

Technical Data sheet XMP-TMC3500 Terminal

Standalone IP-Terminal

General

The standalone terminal TMC3500 is a powerful 32 bit high-end card reader for access control, time recording and time & attendance for the real-time system XMP-BABYLON or the entry system XMP-ACL32.

Main Features

- Reading technologies: MIFARE® (classic® & DESFire® EV1), LEGIC® (prime & advant), HITAG® 1+2, MIRO
- Reading distance: 20 to 60 mm
- Possibility to write Access on Card data (AoC)
- Graphical Display 3,5" (262.000 colors)
- Sensor keypad (maintenance free)
- 4 standard function keys (e.g. coming / leaving etc.)
- 4 special function keys with 4 sublevels (e.g. absence reason, time balance etc.)
- Offline memory for up to 250.000 badges and 50.000 Zones (Access profiles)
- Real-time LINUX operating system
- Blowfish- and/or AES256 encryption (Network and RS485 – COM1 (SecuCrypt®))
- SecuCrypt64® network communication protocol (AES-GCM)
- Blowfish- and AES-Encryption 256 Bit
- 4 supervised digital or analogue inputs (Normal, Alarm, Fault open, Fault shorted)
- 2 digital relay outputs with voltage or potential free
- 1x RS485 interface for XMP-KDx or XMP-GA-8-AI (up to 256 additional supervised inputs and 192 relay outputs)
- 1x RS485 interface for second card reader
- Firmware download for TMC3500 and second card reader via software possible
- Interface for two IP cameras
- Graphical programming with VIPS and
- Classical programming for applications like man-traps, intrusion systems etc. (Up to 64 routines)
- Elevator control for up to 192 floors
- Up to 2048 Terminals connectable



XMP-TMC3500

Technical Data

Electrical:

- 32 Bit CPU with 300 MHz
- 64 MB RAM
- 2 GB MicroSD memory card
- 10/100 MBit Ethernet interface
- Power supply: 110 / 240 Volt AC 50 Hz
- Consumption : 15 W fully loaded
- Interfaces: 1 x PoE Power over Ethernet (Using of PoE or internal power supply)
- 2x RS485, 2x USB 2.0
- Lithium Battery 3,0V for real-time clock
- 2 digital relay outputs: 2A max. 12 V/DC or 1A max. 24 V/DC (For operation via PoE the outputs have to be set on dry contact)
- 4 supervised digital or analogue inputs: Normal, Alarm, Fault shorted, Fault open

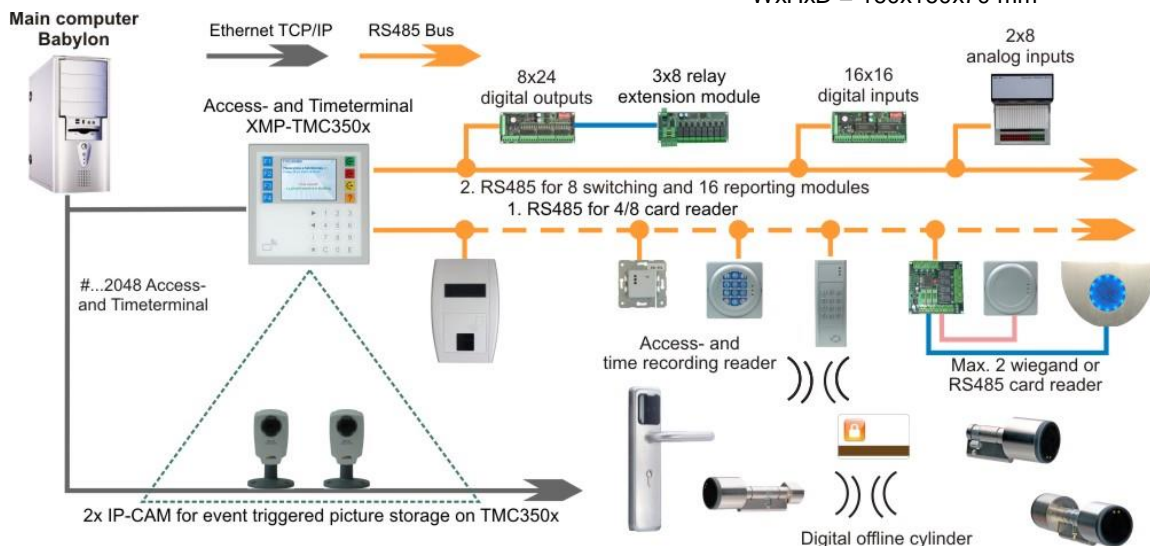
Environmental:

- Ambient temperature:
 - Operating: 0° - 50° C, +32° - 122° F
 - Storage: -10° - 70° C, 14° - 158° F
- Relative humidity: 5- 90 %
- Protection class: IP54

Mechanical:

- Color: Silver / black
- Dimensions aluminum housing: WxHxD = 160x160x70 mm

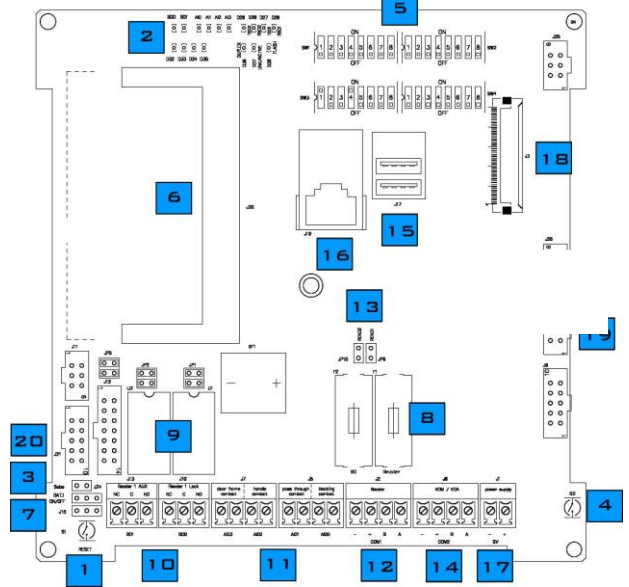
System architecture



Main board elements

1. Reset button
2. Status LEDs
3. Tamper contact (Jumper)
4. Tamper switch (button)
5. DIP switches SW1 to SW4
6. Socket for CPU module
7. Lithium battery
8. Fuses reader 1-2 (F1=T500mA) und relay outputs (F2=F1A)
9. Relay outputs (Relay 12 or 24V up to 6W)
10. Digital output connectors (1-2)
11. Digital or analogue input connectors (1-4)
12. Connectors for second card reader (12-24V / 3Watt)
13. R.END1+2 = Terminal resistors Reader (REND1), KDM/KDA/GA (REND2)
14. Connectors for 16x KDM, 8x KDA, 2x GA-8AI
15. 2x USB 2.0
16. RJ45 LAN connector
17. Power supply 12 or 24 VDC (idle 5W)
18. Display connector
19. Sensor keypad connector
20. Internal reader connector (first reader)

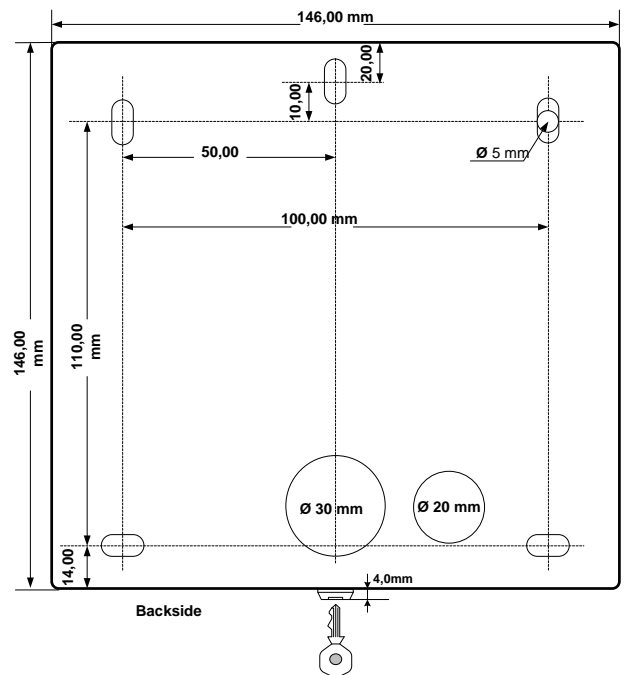
XMP-TMC3500 Board – Configuration details



DIP switches SW1 to SW4

- SW1** switch 1..8 = Unit number (low order 8 bits)
- SW2** switch 1..4 = Unit number (high order 3 bits)
- SW2** switch 5 = DHCP/DNS support (restart)
- SW2** switch 6 = reserved
- SW2** switch 7 = Delete IP address (restart)
- SW2** switch 8 = Stop application, only Linux operating (Debug)
- SW3** switch 1+2 = Baud rate for card readers (0=4800, 1=9600, 2=19200, 3=38400 Baud)
- SW3** switch 3+4 = Baud rate for KDM/KDA/GA (0=4800, 1=9600, 2=19200, 3=38400 Baud)
- SW3** switch 5 = reserved
- SW3** switch 6 = Activate SecuCrypt64® protocol
- SW3** switch 7 = Activate standard encryption
- SW3** switch 8 = Cold reset (Factory setting)
- SW4** switch 1 = start FTP and TELNET server (should be used for service purpose only)
- SW4** switch 2..6 = reserved
- SW4** switch 7 = Activate new display
- SW4** switch 8 = Protection against replay attacks

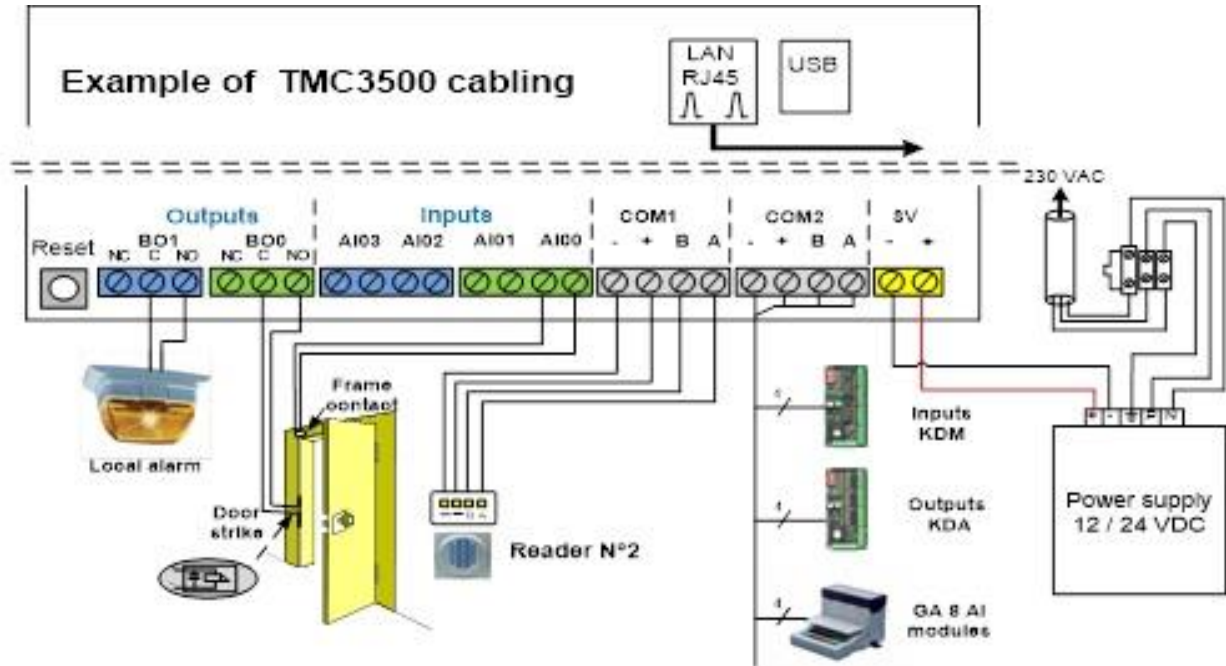
Dimensions



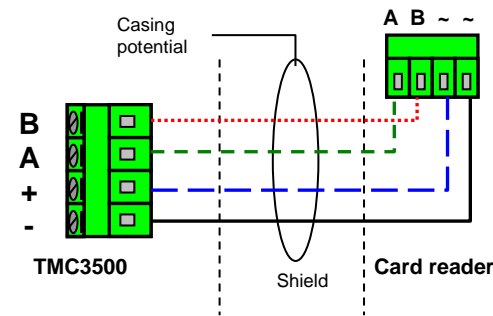
Status LEDs

- A10 - A13 = Supervised inputs (Off, On, fault open, fault close)
- BO0 – BO1 = Relay outputs
- D26 / D28 = KDM/KDA/GA communication
- D27 / D29 = Reader communication
- Link / Active = LAN communication
- Duplex = Ethernet mode
- Flash = Read/write access to flash memory
- D32 – D35 = CPU and Software Status

Graphic for cabling



Scheme – Second reader connection



Remarks to reading distance

Besides other, the reading distance depends on environmental conditions, badge types and reading method just used. The reading distance is maximum 60 mm if no encryption is activated. If the encryption is active the reading distance will reduce on approx. 20 to 30 mm. Metal parts in a distance of 120 mm can reduce the reading distance, too. The distance between two installed card readers should be minimum 20 cm, because of the fact, that the electro-magnetic fields of the readers – concerning the reading distances - affect each other in disadvantageous way. Recommended card types: ISO Standard

Card reader	TMC3500	Description
~	+/-	Power supply
~	+/-	Power supply
B	B	Reader interface RS485
A	A	Reader interface RS485

Hints for wiring/distance/cable type

The power supply can be provided by the XMP-TMC3500 (recommendation: If internal power supply is used)

- By 12V/DC up to 100m (2x2x0,8 with shield)
- By 24V/DC up to 200m (2x2x0,8 with shield)
- External power supply up to 1500m (2x2x0,8 with shield)

Details for reading technology MIFARE®:

The TMC3500-MIF reads the serial number or memory information of MIFARE® DESFire® EV1 and MIFARE® classic® cards. In case of MIFARE® classic® cards the serial number of the card (UID) will be transmitted as decimal value (4 Byte UID → e.g. 40004403886360) and in case of MIFARE® DESFire® EV1 cards as 7 byte hexadecimal value (e.g. 801B76A1726F04) within 14 digits. After delivery the card reader always reads the serial number of a corresponding card. The parameter setting for reading of special memory information is realized and downloaded into reader by the w3K32p utility program W3TM24P. For this the reader must be connected via SecuCrypt® communication protocol to the access controller. The selection to enter the parameter settings for the desired card type is realized by an appropriate selection menu.

Details for reading technology LEGIC®:

The TMC3500-LEG reads the serial number or memory information of LEGIC® advant and LEGIC® prime cards. After delivery the card reader always reads the serial number of a corresponding card. The parameter setting for reading of special memory information is realized and downloaded into reader by the w3K32p utility program W3TM24P. For this the reader must be connected via SecuCrypt® communication protocol to the access controller. The selection to enter the parameter settings for the desired card type is realized by an appropriate selection menu. Specific settings like CRC, memory segment and search string must be defined by installer.

Details for reading technology HITAG®:

The TMC3500-HIT reads the serial number of HITAG®1, HITAG®2 and MIRO cards. After delivery the card reader always reads the serial number of a corresponding card. The reader transmits 14 digit badge information. Digit 14 of the read badge type represents: 0 = MIRO, 1 = HITAG®1, 2 = HITAG®2.

In case of evaluating a 14 digit badge information it can be necessary to replace digit 14 by a blank in the access controller parameters, e.g., if different reader types are in use.

Order numbers:

XMP-TMC3503-P
XMP-TMC3503-N12
XMP-TMC3503-N24
XMP-TMC3503-HIT-P
XMP-TMC3503-HIT-N12
XMP-TMC3503-HIT-N24
XMP-TMC3503-LEG-P
XMP-TMC3503-LEG-N12
XMP-TMC3503-LEG-N24
XMP-TMC3503-MIF-P
XMP-TMC3503-MIF-N12
XMP-TMC3503-MIF-N24

HINT: More information's please see product list.

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