



INSIGHTS

LEAN 
ROBOTICS

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Original Notice

Table of Contents

Table of Contents	2
Revisions	4
1. General Presentation	6
2. Safety	7
2.1 Intended Use	7
2.2 Network Security Warning	8
2.3 Insights Edge Gateway Warning	9
3. Installation	10
3.1 Installation Steps	10
3.1.1 URCap installation	10
3.1.2 Connect the robot	10
3.1.3 Robot pairing	11
3.1.4 URCap upgrade	11
3.2 Using the Insights Edge Gateway	11
3.2.1 Scope of delivery	11
3.2.2 Wiring	12
3.3 Connectivity	12
3.3.1 Nomenclature	12
3.3.2 Topology	13
Topology #1	13
Topology #2	13
Topology #3	14
3.3.3 Edge Gateway Configuration	14
Default configuration	14
Custom configuration	15
4. Using Insights	18
4.1 Web application interface	18
4.1.1 Real-Time Robot Overview	18
4.1.1.1 Robot Status	18
4.1.1.2 Notifications button	18
4.1.1.3 Add robot button	18
4.1.2 Robot management	19
4.1.2.1 About	19
4.1.2.2 Access	20
4.1.2.3 Subscription	20
4.1.3 Email Reports Scheduler	21
4.1.4 Robot SMS alerts	22
4.1.5 Performance Timeline	23
4.1.6 Key Performance Indicators (KPIs)	23
4.1.7 Robot digital I/Os	25
4.1.7.1 Controller General Purpose Digital Inputs	25

4.1.7.2 Tools Digital Inputs	25
4.1.8 Signals	26
4.1.9 Downloadable events logs	26
4.2 Teach pendant interface	27
4.2.1 Insights node	27
4.2.2 Custom events	27
4.2.2.1 Create	27
4.2.2.2 Alerts	28
4.2.2.3 Manage	28
5. Specifications	29
5.1 Insights Edge Gateway	29
6. Troubleshooting	30
7. Warranty and Agreements	31
7.1 Privacy Policy	31
7.2 End-Users Terms of Use & License Agreement	31
7.3 Edge Gateway Warranty	31
Exclusion	31
CE Marking	31
8. Contact	32

Revisions

Robotiq may modify this product without notice, when necessary, due to product improvements, modifications or changes in specifications. If such modification is made, the manual will also be revised, see revision information. See the latest version of this manual online at: support.robotiq.com.

Revision 2018/02/05

Section modified: 3.1 Installation steps

Section modified: 4.1 Web application interface

Section modified: 4.2 Teach pendant interface

Revision 2017/09/11

Official release

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Information provided by Robotiq in this document is believed to be accurate and reliable. However, no responsibility is assumed by Robotiq for its use. There may be some differences between the manual and the product if the product has been modified after the edition date.

The information contained in this document is subject to change without notice.

1. General Presentation

Robotiq Insights is a web application that provides a digital representation of Universal Robots in operation. Once registered, the user can connect a UR robot to the web application and get a 360-degree view of the robot's performance with real-time monitoring, analysis, and diagnosis tools.

Insights' rich data set and analytics allow manufacturers to continuously improve productivity and quality while reducing the level of supervision required during operation.

Insights comes in two subscription plans. The features comprised in each plan are displayed in the table below:

Feature	Free Plan	Advanced Plan ¹
Real-Time Robot Overview	Included	Included
Email Reports Scheduler	Included	Included
Robot SMS Alerts	Default downtime alerts	Custom alerts
Production Performance Timeline & KPIs	Not included	Top 5 cobot KPIs Custom KPIs
Robot Digital I/Os	Not included	Included
Downloadable Events Log	Not included	Included
Insights Edge Gateway	Sold separately ²	Complimentary

Using their laptops, smartphones or tablets, Insights users can:

- Remotely monitor a UR robot's state in real time;
- Optimize robot performance using real-time, operational key performance indicators (KPIs);
- Analyse performance trends using robot performance data over time periods that narrows from years to minutes (Advanced subscription plan);
- Receive daily performance reports sent by email;
- Receive notification messages (SMS) for events such as emergency stops, protective stops, safeguard stops, or when the robot is disconnected;
- Diagnose work cell events like bottlenecks, faults or exceptions using digital I/O states and external sensor readouts;
- Access a dedicated, downloadable log of Insights events;
- Share the robot dashboard with others (co-workers, partners, etc.).

Info

Insights is only available for Universal Robots UR3, UR5 & UR10. It is compatible with controller version CB3.1 or later.

Log in or create an account by visiting insights.robotiq.com. Users need to connect their robot to the Insights cloud service via an Internet connection and then pair the robot to their account. The following are the main components of the product:

- Insights web application (insights.robotiq.com), a platform that provides a dashboard to view all paired robots and each robot's performance data.
- Insights URCap to be installed on the UR robot, which in turn will be paired to an Insights account. The URCap enables the connection to the Insights web application.
- Insights Edge Gateway that ensures an easy and secure connection of your robot to the cloud.

¹1-year term only

²One-time purchase

2. Safety

2.1 Intended Use

Insights is designed to work only with Universal Robots arms. Robotiq Insights is intended to be used for the following purposes:

- Monitor robot status in real time
- Monitor robot performance indicators in real time and via reports
- Get SMS alerts for robot events

Warning

Insights should not be used as a safety parameter for the robotic cell.

Caution

Always comply with local and/or national laws, regulations and directives on automation safety and general machine safety.

Robotiq will not be liable for any damages resulting from any improper or unintended use.

2.2 Network Security Warning

Connecting your robot to an unsecured Internet network represents a high security risk. Make sure you use the Insights Edge Gateway or secure the robot by yourself to protect it from being remotely accessed or controlled by a third party.

Warning

Strong security should be provided to the communicating channel. Communication between your robot cell, the gateway and the cloud must be secure in order to prevent any data tampering or unrestricted access.

Using the Insights Edge Gateway properly will protect your robot from being remotely accessed or controlled by a third party. It is designed to allow:

- Only outbound communication to the cloud (no inbound connectivity)
- Targeted outbound connectivity (only the necessary ports are open)

Refer to section [3. Installation](#) for guidelines on how to install the Edge Gateway correctly.

Refer to section [7. Warranty and Agreements](#) for privacy policy and end-user terms of use and license agreement.

2.3 Insights Edge Gateway Warning

Caution

Do not use the Edge Gateway in premises that can be submerged by water.

Caution

Do not use the Edge Gateway during an electrical storm to avoid electrical shock.

Compliance is required with respect to voltage, frequency, and current requirements. Connection to a different power source than those specified may result in improper operation, damage to the equipment or fire hazard if the limitations are not followed.

This equipment is provided with a detachable power cord which has an integral safety ground wire intended for connection to a grounded safety outlet.

- Do not substitute the power cord with one that does not correspond to the approved type. If a 3-prong plug is provided, never use an adapter plug to connect to a 2-wire outlet as this will defeat the continuity of the grounding wire.
- The equipment requires the use of the ground wire as a part of the safety certification, modification or misuse can provide a shock hazard that can result in serious injury or death.
- Protective grounding/earthing is provided by the listed AC adapter. Building installation shall provide appropriate short-circuit backup protection.
- Protective bonding must be installed in accordance with local national wiring rules and regulations.

Refer to section [3. Installation](#) for guidelines on how to install the Edge Gateway correctly.

Refer to section [7. Warranty and Agreements](#) for privacy policy and end-user terms of use and licence agreement.

3. Installation

3.1 Installation Steps

Info

In order for Insights to connect to the Internet properly, make sure these ports are opened on your corporate firewall:

- TCP port 8883 (MQTT)
- UDP/TCP port 443 (HTTPS)
- UDP port 123 (NTP)
- DNS port 53 (UDP/TCP)

First, log in or create an account on insights.robotiq.com. You will access the Dashboard that contains the Insights Demo robot. Follow these three steps in order to install Insights on a robot and pair it to your account.

3.1.1 URCap installation

1. From the web application, press the **Add robot** button
2. Download the .urcap file
3. Put the URCap on a USB stick
4. Connect the USB stick in the robot teach pendant
5. From the PolyScope home page, go to **Setup Robot**
6. Go to **URCaps**
7. Tap the **+** sign
8. Choose the **Insights URCap** file from the USB stick
9. Tap **Restart**

3.1.2 Connect the robot

1. From the UR teach pendant, go to **Program Robot** and tap the **Installation** tab
2. Go to **Insights** and tap the **Start configuration wizard button**
3. The wizard will then guide you through the wiring steps of the Edge Gateway. For more details, refer to section [3.2 Using the Insights Edge Gateway](#)
4. Follow the connection steps

3.1.3 Robot pairing

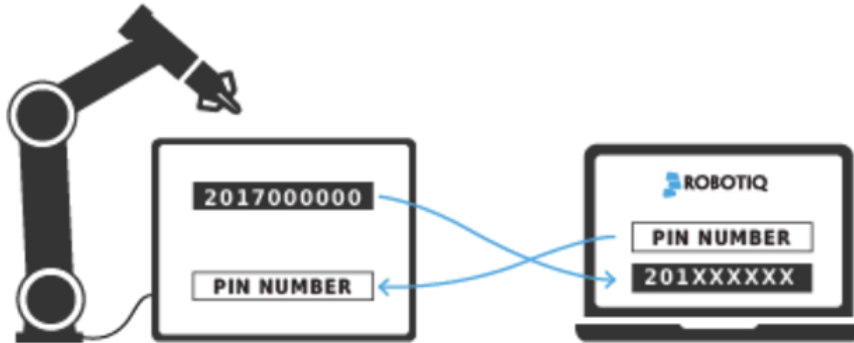
Simultaneously:

From the Insights web application:

- From the Dashboard, go to **Add robot**
- Click on **Start pairing**
- Use the serial number shown in the pairing wizard on the robot teach pendant
- Fill in the robot information
- Confirm and get the pairing code to enter on the robot teach pendant

From the teach pendant:

- Open a robot program and go to the **Installation** tab
- Go to **Insights** and launch the robot pairing wizard
- The robot serial number will appear on the teach pendant; enter it in the web application pairing window
- Get the pairing code from the web application and enter it in the wizard.
- Tap **Next**.



The pairing will be completed and the robot will appear on your Dashboard.

Info

It is possible to pair a robot that has already been paired. Doing so will delete the previous pairing. A message in the pairing wizard will display who the current owner is and will ask you if you wish to pair the robot to another account, thus deleting the current one.

3.1.4 URCap upgrade

- Open a robot program, go to the Installation tab and select **Insights** from the menu on the left
- Tap the **Dashboard** sub-menu; Insights will notify you if an upgrade is available
- If so, tap the **Download** button (otherwise, Insights will display that the software is up to date)
- After the download, Insights will display that the software is ready to be installed
- Refer to point 5 of section [3.1.1 URCap installation](#) to complete the upgrade

3.2 Using the Insights Edge Gateway

The Insights Edge Gateway securely connects the robot LAN to a WAN network with Internet access and includes an inbuilt firewall that protects and allows restricted and secure communications. The Edge Gateway is setup to automatically block all incoming traffic and allow exclusively outgoing traffic through specific ports.

3.2.1 Scope of delivery

The Insights Edge Gateway comes with:

- Preconfigured Edge Gateway
- Power supply with USA and European plugs (types A and C)
- Ethernet cable
- USB key
- Fixation kit
- USB 2.0 micro b to type A Cable (only needed in case the configuration needs access to the WebGUI)



The user needs to provide an Ethernet cable to supply Internet connectivity.

Caution

The operating temperature of the Edge Gateway is between 0°C and 50°C. Make sure you install the gateway in an environment that respects this condition.

3.2.2 Wiring

The Edge Gateway wiring is done via the connection wizard on the UR teach pendant. It consists in the following steps:

1. Connect the Edge Gateway AC adapter to a power outlet (the device may take up to 3 minutes to power up)
2. Connect the robot controller to the LAN port of the gateway using the provided Ethernet cable
3. Connect the WAN port of the gateway to a network connected to the Internet



3.3 Connectivity

3.3.1 Nomenclature

DHCP (Dynamic Host Configuration Protocol): Service that configures network parameters automatically

Edge Gateway: Network device with embedded security components that connect a robot to the Insights service.

LAN (Local Area Network): Computer network that links computers within a restricted area

NAT (Network Address Translation): Process of re-allocating an IP address space into another

Robot Network: Network that includes a number of industrial devices such as a PLC, a CNC machine, robots, etc.

Static configuration: A network configuration in which the parameters are configured manually

WAN (Wide Area Network): Computer network that covers a large geographical area

3.3.2 Topology

The Edge Gateway provided by Robotiq is a device that enables a secure connection between a robot and the Insights service. In order to do so, the Edge Gateway blocks all communication ports except the ones used by the Insights service. The location at which the Edge Gateway is installed must be carefully chosen in order to avoid interference and reinitialization of any existing network.

Robotiq recommends the implementation of one of the three common network topologies (mappings) below, depending on the user's current situation.

Topology #1

Robot not networked to other devices

BEFORE



AFTER



Insights Edge
Gateway



Prerequisites: Internet connection providing a **DHCP server** (otherwise see exception handling)

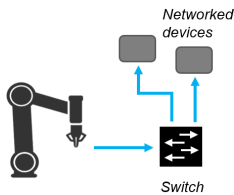
Connection: Connect the robot Ethernet port to the **LAN port** of the Edge Gateway, then plug your Internet cable to the **WAN port** of the Edge Gateway

Robot configuration: Use the DHCP configuration option in the robot teach pendant connectivity configuration

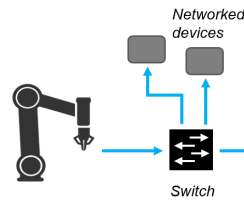
Topology #2

Robot connected to a LAN that is not linked to the Internet

BEFORE



AFTER



Insights Edge
Gateway

Prerequisites:

Identify if the robot network is addressed using DHCP or static mode: from the initial state, prior to installing anything related to Insights, go to the PolyScope network configuration page of the UR robot, and look at the network parameters.

Connection:

DHCP network: please refer to your IT department for further instructions.

Static network:

- Connect the robot **Ethernet port** to the user-provided robot/hub switch
- Connect the **LAN port** of the Edge Gateway to the user-provided robot hub/switch
- Connect the **cable that was previously connected to the robot** to the user-provided robot hub/switch
- Connect the **Edge Gateway WAN port** to your Internet cable

Edge Gateway configuration:

Log into the Edge Gateway GUI (see [Custom configuration](#) section).

On the LAN port:

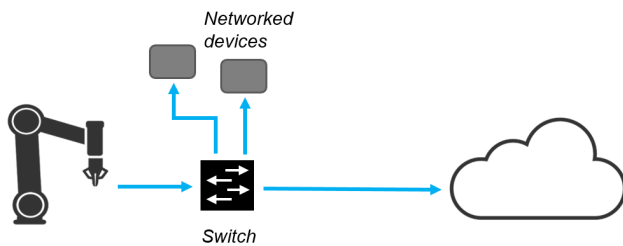
- Turn off the DHCP server
- Assign an available static IP address that matches your network configuration
- Set the same subnet mask as the robot

Robot configuration:

In the network configuration, assign the **Edge Gateway IP address** previously configured to the **gateway IP address** field. Other parameters should not be changed.

Topology #3

Robot connected to a LAN linked to the Internet



Prerequisites:

Identify the reasons why the robot should be connected to the Internet:

- Access to the robot from an offsite desktop device
- Access to a file server (on the company network) from the robot
- Log robot data on a local server
- Other reasons

The user cannot use the Edge Gateway if one of the robots needs a direct access to the Internet. The Edge Gateway exclusively allows communication for the Insights service. Therefore, any other type of communication will be blocked by default.

If the user does not have a reason to connect the robot to the Internet, please refer to [Topology #2](#).

3.3.3 Edge Gateway Configuration

Default configuration

LAN port

- IP address: 192.168.204.1
- DHCP server
- DNS resolver

WAN port

- DHCP client

A network address translation (NAT) is also present between the LAN and WAN ports.

Custom configuration

Caution

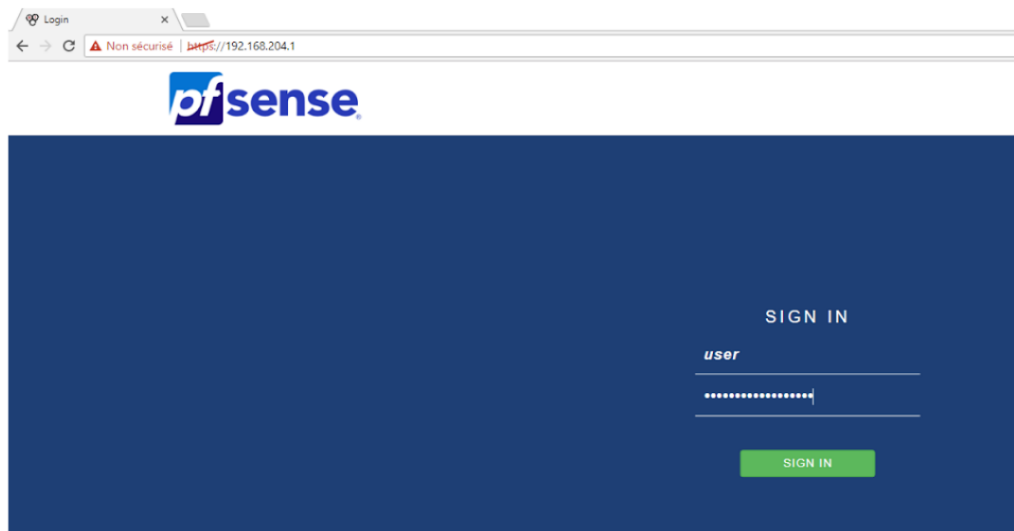
The Edge Gateway takes 2 to 3 minutes to power up and display the WebGUI. If the user tries to reach the address during the power up, the browser will most likely freeze.

1. Connect the Edge Gateway LAN port to the desktop or laptop device Ethernet port
2. Go to network configuration and set the following parameters
 - a. IP address: 192.168.204.5
 - b. Subnet mask: 255.255.255.0
 - c. Default gateway: none
 - d. DNS: none
3. Open a web browser and type 192.168.204.1

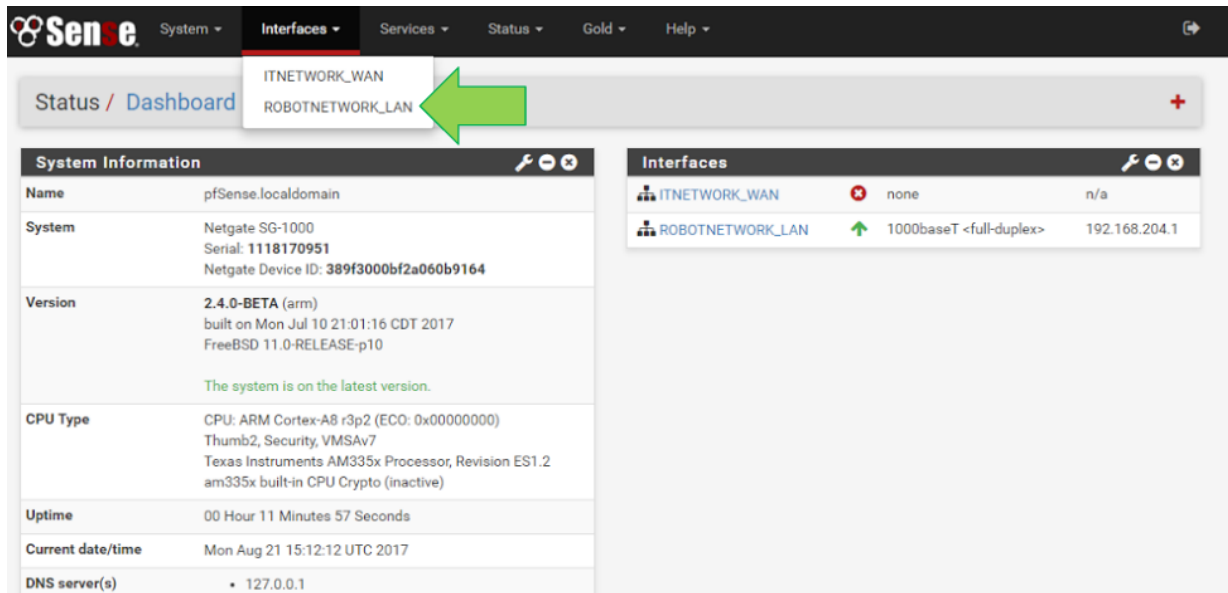
Caution

The Internet browser may indicate that the connection is not secure. Depending on the browser used, this can be solved by going to the advanced options and adding an exception.

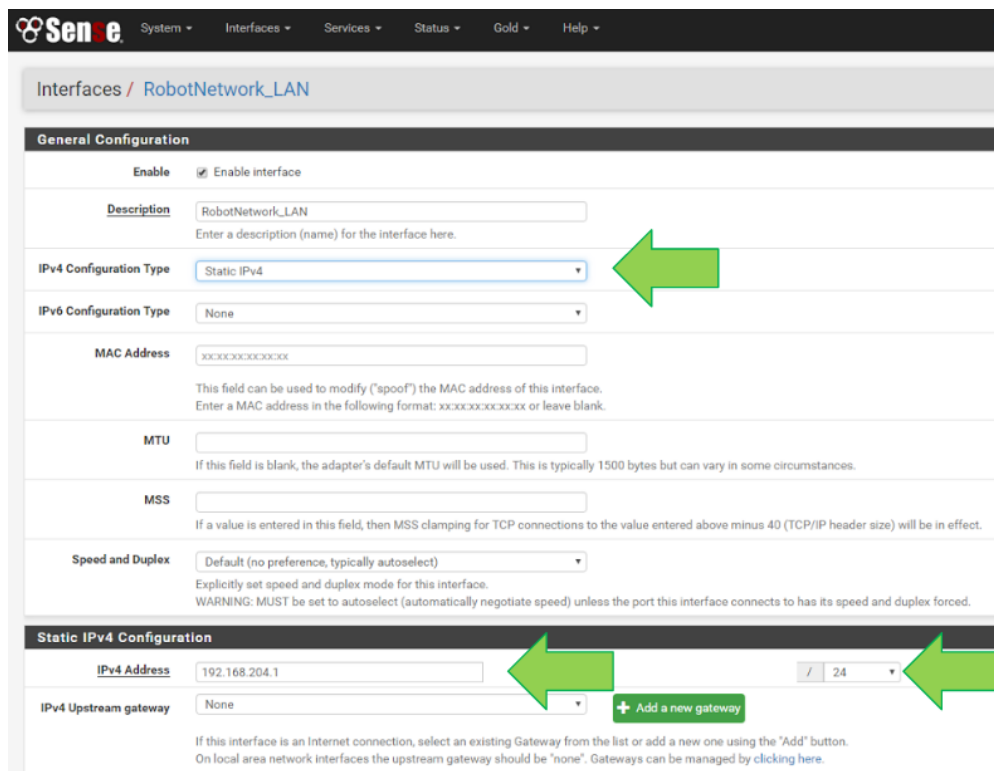
4. On the Netgate landing page, enter the following credentials:
 - a. Username: **user**
 - b. Password: **changethispassword**



5. The user can change the parameters of the gateway through the different menus and options
6. In the WAN menu, the gateway's DHCP server can be turned off.
7. In the LAN menu, the Edge Gateway LAN IP address can be modified (typically 192.168.204.1).




The screenshot shows the pfSense web interface. The top navigation bar includes 'System', 'Interfaces', 'Services', 'Status', 'Gold', and 'Help'. The 'Interfaces' menu is open, showing 'ITNETWORK_WAN' and 'ROBOTNETWORK_LAN'. A green arrow points to 'ROBOTNETWORK_LAN'. The main content area shows 'System Information' on the left and 'Interfaces' on the right. The 'System Information' page displays details about the pfSense system, including the name, system information, version, CPU type, uptime, current date/time, and DNS server(s).



The screenshot shows the 'Interfaces / RobotNetwork_LAN' configuration page. The 'General Configuration' section includes fields for 'Enable', 'Description', 'IPv4 Configuration Type' (set to 'Static IPv4'), 'IPv6 Configuration Type' (set to 'None'), 'MAC Address', 'MTU', 'MSS', and 'Speed and Duplex'. The 'Static IPv4 Configuration' section includes fields for 'IPv4 Address' (set to '192.168.204.1') and 'IPv4 Upstream gateway' (set to 'None'). A green arrow points to the 'Static IPv4' configuration type, another green arrow points to the 'IPv4 Address' field, and a third green arrow points to the 'IPv4 Upstream gateway' dropdown menu.

8. Doing so requires to manually enter the gateway address when configuring the connection on the robot teach pendant.

Manual Network Configuration



Ethernet Configuration

Addressing mode i
☐ DHCP
☒ Static Ip

IP Address i

 Netmask i

 Gateway i

←

DNS Configuration

Preferred DNS Server i

Alternate DNS Server i

Advanced Edge Gateway Configuration

? Configure Edge Gateway

Caution

WAN and LAN port network addresses must be different. Otherwise, the NAT will not function properly and the Internet access will be interrupted or intermittent.

4. Using Insights

4.1 Web application interface

4.1.1 Real-Time Robot Overview

The Real-Time Robot Overview is a card-based view of all the robots linked to one's account. Each card displays high-level information about its corresponding robot (name, license type, status, robot program and gear icon for settings).

4.1.1.1 Robot Status

Robots can be in one of 6 states:

- Connected: when pairing a robot to an account, the robot will be in the connected state until it receives the first status information from the UR robot.
- Idle: the robot is ready to execute a program
- Initializing: joints are restarting after a fault or normal startup
- Running: the robot is executing a program
- Fault: a fault was detected; it is further diagnosed as:
 - E-Stop: robot is in emergency stop
 - P-Stop: robot is in protective stop
 - Safeguard: robot is in safeguard stop
- Disconnected: the robot is not connected to the Insights service.

Info

When in disconnected state, performance data is still collected and maintained on the robot; once the connection is re-established the data will be uploaded to maintain an accurate picture of the performance.

Info

Robot states are updated in real time and can be seen in the application within 1-3 seconds (depending on the latency of the connection used).

4.1.1.2 Notifications button

For more information about the notifications via SMS , please refer to section [4.1.4 Robot SMS alerts](#). For details regarding the reports via email, refer to section [4.1.3 Email Reports Scheduler](#).

4.1.1.3 Add robot button

For more information about adding a robot to the Real-Time Robot Overview, please refer to section [3.1.1 URCap installation](#).

4.1.2 Robot management

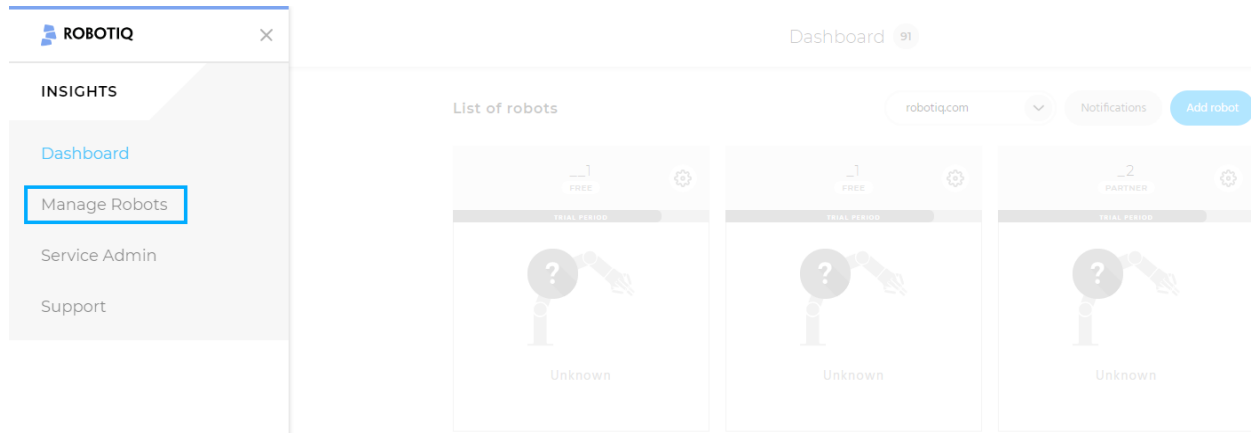
The user who pairs a robot with his account becomes the owner of the robot.

The owner can share the access to the robot data with users and revoke the access to said users. The owner can also modify the robot information, hand off the ownership to another user, manage the subscriptions and delete robots.

Both the users and the owner can see the robot in their Dashboard, configure notifications and view the robot data. To manage access, the owner has to go to the web application's main menu and click on **Manage Robots**.

The user can navigate through three sub-menus:

- **About**
- **Access**
- **Subscription.**



4.1.2.1 About

Once in the **Manage robots** interface, click the **About** button of the appropriate robot, in the **Manage** column.

Once in the **About** menu, the user can view and edit the robot's core information:

- The owner of the robot
- The robot's serial number
- The robot's model
- The workplace at which the robot is located

← DASHBOARD
About
Access
Subscription
PERFORMANCE TIMELINE

Save

ROBOT OWNER

ARM TYPE

Serial number

Unsure about the arm's serial number? Open the Insights pairing wizard on the teach pendant to see it.

Model

UR3

UR5

UR10

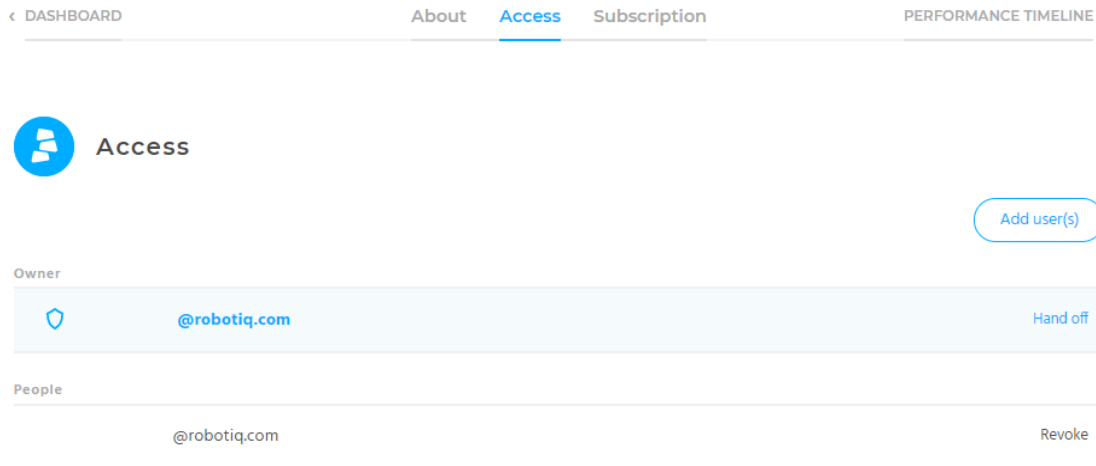
LOCATION

Robot workplace

4.1.2.2 Access

Once in the **Manage robots** interface, click the **Access** button of the appropriate robot, in the **Manage** column.

The owner can add users, hand off the ownership of the robot to another user or revoke access to the robot for a user.



Add user(s)

Adding users can be done either by single email address or in bulk by creating a domain access to the robot (xxxxxdomain.com).

Hand off

Allows to give the ownership of the robot to another user in the list of people the robot has been shared with.

Revoke

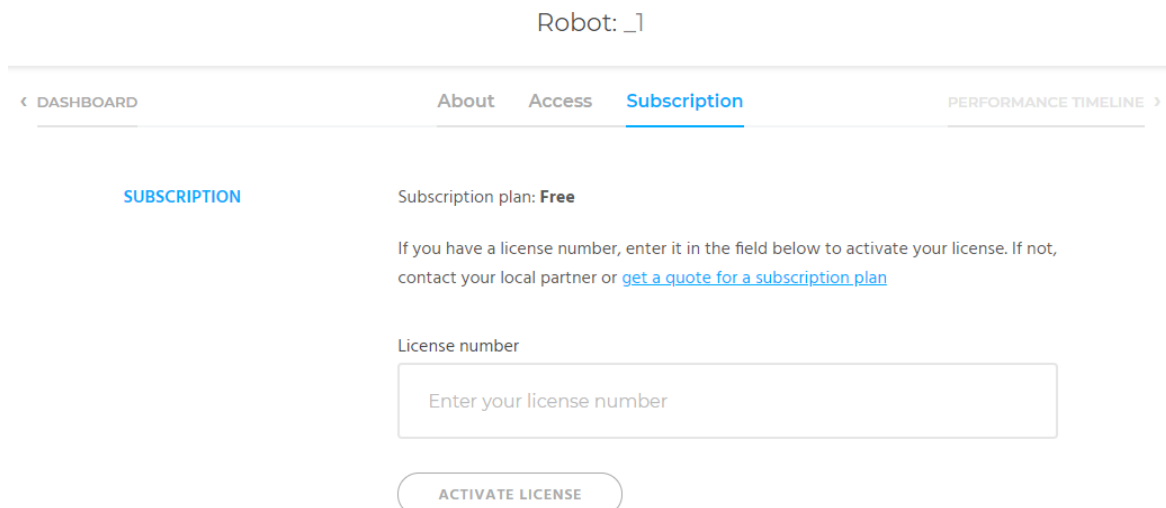
Blocks the access to the robot for the corresponding user.

4.1.2.3 Subscription

Once in the **Manage robots** interface, click the **Subscription** button of the appropriate robot, in the **Manage** column.

The owner of a robot used in the framework of a Free plan can go to that menu to:

- View the subscription plan type
- Ask for a quote to upgrade the license
- Enter an Advanced license number and click the **Activate license button** to upgrade the plan



The owner of a robot used in the framework of an Advanced plan can go that menu to:

- View the subscription plan type
- View the expiration date of the license
- Ask for a quote to renew the license
- View the activated license number

Robot: Assembly Station

< DASHBOARD
About
Access
Subscription
PERFORMANCE TIMELINE

SUBSCRIPTION

Subscription plan: **Advanced**
Expiration date: **February 6, 2019**
[Get a quote to renew or upgrade your subscription plan](#)

License number
0c51f6e8-797a-4d98-9ad4-6534d4d51d9f

LICENSE ACTIVATED

4.1.3 Email Reports Scheduler

The Email Reports Scheduler allows the user to receive daily, weekly and/or monthly reports that display a summary of the Key Performance Indicators (KPIs) activity and events occurrences over the selected timeframe.

The user can enter the email address to which the reports will be sent, choose among the different time options, preview the email reports and toggle the **Do not disturb** button.

The **Do not disturb** function can be enabled:

- For a specific period of time by entering a start and end time
- For the entire day, by checking the All day appropriate box

☒ Do not disturb
Scheduled from 08:00 to 17:00 ☒ All day

☒ Insights Demo
Program: Unboxing

Email reports

Email address

☐ Daily Report
☐ Weekly Report
☐ Monthly Report

SMS Alerts

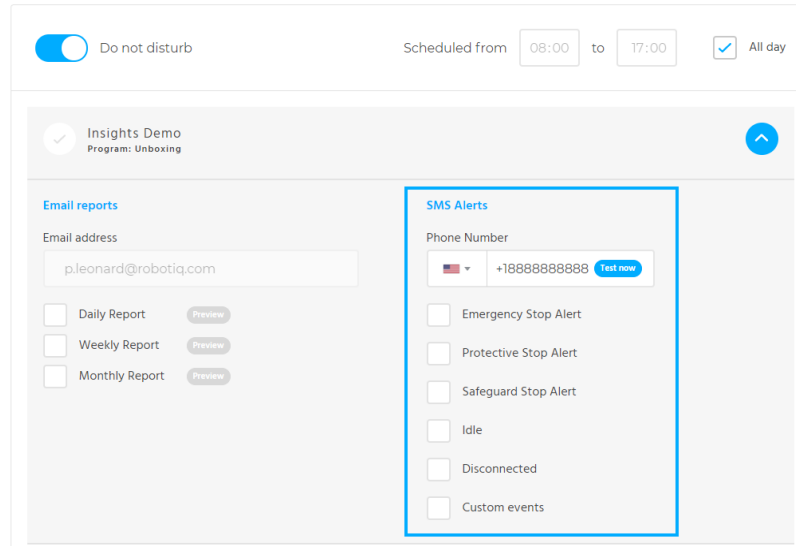
Phone Number

☐ Emergency Stop Alert
☐ Protective Stop Alert
☐ Safeguard Stop Alert
☐ Idle
☐ Disconnected
☐ Custom events

4.1.4 Robot SMS alerts

The notifications menu can be accessed via the **Notifications** button in the Real-Time Robot Overview.

The user can ask Insights to deliver SMS alerts to a specific SMS-enabled phone number. After providing the phone number, one can test the SMS delivery using the **Test now** button.



The screenshot shows the 'Insights Demo' interface with the 'Program: Unboxing' selected. The 'SMS Alerts' panel is highlighted with a blue border. It includes a 'Phone Number' field with a dropdown for country (USA) and a text input for the number '+18888888888', followed by a 'Test now' button. Below this, there are several checkboxes for alert types: Emergency Stop Alert, Protective Stop Alert, Safeguard Stop Alert, Idle, Disconnected, and Custom events. To the left of the SMS Alerts panel, there is an 'Email reports' section with an 'Email address' field containing 'p.leonard@robotiq.com' and three checkboxes for 'Daily Report', 'Weekly Report', and 'Monthly Report', each with a 'Preview' button.

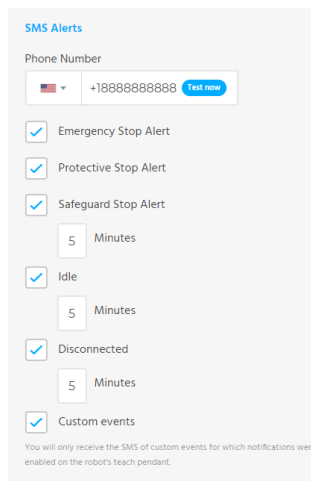
One can choose to receive SMS alerts from several event types that might occur during the robot program.

The default options for which the application can send SMS alerts are the following:

- Alert for an emergency stop (E-stop)
- Alert for a protective stop (P-stop)
- Alert for a safeguard stop
- Alert for robot being in idle state
 - The user can define the time threshold at which, upon being reached, the system will send an SMS alert
- Alert for robot being in disconnected state
 - The user can define the time threshold at which, upon being reached, the system will send an SMS alert

The last option for which the application can send SMS alerts is called Custom events. SMS alerts triggered by custom events depend on the enablement of notifications for specific Insights events set in a robot program via the teach pendant.

For more information about enabling notifications from the teach pendant, please refer to section [4.2.2 Custom events](#).



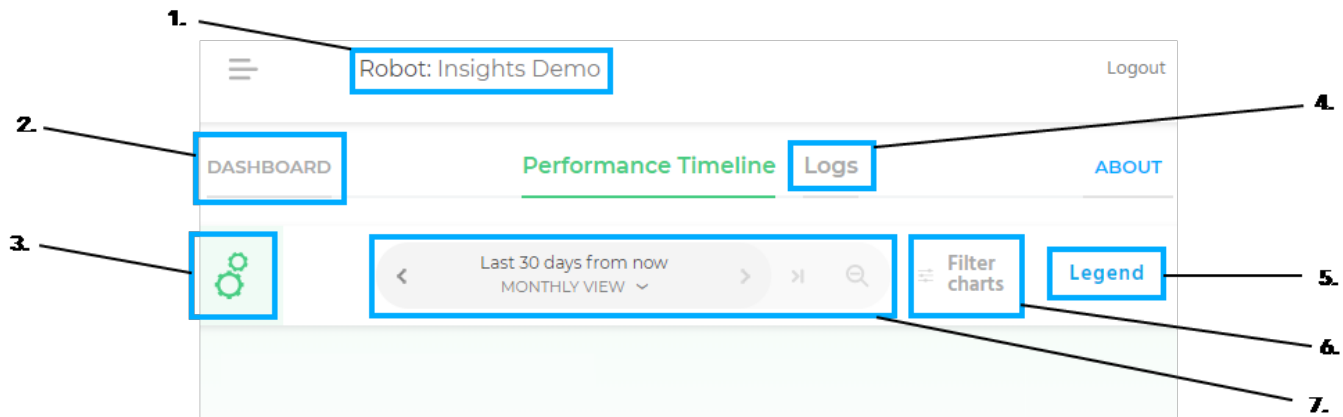
This screenshot shows the 'SMS Alerts' configuration panel with the following settings: 'Phone Number' is '+18888888888' with a 'Test now' button. The checkboxes for 'Emergency Stop Alert', 'Protective Stop Alert', 'Safeguard Stop Alert', 'Idle', 'Disconnected', and 'Custom events' are all checked. Below the 'Idle' and 'Disconnected' checkboxes, there are input fields for '5 Minutes'. At the bottom, a note states: 'You will only receive the SMS of custom events for which notifications were enabled on the robot's teach pendant.'

Caution

Please note that the number of SMS alerts that can be sent is limited to 100 per user, per hour.

4.1.5 Performance Timeline

The Performance Timeline is an Insights interface that displays in graphs the robot data captured by the teach pendant counterpart of Insights.



1. Robot name corresponding to the performance timeline displayed
2. Button to go back to the **Real-Time Robot Overview**
3. Icon indicating the status of the robot program (more details in section 4.1.1.1 Robot Status)
4. Button to access the **Logs** interface
5. The **Legend** button opens a box indicating which colour corresponds to which robot program
6. The **Filter charts** button allows to select which KPI graphs will be displayed in the Performance Timeline interface
7. Time scale panel indicating the view option between hourly, daily, weekly and monthly
 - a. The left arrow takes a step back by one (1) unit of time (hour/day/week/month)
 - b. The right arrow takes a step forward by one (1) unit of time (hour/day/week/month)
 - c. The rightmost arrow moves the graphs to the current time period
 - d. The magnifier icon "zooms out" (hourly to daily, daily to weekly, weekly to monthly)

4.1.6 Key Performance Indicators (KPIs)

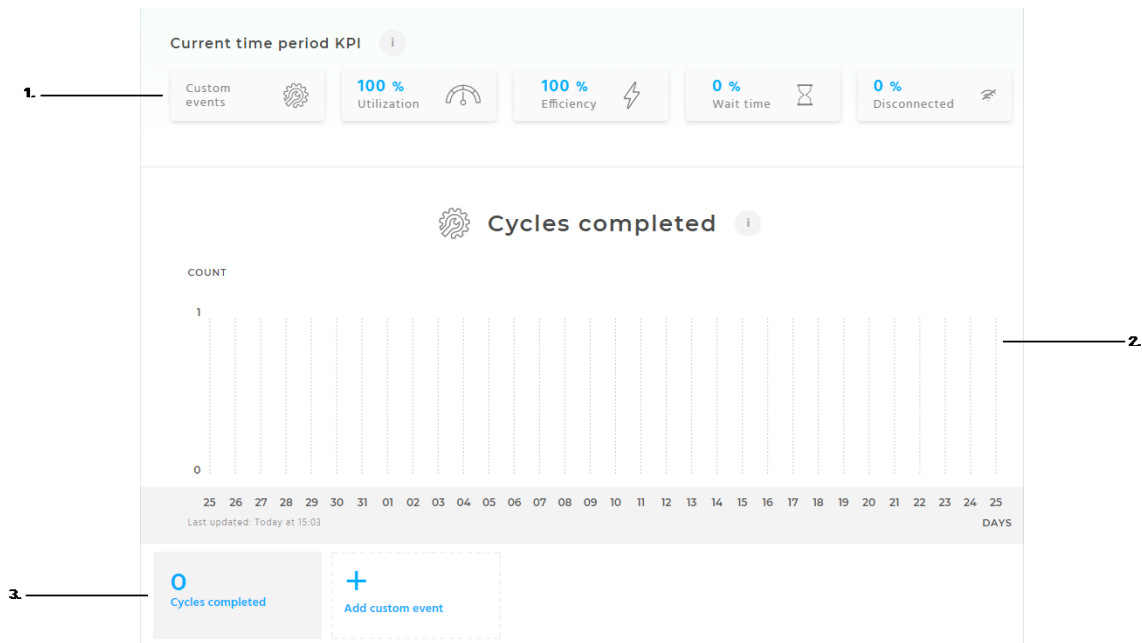
Insights cumulates data and displays it in KPI charts of the aforementioned Performance Timeline.

The Advanced version of Insights comes with what are called the **Top 5 cobot KPIs**:

- **Cycles completed**: Number of robotic cycles performed by the running program during the selected time period. Cycles are summed for multiple programs that have run in the same time period.
- **Utilization**: Percentage of time the robot is running a program over the selected time period. Does not take into account the disconnected time.
- **Efficiency**: Proportion of the utilization time during which the robot is moving. For instance, if a robot has been utilized 75% of the time over a given period and has been moving all of the time, its efficiency value will display 75%.
- **Wait Time**: Proportion of the utilization time during which the robot is not moving (typically waiting for an event). For instance, if a robot has been utilized 75% of the time over a given period and has been waiting all of the time, its wait value will display 75%.
- **Disconnected**: Percentage of the time during which the robot was disconnected from the network (or turned off). Note that data is not lost during short periods of connectivity loss. Data will be stored locally and sent to the service when the connection is restored. However, real-time status and other events will not be available during disconnected periods. Reports are still available for but alerts are not.

Custom KPIs

The user can create custom events via the Insights URCap program interface on the UR teach pendant. After their creation, they can be added to the Performance Timeline using the **Add custom event** button.

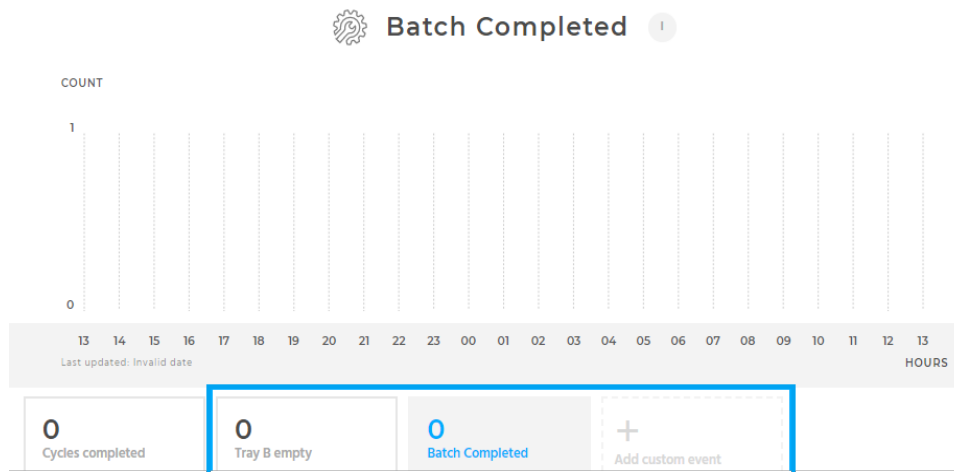


1. **Top 5 cobot KPIs panel:** selecting an option brings the user to the corresponding graph

Info

Current time period KPI indicates the cumulative performance of the entire time period shown.

2. **KPI graph:** chart displaying the robot data linked to the event inserted in the corresponding robot program
3. **Custom events panel:** where the user can select the custom event to display in the Custom events KPI graph; the user can also add the custom events that have previously been created via the Insights URCap on the UR teach pendant.



In each KPI chart, the data is grouped by program. Each color represents a different program that was run.

Info

The overall KPIs that are shown include all programs. This means there is no difference between programs in the KPIs shown.

The KPIs are refreshed every minute in the Insights web application when in the hourly view. In the others views, you must refresh your web browser to refresh the KPIs.

4.1.7 Robot digital I/Os

The robot digital input/output states can only be seen in the **hourly view**.

4.1.7.1 Controller General Purpose Digital Inputs

Controller I/Os allow for the connection of equipment inside the control box. This category of I/O is extremely flexible and can be used for a wide range of different equipment; including pneumatic relays, PLCs and emergency stop buttons.

- DI4
- DI5
- DI6
- DI7

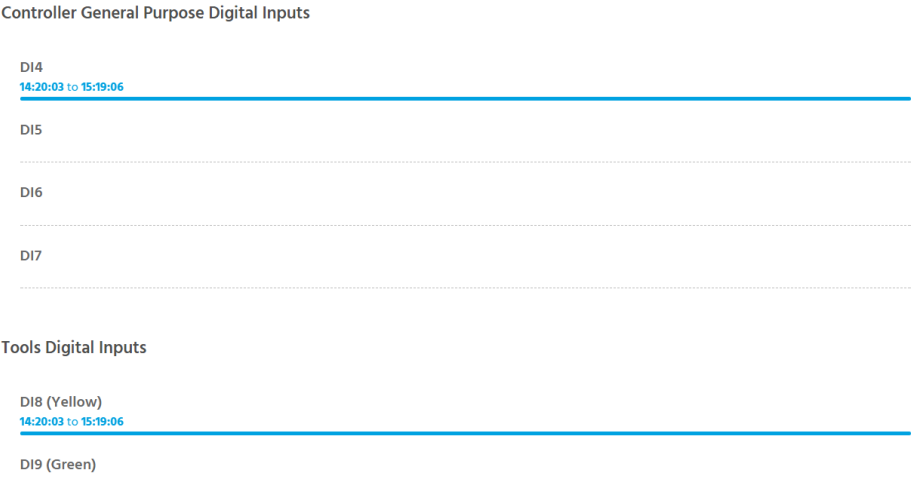
Info

Events cannot be logged on a graph for digital inputs 0 to 3 (DI0, DI1, DI2, and DI3) since they could be used for high speed inputs such as conveyor tracking data, for instance. The number of events generated would therefore be overwhelming.

4.1.7.2 Tools Digital Inputs

The tool digital inputs are implemented as PNP with weak pull-down resistors. This means that a floating input will always read low.

- DI8
- DI9



4.1.8 Signals

The signals timelines can only be seen in the **hourly view**. They contain time-coded signal stops of the following nature:

- Emergency stop (E-stop)
- Protective stop (P-stop)
- Safeguard stop

SIGNALS

Emergency stop



07:22:14 to 07:24:13

SIGNALS

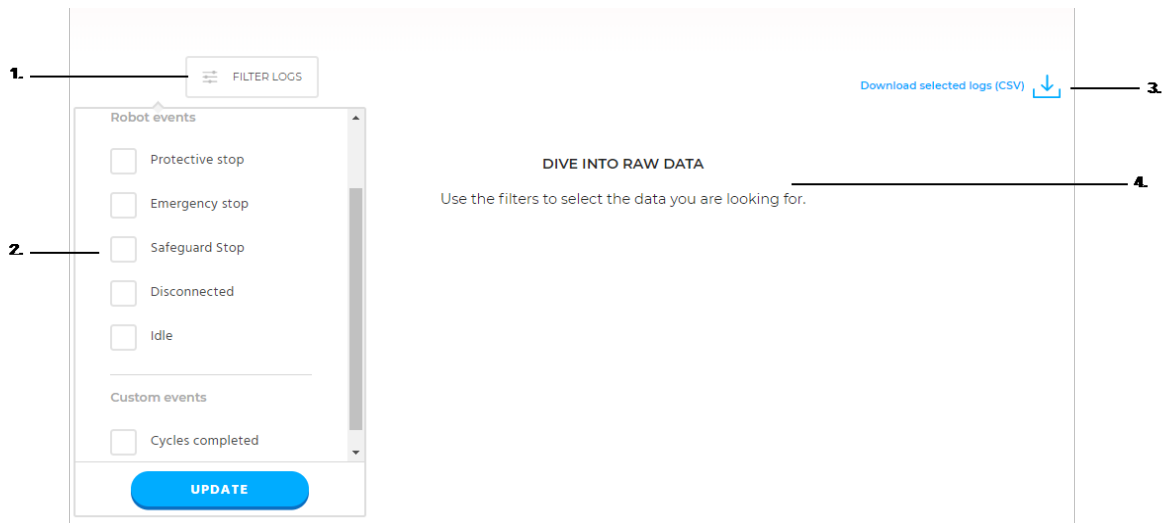
Safeguard stop




10:21:03 to 10:34:56


4.1.9 Downloadable events logs

Insights events are compiled in the Insights cloud service and accessible for download (CSV format) via the **Logs** interface of the Insights web application.



1. **Filter logs button:** brings up the filter options selection menu
2. **Filter options menu:** allows the user to select which events to capture in the log by checking one or more boxes among:
 - a. All events
 - b. Protective stop
 - c. Emergency stop
 - d. Safeguard stop
 - e. Disconnected
 - f. Idle
 - g. Custom events
3. **Download logs button:** downloads the CSV file comprising the log data according to the filter options selected
4. **Log data population zone:** displays log data with timestamp and corresponding events according to the filter options selected

 FILTER LOGS

[Download selected logs \(CSV\)](#)


Selected events: All events

⚠ You have reached the maximum number of events for a query. Please refine your search.

2018-01-26 11:23:59 EST	Cycle completed
2018-01-26 11:23:49 EST	Cycle completed
2018-01-26 11:23:29 EST	Cycle completed
2018-01-26 11:23:09 EST	Cycle completed
2018-01-26 11:22:59 EST	Cycle completed
2018-01-26 11:22:39 EST	Cycle completed

4.2 Teach pendant interface

4.2.1 Insights node

Insights nodes can be inserted at specific points in robot programs to count events and thus populate their corresponding graph on the web application.

1. From the PolyScope home page, go to **Program Robot**; open a program or create an empty one
2. Program a repeatable sequence or routine (for example)
3. Tap the **Structure** tab and select the **URCaps** sub-menu
4. Tap the **Insights** button to insert an **Insights node**
5. Tap the **Command** tab and select the Insights node in the program tree
 - a. Select a standard Robotiq event from the list or select a custom event that has been previously created (refer to section [4.2.2 Custom events](#))

4.2.2 Custom events

Insights users can create their own events for reporting the completion of a specific robot routine, or reaching a specific point in a robot program, for example. The occurrences of these events populate data in a corresponding graph of the web application.

4.2.2.1 Create

- Once in a robot program, tap the **Command** tab
- In the program tree, select an Insights node that had been previously inserted
- Enter a name in the **Enter event name** textbox and tap the **Create** button



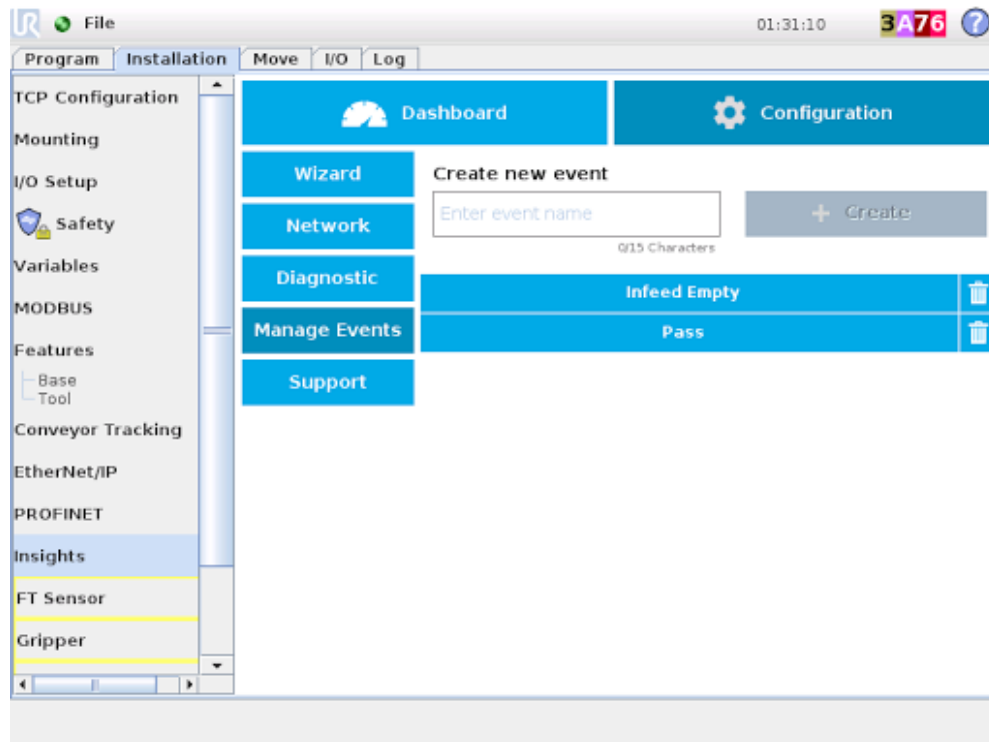
4.2.2.2 Alerts

In order to receive alerts when a specific event is triggered:

1. Select the event from the dropdown events menu
2. Check the **Enable event alerts** button
 - The default SMS alert includes the robot name, the program name and the event name
3. Enter an optional custom message to add to the default SMS alert in the **Add custom message** textbox

4.2.2.3 Manage

1. From the PolyScope home page, go to **Program Robot**; open a program or create an empty one
2. Tap the **Installation** tab and select **Insights** from the menu on the left
3. Go to the **Manage events** sub-menu
4. View the custom events list
5. Create and/or delete custom events if needed



5. Specifications

Info

Insights is only available for Universal Robots UR3, UR5 & UR10. It is compatible with controller version CB3.1 or later.

5.1 Insights Edge Gateway

Specification	Value
Power input	5V, 2.5A
Internet connection	Wired Ethernet Cable
Radio frequency	2.4 GHz

6. Troubleshooting

This section will be populated soon.

7. Warranty and Agreements

7.1 Privacy Policy

Protecting your privacy is important to Robotiq. The purpose of the Privacy Policy is to explain how we collect, use and disclose the personal information you may provide us while using this website or our products and services, including our web platforms, and is meant to comply with the Canadian federal and provincial privacy laws. By accessing and using this website or any of our products and services, you agree to be bound by the terms and conditions contained in Robotiq's Privacy Policy. If you do not agree to be bound by these terms and conditions, please do not access or use the features of Insights or any of our products and services. You can find the full Robotiq Privacy Policy here: https://robotiq.com/product_privacy_policy.pdf.

7.2 End-Users Terms of Use & License Agreement

You should carefully read the End-User Licence Agreement (the "Agreement"), a legal agreement between you and Robotiq, before using Insights. By clicking the "I accept the terms" checkbox on the website account creation page, by installing, accessing, or otherwise using Insights, you acknowledge that you have read and understood this Agreement and agree to the validity to be bound by its terms. If you do not agree to the terms of this Agreement, Robotiq cannot and does not license Insights to you. In such event, you must not use or install the Insights. You can find the full End-User Licence Agreement here: https://robotiq.com/product_eula.pdf.

7.3 Edge Gateway Warranty

Robotiq warrants the Insights Edge Gateway against defects in material and workmanship for a period of one year from the date of reception when utilized as intended with the specified maintenance. Robotiq also warrants that this equipment will meet applicable specifications under normal use.

Caution

Warranty applies under the following conditions:

- Usage respects recommendations from section 2. [Safety](#)
- Installation respects the indications in section 3. [Installation](#)

During the warranty period, Robotiq will repair or replace any defective product, as well as verify and adjust the product free of charge if the equipment should need to be repaired or if the original adjustment is erroneous. If the equipment is sent back for verification during the warranty period and found to meet all published specifications, Robotiq will charge standard verification fees.

Caution

The warranty will become null and void if the:

- Unit has been tampered with, repaired or worked on by unauthorized individuals.
- Unit has been misused, neglected, or damaged by accident.
- Unit has been opened.
- Unit's firewall rules have been modified.

This warranty is in lieu of all other warranties expressed, implied, or statutory, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. In no event shall Robotiq be liable for special, incidental, or consequential damages.

Exclusion

Robotiq reserves the right to make changes in the design or construction of any of its products at any time without incurring an obligation to make any changes whatsoever on units already purchased.

This warranty excludes failure resulting from: improper use or installation, normal wear and tear, accident, abuse, neglect, fire, water, lightning or other acts of nature, causes external to the product or other factors beyond Robotiq's control.

CE Marking

CE marking on the Edge Gateway represents the product is in compliance with all applicable directives.

8. Contact

www.robotiq.com

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Where automation Pros come to share their know-how and get answers.

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