Access control

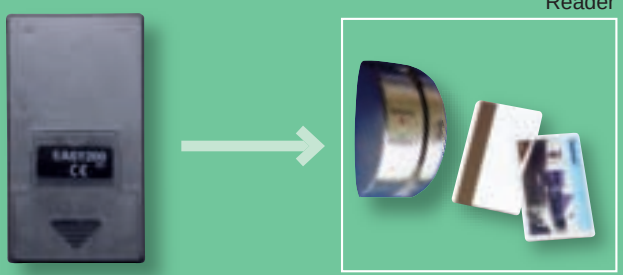
Prastel's range of Access control offers a wide variety of products and technologies ranging from simple standalone systems to multi-door computer controlled access systems. Access controll allows the restriction of access to users and authorised vehicles through any type of passageway (doors, gates garage etc.) using devices such as badges, transponder tags, radio transmitters etc., instead of the traditional key.

This technology is articulated on several levels

- **Simple autonomous systems called STAND ALONE READERS**

- **Simple systems composed of a stand alone reader and control unit**

Reader



- **Developed systems composed of readers and control units manageable through a PC**

Reader

Control unit

The use of an access control system allows control over the inward and outward passage of staff or vehicles through a passageway or gate. The use of an Access Control system allows staff movements can be managed without the use of dedicated personnel Effectively, the control takes place when the user activates a transmitter or presents a tag or badge to the reader; this sends the data to the access control unit that checks the enabling (consensus) before allowing access through the passageway. In the case of a developed system managed with a PC, access restrictions can be assigned to each single user:

- limited number of entries
- entries in certain time slots
- limited validity of the badge
- anti-pass back

STAND ALONE SYSTEMS

Stand-alone system are a simple way to controling access using a single self contained product or a separate reader and controller.
Stand-alone systems, are easy to use; controling access to a limited number of users through 1 or 2 passageways.
The typical installation include controlling passageways in civil or industrial applications, whose number of users is proportional to the system's simplicity of use, in which no additional special functions are requested.

Prastel's stand-alone system range includes external keypads and proximity readers.

The keypads allow the management of 500 users and the control of 2 passageways through the 4 digit codes, one with a vandal-proof metal box and one with a box in ABS.

The EASYMINI proximity reader has a 50 users capacity, controlling a single passageway using badges or proximity tags.

ILLUMINATED KEYPAD

STAND ALONE RANGE

	EASYMINI 	EASYPL 	EASYBKA 
Number of users	50	500	500
Relay outputs/number of passageways	1	2	2
Single code management	NO	YES	YES

STAND ALONE SYSTEMS
with keypad

EASYPL

Access control unit with backlite keypad (red), suitable for external applications (resinate electronics) controls up to 500 users using 4 digit codes.

- **backlite**
- **2 relay outputs 5A**
- **2 two-colour warning LED + buzzer**
- **optical tamper**
- **ABS box and 1m cable**

TECHNICAL SPECIFICATIONS

Power supply:	12-24 VAC/DC
Power absorbed:	75 mA in standby -- 115 mA max
Electric lock relay capacity:	5A
Auxiliary relay capacity:	5A
Input REX (opening button):	N.O.
Input AUX (In/monitor):	N.C. (monitor) N.O. (input)
Operating temperature:	from -20 °C to +55 °C
Protection rating:	IP 65
Dimensions and weight:	137 x 44 x 29 mm - 178 g.

EASYBKA

Vandal-proof access control unit with blue backlite keypad, suitable for external applications (resinate electronics) controls up to 500 users using 4 figure codes.

- **vandal-proof**
- **backlite**
- **2 output relays 5A**
- **2 two-colour warning LED + buzzer**
- **optical tamper**
- **selectable thermal heating**
- **zama housing with 1 m cable**

TECHNICAL SPECIFICATIONS

Power supply:	12-24 VAC/DC
Power absorbed	75 mA in standby
	with illumination: 115mA max
	with heating: 12V DC: 615 mA
	with heating: 24V DC: 465 mA
Electric lock relay capacity:	2A
Auxiliary relay capacity:	2A
Input REX (opening button):	N.O.
Input AUX (In/monitor):	N.C. (monitor), N.O. (input)
Operating temperature:	from -20 °C to +55 °C
Protection rating:	IP 65
Dimensions and weight:	120 x 76 x 21 mm - 410 g.

STAND ALONE SYSTEMS
with proximity

EASYMINI

Miniaturised proximity reader with inbuilt relay. Any enrolled tag or badge presented to the reader will activates a relay (solid state) The output relay of the reader can be either impulsive or bistable The device's IP67 reader (with resinate electronics) can be used externally and accomidates up to 50 different cards or tags.

- **miniaturised**
- **50 users**
- **range 3-6 cm**
- **1 relay output 2 A**
- **two-colour warning light + buzzer**
- **magnetic tamper**
- **ABS box IP67 and 1 m cable**

Real size

TECHNICAL SPECIFICATIONS

Power supply:	12 VDC
Consumption:	30 mA
Reading technology:	proximity, 125 KHz
Range:	6 cm with card BDGPROX, 3 cm with tag TAG-PROX
Memory capacity:	50 users
N° output relays:	1 – impulsive (1 sec) or bistable. Selectable
Relay contact capacity:	2A @ 60 VDC
	(with inductive charge use tension suppressors)
Signals:	LED two-colour (red/green) and buzzer
Operating temperature:	from -20 °C to +55 °C
Protection rating:	IP 67
Dimensions and weight:	28 x 92 x 12 mm - 165 g.

EASYMINI *Functions with cards and Tags*



BDGPROX **ISOPROX** **TAGPROX** **TPROX** *(see page19)*

MTAG/MBPRO compatible unit available on request

PRASTEL

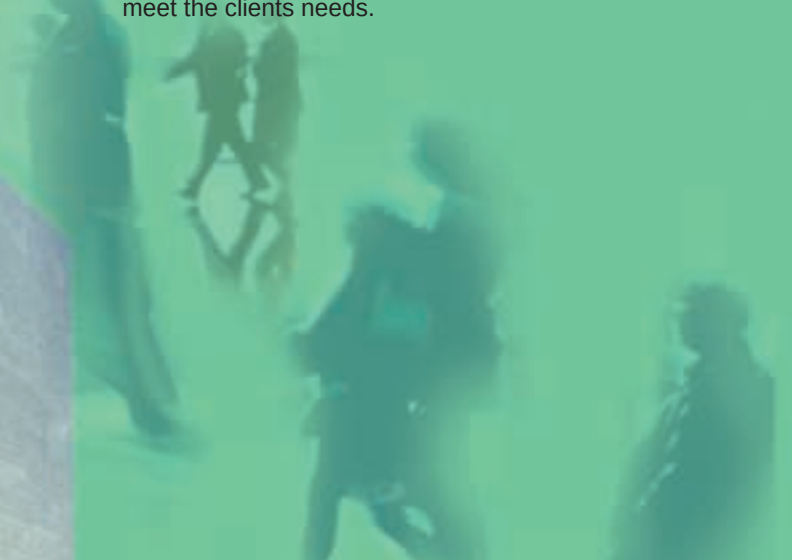
ACCESS CONTROL

CONTROL UNITS

For more sophisticated applications Prastel offers a range of controller boards which allow more positive control over the flow of traffic through passageways. The boards include various models ranging from single door EASY200 (250 users) to 10000 multi controller networked system with facilties for software or on-board programing.
The NEW MT10000/4 allowing management of up to 128 reader (32 Controllers) via a RS485 bus.

Before deciding on an Access Control system the following questions should be asked to ensure selection of suitable system.

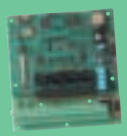
- how many user need to be controlled
- what type or readers or keypads and how many
- do you need to individually control access per user
- is monitoring or entry and exits required
- is control over different user groups required
- is controlling over different time slots required
- is control over temporary badges, tags or transmitters required
- is the system to be PC programable
- how is connection to the system be accomplished, local RS232, Modem or LAN
- is internet connection required
- are modifying to management software required to meet the clients needs.



CONTROL UNITS

ACCESS CONTROL

CONTROL UNITS RANGE

	 EASY200	 M1000E	 M2000PE	 TTD3000	 MT4000/2	 MT10000/4
Stand alone system	YES	YES	YES	YES	with keypad and display	with keypad and display
Control with software	NO	NO	NO	YES	YES	YES
N° users	250	1000	2000	3000	4000	10000
N° readers/ passageways	1	1	2	2	2	4
Relay outputs	1	1	2	2	2	4
Additional outputs	-	-	-	2	2	4
Single code control GTSYSTEM	with GTSYSTEM	YES	YES	YES	YES	YES
Control with GTSYSTEMXP terminal	YES	YES	YES	NO	NO	NO
Events memory	-	-	-	1000	2000	16000
Antipassback	NO	NO	YES	YES	YES	YES
Time slots	NO	NO	NO	YES	YES	YES
User groups	NO	NO	NO	YES	YES	YES
Network sharing	NO	NO	NO	Max 32	Max 32	Max 32
Keypad & display	NO	Integrated	Integrated	Integrated	Optional	Optional

NB: All Prastel RS485 networked control units, may be adapted to suit personalised software using M5000P communication protocol available upon request.

CONTROL UNITS

EASY200

Simplified control unit, normally used on a door, gate, automation etc., to guarantee controlled access through the recognition of enabled cards.

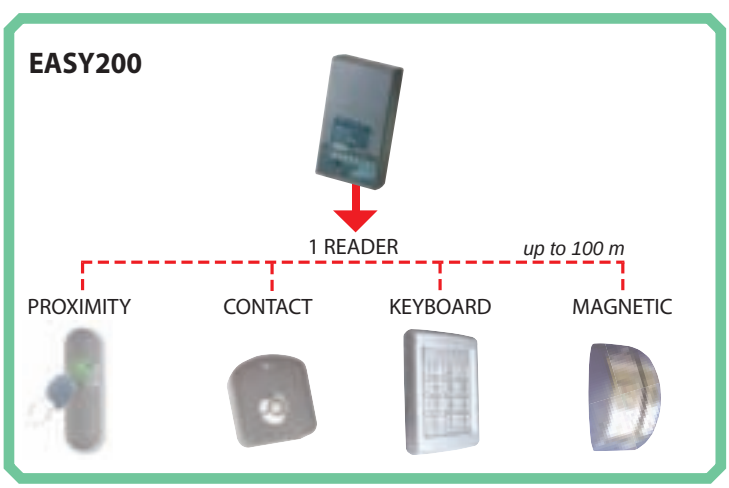
EASY200 accepts data coming from a reader in Wiegand format (default Wiegand 30 bit).

Although it is very small, it can directly control an electric lock, thanks to its integrated relay with 5A contact capacity and manages an internal memory of 250 different user codes.

- **250 users**
- **1 input for reader**
- **1 relay output 5A**
- **code self-learning function**
- **single code management both manual and with GTSYSTEMXP terminal**
- **user memory management using GTSYSTEMXP and WINGTSYSTEM**
- **ABS box**

TECHNICAL SPECIFICATIONS

Power supply:	12 VAC/DC
Consumption:	80 mA
Input data format:	Wiegand 26/30/37 bit (default Wiegand 30)
Memory capacity:	250 users
N° output relays:	1 (1s Time lag or Bistable, selectable)
Relay contact capacity:	5 A
Signals:	LED two colour (Red/green)
Operating temperature:	from -20° to +55° C
Protection rating:	IP 44
Dimensions and weight:	100 x 55 x 21 mm - 62 g



PRASTEL

CONTROL UNITS

M1000E

NEW

Access Control Unit fitted with 1 input for 1 external reader Using the 4 button keypad and 3 digit display, new codes can be programmed in memory (a radio transmission for RF or via the connected reader cards or tags). Canceling single codes or all the codes, set the relay activation mode and time, setting a password is all accomplished via a simple sequence via the 4 button.

- **999 users**
- **1 input for reader, activated through reader or remote control 433.920 MHz**
- **1 relay output 5A**
- **433.920 MHz receiver integrated for radio transmitters**
- **integrated keypad for programming**
- **users memory management with GTSYSTEMXP and WINGTSYSTEM**
- **ABS box for internal use or DIN rail mountable**
- **REX button input**

M2000PE

Access control unit fitted with 2 inputs for external readers M2000PE has the same functions as the M1000E control unit , with the addition of separate relay control and adjustable times for each relay., memory partitioning and antipassback. The M2000PE has an inbuilt 22 channel 433MHZ receiver which may be set to receiver channels 1 to 4. The unit also offers a transfer facility to allow transfer of programmed data to another M2000PE control unit connected through a RS485 serial line.

- **2000 users**
- **2 inputs for reader + RF input (parallel output)**
- **2 relay outputs 5A, activated with readers or remote controls 433.920 MHz**
- **433.920 MHz receiver integrated for radio transmitter**
- **integrated keypad for programming**
- **users memory management with GTSYSTEMXP WINGTSYSTEM**
- **ABS box for internal use on DIN rail**
- **REX inputs for both doors**

MKEYB

All the operations on M1000E and M2000PE can be performed using the MKEYB remote keypad/display, connected to the unit through RS/485 and housed in a container for wall mounting or placed table.

TECHNICAL SPECIFICATIONS

	M1000E	M2000PE
Power supply:	12 -24 VAC/DC	12 -24 VAC/DC
Consumption:	min. 30 mA - max. 90 mA	min. 30 mA - max. 120 mA
Inputs:	1 Receiver 433.920 MHz, 4 CH 1 input Wiegand 26, 30, 37 bit (default Wiegand 30)	1 Receiver 433.920 MHz, 4 CH 2 inputs Wiegand (default Wiegand 30)
Relay outputs:	1	2 independent
Relay mode:	time lag 1 - 180s	time lag 1 - 180s
Relay contact capacity:	5 A	5 A
Programming:	with 4 keys and display	with 4 keys and display
	Or with remote keypad MKEYB	Or with remote keypad MKEYB
Operating temperature:	from -20° to +55° C	from -20° to +55° C
Protection rating:	IP 44	IP 44
Dimensions and weight:	70x90x60 mm - 260 g	105x90x60 mm - 320 g

CONTROL UNITS

TTD3000

TTD3000 is an access control terminal with keypad and display featuring dual creditial input (PIN code + proximity card). TTD3000 can control two passageways and two readers and may be as a stand alone unit or connected to a PC via SWAMIGO access control software; which may in turn be connected to existing or additional M, MT, and TTD series of control units. Reader protocols include Wiegand 26, 30 (default), 37 bit formats all of which can be customised if required.. The system communicates through the RS485 interface, using the same protocol as the M, MT, TTD, series control units, whch may be adapted by system integrators or developers if a personalised access control software is needed. Depending on programming ,inputs and outputs may be managed to trigger mulitiple alarm signals (break-in, door open, time etc.).

- **3000 users**
- **2 inputs for readers**
- **1000 events off-line**
- **2 relay outputs 5A**
- **1 integrated proximity reader for memorising badges or tags**
- **integrated keypad and display for programming**
- **ABS box**

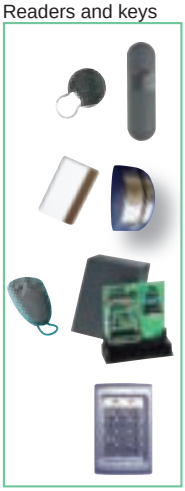
The keypad and the illuminated display (16 characters x 2 lines) allow:

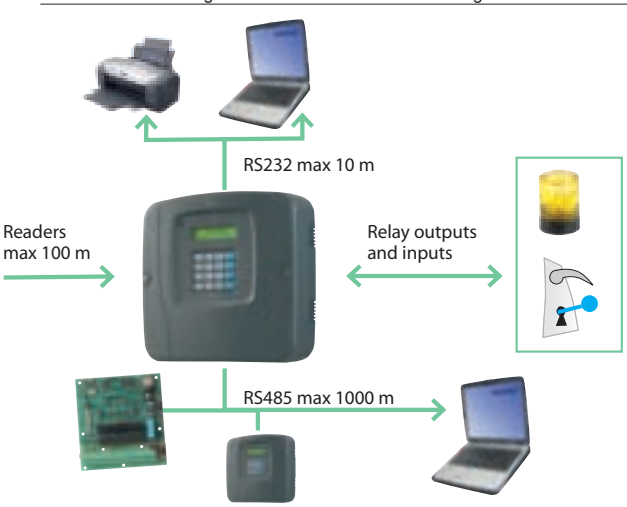
- enabling of users
- setting of time slots
- programming of reader operating modes, input contacts and output relays.
- Enabling and programming of anti-passback mode

TECHNICAL SPECIFICATIONS

Power supply:	12 VAC/DC
Consumption:	100 mA with illumination display off 200 mA with illumination display on
Inputs reader:	2 for external readers + 1 reader MPROXMINI incorporated (in parallel with reader 1)
Digital inputs:	4 (2 configurable as break in inputs)
Relay outputs:	2 main (5A) and 2 auxiliary (1A)
Protocols accepted	Wiegand 26, 30, 37 bit (Wiegand 30 default)
Time slots:	16 (4 time intervals for each time slot)
Holidays:	20
Anti-passback:	configurable at central or user level
User recognition:	badge or badge + PIN code from keypad
Operating temperature	from -20 °C to +55 °C
Protection rating:	IP 44
Dimensions and weight:	215 x 198 x 55 mm - 1000 g

Readers and keys





Accessories control unit TTD3000 DC. 17

PRASTEL

MT4000/2

NEW

MT4000/2, is an evolution of M3000, is an access control unit capable of managing up to 4000 users with an off-line event memory buffer of 2000 events. It incorporates 2 inputs for readers and 2 main relay outputs as well as 2 auxiliary inputs and 2 auxiliary outputs.

The system is programmed via SWAMIGO management software to control badge assignment ,user groups:

- entries in time slots
- limited number entries
- temporary validity of the badge

To manage more entries MT4000/2 can be connected to other MT and TTD series control units (network of control units).

- **4000 users**
- **2 inputs for readers**
- **2000 events off-line**
- **2 relay output 5A**
- **code self learning function**
- **ABS box**

TECHNICAL SPECIFICATIONS

Power supply:	12 VAC/DC
Consumption:	100 mA
Inputs reader:	2
Auxiliary inputs:	2, configurable as breakin inputs
Relay outputs:	2 main (5A) and 2 auxiliary (1A)
Accepted protocols:	Wiegand 26, 30, 37 bit (Wiegand 30 bit default)
Time slots:	16 (4 time intervals for each time slot)
Holidays:	20 per year
Anti-passback:	configurable at central or user level
Operating temperature:	from -20 °C to +55 °C
Protection rating:	IP 44
Dimensions and weight:	215 x 300 x 85 mm - 1000 g

The MW30 converter is available to connect the DATA CLOCK readers to the control units.

CONTROL UNITS

MT10000/4

NEW

MT10000/4, is an evolution of M5000; capable of managing access for up to 10000 users with an off-line events memory buffer of 16000 events, the MT10000/4 incorporates 4 reader imputs and 4 main relay outputs and 4 auxiliary inputs and outputs relays. Using the SWAMIGO management software the system can be configured to limit access to user groups: • assign time slots • control the number of entries (or uses)• provide temporary access of badge or PIN. Where more then 4 entries are required the MT4000/2 form part of an M, MT or TTD controller network

- assign time slots
- control the number of entries (or uses)
- provide temporary access of badge or PIN.

Where more then 4 entries are required the MT4000/2 form part of an M, MT or TTD controller network.

- **10000 users**
- **4 inputs for readers**
- **16000 events off-line**
- **4 relay output 5A**
- **Auto learning for badges**
- **ABS box**

TECHNICAL SPECIFICATIONS

Power supply:	12 VAC/DC
Consumption:	100 mA
Reader inputs:	4
Auxiliary inputs:	4, configurable as monitored inputs/outputs
Relay outputs:	4 main (5A) and 4 auxiliary (1A)
Time slots:	16 (4 time intervals for each slot)
Holidays:	20
Anti-passback:	configurable at central or user level
Operating temperature	from -20 °C to +55 °C
Protection rating:	IP 44
Dimensions and weight:	215 x 300 x 85 mm - 1200 g

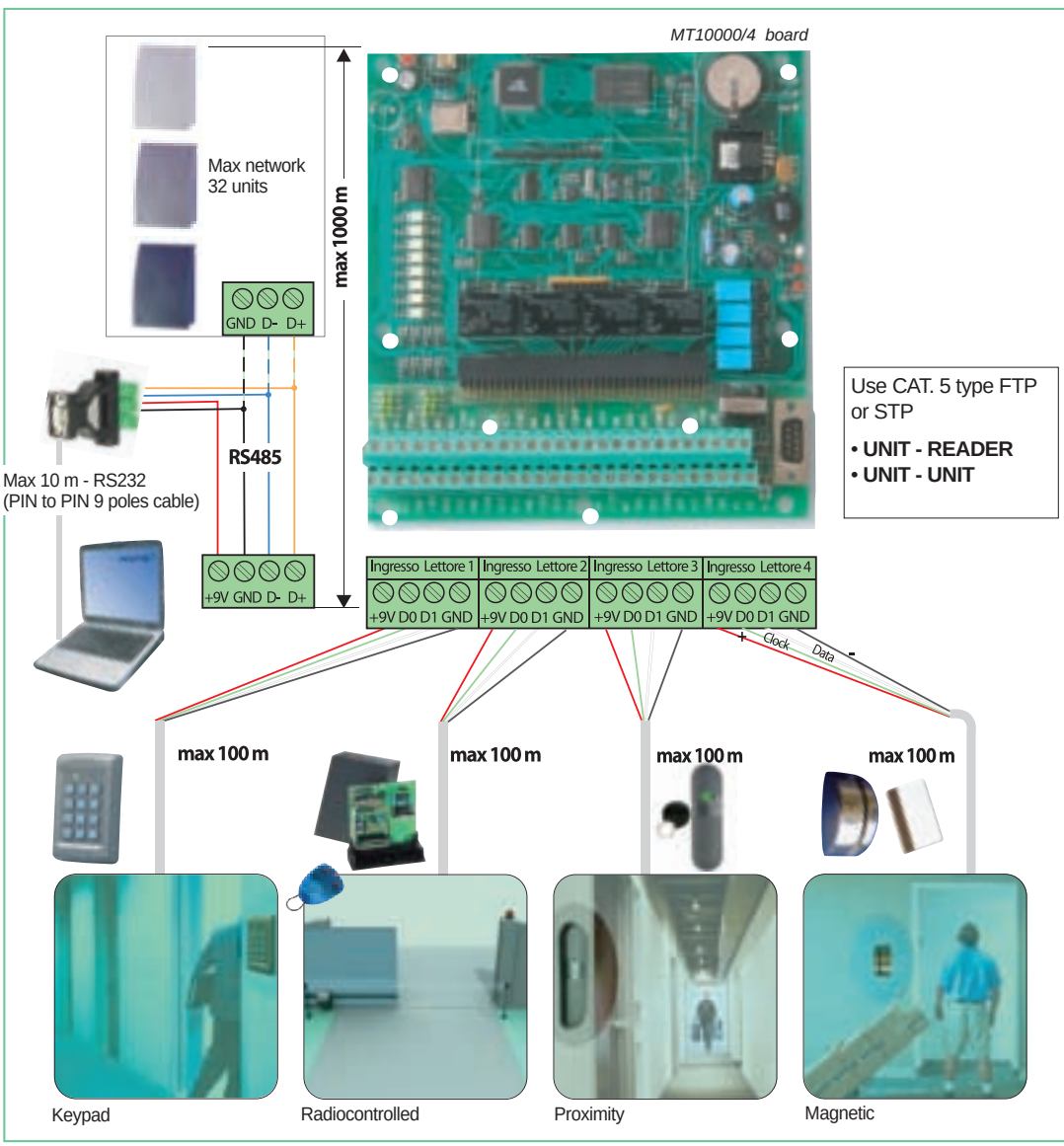
Series M3000, M5000 and M5000R, available while stocks last

CONTROL UNITS
M, MT, TTD series control units wiring diagram

Each system is made up of at least 1 M, MT, or TTD series control unit and must include:

- 1 power pack for each control unit (e.g. AL13V8A3)
- 1 system software (SWAMIGO)
- 1 connection interface (INT485C, INT485M, INTETHERNET)

We recommend the use of CAT 5 cable, type FTP or STP for connecting control unit-reader and control unit control unit. NB:The power supply for electric locks, electric limit stops, external relays, must be isolated from those of the access control system to avoid generating interference in addition variators should be fitted to avoid damage to the access control panel.



ACCESSORIES
for control units

SWAMIGO

SWAMIGO is a Windows based software application developed specifically to configure and manage M, MT, and TTD series access control units.
The software allows :

- **configuration one or more systems via serial (Com), Ethernet (TCP/IP) or modem.**
- **management of up to 254 terminals per system**
- **control over up to 16 time slots with 4 partitions per. The ability to enable and disable badges or card.**
- **management of the user database**
- **management of badges groups database.**
- **display of ON-LINE the events of system transit and alarm.**
- **download facility of OFF-LINE events.**
- **creation of reports events and situations of badge assignment**
- **restrictions on operators with access controlled by way passwords**

GTSYSTEMXP

Handheld terminal for managing user memory for:

- EASY200 - Allows memory transferance, adding or deleting single user codes
- M1000E / M2000PE - Allows the memory upload and download and file management via WINGTSYSTEM and a PC.

TECHNICAL SPECIFICATIONS

Power supply:	12 VDC battery
Consumption:	300 mA
Protection rating:	IP44
Dimensions and weight:	105 x 205 x 38 mm - 1490 g

serie UNIK | Tx EASYROLL | Radio receivers | EASY200 | M1000E | M2000PE | WINGTSYSTEM

WINGTSYSTEM

for PC

WINGTSYSTEM is a software application that, linked with GTSYSTEMXP can manage memory modules of 433 MHz, 40. 6 MHz radio receivers and EASYROLL series radio receivers. It can also be used to connect directly to user memory of EASY200, M1000E and M2000PE control units.

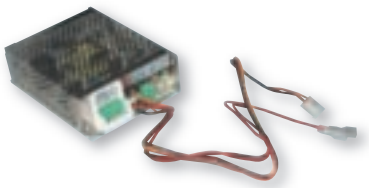
TECHNICAL SPECIFICATIONS

Dimensions and weight:	CD - 30 g

ACCESSORIES
for control units

ACCESS CONTROL

AL13V8A3



Switch mode power pack with battery charger for back-up battery,overload protection, short circuits and reverse polarity protection (for battery) for use with M, MT, and TTD series access control units.

TECHNICAL SPECIFICATIONS

Input power supply:	230 VAC ± 10%
Power absorbed:	50/60Hz
Output power:	13.8 VDC ± 1%
Max output current:	3A
Battery capacity:	12V - 15 Ah max
Operating temperature:	from -20° to + 55° C
Dimensions and weight:	135 x 38 x 98 mm - 500 g

INT485C

The INT485C interface is designed for a connection between the PC and M, MT; TTD series control units, as well as the connection between the PC and the M1000E, M2000PE control unit. The INT485C interface converts RS232 format to RS485 format and vice versa. The characteristics of the RS485 bus allows transmission of data up to a distance of 1000 m.

INT485M

The INT485M interface is designed to make a connection between a modem and the M, MT, TTD access control systems.

TECHNICAL SPECIFICATIONS INT485C and INT485M

Power supply:	9-12 VDC
Operating temperature:	from -20° to + 55° C
Consumption:	15 mA

INTETHERNET

Interface for connecting access control units (TTD3000, MT4000/2, MT10000/4) with Ethernet network.

TECHNICAL SPECIFICATIONS

Power supply:	External adaptor 230 VAC
Power supply:	30VDC @ 250mA max.
Protocols supported:	ARP, UDP, TCP, Telnet, ICMP, SNMP, DHCP, TFTP, HTTP
Speed:	from 300 baud to 115 Kbaud
Certificates:	CE, FCC A, TUV, C/UL
Operating temperature:	from -20° to + 55° C
Dimensions and weight:	23 x 64 x 90 mm - 350 g

MDM20

Modem «US Robotics» analogical 56K for M, MT, TTD series access control units.

M5000P

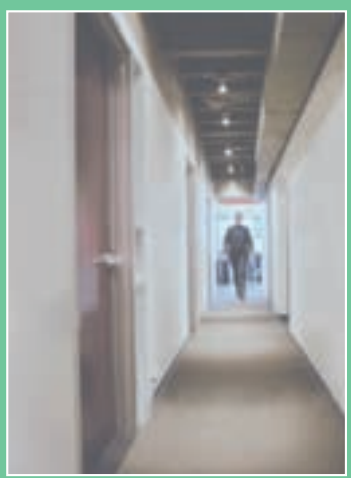
Communication protocol for M, MT, TTD series control units (CD Rom + instructions complete with SWAMIGO software l for modifying the software

Access control

Readers and keys

For access control systems, the reader is the device that read an electronic code contained within an electronic key or transmitter.

- Magnetic strip readers
  card must be swiped through the reader head
- Contact readers
  a MCR20 tag must make contact with the reader
- Proximity readers reading occurs once the badge or tag is present within the reader field
- Radio readers a code is transmitted by a RF to a reciever
- Code keypads the client enters digits into the keypad



Many different technologies are available as listed below.

READERS/KEYS KEY/READER COMPATIBILITY

	Proximity				Magnetic		Contact	Radio
CODE key	MPROXMINI 	MEDIPROX 	MPROXUNI 	MEDIPROXUNI 	MRMAG 	MRMAGINOX 	ML2 	MRRE 
MBADM MBADM1 MBADM4	–	–	–	–	●	●	–	–
DUALPROX	●	●	●	●	●	●	–	–
TPROX	●	●	●	●	–	–	–	–
TAGPROX	●	●	●	●	–	–	–	–
BDGPROX	●	●	●	●	–	–	–	–
ISOPROX	●	●	●	●	–	–	–	–
MCR20	–	–	–	–	–	–	●	–
MDT2PROX	●	●	●	●	–	–	–	●
MPSTP2E	–	–	–	–	–	–	–	●

Readers and keys
proximity

MPROXMINI & MEDIPROX are proximity readers with both Wiegand or clock and data format. Compatible with all Prastel access control units that accept the Weigand 26/30 bit or dataclock protocol (transmission on specified cable should not excedd 100m). All the electronic components and the internal antenna are assembled in a completely resinated and self contained so as to offer a high degree of weather resistence (IP67).

Characteristics common to both readers:

- **proximity reader technology 125 KHz**
- **Prastel badge reader**
- **two-colour LED + buzzer**
- **ABS box IP67**
- **resinate electronics**
- **1 m cable**

MPROXMINI

- **avge reading distance, 3/6 cm**

TECHNICAL SPECIFICATIONS

Power supply:	9 - 12 VDC
Consumption:	20 mA
Operating temperature:	from -20° to + 55° C
Protection rating:	IP67
Dimensions and weight:	28 x 92 x 12 mm - 40 g

MEDIPROX

- **avge reading distance 6/8 cm**

TECHNICAL SPECIFICATIONS

Power supply:	9 - 12 VDC
Consumption:	20 mA
Operating temperature:	from -20° to + 55° C
Protection rating:	IP67
Dimensions and weight:	43 x 80 x13 mm - 70 g

Note for all readers: to programme the badges, follow the instructions of the control units to which they are connected.

BDGPROX

«Clamshell» shaped proximity badge, encrypted code PRASTEL IP67

Dimensions and weight: 85x55x1 mm-20 g

ISOPROX

Proximity Badge «ISO» format, encrypted code PRASTEL IP67

Dimensions and weight: 85x55x1 mm-20 g

TAGPROX

Proximity tag with key holder encrypted PRASTEL.

Dim. ø 35x55 mm IP67

MDT2PROX

2-channel transmitter double technology

Radio 433,920 MHz and Proximity tag incorporated

TPROX

Adhesive proximity chip miniature PRASTEL encrypted code

Dim. ø 20 x 0.8 mm.

DUALPROX

Proximity badge + magnetic ISO format, PRASTEL encrypted code IP67

Readers and keys
proximity

MPROXUNI and MEDIPROXUNI, are multi-protocol proximity reader compatible with many other manufacture protocols as well as Prastel's own 30 bit.

Characteristics common to both readers:

- **multi-protocol**
- **proximity reader technology 125 KHz**
- **two-colour LED red and green + buzzer**
- **ABS box IP67**
- **resinate electronics**
- **1 m cable**

MPROXUNI

NEW

- **avge reading distance 3/6 cm**

TECHNICAL SPECIFICATIONS

Power supply:	9 - 12 VDC
Consumption:	20 mA
Operating temperature:	from -20° to + 55° C
Protection rating:	IP67
Dimensions and weight:	28 x 92 x 12 mm - 40 g

MEDIPROXUNI

NEW

- **avge reading distance 6/8 cm**

TECHNICAL SPECIFICATIONS

Power supply:	9 - 12 VDC
Consumption:	20 mA
Operating temperature:	from -20° to + 55° C
Protection rating:	IP67
Dimensions and weight:	43 x 80 x13 mm - 70 g

FORCE55

Metallic and Perspex vandal-proof box, flush mounting, for MPROXMINI, MPROXUNI, EASYMINI readers.

TECHNICAL SPECIFICATIONS

Protection rating:	IP67
Dimensions and weight:	50 x 120 x 25 mm - 290 g

NB: please follow the instruction relevant to the controller to which they are

Readers and keys
magnetic

The MRMAG and MRMAGINOX readers of magnetic cards read the card information is coded onto track 2 in accordance with the ISO standards and is in CLOCK and DATA and CLS (the latter only for MRMAG) protocols. MRMAG uses the MW30 converter, supplied with the reader, the signals are converted in the Wiegand 30 bit format compatible with all the Prastel access control units and with all the systems that accept this data format.

Characteristics common to both readers:
- **magnetic strip in ISO 7811 2 track**
- **Reading mode: F2F (FM)**
- **Card insertion speed 125 - 1250 mm/s**

MRMAG

- **MW30 converter included**
- **average life of reading head > 300.000 readings**

TECHNICAL SPECIFICATIONS

Power supply with MW30:	12 VDC
Power supply without MW30:	5 VDC
Max connection distance with MW30:	100 m
Max connection distance without MW30:	5 m
Consumption:	10 mA
Operating temperature:	from -20° to + 55° C
Protection rating:	IP44
Dimensions and weight:	30 x 100 x 33 mm - 100 g

MRMAGINOX

- **vandal-proof stainless steel box**
- **red and green two colour LED + buzzer**
- **average life reading head > 1.000.000 readings**

TECHNICAL SPECIFICATIONS

Power supply:	12 VDC
Max connection distance with MW30:	100 m
Consumption:	10 mA
Operating temperature:	from -20° to + 55° C
Protection rating:	IP55
Dimensions and weight:	49 x 82 x 35 mm - 336 g

Note for all readers: to programme the badges, follow the instructions of the control units to which they are connected.

MAGNETIC BADGE:

DUALPROX

Proximity badge
+ magnetic ISO2 FORMAT IP67
Dimensions et poids:85x55x1mm - 30 g

MBADM

(neutral)
Magnetic badge ISO2 IP67
Dimensions et poids:85x55x1mm - 30 g

MBADM1
(I colour print)

MBADM4
(4 colour print)

MW30X

Personalised converter for interfacing with magnetic badges outside the Prastel standard. For cards not manufactured by Prastel are test for compatibility by sending at least 3 badges to Prastel. If the result is positive, an offer will be made for the design and development of a personalised converter.

Readers and keys
Keypad and contact

EASYBKW

EASYBKW is a vandal-proof keypad reader
The output in Wiegand (default Wiegand 30 bit) format allows the connection to the major part of the access control units present on the market.

- **blue illumination selectable**
- **data output Wiegand / Data clock**
- **intensive use**
- **box in Zama, vandal-proof**
- **resinate electronics**

TECHNICAL SPECIFICATIONS

Power supply:	12 VDC
Consumption:	50 mA
Protocol format:	Wiegand 26/30 bit - data clock
Operating temperature:	from -20°C to +55°C
Protection rating:	IP67
Dimensions and weight:	120 x 76 x 27 mm - 410 g

ML2

ML2 is a key contact reader MCR20.
It is compatible with all the Prastel access control units (Wiegand 30 bit) and with all the control units that accept this protocol.

- **red/green warning light**
- **1 Wiegand 30 bit output**
- **reading head in stainless steel**
- **ABS box**

TECHNICAL SPECIFICATIONS

Power supply:	12VDC
Consumption:	8mA
Operating temperature:	from -20° to +55 °C
Protection rating:	IP54
Dimensions and weight:	73 x 80 x 33 mm - 260 g

Note for all readers: to programme the codes, follow the instructions of the control units to which they are connected.

ML2 operates with the contact key MCR20:

MCR20

DALLAS type digital contact key
Dim. 20 x 62 x 8 mm - 8 g
IP67

Readers and keys
Remote radio

MRRE (433,920 MHz)

The MRRE radio receiver is suitable to be connected to access control units. The code received from a transmitter is converted into a format compatible with the major part of the control units. This format can be selected using a dipswitch.

- **transmitter channel address**
- **output protocol Wiegand 26/30/37, Dataclock, TTL, RS232**
- **frequency 433,920 MHz**
- **24 bit digital code**

TECHNICAL SPECIFICATIONS

Power supply:	12 - 24 VAC/DC
Consumption:	30 mA
Stability frequency:	± 180 ppm
Sensibility	less than 1 µV
Operating temperature	from - 20° to +55° C
Dimensions and weight:	140 x 110 x 40 mm - 230 g

Note: the receiver is also available with 40.685 MHz (MRR) and 26.995 (MRRF) frequencies. Note for all readers: to programme transmitters follow the instructions of the control unit to which it is connected.

MPSTP2E
MDT2PROX

The 2-channel transmitter MDT2PROX equipped with dual technology, radio 433.920 MHz + proximity, which allows the remote activation of an automation via a radio receiver or access through other passageways using the MPROXMINI type proximity reader.

Common characteristics:

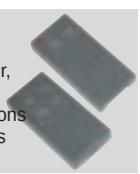
- **frequency 433.920 MHz**
- **ROLLING safety code**
- **remote self learning function on receiver**

TECHNICAL SPECIFICATIONS

Power supply:	2 lithium batteries 3 V (size 2025)
Dimensions and weight:	38 x 58 x 12 mm - 25 g

MRRE also functions with the following transmitters/activators:

MT2E-4E
Rolling Code transmitter,
433.920 MHz,
280 billion of combinations
Front keys 2-4 channels
Lithium battery



MPSTF2E-4E
(433,920 MHz)
2-channel or 4-channel transmitter
Dip-switch, 1024 combinations

MPSTL2E-4E (433,920 MHz)
2-channel or 4-channel transmitter
Unique code
2 billion combinations

RADIOKEYB
4 channel keypad
433.920 MHz Multipass,
Indoor IP41

Further information on transmitters see page 40

PRASTEL

GENERAL SALES CONDITIONS

SUPPLY LIMIT

The minimum amount for each individual supply is € 500,00 (price list). For any amounts lower than this figure, no discount on the price list will be applied.

PRICES

This price list replaces and cancels all previous ones. The prices shown (VAT excluded) are not binding and may be subject to variations with a minimum notice of 30 days.

SHIPMENT

The goods are sold ex-works Bologna. In the goods travel at the risk and peril of the Buyer.
If shipments are made through forwarding agents that have an agrement with us and the relevant costs are debited on the invoice the goods are insured for the actual invoice value.
No claim for damages are accepted after 8 days from receipt of the goods (or as otherwise established by the law).

PACKING

Packing is charged at cost price.

PAYMENTS

Failure of complying with the agreed payment terms, entitles PRASTEL S.p.A. to claiming interests according to the bank Official Discount Rate.

RETURNED GOODS

Any returned goods shall only be accepted if perviously agreed and authorised in writing, and in any case shall always be carriage-paid.

DELIVERY TERMS

Orders are fulfilled within an average of 15 days from our acceptance save and except cases of force majeure foreseen by the Law.
Our company shall not be held responsible for any delivery delays.

COMPETENT LAW COURT

For any disputes, wherever the order was placed, the agreement shall be considered as finalized at our registered office in Bologna.
Any disputes shall be settled by the Bologna Court Law.

GUARANTEE

Our company reserves the right to repair or replace on our premises, free of charge, any parts recognized in our unquestionable opinion as having manufacturing defects during the guarantee period of the product. The guarantee is valid for 24 months from the testing date stamped on the product. All products to be repaired must be returned carriage-paid to our registered office. The guarantee is invalited if the product shows signs of tampering.
For PRASTEL after-sales service of products no longer under guarantee, please refer to the relative conditions.

PRODUCTS CHARACTERISTICS

Since our products are continually being renewerd and improved, the construction characteristics and design may be subject to variation without prior warning.

ORDERS

Every order sent or fulfilled implies total acceptance of all the above mentioned conditions.