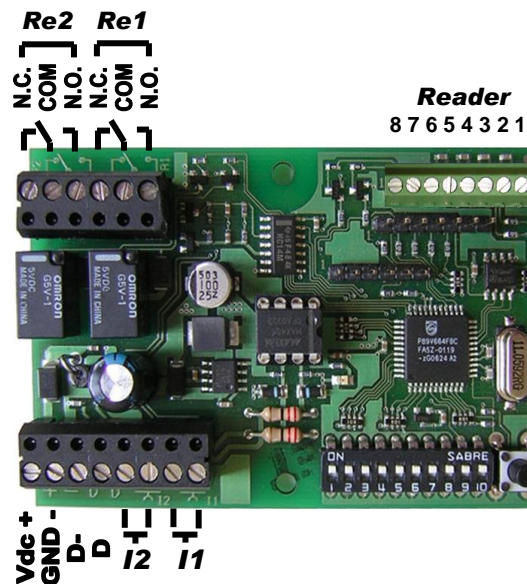


## 1. Installation

The **914 NeoMAX** is designed to be encased in the wall using a BTicino 503E wall mounting box or a GEWISS GW44204 external box.



The magnetic or barcode swipe reader is contained in an aluminium casing which should be fixed to a surface using the two screws with rawplug and bolt provided.

The RFID2/3 proximity readers are drowned in a resin bath inside a plastic casing to be fixed in the same way.

The picture shows the logical board and the connections: magnetic or barcode swipe readers and RFID2 proximity readers are provided with cables terminated with Molex connectors that should be cut away, in order to strip each wire and insert it in the proper position on the fixed reader screw connector on the NeoMAX board, according to its color. RFID3 proximity readers, instead, have a screw connector too, so in this case you may

use any (not provided) cable with wires stripped at both ends for the connection, according to the pinout cross-reference shown in the rightmost table below (see also the RFID3 shortform).

**NOTE:** on swipe magnetic readers the grey wire of the cable shield must be connected to GND.

MAGNETIC TK2 OR BARCODE SWIPE READER		RFID2 PROXIMITY READER		RFID3 PROXIMITY READER	
NeoMAX screw conn.	Wire Color	NeoMAX screw conn.	Wire Color	NeoMAX screw conn.	RFID3 screw conn.
1: GND	BLUE	1: GND	BLUE	1: GND	2: GND
2: +5Vdc	RED	2: +5Vdc	RED OR N.C.	2: +5Vdc	1: +VCC OR N.C.
3: CLOCK (TK2) / DATA (BC)	YELLOW	3: CLOCK	PINK	3: CLOCK	4: WCLK
4: +5Vdc LED	WHITE	4: +5Vdc	N.C. OR RED	4: +5Vdc	N.C. OR 1: +VCC
5: DATA TK2	BROWN	5: DATA	WHITE	5: DATA	3: WIDAT
6: CARD PRESENT	N.C.	6: CARD PRESENT	N.C.	6: CARD PRESENT	N.C.
7: GREEN LED	GREEN	7: GREEN LED	YELLOW	7: GREEN LED	6: LED-G
8: RED LED	GREY	8: RED LED	GREY	8: RED LED	5: LED-R

## 2. Configuring the address and communication mode

The row of micro-switches 1 to 8 are used to configure the terminal's network address, the speed and type of communication which are important when in ONLINE mode. Switches 7 & 8 set the com speed while switches 1-7 set the address in binary mode: the switch=1 if it is OFF:

Baud Rate	Characteristics	First valid address	Last valid address
57600 NET 92	Switches 7 & 8 are <u>never</u> OFF at the same time	Address 1 	Address 191 
9600 NET 92	Switches 7 & 8 are <u>always</u> OFF at the same time	Address 1 	Address 62 
2400 ACK-NACK	Point-to-point: ACK – NACK protocol, odd parity, 7 status bit, 1 stop bit. All switches 1-8 OFF, 9 & 10 ON.	Communication without address, switches set to single value of 255: 	

## 3. The LEDs

When the 914 is powered the reader LEDs light up together. Then if the switches are configured correctly the RED only remains switched ON; if they're not the two LEDs flash intermittently. Each time a read is carried out ONLINE, the GREEN LED lights up briefly. Each OFFLINE read the RED flashes and if the read is successful the GREEN lights up briefly while the relay closes.

## 4. OFFLINE Mode: configuring the programming mode

This operation should be carried out before each OFFLINE installation.

- Switch off the reader and set switch 9 in the OFF position.
- Switch on the reader again (the red and green LEDs will flash slowly). All previous OFFLINE configuration has now been removed. Choose one of the following modes:

### Predefined Cards:

- First insert the "List of Codes" SYSTEM CARD (the green LED will flash slowly).
- Alternatively, or in addition, insert the "Common Code" SYSTEM CARD.

### Unrecognised format cards (to be typically used in case of proximity readers):

- Insert any 3 cards: they will automatically be configured as SET CARD, CLEAR CARD, FREE MEMORY CARD respectively (the green LED will flash slowly).
- Set switch 9 in the ON position, both LEDs will light up briefly and then the green will switch off:

### Adding a card to the list of valid codes

Making sure that the red LED is on, (1) insert the SET CARD (the green LED will flash quickly and then stay on). (2) If you are using predefined cards insert the SYSTEM CARD (the green LED will flash rapidly and then stay on). (3) Insert the new card (the green LED will flash rapidly and then stay on: programming status). Repeat point (3) for each new card. To exit the programming status insert a card which has already been inserted: the 914 NeoMAX passes into "Red always on", ready to operate in Access Control.

### Deleting single cards from the memory

(1) Insert the CLEAR CARD (the red and green LEDs will flash together). (2) If you are using predefined cards insert the SYSTEM CARD (the green LED will flash rapidly and then stay on). (3) Insert the card which is to be deleted from the memory (each time the green LED will flash for a second). To end the operation insert a card which has already been deleted.

### Deleting the memory completely

(1) Insert the FREE MEMORY CARD (the red and green LEDs will flash together slowly). (2.1) If you are using predefined cards insert the SYSTEM CARD (both LEDs switch off for 1 second, then the green flashes on and off, and then the red stays switched on). (2.2) If you are using unrecognised format cards, insert the FREE MEMORY CARD a second time.

### Type of memorization

The "unrecognised format card" (**Compressed**) mode compresses all codes into 3 bytes and makes it possible to store up to 148 codes. Alternatively, using a SYSTEM CARD it is possible to define up to 3500 numbered codes ('0000' to '3500') in predefined **Bitmap** mode, or to set the **Packed** mode with a capacity which depends

on the length of the user codes:

**COMPRESSED:** compresses the whole code into 3 bytes, allowing up to 148 codes in memory. Alternatively, it's possible to choose the 2 bytes compression (less secure) allowing up to 223 codes: to enable it, in "unrecognised format card" mode you just have to enter the programming mode as usual, but reset switch 9 to ON before reading the first card (which will become the SET CARD).

**BITMAP:** Up to 3500 codes, the unique part of each code can be up to 4 characters max.: '0000' - '3500'.

**PACKED:** 89 codes of 9 figures, 111 codes of 7 or 8 figures, 148 codes of 5 or 6 figures, 223 codes of 4 figures.

### Format of the programming cards

SYSTEM CARD "List of Codes": Magnetic ;===3MSSSSPPL?  
Barcode .3MSSSSPPL

SYSTEM CARD "Common Code": Magnetic ;==9ccc....?  
Barcode .9ccc...

SET CARD : Magnetic ;===1? Barcode ...1  
CLEAR CARD: Magnetic ;===2? Barcode ...2  
FREE MEMORY CARD: Magnetic ;<=>? Barcode .//.

**M** 0=Compressed 1=BitMap  
2= Packed  
**SSSS** User-defined security code  
**PP** Position of the user code  
(01..32)  
**L** Length of the user code (3..9)

**cccc..** Common code starting with  
the first character (max 12 char.).  
Wildcard character: Magnetic "="  
Barcode "-"

### 4. Shell commands via RS 485

Generic commands	
<b>%%</b> Reset the terminal	<b>%Ot</b> Activates relay 1 for ASCII(t) 1/10ths of a second
<b>%XI</b> Requests terminal's ID	<b>%Ont</b> Activates relay n (=1,2) for ASCII(t) 1/10ths of a second
<b>%D</b> Requests list of memorized codes	<b>%S?</b> Requests status of the sensors: card inserted (not available), anti-tamper (not available), door status (I1), auxiliary sensor (I2).
<b>%Ftcc..</b> Sets the code ccc... as common code (left-aligned), and the relay closing time: ASCII(t)=time in 1/10ths of a second. This value remains even after a Reset command.	<b>%SP, %SX</b> Enables automatic signalling whenever there is a status change in the door (I1) and auxiliary input (I2) sensors, respectively.
<b>%;.....?</b> Card emulation. Simulates a card reading.	<b>%Sp, %Sx</b> Disables the above commands.
<b>%B</b> Enables the relay to close when the auxiliary contact closes in OFFLINE status: closing time is set with the %Ftcc.. command	<b>%Xx</b> Disables "obligatory reply" mode".
If the auxiliary contact closes when ONLINE, this simply causes the status of the 4 sensors to be sent to the Host.	<b>%XX</b> Enables "obligatory reply" mode. If more than 3 seconds (or the time set with %Tt) pass before the host replies to a badge reading (that is the transmission of a code read), the 914 goes into OFFLINE mode and autonomously decides if the relay is to be closed or not. This configuration is maintained after a reset.
<b>%b</b> Disables the previous function	<b>%L</b> The GREEN LED <u>no longer</u> comes on whenever there is a message waiting to be sent to the host. Messages generated by a read or an input change anyway cause the GREEN LED to switch on, so this command affects those messages generated following a command from the Host ( %D, %S?...).
<b>%XD</b> Returns some parameters to their default value:	<b>%Tt</b> Specifies the value of t, in 1/10ths of a second, which is the waiting time for an "obligatory reply" (if enabled) or the "waiting for Host" time when operating ONLINE. t is an ASCII character which is read as a decimal (1-255) and interpreted as the time the system must wait for a reply (max 25.5 sec, default: 3 sec).
- Disables the automatic sending of the sensor s' status.	<b>%l ( L minuscola)</b> Disables above command.
- Insertion reading only.	
- OFFLINE relay closing time (1 sec.).	
- Disables "Obligatory reply" mode.	
- "Obligatory reply" waiting time (3 sec.).	
- If in "Hotel" mode, the common code is set so that no code is valid.	

### Commands for 914 NeoMax with Magnetic reader

**%MB** Enables bi-directional read.  
Configuration maintained after a Reset

### Commands for 914 NeoMax with Barcode reader

<b>%CA, %Ca</b> Enables/disables Code 39 barcode	<b>%Ci, %Ci</b> Enables/disables Interleaved 2/5 barcode
<b>%CK, %Ck</b> Enables/disables checksum control in Code 39 barcode	<b>%CD, %Cd</b> Enables/disables checksum control in Interleaved 2/5 barcode
	<b>%CH, %Ch</b> Enables/disables the "B" char at the start of a barcode read

# 914 NeoMAX

**AXESS TMC**



The 914 NeoMax terminal is usually used in Access Control applications: both ONLINE where a PC checks the validity of the card and pilots the relay inside the terminal, and OFFLINE where the terminal decides autonomously using tables which have been loaded into its memory.

### AVAILABLE VERSIONS

**P/N 914.013.20** NeoMax 914 Electronic board without reader, magnetic decoder  
**P/N 914.014.20** NeoMax 914 Electronic board without reader, barcode decoder  
**P/N 904.001.12** Swipe Tk2 magnetic reader in anodized aluminium casing  
**P/N 904.001.18** Infrared barcode swipe reader in anodized aluminium casing  
**P/N 904.200.17** RFID/2 125KHz reader in plastic casing  
**P/N 904.201.14** RFID/2 13.56MHz ISO14443A/B & ISO15693 reader in plastic, TTL  
**P/N 904.205.15** RFID/2 13.56MHz LEGIC reader in plastic, TTL

### TECHNICAL SPECIFICATIONS

**Mounting:** in a wall-mounting box for electric sockets of the BTicino 503E series (or equivalent), or in an external shunt box like GEWISS GW44204 (or equivalent). All connections are made by means of extractable screw connectors, except for the fixed reader screw connector.

**Communication port:** RS485 with TMC NET92 protocol at 57600/9600 baud for slave multi-point connections, or ACK/NACK protocol at 2400 baud for point-to-point connections.

**Sensors:** two, door status (I1) and auxiliary input (I2); dry contacts inputs.

**LED:** power on.

**Relays:** two mono-stable, N.O. or N.C. swapping, up to 1A@ 30 VDC.

**EEPROM:** 4 Kb to store function parameters and code tables.

**Power supply:** 9-40 Vdc, 100mA max.

### Environmental conditions

**Operating temperature:** from 0°C to 50°C

**Storage temperature:** from -20°C to 70°C

**Humidity:** 0 — 90% without condensation

N.B. The aluminium swipe magnetic reader and the RFID2/3 readers are waterproofed and operate at -20°

**Size:** 80 x 54 x 20 mm (W x H x D)

	This device conforms to all the standards required for the CE mark only if the installation and usage instructions contained in this document are followed exactly.	Zucchetti Axess Spa Via della Filanda, 20 40133 Bologna - Italy Tel: +39 051 3519311 Fax: +39 051 3519399 Web: www.axesstmc.com Email: contact@axesstmc.com
--	---	---

The device also conforms to the FCC standards part 15 class B.