

digicon

PRODUCT MANUAL

catrax
plus



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1 GUIDELINES

- Carefully read the instructions contained in this manual before assembling and installing the Catrax Plus turnstile. This will extend the life of the product and will enable you to fully benefit from all its features.
- This product was not designed for outdoor use in unprotected areas.
- Retain this manual for future reference.
- Digicon reserves the right to upgrade the characteristics of its products at any time in order to incorporate technological advancements.
- Digicon reserves the right to change the information contained in this manual without notice.
- Digicon does not provide any warranty related to the information contained in this manual. Digicon cannot be held responsible for any errors this manual may contain or for any problems caused by its use.
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2 INTRODUCTION

The CATRAX line of turnstiles was developed to be robust, reliable and esthetically pleasing. Its rounded lines house a sturdy blocking mechanism designed for very low maintenance.

CATRAX Plus serves all major access control technologies presently available, being acclaimed as the best option in turnstiles in the market.

This manual presents a detailed description of CATRAX Plus operation and components. To get to know other Digicon products, please visit our website at www.digicon.com.br.

3 CHARACTERISTICS

The CATRAX Plus is a column-type mini turnstile with three bidirectional arms finished with brushed stainless steel (AISI 304).



The column is available in two finishes: brushed stainless steel (AISI 304) or 1020 carbon steel with black epoxy powder coating. It features fully rounded corners and a smooth surface with no exposed screws, in addition to a reinforced internal structure and plenty of space for practically any access control solution. It also has room for a no-break power supply unit and a card collection box (not included).

In order to simplify maintenance and assembly, the column has an internal U-shaped mounting rack with a standard set of holes for prompt mounting of electronic boards. Additional holes can be drilled by the customer to accommodate specific needs.

For access to the mounting rack, use the keys that are provided with the turnstile. Removal and insertion of the rack are extremely easy.



The upper column panels are manufactured in high-impact engineering plastic with customizable stainless steel sheets. The plastic panels are available in green, burgundy, or black. Special color orders are available upon consultation. The front upper panel can have a slot for housing customer supplied magnetic and bar code readers.

The upper cover stainless steel plates are designed for easy configuration and low-cost customization. The plates can be easily punched to accommodate integrator options such as displays, keyboards, biometric sensors, and pictogram LEDs/pictogram indicators, as shown below:



Customization can be carried out with either a third party supplier or with Digicon (subject to additional quotation).

The Catrax Plus is compatible with most technologies currently available. The following optional items can also be ordered: card collection kit, pictogram kit, backlight display (see separate manual), mechanical counter, power supply, control board, and no-

break power supply unit. These options will be described in greater detail in section 5 Installation/Assembly of optional products.

NOTE

For detailed information on the dimensions of CATRAX Plus components, see section 7 Technical Characteristics, page 24.

3.1 CATRAX PLUS OPERATING MECHANISMS

The CATRAX Plus features two operating mechanisms. The basic model (with no control board) employs a bidirectional rotation system with two 12 V electromagnets that activate the locks and two optical sensors that provide the electromagnets with information on turn completion and direction of turn.

An optional microprocessor-based control board is also available. In this case, an “enable turn” signal is sent. If this signal is recognized, the arm will turn from left to right or right to left depending on the signal received. Once half the turn (60 degrees) is completed, a 400 ms return signal is emitted informing the direction of turn. After this signal, the arm will not turn back.

Depending on the turnstile’s configuration and model, forcing the arm in the absence of an “enable turn” signal will activate an electromagnet that locks the arm. In this case, the equipment may also emit an audible alarm and/or display (see separate manual) a red X on the upper panel display (models with pictogram indicators). A return signal will then be sent, indicating that the turnstile was forced and informing the direction of turn.

CAUTION

The specifications described above refer to optional items manufactured by Digicon. However, products from other manufacturers may also be installed on the CATRAX Plus basic model (including control boards).

4 CATRAX PLUS ASSEMBLY / INSTALLATION

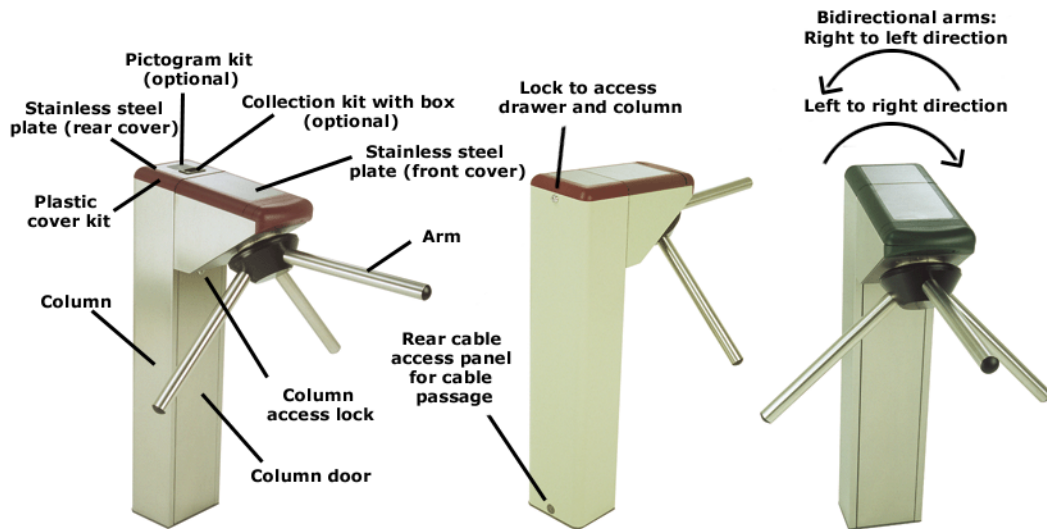
4.1 VISUAL INSPECTION

Depending on the customer’s order the CATRAX Plus may include items that are not factory-installed. It is very important to carry out a careful visual inspection of the contents before beginning assembly and installation. Contents should be compared with the checklist provided with the package.

CAUTION

In order to prevent the loss of access keys, bolts and spanners used to assemble the CATRAX Plus, these items are taped to the box containing the arms. Before disposing of any wrapping materials (plastic or cardboard), make sure that you have identified all the items in the checklist.

The figure below shows all the parts that may come with your CATRAX Plus:



NOTE

In addition to the items indicated above, the CATRAX Plus may include an optional counter, a power supply unit, a control board, a no-break power unit, and a pictogram kit.

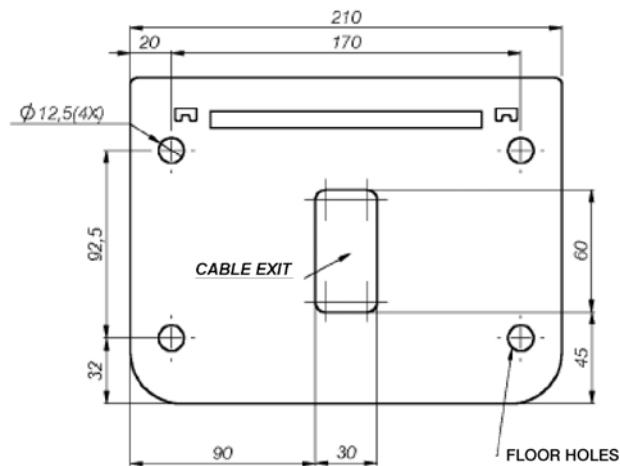
4.2 PREPARING THE INSTALLATION SITE

Before installing CATRAX Plus, please verify that:

1. The site chosen for installation is adequate – keep in mind that the turnstile must be installed indoors.
2. There is an energy source or electric outlet close to where the turnstile will be installed.
4. There is enough room (at least 5 cm) between the rear part of the CATRAX Plus column and the wall. This is important to ensure access to the upper panel and rear cable access panel.
5. There is enough room for the arms to turn. For additional details concerning equipment dimensions, see item 7 Technical Characteristics, page 24.
6. The floor has the necessary support structure for anchor bolts (suggested minimum of 4 cm of FCK15 MPa concrete or equivalent).

4.3 INSTALLING THE COLUMN

1. Drill the floor with a 3/8" (9.5 mm) drill and finish with a 1/2" (12.5 mm) drill. Make four holes as indicated in the diagram below.



Dimensions in mm.



NOTE

Electrical and communication cables must pass through the cable exit. Check cut-out dimensions to make sure all cables will fit.

NOTE

A heavy-duty steel template for installation of the column may be purchased from Digicon.

2. Clean the holes, removing drilling residues.
3. Place the four anchor bolts in the holes, leaving approximately 25 mm of the anchor bolt out of the hole.

NOTE

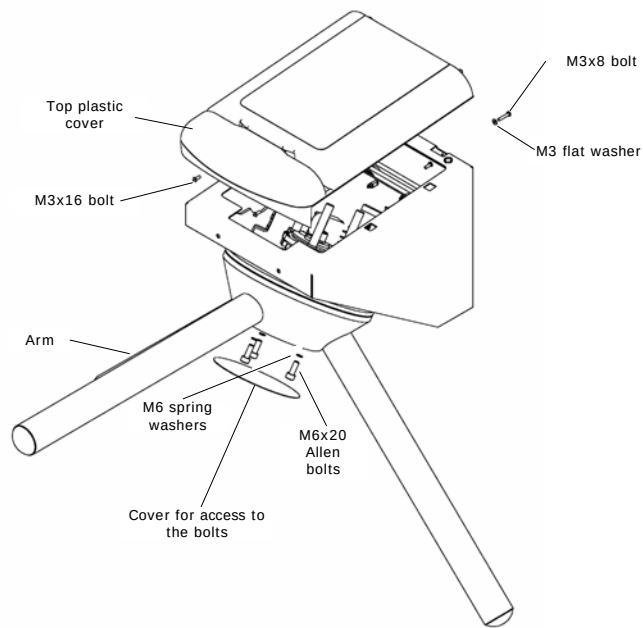
Recommended bolts: Tecmart AF38110, 3/8x4".

4. Position the column and fasten it onto the floor with the four bolts that come with the anchor bolts. Use a 3/4" socket wrench or spanner.

4.4 MOUNTING OF ARMS AND COVERS

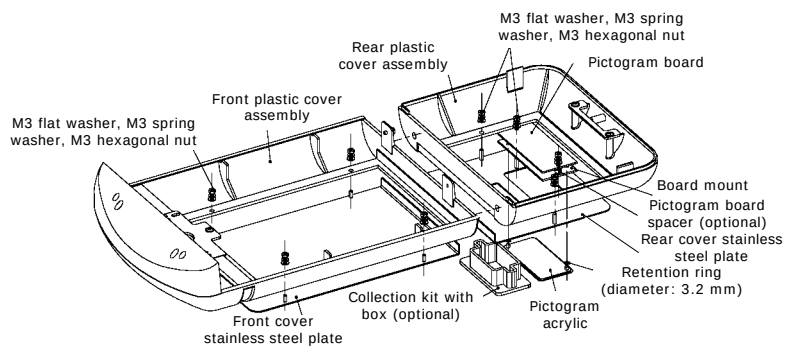
After installing the column, you may proceed with mounting the arms and plastic covers.

The details of the arms and top front cover and the instructions for assembly appear in the figure below.

**NOTE**

Use a #5 Allen wrench to mount the CATRAX Plus.

After that, mount the upper panel rear cover. The following figure shows the cover in detail.



4.5 ACCESS TO THE CATRAX PLUS INTERNAL COMPONENTS AFTER ASSEMBLY

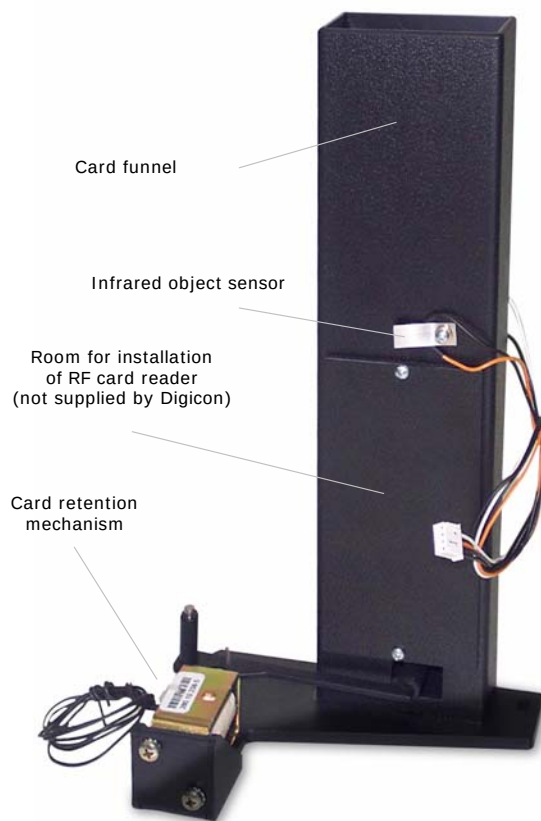
After the CATRAX Plus has been installed and assembled, access to internal components is possible via the rear cover, the front cover, or the column door, using the access keys that come with the equipment.

5 INSTALLATION / ASSEMBLY OF OPTIONAL PRODUCTS

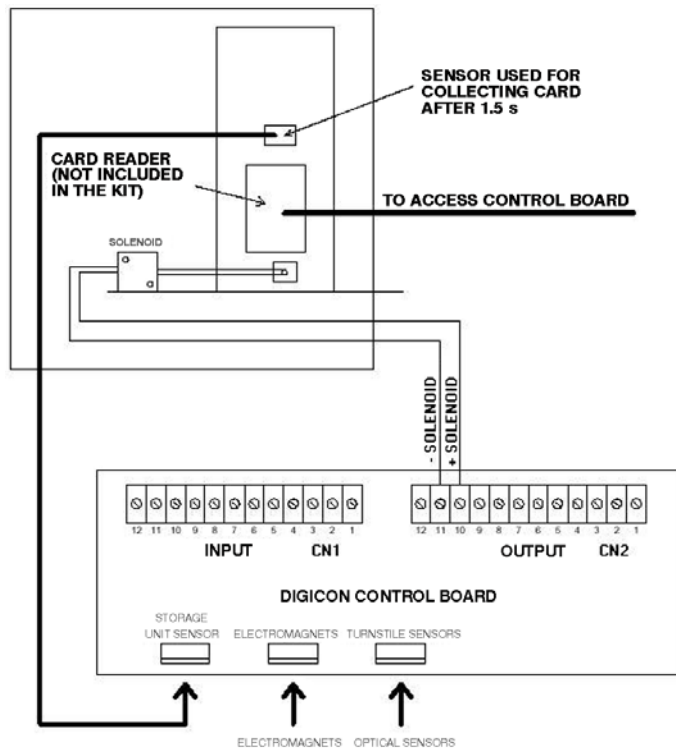
Digicon offers several options to enhance access control and facilitate customization.

5.1 CARD COLLECTION KIT WITH CHUTE

The collection kit with chute has a card and badge collection, retention and storage unit, perfect for visitors or temporary users. The kit is composed of a plastic insertion slot, a solenoid-activated retention mechanism and a storage box. The following figure shows the items that come with the collection kit and may serve as a guide for its assembly.



5.1.1 Connecting the card collection box to the control board



NOTE

The magnetic/bar code reader is not part of the kit.

5.2 PICTOGRAM KIT

The pictogram kit provides visual indication of the direction of turn (green arrows) and turn locking (red X). The pictograms are created using high-intensity LEDs.



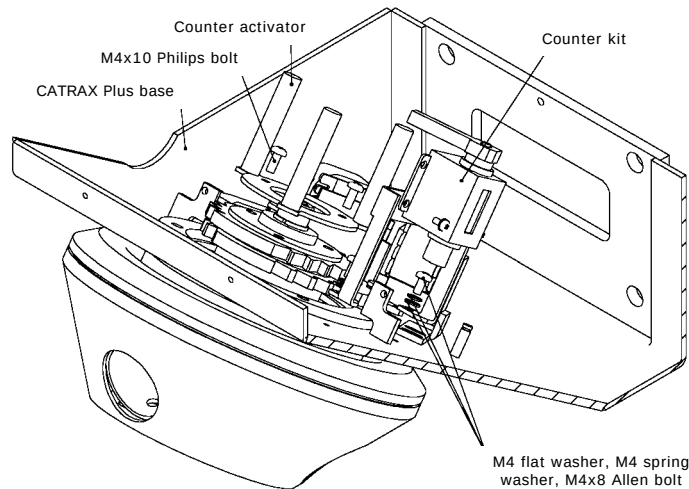
For information on assembling the pictogram kit and on the items that come with the kit see the figure referring to the rear cover on page 7.

5.3 MECHANICAL COUNTER

A five-digit mechanical counter is available as an optional item for your Catrax Plus.



The counter kit may be mounted in two positions, depending on the direction of flow to be controlled. The figure below shows the items that come with the counter kit and can be used as a guide for its assembly.

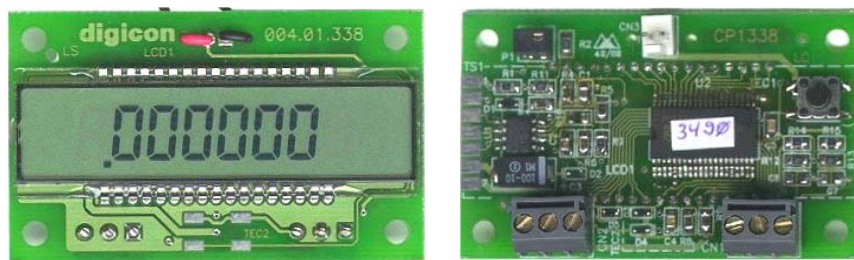


5.4 ELECTRONIC COUNTING KIT

The electronic pulse or rotation counting kit is digital, has six digits and has been developed for access control applications that employ Catrax Plus and Catrax Master turnstiles, and can also be employed in other projects that require this type of device. The counter is located in the same place (side slot) as the mechanical counter.

The electronic counter offers two sensor inputs allowing it to be configured for sequential sensing, making it possible to detect turnstile rotations in a given direction. The device is also capable of counting single pulses (in common with other counters available on the market).

The Digicon electronic counter is operated by means of a single button that gives access to all of its functions. Optionally, an additional, key-operated button can be installed on the front panel.



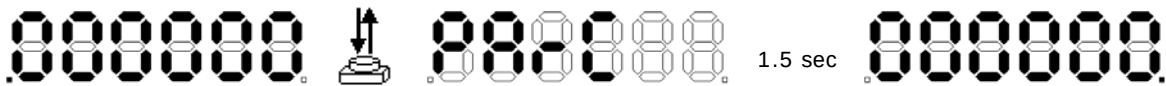
Available connections to the counter's circuit board are shown below.

Signal	Name / Description
CN1	
1	Ground
2	Sensor 1 input
3	Sensor 2 input
CN2	
1	External 5V power supply (battery eliminator)
2	Ground
3	Input for key switch to activate front panel button
CN3	
1	Ground
2	3V battery power supply (two 1.5V AA batteries)

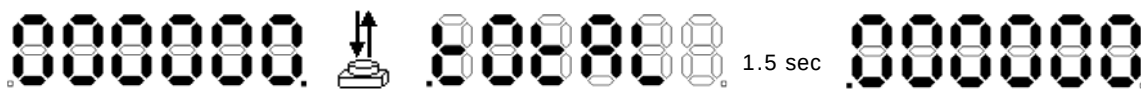
The device also offers two independent incremental count readouts, one of which indicates total count and the other partial count; only the second of these can be reset to zero during normal operation.

Pressing the control button for a short period switches the counting kit display between total and partial readouts. The readout being displayed is indicated by totAL or PARC on the screen and also by a dot in the bottom right corner for the partial readout and in the bottom left corner for the total.

View of the partial counter:

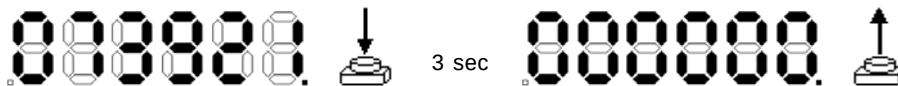


View of the total counter:



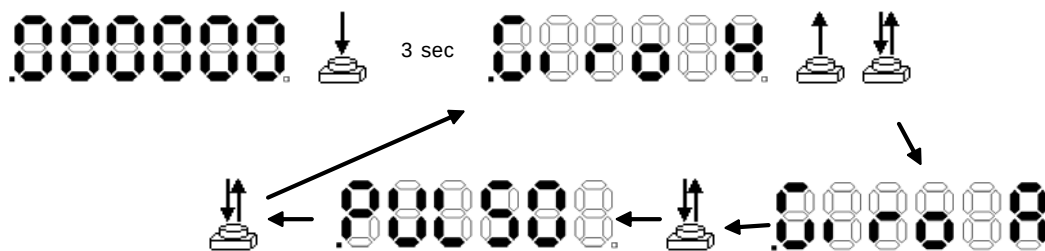
Resetting the partial readout to zero:

In order to reset the partial counter, the display must be in partial mode. Press and hold the function button for approximately 3 seconds (or until all digits display zero).



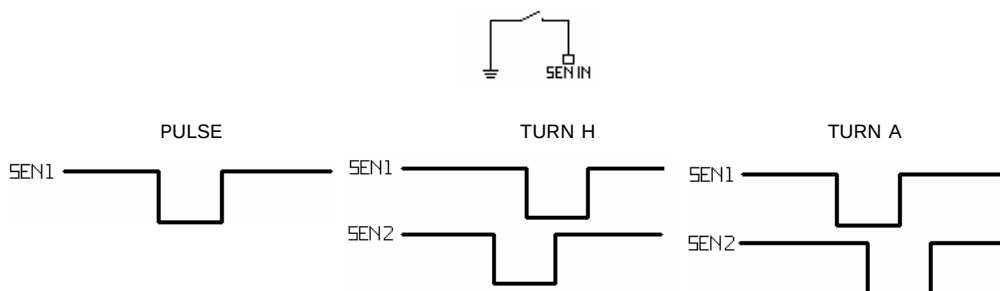
Configuration of operating mode:

The counter can be configured to count pulses on clockwise or counterclockwise rotations ("clockwise" and "counterclockwise" are used merely for the purpose of differentiating between the two rotation directions). The counter display must be in total mode for configuration. The procedure is shown below.



Sensors:

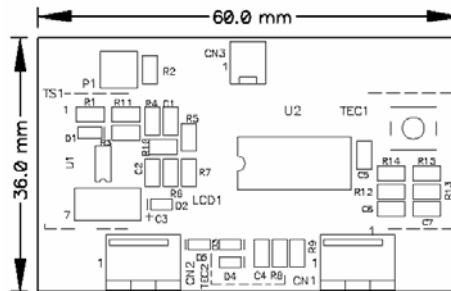
The sensors should short the sensor input to the counter's ground (keys, optical sensors, buttons, relays, etc.).



Power supply specifications:

Power supply	2 AA batteries (3V) 5V (battery eliminator)
Battery life	1.5 years or more than 3,000,000 cycles (alkaline batteries, with sensors and buttons open)
Number of digits	6
Data retention period	1 min 30 sec (to allow batteries to be changed without losing count)
Size of display digits	8 x 4 mm (height x width)

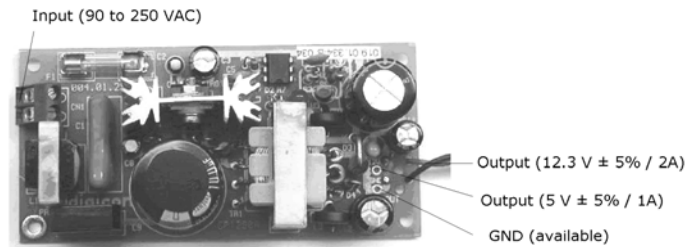
External dimensions:



5.5 POWER SUPPLY

This power supply unit was especially projected for the CATRAX Plus. One of the main advantages of this optional item is its input voltage range – between 90 and 250 VAC – and therefore its capability to adapt to the voltage variations that are common in many installation sites.

This reliable power supply unit was carefully tested and developed to work under the most hostile environmental and temperature conditions. The power supply unit is also protected against short circuits and overheating.



NOTE

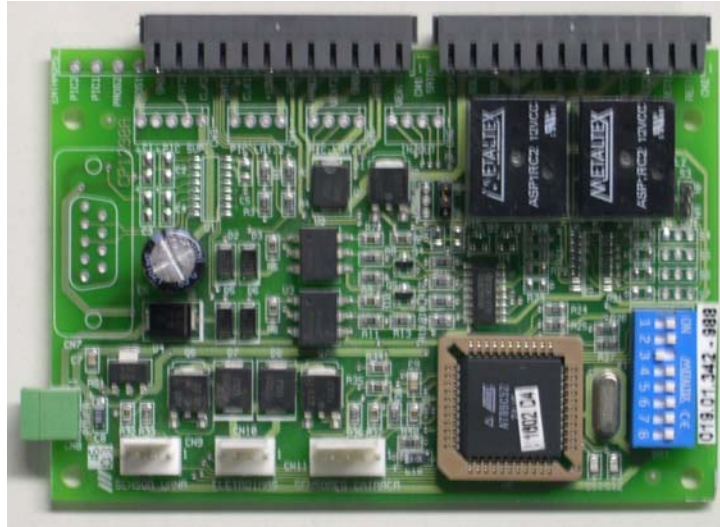
The power supply unit can be fastened to the mounting rack provided with the CATRAX Plus.

CAUTION

The power supply unit does not have a dedicated ground connection. Use the mounting rack fastening screw on the turnstile body for grounding.

5.6 CONTROL BOARD

The CATRAX Plus control board was designed to meet the needs of most of the current access control technologies.



The table below describes the functions of controller board connectors.

Signal	Name / Description
CN1	INPUTS
1	+Vext1 (enable turn by tension)
2	HAB1 (right to left direction)
3	GND
4	Vext2 (to enable turn by tension)
5	HAB2 (left to right direction)
6	GND
7	+12VDC (available for auxiliary – maximum of 500 mA)
8	CLOCK1 (input for reader – left to right direction)
9	DATA1 (input for reader – left to right direction)
10	CLOCK2 (input for reader – right to left direction)
11	DATA2 (input for reader – right to left direction)
12	GND
CN2	OUTPUTS
1	N.O. or N.C. contact (HAB1 return)
2	C contact (HAB1 return)
3	N.O. or N.C. contact (HAB2 return)
4	C contact (HAB2 return)
5	Output for X (NPN open collector – maximum of 500 mA) – orange wire
6	Output for → (NPN open collector – maximum of 500 mA) – blue wire
7	Output for ← (NPN open collector – maximum of 500 mA) – green wire
8	+12VDC (power for indicator arrows) – red wire
9	GND (power for indicator arrows) – black wire
10	+ badge collector box solenoid
11	- badge collector box solenoid
12	Audible signal (open collector - NPN)
CN3	POWER – Power input
1	+12VDC power input
2	GND power input
3	GND
CN4	CARD CHUTE SENSOR
1	LED anode
2	Box signal
3	GND
4	GND
CN5	ELECTROMAGNETS
1	+ electromagnet 1
2	- electromagnet 1
3	+ electromagnet 2
4	- electromagnet 2

Signal	Name / Description
CN6	OPTICAL SENSORS
1	Sensor signal 1
2	LED1 anode
3	Sensor signal 2
4	GND
5	LED2 anode

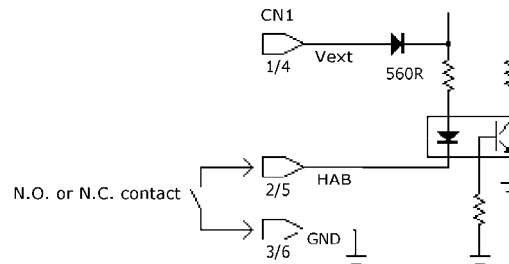
NOTES

- Optical sensor (CN6) and electromagnet (CN5) cables are supplied with the CATRAX Plus.
- The card chute sensor cable (CN4) is supplied with the card collection kit (ordered separately).

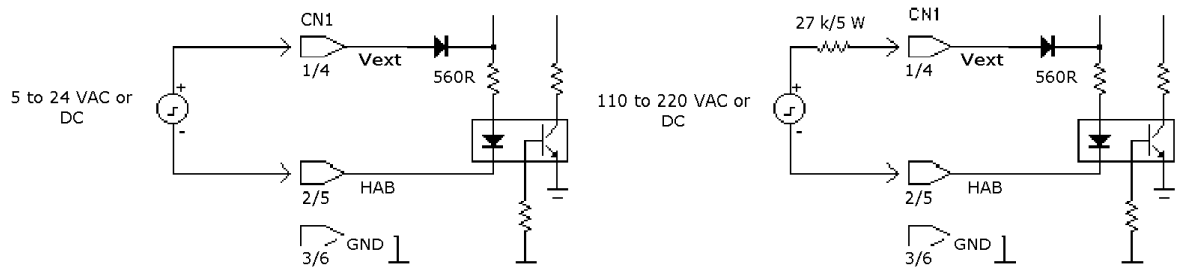
5.6.1 Inputs

The inputs or turn-enabling signals (HAB1 and HAB2) can be triggered/initiated by relay, pushbutton pendant switch contact, or 5 to 24 VAC/DC or 110 to 220 VAC/DC tension pulses.

In order to enable turn through the relay or pushbutton pendant switch contact, make the necessary connection, as shown in the figure below:



Turn-enabling through tension pulse is shown in the following figure. DC polarity must be observed. For high voltages, use an external resistor (110 to 220 V).



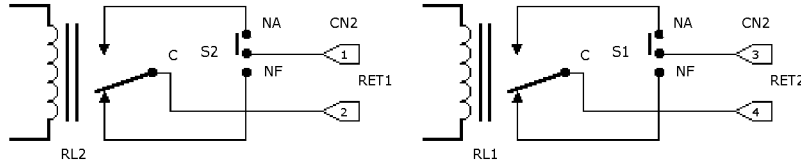
The control board also has inputs for optical sensors (CN6) that monitor turn without mechanical wear, and two optoisolated inputs to release the CATRAX Plus if required.

5.6.2 Outputs

The CATRAX Plus board has outputs for return signals, electromagnets, pictogram indicators, card collection box, and audible alarm.

5.6.2.1 Return signals

The return signals indicate the moment and the direction of turn and are originated at a relay (normally open, N.O., or normally closed, N.C. contact). Connect the outputs according to the figure below:



5.6.2.2 Electromagnets

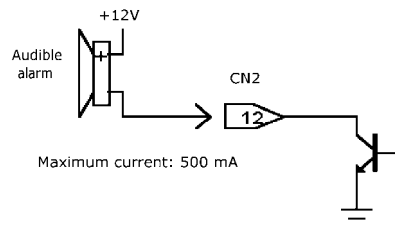
The electromagnets are activated for blocking the turnstile. Unlike traditional solenoids, electromagnets do not cause friction between the spring and the locking device, preventing malfunction. Moreover, they are activated by a transistor rather than by a relay, which prevents burning due to “contacts sticking together” (no mechanical wear).

5.6.2.3 Audible alarm

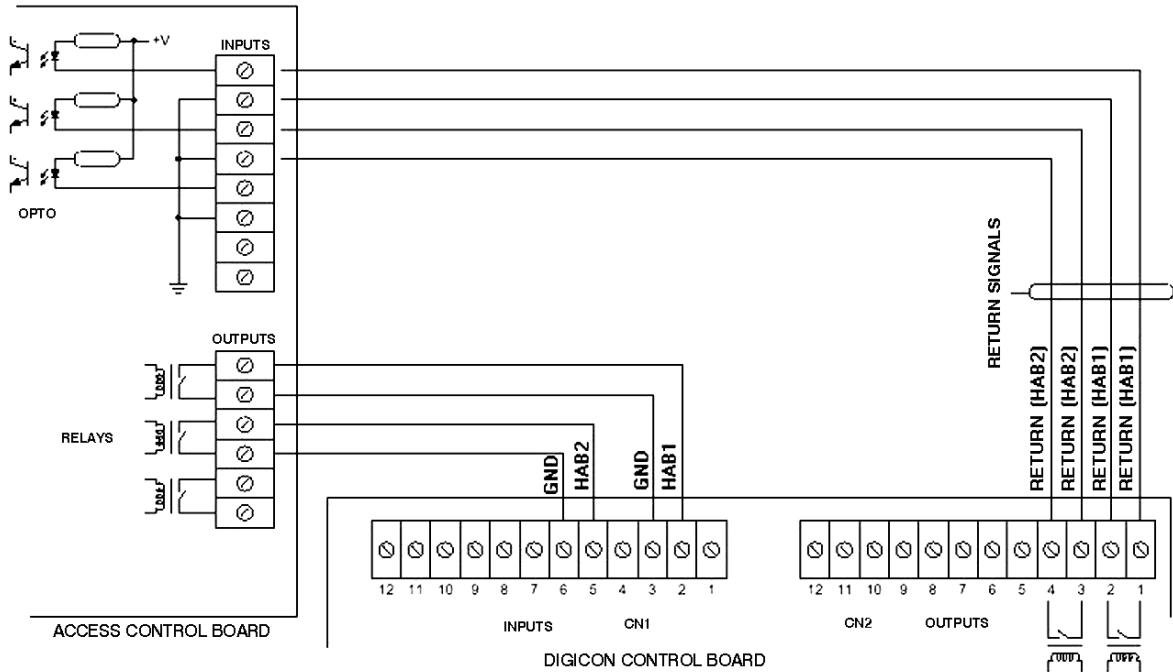
The audible alarm output is activated by an NPN transistor (maximum of 500 mA) whenever the CATRAX Plus:

- receives a release signal (two brief beeps);
- has not been released and is forced for one second (one-second beeps);
- stops in the middle of a turn for more than two seconds (one-second beeps).

Connect the audible alarm according to the figure below.



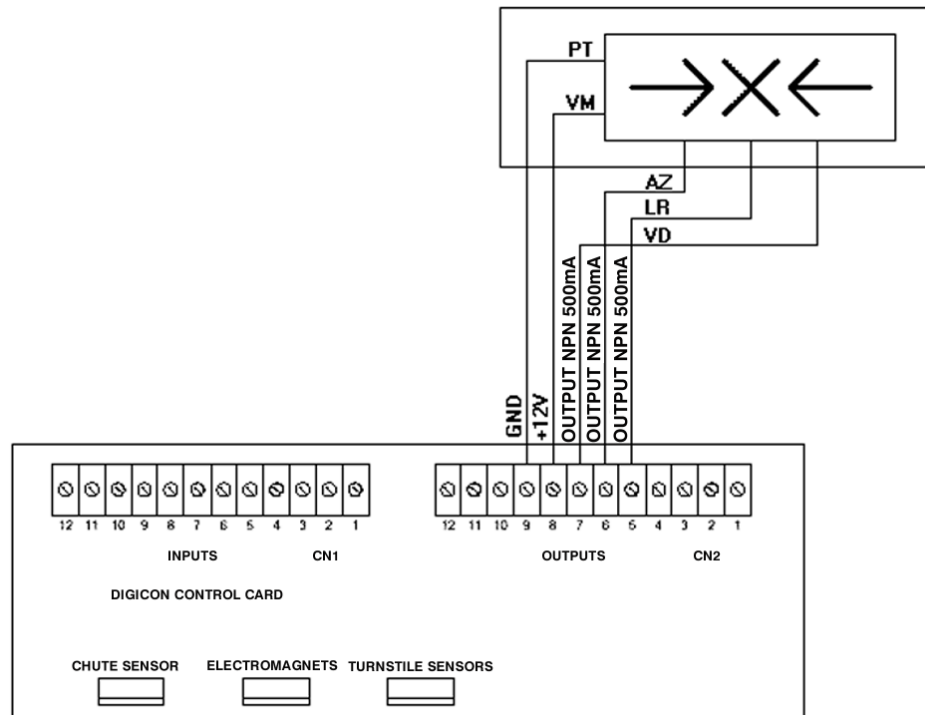
5.6.2.4 Connection diagram



5.6.2.5 Pictogram indicators

Pictogram indicators are activated by NPN transistors (maximum of 500 mA). On activation, a GND signal is sent through the corresponding output.

5.6.2.6 Pictogram connection diagram



5.6.3 Control board configuration – Dip Switch 1

DS 1 is used to configure the following:

- direction of turn;
- maximum time of passage;
- N.O. inputs (normally open relay or pushbutton pendant switch contacts without input tension) to enable turn in the presence of these signals, or N.C. inputs (normally closed relay or pushbutton pendant switch contacts with input tension) to enable turn in the absence of these signals;
- audible alarm signal if the turnstile stops in mid turn for over two seconds.

The table below describes the position of the switches.

	01	02	03	04	05	06	07	08
Release both directions	-	-	-	OFF	OFF	-	-	-
Lock left to right direction	-	-	-	ON	OFF	-	-	-
Lock right to left direction	-	-	-	OFF	ON	-	-	-
Lock both directions	-	-	-	ON	ON	-	-	-
N.O. inputs	-	ON	-	-	-	-	-	-
N.C. inputs	-	OFF	-	-	-	-	-	-
Enable return in the beginning of turn	ON	-	-	-	-	-	-	-
Disable return in the beginning of turn	OFF	-	-	-	-	-	-	-
Enable audible signal in mid turn	-	-	-	-	-	ON	-	-
Disable audible signal in mid turn	-	-	-	-	-	OFF	-	-
Wait for first turn	-	-	-	-	-	-	ON	ON
Wait for 5 seconds	-	-	-	-	-	-	OFF	ON
Wait for 10 seconds	-	-	-	-	-	-	ON	OFF
Wait for 15 seconds	-	-	-	-	-	-	OFF	OFF
Enabling by border	-	-	OFF	-	-	-	-	-
Enabling by level	-	-	ON	-	-	-	-	-

The shaded fields indicate the default configuration of the Digicon board.

5.6.4 Configuration examples

1 – To receive relay pulse (normally open contact), release turn, and wait 10 seconds for turn:

	1	2	3	4	5	6	7	8
Configuration	-	ON	OFF	ON	ON	-	ON	OFF

2 – To always allow turn in clockwise direction and to indefinitely release turn in counter-clockwise on receiving an HAB2 signal:

	1	2	3	4	5	6	7	8
Configuration	-	ON	OFF	OFF	ON	-	ON	ON

3 – To unlock turnstile when the relay contact is closed and to lock arms as soon as the contact is opened:

	1	2	3	4	5	6	7	8
Configuration	-	ON	ON	ON	ON	-	ON	ON

NOTES

- The control board can be fastened to the mounting rack that comes with the CATRAX Plus.

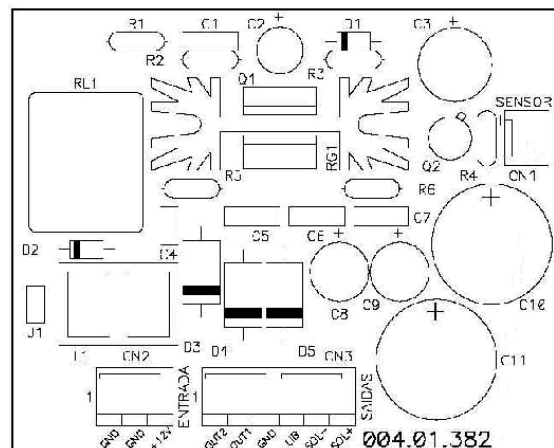
5.7 ANTI-PANIC DROP-ARM SYSTEM

The CATRAX PLUS turnstile is equipped with an electromechanical anti-panic drop-arm system. This mechanism is composed of a mechanical assembly activated by a high-performance solenoid that keeps the arm raised during normal operation. In the event

of a power failure (if the turnstile does not have an uninterruptible power supply installed), in response to a command sent by the system or a push-button located in the control room the solenoid is deactivated and the arm drops, providing barrier-free access. These devices can be connected in series, allowing the arms of all turnstiles connected to a single system to be dropped simultaneously.



The control and monitoring board of the drop-arm system is shown below.

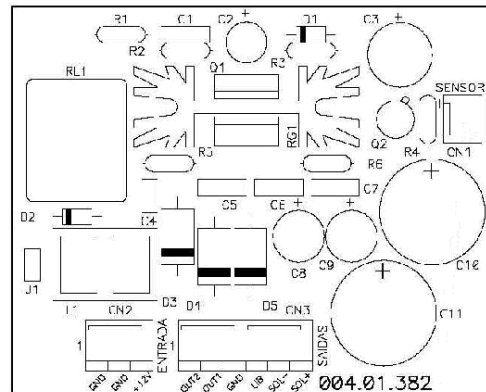


This device requires 12V 2A power supply.

To avoid solenoid overheating, the control board is provided with an automatic routine that reduces the voltage to 6 V 2 seconds after the turnstile is connected to the power supply. Once the arm is dropped, it must be rearmed manually.

5.7.1 Electrical connections

The arm is deactivated by shorting the GND and LIB inputs, as shown in the following diagram.



Connect this input to the other turnstiles, as indicated.

NO key or relay contact to drop the arm.

5.7.2 Mounting of arms

The arms are supplied unassembled. In order to mount them, follow the instructions given in the pictures below.

A # 8 Allen wrench should be used, and the screw must be well tightened, in order to guarantee good fixation. All three arms should be fastened at the same superior central point.



1. Let the mini-arm drop.



2. Make sure that the plastic part of the mini-arm is fixed to the steel part.



3. Connect the stainless steel arm to the mini-arm.



4. Fasten the screw located inside the mini-arm using a # 8 Allen wrench.



5. Put the arm back to its normal position.

5.7.3 Maintenance tests

The anti-panic drop-arm system was developed to facilitate exit during emergencies. This being so, we recommend that tests and inspections are regularly performed as a preventative measure (at least once a month). We suggest that the card provided with the turnstile be used to record inspections made. For each inspection the date and name and signature of the technician should be completed. If the mechanism shows

any sign of a defect, contact Digicon, or an authorised service company, for maintenance.

Each inspection should follow the operational procedure below for each of the three arms:

- place the arm in the horizontal position;
- power off the turnstile;
- check if the arm drops (if the arm does not drop, contact your reseller or Digicon);
- power on the turnstile;
- raise the arm to its horizontal position (the arm should remain in the horizontal position by itself; in the event that the arm does not remain horizontal without external support, contact your reseller or Digicon);
- repeat the procedure three times for each arm.

6 MAINTENANCE

6.1 PREVENTIVE AND CORRECTIVE MAINTENANCE PROCEDURES

Sphere base – Frequency: every 700,000 cycles

The aim of this procedure is to check on the wear of sphere tracks.

Corrective actions:

1. If there is excessive wear (shards, perforations, steel filings or grooves where the sphere runs), replace the part.
2. If the part does not present wear signs, clean and grease it using bearing grease.

Optical sensors – Frequency: at least once a year (depending on environmental conditions)

This maintenance procedure requires the use of a multimeter. In order to verify the need for corrective actions, it is necessary to measure [the?] CN6 when the turnstile is powered, according to the instructions below:

- Set the multimeter to measure DC voltage of up to 20 V. Next, clamp the black pointer to pin 4 and the red pointer to pin 1 of CN6. Voltage should be lower than 0.8 V (non-obstructed sensors). With the pointers in the same position, force the equipment arms in both directions (in one of the directions, the voltage measured by the multimeter should be higher than 4.5 V).
- Repeat the operation clamping the black pointer to pin 4 and the red pointer to pin 3. The results should be the same as those obtained with pins 4 and 1.
- Verify if the sensors present signs of dust.

Corrective actions:

1. If the measurements do not match the standards described above, replace the sensor.
2. Clean the sensors using a clean brush.

NOTE

In excessively dusty environments, perform this maintenance cleaning procedure more than once a year.

Electromagnets - Frequency: every 700,000 cycles

This maintenance procedure requires the use of a multimeter. Disconnect the CN3 from the control board and verify the resistance of the electromagnets. The value should be between 12.5 and 13.5 ohms on pins 1, 2, 3, and 4 of the electromagnet connector. Once the measurement is complete, CN3 should be connected to the board again.

Corrective actions:

1. Replace the electromagnet if one of the following conditions is observed: incorrect resistance, electromagnet in short-circuit or open.
2. If the electromagnet is not working, verify the board and the tension.
3. Tighten the bolts on the base if the electromagnet is loose.

Electromagnet adjustment (if necessary):

1. Force the lock against the sprocket and the equipment arm until the lock is totally inside the first tooth (until the arm is locked).
2. Next, release the fastening bolts and press the electromagnet against the lock buffer so that all its area gets in contact with the electromagnet.
3. Tighten the bolts again.

Lock assembly – Frequency: every 700,000 cycles

In order to verify the need for corrective actions, you should:

- Verify the correct lock position.
- Check whether the lock is fitted to the sprocket or whether there is apparent wear.

Corrective actions:

1. If the lock is incorrectly positioned, verify the retention ring and the spring that tensions the assembly.
2. If the lock is not fitted to the sprocket, replace the lock or the sprocket.
3. If there are signs of wear on the lock end, replace the lock.

Sprocket assembly – Frequency: every 700,000 cycles

To verify the need for corrective actions, you should:

- Verify the wear of the sprocket teeth.
- Check the backlash between the central shaft, the sprocket and the cotter pin.

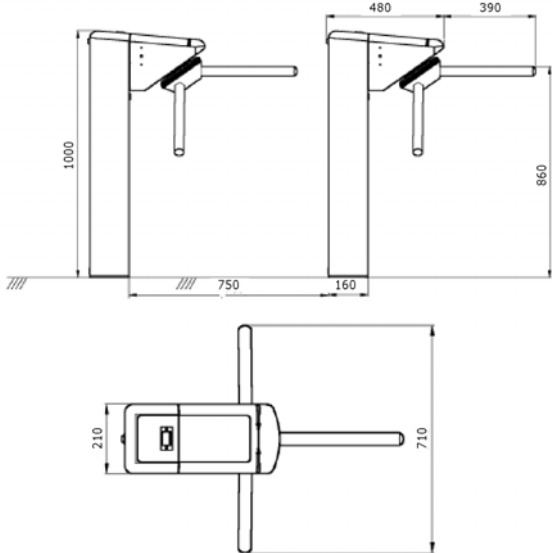
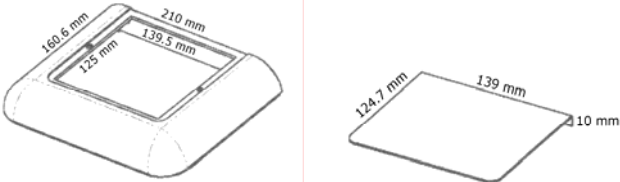
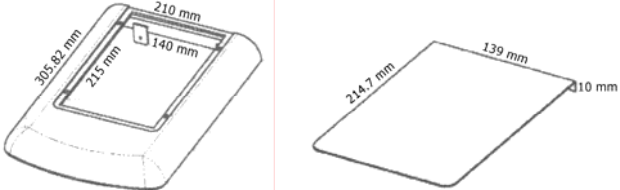
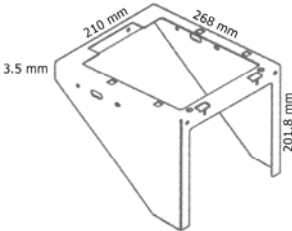
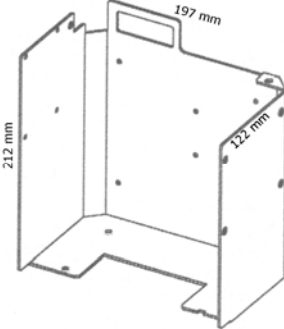
Corrective actions:

1. If you observe any signs of wear on the teeth, replace the sprocket.
2. If you notice excess backlash between the sprocket and the shaft/cotter pin assembly, replace the sprocket or the cotter pin. To change the cotter pin, use a pulley puller.

6.2 TROUBLESHOOTING

Defect	Possible cause	Action
CATRAX Plus will not turn on	- Power supply cable is not connected properly. - Power supply fuse is burnt.	Verify wires and fuse (fuse: 3 A).
CATRAX Plus is locked	Optical sensors are obstructed or defective.	Carry out preventive maintenance procedures in the sensors or contact Technical Assistance.
CATRAX Plus will not activate electromagnet (turnstile cannot be locked)	The cable is broken or the distance between the electromagnet and the lock device is inadequately adjusted.	Adjust the electromagnet or deliver the equipment to Technical Assistance.
The arm will not stay in the correct position.	The base of the sphere is worn, dirty, not properly lubricated, or the spring is broken.	Request replacement of defective part or contact Technical Assistance.
CATRAX Plus will not lock on the first tooth.	The distance between the electromagnet and the lock device is not well adjusted.	Adjust the electromagnet or contact Technical Assistance.

7 TECHNICAL CHARACTERISTICS

Dimensions	
Fully assembled:	
Rear cover and plate	
Front cover and plate	
Tilted cover	
Internal drawer mount	

Packaging	Height: 103 cm Width: 27 cm Depth: 55 cm
Gross weight	37 kg (+ 2 kg of packaging)
Distance between arms	120 degrees
Electromagnet supply voltage	12 V and 2 A
Sensor supply voltage	5 V and 0.5 A
Power supply unit (not included)	Input: 85 V a 250 VAC Output: 12.3 V $\pm$ 5% / 2 A, and 5 V $\pm$ 5% / 1 A Dimensions: 35 x 51 x 105 mm Distance between holes: 43 x 98 mm Diameter of holes: 3.5 mm
Board with display (see separate manual)	Power supply: 6 to 24 VDC / 100 mA

8 WARRANTY AND TECHNICAL ASSISTANCE

Digicon is responsible for the good quality of the project, labor and materials used in the manufacturing of its products, ensuring the equipment and all its parts to be free from defects as well as material or manufacturing imperfections. Digicon commits itself to replace or repair any part or equipment that presents manufacturing defects, under its exclusive criteria, in its Gravataí factory or in its office in São Paulo, without any expense for the buyer, as long as the following conditions are met:

1. Transportation expenses from and to the Gravataí factory or the São Paulo office will be the buyer's responsibility.
2. The warranty starts on the date of purchase, as recorded in the invoice. The warranty covers:
 - a) 12 (twelve) months for replacement of equipment, accessories and parts;
 - b) 90 (ninety) days for repairs and technical assistance.
3. To benefit from the warranty you must present the invoice (original or copy).
4. The warranty is not applicable in the following cases and conditions:
 - a) defects and damage caused by accidents, negligence, or other incidental damage;
 - b) defects and damage caused by inadequate or prolonged storage;
 - c) defects and damage that may be attributed to inadequate use of the equipment;
 - d) defects and damage caused by improper installation and operation.
5. The warranty will be automatically cancelled if:
 - a) the equipment is modified, adapted or altered by the customer or a third party without expressed consent from Digicon;
 - b) the equipment suffers maintenance or repairs executed by personnel without the authorization of Digicon;
 - c) the equipment has its serial number changed or identification tag violated;
 - d) payment is not received for the quantities and within the time frame indicated in the invoice.

6. Digicon will not be responsible for any damage that may occur in case the equipment is inactivated.
7. Repair of the equipment under warranty will be made at Digicon.

digicon

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