

Dolly Positioning 3D Compact Systems

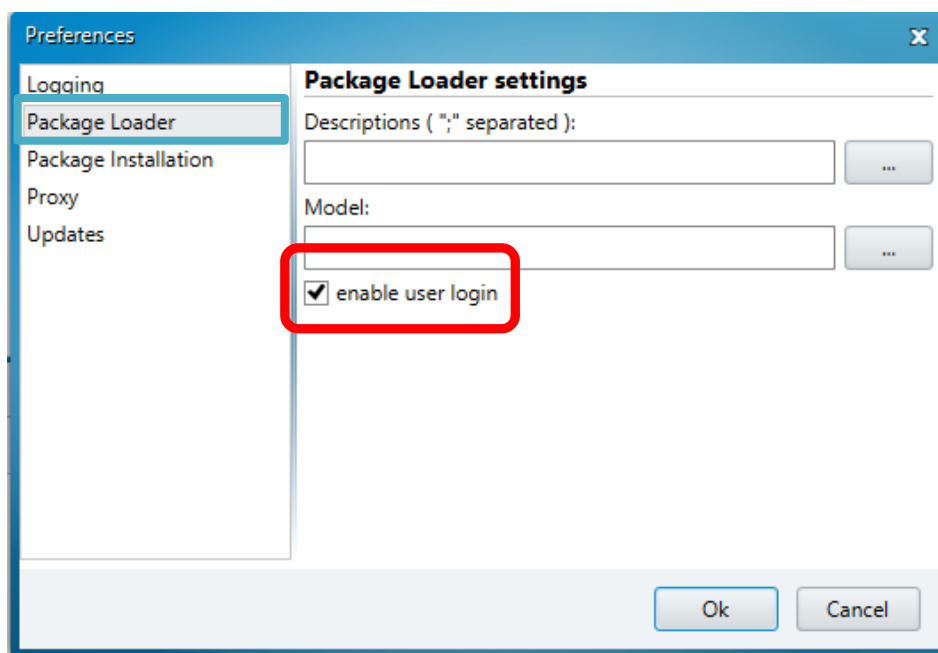
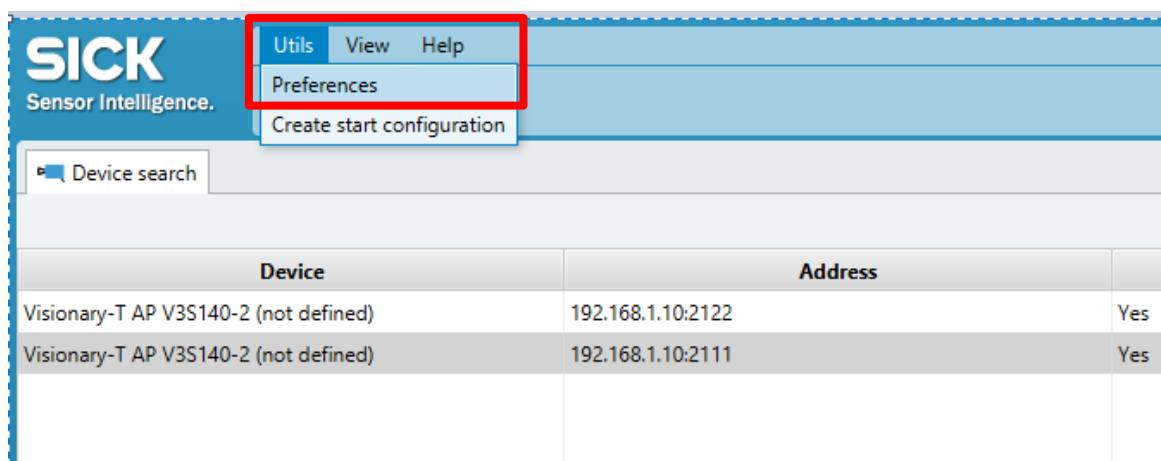
INSTALLATION

Installation

To install the Dolly Positioning App on the Visionary-T AP device you need the AppManager which can be downloaded for free, from sick.com.

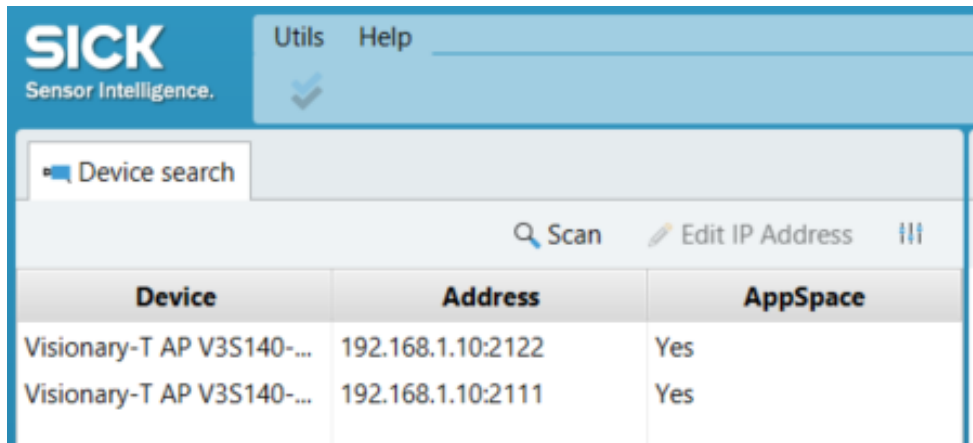
After installation of AppManager you have to configure the user login.

In „Utils→ Preferences“ enable the user login.



Now the App can be installed on the Visionary-T AP device.

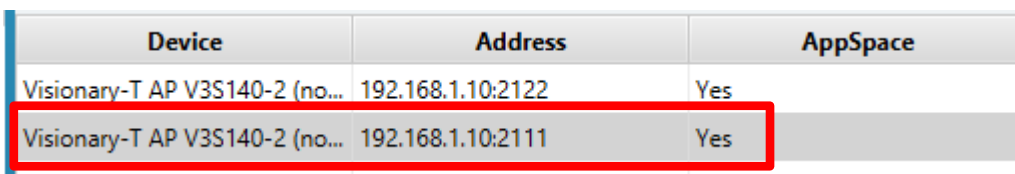
- Connect your device via Ethernet to your local PC
- Connect the device to a power supply and wait until the *Device* LED goes green
- Start SICK AppManager
- The device should be detected and displayed automatically (please perform an additional scan if the device is not displayed)



The screenshot shows the SICK Sensor Intelligence interface. At the top, there is a header with the SICK logo and 'Sensor Intelligence.' text. To the right, there are 'Utils' and 'Help' menus. Below the header, there is a 'Device search' section with a search bar and buttons for 'Scan', 'Edit IP Address', and a menu icon. The main content is a table with three columns: 'Device', 'Address', and 'AppSpace'.

Device	Address	AppSpace
Visionary-T AP V3S140-...	192.168.1.10:2122	Yes
Visionary-T AP V3S140-...	192.168.1.10:2111	Yes

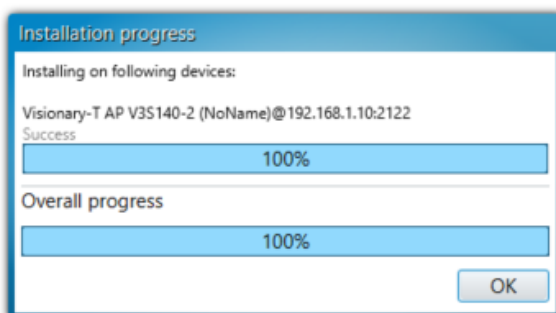
- Import your App to the AppManager by clicking to the plus symbol. The App will appear in the “Local Packages” section within the AppManager.
- Select device with PORT 2111



The screenshot shows a table with three columns: 'Device', 'Address', and 'AppSpace'. The second row is highlighted with a red border.

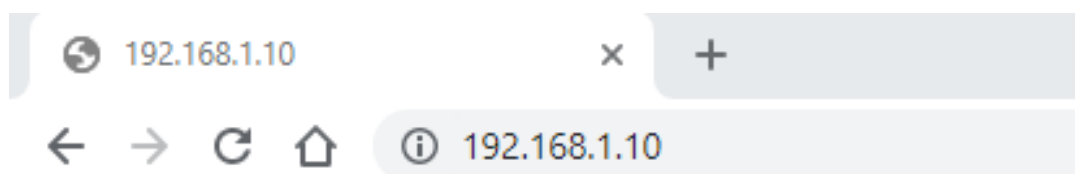
Device	Address	AppSpace
Visionary-T AP V3S140-2 (no...	192.168.1.10:2122	Yes
Visionary-T AP V3S140-2 (no...	192.168.1.10:2111	Yes

- Select the App in “Local Packages” folder and click “install”
- Enter the Userlevel and the password to start the installation
- The success of the installation can be checked in the Installation progress window.

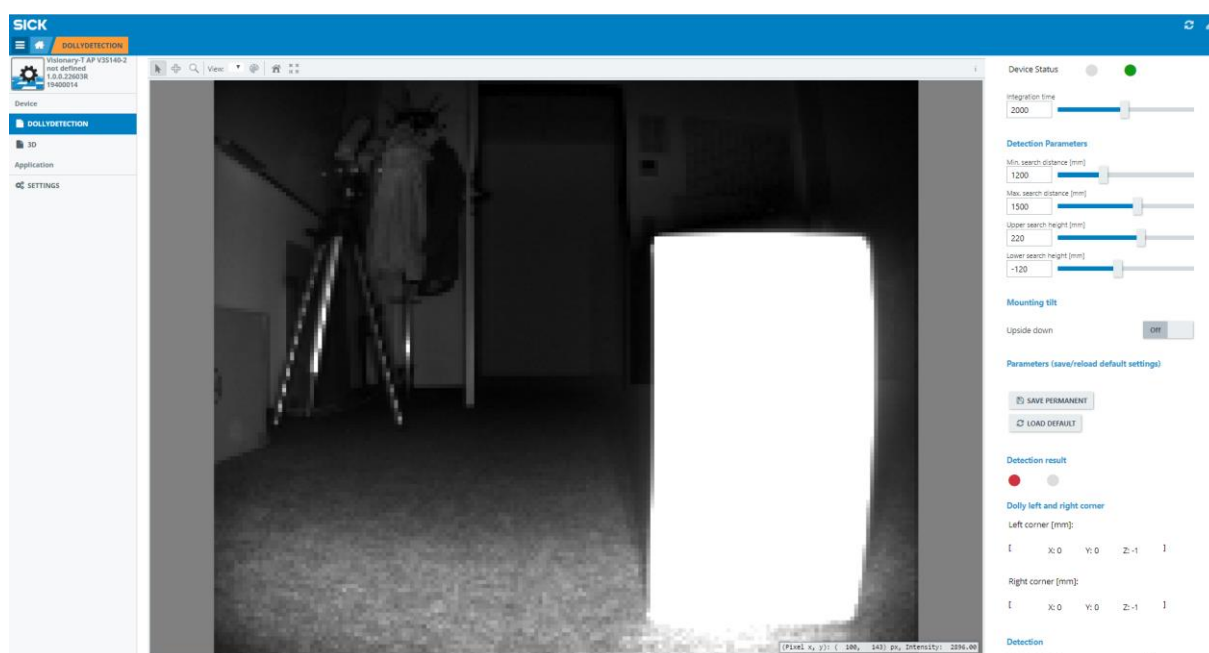


When the App is installed on the device, the GUI can be accessed via SOPASAir.

Open a Webbrowser (we recommend Chrome) and type in the IP address of the camera where you installed the App, e.g. 192.168.1.10.



SOPASAir GUI window of the App opens:




When connected via SOPASAir you can use the GUI to configure the application and check which Parameters are needed for the application. Later when the application is running in an automated vehicle you have to transfer these parameters via CoLa2 to the device at each start, or on the fly dependent on your application and setting.


The integration time can be modified due to distance and remission of object (dolly). You can use the slider to change the integration time or type in the value directly and press the enter button.





The detection parameters define the 3D space which is monitored to detect the dolly and to provide the corner coordinates. You can use the slider to change the distance values or type in the value directly and press the enter button.

Detection Parameters

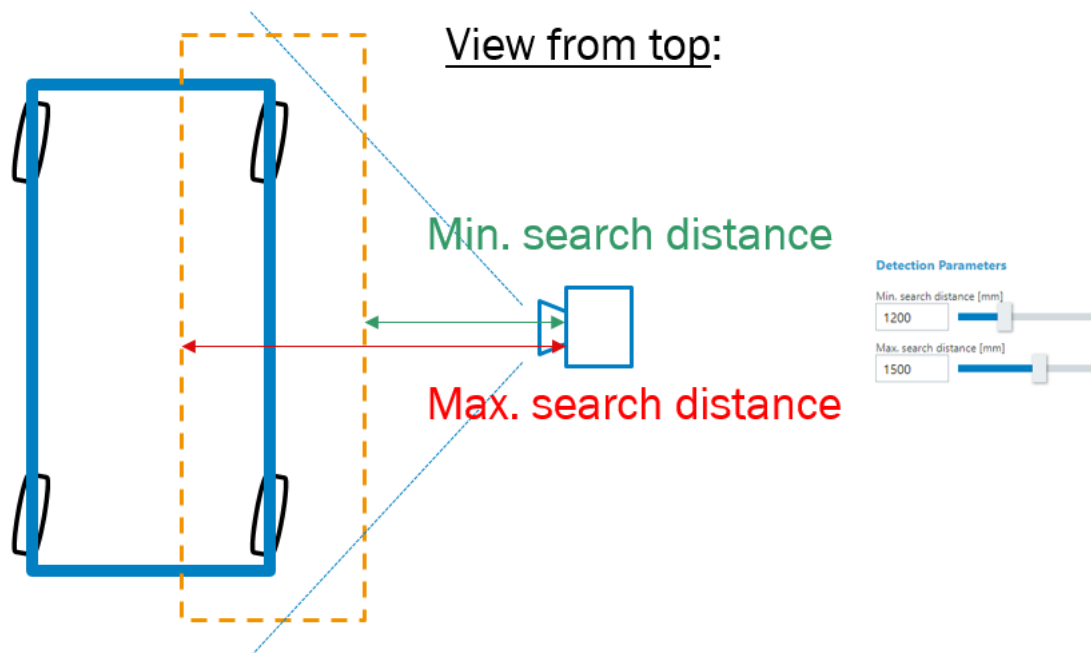
Min. search distance [mm]
 

Max. search distance [mm]
 

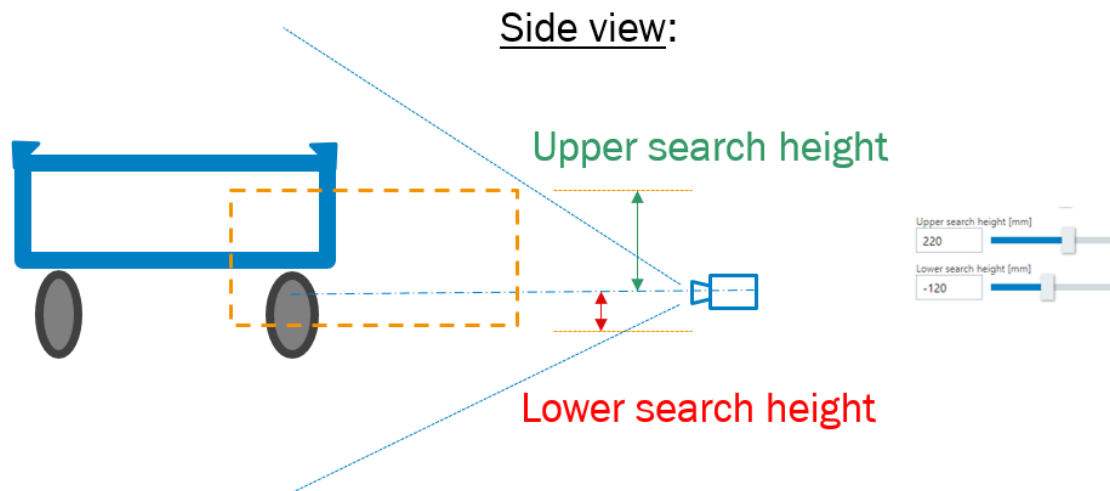
Upper search height [mm]
 

Lower search height [mm]
 

The Min. and Max. search distance defines starting from which and up to which distance in the field of view the 3D data are used to search for an object (dolly). The values are always based on the local camera coordinate system.



The upper and lower search height defines in which height the 3D data are used to search for an object. The values for upper and lower search height are also based on the local camera coordinate system.



To activate the dolly detection the checkbox in the “Detection” section needs to be activated.

Detection

Activate Detection



Once the dolly is detected and the coordinates of the corner points are calculated the XYZ coordinates (based to the camera coordinate system) are displayed in the “Dolly left and right corner” section.

Detection result



Dolly left and right corner

Left edge [mm]:

[X: 606 Y: -169 Z: 1465]

Right edge [mm]:

[X: -616 Y: -169 Z: 1575]

The following options help to check the performance of the configuration by visualizing the results on the live monitor

- ROI prediction: Shows the predicted ROI where the object/dolly is located
- Detected corner points: Shows the detected left and right corner points and overlays with the live view
- Detected region: Shows the regions of detected regions within the defined 3D space

Show in viewer

ROI prediction

Detected corner points

Detected region

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