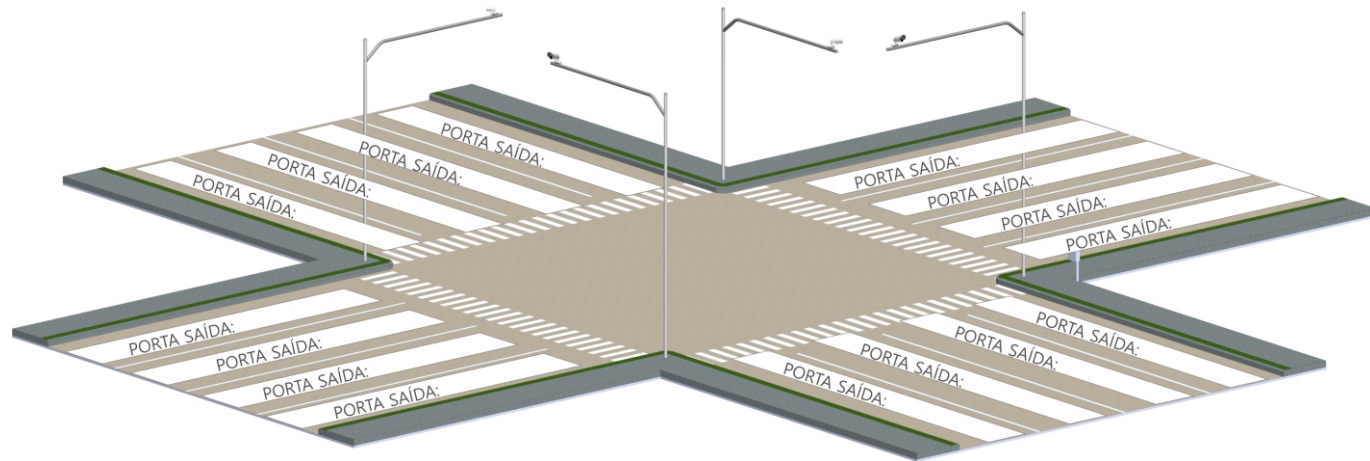# VIGIA VL

INSTALLATION AND MAINTENANCE GUIDE

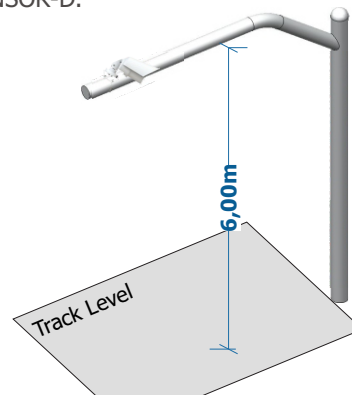### FACILITY MAPPING (COUNTING DOORS)

Output Port: connection on OUTPUTS from the VLIO **Card**.

MONITORING SET

It is recommended that you install the Monitoring Set(s) first.

POSITIONING THE POST WITH A PROJECTION ARM

Step 1: Install the projected pole arm 6.00 meters high in relation to the vehicle travel lane, for fixing the pole bracket and the VL-SENSOR-D.

⚠️ To use the VL-SENSOR-D in the vertical position, additionally install the VIGIA-VL Stand. However, installation on the side of the road can cause occlusion of vehicles traveling in the far lane.

Step 2: Mark the central point of the monitoring area on the road, at a distance between 3.50 and 6.00 meters from the pole alignment.
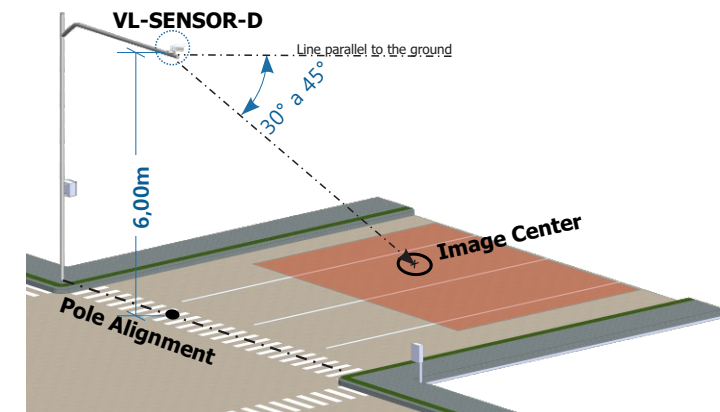
⚠ **Installation Location: In cases where it is not possible to meet the installation specifications, it is recommended to consult Pumatronix Technical Support.**

PREPARATION OF THE PORTHOLE CABLE-VL

⚠ **The length of the Ethernet cable connecting the VIGIA-VL to the Controller Module must be less than 100m.**

⚠ **Situations where the maximum length of 100m cannot be guaranteed will require the inclusion of a PoE extender for ethernet data.**

Step 3: Cut the Ethernet cable to a length that is suficient to connect the monitoring device to the Control Panel.
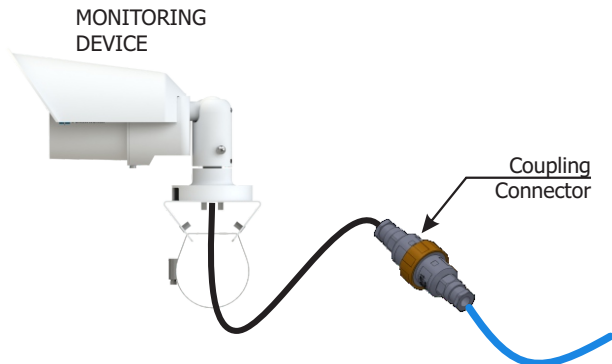
Step 4: Open the Mating Connector, run the Ethernet cable and crimp an RJ-45 to EIA/TIA 568A standard:
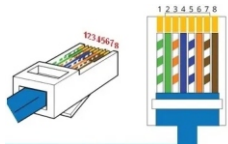
Step 5: Connect the Ethernet cables and close the Docking Connector.

Controller Module — — — — → ← — — — — MONITORING DEVICE

ATTACHING THE MATING CONNECTOR TO THE POLE HOLDER
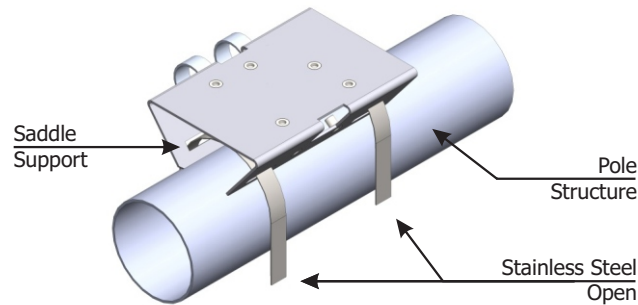

MONITORING DEVICE

Coupling Connector

Step 6: Position the Mating Connector assembled with Ethernet cable on the Pole Bracket.

Step 7: Use a Hellerman fita to fix the mating connector to the Pole Bracket.

FIXING THE BRACKET TO THE POLE ARM

Step 8: Stand on the projecting arm and insert the clamps into the bracket, wrapping the post.

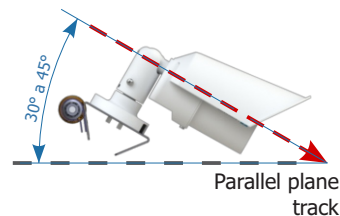Saddle Support

Pole Structure

Stainless Steel Open

Step 9: Align the surface of the post holder with the plane of the via.

Step 10: Attach the bracket to the pole, closing the clamps and screwing the screws in place with a 7mm cannon wrench.

MONITORING DEVICE INSTALLATION

Step 11: Slightly loosen the fixation screw of the ball arm.

30° a 45°

Parallel plane track

Step 12: Secure the VL-SENSOR-D position by screwing in the screws.

Step 13: Run the Ethernet PoE cable from the VL-SENSOR-D to the Controller Module and crimp an EIA/TIA 568A standard RJ-45 connector on the end.

VL-SENSOR-D CONFIGURATION

The steps for configuration of a Monitoring Set must be repeated for each Monitoring Set installed.

Make the first access to VL-SENSOR-D by following the steps:

Step 14: Connect the monitoring device to a PoE-enabled switch or PoE injector.

Step 15: Access the VIGIA-VL interface in a browser Google Chrome (from version 56 onwards) with the factory default data:

IP	192.168.0.250
User	Admin
Password	1234

Step 16: Go to the Network Setup option.

Step 17: Definish the IP address of the equipment that is compatible with the installation and unique on the network.

Step 18: Save the changes you have made.

WATCHDOG CONTROLLER MODULE-VLIO

ATTACHING THE WATCHDOG CONTROLLER MODULE-VLIO

**It is recommended that the Monitoring Set be installed first.**

⚠️ **The VIGIA-VLIO Controller Module must be installed in a sheltered place and in a panel.**

Step 19 - STANDARD VERTICAL FIXING: Remove the supplied DIN rail from the frame of the VIGIA-VLIO Controller Module, if there is a rail to fix the module.

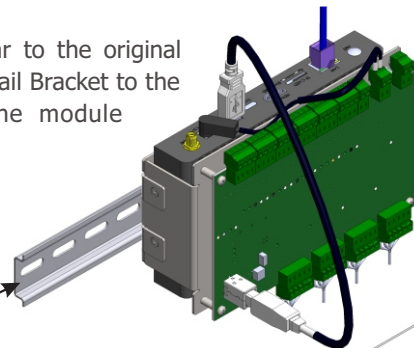**Step 20:** Allow enough space to accommodate cables and connections.

Step 21: Snap the VIGIA-VLIO Controller Module onto the panel rail.

Superior Support
ULP
DIN Rail Bracket
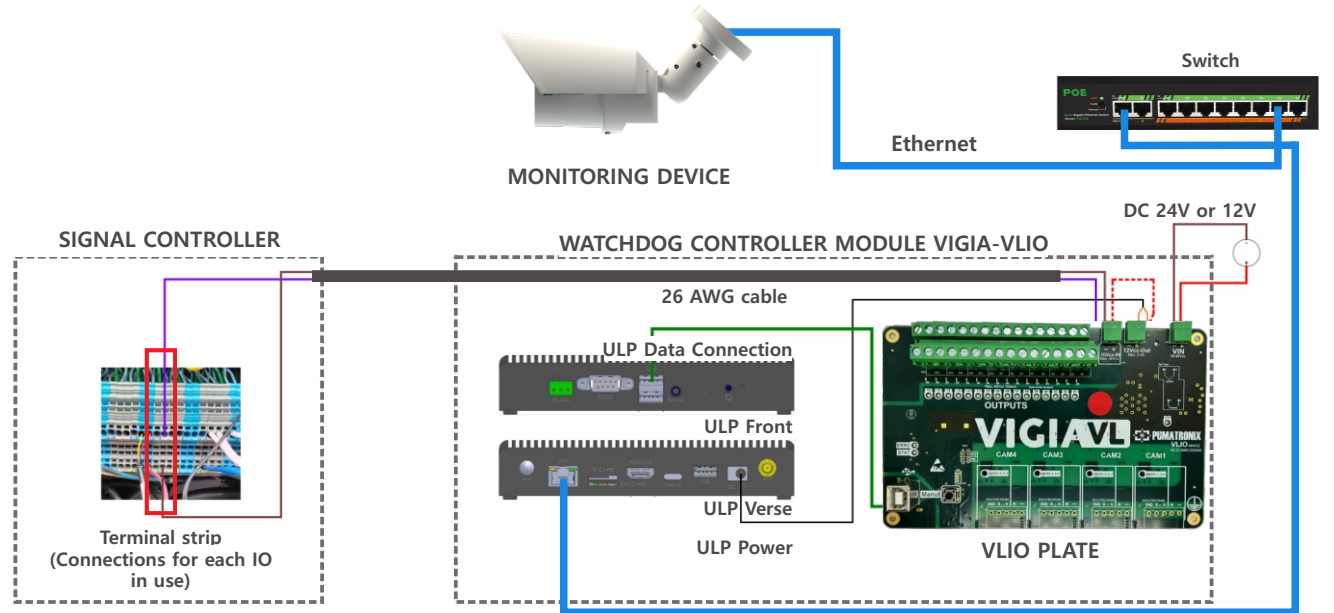DIN Rail 75mm
Bottom Support
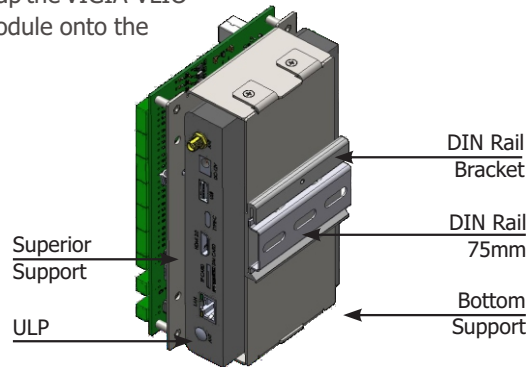
Step 19 - HORIZONTAL FIXING: Remove the 2 screws that attach the DIN Rail Bracket to the module.

Step 20: Perpendicular to the original position, fixe the DIN Rail Bracket to the Bottom Bracket of the module (using the 2 screws).

Step 21: Snap the module onto the panel rail.

CONNECTION DIAGRAM WITH THE VIGIA-VLIO CONTROLLER MODULE

Switch
MONITORING DEVICE
Ethernet
DC 24V or 12V
SIGNAL CONTROLLER
WATCHDOG CONTROLLER MODULE VIGIA-VLIO
26 AWG cable
ULP Data Connection
ULP Front
ULP Verse
ULP Power
VLIO PLATE
Terminal strip (Connections for each IO in use)

Step 19 - FIXING THE PROFILE: Remove the DIN Rail Bracket (loosen 2 screws) and the Bottom Bracket (loosen 4 screws).

⚠️ **When you remove the 4 screws from the Bottom Bracket, the ULP detaches from the frame.**

Step 20: Attach the ULP to the Top Bracket with the 4 screws and fix the DIN Rail Bracket to the side of the module, over the Top Bracket.

DIN Rail Bracket
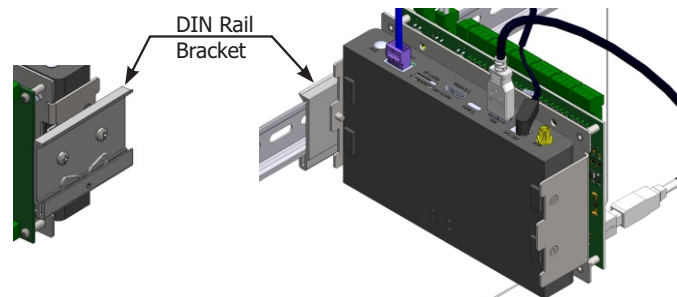
Step 21: Snap the module onto the panel rail.

CONNECTIONS TO THE TRAFFIC LIGHT CONTROLLER

⚠️ **The 4 INPUTS on the VLIO Board must remain disconnected.**

Step 22: Check, with a multimeter, that there is DC voltage level at the Signal and Common input terminals of the contact board dry of the Traffic Light Controller.

⚠️ **The maximum voltage supported on each OUTPUTS terminal block and on the IOVcc-IN of the VLIO Board is 48Vdc.**

⚠️ **The output signals from the OUTPUTS terminals of the VLIO Board do not allow connection to inductive loop boards. In case it is necessary to connect to the boards of this model, contact Technical Support.**

Step 23: Connect the grounding to the surface of the VLIO Board with 0.7mm² flexible able (crimping a fork terminal at the end).
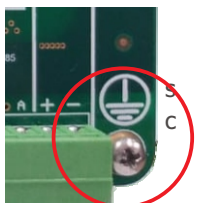
Step 24: Prepare the ends of 1 26AWG 2-way shielded cable by crimping a 1mm tubular terminal.

⚠️ **Each cable allows you to connect the signal from 1 lane of the monitored roadway with the Traffic Light Controller.**

Step 25: Connect the negative (-) of the IOVcc-IN terminal of the VLIO Board (fio brown) to the input terminals below the IOs connector to generate a common of the Semaphore Controller dry contact board.

Step 26: Connect the other fio of the desired output (at OUTPUTS terminal 1 to 16 of the VLIO Board) to the signal terminal of the Semaphore Controller board.

Output signals of the virtual loops
Negative (-)
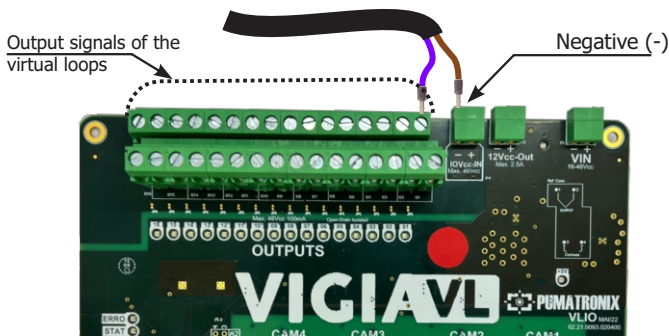
Step 27: Fill in the Installation Mapping with the data for the OUTPUTS terminal blocks used for connection, identified as I/O Ports in the software interface.

Step 28: Repeat steps 42 to 46 for each virtual loop registered (only 16 of the 20 terminals available on the VLIO Board are used).

CONTROLLER WITHOUT VOLTAGE LEVEL

⚠️ **No Voltage Level Semaphore Controller, needs power at the isolated OUTPUTS of the VLIO Board.**

Step 29: Connect the positive (+) of the IOVcc-IN terminal block to the positive (+) of the 12Vcc-Out terminal block to power the isolated OUTPUTS outputs of the VLIO Board, using an additional cable (crimped with a 1mm ferrule on the ends).


Positive (+)
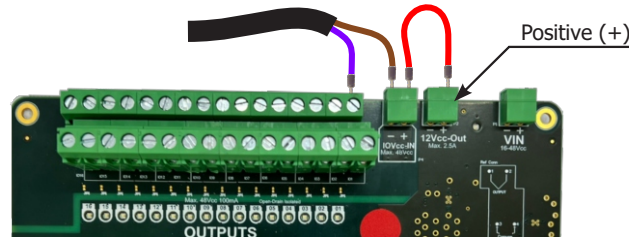
VLIO BOARD POWER SUPPLY

Step 30: Prepare the ends of 1 26AWG 2-way cable for power (by crimping a 1mm tubular terminal).

Step 31: Connect the brown fio to the negative (-) of the named VIN terminal block of the VLIO Board (by screwing the end of the cables on).

Step 32: Connect the other fio to the positive (+) of the VIN terminal of the VLIO Board (by screwing the end of the cables).


Negative (-)   Positive (+)
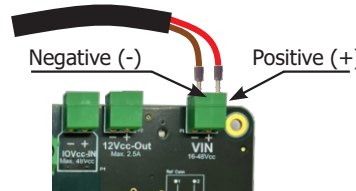
CONFIGURATION OF THE WATCHDOG CONTROLLER MODULE - VLIO

The configuration of the VIGIA-VLIO Controller Module in the VIGIA-VL system consists of:
- identific it in the data communication network;
- add the connected VL-SENSOR-D devices;
- configure the data communication network.

Step 33: Connect the VIGIA-VLIO Controller Module to a computer with IP address 192.168.0.X and netmask 255.255.255.0.

Ethernet
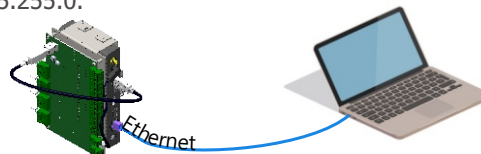
Step 34: Access the VIGIA-VL interface in a Google Chrome browser (from version 56) with the factory default data:

IP	192.168.0.1
User	**admin**
Password	**admin**

⚠️ **Use the Installation Mapping data during the configuration of the VIGIA-VLIO Controller Module.**

Step 35 - REGISTERING THE DEVICE MONITORING: Go to the menu **Registration> Cameras** and click **+New camera.**

Step 36: Under General, select the Yes option to enable the monitoring device, enter a Name and the IP address defined in step 17 in the device configuration.

Step 37 - FRAMEWORK: In Zoom and Focus, analyze whether the image is centered relative to the mark made in the center of the track (Step 2). If necessary, modifie the position of the monitoring device to correct (steps 11 to 13).

Step 38 - CREATING THE VIRTUAL LINKS: In Loop Virtual, select Yes to Enable Virtual Loops and click +Add region.

Step 39: Select under Type the option Input (to indicate the start location of vehicle detection in the image); a Virtual Loop ID from 50 to 65 and add a Name.

Step 40: Click on the displayed image to outline the vertices of the region and on Apply to save.

Step 41: Click on +Add Region to create a virtual loop (Count type region).

⚠️ **Up to 4 virtual loops can be registered per monitoring device to monitor up to 4 lanes of the road.**

Step 42: : Select under Type the option **Count** (to detect vehicle passage); a Virtual Loop ID from 1 to 16 and add a Name.

Step 43: SSelect a Linked Bit only when Socket Server is enabled in System > System Settings > External Servers.

Step 44: Define the desired sensitivity in vehicle detection by dragging the selection bar.

Step 45: Click on the displayed image to outline the vertices of the region with the approximate size of a vehicle and on Apply to save the configuration.

⚠️ **Repeat steps 38 to 41 for each desired virtual loop.**

⚠️ **Repeat steps 33 to 45 to configure each monitoring device that makes up the VIGIA-VL solution.**

Step 46: Select which Port Operation Mode to apply on the tab **Virtual Loop** > **Operation Mode**, that can be:

Pulse Counting	Pulse when detecting the presence of a vehicle
Virtual Loop Occupancyl	Pulse remains active as long as there is a vehicle over the Virtual Loop

INSTALLATION TEST

Step 47: Verificate that the LEDs on the VLIO Board indicate the presence of vehicles in the virtual loops.

Step 48: Verificate that the LEDs on the Traffic Light Controller indicate the presence of vehicles in the virtual loops.

Step 49: Verifie that the LEDs are synchronized.

⚠️ **Changing the polarity of the OUTPUTS ports implies in reversing the product's operation logic. Check the drive LEDs of the IOs to validate the configuration.**

⚠️ **Change the timing of the pulse sent by the VIGIA-VLIO Controller Module only if the presence of the vehicle is not signaled to the Traffic Light Controller. To do this, please refer to the Traffic Light Controller manual for the default timing and enter the correct values into the VIGIA-VL system.**

REGIÕES DE CONTAGEM

REGIÃO DE ENTRADA

CARE AND MAINTENANCE

Perform security measures during the upgrade process:

* Keep the device inactive during the upgrade process, ensuring that it is not requested by any services or other equipment on the network it is installed on;
* Keep your device powered on at all times while the update is running, taking the necessary steps to prevent it from rebooting or shutting down.

* Request the firmware file by filling out the form available in theTechnical Support menu on the Pumatronix website.

* Access in the Product Manual the step-by-step installation of firmware updates, which can be done through the web interface or the Pumatronix software.

GUARANTEE DOCUMENT

Pumatronix guarantees the product against any defect in material or manufacturing process for a period of 1 year from the date of issue of the fiscal note, provided that, at the discretion of its authorized technicians, a defect is found under normal conditions of use.

The replacement of defective parts and execution of services resulting from this warranty will only be carried out at the Pumatronix Authorized Technical Assistance or a third party expressly indicated by it, where the product must be delivered for repair.

This Warranty will only be valid if the product is accompanied by the Maintenance Form properly filled out and without erasures and accompanied by the Invoice.

SITUATIONS THAT THE PRODUCT LOSES THE WARRANTY

1) Use of software/hardware not compatible with the specifications in the Manual;
2) Connecting the product to the power grid outside the standards established in the product's manual and installations that present excessive voltage variation;
3) Infiltration of liquids from opening/closing the product;
4) Damage caused by natural agents (electric discharge, flood, sea fog, excessive exposure to climate variations, among other factors) or excessive exposure to heat (beyond the limits established in the Manual);
5) Use of the product in environments subject to corrosive gases, with excessive humidity and/or dust;
6) Show signs of security seal tampering;
7) Show signs of opening and modification made by the Customer in places of the product not authorized by Pumatronix;
8) Damage caused by accidents/falls/vandalism;
9) Display tampered and/or removed serial number;
10) Damage resulting from transportation and packaging of the product by the Customer in conditions incompatible with it;
11) Misuse and in disagreement with the Instruction Manual.

PRIVACY POLICY

In compliance with the General Data Protection Act (LGPD) - Law No. 13,709 of August 14, 2018, this product has programmable functions for capturing and processing images that may violate the LGPD when used, in conjunction with other equipment, to capture personal data.

Pumatronix is not responsible for the finalities, use and treatment of the images captured, and the control of the information and forms of operation of the product are of the exclusive decision of the user or purchaser of the product.

INDÚSTRIA BRASILEIRA DE TECNOLOGIA

* For more information, access the product manual at www.pumatronix.com.br.

TECHNICAL SUPPORT
+55 41 3016 – 3173 | suporte@pumatronix.com

Movimento em Foco.

PUMATRONIX | www.pumatronix.com