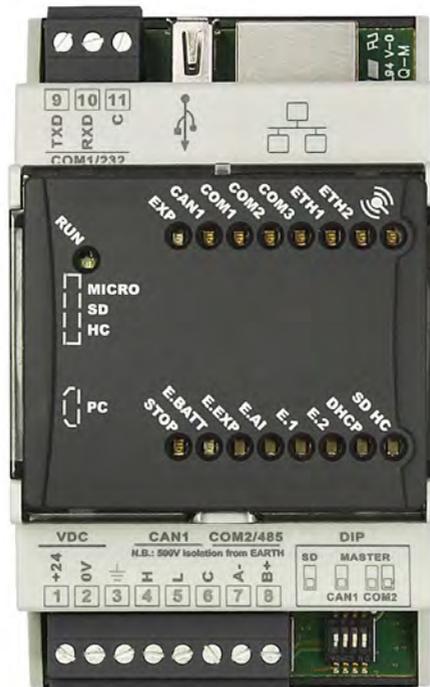


# PL500

Modular PLC

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# Introduction

The PLC Pixsys PL500/PLE500 range features a modular and flexible structure.

The PL500 CPU is a control unit and connectivity node, complete with serial RS485 and RS232 (Modbus RTU), Ethernet (Modbus TCP/IP) and CanOpen and is based on an ARM CORTEX A8 -1 GHz microprocessor.

The various combinations of analogue-digital I/O instead reside on the PLE500 modules, which communicate via real-time internal Bus on DIN-rail.

The LogicLab development environment is available in order to program the logic and can be downloaded from the dedicated area at [www.pixsys.net](http://www.pixsys.net).

## 1 Safety guidelines

Read carefully the safety guidelines and programming instructions contained in this manual before connecting/using the device.

Disconnect power supply before proceeding to hardware settings or electrical wirings to avoid risk of electric shock, fire, malfunction.

Do not install/operate the device in environments with flammable/explosive gases.

This device has been designed and conceived for industrial environments and applications that rely on proper safety conditions in accordance with national and international regulations on labour and personal safety. Any application that might lead to serious physical damage/ life risk or involve medical life support devices should be avoided.

Device is not conceived for applications related to nuclear power plants, weapon systems, flight control, mass transportation systems.

Only qualified personnel should be allowed to use device and/or service it and only in accordance to technical data listed in this manual.

Do not dismantle/modify/repair any internal component.

Device must be installed and can operate only within the allowed environmental conditions. Overheating may lead to risk of fire and can shorten the lifecycle of electronic components.

### 1.1 Organization of safety notices

Safety notices in this manual are organized as follows:

Safety notice	Description
<b>Danger!</b>	Disregarding these safety guidelines and notices can be life-threatening.
<b>Warning!</b>	Disregarding these safety guidelines and notices can result in severe injury or substantial damage to property.
<b>Information!</b>	This information is important for preventing errors.

### 1.2 Safety Precautions

<b>Danger!</b>	CAUTION - Risk of Fire and Electric Shock This product is UL listed as Open Type Process Control Equipment. It must be mounted in an enclosure that does not allow fire to escape externally.
<b>Danger!</b>	If the output relays are used past their life expectancy, contact fusing or burning may occasionally occur. Always consider the application conditions and use the output relays within their rated load and electrical life expectancy. The life expectancy of output relays varies considerably with the output load and switching conditions.
<b>Warning!</b>	Devices shall be supplied with limited energy according to UL 61010-1 3rd Ed, section 9.4 or LPS in conformance with UL 60950-1 or SELV in conformance with UL 60950-1 or Class 2 in compliance with UL 1310 or UL 1585.
<b>Warning!</b>	Loose screws may occasionally result in fire. For screw terminals, tighten screws to tightening torque of 0.5 Nm

**Warning!**

A malfunction in the Digital Controller may occasionally make control operations impossible or prevent alarm outputs, resulting in property damage. To maintain safety in the event of malfunction of the Digital Controller, take appropriate safety measures, such as installing a monitoring device on a separate line.

## 1.3 Precautions for safe use

Be sure to observe the following precautions to prevent operation failure, malfunction, or adverse effects on the performance and functions of the product. Not doing so may occasionally result in unexpected events. Do not handle the Digital Controller in ways that exceed the ratings.

- The product is designed for indoor use only. Do not use or store the product outdoors or in any of the following places.
  - Places directly subject to heat radiated from heating equipment.
  - Places subject to splashing liquid or oil atmosphere.
  - Places subject to direct sunlight.
  - Places subject to dust or corrosive gas (in particular, sulfide gas and ammonia gas).
  - Places subject to intense temperature change.
  - Places subject to icing and condensation.
  - Places subject to vibration and large shocks.
- Installing two or more controllers in close proximity might lead to increased internal temperature and this might shorten the life cycle of electronic components. It is strongly recommended to install cooling fans or other air-conditioning devices inside the control cabinet.
- Always check the terminal names and polarity and be sure to wire properly. Do not wire the terminals that are not used.
- To avoid inductive noise, keep the controller wiring away from power cables that carry high voltages or large currents. Also, do not wire power lines together with or parallel to Digital Controller wiring. Using shielded cables and using separate conduits or ducts is recommended. Attach a surge suppressor or noise filter to peripheral devices that generate noise (in particular motors, transformers, solenoids, magnetic coils or other equipment that have an inductance component). When a noise filter is used at the power supply, first check the voltage or current, and attach the noise filter as close as possible to the Digital Controller. Allow as much space as possible between the Digital Controller and devices that generate powerful high frequencies (high-frequency welders, high-frequency sewing machines, etc.) or surge.
- A switch or circuit breaker must be provided close to device. The switch or circuit breaker must be within easy reach of the operator, and must be marked as a disconnecting means for the controller.
- The device must be protected by a fuse 5A (cl. 9.6.2).
- Wipe off any dirt from the Digital Controller with a soft dry cloth. Never use thinners, benzine, alcohol, or any cleaners that contain these or other organic solvents. Deformation or discoloration may occur.
- The number of non-volatile memory write operations is limited. Therefore, use EEprom write mode when frequently overwriting data, e.g.: through communications.

## 1.4 Environmental policy / WEEE

Do not dispose electric tools together with household waste material.

According to European Directive 2012/19/EU on waste electrical and electronic equipment and its implementation in accordance with national law, electric tools that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

## 2 Model identification

The PL500 series comes in 2 versions:

PL500-335-1AD	PLC DIN Rail 1 Ethernet, 1 RS485, 1 RS232, 1 CANopen
PL500-335-1AD-WEB	PLC DIN Rail 1 Ethernet, 1 RS485, 1 RS232, 1 CANopen Movicon Webserver

## 3 Technical data

### 3.1 General characteristics

Supply voltage	12..24 VDC $\pm$ 10%
Consumption (max. Use with 1 USB device)	5 W
Operating conditions	Temperature: 0-45°C; humidity 35..95 RH% without condensation
Container	DIN43880, 54 x 90 x 64 mm
Materials	Container: PC UL94V0 self-extinguishing Front panel: PC UL94V0 self-extinguishing
Protection	IP20 (container and terminals)
Weight	Approximately 130 g

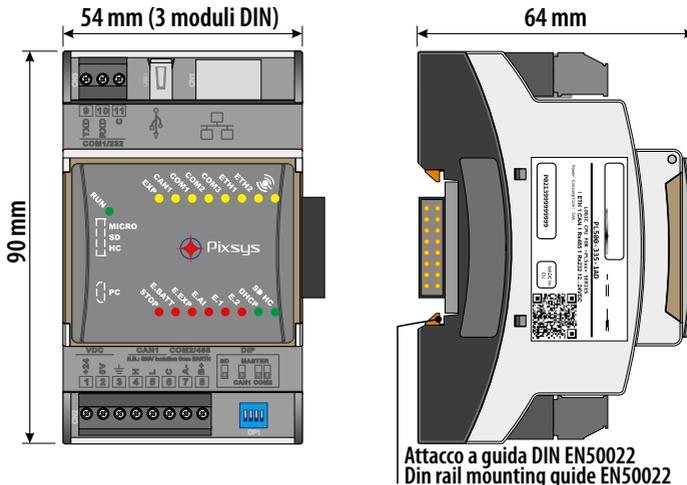
### 3.2 Hardware characteristics

CPU	ARM® CORTEX™ - A8 @1.0GHz
RAM	512 MB DDR3
eMMC	4GB for PLC code and retentive memories

### 3.3 Software characteristics

	PL500-335-1AD	PL500-335-1AD-WEB
Minimum cycle time	5mS	10mS
No. of non retentive words	10,000 words	
No. of retentive words	10,000 words	
Timer, meter, PID functions	unlimited	
PLC code size	unlimited	

## 4 Dimension and installation



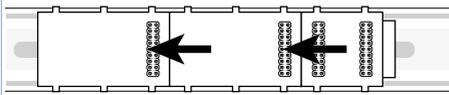
Attacco a guida DIN EN50022  
Din rail mounting guide EN50022

## 4.1 Mounting sequence of the PL500 and of the PLE500 expansion modules

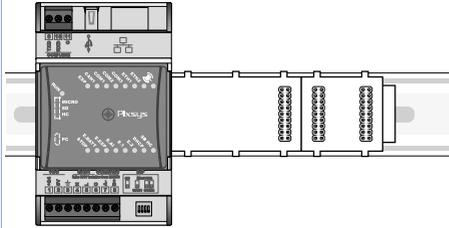
The PL500 with the relevant I/O modules requires mounting and connection via the specific bus lodged in the hollow of the DIN rail. **The I/O modules (series PLE500-xAD) will be automatically numbered at each power-on, assigning the number 1 to the first I/O module connected to the right of the PL500, the number 2 to the following one and so on, always moving towards the right side.** The position of the various modules shall thus reflect the sequence set in the LogicLab project in the definition of the PLCEXP network. For the numbering procedure to work correctly, it is not permitted to remove devices from the network by releasing them from their own bus and leaving some empty modules (bus slots) between one module and another. All connection/disconnection operations must be carried out with power off.



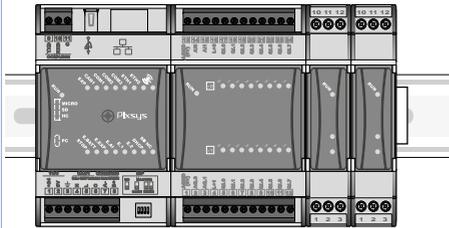
Couple all the buses by pushing them towards the DIN rail, making sure that the male connection faces left and the female one faces right.



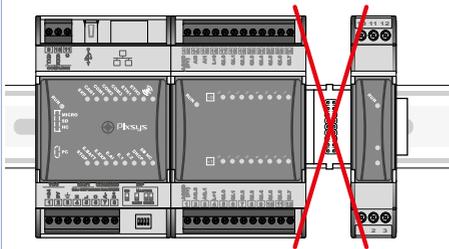
Couple the buses together by sliding them along the DIN rail.



Insert the various modules in the slots of the buses starting from the PL500 and continuing to the right with the I/O modules.



Proceed with mounting all the modules according to the requested order until the plc is completely formed.



It is not possible to leave free slots in the bus between one module and another.

## 5 Electric connections

This instrument was designed and built in compliance with the Low Voltage Directives 2006/95/CE, 2014/35/EU (LVD) and Electromagnetic compatibility 2004/108/EC and 2014/30/EU (EMC). For installation in industrial environments it is a good rule to follow the precautions below:

- Distinguish the power supply line from the power lines.
- Avoid the proximity with contactor units, electromagnetic contactors, high power motors and use filters in any event.
- Avoid the proximity with power units, particularly with phase control.
- The use of network filters is recommended on the power supply of the machine in which the instrument will be installed, particular in case of 230 VAC power supply.

The instrument is devised to be assembled with other machines. Therefore, the EC marking of the instrument does not exempt the manufacturer of the system from the safety and conformity obligations imposed for the machine as a whole.

- Wiring of pins use crimped tube terminals or flexible/rigid copper wire with diameter 0.25 to 1.5 mm<sup>2</sup> (min. AWG28, max. AWG16, operating temperature: min. 70°C). Cable stripping length 7 to 8 mm.

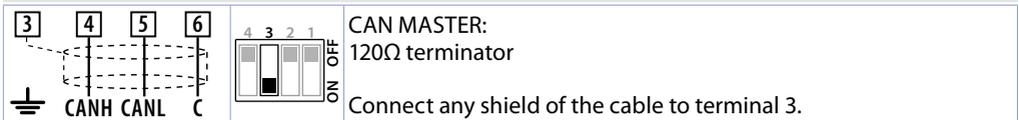
### 5.1 Wiring diagram



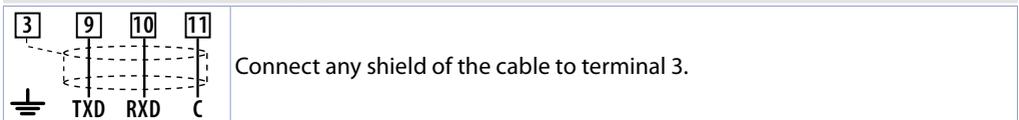
#### 5.1.a Power supply



#### 5.1.b CAN1 serial



#### 5.1.c RS232 / COM1 serial



### 5.1.d RS485 / COM2 serial

		<p>RS485 MASTER: 120Ω terminator 470Ω polarizer</p>
		<p>RS485 MASTER: 470Ω polarizer only</p>
		<p>RS485 SLAVE: 120Ω terminator only</p>

### 5.1.e Ethernet

	<p>10/100 Mbit Ethernet port to program the development software and network connectivity.</p>
--	--

### 5.1.f PLE / DIN bus

	<p>Bus connector to be lodged in the hollow of the DIN rail to connect any I/O module to the PL500. For the mounting sequence see paragraph 1.2.</p>
--	--

### 5.1.g USB

	<p>USB 2.0 port for Backup / Restore of the mass archiving functionalities and applications (the memory must be formatted in FAT/FAT32).</p>
--	--

### 5.1.h Micro SD slot (internal)

		<p>MicroSD slot for Backup / Restore of applications and mass archiving functionalities (the memory must be formatted in FAT/FAT32). The Boot function from MicroSD is possible by positioning the DIP 4 of the external Dip switch on ON.</p>
--	--	--

### 5.1.i S1 button for system Backup / Restore (internal)

	<p><b>Backup:</b></p> <ol style="list-style-type: none"> <li>1 Insert a MicroSD (internal) or USB (external) memory.</li> <li>2 Position the “Stop” DIP to <b>ON</b> and turn the PLC on by pressing the button (the internal green LED turns on).</li> <li>3 Wait for the completion of the Backup procedure (the internal green LED turns off).</li> <li>4 Turn the PLC off, remove the MicroSD or USB memory and turn the device on again.</li> </ol>
	<p><b>Restore:</b></p> <ol style="list-style-type: none"> <li>1 Insert a MicroSD or USB memory containing the Backup.</li> <li>2 Position the “Stop” DIP to <b>OFF</b> and turn the PLC on by pressing the button (the internal green LED turns on).</li> <li>3 Wait for the completion of the Backup procedure (the internal green LED turns off).</li> <li>4 Turn the PLC off, remove the MicroSD or USB memory and turn the device on again.</li> </ol>

## 6 DIP switch settings (internal)

### 6.a IP address

	<p><b>STOP</b> To interrupt the running of the PLC program.</p>
	<p><b>192.168.0.ID</b></p> <ul style="list-style-type: none"> <li>• If set to ON, force the first part of the IP address of the PLC to “192.168.0.”, then allow the last part of the address to be assigned through two internal rotary-switches IDX10 and IDX1.</li> <li>• If set to OFF (<b>default</b> position) the IP address is 192.168.0.99 (or the last one manually assigned using the TdControlPanel for the version PL500-335-1AD-WEB).</li> </ul>
	<p><b>DHCP</b> If set to ON, force the assignment of the IP address of the PLC through the DHCP function; as a result, this service must be enabled in the network where the device resides.</p>
	<p>Condition not available yet.</p>
	<p><b>BATT</b> If set to ON, it inserts the battery in the circuit of the internal clock. This DIP must remain on ON to maintain the system clock active also without power.</p>

### 6.b Battery (internal)

	<p>The battery allows the system clock of the PLC to be kept active also without power. When flat, the original battery can be replaced with a standard battery of the CR2032 type.</p>
--	---

## 6.1 Meaning of the status lights (LED)

●	RUN	Fixed on indicates the normal operation of the PLC. Flashing in flash mode every 1 s indicates that the device is still in the initialization phase and the PLC has not started yet (STOP LED on).
●	EXP	The LED indicates that the PLC program requires the use of the PLCEXP expansion bus
●	CAN1	The LED indicates that the PLC program requires the use of the CAN1 bus
●	COM1	The LED indicates that the PLC program requires the use of the COM1 serial line
●	COM2	The LED indicates that the PLC program requires the use of the COM2 serial line
●	COM3	The LED indicates that the PLC program requires the use of the COM3 serial line
●	ETH1	The LED indicates the presence of activity on the ETH1 network
●	ETH2	The LED indicates the presence of activity on the ETH2 network
●	WIFI	The LED indicates the presence of activity on the wi-fi network
●	STOP	The LED on indicates that the PLC is in the STOP status
●	E.BATT	The LED on indicates that the battery of the clock is flat and must be replaced
●	E.EXP	The LED on indicates an anomaly on the PLCEXP expansion bus (missing/faulty modules or modules that do not match the program being run)
●	E.AI	The LED on indicates that one or more analogue inputs of the PLCEXP bus modules is out of range
●	E.1	The LED on indicates a software/hardware error in the PLCEXP bus expansion modules
●	E.2	The LED on indicates that the PLC is in software/hardware error
●	DHCP	The LED on indicates that the IP address of PLC is assigned automatically by the DHC
●	SD HC	The LED indicates that the PLC is set to BOOT from SD memory (dip SD on ON)

## 7 Graphic interface – Webserver function

In the PL500-335-1AD-WEB version, the PL500 PLC makes a graphic interface available, with the possibility of developing synoptics with the Movicon 11 CE scada, such as the HMI terminals of the TD710, TD810, TD820 series.

The graphic interface can be accessed through any “VNC client” program connected to the IP address assigned by the internal dip-switches (see paragraph 6.a). This interface lets you access the TdControl-Panel (common to HMIs) and thus configure the start of the Movicon 11 scada and of the Webserver function.

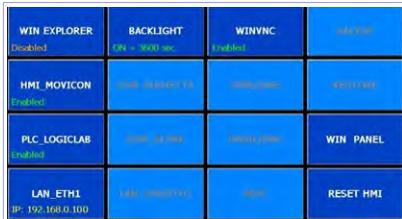
The Webserver function lets you access Movicon synoptics developed by the user from any Internet browser with Java service active (the use of the “Internet Explorer” browser is advised) or with the dedicated App, available for Android and iOS devices.

## 8 TdControlPanel



When starting the device, a project opens that allows you to verify the general status of the machine, system date and time, associated IP address, SoftPLC running in the background.

Using a VNC client you can view from your PC what is displayed on the PLC/HMI. When you start a browser with Java service active you can also test whether the Webserver function of the device is active. You need to use the Internet Explorer browser for this function.



Use the “Td Control Panel” button to access the device control panel, where you can verify and configure the various services and projects to be launched upon start up, in addition to the possibility of configuring the wait time before back lighting turns off, the buzzer upon touching the display, etc.

The paragraph below describes each function of the windows in the TdControlPanel.

**NB: The pictures show the device default configuration.**

### 8.a WIN EXPLORER



This window lets you choose a set of options for Windows CE start modes and the running of the TDControlPanel.

- The first option starts Windows CE with desktop.
- The second options lets you start the TDControlPanel if, during terminal start-up, the button “Stop” is held down .
- Enable the third option to set a protection password and avoid unauthorized users accessing the TDControl-Panel settings, holding the “STOP” button down .

The “START WINDOWS DESKTOP” buttons lets you start the “Explorer.exe” service and access Windows CE desktop.

## 8.b HMI\_MOVICON



Use this window to select the services and programs relating to Movicon 11 to be run automatically when starting the device.

The functions of the Movicon scada are available in all the HMIs and in the PL500 in the “WEB” version (PL500-335-1AD-WEB)

The “START” button starts the Movicon project (and the file upload service) manually.

## 8.c PLC LOGICLAB

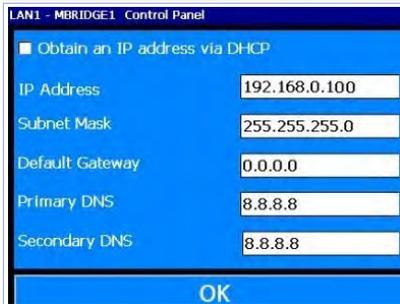


Use this window to enable/disable the running of the SoftPLC when starting the device. When you select the “RUN console DEBUG” flag while running the SoftPLC, the Debug window will be compiled with the system events in real time to be able to check any anomalies.

**NB:** this function requires many resources from the device. You are advised to keep it active only if you experience problems while developing the software. You are recommended to disable it at the end of the development phase!

The “START” button starts the SoftPLC project (and any debug window) manually.

## 8.d LAN ETH1

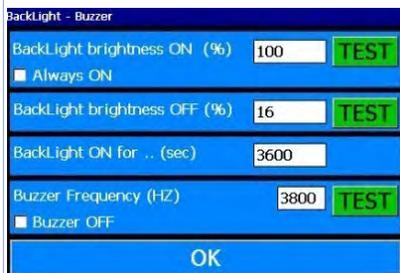


Use this window to change the network configuration parameters of the device. Restart for any change to be applied.

**NB: for the SoftPLC and Movicon program to be transferred to the device, this must have a fixed address as it is not possible to work in DHCP.**

The default IP address of the HMIs is 192.168.0.100  
The default IP address of the PL500 is 192.168.0.99

## 8.e BACKLIGHT - BUZZER



Use this window to configure the parameters regarding the backlight and the buzzer. When the “Always ON” function is enabled the backlight remains always on, otherwise enter the time in seconds to start the power off or dimming of the light in the third field “Backlight ON for..(sec)” Use the 1st and 2nd field to set: the brightness (100% = one, 0%=off) in normal operating conditions and in standby. The fourth field “Buzzer frequency” lets you set the frequency of the buzzer sound: the higher the frequency the more piercing the sound. The “Buzzer OFF” flag disables the buzzer during the touch. The “TEST” buttons let you test the set parameters before saving the configuration.

## 8.f WINVNC



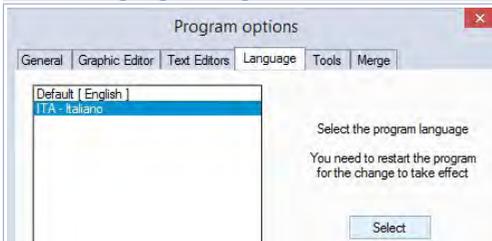
Use this window to enable/disable the VNC remote Desktop service. The "START VNC" button enables this service manually. The "START VNC\_CONFIG" button opens the VNC configuration window to set the authentication system, change the access password, etc. Be warned that the change of parameters is advised for advanced users, the incorrect change of the parameters will cause the remote desktop service to malfunction. **The default password to access the remote Desktop of the device via VNC is "1234".**

## 9 Suite LogicLab

Suite LogicLab is Pixsys development environment to program the PLC PL500 and the entire family of operator terminals and PanelPCs.

The suite can be downloaded from the download area of the pixsys.net website after having registered and does not require any activation code. It is compatible with all Windows 32/64bit versions starting from Windows XP SP3 and is available in English and Italian. Once you download the setup file on your computer, start the installation and follow the standard procedure. Once the program has been installed, it is started through the "LogicLab" item  on the desktop or from the "Start" > "PixsysSuite" > "LogicLab" menu.

### 9.a Language change



To change the language displayed you need to open the options window from the "File" > "Options" menu, move to the "Language" tab, select the item "ITA - italiano" and press "Select". Confirm with "OK" and finally close and open LogicLab for the changes to take effect.

### 9.b Creating - loading a project



#### Opening an existing project:

- With LogicLab aperto, click the "Open project" button or select one of the last opened projects from the proposed list.
- With LogicLab closed, enter the project folder and double click on the file with the name of the desired project, which will have the icon  and extension ".plcprj".



### Creating a new project:

Press the “New project” button.

In the appearing window enter a name for the project and identify the folder where the project files must be inserted. Finally select the device you wish to program.

**Warning:** when selecting the “case sensitive” flag, a variable that contains a capital letter will be meant as different from another same one but with this as a lower-case letter. We suggest that you leave this selection disabled to avoid any confusion while drafting the program code.

## 9.c Connection to the target

Listed below are the requirements needed for the correct connection between the target (device to be programmed) and the development environment on PC (LogicLab).

Requirements to be checked on the target:

- device on and started
- configured with static IP address compatible with the network where it resides and the PC with which it must connect. By default, the IP address of the HMI terminals is 192.168.0.100, that of the PL500 is 192.168.0.99; therefore, the PC with the development must have the same network and class (192.168.0.XXX in this case) but a different physical address (i.e. the last 3 digit of the IP address, with any number ranging between 1 and 255, other than 100). If you need to change the IP address of the terminal in relation to the default, please refer to the configuration of the TD Control Panel, “LAN ETH1” section under [par. 8.d](#).
- connection with (direct or cross) network cable directly to the PC or through a network switch
- SoftPLC running (for this refer to the TD Control Panel configuration, “PLC LOGICLAB” section under [par. 8.c](#)).

Requirements to be checked on the development PC:

- IP address compatible with the existing network where it resides and with the IP address configured in the target (see previous points)
- anti-virus/firewall that allows the connection to network devices (they are usually already correctly configured)
- LogicLab configured to connect to the connected target you want to program: to do this, browse the “On Line” > “set communication” menu and in the appearing window press the “Properties” button and then under the “IP Address” item enter the IP address of the target, leaving everything else unchanged. In case of very slow networks or of a network configuration with different switches, the “Timeout” value (expressed in mS) may be increased.



The image shows the default configuration

Confirm all the windows pressing “OK” and save using the  icon or through the “file” > “Save Project” menu.

At this point, to check that the configuration of the LogicLab and the target is correct, connect by pressing the  icon or from the "On Line" > "Connect" menu. If the connection is successful the status bar in the bottom right will show "CONNECTED" and "NO CODE" to indicate that the target is connected and has no code inside it, or "DIFF CODE" to indicate that the code displayed does not match the one residing in the target.



#### 9.d Compiling and downloading the code

Once the project code has been entered, you need to compile it to make sure there are no errors, pressing F7, through the  icon or the "Project" > "Compile" menu.

If compiling is successful you can transfer the program to the target pressing F5, through the  icon or from the "On Line" > "Code transfer" menu.

At this point the status bar will show "CONNECTED" and "SOURCE OK" indicating that the program being run in the target corresponds to the one being displayed on the PC.



#### 9.e The watch window

If the program being run in the target matches the one being displayed on the PC, the status bar shows "CONNECTED" and "SOURCE OK" and it is thus possible to use the "Watch" window to check the status of the variables used in the project in real time. Enable the "Watch" window by pressing the CTRL+T buttons or use the "View" > "Instrument window" > "Watch" menu. To add a variable to the "Watch" window simply drag it inside it or press the  icon and select it manually.

Watch ⌵ ✕



Simbolo	Valore	Tipo	Posizione
▲ COUNTER	1871	DINT	global

From this moment on the "Watch" window will start to display the value of the entered variable, in real time.

Use the specific buttons    to save, download and add an already existing watch-list to the list of variables.

Formato valore ✕

Formato

Con segno OK

Senza segno Annulla

Hex

Binario

Ottale

Esadecimale

If you wish to change the display format simply select the variable and press the icon . From the appearing window select the desired format and confirm with "OK".

# 10 Interfacing Movicon 11 with LogicLab

NB: Movicon 11.5 or above is required.

## To do only the first time:

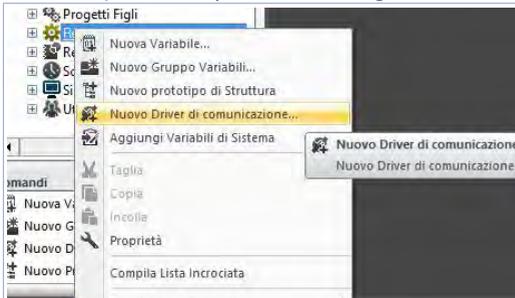
In the PC with the development, copy the “Drivers.xml” and “Pixsys.dll” files in C:\Program Files (x86)\Progea\Movicon11.5\Drivers overwriting those present.

If you are using a Panel PC (TD750-TD850-TD900-TD910-TD920) you need to do it also on the Panel PC. Premise: with this procedure all the PLC system variables and all the variables created and used on the PLC are imported.

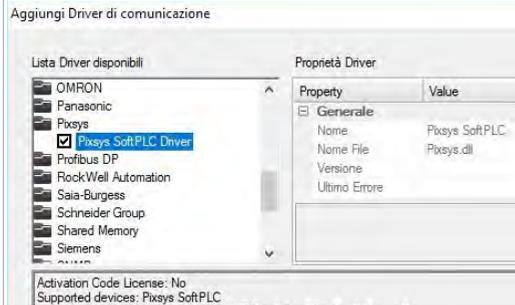
The list of PLC variables is created and updated only if the LogicLab program is compiled without errors and downloaded on the target.

### 10.a Creating a new Movicon project

Start the software and choose the “Windows® X86 / X64” platform for the Panel-PCs and “Windows® CE” for the HMIs and for the “WEB” version PL500. If you are creating a new Movicon project following the Wizard, at the end you will see a driver configuration window; go directly to the “Driver configuration” section in *par. 10.b*. If you are installing the driver manually instead, follow the steps below.



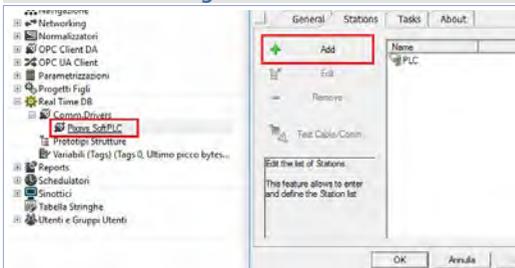
Add the communication driver by right clicking “Real time DB” and then “new communication driver”.



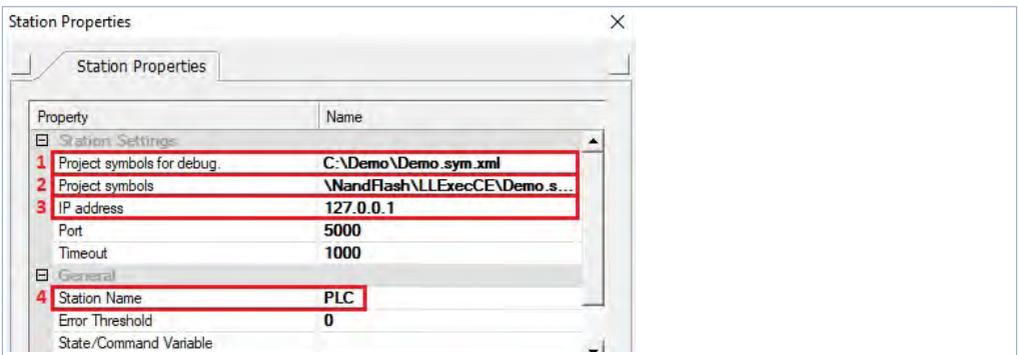
Select “Pixsys” from the manufacturers menu and then “SoftPLC Pixsys”.

Confirm with “OK” and double click the driver just created to open the configuration window.

### 10.b Driver configuration

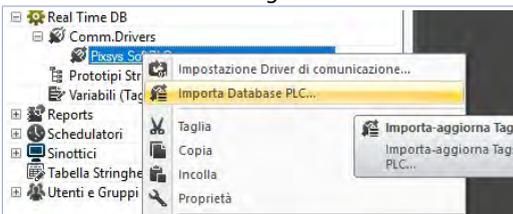


Select the “Station” tab and add a new station with the “ADD” button.

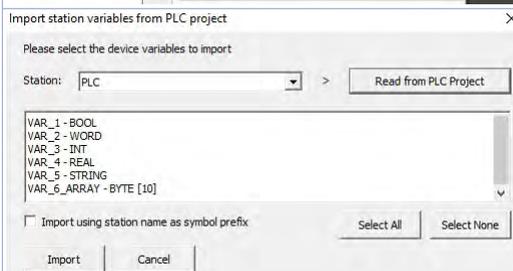


1. Enter the source path of the LogicLab project in the PC with the development. This allows the variable to be imported and run in Movicon preview mode on your development PC, including checking communication with the SoftPLC. For this function, in the next step you need to state the IP address of the terminal being programmed (only at the end of the development will you need to enter the localhost address *127.0.0.1* to have the Movicon project communicate with the SoftPLC residing in the same machine).
2. This field is self-compiled after entering the path of point 1. If you are using HMIs and the PL500, do not change the self-compiled field, in case of Panel-PC (TD750-TD850-TD900 etc.) enter the path where the project was downloaded (by default *D:\LLExec\NomeMioProgettoLogicLab.sym.xml*).
3. If the Movicon application is run in the Panel HMI or in the Panel-PC where also the SoftPLC is present, enter IP address *127.0.0.1*.  
If, on the other hand, Movicon is run in a Panel HMI or Panel-PC other than that where the SoftPLC resides, you must enter the IP address of the softPLC.
4. From the "General" section assign a name to the station, e.g.: "PLC".

Press OK to save the settings and exit.



You can now import the variables of the LogicLab project in Movicon. Press the right key on "SoftPLC Pixsys" and select "Import PLC database".



Press "Read from PLC project" to get the list of available variables.

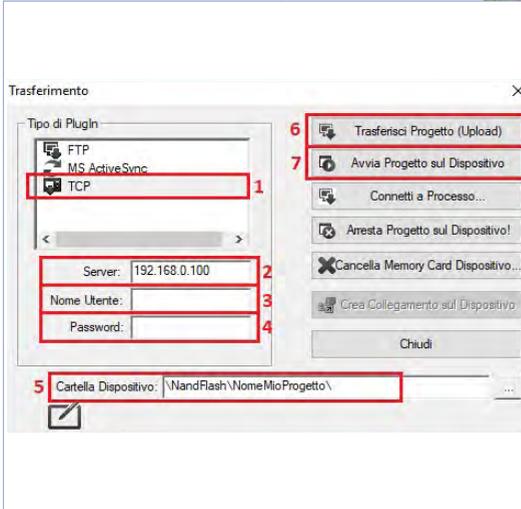
Now select the variables you wish to import and press "Import".

**NB:** If you are importing an array type variable, this will be viewed as a structure that has the name of the array. The single members of the array will be accessible individually with the syntax *NomeMioArray\_X* where *X* is the index of the array (starting from 0).

The variables are now available in the Movicon project. If you need to import new variables, for example in case of changes to the LogicLab project, only repeat the variable reading and import procedure.

## 10.c Transferring the Movicon code in the target

To transfer the Movicon project use the icon:



1. Select the transfer protocol: *TCP*
2. Enter the target IP address (default for HMI/PLC: *192.168.0.100*)
3. In case of HMI/PLC leave empty, in case of Panel-PC enter *user* (or the name of the user with which access to the Panel-PC target was made).
4. In case of HMI/PLC leave empty, in case of Panel-PC enter *123456*
5. In case of HMI/PLC enter *\NandFlash\NomeMioProgettoMovicon\*, in case of Panel-PC enter *D:\NomeMioProgettoMovicon\*. Movicon will thus create a folder called *NomeMioProgettoMovicon* and will download all the project files within it.
6. Press "*Transfer Project (Upload)!*" to start the transfer (press "*Yes to All!*" in case a project has been previously downloaded and you wish to overwrite it).

**NB:** If you wish to transfer more than one different version/project, simply change the target folder (in any case maintaining the first part *\NandFlash*). From the *TdControlPanel* choose the project, among those present in the device memory, to be started automatically when powering the target (see paragraph *10.b*).

7. Once the download procedure has been completed, press "*Start Project on the Device!*" to have it run on the target (the project being run will be terminated and the last transferred will be activated).

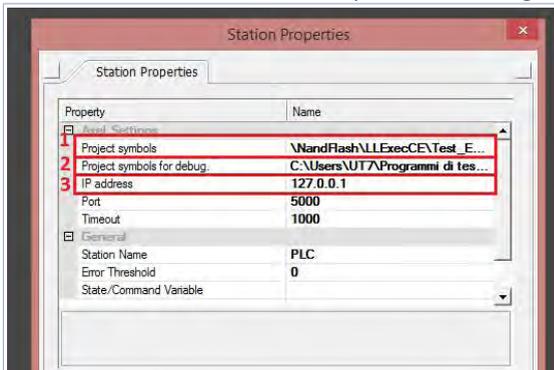
## 11 Simulating the entire project SoftPLC + SCADA

From **LogicLab**, launch the simulator from the icon or from the "*Debug*" > "*Simulation mode*" menu. In the window that appears create a new work area indicating the name and the target folder (the folder where the project resides is selected by default).

At this point, the simulator will appear as started and connected (the status window will signal the "*CONNECTED*" status) but without code (the status window will signal the "*NO CODE*" status), now transfer the code pressing *F5*, through the icon or from the "*Online*" > "*Code transfer*" menu.

Make sure that the status bar shows "*CONNECTED*" and "*SOURCE OK*". If you still view "*NO CODE*", restart the simulator by pressing the icon or from the "*On-line*" > "*Target reboot*" menu.

From **Movicon**, enter the *Pixsys* driver configuration window and configure as follows:



1. Enter the folder where the simulator is working, set "*All files (\*.\*)*" as filter for the file type and select the file *NomeMioProgettoLogicLab.sym.simul*. Pay close attention to the file extension since many files with the same name but with a different extension exist in the project folder.
2. Enter the folder where the *LogicLab* project resides and select the *NomeMioProgettoLogicLab.sym.xml*
3. Set the localhost address: *127.0.0.1*



Read carefully the safety guidelines and programming instructions contained in this manual before using/connecting the device.

Prima di utilizzare il dispositivo leggere con attenzione le informazioni di sicurezza e settaggio contenute in questo manuale.



**PIXSYS s.r.l.**

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