

## TWN4 PALON COMPACT PANEL

RFID READER/WRITER SUPPORTING LF, HF, NFC AND BLE FOR PANEL MOUNT



TWN4 Palon Compact Panel is a versatile panel mount reader for integration into third-party products and devices. It supports enhanced interfaces, especially RS-485. The new Palon Panel inherits all advantages and integrated tool support of the ELATEC TWN4 family. The IP65 protected housing is easy to install.

TWN4 Palon Compact Panel is a multi-technology reader/writer family supporting almost all 125 kHz/134,2 kHz and 13,56 MHz contactless technologies, including NFC. Integrated 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 housing design for easy, fast and secure installation
- + Integrated LF and HF antennas
- + One on-board SAM socket (Secure Access Module)
- + Interfaces: RS-485, RS-232 and (Wiegand, Clock/Data). OSDP protocol optionally, USB
- + 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
- + TWN4 Upgrade Card for P and PI options available on request
- + 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	125 kHz/134,2 kHz (LF) / 13,56 MHz (HF) / 2,4 GHz (BLE)
ANTENNAS	Integrated
HOUSING	Transparent Polycarbonate (PC) housing, black PC outer mounting ring. TWN4 Palon Panel PCB pre-installed. ABS locknut M63 x 1.5, black or grey, pre-installed design inlay (customizable). For mounting hole diameter 63,2 mm with anti-twist protection
DIMENSIONS (L X W X H)	82 mm x 82 mm x 34,2 mm (3,23 inch x 3,23 inch x 1,35 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	IP65 protected housing (frontside, when mounted) 5% to 95% non-condensing (inner electronic components)
READ - / WRITE DISTANCE	Up to 100 mm (3,9 inch), depending on transponder and OEM environment
PERIPHERAL INTERFACES	RS-485; OSDP <sup>®</sup> protocol optionally; RS-232 (RX/TX) <sup>®</sup> , Output 5V: Wiegand (D0/D1), or Clock/Data; USB
BLUETOOTH <sup>®</sup> LOW ENERGY	Bluetooth <sup>®</sup> 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 (electronic components)
WEIGHT	77 g (2,72 oz)
WIRE CONNECTOR	PCB terminal block, 8 positions, push-in spring connection for wires 0.2 to 0.5 mm <sup>2</sup> / 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) 13,56 MHz	<p><u>ISO14443A:</u> LEGIC Advant<sup>1)</sup>, MIFARE Classic, MIFARE Classic EV1<sup>2)</sup>, MIFARE Mini, MIFARE DESFire EV1, MIFARE DESFire EV2<sup>2)</sup>, MIFARE Plus S, X, MIFARE Pro X<sup>3)</sup>, MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1, NTAG2xx, SLE44R35, SLE66Rxx (my-d move)<sup>4)</sup>, Topaz, HID iClass SEOS<sup>1)</sup></p> <p><u>ISO14443B:</u> Calypso<sup>3)</sup>, Calypso Innovatron protocol<sup>3)</sup>, CEPAS<sup>3)</sup>, HID iCLASS<sup>1)</sup>, Moneo<sup>3)</sup>, Pico Pass<sup>4)</sup>, SRI4K, SRIX4K, SRI512, SRT512</p> <p><u>ISO18092 ECMA-340:</u> NFC Forum Tag 1-5, NFC Peer-to-Peer, Sony FeliCa<sup>5)</sup>, NFC Active and passive communication mode</p> <p><u>ISO15693:</u> EM4x33<sup>8)</sup> EM4x35<sup>3)</sup>, HID iCLASS<sup>1)</sup>, HID iCLASS SE/SR<sup>1)</sup>, ICODE SLI, LEGIC Advant<sup>1)</sup>, M24LR16/64, MB89R118/119, SRF55Vxx (my-d vicinity)<sup>3)</sup>, Tag-it, PicoPass<sup>4)</sup></p>
SUPPORTED TRANSPONDERS (STANDARD) 125kHz <sup>12)</sup> , 134,2 kHz <sup>12)</sup>	AWID, Cardax, CASI-RUSCO, Deister <sup>6)</sup> , EM4100, 4102, 4200 <sup>7)</sup> , EM4050, 4150, 4450, 4550, EM4305 <sup>8)</sup> , FDX-B, EM4105, HITAG 1 <sup>9)</sup> , HITAG 2 <sup>9)</sup> , HITAG S <sup>9)</sup> , ICT <sup>8)</sup> , IDTECK, Isonas, Keri, Miro, Nedap <sup>6)</sup> , PAC, Pyramid, Q5, T5557, T5567, T5577, TIRIS/HDX, TITAN (EM4050), UNIQUE, ZODIAC
SUPPORTED TRANSPONDERS (OPTION P)	All standard transponders, Cotag, G-Prox <sup>5)</sup> , HID DuoProx II, HID ISO Prox II, HID Micro Prox, HID ProxKey III, HID Prox, HID Prox II, Indala, ioProx, Nexwatch

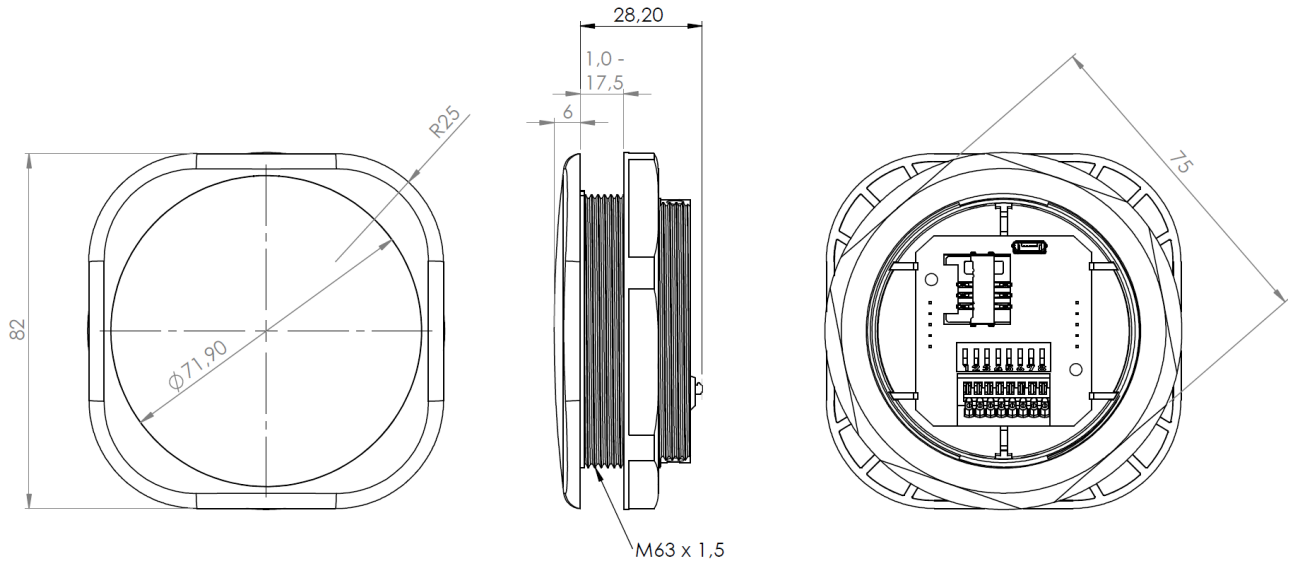
SUPPORTED TRANSPONDERS (OPTION PI)	Requires TWN4 SIO Card, All Standard Transponders, All Version P Transponders, HID iCLASS, HID iCLASS SE/SR/Elite, HID iCLASS SEOS (CSN & Facility Code/PAC) <sup>10)</sup> ,													
OS SUPPORT	Windows XP, Vista, Embedded CE <sup>8)</sup> , 7 (32-/64-bit), 8, 8.1, 10, Linux, Android <sup>8)</sup> , iOS <sup>8)</sup> , MAC OS X <sup>8)</sup>													
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													
EXTENSION SLOT	One SAM socket for ID-000 cards or modules													
CERTIFICATION NAME	TWN4 Palon Compact													
CERTIFICATION(S)	CE, RoHS-II compliant, pending: FCC / IC													
ORDER CODE(S)	<p>Box Kit:</p> <p>TWN4 Palon Compact Panel reader in transparent housing, black outer mounting ring, locknut, O ring seal, standard inlay, installation instruction, cardboard box</p> <table border="0"> <tr> <td>T4PK-F01TR7</td> <td>TWN4 Palon Compact, Panel Kit, as described</td> </tr> <tr> <td>T4PK-F01TR7-P</td> <td>same, P Option</td> </tr> <tr> <td>T4PK-F01TR7-PI</td> <td>same, PI Option</td> </tr> </table> <p>Bulk Packaging:</p> <p>TWN4 Palon Compact Panel Light reader in transparent housing, black outer mounting ring, locknut, O ring seal, standard inlay, packed in bulk plastic bag</p> <table border="0"> <tr> <td>T4PK-F03TR7</td> <td>TWN4 Palon Compact, Panel Kit, as described</td> </tr> <tr> <td>T4PK-F03TR7-P</td> <td>same, P Option</td> </tr> <tr> <td>T4PK-F03TR7-PI</td> <td>same, PI Option</td> </tr> </table>		T4PK-F01TR7	TWN4 Palon Compact, Panel Kit, as described	T4PK-F01TR7-P	same, P Option	T4PK-F01TR7-PI	same, PI Option	T4PK-F03TR7	TWN4 Palon Compact, Panel Kit, as described	T4PK-F03TR7-P	same, P Option	T4PK-F03TR7-PI	same, PI Option
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ACCESSORIES	HOPL-YR01TR	Palon Panel transparent housing with black design frame												
	MECH-LNB01	Locknut												
	MECH-ORB01	O-ring seal												
	CAB-B9	USB A / USB Micro Cable												

<sup>1)</sup> UID only <sup>2)</sup> r/w enhanced security features on request <sup>3)</sup> r/w in direct chip command mode <sup>4)</sup> UID only, read/write on request <sup>5)</sup> UID + r/w public area

<sup>6)</sup> Hash value only <sup>7)</sup> Only emulation of 4100, 4102 <sup>8)</sup> On request <sup>9)</sup> Without encryption <sup>10)</sup> UID + PAC (CSN & Facility Code), r/w on request <sup>11)</sup> In preparation

<sup>12)</sup> 125/134.2kHz 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

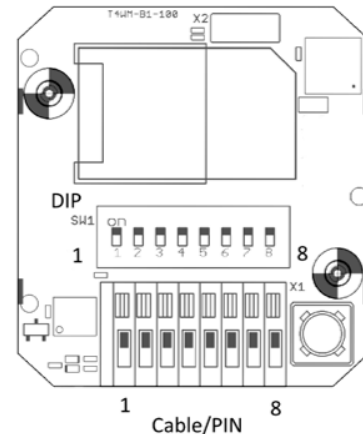
## DRAWING / CONNECTOR ASSIGNMENT



(All measures in mm)

DIP	ASSIGNMENT
1	RS-485 address 0 LSB
2	RS-485 address 1
3	RS-485 address 2
4	RS-485 address 3 MSB
5	RS-485 BIAS on/off
6	RS-485 speed 0
7	RS-485 speed 1
8	RS-485 termination 120 Ohm on/off

PIN	ASSIGNMENT
1	RS-232 RX
2	RS-232 TX
3	RS-485 A
4	RS-485 B
5	TTL Wiegand D0 or DATA
6	TTL Wiegand D1 or CLOCK
7	VIN 9 – 30 Volt
8	GND



Drawing / rear view PCB

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.

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