

TWN4 PALON COMPACT LEGIC 42

COMPACT OEM RFID READER/WRITER FOR LF, HF, NFC, BLE, WITH EXTENDED INTERFACES



TWN4 Palon Compact LEGIC is a versatile OEM PCB for integration into third-party products and devices. It supports enhanced interfaces, especially RS-485. The new compact PCB module inherits all advantages and integrated tool support of the ELATEC TWN4 family. Although it is a general-purpose device, it is optimized for time attendance and access control.

TWN4 Palon is a multi-technology reader/writer family supporting almost all 125 kHz/134.2 kHz and 13.56 MHz contactless technologies, including NFC. RS-485, RS-232, Wiegand, Clock/Data and USB are standard interfaces. Optionally, OSDP protocol is supported. On-board antennas for HF and LF allow excellent contactless performance. An integrated Bluetooth Low Energy (BLE) module supports a broad range of mobile ID and authentication solutions as well.

Special features:

- + Optimized PCB design for OEM integration
- + Onboard LF and HF antennas
- + One onboard SAM socket (Secure Access Module)
- + Interfaces: RS-485, RS-232 and TTL (Wiegand, Clock/Data). OSDP protocol optionally
- + Micro USB port
- + Supports quick (re)configuration over network and over wireless interface with TWN4 CONFIG Card
- + Direct chip-commands support
- + Integrated BLE module 2.4 GHz for data communication and authentication, Bluetooth v4.2, upgradable
- + Firmware update in the field possible
- + Powerful SDK for writing apps which are executed directly on the reader
- + Onboard 18 kB flash storage, e.g. for storing user accessible non-volatile data
- + Supports quick centralized (re)configuration over network and over wireless interface with TWN4 CONFIG Card
- + TWN4 Upgrade Card for P option available on request
- + 3D construction data (STEP) available on request



TECHNICAL DATA

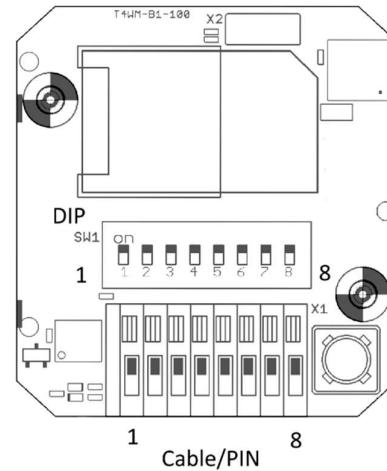
FREQUENCY	125 kHz/134.2 kHz (LF) / 13.56 MHz (HF) / 2.4 GHz (BLE)
ANTENNAS	Integrated
DIMENSIONS (L X W X H)	PCB board, twin stack: 40.7 mm x 43.9 mm x 29.4 mm / 1.6 inch x 1.8 inch x 1.2 inch
POWER SUPPLY	9.0 V - 30 V via connector X1; 4.3 V - 5.5 V via micro USB Limited power source according to IEC60950-1 or PS2 classified IEC62368-1, short-circuit current < 8 A
CURRENT CONSUMPTION	Operating: typ. 160 mA @12 V; Idle: typ. 50 mA @12 V; Peak typ. 250 mA @12 V
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	Up to 100 mm / 4 inch, depending on transponder and OEM environment
TRANSMISSION SPEED	RS-485: up to 38,400 baud; RS-232 up to 115,200 baud; USB Full speed (12 Mbit/s); HF Air: up to 848 kbit/s, BT Air: up to 100 kbit/s
BLUETOOTH LOW ENERGY	Bluetooth v4.2, upgradable; standards as GAP, SM, L2CAP, ATT; predefined GATT structure; AES128 supported
OPERATING MODES (USB)	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01
MTBF	500,000 hours
WEIGHT	25 g
WIRE CONNECTOR	PCB terminal block, 8 positions, push-in spring connection for wires 0.2 to 0.5 mm ² / AWG 24 to 20, tool-free cable wiring
SABOTAGE DETECTION	Infrared tamper detector, front facing
DIP SWITCH	8 position DIP switch for RS-485: addressing, speed settings, line termination
SIGNALING	5 RGB LEDs, each individually programmable using the on-board Intelligent Peripheral Controller (IPE), for enhanced dynamic light concepts; acoustic loudspeaker
SUPPORTED TRANSPONDERS (STANDARD)	<p><u>ISO14443A:</u> LEGIC Advant, MIFARE Classic EV1¹⁾, MIFARE Classic, MIFARE Mini, MIFARE DESFire EV1 / EV2¹⁾, MIFARE Plus S, X, MIFARE Pro X²⁾, MIFARE Smart MX²⁾, MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1, NTAG2xx, SLE44R35, SLE66Rxx (my-d move)²⁾</p> <p><u>ISO14443B:</u> Calypso²⁾, CEPAS²⁾, HID iCLASS³⁾, Moneo²⁾, Pico Pass³⁾</p> <p><u>ISO18092 ECMA-340:</u> NFC Peer-to-Peer, Sony FeliCa⁴⁾, NFC Active and passive communication mode, Passive peer-to-peer mode - initiator, NFC Tag 2, 3, 4</p> <p><u>ISO15693:</u> EM4x33²⁾, EM4x35²⁾, HID iCLASS³⁾, HID iCLASS SE/SR³⁾, ICODE SLI, LEGIC Advant, M24LR16/64, SRF55Vxx (my-d vicinity)²⁾, Tag-it, PicoPass³⁾</p> <p><u>LEGIC Prime:</u> LEGIC Prime</p> <p><u>125 kHz, 134.2 kHz:</u> AWID, Cardax, CASI-RUSCO, Deister⁵⁾, EM4100, 4102, 4200⁶⁾, EM4050, 4150, 4450, 4550, EM4305⁷⁾, FDX-B, EM4105, HITAG 1⁸⁾, HITAG 2⁸⁾, HITAG S⁸⁾, ICT⁷⁾, IDTECK, Isonas⁷⁾, Keri, Miro, Nedap⁵⁾, PAC, Pyramid, Q5, T5557, T5567, T5577, TIRIS/HDX, TITAN (EM4050), UNIQUE, ZODIAC</p>
SUPPORTED TRANSPONDERS (OPTION P)	All standard transponders, Cotag, G-Prox ⁵⁾ , HID DuoProx II, HID ISO Prox II, HID Micro Prox, HID ProxKey III, HID Prox, HID Prox II, Indala, ioProx, Nexwatch
OS SUPPORT	Windows XP, Vista, Embedded CE ⁷⁾ , 7 (32-/64-bit), 8, 8.1, 10, Linux, Android ⁷⁾ , iOS ⁷⁾ , MAC OS X ⁷⁾
PERIPHERAL INTERFACES	USB, RS-485 (OSDP ⁷⁾ protocol optionally), RS-232, TTL (protocols Wiegand, Clock/Data), Bluetooth Low Energy (BLE), Additional ferrite filter required for RS232 operation
EXTENSION SLOT	One SAM socket for ID-000 cards or modules
CERTIFICATION NAME	TWN4 Palon Compact LEGIC
CERTIFICATION(S)	CE/RED, RoHS-II compliant, pending: FCC / IC – as T4WK-B7 kit with housing
ORDER CODE(S)	T4W2-B01C7 OEM board T4W2-B01C7-P OEM board Option P

¹⁾r/w enhanced security features on request ²⁾r/w in direct chip command mode ³⁾UID only ⁴⁾UID + r/w public area ⁵⁾Hash value only ⁶⁾Only emulation of 4100, 4102
⁷⁾On request ⁸⁾Without encryption

CONNECTOR ASSIGNMENT

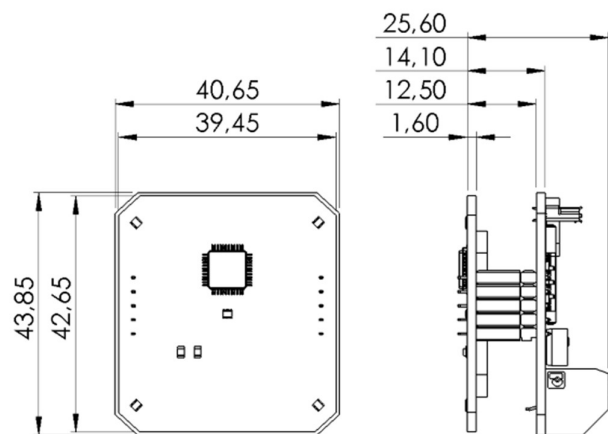
PIN	ASSIGNMENT
1	RS232_RX
2	RS232_TX
3	RS485_A
4	RS485_B
5	TTL D0 or DATA
6	TTL D1 or CLOCK
7	VIN 9 – 30 Volt
8	GND

DIP	ASSIGNMENT
1	RS485 address 0 LSB
2	RS485 address 1
3	RS485 address 2
4	RS485 address 3 MSB
5	BIAS on/off
6	RS485 speed 0
7	RS485 speed 1
8	RS485 termination 120 Ohm on/off



Drawing / rear view PCB

Assignment of DIP switch relates to version with RS-485. Firmware may change the assignment of the DIP switch. Please refer to the TWN4 Palon manual. For RS-232, Wiegand, Clock/Data the DIP switch is not used.



(Dimensions mm)

Drawing / front view PCB

side view

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