

The background of the image is a high-angle, nighttime aerial photograph of a city. The city is densely packed with buildings of various heights, creating a complex pattern of dark shapes against a lighter sky. Overlaid on this image is a glowing, semi-transparent network grid. The grid consists of numerous small, white, glowing circular nodes connected by thin, white, glowing lines. These nodes are concentrated in a diagonal band that runs from the top left towards the bottom right. They also form a series of smaller, more horizontal clusters in the lower right quadrant. The overall effect is one of a futuristic, digital overlay representing a network or data flow within an urban environment.

NOTRAFFIC PLATFORM

Installation Guide

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1 System overview

A typical NoTraffic installation consists of one sensor unit (SU) for each intersection approach (typically 4) and one control unit (CU) installed inside the cabinet and connected to the traffic controller.

The SUs gather and process data about traffic demand and send processed data to the control unit which runs optimization algorithms that intelligently place calls to the traffic controller.

The CU receives data from connected vehicles, other intersections on the grid, and the web-based user interface tools and integrates this information into optimization decisions.

The platform monitors the proper functioning of the traffic controller and will provide real-time alerts in case it detects any problems with the traffic controller (such signal flashing mode, stuck pedestrian calls, cabinet communication errors, etc).

SU:





CU:

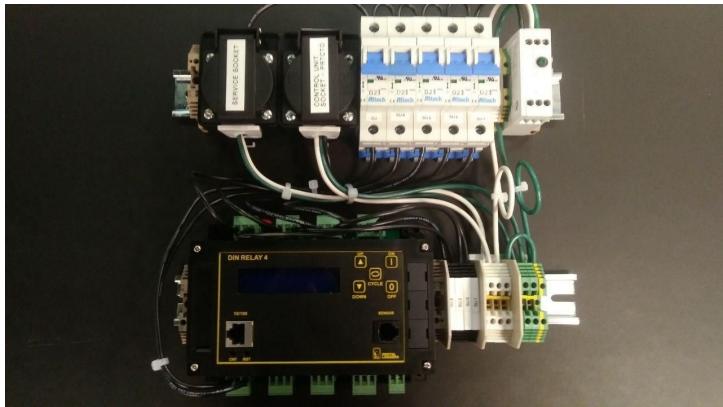
AC IN
90-264VAC

Antenna
Connectors

SIM Cards

2 Control unit installation

2.1 Mains power DIN rail assembly



2.1.1 The power DIN rail assembly should be installed in a place where it's convenient to route power cables to sensor units and the control unit.

2.1.2 The DIN rail should be secured with screws to a panel in the control cabinet

- Each SU and CU has a dedicated circuit breaker
- Color coding: Live - black, Neutral - white, PE - yellow/green.

2.1.3 Mains connection is to the far-right side, next to the surge protector.

2.1.4 Route and anchor power cables for the sensor units, before connecting them to the DIN rail assembly.

2.1.5 Connect each SU power cable to a protective earth first (green terminal), then to Neutral (white terminal), and last to Live - dedicated circuit breaker

2.1.6 Connect the power cord to the protected socket and route it to the CU shelf.

As a measure of precaution, connect the mains to the DIN rail assembly only after all exposed cables are terminated correctly and connected to the sensor units.

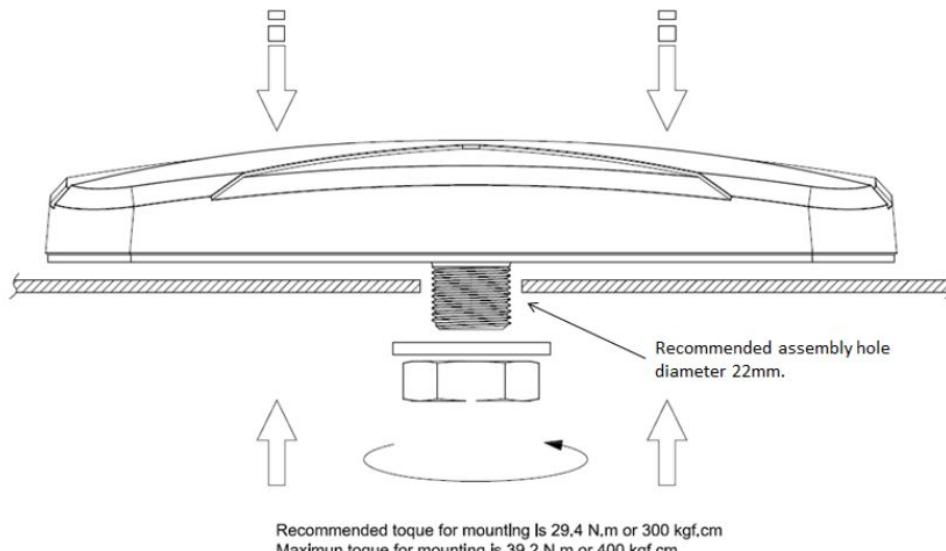
2.2 Install 5-in1 antenna

2.2.1 Drill a 22 mm hole in the top of the cabinet and pass the antenna cable assembly wiring harness through the hole from the top side. Antenna array should be installed on one side or the other (left or right) of the traffic cabinet to leave as much space as possible for future additional antennas.

2.2.2 Please provide at least 8 inches (~20cm) of separation between the antenna and the edge of the traffic cabinet.

2.2.3 Route the cable to the shelf where the control unit will be installed.

http://www.taoglas.com/wp-content/uploads/2016/05/MA450.K.LBICG_.004.pdf



2.2.4 Remove debris from the mounting surface and place the antenna firmly on the cabinet top using 3M adhesive.

2.2.5 Ensure a clean flat mounting surface or water leaks and component damage will occur.

2.2.6 Lock antenna with included nut, recommended torque is 29.4 Nm (21.6 lb-ft)

2.3 Control unit installation

2.3.1 Place the Control Unit on a shelf, close to the traffic controller.

Other mounting options are available upon request (such as rack mounting).

2.3.2 Connect each antenna to the corresponding terminal of the control unit, please note the marking next to the RF connectors.



2.3.3 Route and anchor the ethernet cable between the traffic controller and the NoTraffic CU. Connect the ethernet cable to the left ethernet port of the CU and the NTCIP port of the traffic controller.



2.3.4 Make sure that all antennas are properly connected. Powering the CU fully connecting all antennas will cause permanent damage to the control unit.

2.3.5 Connect the power cable to the “CU outlet” on the power DIN Rail and to the CU power port.
 This will automatically power on the control unit

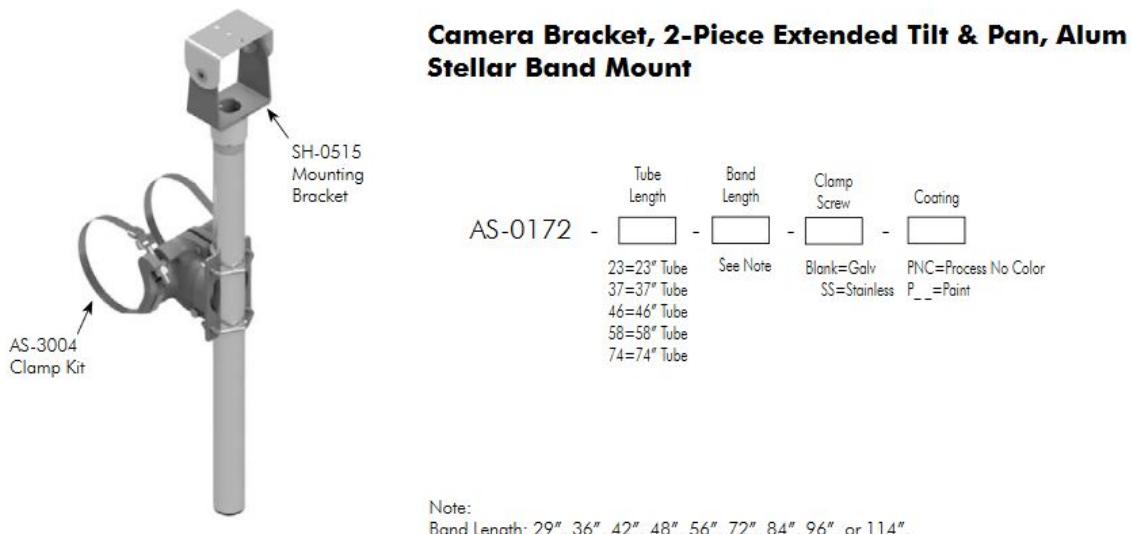
2.3.6 Anchor power cord to prevent unwanted disconnection.

2.3.7 In conjunction with NoTraffic onsite team

2.3.7.1 Test CU wifi connectivity

2.3.7.2 Test connectivity between traffic controller and NoTraffic control unit

3 Sensor Unit Installation



(Repeat for each sensor unit)

3.1 Astro-Brac mounting

3.1.1 Recommended location for installation is in the center of the approach on the highest point available, total height including Astro-Brac should be 30 feet or more.

3.1.2 One of the Sensor Units has the DSRC module enabled which should be mounted facing the main street with minimum field of view obstruction in order to provide the best possible range for V2I communication.

3.1.3 Example location: on the luminaire arm or traffic light mast arm. Height is more important than having the SU in the center of the approach, consult NoTraffic team on best possible location if not clear prior to installation.

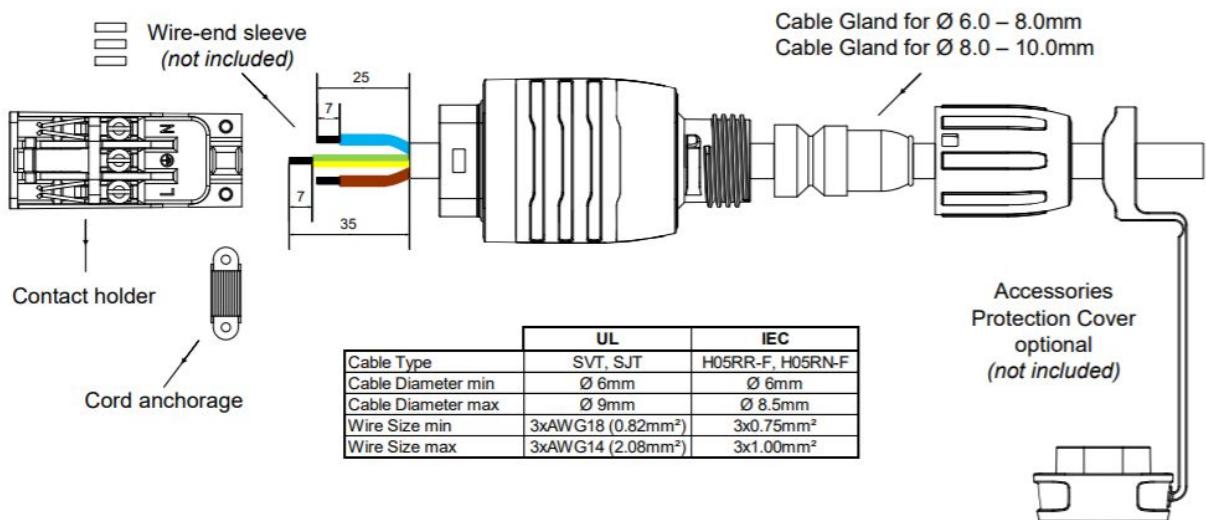
3.1.4 Mount Astro-Brac per manufacturer's instructions.

3.2 AC cable pull and termination

3.2.1 Pull an AC cable (mains power – 110VAC) to the SU installation location.

3.2.2 Follow instructions from manufacture (brown in diagram is live, blue is neutral) to terminate provided connector to AC cable:

https://ch.schurter.com/content/download/1739414/32059397/version/2/file/0115.0074_B_Mounting%20Instruction.pdf



3.3 Mount Sensor unit to Astro-Brac

3.3.1 Mount the SU to the Astro-Brac using the provided: 3 M6 screws, locking washers and nuts.

3.3.2 Ensure all 3 screws are properly locked.

3.4 Connecting the Sensor Units

3.4.1 On SU with DSRC module enabled, verify that the DSRC antennas are firmly installed. **Powering on the DSRC module without properly connecting BOTH antennas will cause permanent damage to the unit.**

3.4.1.1 On SU with DSRC module enabled, connect protective earth lugs of the antenna's surge protector to the closest earth point on the pole, or to protective earth of the AC cable pull.

3.4.1.2 If Ethernet is available, connect Ethernet cable, ensure connector is hermetically sealed

3.4.1.3 Connect AC power cable, ensure connector is hermetically sealed

3.4.1.4 Test that there is WIFI connectivity and (if available) ethernet connectivity to the sensor unit with the help of the NoTraffic on-site support team.

3.5 Calibrate Sensor Unit view

3.5.1.1 Move bracket to desired viewing angle

3.5.1.2 Lock bracket in place

3.5.1.3 Calibrate zoom and focus using the software setup tool, the support is provided by on-site NoTraffic team.

3.6 Finishing installation

3.6.1.1 Check for mechanical integrity of the sensor unit



3.6.1.2 Test for hermetic sealing integrity of all connectors: Rear panel, DSRC Antenna connectors. Verify dust caps are locked in place

4 System Startup

4.1.1.1 Turn on should be done only by NoTraffic's team and only after verifying proper installation of all components.

4.1.1.2 The traffic controller must be placed in free mode, fully-actuated, in order for the NoTraffic platform to operate in adaptive mode. In the case of any failure the backup timer will be configured to revert to TOD/Coordinated control. All signal switching is managed by the traffic controller and protected by the conflict monitor.

5 FCC information

- FCC ID labels can be found on the SU and CU enclosures.
All RF modules could be accessed by disassembling the products enclosure

Certification process: FCC ID:

2AS3G-CONT - Control unit

2AS3G-SENS - Sensor unit

Products contains the following RF modules:

CTM process: Contains FCC ID:

TV7R11E5HACD ; **QISME909U-52** (Control unit)

VOB-P3310 ; **2AEGPMK5OBU** (Sensor Unit)

- To comply with FCC, Installation must be done according to the instructions in this manual.

Class A - Industrial use

The FCC Wants You to Know

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

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

FCC Warning (Modification statement)

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC Rules.

Appendix E - FCC Regulatory notices

Interference statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Wireless notice

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.