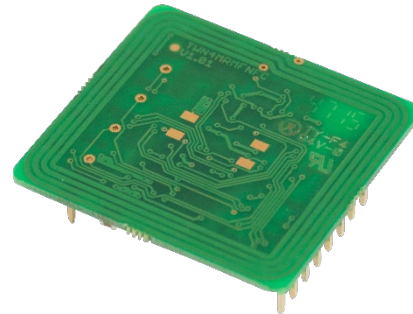


TWN3 MINI READER MIFARE NFC

COMPACT PROGRAMMABLE HF RFID READER/WRITER



TWN3 Mini Reader MIFARE NFC
top view*



TWN3 Mini Reader MIFARE NFC
bottom view*

*The product images are illustrative only and might differ from the actual product.

ELATEC's TWN3 Mini Reader MIFARE NFC is designed for integration into machines, handheld computers or any other device. The focus has especially been set on size, low power consumption, price and flexibility. Thanks to its compact dimensions, integration directly on a PC board is possible.

Outstanding features are: 4 user-configurable ports (to be configured as input or output), beeper support and an integrated high-performance antenna. The simple ASCII or Binary protocol enables quick software development cycles. All host communication is done via SPI or asynchronous serial TTL interface. The module offers positions for placement for two LEDs that can be controlled by software. An external Secure Access Module (SAM) is supported for enhanced security and cryptographic performance. This enables the application to perform secure transactions, e.g. payment terminals etc.

Special features:

- + Firmware update in the field possible
- + Direct chip-commands support
- + Operating voltage: 3.2 V – 5.5 V DC
- + Low power (< 2µA)
- + Supports connection of external ISO 7816 compatible SAM cards
- + Compact design (33 x 30 x 11 mm)
- + Integrated antenna
- + Interfaces: Serial TTL or SPI
- + ASCII or Binary protocol
- + 4 GPIOs
- + Industrial operating temperature: -25 °C to +80 °C
- + Pin compatible downgrade from TWN4 MultiTech HF Mini reader T4MR-F
- + 3D construction data (STEP) available on request



Elevator



EV Chargers



Access



Shop POS



Fitness
Equipment



Ticket POS



PC Log-on



Document
Management



Driver ID



Vending



Parking



Gaming



Locker Locks



Time
Attendance



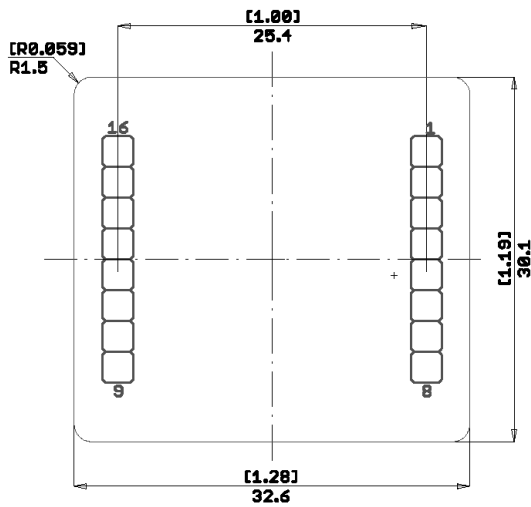
Industrial
PC

TECHNICAL DATA

| | |
|---|--|
| FREQUENCY | 13.56 MHz (HF) |
| ANTENNA(S) | Integrated |
| DIMENSIONS (L X W X H) | 32.6 mm x 30.1 mm x 11.2 mm / 1.28 inch x 1.19 inch x 0.44 inch |
| POWER SUPPLY | 3.2 V - 5.5 V DC 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: 80 mA typically, RF field off: 10 mA, power down: < 2 µA |
| TEMPERATURE RANGE | Operating: -25 °C up to +80 °C (-13 °F up to +176 °F) Storage: -45 °C up to +85 °C (-49 °F up to +185 °F) |
| RELATIVE HUMIDITY | 5% to 95% non-condensing |
| READ- / WRITE DISTANCE | Up to 70 mm / 2.75 inch, depending on environment and transponder |
| MTBF | 500,000 hours |
| SUPPORTED TRANSPONDERS (STANDARD) 13.56 MHZ | <u>ISO14443A:</u> LEGIC Advant ¹⁾ , MIFARE Classic EV1 ²⁾ , MIFARE Classic, MIFARE Mini, MIFARE DESFire EV1 ¹⁾ , MIFARE DESFire EV2/EV3 ¹⁾ , MIFARE DESFire Light ¹⁾ , MIFARE Plus S, X, MIFARE Pro X ¹⁾ , MIFARE Smart MX ¹⁾ , MIFARE Ultralight, MIFARE Ultralight C ¹⁾ , MIFARE Ultralight EV ¹⁾ , NTAG2xx ²⁾ , SLE44R35 ¹⁾ , SLE66Rxx (my-d move) ¹⁾ <u>ISO18092 ECMA-340:</u> NFC Forum Tag 1-5 ³⁾ , Sony FeliCa ¹⁾ <u>ISO14443B:</u> Calypso ¹⁾ , CEPAS ¹⁾ , HID iCLASS ¹⁾ , Moneo ¹⁾ , Pico Pass ¹⁾ , SRI4K, SRIX4K, SRI512, SRT512 |
| OS SUPPORT | Windows Embedded CE ⁴⁾ , 7 (32-/64-bit), 8, 8.1, 10, Linux, Android ⁴⁾ , iOS ⁴⁾ , MAC OS X ⁴⁾ |
| PERIPHERAL INTERFACES | TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), SPI, 4 GPIOs |
| TRANSMISSION SPEED | 9,600 baud, 8N1 (default) – up to 115,200 baud |
| CERTIFICATION NAME | TWN3 Mini Reader MIFARE NFC |
| CERTIFICATION(S) | CE/RED, REACH and RoHS-III compliant |
| ORDER CODE(S) | T3MR-FC1 OEM Board T3MK-F, including T3MR-FC1 and CAB-U9 Development Board |

¹⁾UID only ²⁾r/w enhanced security features on request ³⁾NFC Forum Tag 1 & 5 not supported ⁴⁾On request

DRAWING (COMPONENT SIDE)



All dimensions in mm (inch)

PINNING

| Pin | Name | Description |
|-----|----------|--------------------------------|
| 1 | RESET | Asynchronous reset |
| 2 | PWRDWN | Hard power down |
| 3 | GND | Ground |
| 4 | VCC | 3.3 – 5 V |
| 5 | RXD/MOSI | UART/SPI receiver input |
| 6 | TXD/MISO | UART/SPI transmitter input |
| 7 | SCK | SPI serial clock input |
| 8 | SS | SPI slave select input |
| 9 | VSAM | 3.0V regulated supply for SAM |
| 10 | SAM_IO | Bidirectional SAM I/O line |
| 11 | GPIO3 | General purpose input/output 3 |
| 12 | GPIO2 | General purpose input/output 2 |
| 13 | GPIO1 | General purpose input/output 1 |
| 14 | GPIO0 | General purpose input/output 0 |
| 15 | SAM_CLK | SAM clock output |
| 16 | SAM_RST | SAM reset output |

Pin spacing 2.54 mm

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