LA BARRIÈRE AUTOMATIQUE
LBA GROUP

THE VEHICLE AND PEDESTRIAN ACCESS CONTROL SPECIALIST

ONE-C
CONTROL BOARD

Before installing or repairing your equipment, we recommend that you read these user and operating instructions carefully.
We are at your disposal for any additional information or comments.
Please contact our After-Sales Service on +33 (0)4 78 86 02 86, from Monday to Friday, 9 am to 6 pm.

LA BARRIÈRE AUTOMATIQUE
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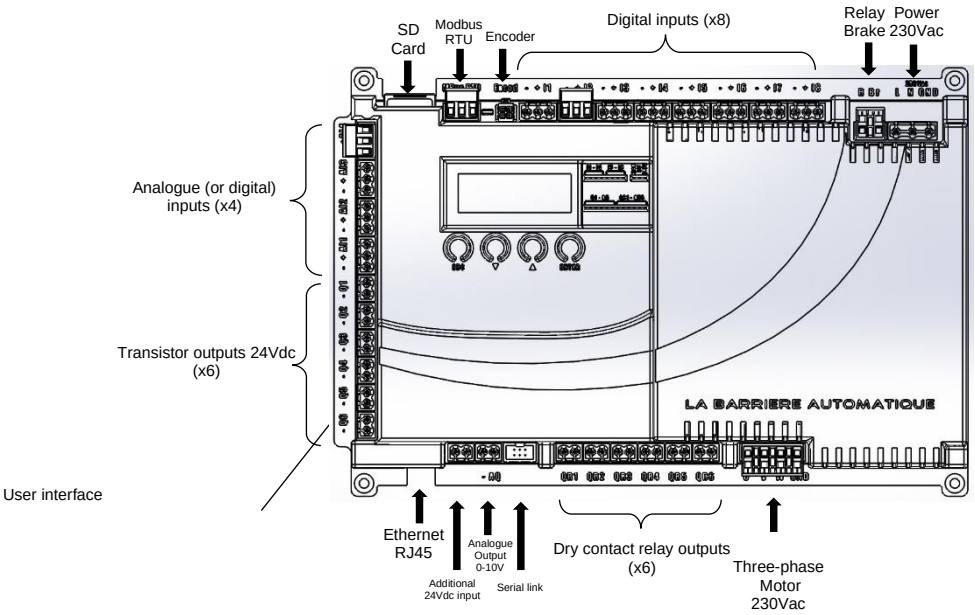
Date	**Indice**	**Description**	**Auteur**

Note: The illustrations in this document are non-contractual.

Contents

1 Presentation on the interface

1.1 General interface



User interface	Description
Screen	4x20 character backlit viewing screen. Allows you to browse through the barrier menu, modify various settings and view the main information.
Buttons	Navigation buttons "ESC", "▼", "▲" and "ENTER". Makes it possible to browse through the barrier menu and modify various settings
LEDs	LEDs for viewing the digital inputs, transistor outputs and relay outputs as well as voltages (24V; 5V; 3.3V). (LED off: 0; LED on: 1)

1.2 Inputs/outputs

1.2.1 Inputs/outputs description

Inputs/outputs	Terminal block(s)	Terminals	Description
Digital inputs 24Vdc	I1 to I8	- ; + ; Ix	24Vdc All or Nothing inputs for the barrier controls
Digital inputs 0-10V (or digital 24Vdc)	AI1 to AI4	- ; + ; AIx	Analogue Inputs 0-10V which can be configured as 24Vdc All or Nothing for connecting position sensors
Transistor outputs 24Vdc	Q1 to Q6	- ; Qx	24Vdc All or Nothing outputs for controlling the various accessories of the barrier (0.75A per output; max.: 40W total).
Relay outputs	QR1 to QR6	QRx	Dry contact All or Nothing outputs for information reports (contact: 10A 250Vac)
0-10V analogue output	AQ	- ; AQ	0-10V analogue output for the controlling of an analogue accessory
Encoder	Encod	Encod	Encoder input for the connecting of an absolute angular position sensor

Motor connection	Terminal block(s)	Terminals	Description
Motor phases	Motor	U; V; W; GND	3-phase power supply of the motor and the ground (Max. power: 0.55kW)
Brake relay	R Br	R Br	Dry contact relay output for the controlling of the brake of the motor (if needed)

Power supply	Terminal block(s)	Terminals	Description
230V AC power supply	230Vac	L; N; GND	General power supply of the control board
Additional 24Vdc input	N/A	N/A	24Vdc input available if needed, in the event the max. power (40W) is exceeded on the transistor outputs

Communication	Description
Ethernet	TCP/IP Modbus port.
MBus RTU	RTU RS485 Modbus port.
Serial link	Allows you to programme the electronic board

Update / backup	Description
SD Card	Location of the SD card for automatic backup of the programme. Also allows for the insertion of a SD card to update or back up the PLC programme or the internal firmware of the board

1.2.2 Default assignment of the inputs/outputs

I1	**Open command (NO)**
I2	Close command (NO)
I3	Magnetic safety loop (NC)
I4	Safety infrared cell (or ultrasound detection) (NC) no. 1
I5	Safety infrared cell (or ultrasound detection) (NC) no. 2
I6	Free opening magnetic loop (NO)
I7	Automatic/Manuel mode (1: Auto; 0: Man)
I8	Unhinging sensor (or fallen arm) (NC)

Analogue/digital inputs	Description
AI1	Opening end-of-travel sensor (NO)
AI2	Opening slowdown sensor (NO)
AI3	Closing slowdown sensor (NO) or crank end-of-travel (irreversible barriers)
AI4	Closing end-of-travel sensor (NO)

Encoder input	Description
Encod	Angular position sensor

Transistor outputs	Description
Q1	Flashing light on cover
Q2	Lights on arm
Q3	Suction cup/locking
Q4	Unhinging alarm
Q5	Green light
Q6	Red light

Relay outputs	Description
QR1	Open barrier report (NO)
QR2	Closed barrier report (NO)
QR3	Barrier unhinged/fallen arm report (NC)
QR4	Safety loop report (NO)
QR5	Fault summary report (NC)
QR6	Not assigned

Note: These are the default input/output assignments. They can change according to the type of barrier and customer.

2 Controls and viewing

2.1 Local controls:

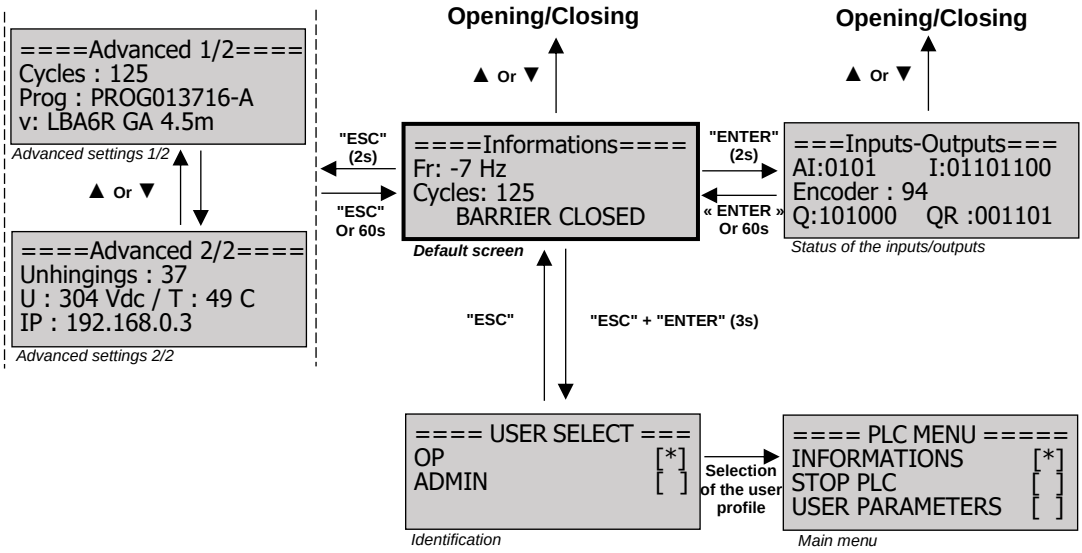
Control	Function
Key ▼	Local close command (from the "Information" and "Inputs-Outputs" screens)
Key ▲	Local open command (from the "Information" and "Inputs-Outputs" screens)
ESC key (2s)	Display of the advanced settings
ENTER key (2s)	Display of the input/output statuses
ESC + ENTER (3s)	Main menu

2.2 Viewing

The screen as well as the viewing LEDs allow you to view the current status of the barrier.

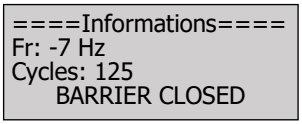
2.2.1 Screen:

Here is the overview of the various possible displays on the screen from the default screen:



- **Information" screen (default screen):**

This display is the default screen, it indicates useful information for the installer:



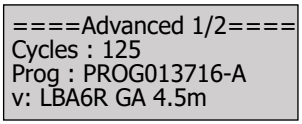
- **Frequency of the motor (in Hz):** this corresponds to the frequency of the current injected into the motor. This frequency is positive in the opening direction and negative in the closing direction.
- **Number of cycles carried out:** the number of cycles carried out by the barrier corresponds to the number of openings
- **Current status of the barrier:** this message indicates the status of the barrier (see "§12.1. Status messages of the barrier")

Note: This display will return automatically if no button is pressed for 60s

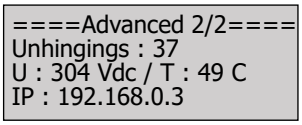
- **"Advanced settings" screens (press "ESC" for 2s):**

To access the advanced settings screens, keep the "ESC" pressed for 2s. You will then see the first screen for advanced settings, simply click one of the two arrows to go to the second screen.

These displays indicate the advanced settings:



- **Number of cycles of the barrier:** this number of cycles corresponds to the number of openings carried out by the barrier.
- **Programme of the barrier:** this shows the programme number as well as its version. This information is useful when troubleshooting.
- **Type of the barrier :** this shows the type of the barrier selected and its length. **If the type of the barrier does not match the real type of the barrier on the identification plate, contact the after-sale service.**



- **Number of unhingings that the barrier was subjected to:** this number indicates the number of unhingings that the barrier has been subjected to.
- **Direct voltage of the bus (in V):** this voltage allows you to check that there is no fault on the direct bus of the variator. This voltage must be about 300V ± 20V.
- **Temperature of the IGBT module of the variator (in °C):** this temperature makes it possible to verify that there is no overheating on the IGBT module of the frequency variator. This temperature must be less than 80°C.
- **IP address of the barrier:** This is the IP address of the barrier for the Modbus communication.

Note: The screen display automatically returns to the "Information" screen after 60s if no button is pressed.

- **Status of the inputs/outputs" screen (hold "ENTER" for 2s):**

To access the screen for viewing the status of the inputs/outputs, press and hold the « ENTER » button for 2s.

The screen shows the statuses of the 4 different input/output types (0: inactive; 1: active):

```
===Inputs-Outputs===
AI:0101      I:01101100
Encoder : 94
Q:101000   QR :001101
```

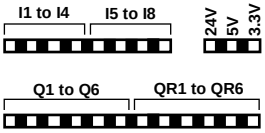
- **Analogue/digital inputs (AI):** AI1 to AI4
- **Digital inputs (I):** I1 to I8
- **Encoder:** value of the angular sensor (°)
- **Transistor outputs (Q):** Q1 to Q6
- **Relay outputs (QR):** QR1 to QR6

Note: The screen display automatically returns to the "Information" screen after 60s if no button is pressed.

Details on the main menu will be provided hereinafter.

2.2.2 LEDs:

The LEDs also make it possible to view the status of the inputs/outputs as well as the useful voltages:



- LED on: input/output active (1)
- LED off: input/output inactive (0)

Note: Contrary to the screen for viewing the status of the inputs/outputs, here, the analogue inputs AI1 to AI4 are not viewed as they cannot be represented by LEDs.

3 Messages and safety component activation

3.1 Status messages of the barrier:

Here are the various status messages of the barrier (last line on the information screen):

Message	Meaning
« BARRIER OPEN »	The barrier is open and the automatic closing after the time delay or auto mode are not activated
« BARRIER OPEN 15S »	The barrier is open and the barrier will close automatically at the end of a countdown timer (Automatic closing after time delay and auto mode activated) Note: if the countdown timer remains at 15s, this means that an order to open and/or a safety component is activated
« BARRIER CLOSED »	The barrier is closed
« OPENNING »	The barrier is in the process of opening
« CLOSING »	The barrier is in the process of closing
« DETECTION LOOP »	A vehicle is present on the safety loop. **Closing the barrier is impossible.**
« DETECTION CELL »	A vehicle is present in front of the infrared or ultrasound cell(s). **Closing the barrier is impossible.**
« BARRIER UNHINGED »	The barrier is unhinged. **The closing of the barrier is impossible if the option "Automatic rehinging" is activated.**
« CRANK MISSING »	The crank is not in its housing. **Controlling the barrier is impossible. The motor is cut off.**

3.2 Messages for safety activation of the barrier:

Here are the various messages for safety activation of the barrier:

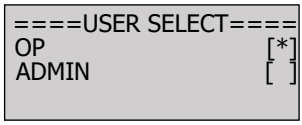
Message	Meaning
"Operation time exceeded"	The time for opening or closing the barrier has exceeded the manoeuvring time (by default: 30s). **Motor control is cut off. The barrier has to be reset.**
"Motor in fault Error code: XXX"	**The motor is in fault.** The error code is indicated. **Error codes:** **0:** No error **106:** Winding calculation error when powering up (motor disconnected, short-circuit on the phases, incorrect configuration of the motor, etc.) **107:** Overheating of the IGBT module **Other:** Contact After-Sales Service
"Fault while closing : Obstacle detected"	**The barrier has detected an obstacle during closing and has automatically reopened and is held open. An opening order is necessary to put it back into service**
"Type of barreire unknown"	**The parameterized barrier configuration is unknown. The parameters must be set again: "Type_barriere", "Longueur_lisse" and "Lisse".**

4 Main menu:

To go to the main menu, press the "ESC" and "ENTER" keys simultaneously for 3s.

4.1 Choice of the user:

Before accessing the main menu, you must first select the user. You can choose between two users: "OP" and "ADMIN":

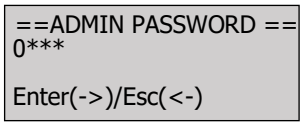


Contrary to the access to the menu via the "OP" user, access via the "ADMIN" user requires a password because it provides access to more features and more settings:

Function	OP	ADMIN
INFORMATIONS	●	●
START/STOP PLC	●	●
USER PARAMETERS	●	●
IP CONFIG	●	●
DOWNLOAD PLC PROG	●	●
UPLOAD PLC PROG	●	●
ERASE PLC PROG		●
ERASE PLC RETAIN		●
ERASE USERPARAM		●
LOCATED VARS		●
REBOOT		●

Entering the password:

To access the "ADMIN" user profile, you must enter the 4-digit password:

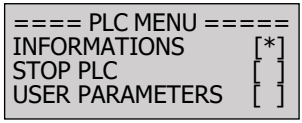


with:

ESC: Cancel/Previous digit
▼and▲: Digit selection
ENTER: Next digit/Validation

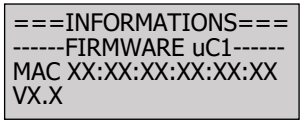
Note: *To know the "ADMIN" password, please contact After-Sales Service.*

Once the user is selected and, where applicable, the password has been entered, you will access the PLC's main menu, the "PLC MENU" screen is displayed:



4.2 "INFORMATION" - Characteristics of the programme:

The "INFORMATION" function provides you with fast access to the various advanced pieces of information on the contents of the board.



Simply scroll through the information using the directional arrows.

The available information is (in the order of reading):

- MAC address of the "µC1" microcontroller (main microcontroller)
- Version of the firmware present in the "µC1" microcontroller
- Latest date of the firmware update of the "µC1" microcontroller
- Version of the firmware present in the "µC1" microcontroller (microcontroller for motor control)
- Latest date of the firmware update of the "µC2" microcontroller
- Project name
- Project version
- Product name
- Product version
- Date and time of the latest compilation of the project
- Name of our company
- Project language

4.3 "START/STOP PLC" - Starting/stopping the program:

The "STOP PLC" function allows you to stop the PLC, for example when we want to stop the barrier without however powering down the barrier.
When the barrier is stopped, the function then becomes "START PLC" and makes it possible to start the program again. It is also possible to reset the barrier in order to start the program again in good conditions.

4.4 "USER PARAMETERS" - Settings for the program:

The "USER PARAMETERS" functions provides access to the list of user settings that can be modified in order to adjust the barrier. Some of these settings can be accessed only via the "ADMIN" user.
Here is the list of default settings:

Settings	Description	Unit	OP	ADMIN
Type_barriere	Choice of the type of barrier to be controlled: 1 : LBA4 2 : LBA6 3 : LBA6R 4 : LBA63PK 5 : LBA63PG Aval 6 : LBA63PG Amont 7 : LBA7 8 : LBA7R 9 : LBA74 10 : LBA86NEO IR 11 : LBA86NEO R 12 : LBA12 **A restart of the barrier is mandatory after any change to this setting.**			●
Longueur_lisse	Length of the arm.	m		●
Grille_lisse	Type of grid: 0 : No grid 1 : GA grid 2 : GTH grid 3 : HP grid			●
Boost_Vit_1	Boost applied at opening speed (default mode: 100%)	%		●
Boost_Vit_2	Boost applied at closing speed (default mode: 100%)	%		●
T_manoeuvre	The time beyond which the barrier goes into default mode if neither of the two limit switches has been detected. (default mode: 30s)	s	●	●
FAT	Activation of automatic closing after time delay (TRUE: enabled; FALSE: disabled).		●	●
FAP	Activation of automatic closing after passing through the safety loop (TRUE: activated; FALSE: deactivated).		●	●
T_FAT	Waiting time before automatic closing after timer (if enabled) (default mode: 15s)	s	●	●
T_FAP	Waiting time before the automatic closing after passage (if activated) (default mode: 0s)	s	●	●

T_detection_FAP	Minimum detection time on the magnetic loop so that closing after passage is activated (default mode: 0.5s)	s	●	●
T_PVT	Duration of the delayed low speed in closing (for irreversible barriers) (default mode: 1s)	s	●	●
Presign_OUV	Time of pre-notification before the opening of the barrier. (default mode: 0s)	s	●	●
Presign_FERM	Duration of the pre-signalling before the barrier closes. (default mode: 0s)	s	●	●
Clignotement_feux	Activation of the flashing lights on arm (TRUE: on; FALSE: off).		●	●
T_ON_feux	Time during which the lights on the arm are lit. (default mode: 0.5s)	s	●	●
T_OFF_feux	Time during which the lights on the arm are off. (default mode: 0.5s)	s	●	●
PWM_verrou	Activation of the PWM function on the output lock (Q3) to consume less (TRUE: on; FALSE: off).		●	●
T_verrouillage	Time after which the lock is activated after the barrier is completely closed. (default mode: 1s)	s	●	●
Activation_deverr	Option to be activated when the barrier is equipped with a mechanical locking device (except in the case of the electromagnetic suction cup) so that the barrier closes very slightly before each opening to release the lock. (TRUE: On; FALSE: Off).		●	●
T_deverrouillage	Duration of reclosing to release the lock before the barrier is opened (see parameter "Latch_activation"). (default mode: 0.2s)	s	●	●
Angle_deverr	Angle from which the locking is deactivated if the arm is forced. (default mode: 20°)	°	●	●
Mode_1_BP	Activation of the "1 BP" control mode which allows the barrier to be controlled with a single command: the opening command then becomes a command to closing when the barrier is open (TRUE: enabled; FALSE: disabled).		●	●
Mode_homme_mort	Activation of the "dead man" control mode: the closing command must be maintained until the end of the closing process, otherwise the barrier will automatically re-open. (TRUE: On; FALSE: Off).		●	●
Mode_orange	Activation of the orange lighting of the		●	●

	signalling elements (LED cover, illuminated rail) during the moving phase. (TRUE: On; FALSE: Off).			
Cligno_orange	Activation of the flashing of the signalling elements (LED cover, illuminated rail) during the orange lighting phase. (TRUE: On; FALSE: Off).		●	●
Cligno_rouge	Activation of the flashing red light (or LED cover/illuminated cover during the red light up phase) (TRUE: On; FALSE: Off).		●	●
Veille_Vert	Activation of the automatic green light extinction (or led/illuminated cover during the green light phase) (TRUE: On; FALSE: Off).		●	●
T_Veille_Vert	Time after which the green light (or LED cover/illuminated shield during the green light up phase) goes out if the parameter "Green_Sleep" is activated. (default mode: 60s)	s	●	●
English	Passing messages into French (TRUE: English; FALSE: French).		●	●
Regondage_auto	Activating the automatic rewind function (LBA63PG) (TRUE: On; FALSE: Off).			●
Reouverture_secu	Activation of automatic reopening on detection of a safety device (loops, infrared cell, ultrasound, etc.). (TRUE: enabled; FALSE: disabled)			●
Etat_apprentissage	A variable that allows you to visualise whether teach-in has been achieved through the barrier or not. (TRUE: achieved; FALSE: not achieved)			●
Butee_1	Value of the opening stop recorded during training	°	●	●
Tolerance_1	Tolerance angle around the stop opening in which the barrier is considered to be open. (default mode: +/-5°)	°	●	●
Butee_2	Value of the closing stop recorded during training	°	●	●
Tolerance_2	Tolerance angle around the closing stop in which the barrier is considered closed. (default mode: +/-5°)	°	●	●
Offset_Ouv	Size of the idle range once the Slowing down completed before reaching the opening end stop (default mode: 0°)	°	●	●
Offset_Ferm	Size of the idle range after deceleration before reaching the closing end stop (default mode: 0°)	°	●	●

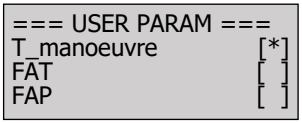
Valeur_Filtre_Chocs	Detection threshold of a frontal impact in the closed position for counting the number of impacts suffered (default: 200)			●
Duree_Filtre_Chocs	Duration of the pulse created by an edge for taking the count into account (default: 2s)	s		●
Numero_Serie	Barrier serial number (not configured). To be configured in order to be able to read it from the modbus exchange table		●	●
T_pos_ouverte	Time during which the barrier remains open before closing after reopening on obstacle detection (if activated) (default: 2s)	s	●	●
T_detection_choc	Time during which the arm must be blocked to consider an obstacle (default: 0.1s)	s	●	●
Rampe_detection_choc	Degree variation below which the arm is considered blocked for the set time (default: 2.0°)	°	●	●
Réouverture_obstacle	Activation of the automatic reopening function on obstacle detection during closing (TRUE: enabled; FALSE: disabled).		●	●
Nb_chocs_autorises	Number of reclosing attempts after obstacle detection before the barrier goes into default (default: 3) **The fault can be reset by sending an opening order**		●	●

Note: This is a default list. It can change according to the type of barrier and customer.

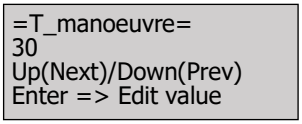
Important : The settings in grey must not be modify without contacting the after-sale service.

Modification of a setting:

To modify a setting in the PLC, you must:



1- Using the directional arrows and the "Enter » key, select the setting that you want to modify. The value is displayed.



2- Press "Enter" again to be able to modify the value
3- Set the desired value using the up and down arrows.
4- Press "Enter" again to confirm
5- Then press "ESC" to return to the list of parameters

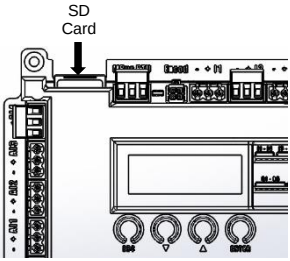
6- Press "ESC" again to exit the menu

4.5 "IP CONFIG" - IP address configuration:

⇨ See §14 TCP/IP Modbus Communication

4.6 "DOWNLOAD PLC PROG" - Modification of the program using an SD card:

To modify the program of the barrier using an SD card, you must:



1- Remove the SD card already present and insert the SD card which contains the program into the housing provided at the top left of the board

2- Go to the menu of the control board by pressing the "ESC" and "ENTER" keys simultaneously for 3s.

3- Select the "OP" profile by clicking on "ENTER".

```
==== PLC MENU =====
IP CONFIG          [ ]
DOWNLOAD PLC PROG[*]
UPLOAD PLC PROG    [ ]
```

4- Using the arrow ▼, select the "DOWNLOAD PLC PROG" function with the "ENTER" key.

```
== SELECT PLC PROG ==
SAVEPLC.LBA        [*]
```

5- Then select the program (file ".LBA") that you want to copy by clicking on "ENTER".

```
=PRESERVE USERPARAM=
preserve on board
u_param and retain?
Esc(NO) / Enter(YES)
```

6- **If the SD card comes from another barrier**, the following question will be displayed:

   a. Click on "ENTER" if you wish to retain the parameters of the settings (speeds, timers, etc.) of the current barrier
   b. Click on "ESC" if you wish to copy the parameters of the settings (speeds, timers, etc.) from the barrier that was used to program the SD card

Otherwise, go directly to the next step

```
===DOWNLOADING===
Done
```

7- The message "Done" is displayed after a few seconds to confirm that the program has been updated successfully from the SD card

8- Then press "ENTER" to return to the menu.

```
==== PLC MENU =====
INFORMATIONS       [ ]
START PLC          [*]
USER PARAMETERS    [ ]
```

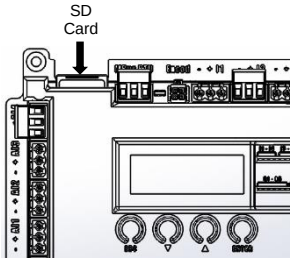
9- Start the program by selecting "START PLC".

10- Remove the SD card and insert the original SD card again.

11- Restart the barrier.

4.7 "UPLOAD PLC PROG" - Recording of the program on an SD card:

To modify the program of the barrier on an SD card, you must



1- Remove the SD card already present and insert the SD card into the housing provided at the top left of the board

2- Go to the menu of the control board by pressing the "ESC" and "ENTER" keys simultaneously for 3s.

3- Select the "OP" profile by clicking on "ENTER"

```
==== PLC MENU =====
IP CONFIG            [ ]
DOWNLOAD PLC PROG[ ]
UPLOAD PLC PROG      [*]
```

4- Using the arrow ▼, select the "UPLOAD PLC PROG" function with the "ENTER" key

```
==== UPLOADING ===
Done
```

5- The message "Done" is displayed after a few seconds to confirm that the program has been updated successfully from the SD card

6- Then press "ENTER" to return to the menu.

```
==== PLC MENU =====
INFORMATIONS         [*]
STOP PLC             [ ]
USER PARAMETERS      [ ]
```

7- Click on "ESC" to exit the menu.

8- Remove the SD card and insert the original SD card again

4.8 "LOCATED VARS" - Local variables of the program:

The "LOCATED VARS" tab provides access to the statuses of the local variables of the barrier for the purposes of troubleshooting, for example. This function can be accessed only with the ADMIN profile (See §4.1. Choice of the user)

Here is the list of available variables:

Variable	Description
Commande_Ouverture	Possibility of maintaining an open control (NO)
Commande_Fermeture	Possibility of maintaining a close control (NO)
Etat_commande_ouverture_GTC	CTM opening control status (NO)
Etat_commande_fermeture_GTC	CTM closing command status (NO)
Etat_Detection_Boucle_Securite	Safety loop status (NO)
Etat_Detection_Cellules	Ultrasound or infrared cell status (NO)
Etat_Boucle_Ouverture_Libre	Free opening loop status (NO)
Etat_Mode_Auto	Auto/Man mode status (0=Manual mode; 1=Auto mode)
Etat_Capteur_Degondage	Unhinging sensor status (NC)
Etat_Capteur_Fdc_Ouv	Opening end-of-travel sensor status (NO)
Etat_Capteur_Ral_Ouv	Opening slowdown sensor status (NO)
Etat_Capteur_Ral_Ferm	Closing slowdown sensor status (NO)
Etat_Capteur_Fdc_Ferm	Closing end-of-travel sensor status (NO)
Report_Barriere_Ouverte	Open barrier report status (NO)
Report_Barriere_Fermee	Closed barrier report status (NO)
Report_Barriere_Degondee	Unhinged barrier report status (NC)
Report_Boucle_Securite	Safety loop presence report status (NO)
Report_Barriere_Defaut	Barrier fault report status (NO)
Sortie_Feu_Flash	Flashing light output status (NO)
Sortie_Feux_Sur_Lisse	Light output on arm status (NO)
Sortie_Verrouillage	Locking output status (NO)
Sortie_Alarme_Degondage	Unhinging alarm output status (NO)
Sortie_Feu_Vert	Green light output status (NO)
Sortie_Feu_Rouge	Red light output status (NO)
Nbre_Cycles	Number of cycles carried out by the barrier (opening)
Nbre_Degondages	Number of unhingings the barrier has been subjected to
Erreur_Moteur	Motor error code in case of fault (see §3.2. Messages for safety activation of the barrier)

5 TCP/IP Modbus Communication:

The ONE-C control board can be controlled via the Ethernet port or the RS485 port using the Modbus communications protocol.

5.1 RS485 Communication:

The control board is configured as a slave.
If the control board is not located at the end of the line, remove the jumper located to the right of the connector.

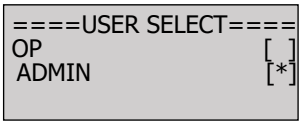
5.2 Ethernet TCP/IP Communication

The control board is configured as a server.

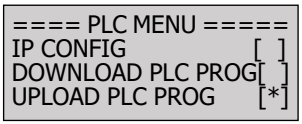
5.3 Modification of the IP address

The default IP address of the control board is: **192.168.0.100**
This static IP address can be modified or configured in DHCP.

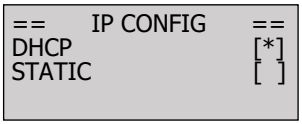
To modify the IP address, you must:



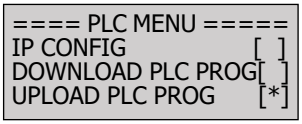
1- Go to the OP menu of the control board by pressing the "ESC" and "ENTER" keys simultaneously for 3s.



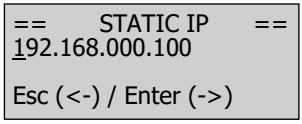
2- Using the arrow ▼, select the "IP CONFIG" function with the "ENTER" key



3- Choose your IP address assignment mode:
- **DHCP**: automatic assignment of the IP address
- **STATIC**: configuration of a static IP address



4- If you select the "DHCP" mode, press "ESC" several times to exit the menu



5- If you select the "STATIC" mode, configure the desired IP address using:
- **ESC:** Cancel/Previous digit
- **▼and▲:** Digit selection
- **ENTER:** Next digit/Validation

5.4 Exchange table:

The Modbus exchange table for the board is as follows:

Data	Data type	Direction	Type	Address	Description
Controls	Boolean	Write	Coil	0	Open command (0 = non-active; 1 = active)
	Boolean	Write	Coil	1	Close command (0 = non-active; 1 = active)
	Boolean	Write	Coil	2	Reserved
	Boolean	Write	Coil	3	Reserved
	Boolean	Write	Coil	4	Reserved
	Boolean	Write	Coil	5	Reserved
	Boolean	Write	Coil	6	Reserved
	Boolean	Write	Coil	7	Reserved
	Boolean	Write	Coil	8	Reserved
	Boolean	Write	Coil	9	Reserved
	Boolean	Write	Coil	10	Reserved
	Boolean	Write	Coil	11	Reserved
	Boolean	Write	Coil	12	Reserved
	Boolean	Write	Coil	13	Reserved
	Boolean	Write	Coil	14	Reserved
	Boolean	Write	Coil	15	Reserved
Statuses	Boolean	Read	Input Discretes	0	Barrier open (0 = non-open; 1 = open)
	Boolean	Read	Input Discretes	1	Barrier closed (0 = non-closed; 1 = closed)
	Boolean	Read	Input Discretes	2	Unhinged barrier (0 = unhinged; 1 = non-unhinged)
	Boolean	Read	Input Discretes	3	Barrier in fault (0 = fault; 1 = not in fault)
	Boolean	Read	Input Discretes	4	Open command status (CTM) (0 = non-active; 1 = active)
	Boolean	Read	Input Discretes	5	Closed command status (CTM) (0 = non-active; 1 = active)
	Boolean	Read	Input Discretes	6	Open command status (Modbus) (0 = non-active; 1 = active)
	Boolean	Read	Input Discretes	7	Closed command status (Modbus) (0 = non-active; 1 = active)
	Boolean	Read	Input Discretes	8	Safety loop status (0 = no detection; 1 = detection)
	Boolean	Read	Input Discretes	9	IR cell status (0 = no detection; 1 = detection)
	Boolean	Read	Input Discretes	10	Free opening loop status (0 = no detection; 1 = detection)
	Boolean	Read	Input Discretes	11	FAP activation status (0 = non-active; 1 = active)
	Boolean	Read	Input Discretes	12	FAT activation status (0 = non-active; 1 = active)
	Boolean	Read	Input Discretes	13	Reserved
	Boolean	Read	Input Discretes	14	Reserved
	Boolean	Read	Input Discretes	15	Reserved
Cycles	Double word	Read	Holding Register	0-1	Number of cycles
	Double word	Read	Holding Register	2-3	Number of unhingings

Following:

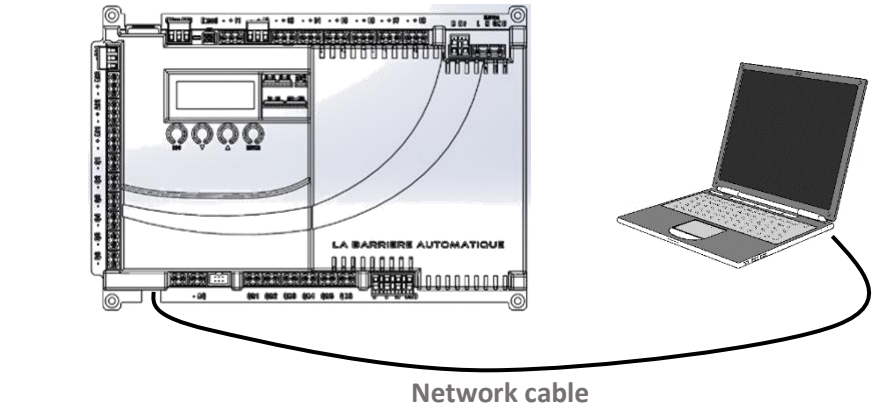
Data	Data type	Direction	Type	Address	Description
Life word	Word	Read	Holding Register	4	Life word (increment by 1 every second; reset to 10000)
Serial number	Double word	Read	Holding Register	6-7	Barrier serial number. It must first be set in the settings
Default code	Word	Read	Holding Register	8	Fault number (if faulty): 0: No fault 1 to 200: Motor fault 201: Crank missing 202: Operation time exceeded during opening 203: Maneuvering time exceeded during closing 204: Obstacle detected during closing 205: Barrier type unknown

6 Web server

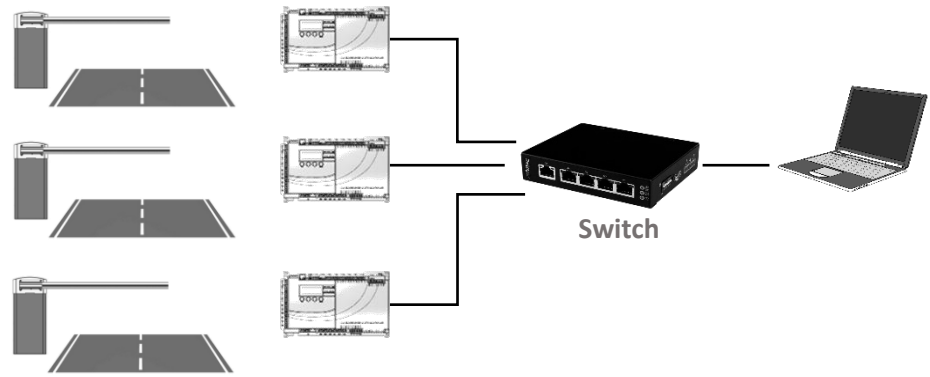
The ONE-C control board has a built-in web server that makes it possible to view, control, and configure the barrier using a web browser.

6.1 Connection to the barrier

To connect to the barrier, simply connect the barrier to the network using an Ethernet cable via the RJ45 port located to the lower right of the control board.



In the event several barriers are installed, it is of course possible to use a switch:

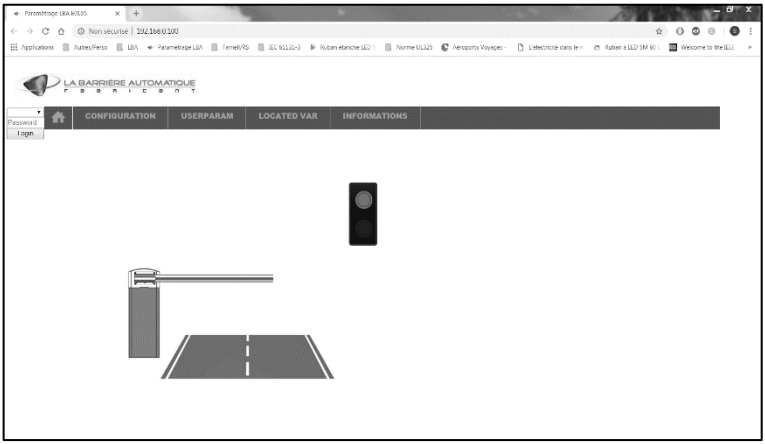


Once the barrier is connected, enter the barrier's IP address in your browser.

The default IP address is: **192.168.0.100**

6.2 Authentification

When you open the web server in your browser, you will see the home page below.



The web server has two possible levels of authentication, with each one offering different possibilities for supervision:

- ***No identification:***
  - Viewing of the status of the barrier
- ***"Admin" profile:***
  - Viewing of the barrier
  - Controlling the barrier with the "Open" and "Close" buttons
  - Access to IP address configuration
  - Access to the barrier's settings that can be accessed via the "Admin" profile

To log in, simply select the ID "ADMIN" at the top left of the page then enter the corresponding password and confirm by clicking on *Login*.

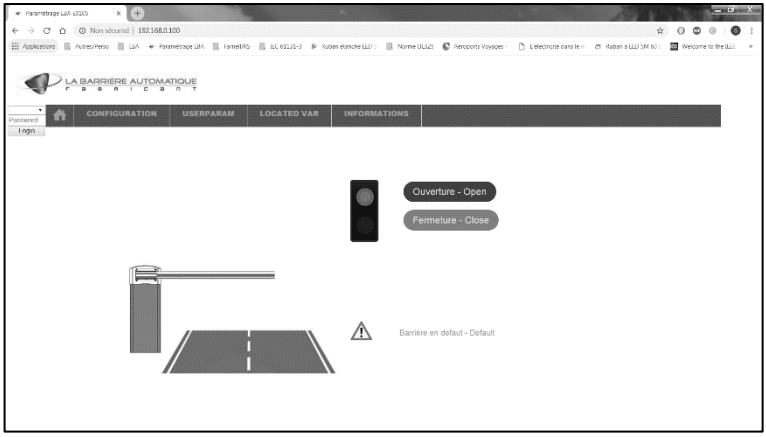
To disconnect, simply click on the *Logout* button.

Note: *To know the "ADMIN" passwords, please contact After-Sales Service.*

6.3 Home page

The web server's home page provides a precise view of the status of the barrier as well as the possibility to control the barrier for the "ADMIN" profile.

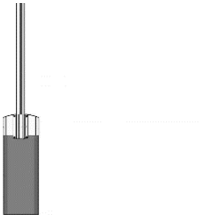
Below is an example of the home page for an "ADMIN" profile.



In this example, the barrier is closed and is in fault.

We also have the "Ouverture – Open" and "Fermeture –Close" buttons that were not present before authentication.

Here is the key for the various images and/or messages that can be displayed on this home page:

Image	Message	Description
	None	The barrier is closed. The "barrier closed" report is activated.
	None	The barrier is open. The "barrier open" report is activated.

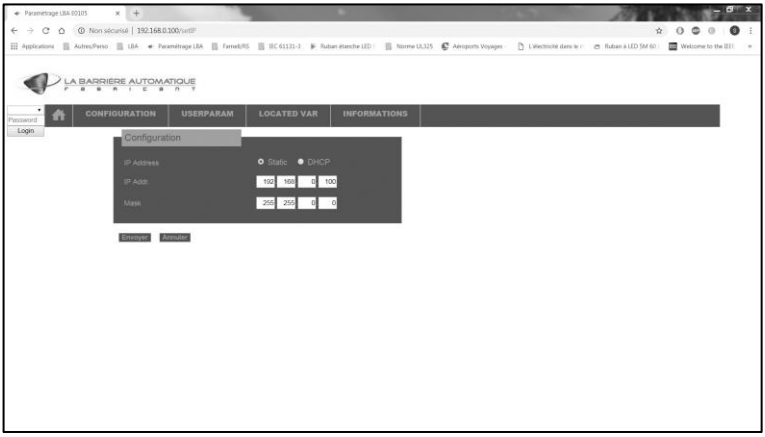
	None	Red light: The barrier is not open or is about to close. Passage is prohibited. The "Red light" output is activated.
	None	Green light: The barrier is open and is not about to close. Passage is authorised. The "Green light" output is activated.
	Safety detection	The barrier is open and detects a presence on the safety loop and/or in front of the infrared (or ultrasound) cells. Closing is impossible.
	Unhinged barrier – Unhinged	The barrier is unhinged or the arm has fallen.
	Barrier in fault – Fault	The barrier is in fault. Motor control is cut off. ***List of possible faults:*** (see §12.2 "Messages for safety activation of the barrier")

If the web server's home page is not sufficient to correctly view the barrier or if you want to configure the barrier, there are other tabs for a more in-depth use of the web server.

6.4 Other tabs

6.4.1 "Configuration" tab

The "Configuration" tab makes it possible to configure the barrier's network settings.

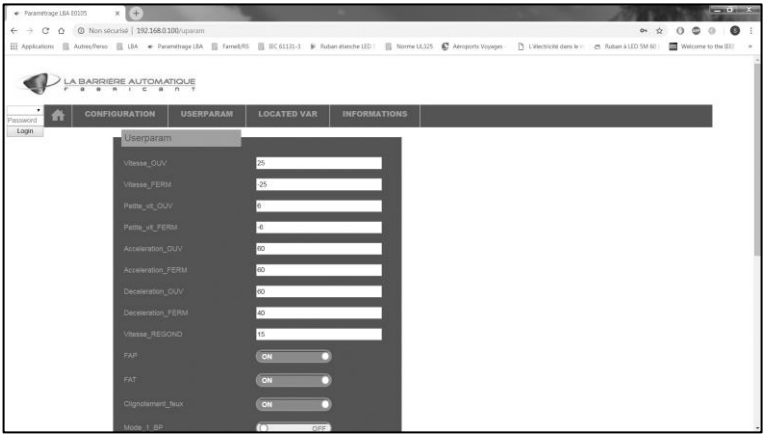


This allows you to choose whether you want the barrier to have a fixed (Static) IP address or if you want the IP address to be assigned automatically by the network that the barrier is connected to (DHCP).

Note: *The IP address can be modified only with the "ADMIN" profile.*

6.4.2 "Userparam" tab (authentication required)

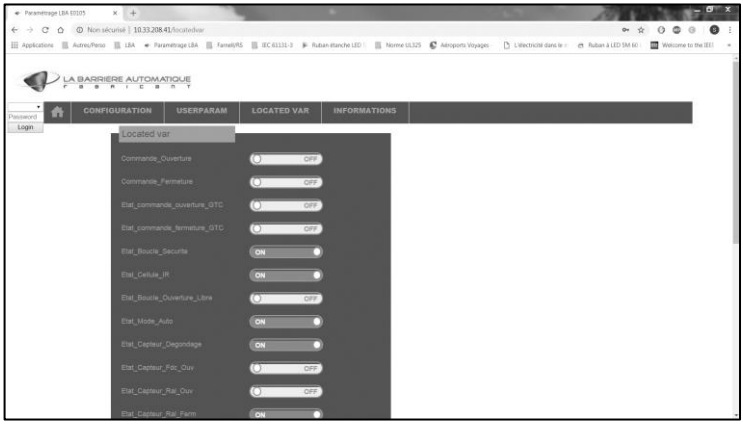
The "Userparam" tab provides access to the various settings allowed by the user profile and also allows them to be modified (see §13.4. "USER PARAMETERS" - Settings for the program).



To confirm a setting modification, you must click on "Send" at the bottom of the page.

6.4.3 "Located var" tab (authentication required)

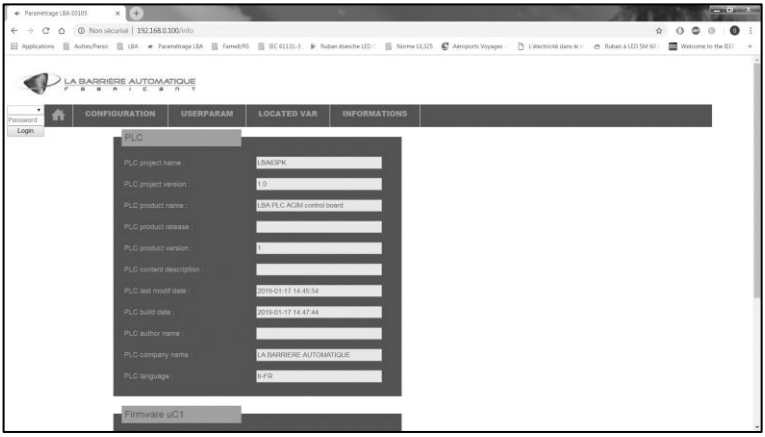
The "Located var" tab provides access to the statuses of the local variables of the barrier for the purposes of troubleshooting, for example.



Note: The page has to be refreshed in order to view the new status of the variables.

6.4.4 Informations" tab

The "Informations" tab includes the list of advanced information for the barrier's program and control board (see §13.2. "INFORMATIONS" - Characteristics of the program).



7 FCC statements

7.1 Changes or modifications

Caution: the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

7.2 Class A

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

7.3 RF Exposure

This device complies with FCC RF radiation exposure limits set forth for general population. This device must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

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