PUMATRONIX

NEVADA

NEVADA

LEADER IN EVASION MANAGEMENT AT TOLL PLAZAS

Installation

Pumatronix Equipamentos Eletrônicos Ltda.

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Change History

Date	Revision	Updated content
09/13/2024	1.2	Update on connection diagrams; Details on fastening the ITSLUX Illuminator;
03/20/2025	1.3	Component nomenclature update; Track Installation Diagram update; Illuminator Support model update; Optical Assembly Connections update; General Connector Board Diagram; *NEVADA Frame* and *NEVADA Compact Frame* models update; NEVADA Compact Frame Installation Details; (SAD-664)
04/04/2025	1.4	Update Connection Front capture post (SAD-778)
11/04/2025	1.5	Indication of distance between poles (SAD-969)
01/15/2026	1.6	Inclusion of the Terminal Box Connection Plate 2.0 (SAD-1018)

Summary

1. Installation of Track Infrastructure

The correct operation of NEVADA is directly related to the quality of the images that are captured, which is why the equipment has its lenses and illuminator sized for the specified standard distances. Variations in distances are tolerated, however recognition results may be affected. Contact Pumatronix technical support when specifications cannot be met.

1) Install the prerequisite infrastructure, providing the toll location capabilities for the track in which the NEVADA system will be installed:
   a) Cable Protection Piping: All connections between posts and with the concessionaire are underground and must be properly protected by ducts of at least 30 millimeters, to protect the conduits. Installation is carried out from the track cabin to the post, and the gutters available in the current installation of the square and/or new electrical conduits can be used. Protection for cabling is necessary to prevent wear and tear caused by exposure to the elements, in addition to protecting professionals and vehicles traveling through the toll station from accidents.
      i) For the post installed on asphalt, the requirement is a cut in the floor of at least 10 centimeters wide by 15 centimeters deep, to facilitate the connection of the duct to the base of the post.
   b) Suitable location for installing the NEVADA Frame or NEVADA Compact Frame;
   c) AC power supply 127 or 220 Volts, to be connected to an AC-DC source, which provides 24 Vdc for NEVADA equipment;
   d) Cables to be used for power connections, track sensor signals, device data with the local data network, detailed in Electrical and Data Installation;
   e) Surge Protector, Circuit Breaker and Relay, to protect circuit elements against damage due to electrical surges;
   f) Signals from sensors that identify the presence of a vehicle on the track (which must be connected to the NEVADA Frame or NEVADA Compact Frame);
   g) Data Communication Network, between the track and the Concessionaire's Processing Unit for transmission of collected data.

2. Installation of the Infra Set

2.1. Post Installation

2) Consider the recommended distances for installing the posts that will receive the image capture equipment, which have as their origin point the position of the Optical Barrier sensor, which identifies the presence of the vehicle:

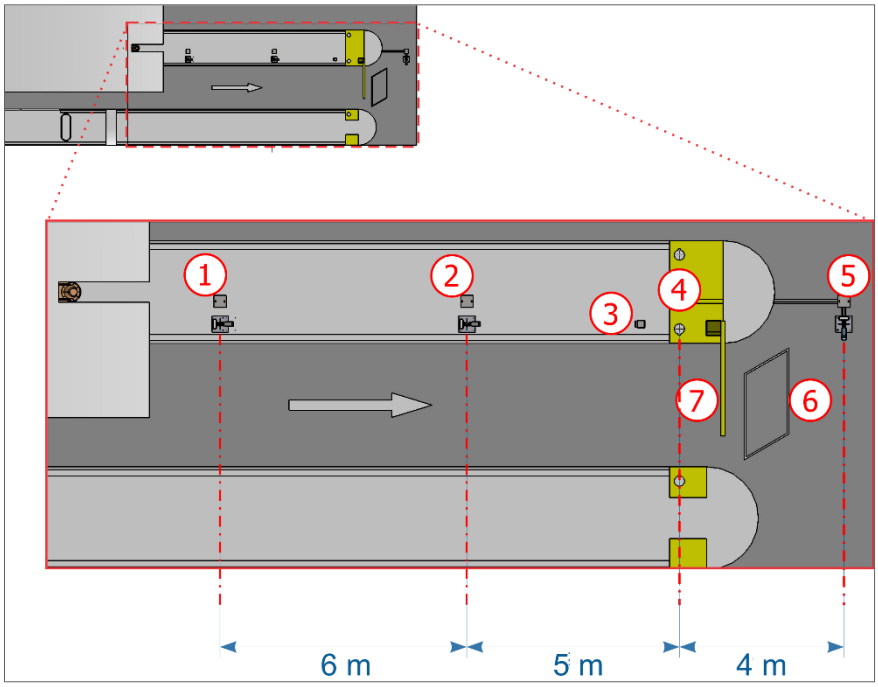


Figure 1 - Top view of the installation in an automatic collection lane (AVI): 1) Panoramic capture post, 2) Rear capture post, 3) Track traffic light, 4) Track optical barrier, 5) Front capture post, 6) Runway loop, 7) Track barrier

3) Consider the direction of the car lane indicated for the installation of the *Inductive Loop* sensor, which may be located after the gate (model adopted in all images of the generic toll station lane presented in this document), but it is possible for it to be installed before the gate;

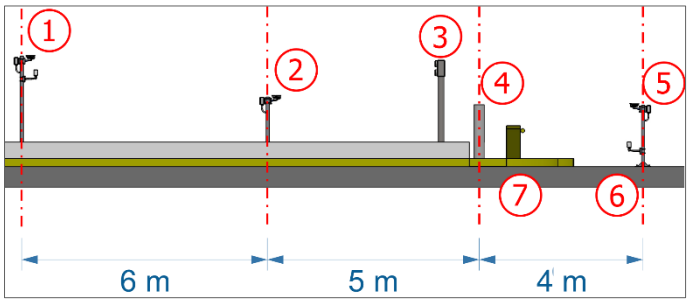


Figure 2 - Side view of the installation in an automatic toll lane (AVI): 1) Panoramic capture post, 2) Rear capture post, 3) Track traffic light, 4) Track optical barrier, 5) Front capture post, 6) Track loop, 7) Track barrier

Alignment with the sides of the track: During installation, it is important to observe the alignment on the sides of the track, so that a safe spacing is maintained for large vehicles to be able to move normally. Likewise, the chosen location must allow operators to perform system maintenance safely.

Front post positioning: The installation of the post that captures the frontal images of vehicles must be done in a region that does not interfere with the exit of vehicles from the toll lane area.

2.1.1. Fastening a Post in Concrete

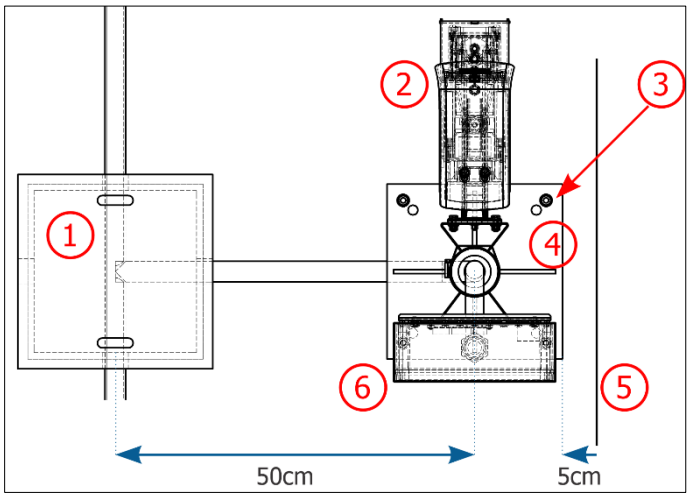


Figure 3 - Panoramic or Rear capture post positioning: 1) Inspection box with cast iron cover, 2) ITSCAM VIGIA+ fixed to the post, 3) Parabolt type anchor bolts, 4) Post base, 5) Existing sidewalk curb, 6) Terminal box fixed to the post

Components	Quantity
5/16"x100 anchor with stainless steel stud (Panoramic Post)	4
5/16"x100 Anchor with Stainless Steel Stud (Rear Post)	4

4) Position the base of the post at least 5 cm from the start of the curb and 50 cm from the axis of the inspection box;
5) Drill the concrete to a minimum depth of 73mm, in the positions marked at the base of the post;
6) Secure the base of the post using the 5/16" anchor bolt.

2.1.2. Fastening Posts to Asphalt

7) When the Frontal capture post is installed on the asphalt, the 190mm anchor must be installed.

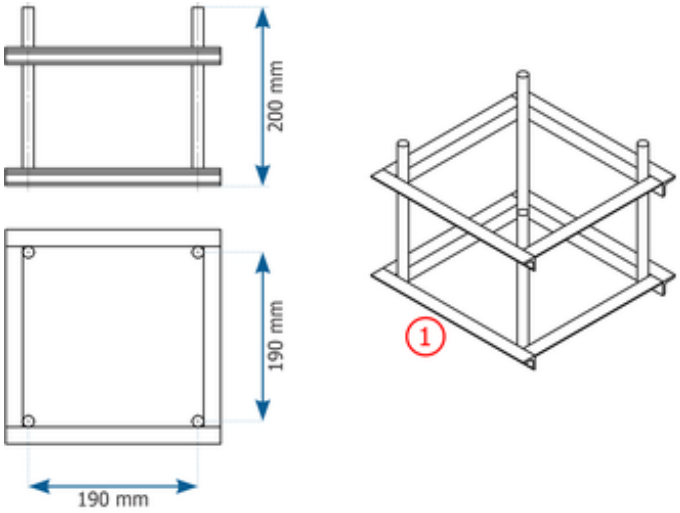


Figure 4 - Anchor Dimensions 190mm (1)

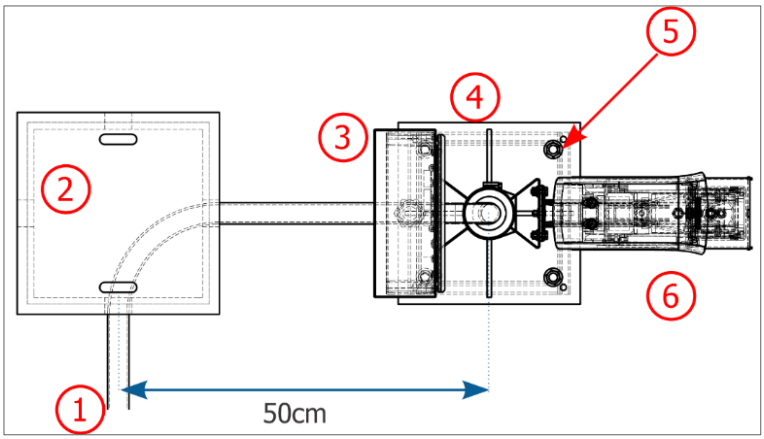


Figure 5 - Positioning of Frontal capture post on asphalt: 1) Cable protection piping, 2) Inspection box with cast iron cover, 3) Terminal box fixed to the post, 4) Post base, 5) Fastening point to the 190mm anchor bolt, 6) ITSCAM VIGIA+ fixed to the post

Components	Quantity
Anchor bolt 190mm	1
Plain Washer ½"	4
½" Hex Nut	4

8) Align the front post 50cm from the axis of the inspection box;
9) Make a cut in the asphalt measuring approximately 40x40cm. The depth of this cutout must be sufficient to insert the 190mm anchor bolt and ensure that the base of the post is level with the asphalt;
10) Carry out the concreting procedure for the 190mm anchor using grout;
11) Secure the base of the post to the anchor using 4 ½" nuts and 4 ½" washers.

2.2. Terminal box Assembly

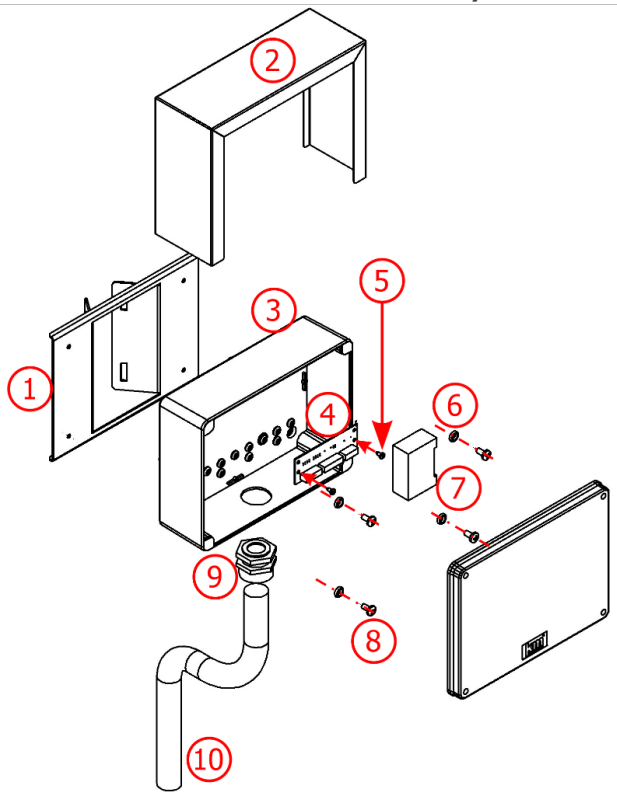


Figure 6 - Terminal box components

Item	Description	Quantity
1	Terminal box Support Rev02	1
2	Protective Cover.	1
3	Terminal box; 5 holes	1
4	Terminal Box Post* plate	1
5	AAT PAN PH 3.5x9.5 stainless steel 304 screw	2
6	O-ring 5.94 3.53 ref. 2202	4
7	Surge Protector Network	1
8	MAQ PAN PH M6 x 12 stainless steel screw	4
9	1" Cable Gland	1
10	PP Tuboflex 1" x 450	1

*The connections of the Optical Set equipment occur on the *Terminal Box Board* and are presented in Electrical and Data Installation.

The installation of the wiring that reaches the terminal box must be carried out using conduit (avoiding exposed wires).

Sealing: Every Terminal Box has an additional protection called a Protective Cover, which protects the box and increases the degree of protection against liquid infiltration. This Protective Cover must be kept permanently installed on the outside of the box, except in situations where it is necessary to open it to carry out a maintenance procedure.

2.3. Fastening the NEVADA Frame or NEVADA Compact Frame

12) Attach the NEVADA Frame or NEVADA Frame Compact to an existing trackside structure or to the Panorama post on the track.

3. Installation of the Optical Set

3.1. ITSCAM VIGIA+ Device Assembly

13) Assemble the ITSCAM VIGIA+ device on its respective VIGIA+ Bracket, following the steps indicated in the product Installation Guide and using the parts:

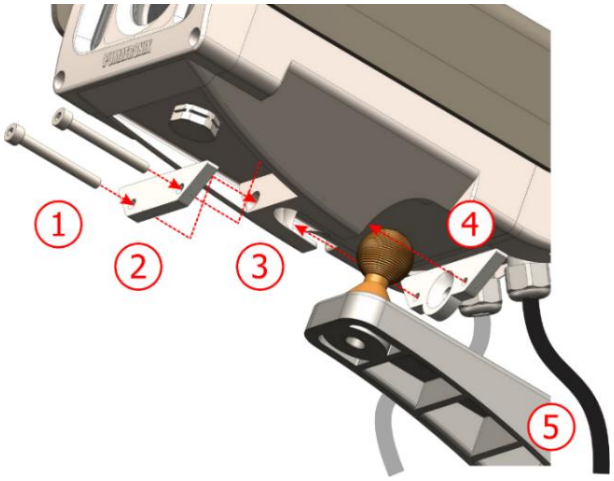


Figure 7 - VIGIA+ Bracket Parts

Item	Description	Quantity
1	M4 x 30 stainless steel ALLEN screw	2
2	Reinforcement	1
3	ITSCAM VIGIA+ device cavity	1
4	Fastener	1
5	VIGIA+ bracket	1

14) Attach the ITSCAM VIGIA+ set with VIGIA+ Bracket to the VIGIA Post Bracket using the parts:

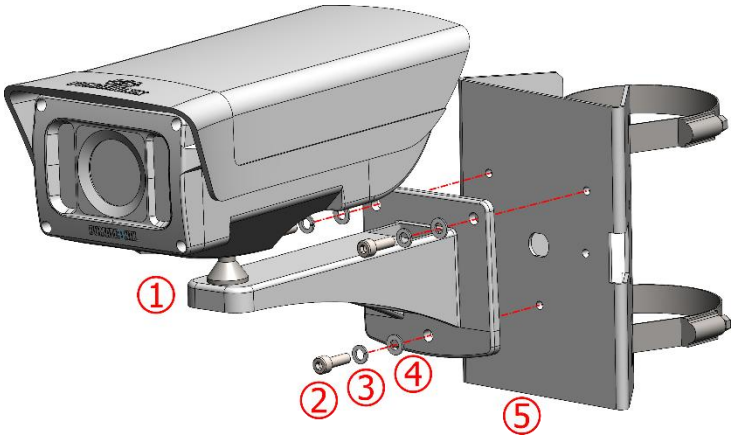
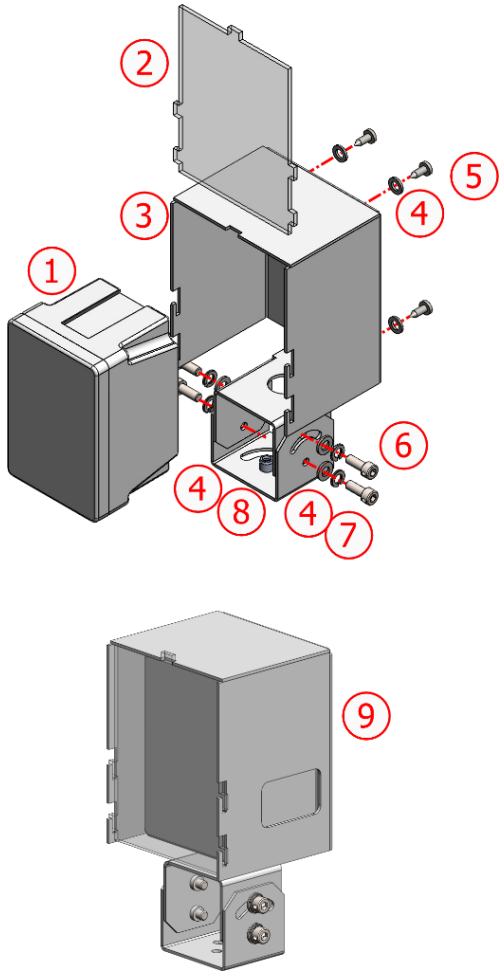


Figure 8 - VIGIA Post Bracket Parts

Item	Description	Quantity
1	VIGIA+ bracket with mounted device	1
2	Hex screw M5 X 20 Stainless steel	3
3	M5 Spring Washer - STAINLESS STEEL	3
4	Plain Washer M5 INOX	3
5	VIGIA 2 Post Bracket - 4 in	1

3.2. ITSLUX Illuminator Assembly

15) Assemble the ITSLUX NEVADA Bracket, fastening the ITSLUX illuminator, closing with the Protective Acrylic and securing the base, using the parts indicated in the image;
16) Fastem the ITSLUX NEVADA Bracket to the Pole Fastening Arm set with the Pole Bracket, using the parts indicated in the image:



Item	Description	Quantity
1	ITSLUX Illuminator	1
2	ITSLUX Protective Acrylic (C PROT UV)	1
3	ITSLUX NEVADA Bracket	1
4	Plain Washer 3-16	12
5	AA PAN PH 4.8X13 STAINLESS STEEL screw	4
6	3-16 X 5-8 STAINLESS STEEL Hex Screw	4
7	3-16 STAINLESS STEEL Spring washer	4
8	3-16 STAINLESS STEEL Hex Nut	4
9	ITSLUX fixed to ITSLUX NEVADA Support	1

Figure 9 - ITSLUX NEVADA Bracket Parts

17) Fasten the ITSLUX NEVADA Bracket (1) (with illuminator) to the Post Bracket, using 2 MAQ ALLEN Screws (2) shown in the figure below;
18) Secure the assembled set to the Post Bracket, using the 4 MAQ ALLEN Screws (2).

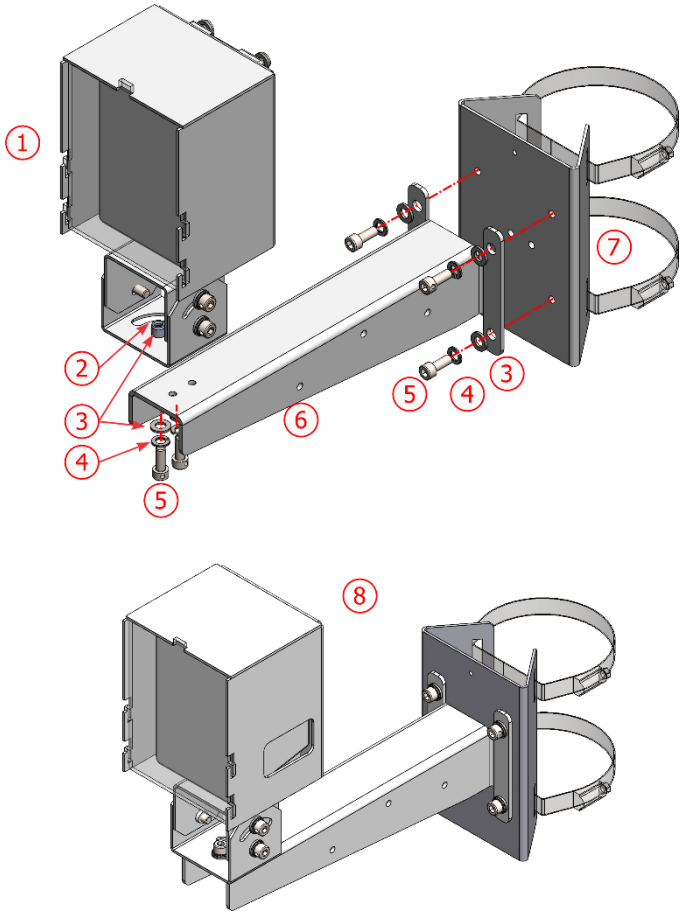


Figure 10 - Parts for fastening the ITSLUX NEVADA Bracket to the Post Bracket

Item	Description	Quantity
1	ITSLUX NEVADA Mounted Stand (with Illuminator)	1
2	MA 6 STAINLESS STEEL HEX NUT	1
3	M6 STAINLESS STEEL PLAIN WASHER	7
4	M6 STAINLESS STEEL PRESSURE WASHER	6
5	M6 X 25 STAINLESS STEEL HEX SCREW	6
6	Post Fastening Arm	1
7	2-4 IN POST BRACKET	1
8	ITSLUX fastening set assembled	1

3.3. Positioning of Devices on Posts

19) Assemble the Optical Set equipment to the respective support, using the specific parts;
20) Secure the ITSCAM VIGIA+ and *terminal box* devices close to the cable passage holes, located at the top of the post, using 2 clamps;
21) Fasten the ITSLUX illuminator to the bottom of the Front Post, close to the hole for cables passage.

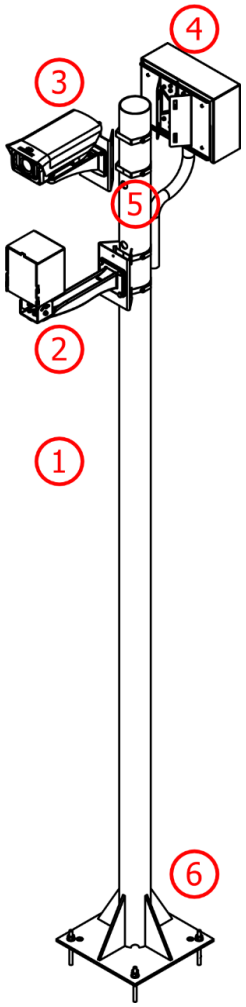


Figure 11 - Panoramic Image Capture Post

Item	Description	Quantity
1	2.5m (Ø3") post	1
2	ITSLUX illuminator (optional) mounted	1
3	ITSCAM VIGIA+ Panoramic assembled	1
4	Terminal box;	1
5	Clamps*	2
6	Concrete Fastening Mechanism	1

**Attach the Cell support of each equipment to the post using the clamps, with a total of 2 (two) clamps for the ITSCAM VIGIA+ device and the Terminal Box. If the ITSLUX illuminator is installed, two additional clamps will be required.*

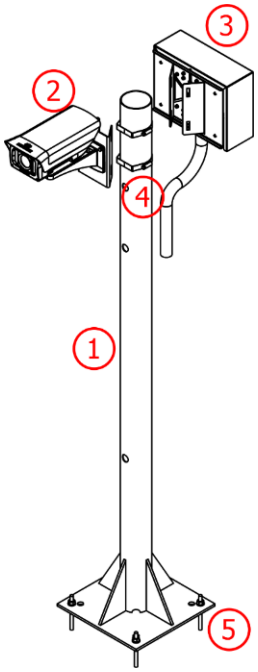


Figure 12 - Rear Image Capture Post

Item	Description	Quantity
1	1.5m (Ø3") post	1
2	ITSCAM VIGIA+ Rear assembled	1
3	Terminal box;	1
4	Clamps*	2
5	Concrete Fastening Mechanism	1

**Secure the supports of the ITSCAM VIGIA+ device and the Terminal Box using 2 (two) clamps.*

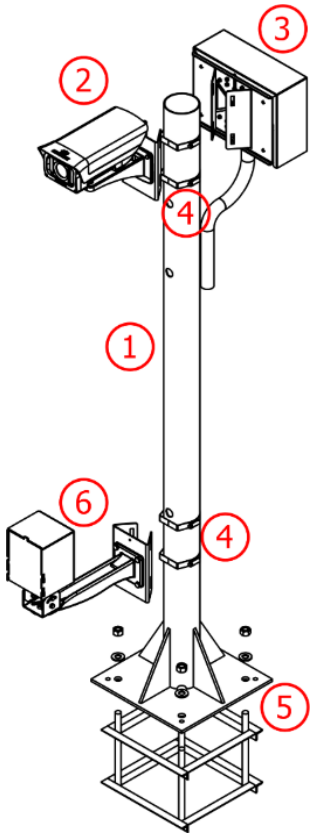


Figure 13 - Front Image Capture Post

Item	Description	Quantity
1	1.5m (Ø3") post	1
2	ITSCAM VIGIA+ Front assembled	1
3	Terminal box;	1
4	Clamps	4
5	Asphalt Fastening Mechanism (190mm anchor)	1
6	ITSLUX Illuminator	1

**Attach the cage brackets to the post using a total of 4 (four) clamps, 2 (two) for the ITSCAM VIGIA+ device and Terminal Box and 2 (two) for the ITSLUX illuminator.*

3.4. Network Interface Parameterization

22) Check the configuration of the network where the ITSCAM VIGIA+ image capture and processing device will be installed;
23) Carry out the necessary parameterization, prior to the local connections of the equipment, referring to the steps indicated in the Installation Guide of the ITSCAM VIGIA+ product.

Network configuration of capture equipment: ITSCAM VIGIA+ devices have the same factory network configuration. Installing more than one NEVADA device requires individual access to the image capture equipment and changing the default network configuration data.

4. Electrical and Data Installation

24) Consider the NEVADA *Installation Diagram* on a track as a general guideline for connections:

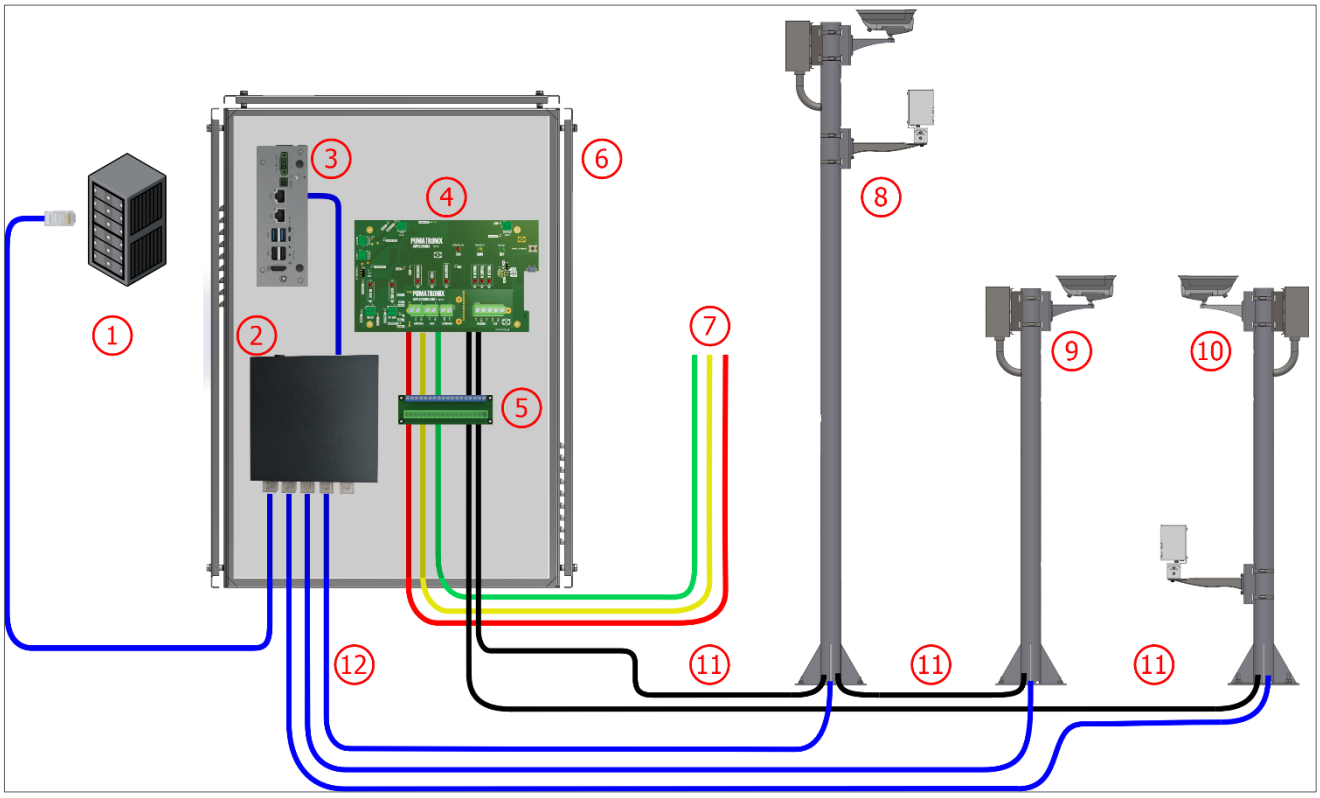


Figure 14 - NEVADA Installation Diagram on a Track: 1) Utility network, 2) Switch, 3) ULP - Local Processing Unit, 4) Supervisory Board, 5) General Connector, 6) NEVADA Frame or NEVADA Compact Frame, 7) Signals from Track, 8) Panoramic Image Post, 9) Rear Image Post, 10) Front Image Post, 11) 8x22AWG shielded sleeve cable, 12) Furukawa External CAT-5E Cable

25) Follow the steps to perform the electrical and data installation, following the order in which they are presented:
   a) Connect the Optical Set devices to the corresponding Terminal box;
   b) Connect the 8x22AWG sleeve cable that interconnects the devices on each post through the connections to the plate in each Terminal Box;
   c) Connect the sensor signals to the *General Connector* on the panel and using the jumpers in each Terminal Box;
   d) Connect the cables to the General Connector of the NEVADA Frame or NEVADA Compact Frame;
   e) Make the power connections on the General Connector of the NEVADA Frame or NEVADA Compact Frame;
   f) Connect the Furukawa External CAT-5E network cables from each ITSCAM VIGIA+ to the panel Switch;
   g) Power the NEVADA system, activating the electrical protection devices on the panel;
   h) Proceed with the network setup for the track;
   i) Adjust the framing of each ITSCAM VIGIA+, considering the position of the device on the track.

4.1. Optical Set Connections

26) Connect the cables from the ITSCAM VIGIA+ device to the Terminal Box board, on the bus called *Vigia*, and the wires from the ITSLUX illuminator cable (when used) on the bus called *Iluminador*, using the colors indicated in the *Connection Diagram* of the corresponding post, indicated below;

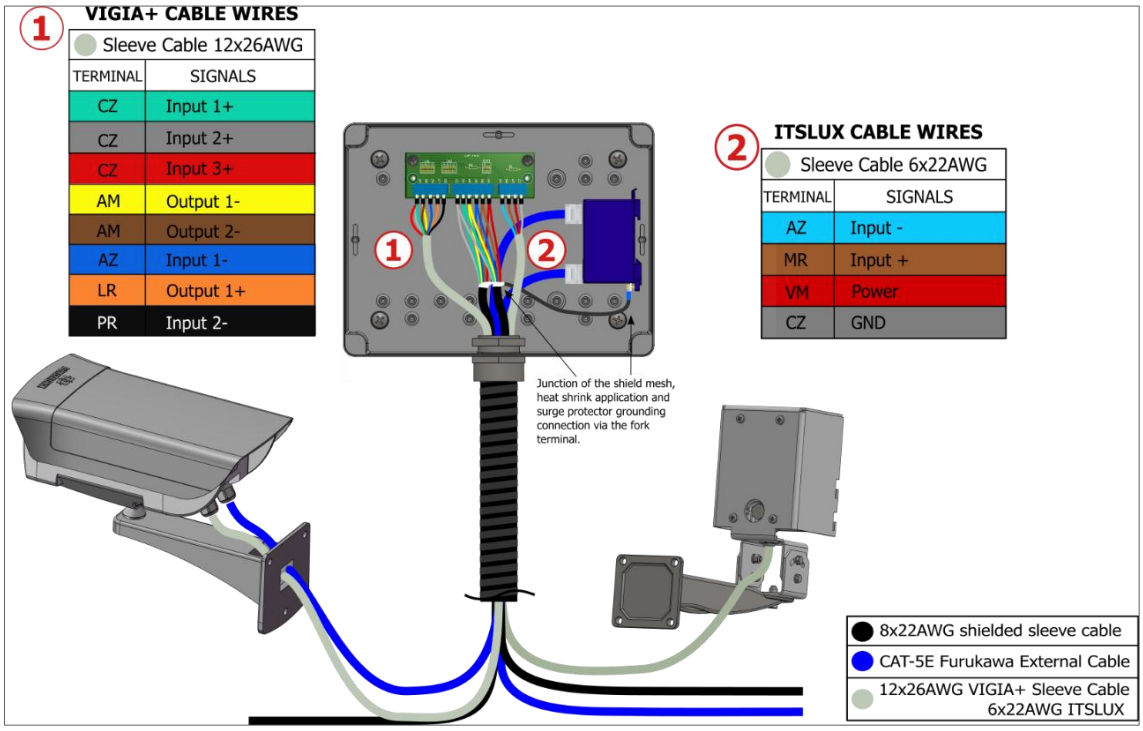


Figure 15 - Connection diagram of the ITSCAM VIGIA+ and ITSLUX devices in the Panoramic Post (with illuminator) with Connection Board 1.0

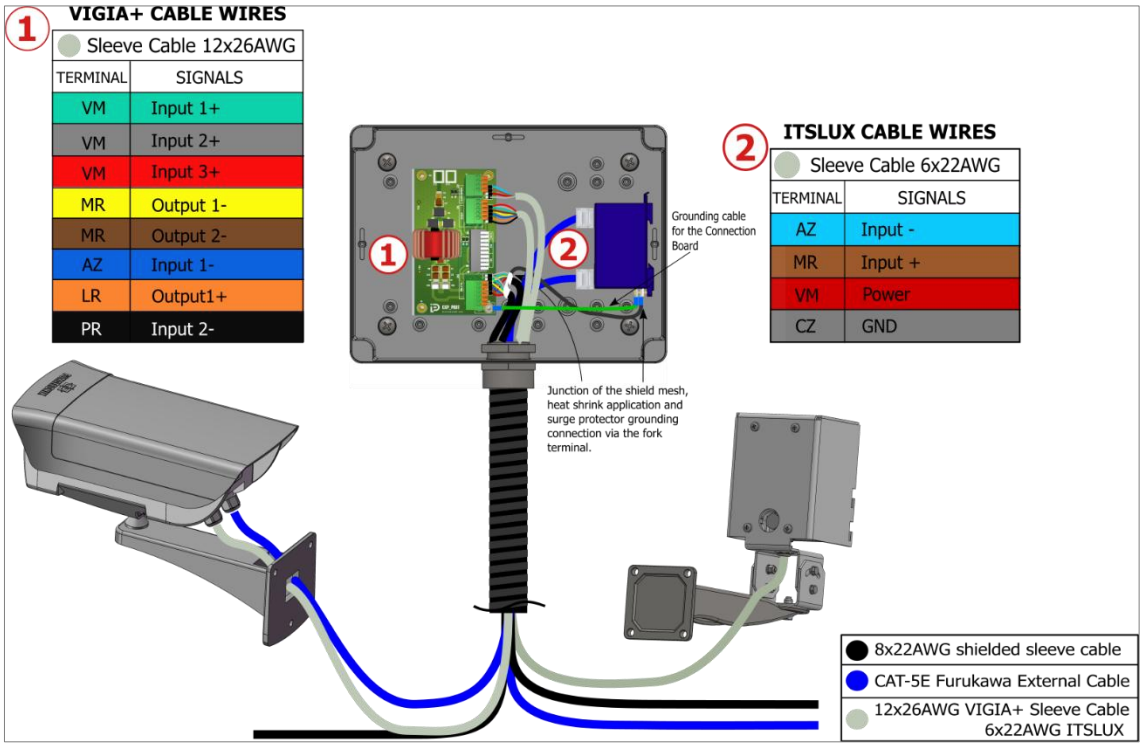


Figure 16 - Connection diagram of the ITSCAM VIGIA+ and ITSLUX devices in the Panoramic Post (with illuminator) with Connection Board 2.0

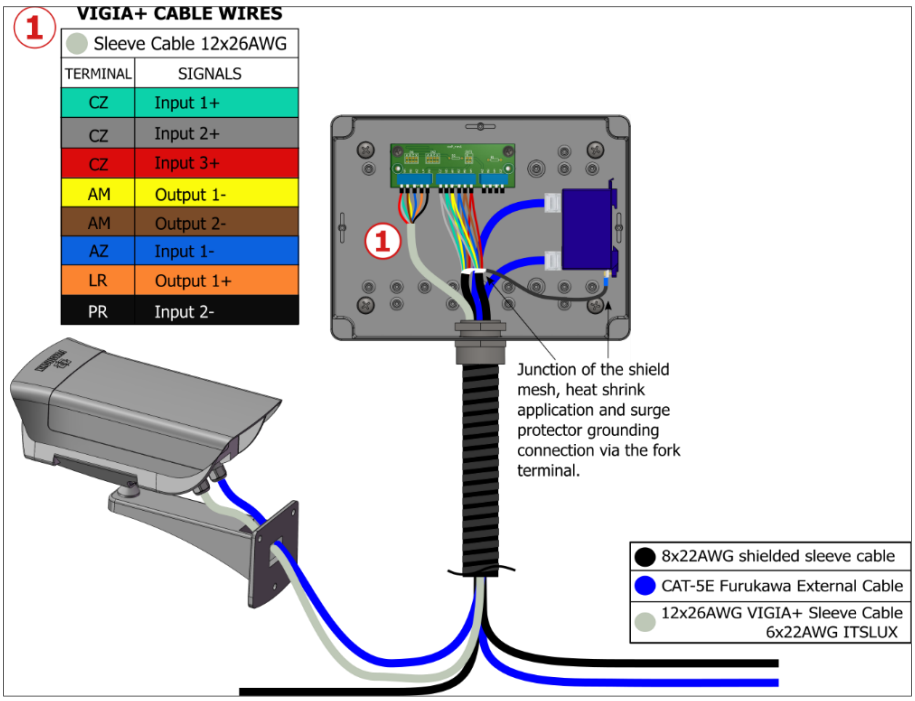


Figure 17 - Connection Diagram for ITSCAM VIGIA+ device on Rear or Panoramic Post (without illuminator) with Connection Board 1.0

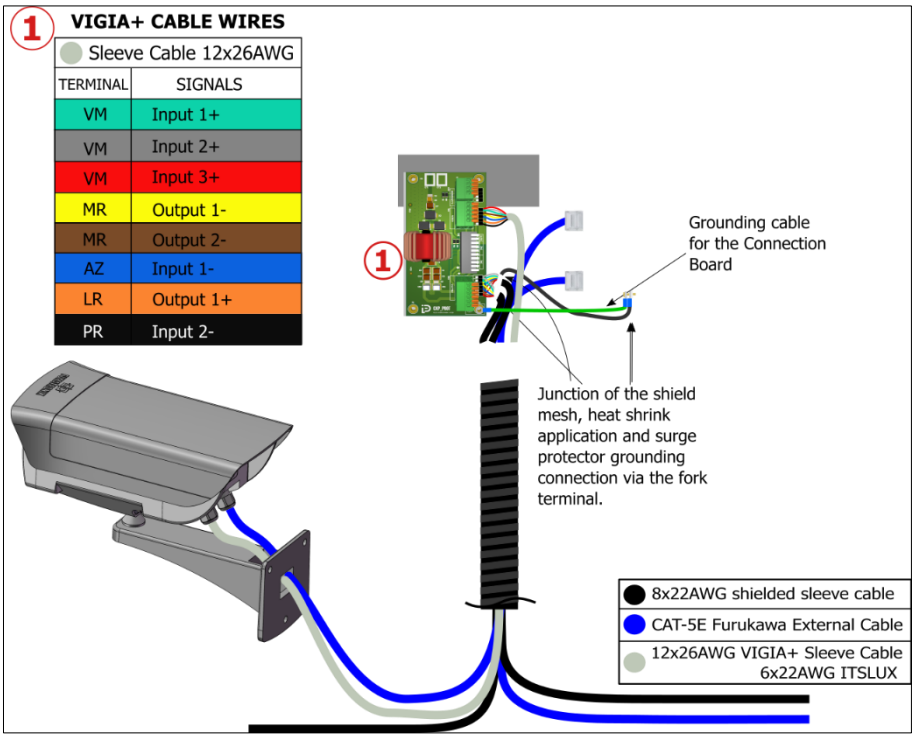


Figure 18 - Connection Diagram for ITSCAM VIGIA+ device on Rear or Panoramic Post (without illuminator) with Connection Board 2.0

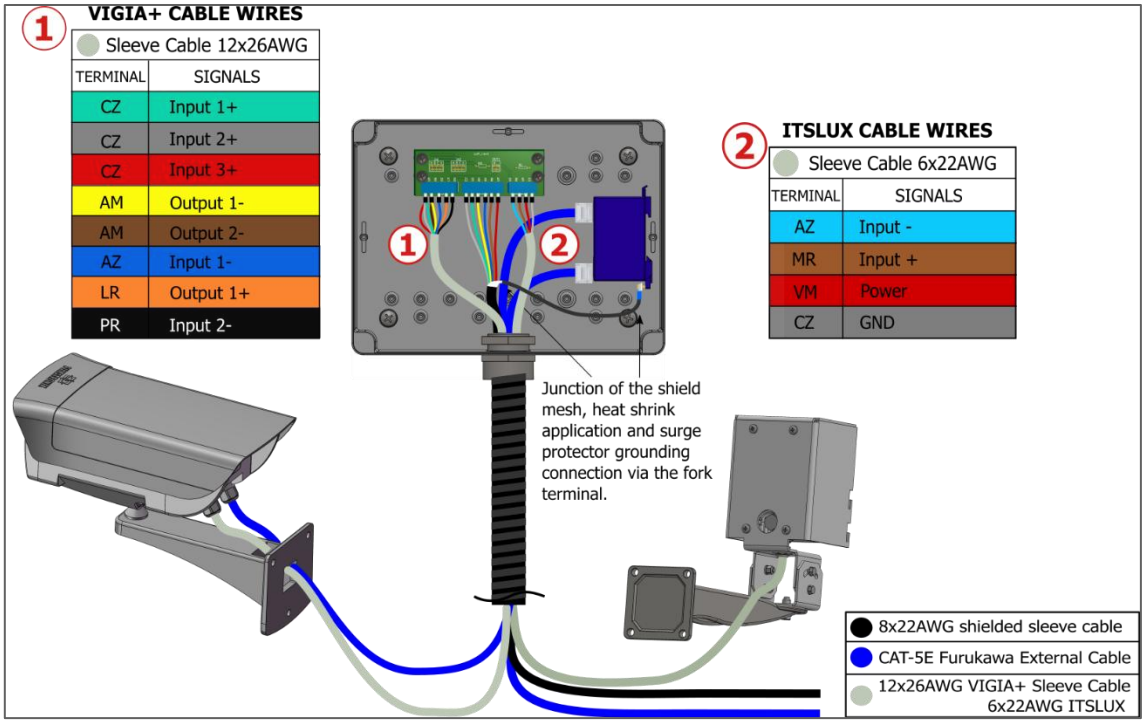


Figure 19 - Connection Diagram for ITSCAM VIGIA+ and ITSLUX devices on the Front Post with Connection Board 1.0

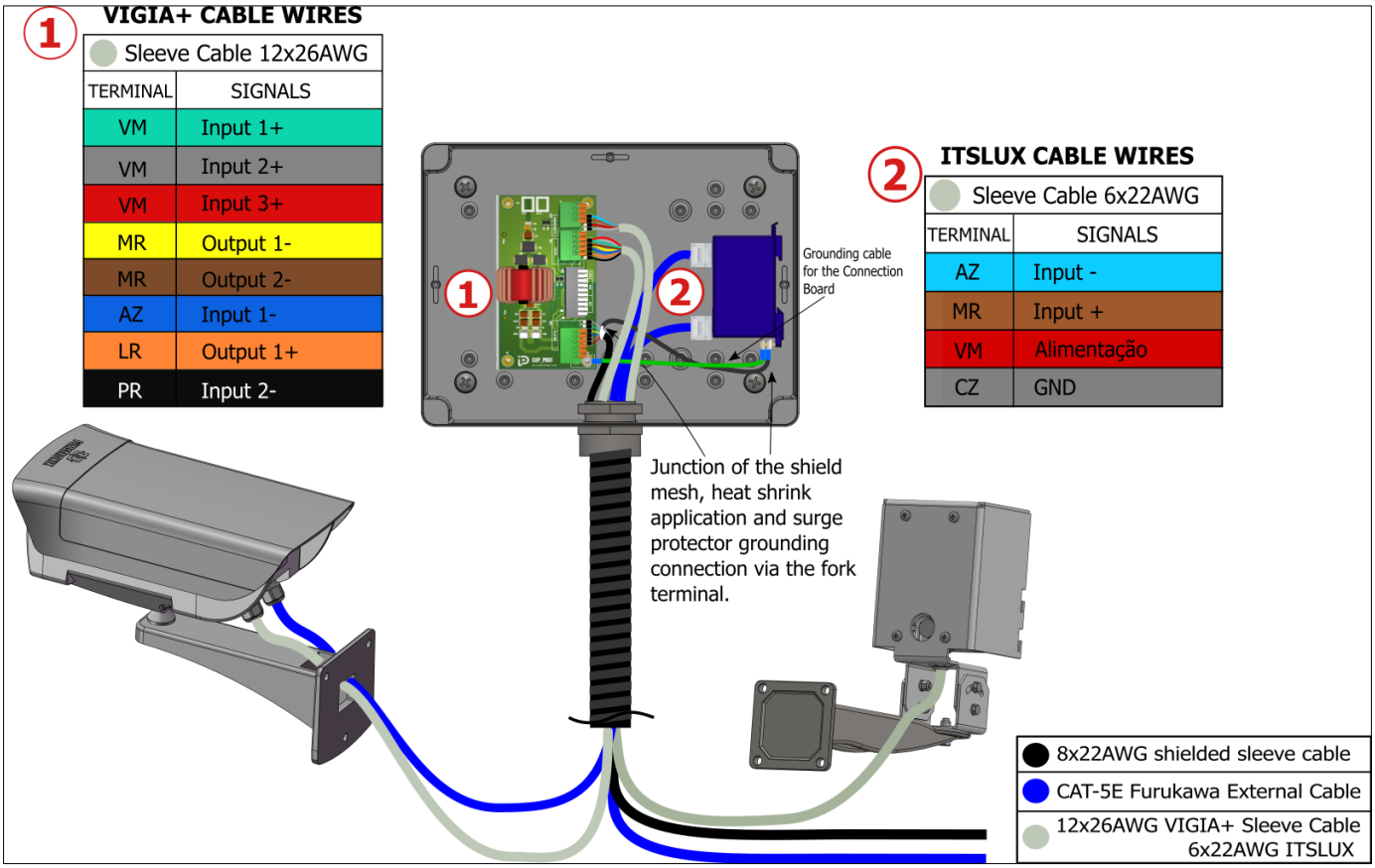


Figure 20 - Connection Diagram for ITSCAM VIGIA+ and ITSLUX devices on the Front Post with Connection Board 2.0

The 2.0 Connection Board features a filtering system against spurious noise and surge protection.

4.1.1. Connections between Posts

27) Prepare the ends of the 8-core sleeve cable wires that will be used in the connections between posts, using a tubular terminal with a diameter between 1 and 1.5 mm;
28) Connect the prepared wires of the 8-core sleeve cable to the Terminal Box connection board, on the busbar called *Maleta*, considering the maximum distance of 50 meters between poles, as indicated in the diagram:

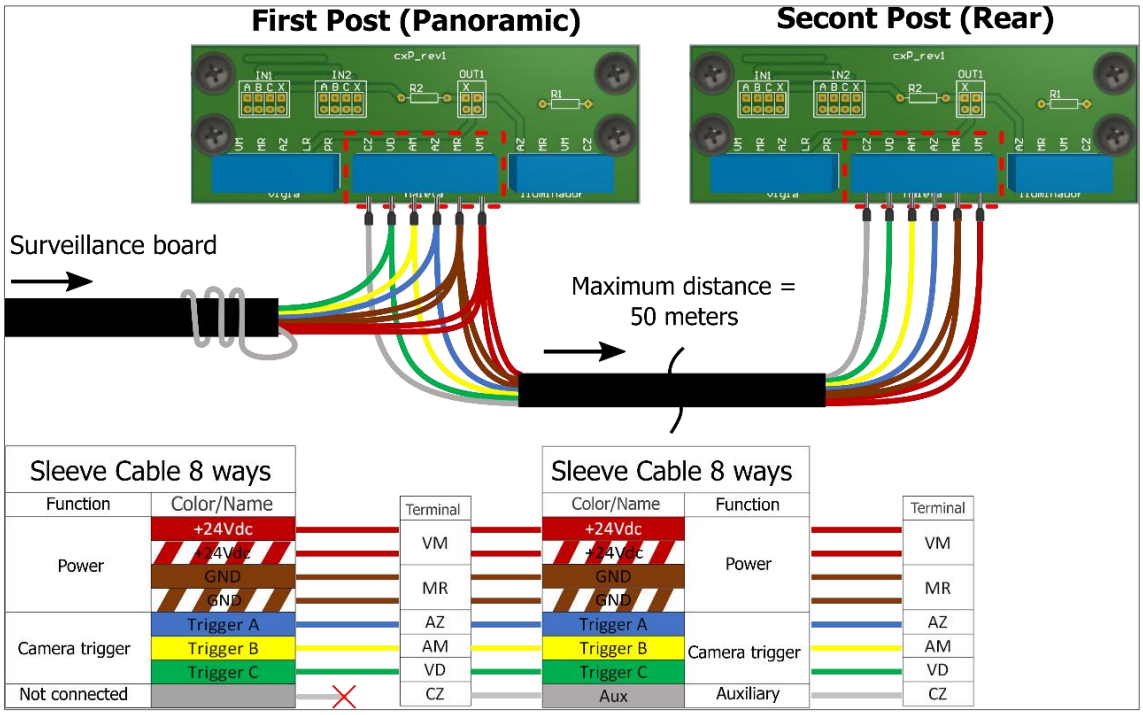


Figure 21 - Wiring Diagram for the 8-way sleeve cable in each Junction Box of the Panoramic and Rear Capture Posts with Connection Board 1.0

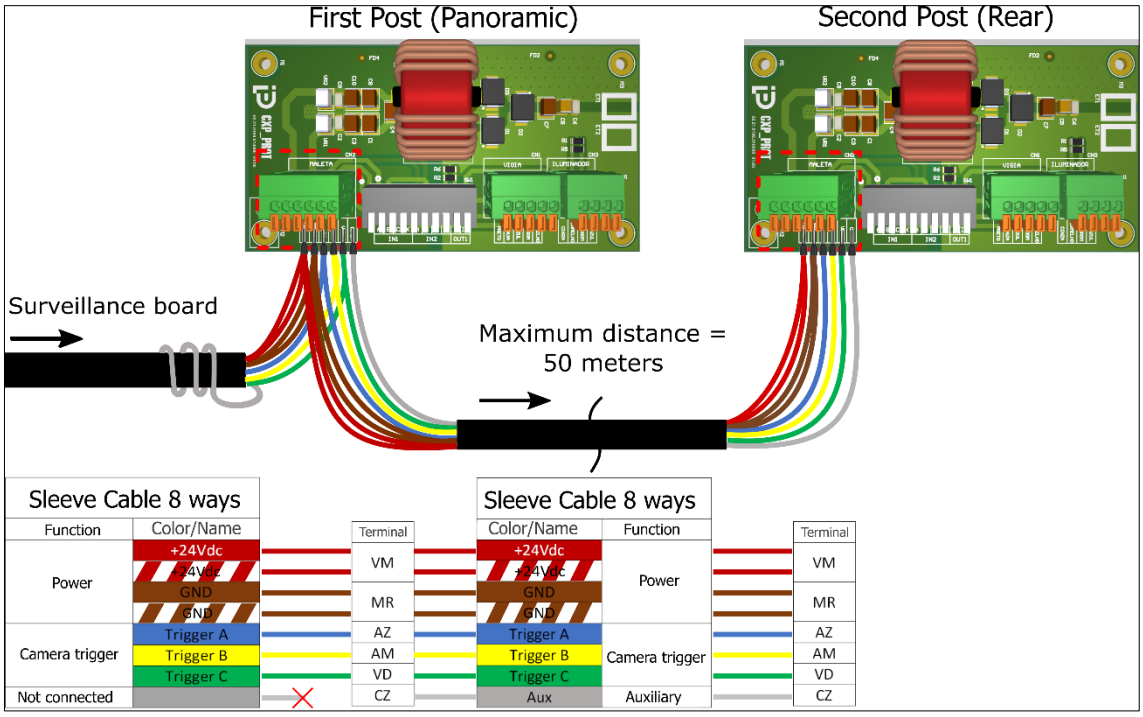


Figure 22 - Wiring Diagram for the 8-way sleeve cable in each Junction Box of the Panoramic and Rear Capture Posts with Connection Board 2.0

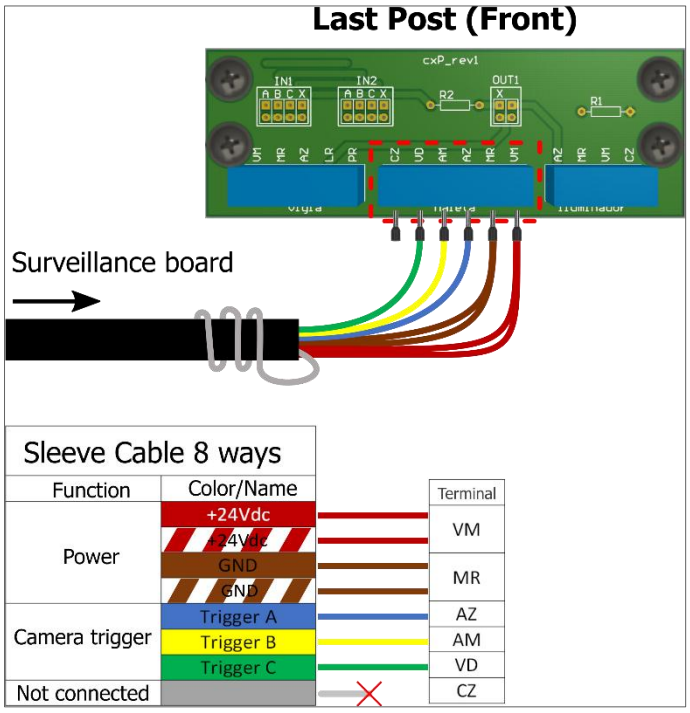


Figure 23 - Wiring Diagram for the 8-Core Sleeve Cable in the Front Catchment Post Junction Box with Connection Board 1.0

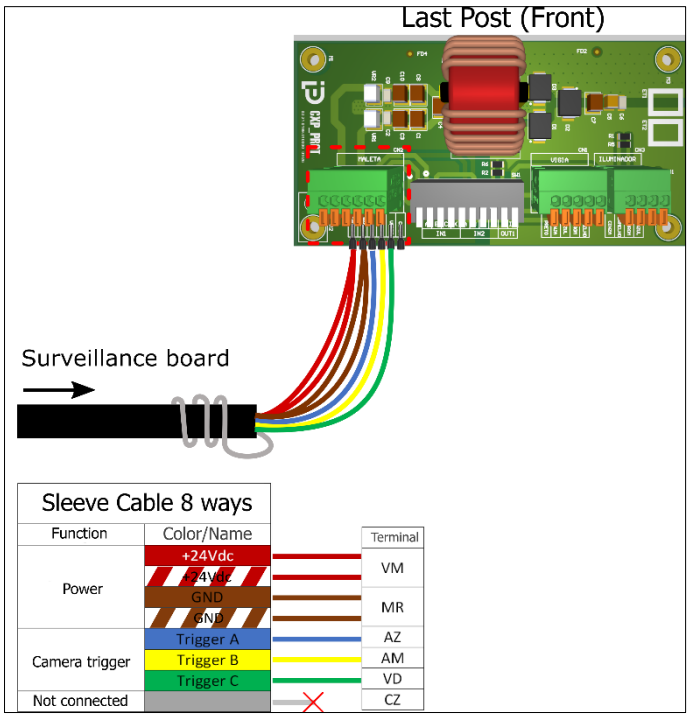


Figure 24 - Wiring Diagram for the 8-Core Sleeve Cable in the Front Catchment Post Junction Box with Connection Board 2.0

The gray path coming from the Surveillance Board is not connected. It should be wrapped around the cable and tied with insulating tape. The gray track between the posts is connected and has an auxiliary function.

4.1.2. Sensor Signal Connections on Connection Board 1.0

29) Position the jumpers that will be responsible for forwarding the track signals to the corresponding ITSCAM VIGIA+ device, connected to the Terminal Box, applying one to each set of IN1 and IN2 (input signals) or OUT1 (output signal), existing on the connection board of each post:

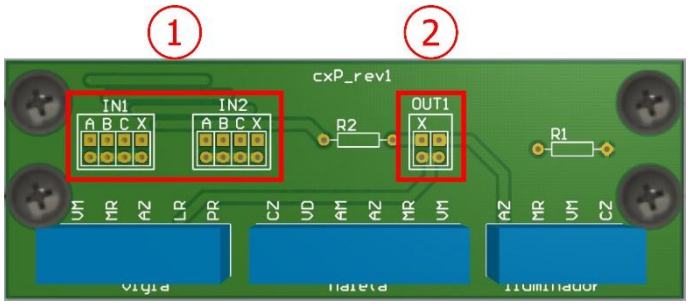


Figure 25 - Connections available on the Terminal Box Connection Board 1.0: 1) Input Signals, 2) Output Signal

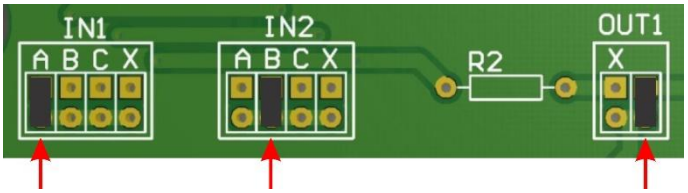
30) Connect the input signals located in the **IN1** and **IN2** sets of the board to receive the signals from the track, considering that only one jumper can be connected in each set (*The input wires are connected in the central terminals of the board, in the bus called *Maleta*):

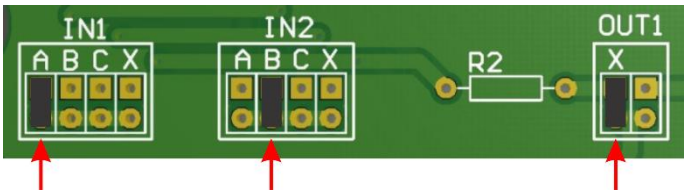
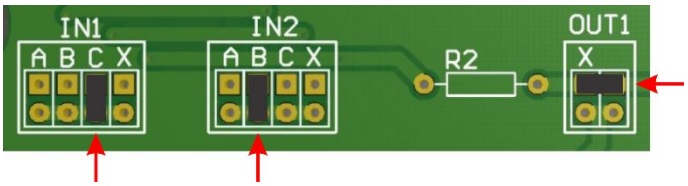
	A	B	C	X
Signal	TRIGGER A	TRIGGER B	TRIGGER C	TRIGGER X
Matching wire*	Blue	Yellow	Green	Gray

31) Connect the jumper to the contacts in **OUT1** to define the sending location of the output signals of the ITSCAM VIGIA+ device:

	Left vertical	Horizontal above*	Right vertical
Signal destination	TRIGGER X	TRIGGER X on the illuminator	Illuminator

**When the jumper is horizontal, the only position it can be connected to is the horizontal position located above.*

Examples of jumper positions			
	 *Figure 26 – Terminal Box Connection Board 1.0 configuration example for Front image capture device*		
Result:	TRIGGER A in IN1	TRIGGER B in IN2	OUT1 in the illuminator

Examples of jumper positions			
	 *Figure 27 - Terminal Box Connection Board 1.0 Configuration for Rear Image Capture Device*		
Result:	TRIGGER A in IN1	TRIGGER B in IN2	TRIGGER X in OUT1
	 *Figure 28 - Terminal Box Connection Board 1.0Configuration for Panoramic Image Capture Device*		
Result:	TRIGGER C in IN1	TRIGGER B in IN2	TRIGGER X on the illuminator

4.1.3. Sensor Signal Connections on Connection Board 2.0

The Connection Board 2.0 has the same functionalities as version 1.0 with the added ease of configuring trigger input and output via the SW1 switch.

32) Activate the SW1 switches, which will be responsible for forwarding the signals from the track to the corresponding ITSCAM VIGIA+ device, connected to the Junction Box, available in each **IN1** and **IN2** (input signals) or **OUT1** (output signal) set, located on the connection plate of each pole:

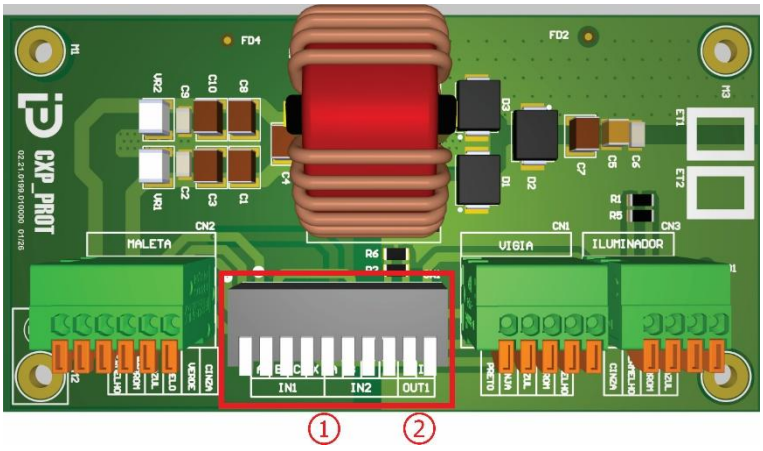


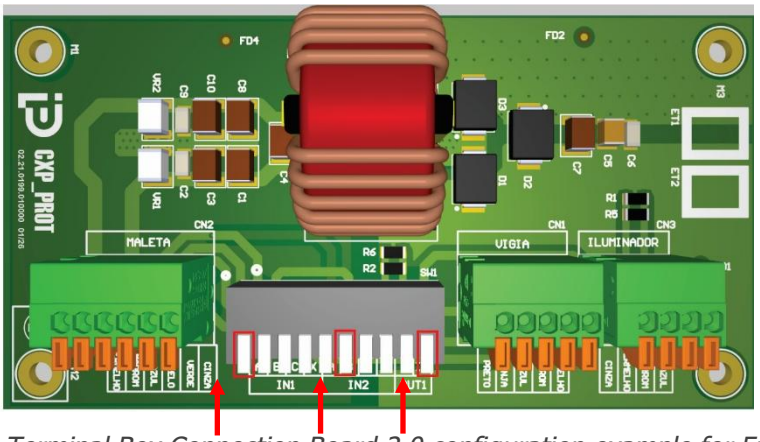
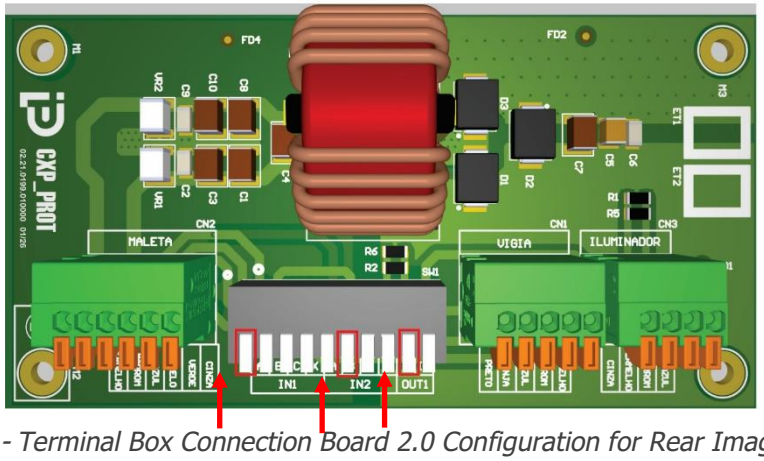
Figure 29 - Connections available on the Terminal Box Connection Board 2.0: 1) Input Signals, 2) Output Signal

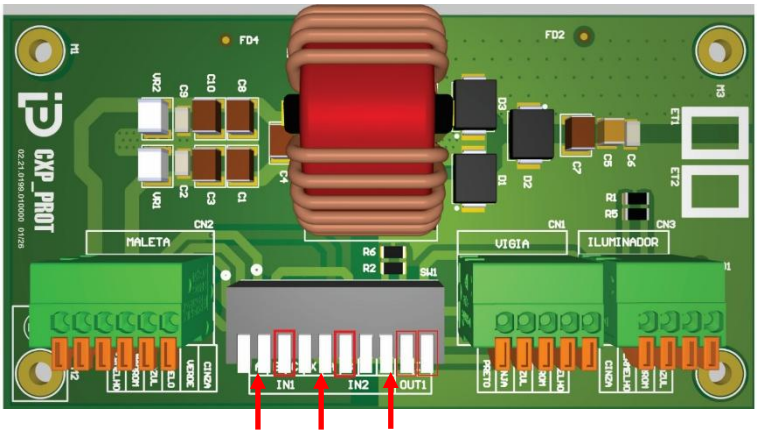
33) Connect the input signals located in sets **IN1** and **IN2** of the board to receive the signals from the track, considering that only one switch can be activated in each set (*The input wires connect to the central terminals of the board, on the bus called the Suitcase):

	A	B	C	X
Signal	TRIGGER A	TRIGGER B	TRIGGER C	TRIGGER X
Matching wire	Blue	Yellow	Green	Gray

34) Activate the SW1 switches in **OUT1** to define the location for sending the output signals from the ITSCAM VIGIA+ device:

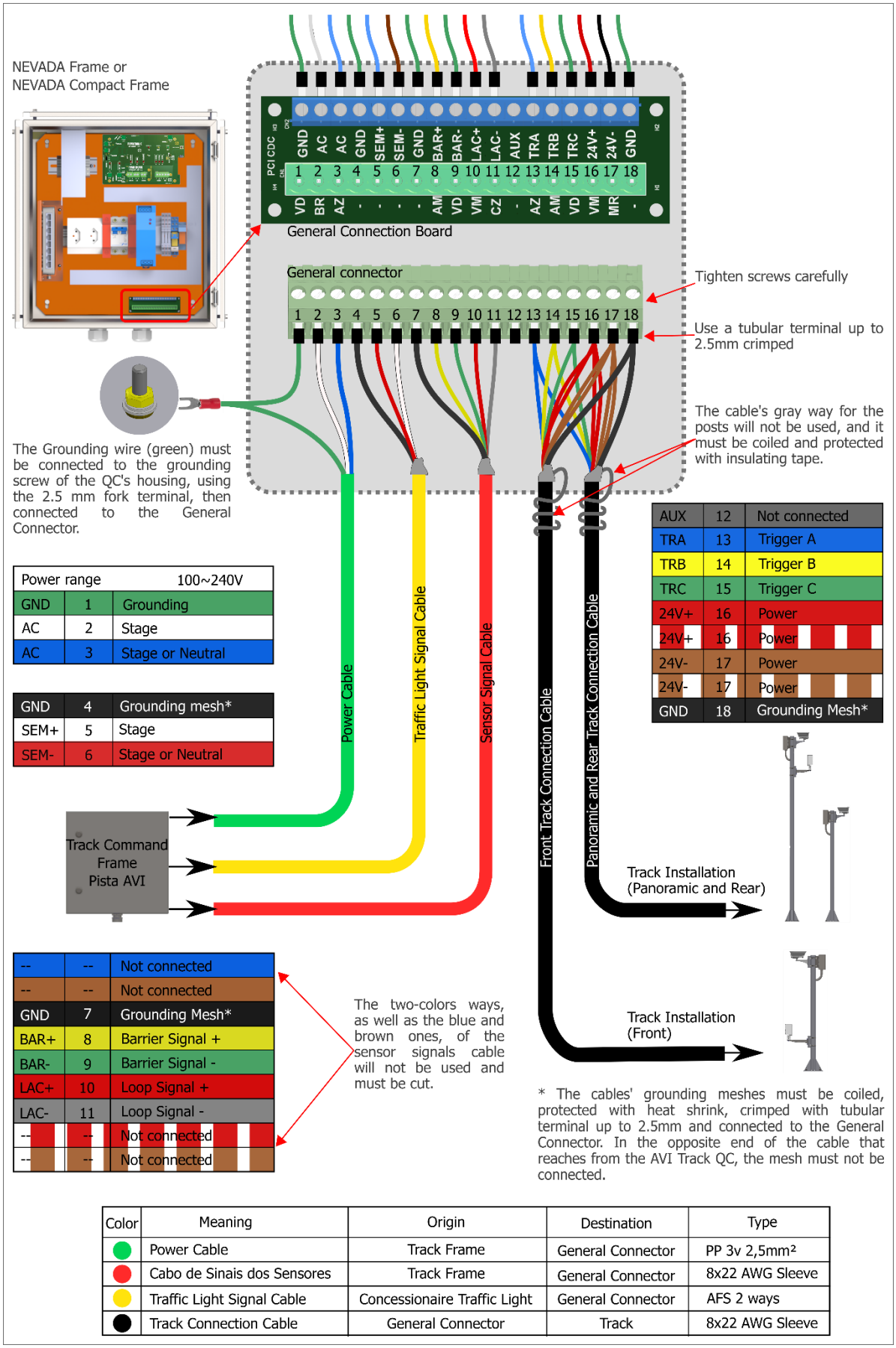
	Left key	Two Keys	Right key
Signal destination	TRIGGER X	TRIGGER X no iluminador	Iluminador

Examples of SW1 key activation			
	 *Figure 30 - Terminal Box Connection Board 2.0 configuration example for Front image capture device*		
Result:	TRIGGER A em IN1	TRIGGER B em IN2	OUT1 no iluminador
	 *Figure 31 - Terminal Box Connection Board 2.0 Configuration for Rear Image Capture Device*		
Result:	TRIGGER A em IN1	TRIGGER B em IN2	TRIGGER X em OUT1

Examples of SW1 key activation			
	 *Figure 32 Terminal Box Connection Board 2.0 Configuration for Panoramic Image Capture Device*		
Result:	TRIGGER C em IN1	TRIGGER B em IN2	TRIGGER X no iluminador

4.2. Installation of Frames

35) Consider the cable connection diagram with the *General Connection Board* of the *NEVADA Frame* or *NEVADA Compact Frame*:



Color	Meaning	Origin	Destination	Type
	Power Cable	Track Frame	General Connector	PP 3v 2,5mm²
	Cabo de Sinais dos Sensores	Track Frame	General Connector	8x22 AWG Sleeve
	Traffic Light Signal Cable	Concessionaire Traffic Light	General Connector	AFS 2 ways
	Track Connection Cable	General Connector	Track	8x22 AWG Sleeve

Figure 33 - Connection Diagram with the General Connection Board

4.2.1. Connections to the Corresponding NEVADA Board

36) Make the electrical connections to the NEVADA Frame or NEVADA Compact Frame by connecting the cables numbered 1 to 4 as indicated in the Connection Diagram of the corresponding NEVADA Frame, considering the specifications indicated below:
37) Power connection (cable 1) to the General Connection Board: 1 3-way 0.75 Pp type cable:
    a) Connect cable numbered 1 to the GND (green), AC (white), AC (blue) terminals;
    b) Connect the grounding point of cable numbered 1 to the location closest to the frame;
38) Connecting the track sensor (cable 2) to the General Connection Board: 1 2-way cable (for each sensor):
    a) Connect the sensor signals to the corresponding Traffic Light (SEM), Barrier (BAR) or Loop (LAC) terminals;
    b) Adjust the Traffic Light signal connection, connecting the blue and brown wires between the General Connection Board and the respective Relay to the voltage of the network in which it is installed (24Vdc, 127Vac or 220Vac);
39) Connecting the ITSCAM VIGIA+ device (cable 3 and 4) to the General Connection Board: 2 shielded 8x22AWG sleeve cable:
    a) Prepare the power connection of the devices using cable numbered 3 to the +24Vdc (red) and GND (brown) terminals;
    b) Connect the wires that trigger the ITSCAM VIGIA+ devices, connecting the cables numbered 3 and 4 to the TRIGGER A (blue), TRIGGER B (yellow), TRIGGER C (green) terminals;
40) Data connection (cable 5) with the General Connection Board: 3 Furukawa External CAT-5E PoE Ethernet cables (one for each ITSCAM VIGIA+ device):
    a) Connect the network cable of each ITSCAM VIGIA+ device to the Switch connected to the Local Processing Unit (ULP), which guarantees data communication between the devices;

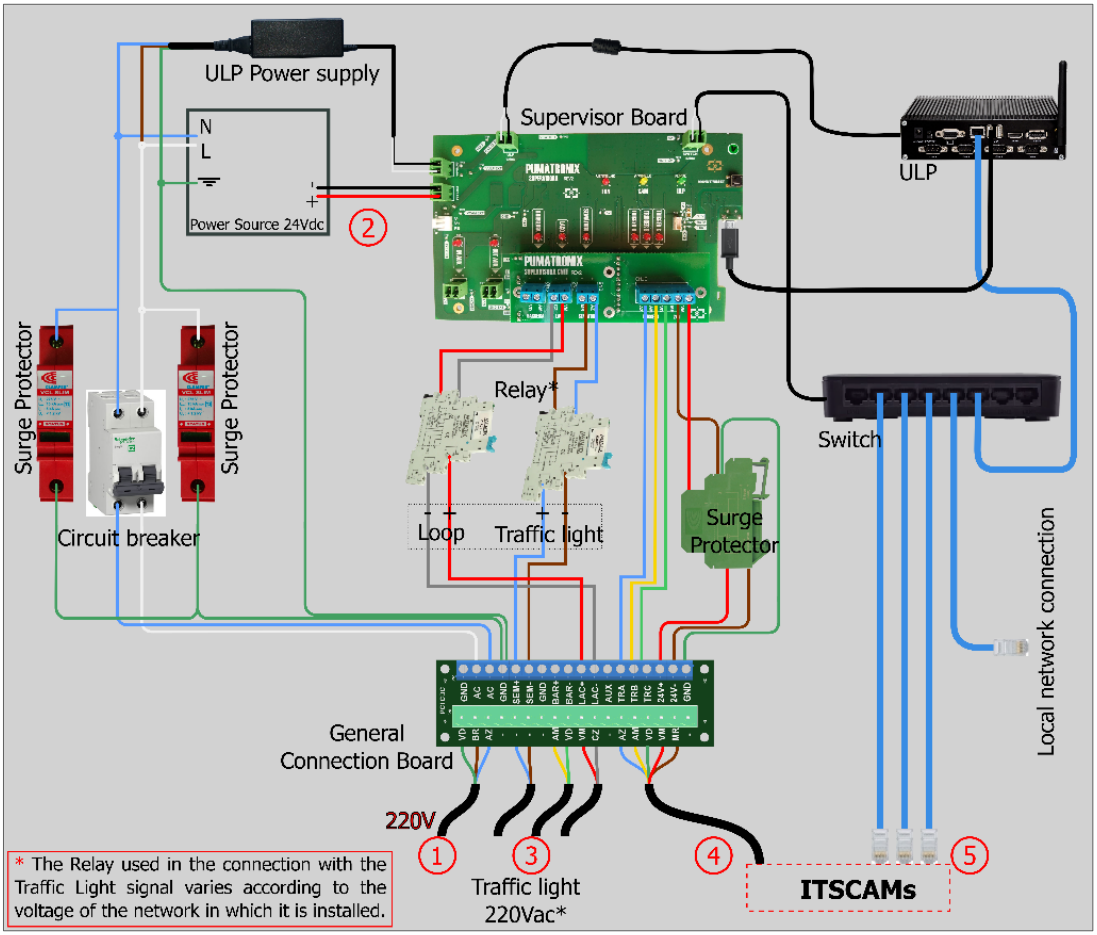


Figure 34 - NEVADA Panel Connection Diagram

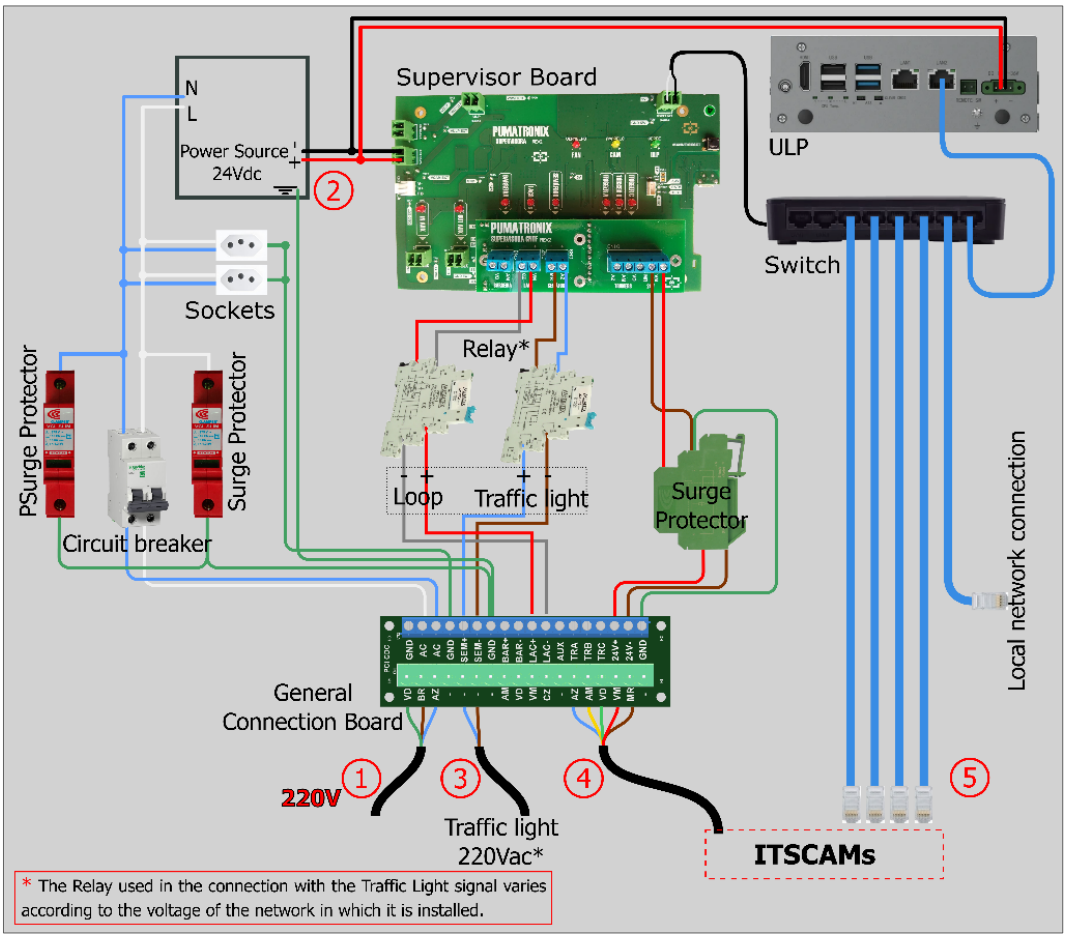


Figure 35 - NEVADA Compact Frame Wiring Diagram

41) Make the power connection to the NEVADA system, connecting cable numbered 1 (3-ways 0.75 Pp type cable) to the existing electrical network;
42) Energize the NEVADA Frame or NEVADA Compact Frame by activating the circuit breaker.

4.3. Network Configuration

43) Perform the Network Interface Parameterization, connecting the ITSCAM VIGIA+ device to an auxiliary device using an Ethernet cable, after being properly attached to the corresponding post and remaining disconnected from the local network in which the equipment will be installed;
44) Access the ITSCAM VIGIA+ image capture device's Web interface via browser, which offers the available settings for operation, using the factory default data indicated in the ITSCAM VIGIA+ device Installation Guide;
45) Set a new IP address for NEVADA equipment, considering the data from the concessionaire's local network;

Network configuration of capture equipment: ITSCAM VIGIA+ devices have the same factory network configuration. Installing more than one NEVADA device requires individual access to the image capture equipment and changing the default network configuration data.

46) Access the NEVADA Software for the first time using the factory default data indicated in the NEVADA Product Manual;
47) Include each ITSCAM VIGIA+ device configured individually and connected to the network in the NEVADA system by accessing the Registrations>Equipment menu in the NEVADA Software.

5. Framing adjustments

48) Adjust the framing by connecting the ITSCAM VIGIA+ device to an auxiliary device, after it is properly fixed to the respective post, using an Ethernet cable;
49) Adjust the positioning of the ITSCAM VIGIA+ devices on the support both during the day and at night, however it is recommended that the track is open so that it can be tested with both light and heavy vehicles;
50) Adjust zoom and focus by putting the track in maintenance mode during this activity, closing the track and positioning a car in the direction of the road;
51) Refer to the advanced image settings available in the equipment's Web interface and specified in the ITSCAM Device Integration Manual.

5.1. Framing for ITSCAM VIGIA+ Panoramic

52) Adjust the framing for the ITSCAM VIGIA+ Panoramic so that the context of the violation committed is displayed, viewing in a single image all the elements that allow the characterization of the evasion: the red traffic light (which must be clear in the image) and the gate. In addition, the road on which the vehicle is traveling must be centered in the panoramic image, as in the example:

Figure 36 - Example image of framing for the ITSCAM VIGIA+ Panoramic device

5.2. Framing for ITSCAM VIGIA+ Front and Rear

53) Adjust the framing for the ITSCAM VIGIA+ devices located on the Front and Rear capture posts so that it favors the identification of the vehicle's license plate, with the best framing being the one in which the license plates of the monitored vehicles are centered in the image, with the Gate at the top of the image and the Optical Barrier in the center of the captured region;
54) See the ITSCAM VIGIA+ device Installation Guide for steps to adjust the images via the Web interface, to ensure that the vehicle license plate is aligned horizontally and without tilt;
55) Change the tilt of the equipment on the spherical support if necessary, ensuring that the vehicle plates have little horizontal tilt, that is, there is no significant difference between the vertical positioning of the first and last characters of the plate in the image:

Figure 37 - Example image of framing for the ITSCAM VIGIA+ Frontal device

56) Framing the Rear image allows the violation to be validated, when the make and model are visible in the image, as well as the two headlights/lanterns:

Figure 38 - Example image of framing for the ITSCAM VIGIA+ Rear device

6. Image Adjustments

57) Perform advanced image settings appropriate to the installation location and applicable to devices responsible for reading license plates of offending vehicles that capture the front and rear images of vehicles and must present the best OCR detection results;
58) Access the NEVADA Integration Manual for suggested values for Image Adjustments applicable to ITSCAM VIGIA+ frames and models and available through the device's web interface.

Refer to the ITSCAM VIGIA+ device Product Manual for additional instructions on image framing adjustments.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