ 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

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

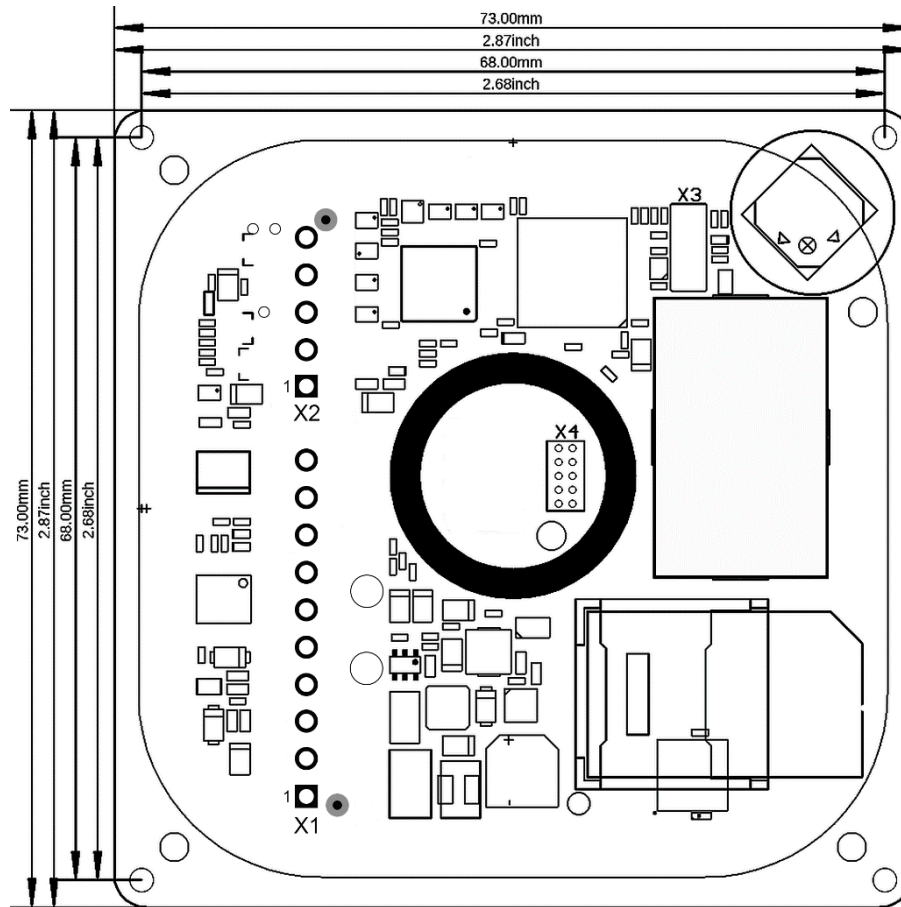|	
FREQUENCIES	125 kHz (LF) / 13.56 MHz (HF)
ANTENNAS	Integrated
DIMENSIONS (L X W X H)	Approx. 73.00 x 73.00 x 25.40 mm / 2.87 x 2.87 x 1.00 inch
POWER	Micro USB: 4.3 V – 5.5 V Connector X1: 9.0 V – 30 V PS2 classified power source according to IEC 62368-1, short-circuit current < 8 A
CURRENT CONSUMPTION	Operating: 180 mA @ 12 V typically / Idle: 50 mA @ 12 V typ. / Peak: 250 mA @ 12 V typ.
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. 25 g / 0.88 oz, depending on product derivate
SABOTAGE DETECTION	Tamper detection input On-board MEMS gyro sensor
WIRE CONNECTOR	Connector X1 1x10 pin header, RS-485 Connector X2 1x5 pin header for auxiliary ports/signals Connector X4 2x5 for I²C and extended ports
SIGNALING	1 center RGB LED, on the rear side of the module (optional: up to 5 LEDs for OEM designs) Acoustic loudspeaker
SUPPORTED OPTIONS AND TRANSPONDERS	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[1], iOS[1], MAC OS X[1]
PERIPHERAL INTERFACES	Micro USB, RS-485, OSDP[1], I²C[1], 2 SAM slots for ID-000 card format, 3 GPIOs, Wiegand D0/D1, Clock/Data, 1 tamper detection input
TRANSMISSION SPEED	USB full speed (12 Mbit/s), HF Air: up to 848 kbit/s, RS-485: up to 38,400 baud, I²C: 100 kbit/s
RS-485 CONFIGURATION	RS-485 address configuration and speed settings by upgrade card or AppBlaster tool or ex-fab preset. If required, RS-485 termination resistors to be provisioned off-board, externally.
ENVIRONMENT	Special TWN4 Palon Square M LF HF versions for potting or coating on request
IMMUNITY AGAINST EM FIELDS	10 V/m according to EN 61000-6-2
CERTIFICATION NAME	TWN4 Palon Square M LF HF
CERTIFICATIONS	Non-exhaustive list[2]: CE/RED, REACH and RoHS-III compliant
ORDER CODES	T4WQ-F1F26 Standard reader module T4WQ-F1F26-P Reader module with P option T4WQ-F1F26-PI Reader module with PI options Customer-specific TWN4 Palon Square M LF HF derivates and configurations are available on request.

[1]On request

[2]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.

ACCESSORIES

CONNECTORS	CON-0001	Spring contact with 2 cable guides, 10-pole
	CON-0002	Spring contact with 2 cable guides, 5-pole
	CON-0003	Pluggable connection clamp, 10-pole
	CON-0004	Pluggable connection clamp, 5-pole
CABLES	ELATEC RFID modules can be delivered with additional cables. Refer to the data sheet *Cables for ELATEC devices* for detailed information.	

TECHNICAL DRAWINGS