Anyway, in order to retrieve the current IP settings you should proceed as follows: insert a USB pen drive in the special port which can be accessed externally, protected by a rubber cover (see Step 1), and wait a few seconds until the frontal LED turns green and a multi-tone sound is emitted (the same used for valid transactions); then, remove the pen drive and insert it in a PC in order to check its content: you'll find a file in the root called "**XA4_**_<MAC_address>_**.txt**", which contains all IP settings.

Anyway, in order to change such settings (DHCP mode, local IP, Subnet Mask and Gateway IP) you must put yourself in conditions to remotely communicate with the device at its current IP address, and then proceed as explained at Step 6, by loading via FTP client a PARAMETERS.TXT file with the expected configuration or changing the settings via browser by means of the advanced menu in the terminal HTTP web server. The only alternative is to fully open the terminal in order to extract the micro-SD (see Step 1) and load there the PARAMETERS.TXT file with the expected configuration.

It's also possible to easily discover all remote XA4 terminals in a network, since they still reply to incoming low-level Ethernet commands (TMC-UDP packet type "6") **X** and **h**, respectively by sending the current IP configuration (in the usual EtherLite compatible format, with the first line reporting the fw version as **V**nn**x**) and the MAC address. By sending these commands in broadcast mode all AXESS TMC terminals, including XA4, will be found and identified.

Step 5: Relay Connection

XA4 is provided with 1 relay which can commutate a maximum load of 2A @ 30Vdc, on both normally open (NO) and normally closed (NC) contacts on the M1 extractable screw connector (see board picture).
Notice: for all inductive loads (e.g. electric locks) we always recommend to use a power supply separated from that of the terminal, and to put, in parallel to their contacts and the nearest possible to them, a 50V *varistor* (or *VDR*) to protect XA4 from possible overvoltage spikes.

Step 6: Advanced Configuration

Advanced configuration can be done in the following ways:

1) By uploading .TXT text files from any FTP client software (e.g. FileZilla) to the terminal memory
2) By connecting to the HTTP web server home page of the terminal with any standard web browser
3) Directly through an HTTP server software

Method 1 is the main way to communicate with the terminal from a software: you just need an FTP client to send configuration .TXT files with a predefined format.

Method 2 is the most intuitive from the user point of view, since it allows to configure the terminal by means of a graphical user interface menu featured by the terminal HTTP web server home page (http://_<terminal_IP_Address>_). *Notice*: the sole user name initially recognized by the system is "admin", and the password initially assigned to the "admin" user is "admin" again. Once you access the HTTP menu with these credentials, you can then change the password if you want (the change applies to both FTP and HTTP accesses).

Method 3 is an alternative way to method 1 for automating the terminal configuration from a software, but the HTTP server solution it's more likely used to receive online transactions and send replies. This standard way of communication replaces the custom TMC-UDP protocol used on the previous generation of Zucchetti AXESS terminals.

Please refer to the "**967 X4 & X4 GLASS User's Manual-ENG-XX**" " for further details about points 1), 2) and 3).

Signaling LED behavior

The multi-color LED meaning is the following:

- Blue still: powered, normal operation (stand-by)
- Blue blinking: working on battery, normal operation (stand-by)
- Yellow/Red alternating: invalid time & date (they MUST be set in order to allow normal operation)
- Red/Green/Blue alternating: saving / reading configuration
- Green still: waiting for card code or PIN typing on keyboard
- Short Green + multi-tone sound: valid transaction or IP configuration saved to USB
- Triple Red blinking + multi-tone sound: transaction refused

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921 XA4

AXESS TMC
a brand of Zucchetti Axess S.p.A

Terminal with Ethernet interface
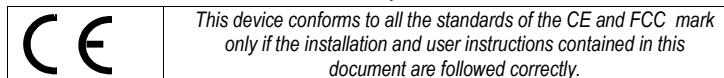## For Access Control Applications

Standard models part numbers :

p/n **921-000-60** XA4 with 125KHz *H4102* compatible + 13,56MHz *Mifare* (also *Desfire*) R&W *ISO14443A* proximity reader

p/n **921-001-60** XA4 with 125KHz *H4102* compatible + 13,56MHz *Mifare* (also *Desfire*) R&W *ISO14443A* proximity reader & numeric keypad

Hardware features

CPU & Memory:
ARM Cortex-M3, 32-bit, 180MHz, 512KB Flash + 8MB RAM, internal removable micro-SD flash memory card
Console:
- Integrated 125KHz *H4102* compatible + 13,56MHz *Mifare* (also *Desfire*) R&W *ISO14443A* proximity reader
- Multi-tone buzzer
- Multi-color LED
- Membrane keypad with 10 numeric keys + 2 function keys (921-001-60 version only)
Connections: 1 external USB 2.0 host port for memory keys formatted in FAT32
Communication ports:
- Ethernet 10/100 with RJ45 connector, PoE 802.3af A&B compliant (not to be connected to the telephone line)
  Protocols: TCP/IP, HTTP (default port 80), HTTPS (default port 443, client only), FTP (default port 21).
  Default IP: 192.168.1.240 (fixed)
- Secondary (on molex conn.) and external reader (on screw block): Clk&Data / serial TTL or RS232 / Wiegand / Barcode
- Supported barcode standards: Code39, Interleaved 2/5, EAN8, EAN13, Code128
- 3-wires Serial RS232 on screw block for printer connection, as an alternative to the external reader
Input / Output:
- 1 relay N.O. or N.C. max 2A @ 30Vdc; 2 dry contacts digital inputs, for gate management only
- It can manage on RS485 line up to 8 optional *slave* devices, whose typology depends on the selected communication protocol:
  NET92: 914 NeoMAX expansion boards, each with connectors for 1 reader in Clk&Data, 2 relays and 2 digital inputs
  SPP: FD-NeoMAX, FD-NeoMAX2 and FD-RIO expansion boards, FD-RFID4/K and FD-RFID5/K proximity readers with integrated numeric keypad, Ax- RF and FD-RALL proximity readers, Ax-Bio and XFinger biometric readers, FD-X1/X2 and FD-Door enslaved terminals, Mesh Box wireless repeaters for RS485.
  Remote I/O devices (on the *slaves*) may be added to the local ones to manage up to a maximum of 8 independent gates (swing doors or turnstiles)
Power Supply: 10..48Vdc. The power adapter must be of SELV type, separated by parts subjected to dangerous voltage by means of a safety transformer, and its output must be protected from short circuits and overloads (2A max).
Consumption: 180mA@12Vdc
Batteries: Main - 4,8V 600mAh NiMh with integrated PTC protection on extractable 2-pins molex connector (see board picture) for an autonomy of about 1 hour with integrated 125KHz reader; Clock backup – 3V 225mAh Lithium, CR2032 button model.
Warning: internal NiMh batteries should not exceed 50°C. Danger of explosion if the battery is replaced with another one of the wrong type. Batteries must be disposed of as required by the European directive 2006/66/C.
Physical data:
- Casing: LURAN® SC, IP55 V0 environmental protection
  Dimensions: 149 x 85 x 36mm (H x W x D)   Weight: 300 g (11oz)
Environment:
- Temperature range: Working: -10°..+50°   Storage: –25°..+55°   Humidity: 0-100% (no barcode)

NOTE: Do not install in places which can be under direct rain or sunshine

This device conforms to all the standards of the CE and FCC mark only if the installation and user instructions contained in this document are followed correctly.

Introduction

XA4 is the web-based access control terminal that combines a compact (less than 4 cm thick!) and elegant design with reliability and robustness (IP55), which makes it suitable for any working environment.

For those of you that already know the old generation AXESS TMC terminals (e.g. TRAX+G), XA4 is different in both the way it is configured and the way it communicates, and it works similarly to all the new generation terminals (e.g. X1/X2): with XA4, custom DLLs and SDKs are not needed, as it works with standard protocols (HTTP and FTP) and standard text files. The TMC-UDP protocol is not used with XA4 (with just one exception, see **Step 4**).

On XA4 the file system is on a removable micro-SD card. The micro-SD card size is some GB, so you can store on the terminal memory a huge number of transactions and authorized users. Since all transactions, access control tables and configuration files are text files stored in the micro-SD card, in the event of terminal failure you can simply plug the micro-SD of the damaged terminal in a new XA4 and the host application won't even realize that the terminal has been replaced: the only thing that changes is the MAC address.

XA4 can be configured with several parameters and tables, also by using custom multistep data collection procedures (always defined in table format): this can be done entirely via FTP or via web. With any web browser, by using the integrated web editor CLOKI, you can in facts define the access control policies, users, cards and time zones, and manage controlled gates.
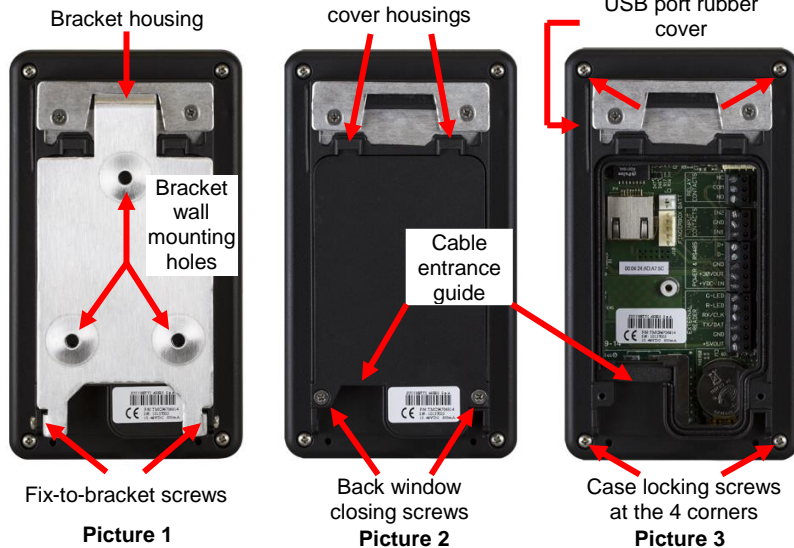
On the other hand, XA4 is not programmable in advanced mode (no scripts like with the old PROCs, nor programming like 'C' or .NET): should you need to manage more complex transactions, please consider our programmable terminals.

Step 1: Mounting and Opening

In order to fix XA4 to the wall you should use the metal bracket provided, which fits the special housing on the back and can be fixed with two lateral screws at the bottom (see picture 1).

In this way you can easily remove the whole terminal from the wall and access all the external connections through the back window (see picture 2), without the need to fully open the case: this is necessary only should you access the micro-SD slot.

To open the XA4 case you have to unscrew the 4 screws at the 4 corners on the back of the terminal (see picture 3).
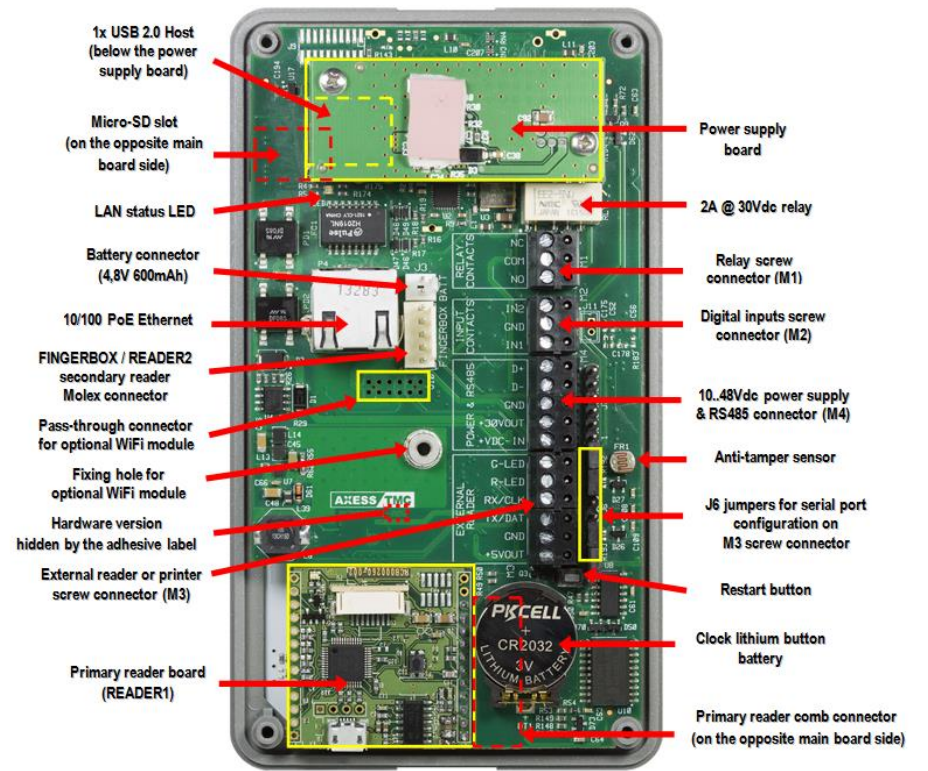

Bracket housing
Bracket wall mounting holes
Fix-to-bracket screws
Picture 1

Back window cover housings
Cable entrance guide
Back window closing screws
Picture 2

USB port rubber cover
Case locking screws at the 4 corners
Picture 3

Step 2: Power Supply, Batteries and Main Connections

XA4 may be supplied either with a 10..48 Vdc power adapter (which should be connected to the **+VDC - IN** and **GND** pins of the **POWER & RS485** extractable screw connector - see the board picture – it doesn't work inverting the poles) or via **PoE** (*Power over Ethernet*, IEEE802.3af), type A "*end-span*" (directly from the switch) or type B "*mid-span*" (using two of the four pairs of the Ethernet cable not used by data signals). Look carefully at the connectors labels in the picture and consider the proper orientation when inserted.

Warning: XA4 is delivered with the main battery unconnected and normally discharged. So, the first thing to do is to connect the battery package (which is fixed to the back window closing cover) to the special 2-poles **BATT** connector adjacent to the RJ45 plug. Also the flat lithium button cell for the internal clock backup is provided unmounted: it is then necessary to insert it in the special slot (see picture), with the positive pole (the one marked with the '**+**' sign) in sight.


1x USB 2.0 Host (below the power supply board)
Micro-SD slot (on the opposite main board side)
LAN status LED
Battery connector (4,8V 600mAh)
10/100 PoE Ethernet
FINGERBOX / READER2 secondary reader Molex connector
Pass-through connector for optional WiFi module
Fixing hole for optional WiFi module
Hardware version hidden by the adhesive label
External reader or printer screw connector (M3)
Primary reader board (READER1)

Power supply board
2A @ 30Vdc relay
Relay screw connector (M1)
Digital inputs screw connector (M2)
10..48Vdc power supply & RS485 connector (M4)
Anti-tamper sensor
J6 jumpers for serial port configuration on M3 screw connector
Restart button
Clock lithium button battery
Primary reader comb connector (on the opposite main board side)

RJ45 for Ethernet

RJ45 PoE   12345678
1 & 2 Signal
3 & 6 Signal
4 & 5 +Vdc
7 & 8 GND

FINGERBOX / READER2 Molex connector
Clk&Data / Serial TTL / *Wiegand* / Barcode

5 N.c.
4 Clock (in) / RX (in) / Data1 (in)
3 Data (in) / TX (out) / Data0 (in) / Signal (in)
2 GND
1 +5Vdc (out)

(1)LED Output
(2)Wiegand Output 37bit H10302

Green(1) / Data1(2) (out)
Red(1) / Data0(2) (out)
Clock (in) / RX (in) / Data1 (in)
Data (in) / TX (out) / Data0 (in) / Signal (in)

EXTERNAL READER Screw connector (M3)
Clk&Data / Serial TTL or RS232 / *Wiegand* / Barcode
GND
+5Vdc (out)

Only after having performed such operations, you can then proceed powering the terminal.

When Mains or PoE is connected, the main battery is automatically charged. A complete fast recharge may take from a minimum of 5 hours up to 18 hours. Fully charged batteries allows a maximum operation of about 3 hours in stand-by mode, with the embedded RFID reader only.

Important Notice: when XA4 is installed where environment temperature may be higher than 40°C, please consider placing the battery outside to avoid internal battery overheating. Alternatively you can leave the battery inside the terminal but unconnected, and use a UPS as power source for the terminal power supply or for the PoE switches.

J6 jumpers for serial port levels on M3
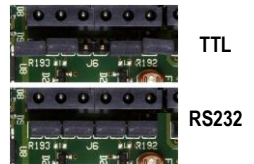
TTL

RS232

Step 3: Turning on your XA4

A properly powered terminal turns on automatically. The system startup takes about 8 seconds. The terminal can switch off only if it's currently working on batteries, and automatically upon a configurable inactivity timeout (default: 10 minutes): in such case, it can be turned on again by pressing any numeric key 1..9.

Step 4: Ethernet Connection and Console Configuration

When you connect the RJ45 connector, a visible effect on the board is the lighting of the red LED monitoring the Ethernet connection. If it blinks, it means some network activity is sensed. XA4 is delivered with DCHP disabled and default fixed IP address 192.168.1.240.