VIGIA+

VIGIA+

INSTALLATION AND MAINTENANCE GUIDE
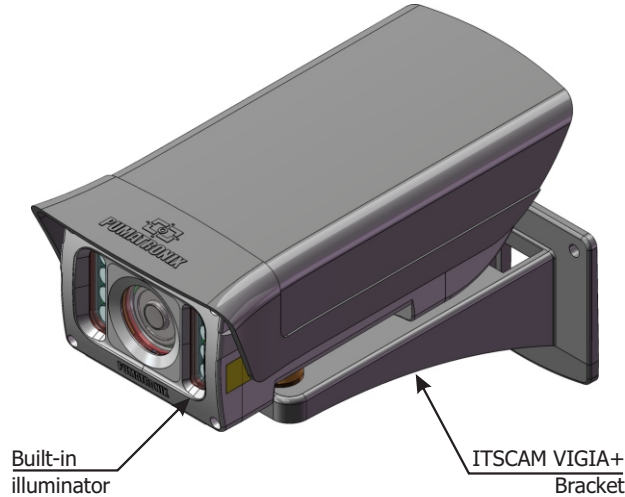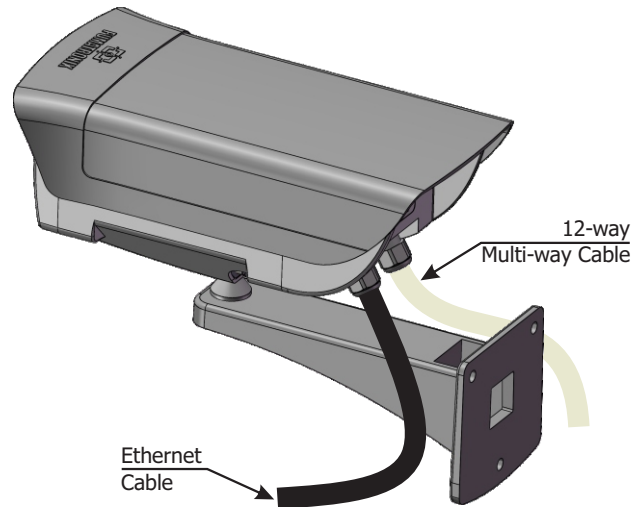
ITSCAM VIGIA+ MODEL

Built-in illuminator

ITSCAM VIGIA+ Bracket

⚠️ **This equipment has a set of lenses that is sensitive to mechanical impacts such as drops and severe external vibrations.**

12-way Multi-way Cable

Ethernet Cable

⚠️ **Risk of Oxidation: The electrical and signal connections made in the ITSCAM VIGIA+ bundle and the data network cable must be protected in a terminal box or similar structure to prevent oxidation of the connections and unwanted infiltration of liquids into the bundle.**

* Use the Ethernet cable to connect the ITSCAM VIGIA+ to the local network and optionally to power the device.

* Use the *12-way multi-way cable* inputs to connect the ITSCAM VIGIA+ to the power source and to signal input equipment for physical triggering, such as an inductive loop or an optical barrier, for example.

* Use the output of the *12-way multi-way cable* (orange and yellow), to connect the ITSCAM VIGIA+ to an illuminator or to equipment that needs to be controled, such as barriers or gates.

NETWORK CONNECTION

1. Use the Ethernet cable for the network connection, with an RJ-45 connector following the ANSI/TIA-568A standard pinout.
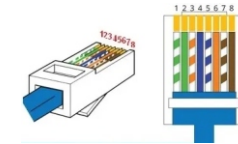
CONNECTING RS-232 SERIAL INTERFACE

2. Make the connections of the *Serial Port* signals in the *Violet* and *White* color ways of the *12-way multi-way cable*, considering the signals detailed in the table:

MULTI-WAY CABLE	
TERMINAL AND COLOR	**SIGNAL**
4 Violet	RS232_RX2
5 White	RS232_TX2

12-way Multi-way Cable

Ethernet Cable

GND Tx2 Rx2
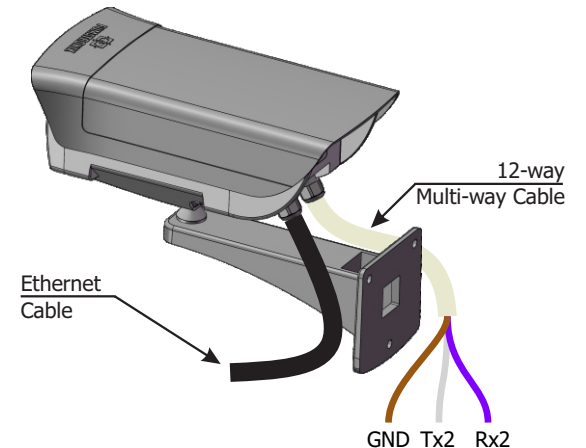
CONNECTING INPUT AND OUTPUT SIGNALS

3. Make the signal connections on ways numbered 3, 4, 9, and 10 of the *12-way multi-way cable*, which can be used to receive signals from a loop, or optical barrier, or on ways numbered 11 and 12 for activating illuminators. The respective colors and signs are detailed in the table:

WAYS OF MULTI-WAY CABLE	
WAY COLOR	**SINAL**
1 Red	12Vdc or 24Vdc power supply
2 Brown	Negative (GND)
3 Green	Input 1 + (IN 1+)
4 Blue	Input 1 - (IN 1-)
9 Gray	Input 2 + (IN 2+)
10 Black	Input 2 - (IN 2-)
11 Orange	Output 1 + (IN 1+)
12 Yellow	Output 1 - (IN 1-)

CONNECTING ILLUMINATORS

⚠️ **When using an Illuminator in conjunction with ITSCAM VIGIA+, check the product specifications for the minimum and maximum distance that must be observed in relation to the position of the object to be illuminated.**

4. Connect the ITSLUX illuminator to the same source used to power the ITSCAM VIGIA+ device, considering the colors of the signals used in the connection:


ITSLUX

Wires of 12-way Multi-way Cable

DC Source
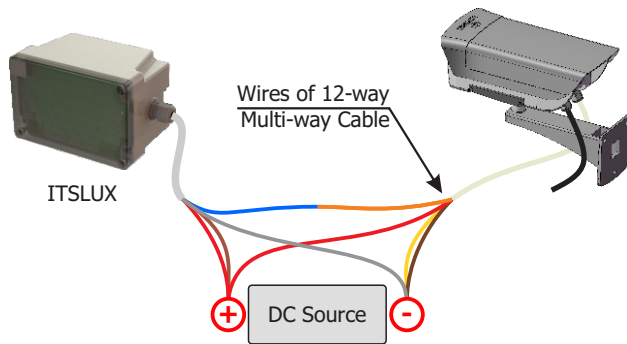
⚠️ **Consult the technical information of the illuminator device to make the electrical connections correctly.**

12Vdc or 24Vdc POWER SUPPLY CONNECTION

5. Use a 12Vdc or 24Vdc power supply.*
*Models with sensor S01 or S04 allow the power supply 24Vdc or PoE. Models with S07 or S08 sensors accept 12Vdc, 24Vdc, or PoE power.

6. Make the power connections using the 12-core shielded cable, considering the colors corresponding to the V+ and GND signals:

12-way Multi-way Cable

V+   GND
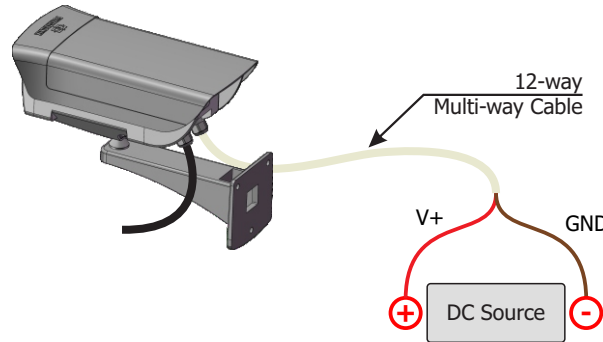
DC Source

⚠️ **This equipment must be powered by a direct current (DC) source with a voltage of 12 or 24 Vdc. Do not connect any of the inputs directly to the mains (AC)!**

POE POWER CONNECTION

7. Use the Ethernet cable for PoE power, with an RJ-45 connector, following the ANSI/TIA-568A standard pinout:
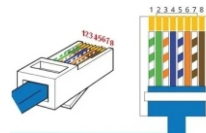
NETWORK INTERFACE PARAMETERIZATION

8. instalado o equipamento, utilizando um cabo Ethernet: Connect the ITSCAM VIGIA+ to an auxiliary device disconnected from the local network where the equipment will be installed, using an Ethernet cable:

Ethernet
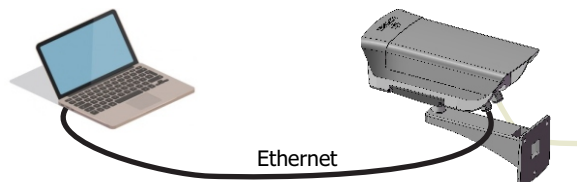
9. Access the ITSCAM VIGIA+ interface in a Google Chrome browser (version 85 or higher) with the factory default data:

IP	**192.168.0.254**
User	**admin**
Password	**123**

10. Access the menu *Settings > Network*.

11. Modify the default IP address 192.168.0.254 with netmask 255.255.255.0, considering values different from those that cause conflicts in the existing network:

Values that cause conflict	
IP adress	**Net Mask**
192.168.254.x	255.255.255.0
192.168.x.x	255.255.0.0
192.x.x.x	255.0.0.0
	0.0.0.0

⚠️ **The ITSCAM VIGIA+ maintenance IP (192.168.254.254) is used to recover the connection in situations where the primary IP is not known.**
For this reason, when manually configuring the network interface (Ethernet) of the equipment, diferent values from maintenance IP must be applied.

12. Click *Apply* to validate the changes and wait for the device to automatically restart.

Aplicar

13. Check the connection and network settings after restarting the ITSCAM VIGIA+ device.

14. Disconnect ITSCAM VIGIA+ from the auxiliary device and connect the equipment to the final installation network.

15. Repeat steps 8 to 14 in case of lost connection or IP address conflict.

16. Log in with the maintenance IP address 192.168.254.254 in case any network conflicts occur.

POSITIONING OF ITSCAM VIGIA+ AT THE ROAD

17. Select an existing pole or gantry that allows positioning the ITSCAM VIGIA+ on the side of the road, parallel to the track and with little horizontal inclination, with the objective of capturing images of a track lane, considering the maximum angle of rotation:

Line parallel to the track

30°

Maximum angle Recommended

D
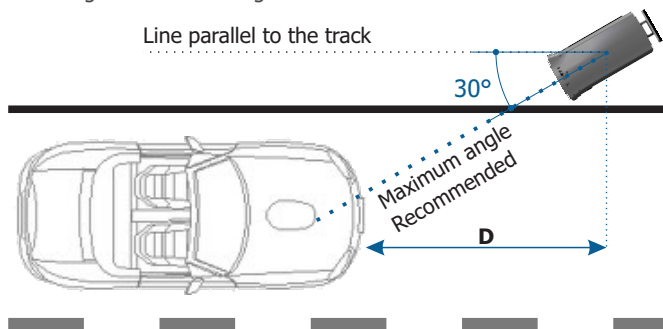
*D variable for the models specified in the Product Manual.

18. Avoid covering parts of the image with objects such as trees or vehicles from other lanes.

19. Fix the ITSCAM VIGIA+ on poles or gantries at a miminum height of 1.5 meters, considering the distance **D** from the vehicles' crossing point (Step 29).

⚠️ **Local de Instalação: Nos casos em que não é possível atender às especificações de instalação, é recomendado consultar o Suporte Técnico da Pumatronix.**

FIXING ITSCAM VIGIA+ TO THE VIGIA+ BRACKET

20. Fit the ITSCAM VIGIA+ cavity in the sphere of *VIGIA+ Bracket*.

**21.** Position the *Support* with M4 Allen 3mm screws on the front and the *Fastener* on the back of the cavity.

M4 Allen 3mm screws

Support

VIGIA+ cavity

Fastener
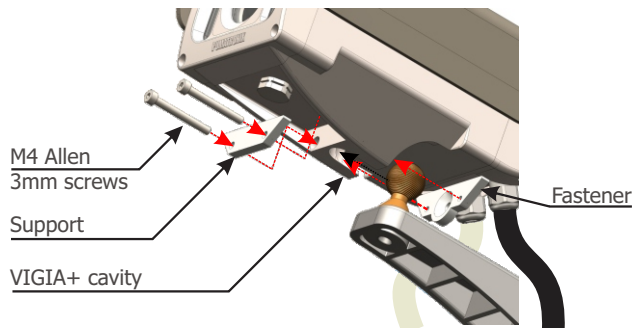
22. Secure the ITSCAM VIGIA+ to the bracket by tightening the screws. Suggestion: use a wrench longer than 10cm and in "T" shape.

⚠️ **Be careful with the force applied to the screws so as not to damage the VIGIA+ housing.**

23. Fix the ITSCAM VIGIA+ and *VIGIA+ Bracket* set to a pole or gantry, with the aid of an auxiliary Cell Bracket, when the pole structure has a circular section.

24. Use 3 screws of 3/16" diameter to secure the *VIGIA+ Bracket* to an auxiliary Cell Bracket.
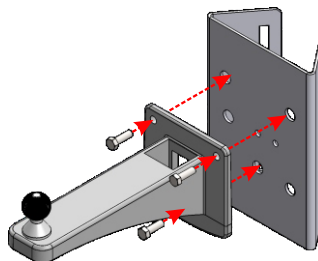
FRAMING ADJUSTMENTS

25. Connect the ITSCAM VIGIA+ device to a power source (Steps 5 and 6 or 7).

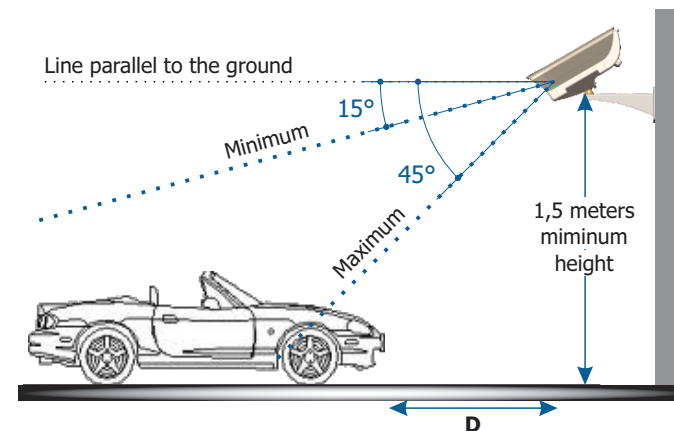**26.** Carry out the *NETWORK INTERFACE PARAMETERIZATION* (Steps 8 to 15).

27. Disconnect the ITSCAM VIGIA+ from the auxiliary device and connect to the final installation network.

28. Position ITSCAM VIGIA+ with little horizontal inclination so that the vehicle plate is aligned with the horizontal in the image and follow the steps indicated in *POSITIONING THE ITSCAM VIGIA+ AT THE ROAD.*

29. Tilt the device onto the stand, respecting the minimum vertical angle of 15° and the maximum of 45° between the lens center and a line parallel to the ground. Under these conditions, the distance **D** varies according to the applied model.

⚠️ **When using an Illuminator in conjunction with the ITSCAM VIGIA+, check the product specifications for the minimum and maximum distance that must be observed in relation to the position of the object to be illuminated.**

Line parallel to the ground

15°

Minimum

45°

Maximum

1,5 meters miminum height

D

*D variable for the models specified in the Product Manual.

30. Access the device's web interface with the data registered in the *NETWORK INTERFACE PARAMETERIZATION*.

31. Adjust the OCR processing settings by the device, accessing the *Settings > OCR* menu in the interface, considering the image parameters indicated in the Integration Manual.

32. Tilt the support with the equipment until the best framing fit, respecting the maximum angle limit of **45°** for vertical inclination, avoiding significant deformations in the images.

33. Consider using the *Perspective Adjustments* in order to correct the plate angles in the image, if the inclination of the equipment with its bracket has reached the limit of 45º, as indicated.


Perspective settings

Plate slant angle — 0

Plate angle — 0

Preview angle correction ✓

34. Extend the *Sliding Flap* to the required position that prevents light from reflecting on the lens.
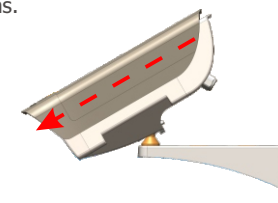
35. Use the *Autofocus* function or adjust *Zoom and Focus* by accessing the *Settings > Zoom and Focus* menu until the characters become clear in the preview image, which can be done at any time during the settings process.

36. Disable *Auto Iris* for a better result (if the ITSCAM VIGIA+ model has this functionality), on the right of the page.

37. Use the *View Controller* to view the camera's live image via the *Play* button. Select the preview image that you want to use as a parameter to set zoom and press the *Pause* button.
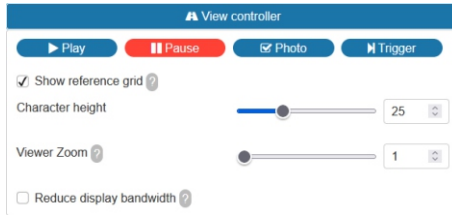
38. Enable the *Show Reference Grid* option which allows the use of a *Character Height* as a basis for the best zoom fit.

39. Use *Viewer Zoom* to make it easy to fine-tune the plate framing in the reference grid.

40. Use the *Show only center of image* function when necessary to reduce the response time to interface adjustments while accessing via mobile networks. In this option, the preview scale is reduced to 320x240.
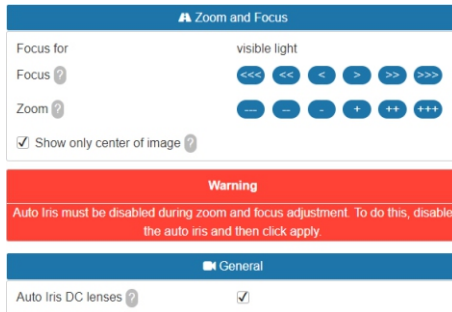
41. Click the adjustment buttons, zooming in or out and focusing, until the characters become sharp in the preview image.

42. Select the desired zoom and focus position, until the license plate is readable and in OCR capture conditions (approximately 20 pixels height), using the reference grid of the character height.

43. Repeat steps 29 to 42 until you get the plate image with the best framing and character sharpness.

CAUTION AND MAINTENANCE

Perform security measures during the upgrade process:

* Keep the ITSCAM VIGIA+ device inactivated during the upgrade process, ensuring that it is not requested by any services or other equipment on the network where it is installed;
* Keep the ITSCAM VIGIA+ device powered on at all times while performing the upgrade, taking the necessary steps to prevent it from restarting or being switched off.

* Request the firmware file by filling out the form available in the *Technical Support* menu at 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.

WARRANTY TERM

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 invoice, provided that, at the discretion of its authorized technicians, a defect is found under normal conditions of use.

The replacement of defective parts and the performance of services resulting from this Warranty will only be carried out at the Authorized Technical Assistance of Pumatronix 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 a Maintenance Form duly completed and without erasures and accompanied by an Invoice.

SITUATIONS IN WHICH THE PRODUCT LOSES ITS 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 manual and installations that present excessive voltage variation;

3) Infiltration of liquids from opening/closing of 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 tampering with safety seals;

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 adulterated and/or removed serial number;

10) Damage resulting from transportation and packaging of the product by the customer in conditions incompatible with it;

11) Bad use and in disagreement with the Instruction Manual.

PRIVACY POLICY

In compliance with the General Law on Data Protection (LGPD) - Law No. 13,709, of August 14, 2018, this product has programmable functions for capturing and processing images that may infringe the LGPD when used, together 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 the exclusive decision of the user or purchaser of the product.

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

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

Movement in Focus.