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# CPY Server- Manual

rev. 0.2, 24/10/2017

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## 2 INTRODUCTION

### 2.1 General description

Welcome to the CPY Software manual. This guide will cover the essentials of setting up and using the CPY software included with your Dupline® 3 Parking Guidance System. We will start with a brief description of the system.

The Dupline® 3 Parking Guidance System is built up of a number of hardware and software components. The most common components in the system are the Dupline® 3 Parking Sensors. These are installed in each parking bay. A bay sensor detects when a bay is occupied and reports it to the Dupline® Master it is connected to, as well as indicating it with a coloured light. This coloured light is also used to indicate if the space is booked.

### 2.2 System Architecture

The SBP2CPY is a micro PC with Web-Server and Web-Service capabilities suitable for gathering information from up to 10 SBP2WEB24s. In a project with more than one SBP2WEB24 controller, the SBP2CPY module is required.

If only one SBP2WEB controller is used in the Car Park project, the CPY Server is integrated into the controller: the address to access it is:

**[SBP2WEB IP address]/CP3App**

*e.g. 192.168.2.71/CP3App*

### 2.3 Applications

The SBP2CPY aggregates data from multiple controllers in a single centralized database. You can access from anywhere by Web Browser, through a highly interactive interface, in order to manage the entire parking lot. The main features are as follows:

- Booking bays with scheduled actions or from the overview
- Checking the bay sensors in alarm
- Viewing the real-time status of each bay sensor with drawings and reports
- Setting the Bay sensor's category and status
- Configuring the Displays and Indicators

All the data is available as charts, tables and reports based on an XLS format.

## 3 SYSTEM REQUIREMENTS

### 3.1 Browser

The CPY Web-Server is a software application that runs in a Web Browser. To ensure optimal performance, the **recommended** browser is **Google Chrome**, a modern browser that you can download free of charge.

## 4 ACCESS TO THE SYSTEM

### 4.1 Network configuration

To access the system, you first need to establish a network connection between your PC and the SBP2CPY: you have the following options:

- Directly connect the two devices (SBP2CPY and PC) through a network cable
- Connect both devices (SBP2CPY and PC) to your local network
- Directly connect the two devices (SBP2CPY and PC) through a USB/mini-USB cable.

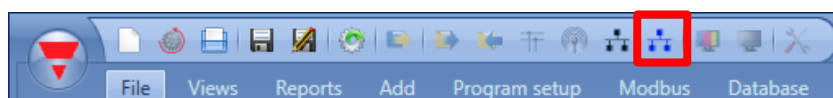
**The SBP2CPY IP settings are factory-configured to start as DHCP.**

Technical support operators can also communicate with the SBP2CPY through the same LAN port, using the address 192.168.253.254 (this address is fixed and cannot be changed).

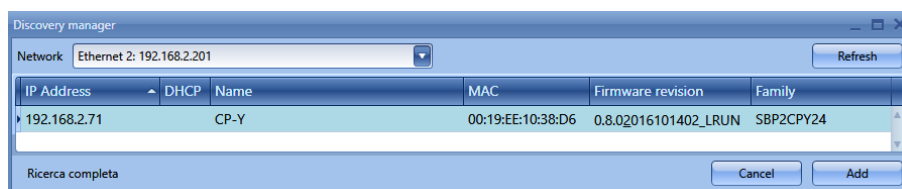
If using a mini-USB cable to connect the devices, use the address 192.168.254.254.

#### 4.1.1 Discover the SBP2CPY IP address via the SBP Tool

To find the SBP2CPY IP address, click on the icon marked in red to start the discovery:



The following window will appear with all the SBP2CPYs in the network:



*Note: Please check the relevant SBP Tool documentation for further information concerning the exchange data with SBP2WEB24 controllers.*

## 4.1.2 Access the SBP2CPY Web-Server

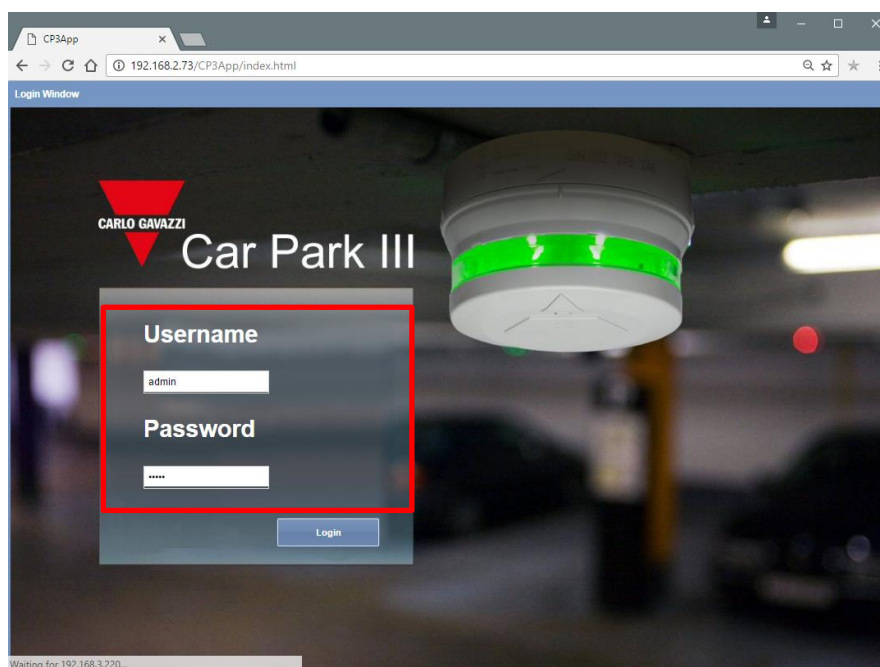
After the IP address of the SBP2CPY has been discovered, you can access the Web-Server. Follow this procedure in order to grant the access:

Step	Action
------	--------

- 1 Open a Web Browser and type the URL, based on the device used:

Device	CPY Server URL
SBP2CPY	SBP2CPY IP address e.g. 192.168.2.73
SBP2WEB	[SBP2WEB IP address]/CP3App e.g. 192.168.2.71/CP3App

- 2 Enter the **username** and **password** in the Login page, as shown below:



The default **username** and **password** are shown in the table below:

Username	Password	Name	Level
admin	admin	admin	administrator

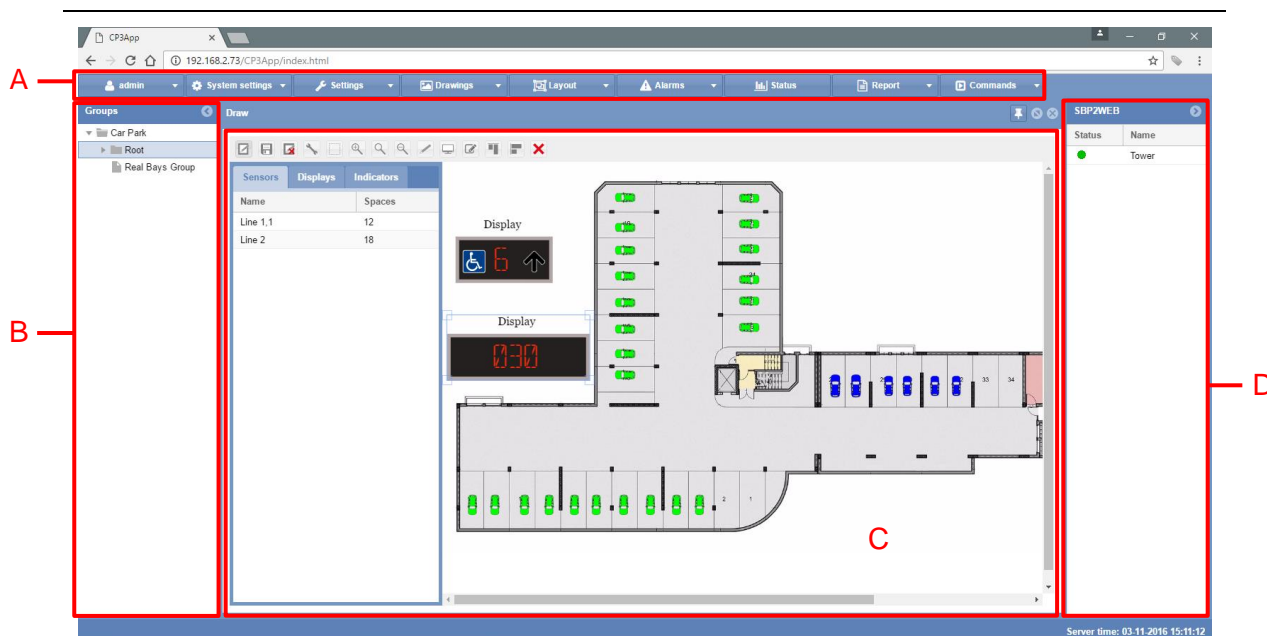
*Security Note: To prevent any undesired access to the system, it is recommended that you modify the default password during the first configuration.*

- 3 Click the **Login** button to access the Main page

After you have granted the access, you can change the IP settings (see [Specify an IP address manually](#)).

## 4.2 Main page

The figure below shows the **CPY server main page**:






Main page


When you access the Web Server main page, you can see the following areas, which are always available while using the software. The different areas are as follows:


Area	Description
------	-------------


**A** The **navigation bar** located at the top of the main page has the following tabs:


Tab	Description
 <b>User</b>	Settings for e.g. language and date/year <i>It is necessary to run the CPY with correct date and time format (Europe/US)</i>
 <b>System settings</b>	To select LAN, Modem, Clock and Firmware <i>It is necessary for LAN or Modem settings, together with the Clock. The clock is needed for real time stamp and for internal use of the clock. Always check for the latest firmware release</i>
 <b>Settings</b>	To select General park settings such as Account, status/category setup


The first three menus must be completed because the settings have an impact on the future database in the carpark software. The last two menus (Group settings and Scheduler) can be filled out later. They are used for e.g. booking and sending data to emulated displays


 <b>Drawings</b>	To add drawings and design Car Park structures <i>In this menu, you can build up the entire structure for the Car Park project. Drawings can be imported and icons can show the status of status of each bay, such as Vacant, Occupied, Disabled, VIP etc. Physical displays with steady or moving arrows can be assigned and configured and reproduced displays can be configured to show specific status, such as the number of occupied bays, VIP bays in one floor or the entire system.</i>
---	---

 <b>Layout</b>	Option for personal screen view. E.g. Status page and alarm page as preferred screen view <i>This menu is optional but can be used to personalize each user's screen layout. It shows the menus as a cascade or in layers. The user can decide which menus are in focus</i>
---	--

 <b>Alarms</b>	See historical alarms and acknowledge alarms. It is also possible to set different alarm set point for groups or individual bays <i>It is optional but useful for e.g. investigating the time each car has been parked with a selectable time limit or a complete group of cars.</i>
---	---

 <b>Status</b>	Displays the entire parking lot as bar graphs or as a table <i>Optional, but gives the operator useful information about occupancy on each floor or entire system</i>
---	--

 <b>Report</b>	For occupancy and space statistic <i>Optional but useful for historical investigations of space and area statistic such as occupancy, available spaces, most used /not used spaces in either as graph or as table</i>
---	--

 <b>Commands</b>	E.g. sequence setup to control a gate when carpark is occupied <i>Optional but useful to control e.g. a gate when floor/all is occupied</i>
---	--

---

**B** The **left panel** contains the hierarchical tree view of the entire parking lot structure as created in the SBP Tool.







*Note: the left panel can be hidden by pressing the  button*

---

**C** The **main area** shows the drawing and status windows, the reports window, etc..

---

**D** The **right panel** displays the SBP2CPY date and time, and some information about the status of all the SBP2WEB24 controllers that are part of the current project, as follows:

Status		Description				
<table border="1"> <thead> <tr> <th>Status</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td></td> <td>Sxweb</td> </tr> </tbody> </table>	Status	Name		Sxweb	The SBP2WEB24 controller <b>is connected</b> with the SBP2CPY	
Status	Name					
	Sxweb					
<table border="1"> <thead> <tr> <th>Status</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td></td> <td>SXWEB_ROOF</td> </tr> </tbody> </table>	Status	Name		SXWEB_ROOF	The SBP2WEB24 controller <b>is not connected</b> with the SBP2CPY	
Status	Name					
	SXWEB_ROOF					

---

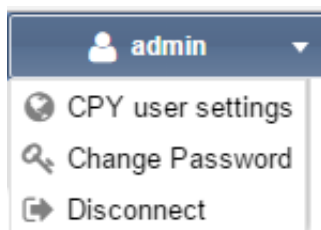
*Note: the right panel can be hidden by pressing the  button*

---

# User

---

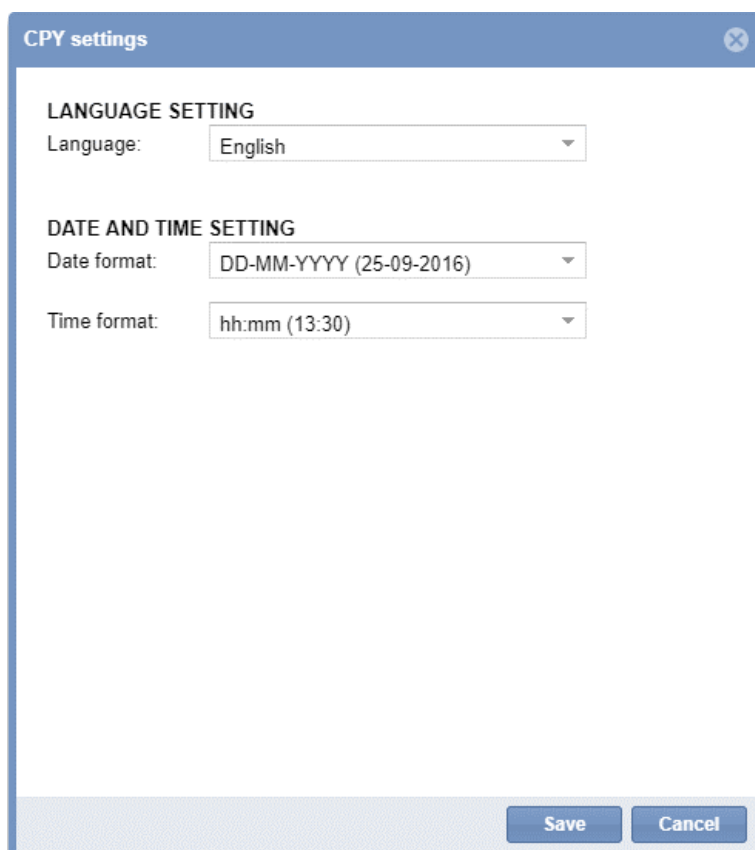
If you click on the **User** tab (the label shows the username currently connected) from the navigation bar, the following menu will appear:



## 5 CPY USER SETTINGS

### 5.1 User interface

The **CPY user settings** window is where you view or change the language setting and the date and time formats.





## 5.2 Procedures

### 5.2.1 Change default language

To set the system language, follow this procedure:

Step	Action
1	Click on the <b>User</b> (e.g. <i>Admin</i> ) tab from the navigation bar, then click <b>User International Settings</b>
2	From the <b>Language</b> drop-down menu select the desired language

#### LANGUAGE SETTING

Language: English

DATE AND TIME

Date format: English

Italiano

Svenska

Time format: hh:mm (13:30)

3	Click on <b>Save</b> to store the changes
---	---

### 5.2.2 Change date and time format

To set the system date and time format, follow this procedure:

Step	Action
1	Click on the <b>User</b> (e.g. <i>Admin</i> ) tab from the navigation bar, then click <b>User International Settings</b>
2	From the <b>Date format</b> drop-down menu select the desired format:

#### DATE AND TIME SETTING

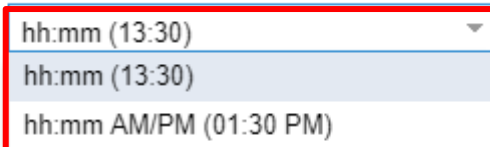
Date format: DD-MM-YYYY (25-09-2016)

Time format: DD-MM-YYYY (25-09-2016)

YYYY-MM-DD (2016-09-25)

MM-DD-YYYY (09-25-2016)

- From the **Time format** drop-down menu select the desired format:

Time format: 

- Click on **Save** to store the changes

### 5.2.3 Change the password for a non-administrative user

The user without administrative privileges, who cannot access the **Account** settings window, but is allowed to change the password, can follow this procedure:

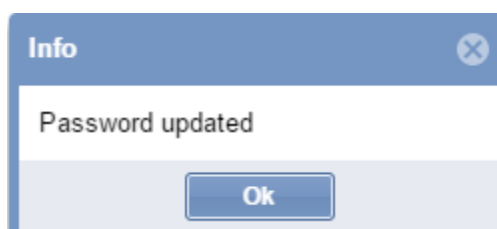
Step	Action
1	Click on the <b>User</b> tab from the navigation bar, then click Change user password
2	Enter the current password in the Current password box, then type the new password in the boxes below:



The image shows a 'Password configuration' dialog box with a blue header and a close button (X) in the top right corner. Inside the dialog, there are three text input fields: 'Current password:', 'New password:', and 'Confirm password:'. A red rectangular box highlights these three input fields. Below the input fields is a blue 'Save' button.

- Click on **Save** to store the changes

*Note: the following message will appear to confirm the password has been updated correctly:*



The image shows an 'Info' dialog box with a blue header and a close button (X) in the top right corner. The main content area contains the text 'Password updated'. At the bottom of the dialog is a blue 'Ok' button.

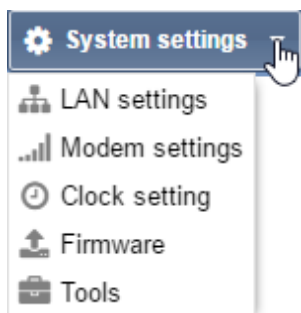
## 5.2.4 Log-off from the system

To Log-off a user from the CPY webserver, click on the **User** tab from the navigation bar, then click on ➔ **Disconnect**.






The current user will be logged-out and will return to the login page.

# System settings

If you click on the **System settings** tab from the navigation bar, the following menu will appear:



Use the **System settings** menu to view system information and make system settings. The menu includes the following sections, shown in the table below:

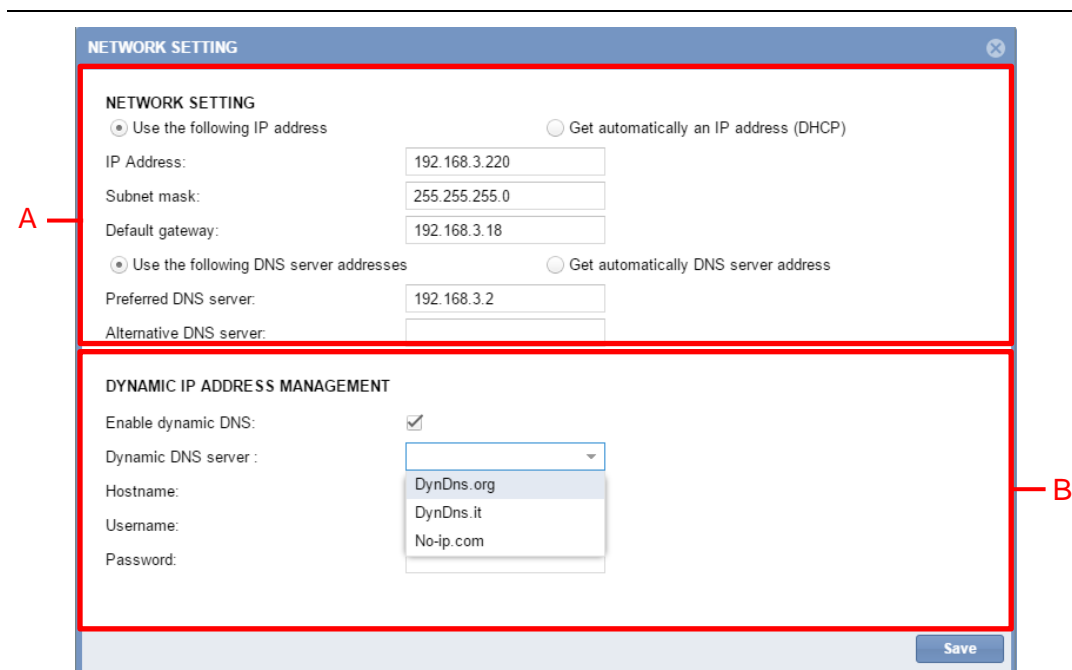
Section	Features
 <b><u>LAN settings</u></b>	<ul style="list-style-type: none"> <li>▪ Configure the IP address of the SBP2CPY</li> <li>▪ Configure the DynDNS parameters</li> </ul>
 <b><u>Modem settings</u></b>	Configure the network parameters of the 3G modem for the internet connection. <i>Note: the SH2DSP24 accessory module is required</i>
 <b><u>Clock setting</u></b>	Set the date and time used by the SBP2CPY
 <b><u>Firmware</u></b>	Upgrade the firmware of the SBP2CPY module
 <b><u>Tools</u></b>	<ul style="list-style-type: none"> <li>▪ Reboot the SBP2CPY</li> <li>▪ Restore to factory settings</li> </ul>

*Note: The System Settings menu is ONLY available for the SBP2CPY24 Server*

# 6 LAN SETTINGS

## 6.1 User interface

The **LAN settings** window is where you view or change network information such as the IP address of the SBP2CPY and the DynDNS parameters.



LAN settings window

## 6.2 Things to know

### 6.2.1 Network communication

The SBP2CPY module must be installed and connected to the same *local area network (LAN)* of the SBP2WEB controllers of the Car Park Guidance installation. A valid IP address must be assigned, manually or automatically, to communicate with the other network devices. The parameters are:

Parameter	Description
<b>IP address</b>	The IP address is the LAN IP address assigned to the SBP2CPY. It must be unique in the <i>local area network</i> .
<b>Subnet mask</b>	The mask is the subnet mask of the LAN to which the SBP2CPY is connected.

---

**Default gateway** This is the IP address of the computer or device on your network that connects your network to another network, or to the Internet.

*Note: the default gateway is only mandatory if you plan to access SBP2CPY through the Internet using the LAN connection*

---

**DNS server** The Domain Name Server (DNS) address is used to look up site addresses based on their names. Use the DNS server if you want to reach SBP2CPY from the internet.

---

## 6.2.2 Dynamic IP address (DynDNS) service

To access your SBP2CPY from the Internet, when a static public IP address is not available, you can use a commercial Dynamic DNS service: the DynDNS service lets you register your domain to their IP address and forwards traffic directed at your domain (see “B” area) to your frequently changing IP address. The SBP2CPY can be reached by a user-friendly Internet name, such as [SBP2CPY.dyndns.org](http://SBP2CPY.dyndns.org)

## 6.3 Procedures

### 6.3.1 Specify an IP address manually

By default, the [IP address is automatically acquired](#) from a DHCP server when the SBP2CPY is switched ON.

To manually assign a static IP address to the SBP2CPY (e.g. if a DHCP server is not available in the LAN) follow this procedure:

Step	Action
1	Click on <b>LAN settings</b> from <b>System settings</b> menu
2	In the <b>IP address</b> box, type the IP address of the SBP2CPY <i>e.g. 192.168.1.100</i>
3	In the <b>Subnet mask</b> box, type the subnet mask of the local network <i>e.g. 255.255.255.0</i>
4	In the <b>Default gateway</b> box, type the IP address of the default gateway of the local network <i>e.g. 192.168.1.254</i>


---

- 
- 5      **DNS servers:**
- select  to automatically get the **DNS server address** check-box to acquire the DNS server automatically from the DHCP server
  - or select **Use the following DNS server addresses** to manually specify the addresses in the **Preferred DNS server** and **Alternative DNS server** boxes

*Note: The **Alternative DNS server** is not mandatory*

---

- 6      Click on **Submit** to save the new network settings.


*Note: click the  icon to close the window without saving any changes: the SBP2CPY will keep the current network settings.*

---

*Note: the SBP2CPY needs a restart, which is performed automatically; wait until the count-down is over; then you will be routed back to the main page.*

### 6.3.2 Get an IP address automatically (DHCP)

If the SBP2CPY is [set with a static IP address](#), follow this procedure to change it to obtain an IP address automatically from the DHCP server.

Step	Action
1	Click on <b>LAN settings</b> from the <b>System settings</b> menu
2	In the <b>Network settings</b> window check <input type="radio"/> to <b>automatically get an IP address</b>
3	Click on <b>Submit</b> to save the new network settings. <i>Note: Click on the  icon to close the window without any changes and keep the current network settings.</i>

---

### 6.3.3 Set up the DynDNS service

To enable the management of the dynamic public IP address, follow this procedure:

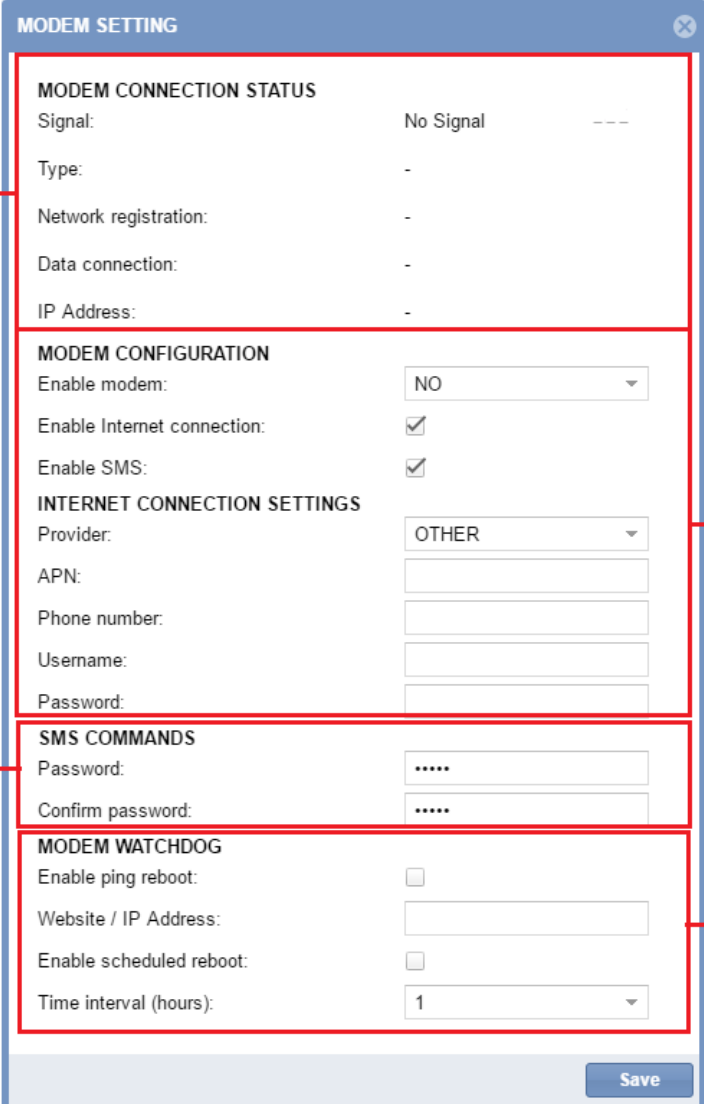
Step	Action
1	Register for an account with one of the Dynamic DNS service providers whose <u>URLs are in the Service provider list</u> <i>For example, for DynDNS.org, select <a href="http://www.dyndns.org">www.dyndns.org</a></i>
2	Click on <b>LAN settings</b> from the <b>System settings</b> menu
3	Select the <input checked="" type="checkbox"/> to <b>enable the dynamic DNS</b> check box
4	Type the chosen <b>Dynamic DNS server</b>
5	Type the <b>Hostname</b> that the chosen provider DynDNS gives you
6	Type the <b>Username</b> provided during account registration
7	Type the <b>password</b> provided during account registration
8	Click on <b>Submit</b> to save the new network settings. <i>Note: the service will be available after about 6 minutes.</i>



# 7 MODEM SETTINGS

## 7.1 User interface

The **Modem settings** window is where you view the modem connection status and configure the internet connection settings when the modem is used.



The screenshot shows the 'MODEM SETTING' window with the following sections and fields:

- MODEM CONNECTION STATUS** (highlighted by box A):
  - Signal: No Signal ---
  - Type: -
  - Network registration: -
  - Data connection: -
  - IP Address: -
- MODEM CONFIGURATION** (highlighted by box B):
  - Enable modem: NO (dropdown)
  - Enable Internet connection:
  - Enable SMS:
- INTERNET CONNECTION SETTINGS** (highlighted by box B):
  - Provider: OTHER (dropdown)
  - APN: [text input]
  - Phone number: [text input]
  - Username: [text input]
  - Password: [text input]
- SMS COMMANDS** (highlighted by box C):
  - Password: [password input]
  - Confirm password: [password input]
- MODEM WATCHDOG** (highlighted by box D):
  - Enable ping reboot:
  - Website / IP Address: [text input]
  - Enable scheduled reboot:
  - Time interval (hours): 1 (dropdown)

A 'Save' button is located at the bottom right of the window.

The **Modem setting** window includes 4 areas:

Area	Description												
A	Information about the modem data connection: <table border="1" data-bbox="386 387 1303 857"> <thead> <tr> <th>Parameter</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><b>Signal</b></td> <td>Modem signal level (Rx)</td> </tr> <tr> <td><b>Type</b></td> <td>Modem model (third party p.n.)</td> </tr> <tr> <td><b>Network registration</b></td> <td>The name of the ISP to which the modem is connected</td> </tr> <tr> <td><b>Data connection</b></td> <td>Connection status</td> </tr> <tr> <td><b>IP address</b></td> <td>IP address assigned to the device by the ISP</td> </tr> </tbody> </table>	Parameter	Description	<b>Signal</b>	Modem signal level (Rx)	<b>Type</b>	Modem model (third party p.n.)	<b>Network registration</b>	The name of the ISP to which the modem is connected	<b>Data connection</b>	Connection status	<b>IP address</b>	IP address assigned to the device by the ISP
Parameter	Description												
<b>Signal</b>	Modem signal level (Rx)												
<b>Type</b>	Modem model (third party p.n.)												
<b>Network registration</b>	The name of the ISP to which the modem is connected												
<b>Data connection</b>	Connection status												
<b>IP address</b>	IP address assigned to the device by the ISP												
B	Configuration of the network parameters of the 3G modem for internet connection												
C	Password setting required for security reasons to send SMS command <a href="#">See the list for all the SMS commands available</a>												
D	It is possible to resolve common issues in mobile communication by means of two different mechanisms, such as ping reboot and scheduled reboot												

## 7.2 Things to know

### 7.2.1 Internet Service Provider

To access the Internet through a 3G connection some parameters need to be requested from the mobile company (ISP): APN (Access Point Name), available network (HSPA....), optional dial up number.

## 7.3 Procedures

### 7.3.1 Modem configuration

You need to [install the SH2DSP24 adapter module](#) **before** configuring the modem, then follow this procedure:

Step	Action
1	Click on <b>Modem settings</b> from <b>System settings</b> menu
2	Select <input type="text" value="USB MODEM"/> from the <b>Enable modem</b> combo-box
3	Select the <input checked="" type="checkbox"/> <b>Enable Internet connection</b> check box to enable data communication via the Internet
4	Select <b>OTHER</b> from <b>Provider</b> combo-box <i>Note: Select predefined Vodafone IT M2M to load the predefined Vodafone APN configuration. Steps 5 to 9 may then be ignored</i>
5	Enter service Provider name in <b>APN</b> box
6	Enter *99# or *99***1# in <b>Phone Number</b> box
7	Leave <b>Username</b> box blank <u>if</u> the username is not required by the ISP
8	Leave <b>Password</b> box blank <u>if</u> the password is not required by the ISP
9	Click on <b>Save</b> to store the modem settings.

### 7.3.2 Set the password for SMS commands

To enable the 3G modem to accept SMS commands through the SIM, follow this procedure:

Step	Action
1	Click on <b>Modem settings</b> from the <b>System settings</b> menu
2	Select the <input checked="" type="checkbox"/> <b>Enable SMS</b> check box to enable SMS alarm dispatching
3	Enter a numeric password in <b>Password</b> box <i>e.g. 1234</i>
4	Re-enter the same password in <b>Confirm Password</b> box

### 7.3.3 Modem watchdog

To solve common issues in mobile communication, follow this procedure:

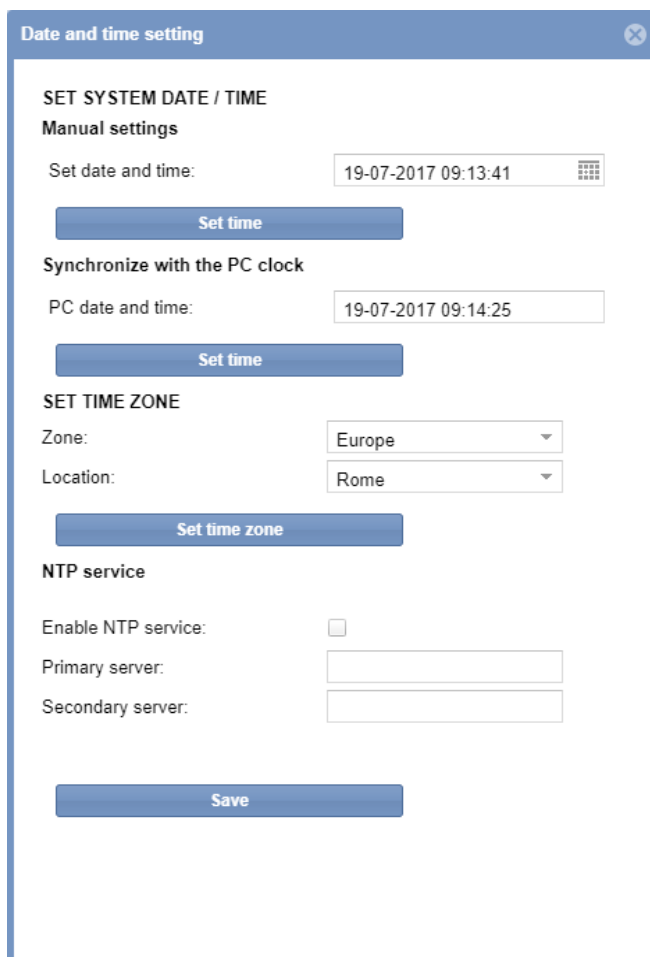
Command	Action
<b>Enable ping reboot</b>	If enabled, the SBP2CPY sends a PING command to the defined Website / IP address chosen in the <b>Website/IP Address</b> box. In case of repeated lost answers from the PING command, the system reboots
<b>Enable scheduled reboot</b>	The system reboots at each timed interval, chosen in the <b>Time interval</b> box (hours)

# 8 CLOCK SETTINGS

## 8.1 User interface

The **Clock settings** window is where you can set the system **date** and **time** for the SBP2CPY module.

*Note: The SBP2CPY and the SBP2WEB controllers parts of the Car Park project should be synchronized with the same NTP server(s).*



The menu includes the following sections, as shown below:

Section	Features
<b><u>Manual settings</u></b>	Set the date and time manually
<b><u>Synchronize with PC clock</u></b>	Date and time are automatically synchronized with the internal clock of the PC
<b><u>Set time zone</u></b>	Set the time zone where the SBP2CPY is located
<b><u>NTP service</u></b>	Specify the NTP server to obtain the date and time from time servers

## 8.2 Things to know

### 8.2.1 NTP service


The NTP server can be used to obtain the date and time information from one of several network time servers on the Internet.

*Note: an internet connection is required for the SBP2CPY to give this information*

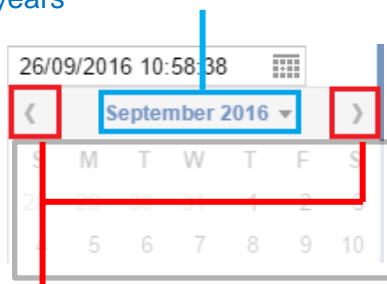
## 8.3 Procedures

### 8.3.1 Set date and time manually

To set the system date and time manually, follow this procedure:

Step	Action
1	Click on <b>Clock settings</b> from the <b>System settings</b> menu
2	In the <b>Set system date/time</b> section, click on the  icon
3	Select the <b>date</b> from the popup calendar

Click on the month to select the year through years



Click on the arrows to select the month through months

4 Enter the current **time** in the box



Please see [SBP2CPY user settings](#) for the date and time format

5 Click on **Set time** to store the new settings.

### 8.3.2 To synchronize with PC clock

To synchronize the date and time **automatically** with the PC clock, follow this procedure:

Step	Action
1	Click on <b>Clock settings</b> from <b>System settings</b> menu
2	Click on <b>Set time</b> in the <b>Synchronize with PC clock</b> section
3	Close the <b>Clock settings</b> window to store the new settings

### 8.3.3 Set the time zone

To set the **time zone** where the SBP2CPY is located, follow this procedure:

Step	Action
1	Click on <b>Clock settings</b> from the <b>System settings</b> menu
2	In the <b>Set Time Zone</b> section: <ul style="list-style-type: none"> <li>• choose your <b>Zone</b> from the drop-down menu</li> <li>• choose your <b>Location</b> from the drop-down menu</li> </ul>
3	Click on <b>Set time zone</b> to store the new settings

### 8.3.4 Set NTP service

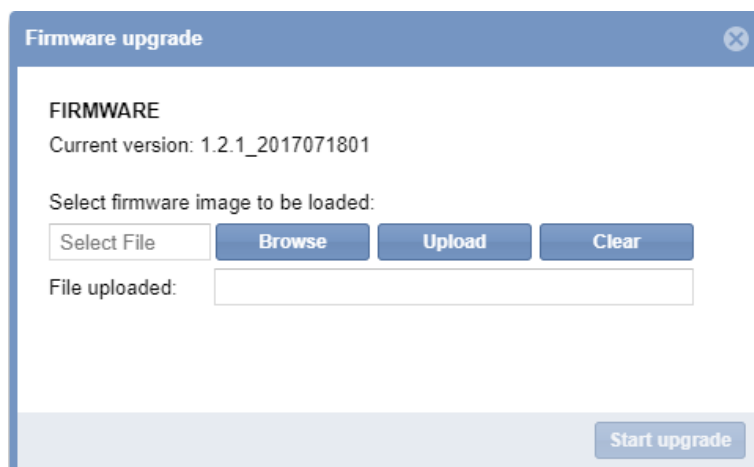
To set the NTP Service, follow this procedure:

Step	Action
1	Click on <b>Clock settings</b> from the <b>System settings</b> menu
2	Select the <input checked="" type="checkbox"/> <b>Enable NTP service</b> to turn it ON
3	Type a valid NTP server in the <b>Primary server</b> box <i>e.g. ntp1.inrim.it</i>
4	Type a valid NTP server in the <b>Secondary server</b> box <i>e.g. ntp2.inrim.it</i>
5	Click <b>Save</b> to store the new clock settings

# 9 FIRMWARE

## 9.1 User interface

The **Firmware** window is where you can check and update the firmware version of the SBP2CPY.



## 9.2 Things to know

### 9.2.1 Firmware package

A firmware update is a single binary file that contains the entire firmware payload (*[firmware\_revision].bin*) of the SBP2CPY module.

Carlo Gavazzi regularly releases new firmware versions to improve product performance or to introduce new functionality.

***The upgrade is highly recommended every time a new release is available.***

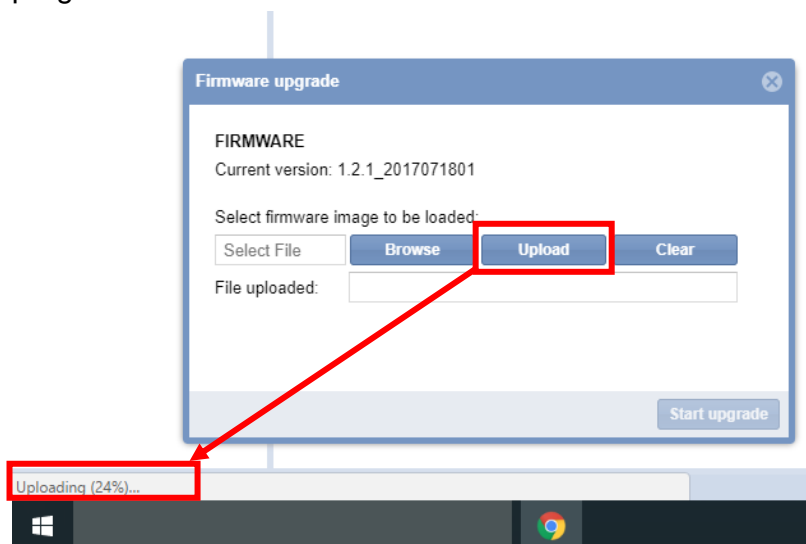


## 9.3 Procedures

### 9.3.1 Firmware update

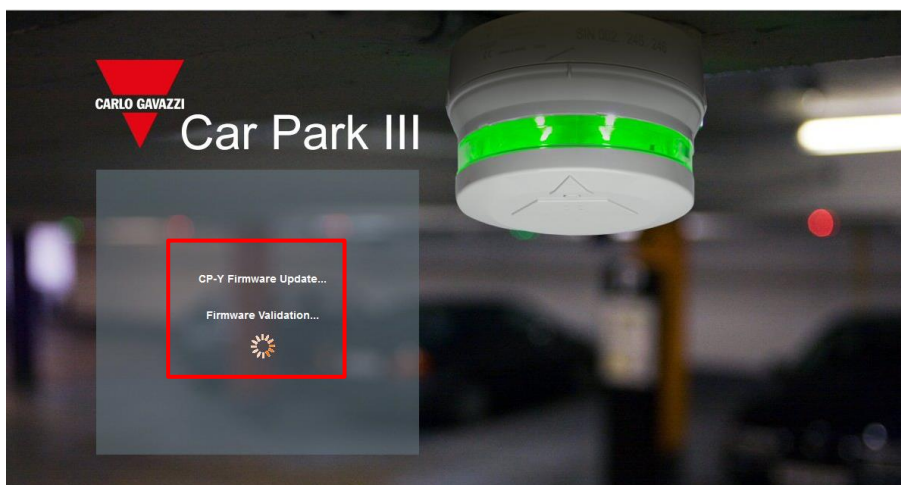
To update the SBP2CPY module with a new firmware revision, follow this procedure:

Step	Action
1	Download the latest firmware available from the <a href="#">Carlo Gavazzi web site</a> , save it to your Desktop and unzip the archive if necessary. <i>Note: The correct firmware file uses a <b>.bin</b> extension</i>
2	Click on <b>Firmware</b> tab from the <b>System settings</b> menu
3	Click the <b>Browse</b> button
4	Locate and highlight the saved firmware and click the <b>Upload</b> button: the firmware package will upload into the SBP2CPY, see the uploading progress on the browser bar



*Note: Click on the **Clear** button if you have selected the wrong file.*

- 
- 5 Click on **Start upgrade**, the firmware update operation will start, **where** the following window can be seen:





*Note: When uploading firmware to the SBP2CPY, do not interrupt the web browser by closing the window, or loading a new page. If the browser is interrupted, it could corrupt the firmware.*

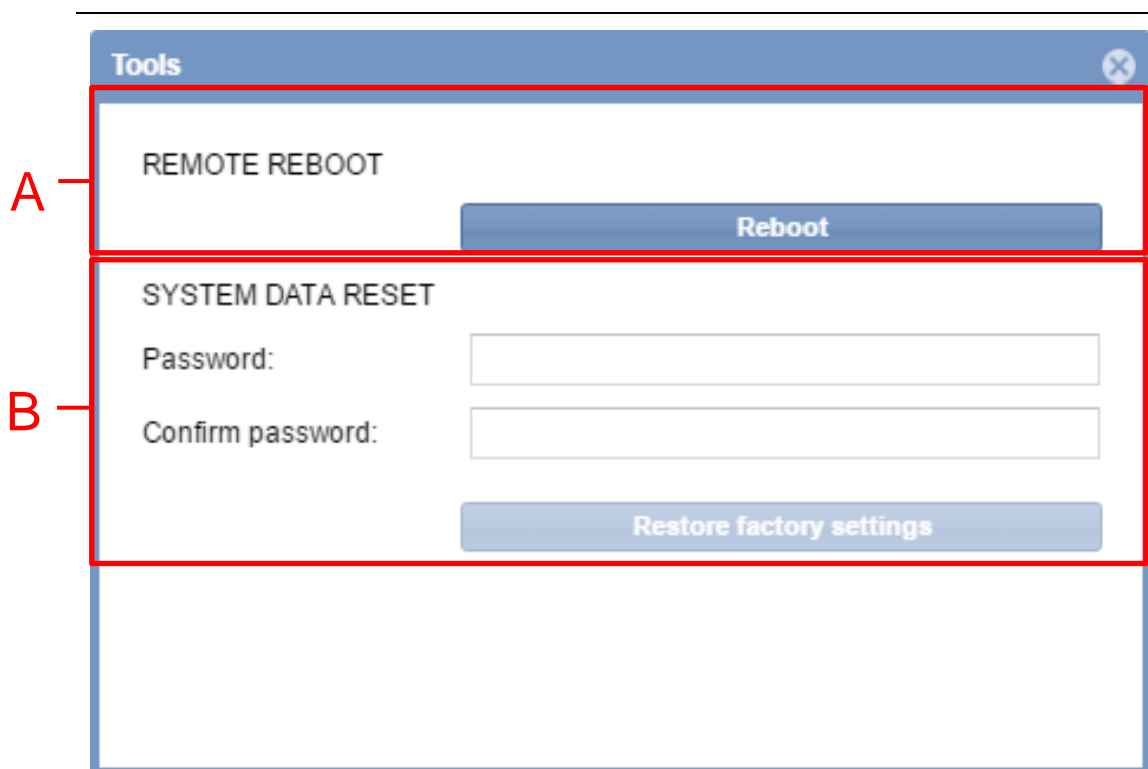
- 
- 6 Your SBP2CPY will reboot after the firmware is uploaded.
- 

*Note: The upgrade process depends on the present SBP2CPY load (in terms of connected devices), the Internet connection speed and the size and complexity of the update package.*

# 10 TOOLS

## 10.1 User interface

If you click on the  **System settings** tab from the navigation bar, then  **Tools**, the following window will appear:



Tools window

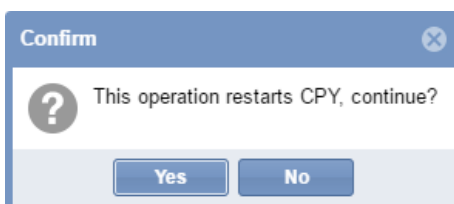
Section	Features
A	<a href="#">Remote Reboot</a> turns your SBP2CPY module <b>OFF</b> and then <b>ON</b> . When rebooting, all the user will be disconnected.
B	<a href="#">System data reset</a> sets the SBP2CPY module back to its default settings and will allow you to reconfigure it based on your Car Park project.

## 10.2 Procedures

### 10.2.1 Remote reboot

To reboot the SBP2CPY module, follow this procedure:

Step	Action
1	Click on <b>System settings</b> from the navigation menu, then click <b>Tools</b> tab
2	Click the <b>Reboot</b> button
3	On the <b>Confirm</b> popup, click <b>Yes</b> button



*NOTE: Observe the Power light on the SBP2CPY when rebooting. It goes OFF and then ON as an indication that the module is going through the process. Wait for few minutes to finish the process.*

### 10.2.2 System data reset

To restore SBP2CPY to factory settings, follow this procedure:

Step	Action
1	Click on <b>System settings</b> from the navigation menu, then click <b>Tools</b> tab
2	Enter the password of an admin user with privileges permission

SYSTEM DATA RESET

Password:

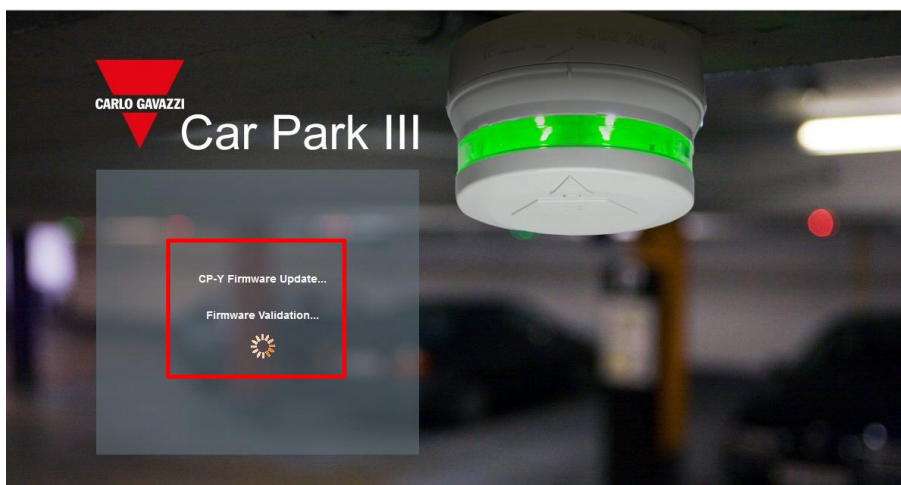
Confirm password:

**Restore factory settings**

*Note: the password must match, otherwise you cannot continue with the restore operation*

3	Click the <b>Restore factory settings</b> button
4	The SBP2CPY module reboots and will be restored to factory settings <b>WARNING: Do not interrupt the restore process</b>

- 
- 5 Click on Start upgrade, the firmware update operation will start, where the following window can be seen:




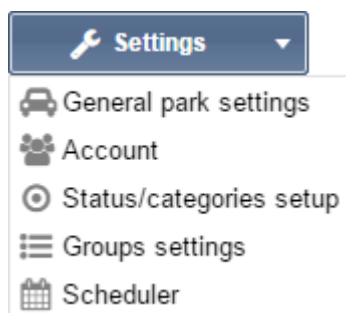
*Note: When uploading firmware to the SBP2CPY, do not interrupt the web browser by closing the window, or loading a new page. If the browser is interrupted, it could corrupt the firmware.*

- 
- 6 Your SBP2CPY will reboot after the firmware is uploaded.
- 






*Note: The Restore procedure does not affect firmware which will remain the latest one installed*

# Settings

By clicking on  **Settings** tab from the navigation bar, the following menu will appear:



Use the **Settings** menu to view information about the Car Park Guidance installation and make settings. The menu includes the following sections, as shown below:

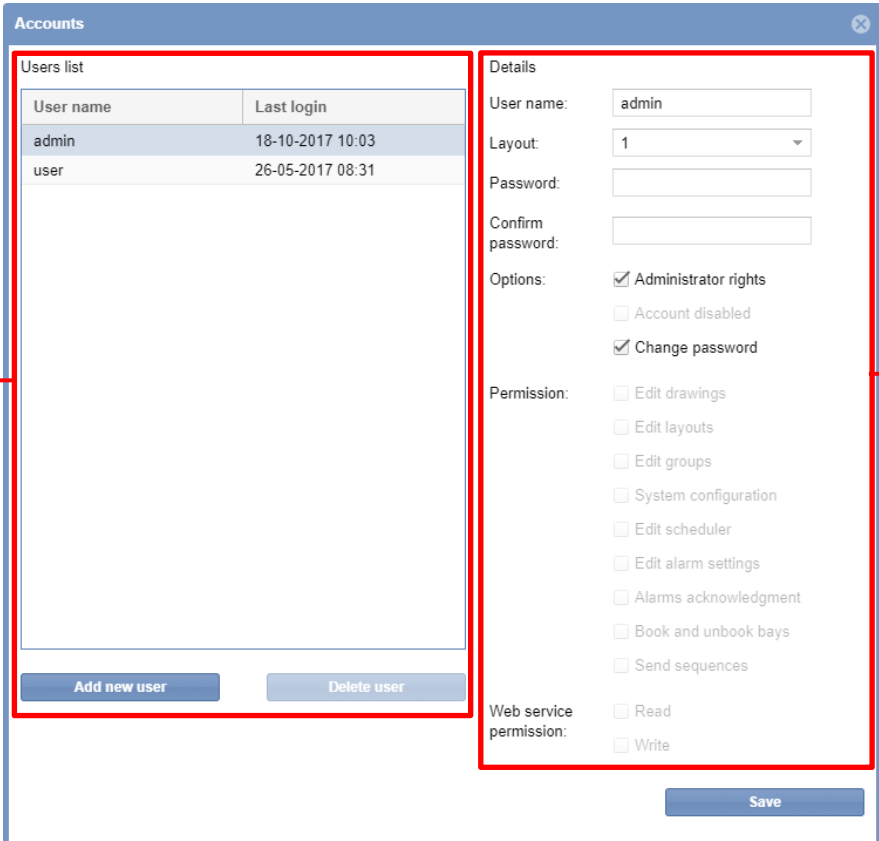
Section	Features
 <b>General park settings</b>	Set the name of the Car park installation
 <b><u>Account</u></b>	<b>Users</b> and <b>permissions</b> management <i>Note: this window is only accessible to users with administrative rights</i>
 <b><u>Status/categories setup</u></b>	Defines the status and categories of the <b>bays</b>
 <b><u>Group settings</u></b>	Defines new groups that are an arbitrary aggregation of various elements: <ul style="list-style-type: none"> <li>• Bays</li> <li>• Real groups (Sensor line, Lane, Zone)</li> <li>• MZC groups (Master Zone Counter)</li> </ul>
 <b><u>Scheduler</u></b>	Defines the scheduled job-activities

# 11 ACCOUNT

## 11.1 User interface

User Management includes administrative tools to help the administrators manage and control user permissions.

**Note:** this window is only accessible to users with administrative rights



The screenshot shows a window titled "Accounts" with two main sections:

- Area A (Users list):** A table with columns "User name" and "Last login". It lists two users: "admin" (last login: 18-10-2017 10:03) and "user" (last login: 26-05-2017 08:31). Below the table are buttons for "Add new user" and "Delete user".
- Area B (Details):** A form for editing user details. Fields include:
  - User name: admin
  - Layout: 1
  - Password: (empty)
  - Confirm password: (empty)
  - Options:
    - Administrator rights
    - Account disabled
    - Change password
  - Permission:
    - Edit drawings
    - Edit layouts
    - Edit groups
    - System configuration
    - Edit scheduler
    - Edit alarm settings
    - Alarms acknowledgment
    - Book and unbook bays
    - Send sequences
  - Web service permission:
    - Read
    - Write

A "Save" button is located at the bottom right of the details panel.

Accounts window

This section includes information about how contract administrators can manage and control user access to the CPY webserver. The **Account** window includes 2 areas:

Area	Description
<b>A (User list)</b>	Only users with administrative rights can: <ul style="list-style-type: none"> <li>▪ Add users</li> <li>▪ Edit users</li> <li>▪ Delete users</li> </ul>

---

**B (Details and Permissions)**

Modify user permissions

*Note: an existing user must be selected in the user list before changing their rights*


---

## 11.2 Things to know

### 11.2.1 Users and permissions

The user list is the primary interface for managing users. By clicking on a user from the list (**A area**) the following information are shown:

Detail	Description
<b>Username</b>	Defines the unique identifier of the user account
<b>Default layout</b>	Defines the <b>layout</b> applied when the user logs-on to the system
<b>Password and Confirm password</b>	Defines the password the user account should have
<b>Administrator rights</b>	Indicates whether or not a user is an administrator. Administrative rights allow access to the User Management function
<b>Account disabled</b>	If this setting is enabled, the user will not be able to log-on. This is to be used as a security precaution. It might be used, for example, if a new employee needs to be added to the system but his account does not need to be active yet
<b>Change password</b>	This prevents the user from changing the password

A **user's** permission determines what they can and cannot do in the SBP2CPY solution. A user with administrative rights can change (add or remove) the permissions for a user. The following sections describe these permissions. In general:

Permission	Description
<b>Edit drawing</b>	Defines whether a user can access the edit functionality of <b>Drawing</b>
<b>Edit layouts</b>	Defines whether a user can access the edit functionality of <b>Layouts</b>
<b>Edit groups</b>	Defines whether a user can access the edit functionality of <b>Groups</b>
<b>System configuration</b>	Defines whether a user can manage the <b>System settings</b>
<b>Edit scheduler</b>	Defines whether a user can access the edit functionality of <b>Schedules</b>
<b>Edit alarm settings</b>	Defines whether a user can modify <b>Area Alarms</b> settings and <b>Space Alarm</b>

---



<b>Alarm acknowledgement</b>	Defines whether a user can acknowledge alarms in <b>Alarm&gt;Status</b>
<b>Book and unbook bays</b>	Defines whether a user can <b>book/unbook</b> parking spaces
<b>Send sequences</b>	Defines whether a user can <b>send sequences</b> to the SBP2WEB controllers
<b>Web service permission</b>	Defines whether a user can manage the <b>Web service permission (WEB-API)</b>

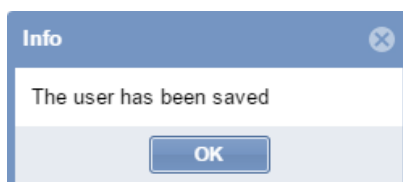
## 11.3 Procedures

### 11.3.1 Add new user

*Note: ONLY the administrator accounts will be present in the list*

To add a new user, follow this procedure:

Step	Action
1	Click on <b>Account</b> from <b>Setting</b> menu
2	Click on <b>Add new user</b> below <b>Users list</b>
3	In the <b>Details</b> section ( <i>B area</i> ): <ul style="list-style-type: none"> <li>• Enter the username</li> <li>• Select a <b>Default layout</b> from the drop-down list</li> <li>• Enter the password in the <b>password</b> and <b>Confirm password</b> boxes</li> </ul>
4	In the <b>Options</b> section ( <i>B area</i> ): <ul style="list-style-type: none"> <li>▪ Select <input type="radio"/> check-box to manage the <b>options</b> required</li> </ul>
5	In the <b>Permissions</b> section ( <i>B area</i> ): <ul style="list-style-type: none"> <li>▪ Select the <input checked="" type="checkbox"/> check-box to manage the <b>permissions</b> required</li> </ul>
6	Click the <b>Save</b> button to add the user: Note: if you have filled out all the information correctly, you will see a message informing you that the user has been created



Otherwise, an error message will inform you which part of the form has been filled out incorrectly

## 11.3.2 Edit user

Once you have selected the required user from the list, follow this procedure to edit the user account:

Step	Action
1	Click on <b>Account</b> from <b>Setting</b> menu
2	Select the <b>user</b> you wish to modify from the <b>User list</b>
3	In the <b>Details</b> section ( <i>B area</i> ): <ul style="list-style-type: none"> <li>• Change the <b>Default layout</b> from the drop-down list</li> <li>• Enter the password in the <b>password</b> and <b>Confirm password</b> box.</li> </ul> <i>Note: The <b>username</b> cannot be changed</i>
4	In the <b>Options</b> section ( <i>B area</i> ): Select the <input type="radio"/> check-box to manage the <b>options</b> required
5	In the <b>Permissions</b> section ( <i>B area</i> ): <ul style="list-style-type: none"> <li>▪ Select the <input checked="" type="checkbox"/> check-box to manage the <b>permissions</b> required</li> </ul>
6	Click the <b>Save</b> button to save the changes

### 11.3.3 Delete users

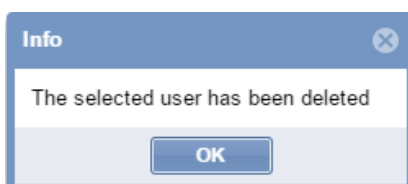
**You cannot delete the user you are currently logged on to, as in the account window the Delete user button is not clickable.**

To delete a user, follow this procedure:

Step	Action
1	Click on <b>Account</b> from <b>Setting</b> menu
2	Select the <b>user</b> you wish to delete from the <b>User list</b>
3	Click on <b>Delete user</b> button
4	Click <b>Yes</b> on the confirmation dialog to confirm the action

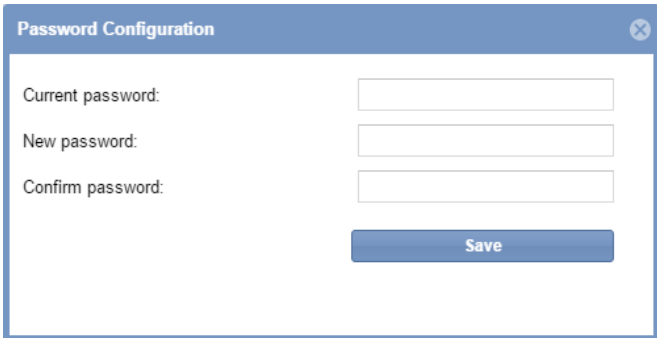


*Note: the following message will appear to confirm the user has been deleted correctly, otherwise you will be given an error message detailing what went wrong*



## 11.3.4 Change password

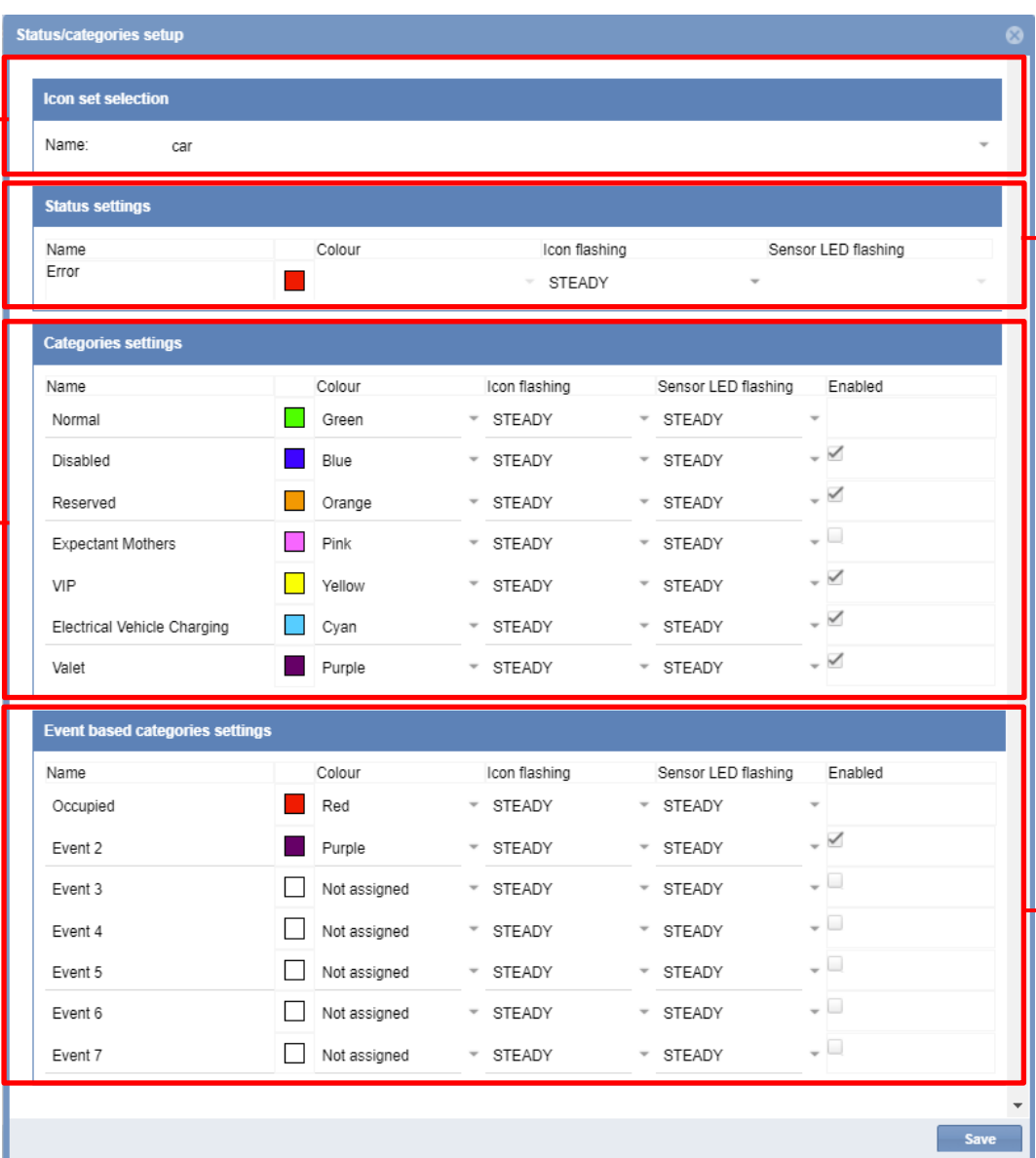
Once logged on, you can change the password from the first tab (User), by following this procedure:

Step	Action
1	Click on <b>Change password</b> from <b>User</b> menu
2	In the <b>Password configuration</b> window:  <ul style="list-style-type: none"><li>• Type the password used to log on to the CPY in <b>Current password</b></li><li>• Enter your new password in <b>New password</b>, then enter it again in <b>Confirm password</b></li></ul>
3	Click on the <b>Save</b> button to store the new password

# 12 STATUS/CATEGORIES SETUP

## 12.1 User interface

The **Status/categories setup** window is where you view or change the attributes of the bays' sensors and the icon appearance of your Car Park project.



The screenshot shows the 'Status/categories setup' window with four main sections highlighted by red boxes and letters:

- A:** Icon set selection section, showing 'Name: car'.
- B:** Status settings section, showing a table with columns: Name, Colour, Icon flashing, and Sensor LED flashing. The 'Error' status is highlighted with a red color.
- C:** Categories settings section, showing a table with columns: Name, Colour, Icon flashing, Sensor LED flashing, and Enabled. Categories include Normal, Disabled, Reserved, Expectant Mothers, VIP, Electrical Vehicle Charging, and Valet.
- D:** Event based categories settings section, showing a table with columns: Name, Colour, Icon flashing, Sensor LED flashing, and Enabled. Events include Occupied, Event 2, Event 3, Event 4, Event 5, Event 6, and Event 7.

A 'Save' button is located at the bottom right of the window.

Status/categories setup window

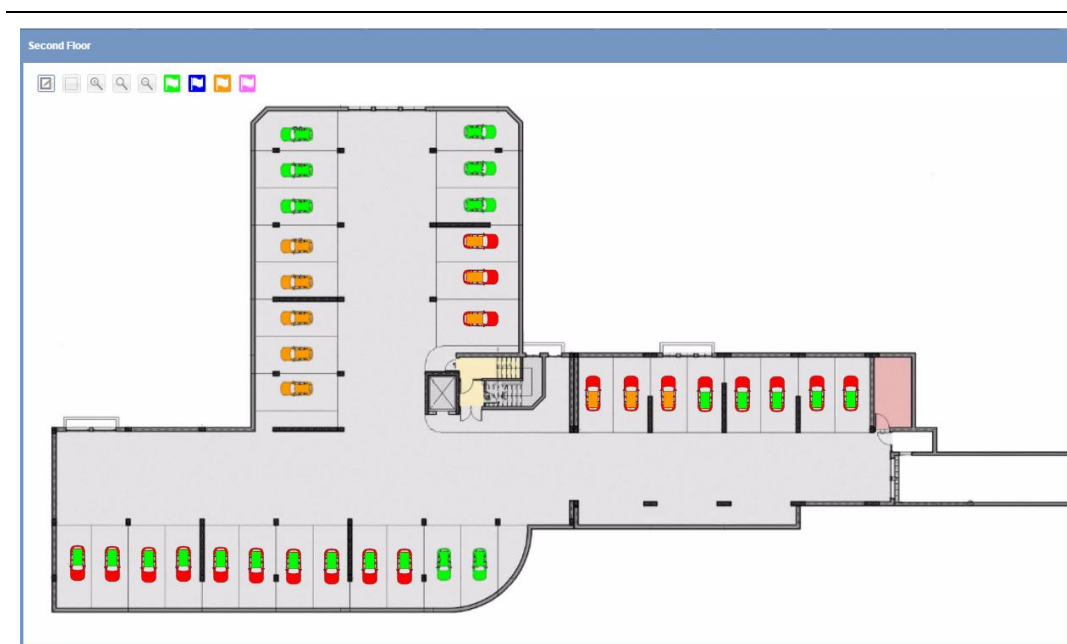
The window includes 4 sections:

Section	Description
A	To select the icon set to show the status and category in the drawing windows.  <i>Note: this is related only to the CPY webserver</i>
B	Defines the attributes of the bay sensor and icon, in order to identify their <b>status</b>
C	Defines the attributes of the bay sensor and icon, in order to identify the <b>category to which they belong</b> .
D	Defines the attributes of the bay sensor and icon in order to identify the category based on event

## 12.2 Things to know

### 12.2.1 Bay status and category

The picture below shows an example of a drawing window in the CPY webserver



Example – a drawing window

Each car's icon represents a parking space and the icon represents the current status and the category to which they belong. **In this guide a parking space is referred to as a BAY.**

The status is the condition a bay is in and it is monitored in real-time by the software: the different statuses, Occupied, Unknown, Error, are represented by different icons so you can have a clear view of your parking lot. The categories to which the bays belong can be defined according to the Car Park project properties.

In the tables below you can see the meaning of each icon's colouring/pattern, as well as how many bay sensors in the drawing have this status right now.

Status	Default property
<b>Occupied</b>	Bay has car <i>Note: All occupied bays are represented by icons in the occupy colour (default is RED)</i>
<b>Error</b>	Bay has its sensor in error
<b>Unknown</b>	Bay is in an unknown status (e.g. at the start-up of SBP2CPY before SBP2WEB controller sends bay events)

*Note: Vacant is the status when a bay has no car; each bay in the vacant status could be set in one of the 7 available categories.*

The table below shows the default properties:

Category	Default property
<b>Normal</b>	Green colour
<b>Disabled</b>	Blue colour
<b>Reserved</b>	Orange colour
<b>Expectant Mothers</b>	Purple colour
<b>VIP</b>	Yellow colour
<b>Electrical Vehicle Charging</b>	Cyan colour
<b>Valet</b>	Violet colour

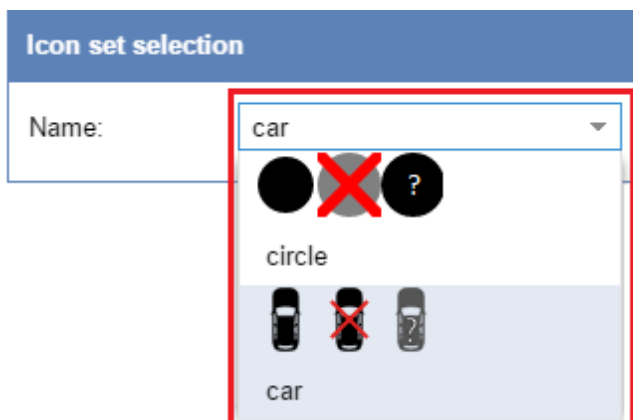
## 12.3 Procedures

### 12.3.1 Change the icons set

You can select, as global settings, the icon to represent the bay in the **Normal**, **Error** and **Unknown** statuses. Follow these steps to change the set:

Step	Action
1	Click on <b>Status/categories setup</b> from <b>Settings</b> menu
2	In the <b>Icon set selection</b> click the combo-box:

3 Select the icon set:



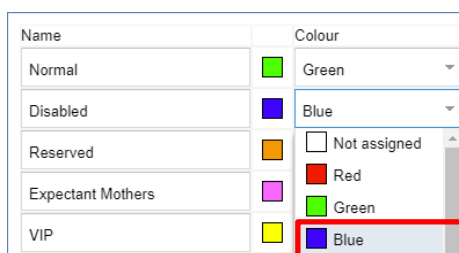
The icons are used only in the CPY webserver

4 Click on **Save settings** to store the changes

### 12.3.2 Change name, colour and flashing behaviour

You can change the attributes for each status and category, configurable by:

Step	Action
1	Click on <b>Status/categories setup</b> from <b>Setting</b> menu
2	In the <b>Category settings</b> , in the <b>Name</b> column, you can change the name of the default categories.
3	In the <b>Colours</b> column, you can select the colour from the combo box:



*Note: the OFF colour is represented by black.*

4 In the **Icon flashing** column, select the behaviour to be applied to the icons used in the CPY webserver. You can choose from:

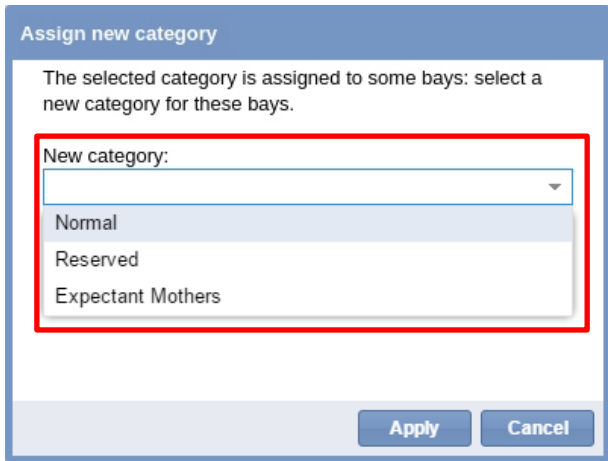
- Steady
- Flashing



- 
- 5 In the **Sensor LED flashing** column, select the behaviour to be applied to the bay sensor LED. You can choose from:
    - Steady
    - Flashing 0.5
    - Flashing 1.0
    - Flashing 2.0
- 
- 6 In the **Enables** column, select the  check-box to manage the **Category** required
- 
- 7 Click on **Save settings** to store the changes
- 

### 12.3.3 Remove existing categories

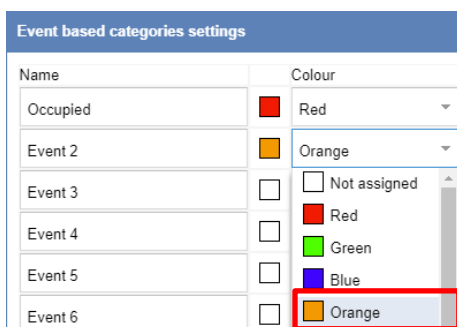
You can remove existing categories. Follow this procedure:

Step	Action
1	Click on <b>Status/categories setup</b> from <b>Setting</b> menu
2	In the <b>Enables</b> column, deselect the <input checked="" type="checkbox"/> check-box to manage the <b>Category</b> required
3	
4	Click on <b>Save settings</b> to store the changes

---

## 12.3.4 Set events based on categories

You can create events based on categories status. Follow these steps to add:

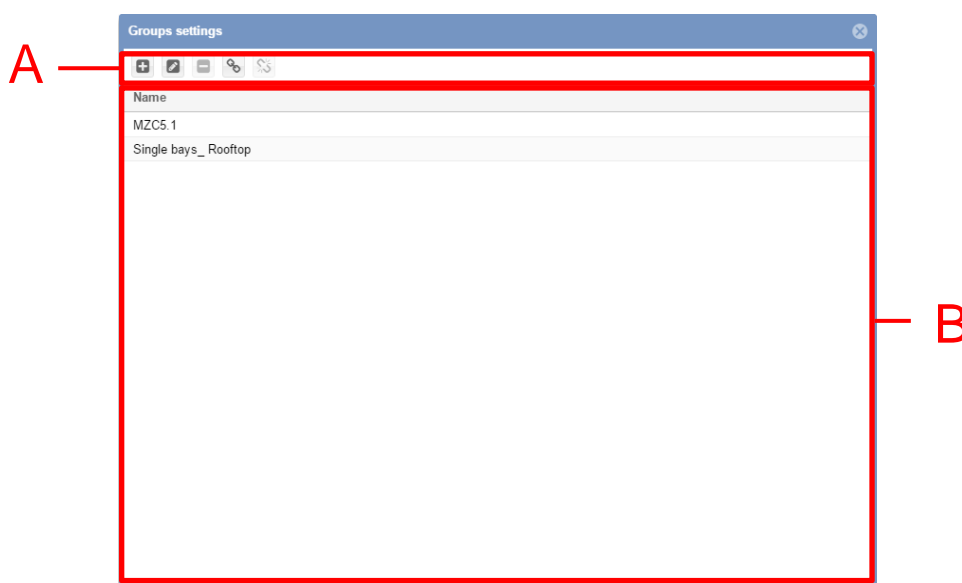
Step	Action
1	Click on <b>Status/categories setup</b> from <b>Setting</b> menu
2	In the <b>Event based categories settings</b> section, in the <b>Name</b> column, you can change the name of the default event.
3	In the <b>Colours</b> column, you can select the colour from the combo box: <div data-bbox="399 618 857 943" data-label="Image">  </div>
	<i>Note: the OFF colour is represented by black.</i>
4	In the <b>Icon Flashing</b> column, select the behaviour to be applied to the icons used in the CPY webserver. You can choose from: <ul style="list-style-type: none"> <li>▪ Steady</li> <li>▪ Flashing</li> </ul>
5	In the <b>Sensor LED flashing</b> column, select the behaviour to be applied to the bay sensor LED. You can choose from: <ul style="list-style-type: none"> <li>▪ Steady</li> <li>▪ Flashing 0.5</li> <li>▪ Flashing 1.0</li> <li>▪ Flashing 2.0</li> </ul>
6	In the <b>Enables</b> column, select the <input checked="" type="checkbox"/> check-box to manage the event based category required
7	Click on <b>Save settings</b> to store the changes

# 13 GROUPS SETTINGS

## 13.1 User interface
















The **Groups settings** window is used to define and manage **new groups**, which are an arbitrary aggregation of various elements:

- Bays
- Real groups (Sensor line, Lane, Zone)
- MZC groups (Master Zone Counter)



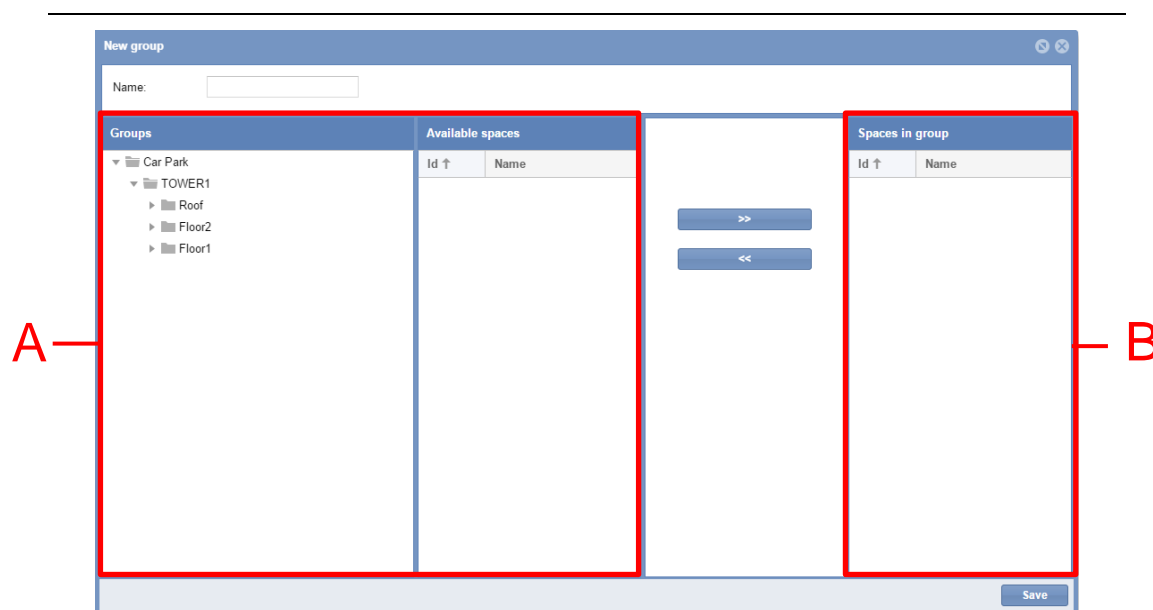
Groups settings window

The **Groups settings** window includes 2 areas:

Area	Description												
A	<p><b>Navigation bar:</b> the commands available are as follows:</p> <table border="1"> <thead> <tr> <th>Command</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td></td> <td>Create new group</td> </tr> <tr> <td></td> <td>Edit group</td> </tr> <tr> <td></td> <td>Delete group</td> </tr> <tr> <td></td> <td>Create MZC group</td> </tr> <tr> <td></td> <td>Split MZC group</td> </tr> </tbody> </table>	Command	Action		Create new group		Edit group		Delete group		Create MZC group		Split MZC group
Command	Action												
	Create new group												
	Edit group												
	Delete group												
	Create MZC group												
	Split MZC group												
B	Shows the available groups and MZC groups												

### 13.1.1 New/edit group window

The **New/Edit group** window appears by clicking on the **Create new group** and **Edit group** option:



New/edit group window

The window includes 2 main areas:

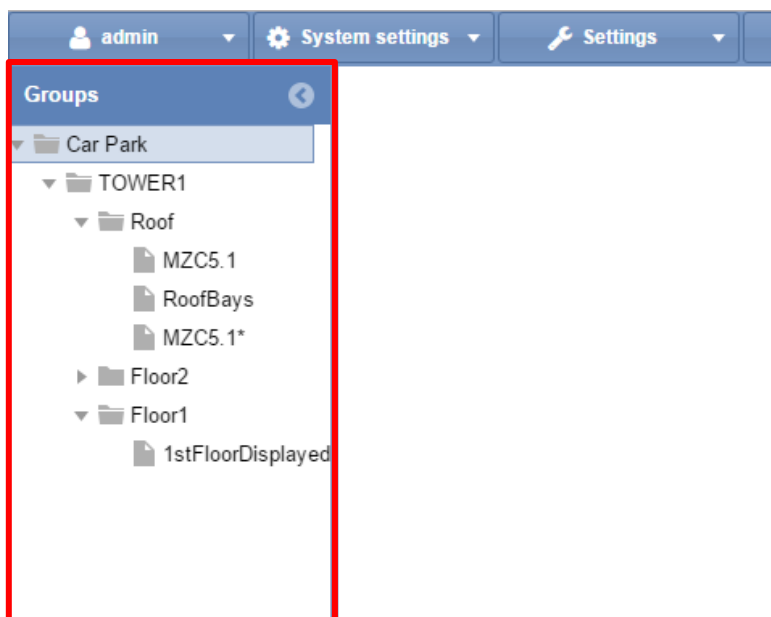
Area	Description
A	<b>Groups</b> This section controls which bays (sensors) are listed under <b>Available spaces</b> area
	<b>Available spaces</b> A list of available spaces in the group selected, which are not already added to the new group
B	<b>Spaces in group</b> A list of spaces added to the new group

## 13.2 Things to know

### 13.2.1 Groups definition

A group is the whole of bays in a delimited zone, such as a *floor*, a delimited *perimeter*, an *area*, etc.

You can create a new group starting from the existing groups that are sent by the SBP Tool. They can be seen in the left panel of the CPY webserver, as shown in the red rectangle in the picture below:



A Car Park project, typically, consisting of several floors: in this example, there are three floors: **Roof**, **Floor2** and **Floor1**.




The *virtual* groups are useful when:

- You have to manage Master Zone Counter (MZC) groups
- You have to monitor a delimited zone of your Car Park project

## 13.3 Procedures

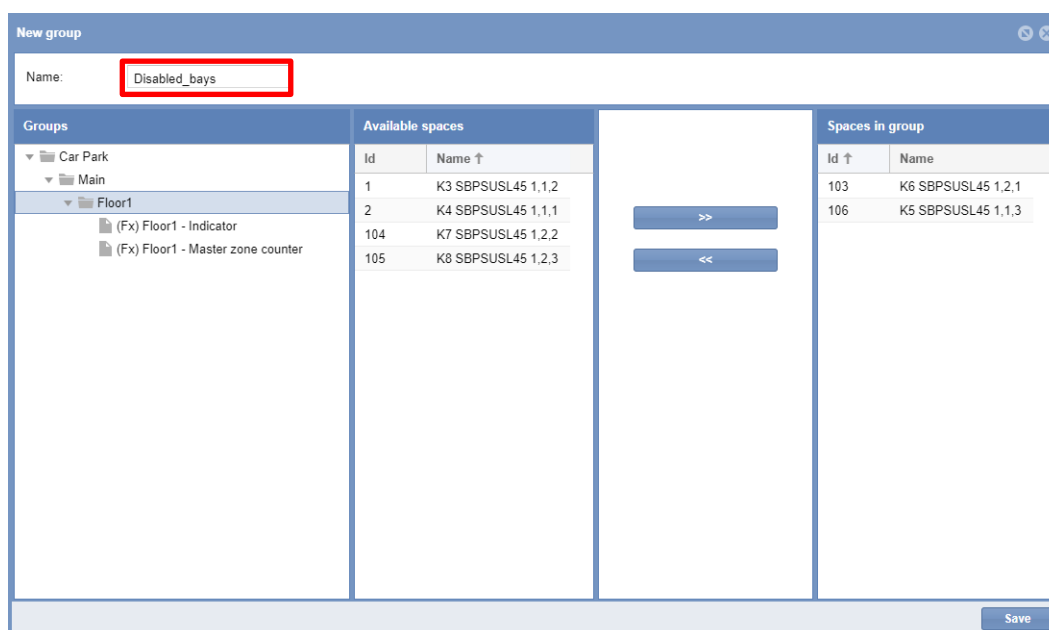
### 13.3.1 Create new group

To create a new group, follow this procedure:

Step	Action
1	Click on <b>Groups settings</b> from <b>Settings</b> menu
2	Click on  <b>Create new group</b> from command bar; the <b>New Group</b> window appears
3	In the <b>name</b> box enter the name of the new group
4	From the <b>Groups</b> select a desired group: <i>Note: A list of <b>available spaces</b> in the selected group are shown</i>
5	Select a space from the <b>Available spaces</b> section. <i>Note: to select multiple spaces, select a space and hold shift to add several, or hold CTRL to select individual spaces</i>
6	<b>Adding spaces to a group</b> Click the  button to add the selected spaces to the <b>Spaces in group</b> section
7	<b>Removing spaces from a group</b> To remove one or more spaces, <ol style="list-style-type: none"> <li>1. Select space(s) from the <b>Spaces in group</b> section</li> <li>2. Click the  button to remove the selected spaces from <b>Spaces in group</b>.</li> <li>3. The selected spaces will be added to the <b>Available spaces</b> section</li> </ol> <i>Note: to select multiple spaces, select a space and hold shift to add several, or hold CTRL to select individual spaces</i>
8	Click on <b>Save</b> button to create the new group



### 13.3.1.1 Example

The example below shows a new named *Disabled\_bays* with K5 and K6 sensors. The new group is shown in Group settings window and it appears in the Group panel of CPY Webserver



### 13.3.2 Edit a group


To edit an existing group, follow this procedure:

Step	Action
1	Click on <b>Groups settings</b> from <b>Settings</b> menu
2	Select <b>a group</b> from the list
3	Click on  <b>Edit group</b> from command bar: the <b>Group window</b> appears with the properties of the selected group
4	<b>Adding spaces to selected group</b> Click the  button to add the selected spaces to the <b>Spaces in group</b> section

---

5 **Removing spaces from the selected group**

To remove one or more spaces,

1. Select space(s) from the **Spaces in group** section
2. Click the  button to remove the selected spaces from **Spaces in group**.
3. The selected spaces will be added to the **Available spaces** section

*Note: to select multiple spaces, select a space and hold shift to add several, or hold CTRL to select individual spaces*


---

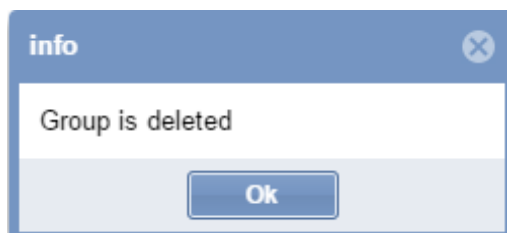
6 Click on **Save** button to store the changes

---

### 13.3.3 Delete a group

To delete an existing group, follow this procedure:

Step	Action
1	Click on <b>Groups settings</b> from <b>Settings</b> menu
2	Select <b>a group</b> from the list
3	Click on  <b>Delete group</b> from command bar; the <b>selected group will be removed</b>




*Note: All the spaces which were part of the deleted group will be reassigned to the original group of the car park structure, sent by the SBP Tool*

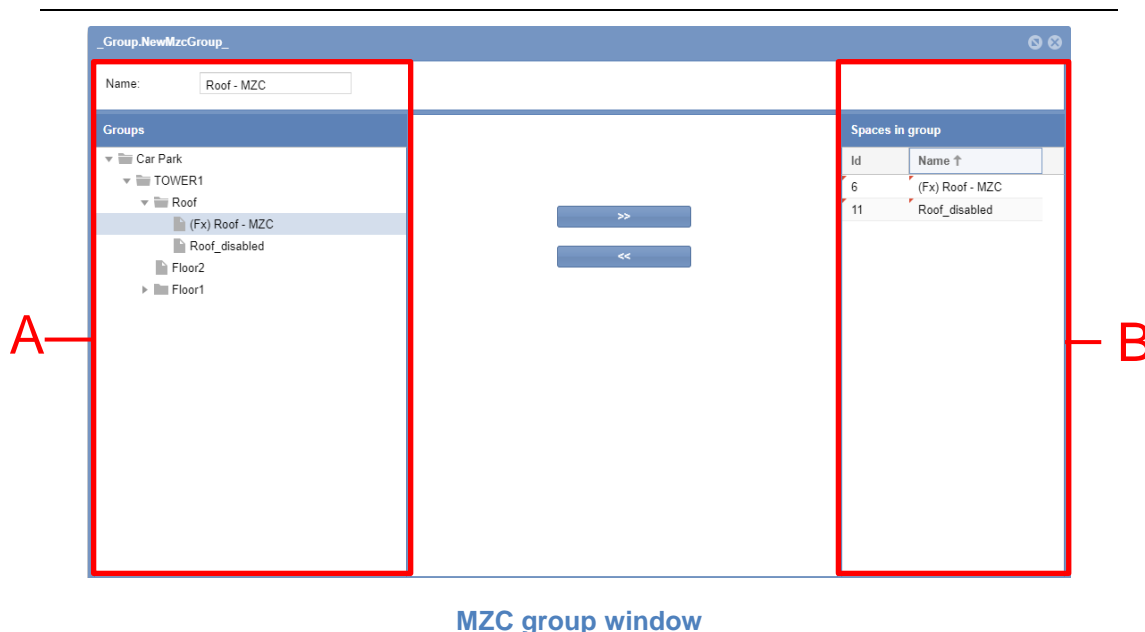
---



## 13.4 User interface

### 13.4.1 Master Zone Counter (MZC) group

The **MZC group** window appears by clicking on the  **Create MZC group** button from the **Group settings** command bar:



The window includes 2 main areas:

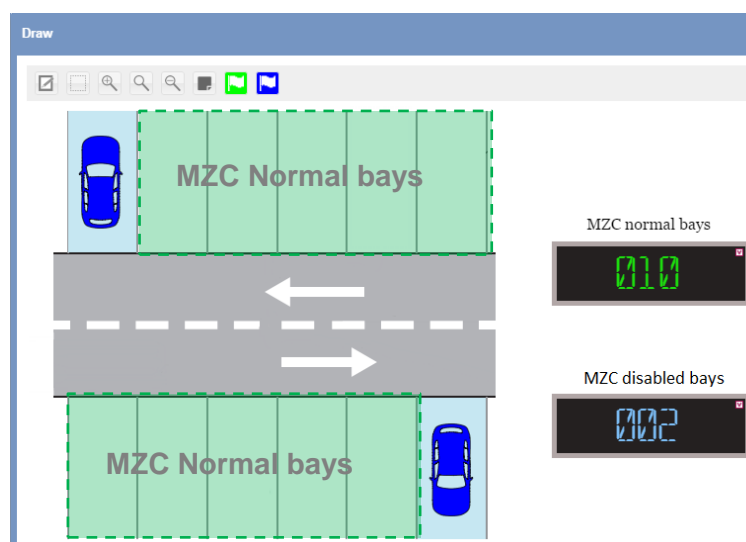
Area	Description
<b>A</b>	<p><b>Groups</b> This section shows the available MZC groups</p> <p><i>Note: The Master zone counter (MZC) functions have to be created by the SBP Tool. See the SBP Tool Car Park Manual</i></p>
<b>B</b>	<p><b>Spaces in group</b> Shows the groups merged together to make the <b>MZC group</b></p>

## 13.5 Things to know

### 13.5.1 Operating principles of the MZC group

The MZC functions represent the status of a Car Park area monitoring the entrance and exit points by counter sensors (DPO). The Master Zone Counter can work as a stand-alone zone count system or in a mixed solution together with the Car Park single spot detection system (lane sensors).

The picture below shows an MZC Area with a total of 12 bays: 10 bays are standard and 2 bays are equipped with lane sensors. *Note: The MZC bay icons are not available*



Example – a drawing window

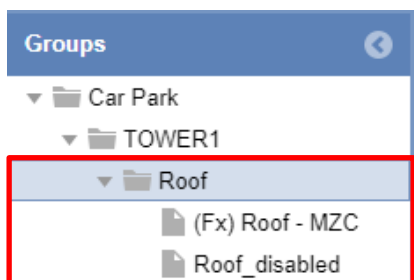
The MZC functions must be created in the SBP Tool, please refer to the SBP Tool; The CPY webserver is in charge of the following operations:

- MZC function is combined with a lane sensor group
- The MZC value can be Reset / Set manually or scheduled by an action
- Union of two MZC groups

The CPY web server offers the functionality to manage the split between standard bays (e.g. **Normal** bays) and reserved bays (e.g. **Disabled** bays). The reserved bays are implemented as a single space system where each bay is equipped with a Car Park lane sensor, the total number of standard bays in a Car Park Area is managed by MZC function from the SBP Tool.

### 13.5.1.1 Example of an MZC area with lane sensors bays inside.

As illustrated in the figure above, a *Master Zone Counter Area* has a total number of 12 parking lots where 10 bays are standard and 2 bays are equipped by lane sensors.



In the figure shown on the left, the groups involved in MZC are represented in the CPY as follows:

**(Fx) Roof MZC** is the *MZC function* defined in the SBP Tool for standard bays

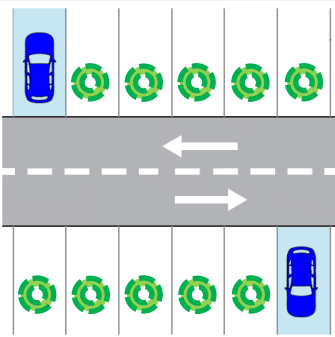
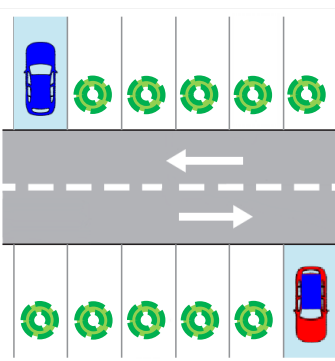
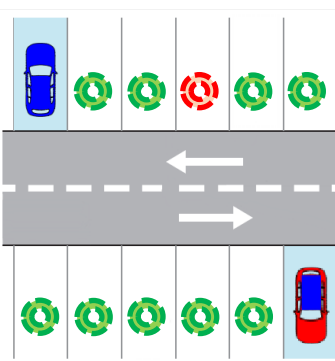
**Roof\_disabled** is a virtual group created in the CPY that defines the lane sensor bays for reserved bays

All 12 bays are counted by the MZC function but the status of 2 Disabled bays are managed by the lane sensor. In order to perform the right counts, you can create a new virtual group as a union of two groups. the two groups above must be combined by means of a *MZC group* functionality, otherwise the system counts 14 bays instead of 12 bays.

The precise reserved bay availability information being achieved is calculated by the MZC Group as:

$$MZC \text{ vacant bays} = MZC \text{ function value} - Lane \text{ sensor bays}$$

The table below shows an *events example*

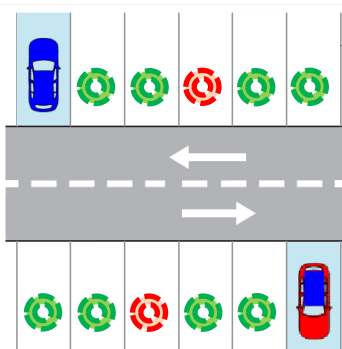
Event	MZC Occupied bays (Normal + Disabled)	Disabled Occupied/Total	MZC Normal bays Occupied/Total
The MZC area has no cars	0/12	0/2	0/10
			
A car enters in the MZC area and parks in a bay reserved for <b>Disabled</b> category	1/12	1/2	0/10
			
A second car enters in the MZC area and parks in a <b>Normal</b> bay	2/12	1/2	1/10
			

A third car enters in the MZC zone and parks in a **Normal** bay

3/12

1/2

2/10

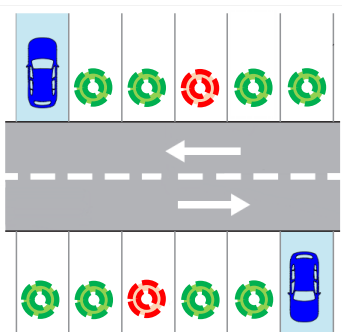


The car parked in the **Disabled** bay leaves the area, the MZC value is still the same.

2/12

0/2

2/10

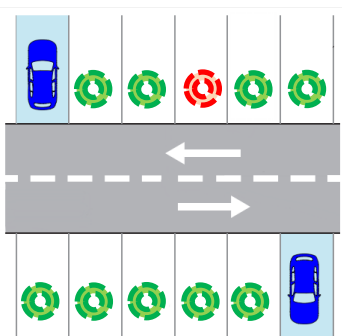



A car parked in a **Normal** bay leaves the area, the MZC value will be updated

1/12

0/2

1/10





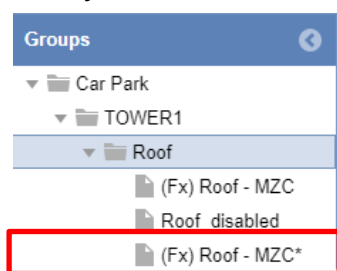
*Note: the MZC bays have not got any available icon that can be used in a Drawings. In the example above it is used this  symbol for a better understanding.*

## 13.6 Procedures

### 13.6.1 Create an MZC group (Union of an MZC function and a lane sensor group)


To create an *MZC group*, combining an MZC function and a lane sensors virtual group, the result is a new virtual group that is the union of the two groups, follow this procedure:

Step	Action
1	Click on <b>Groups settings</b> from the <b>Settings</b> menu
2	Click on  <b>Create MZC group</b> from the command bar; the <b>MZC group window</b> appears
3	In the Groups section of the window, select the MZC function and the lane sensors group you need to merge into a new MZC group Note: you must select at least one MZC function created in the SBP Tool
4	Click the  button to add the selected groups in the <b>Spaces in group</b> section
5	Repeat steps 3-4 to select any other group to be added to the <b>Spaces in group</b> section
6	Click on the <b>Save</b> button to create the new <i>MZC group</i> , it will be added in the <i>Group settings</i> window. <i>N.B. The new MZC Group is also added in the Groups panel as a new node. A * symbol is added to the ending</i>




## 13.6.2 Edit a group

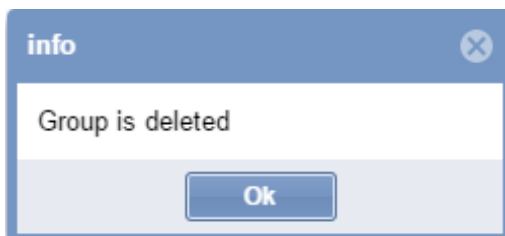
To edit an existing MZC group, follow this procedure:

Step	Action
1	Click on <b>Groups settings</b> from <b>Settings</b> menu
2	Select an <b>existing MZC group</b> from the list
3	Click on  <b>Edit group</b> from command bar: the <b>MZC group</b> window appears with the properties of the selected MZC group
4	Edit the group then click on <b>Save</b> button to store the changes

## 13.6.3 Split an MZC group



To split an existing MZC group, follow this procedure:

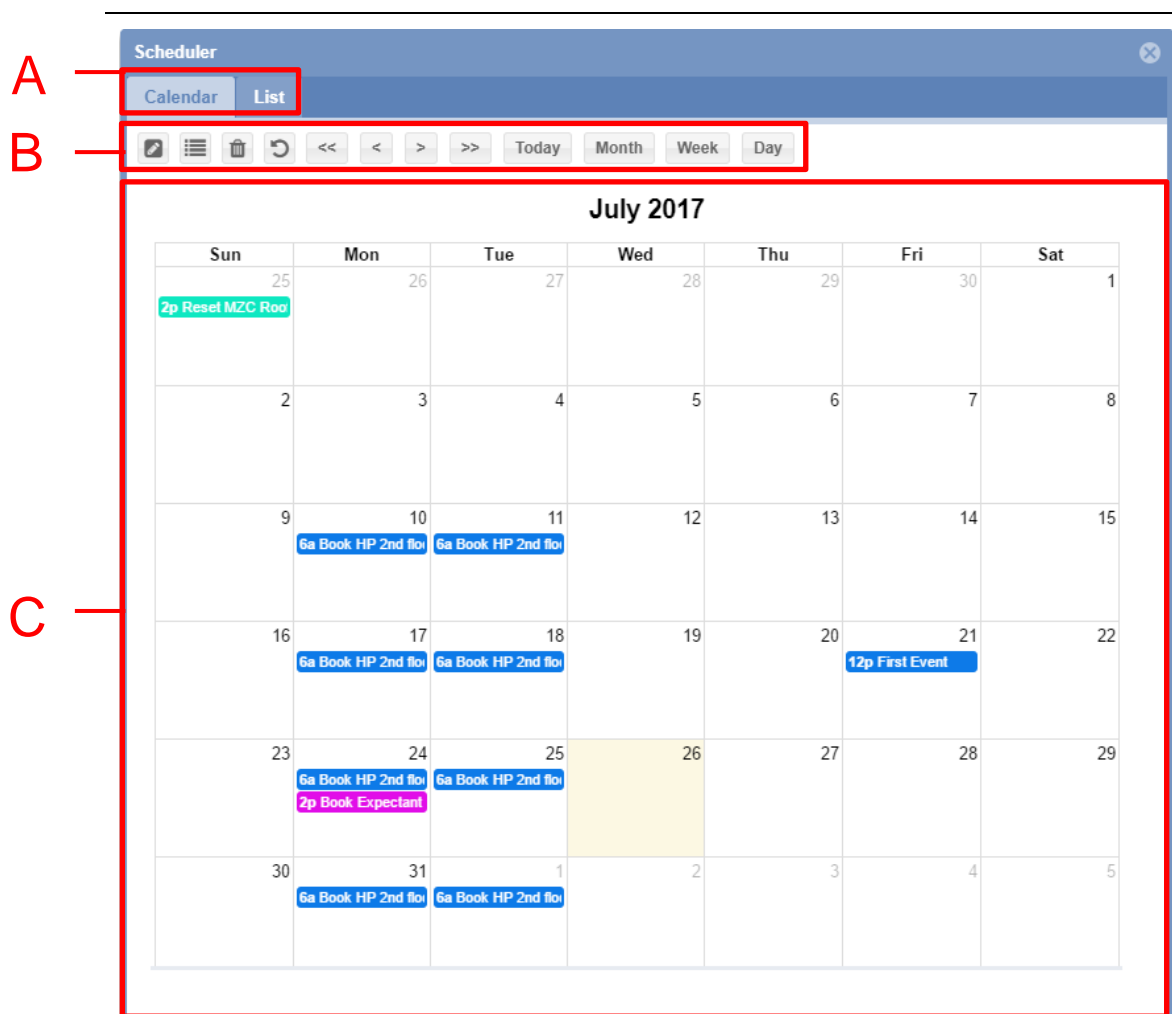
Step	Action
1	Click on <b>Groups settings</b> from <b>Settings</b> menu
2	Select <b>an existing MZC group</b> from the list
3	Click on  <b>Split MZC group</b> from command bar: the selected group will be removed



# 14 SCHEDULER

## 14.1 User interface

If you click on the  **Settings** tab from the command bar, then  **Scheduler**, the following window will appear:



Scheduler window

The **Scheduler** window controls the scheduled events in order to:

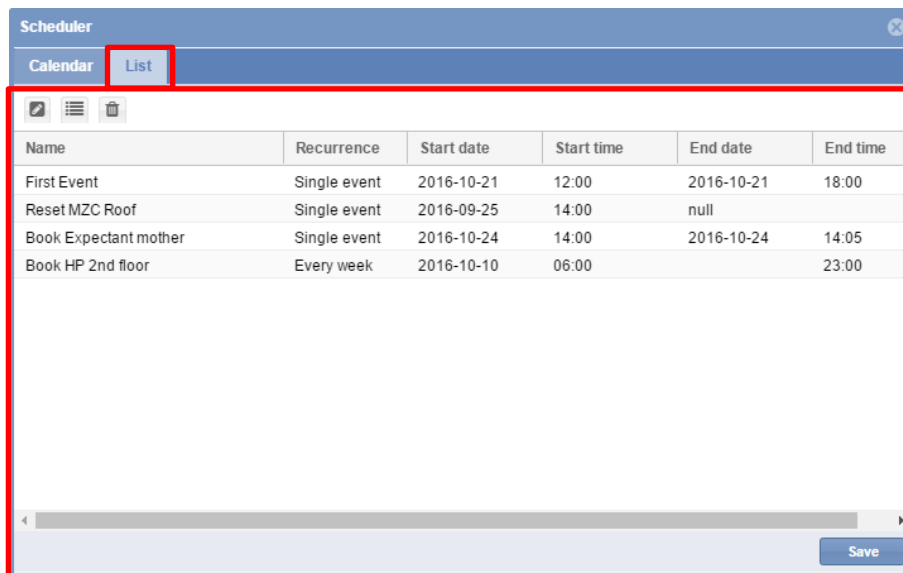
- Set group category (Booking of parking bays)
- Set a value for a MZC group (Reset or Set a specific value)
- Run a **SBP2WEB** sequence
- Send commands to displays



The **Scheduler** window includes these sections:

Section	Description
---------	-------------

- A** Set the Scheduler view:
- **Calendar** (*default view*)
  - **List** displays a timeline for the selected month.












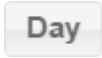


**B** The **Scheduler** toolbar contains the buttons for moving to the previous or next period, changing the view and settings

**C** The **Calendar** View shows the calendar by day, week, month, or as an Event list

## 14.1.1 Scheduler toolbar

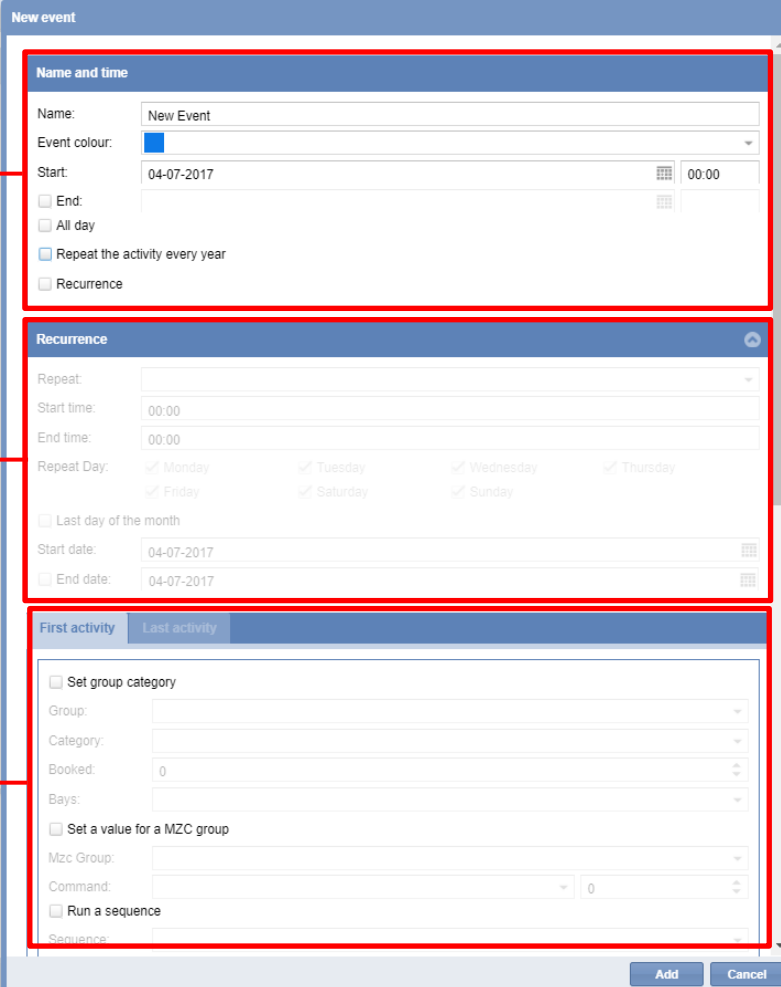
The **Scheduler toolbar** contains the buttons to manage the events and change the view of the calendar. The available tools are as follows:

Command	Action
	Edit event
	Edit series
	Delete event
	The <b>Restore default state</b> button will reload the schedule from the server. If clicked when changes have been made to the schedule, a prompt will appear to confirm whether the user wants to reload the schedule and discard the changes made.
	Moves the current view backwards a year or a week, depending on the view selected
	Moves the current view backwards a month, week or day, depending on the view selected
	Moves the current view forwards a month, week or day, depending on the view selected
	Moves the current view forwards a year or a week, depending on the view selected
	Centres the view on the current date, displaying the day, week or month, depending on the view selected
	Changes view of the Schedule to month
	Changes view of the Schedule to week
	Changes view of the Schedule to day

## 14.2 User interface

### 14.2.1 New/Edit event window

The following window will appear when you create or edit an event:



The screenshot shows the 'New event' window with three sections highlighted by red boxes and labeled A, B, and C:

- A:** The 'Name and time' section, containing fields for Name (New Event), Event colour (blue), Start (04-07-2017), End, All day, Repeat the activity every year, and Recurrence.
- B:** The 'Recurrence' section, containing fields for Repeat, Start time, End time, Repeat Day (Monday through Sunday), Last day of the month, Start date, and End date.
- C:** The 'First activity' section, containing checkboxes for 'Set group category', 'Set a value for a MZC group', and 'Run a sequence', along with fields for Group, Category, Booked, Bays, Mzc Group, and Command.

At the bottom right of the window are 'Add' and 'Cancel' buttons.

**New Event window**

The **New/Edit event** window is divided into 3 parts, as you can create or edit an event to perform one or more actions. A scheduled event can be executed once or it can be recurrent.

### 14.2.1.1 Name and time section

The table below describes the fields of the **name and time** section as follows:

Field	Description
<b>Name</b>	Defines the <b>name</b> of the event
<b>Event colour</b>	Defines the colour of the event
<b>Start</b>	Defines the start <b>date</b> and <b>time</b> for the event <i>Note: This is disabled if a recurring event</i>
<b>End</b>	Defines the end <b>date</b> and <b>time</b> for the event <i>Note: This is disabled if a recurring event</i>
<b>All day</b>	Check if the event should occur all day
<b>Repeat the activity every year</b>	Check if the event should occur every year at the same time and date
<b>Recurrence</b>	Check if you want to make the event recurring

### 14.2.1.2 Recurrence section

The **Recurrence** section is enabled **only** if the Recurrence checkbox above is ticked. The fields are as follows:

Field	Description
<b>Repeat</b>	Defines the frequency with which the event action(s) will be repeated
<b>Start time</b>	Defines the <b>start time</b> for the recurring event action(s)
<b>End time</b>	Defines the <b>end time</b> for the recurring event action(s)
<b>Repeat Day</b>	Defines the <b>days of the week</b> for the recurring event action(s) <i>Note: This is disabled if Every month is selected</i>
<b>Last day of the month</b>	Check if the event should occur every last day of the month <i>Note: This is disabled if Every week is selected</i>
<b>Start date</b>	Defines the <b>start date</b> for the recurring event action(s)
<b>End date</b>	Defines the <b>end date</b> for the recurring event action(s)

### 14.2.1.3 First Activity/Last activity tabs

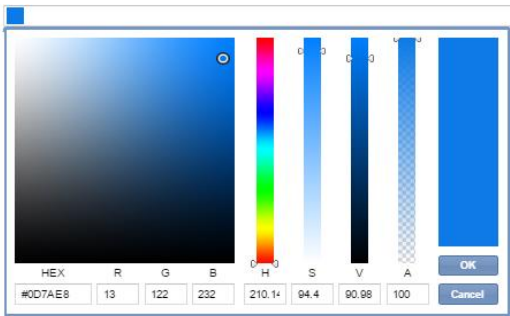
In the **First activity / Last activity** tabs you can define the different actions you want to perform according to the scheduled time and date. See the table below:

Field	Description										
<b>Set group category</b>	Set the group category in which the parking bays will be booked, defined as follows: <table border="1" data-bbox="496 483 1179 797"> <thead> <tr> <th>Field</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Group</td> <td>The group containing the bays that will be booked</td> </tr> <tr> <td>Category</td> <td>The category containing the bays that will be booked</td> </tr> <tr> <td>Booked</td> <td>Number of bays in the group that will be booked</td> </tr> <tr> <td>Bays</td> <td>Select the single bays that will be booked</td> </tr> </tbody> </table>	Field	Description	Group	The group containing the bays that will be booked	Category	The category containing the bays that will be booked	Booked	Number of bays in the group that will be booked	Bays	Select the single bays that will be booked
Field	Description										
Group	The group containing the bays that will be booked										
Category	The category containing the bays that will be booked										
Booked	Number of bays in the group that will be booked										
Bays	Select the single bays that will be booked										
<b>Set a value for a MZC group</b>	Set the value for the Master Zone Counter, defined as follows: <table border="1" data-bbox="496 904 1179 1061"> <thead> <tr> <th>Field</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>MZC group</td> <td>The MZC group that has to be changed</td> </tr> <tr> <td>Command</td> <td>Set the command type, such as <b>Reset</b> or <b>numeric value</b></td> </tr> </tbody> </table>	Field	Description	MZC group	The MZC group that has to be changed	Command	Set the command type, such as <b>Reset</b> or <b>numeric value</b>				
Field	Description										
MZC group	The MZC group that has to be changed										
Command	Set the command type, such as <b>Reset</b> or <b>numeric value</b>										
<b>Run a sequence</b>	Defines the <b>SBP2WEB2 sequence</b> that has to be executed										
<b>Send command to display</b>	Defines the <b>text</b> that has to be displayed: <table border="1" data-bbox="496 1218 1179 1375"> <thead> <tr> <th>Field</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Display</td> <td>The display that will show the text</td> </tr> <tr> <td>Command</td> <td>The text will be shown</td> </tr> </tbody> </table>	Field	Description	Display	The display that will show the text	Command	The text will be shown				
Field	Description										
Display	The display that will show the text										
Command	The text will be shown										

## 14.3 Procedures

### 14.3.1 Create a new event

To create a new scheduled event, follow this procedure:

Step	Action
1	Click on any blank area (e.g. a <b>Day box</b> ) on the calendar grid to create a new event
2	In the <b>Name</b> box, type a description
3	Click on the down arrow ▼ next to the <b>Event colour</b>
4	Select the colour you want from the palette 
5	Select <b>date and time</b> for your event, click the date and time boxes, and select when your event starts and ends <div style="margin-left: 20px;">           Start: <input type="text" value="21-10-2016"/> <input type="text" value="12:00"/>  <input type="checkbox"/> End: <input type="text" value="21-10-2016"/> <input type="text" value="12:00"/>  <input type="checkbox"/> All day  <input checked="" type="checkbox"/> Repeat the activity every year  <input type="checkbox"/> Recurrence         </div>
6	Under the date and time, check the box next to <b>Recurrence</b>
7	Choose how often you want the event to be repeated, and when you want the repeating event to end. See <a href="#">Make an existing event repeated</a> for more details
8	In the <b>Starting action</b> and <b>Ending action</b> tabs set the actions you want to manage with the event (see <a href="#">EVENT PROCEDURES</a> )
9	Click <b>Add</b>
10	When you have finished creating your event, click <b>Save</b> from the <b>Scheduler window</b> to store the changes

## 14.3.2 Make an existing event repeated


To make an event recurring, follow this procedure:

Step	Action						
1	Open the <b>Scheduler</b> window						
2	Click the event you want to be recurring						
3	Under the date and time, check the box next to <b>Recurrence</b> . In the Recurrence section, choose how often you want the event to be repeated, and when you want the repeating event to end.						
4	Choose the drop-down next to the <b>Repeat</b> box to change the recurring event to Every week or Every month: <table border="1" data-bbox="429 725 1366 1144"> <thead> <tr> <th>Frequency</th> <th>Option</th> </tr> </thead> <tbody> <tr> <td><b>Every week</b></td> <td>Select in the <b>Repeat days</b> section the days the event will occur:  <div data-bbox="627 880 1353 958" style="border: 2px solid red; padding: 5px;">           Repeat Day: <input checked="" type="checkbox"/> Monday <input checked="" type="checkbox"/> Tuesday <input checked="" type="checkbox"/> Wednesday <input checked="" type="checkbox"/> Thursday  <input checked="" type="checkbox"/> Friday <input checked="" type="checkbox"/> Saturday <input checked="" type="checkbox"/> Sunday         </div> <i>Note: The day check boxes will only be enabled once Every week has been selected</i> </td> </tr> <tr> <td><b>Every month</b></td> <td>Check the optional parameter Last day of the month to enable</td> </tr> </tbody> </table>	Frequency	Option	<b>Every week</b>	Select in the <b>Repeat days</b> section the days the event will occur: <div data-bbox="627 880 1353 958" style="border: 2px solid red; padding: 5px;">           Repeat Day: <input checked="" type="checkbox"/> Monday <input checked="" type="checkbox"/> Tuesday <input checked="" type="checkbox"/> Wednesday <input checked="" type="checkbox"/> Thursday  <input checked="" type="checkbox"/> Friday <input checked="" type="checkbox"/> Saturday <input checked="" type="checkbox"/> Sunday         </div> <i>Note: The day check boxes will only be enabled once Every week has been selected</i>	<b>Every month</b>	Check the optional parameter Last day of the month to enable
Frequency	Option						
<b>Every week</b>	Select in the <b>Repeat days</b> section the days the event will occur: <div data-bbox="627 880 1353 958" style="border: 2px solid red; padding: 5px;">           Repeat Day: <input checked="" type="checkbox"/> Monday <input checked="" type="checkbox"/> Tuesday <input checked="" type="checkbox"/> Wednesday <input checked="" type="checkbox"/> Thursday  <input checked="" type="checkbox"/> Friday <input checked="" type="checkbox"/> Saturday <input checked="" type="checkbox"/> Sunday         </div> <i>Note: The day check boxes will only be enabled once Every week has been selected</i>						
<b>Every month</b>	Check the optional parameter Last day of the month to enable						
5	Select in the <b>Start time</b> box the time of day the recurring event will start						
6	Select in the <b>End time</b> box the time of day the recurring event will end						
7	Select in <b>Start date</b> the date the recurring event will start						
8	Select in <b>End date</b> the date the recurring event will end <i>Note: The Recurrence will run until it is manually removed from the Scheduler</i>						
9	Click <b>Add</b>						
10	When you have finished editing your event, click <b>Save</b> to store the changes						

### 14.3.3 Make changes to repeating events


Choose which events in the series you want to update, as a single event or the entire series

**To edit only the selected event:** to change the options for one event that is part of a series, follow this procedure:

Step	Action
1	Open the <b>Scheduler</b> window
2	Open the event that you want to change, then click on the  <b>Edit event</b> button
3	In the <b>date and time</b> section, change the options, such as name, time, that you want to change
4	In the <b>Recurrence</b> section, change the recurrence options
5	In the <b>Starting/ending action</b> tabs, change the actions that have to be executed
6	Click on <b>Add</b>
7	When you have finished editing your event, click <b>Save</b> to store the changes

*Note: This event will be updated, but the details for all the other recurring events will stay the same.*

**To edit the entire series:** to change the options for the entire series, follow this procedure:

Step	Action
1	Open the <b>Scheduler</b> window
2	Click one of the elements of the series, then click on the  <b>Edit series</b> button
3	In the <b>date and time</b> section, change the options, such as name, time, that you want to change
4	In the <b>Recurrence</b> section, change the recurrence options
5	In the <b>Starting/ending action</b> tabs, change the actions that have to be executed
6	Click on <b>Add</b>
7	When you have finished editing your event, click <b>Save</b> to store the changes

*Note: All events from the past and the future will be updated.*



## 14.3.4 EVENT PROCEDURES

The scheduled event can be used to execute one or more actions at the **starting date** and/or at the **ending date**.

### 14.3.4.1 Configure an event to book parking bays

In the **Starting action / Ending action** tabs of the **New event** window you can define the action to book parking bays, as follows:

Step	Action
1	Set the date and time for the event (see the <a href="#">Procedures</a> )
2	Check <b>Set group category</b> to enable the booking action
3	Choose the drop-down next to <b>Group</b> to select the node (group) of your Car Park project
4	Choose the drop-down next to <b>Category</b> to select the category of your Car Park project
5	Enter the quantity of bays you want to book in the <b>Booked</b> field
6	Click on <b>Add</b>
7	When you have finished editing your event, click <b>Save</b> to store the changes

### 14.3.4.2 Set a value for MZC group

In the **Starting action / Ending action** tabs of the **New event** window you can define the action to set a value for a Master Zone Counter, as follows:

Step	Action
1	Set the date and time for the event ( <b>Recurrence</b> ) ( <a href="#">see Make an existing event repeated</a> procedure)
2	Check <b>Set a value for a MZC group</b>
3	Choose the drop-down next to <b>MZC Group</b> to select the <a href="#">Master Zone Counter Group</a> of your Car Park project
4	Choose the drop-down next to <b>Command</b> to select <b>Reset</b> or <b>Set a value</b>
5	If the <b>Set a value</b> option is selected, enter the value in the box next to <b>Command</b>
6	Click on <b>Add</b>
7	When you have finished editing your event, click <b>Save</b> to store the changes

#### 14.3.4.3 Run a SBP2WEB sequence

In the **Starting action / Ending action** tabs of the **New event** window you can select which [SB2PWEB sequences](#) will be executed according to the scheduler, as follows:

Step	Action
1	Set the date and time for the event ( <b>Recurrence</b> ) ( <a href="#">see the Procedures</a> )
2	Check <b>Run a sequence</b>
3	In the <b>Sequence</b> field select the sequence to be executed
4	Click on <b>Add</b>
5	When you have finished editing your event, click <b>Save</b> to store the changes


#### 14.3.4.4 Send command to display

In the **Starting action / Ending action** tabs of the **New event** window you can select [which text will be displayed](#) according to the scheduler, as follows:

Step	Action
1	Set the date and time for the event ( <b>Recurrence</b> ) ( <a href="#">see the Procedures</a> )
2	Check <b>Send command to display</b>
3	Choose the drop-down next to <b>Display</b> to select the display of your Car Park project
4	Choose the drop-down next to <b>Command</b> to select the command you want to be shown <i>Note: <b>Special text n</b> refers to the SBPDIS9 display only</i>
5	Click on <b>Add</b>
6	When you have finished editing your event, click <b>Save</b> to store the changes

#### 14.3.4.5 Delete an event

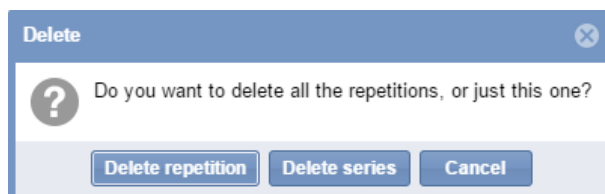
To delete a single event, follow this procedure:

Step	Action
1	Open the <b>Scheduler</b> window
2	Click on the event you want to delete
3	Click 

#### 14.3.4.6 Delete a series (recurring event)

To delete a recurring event, follow this procedure:

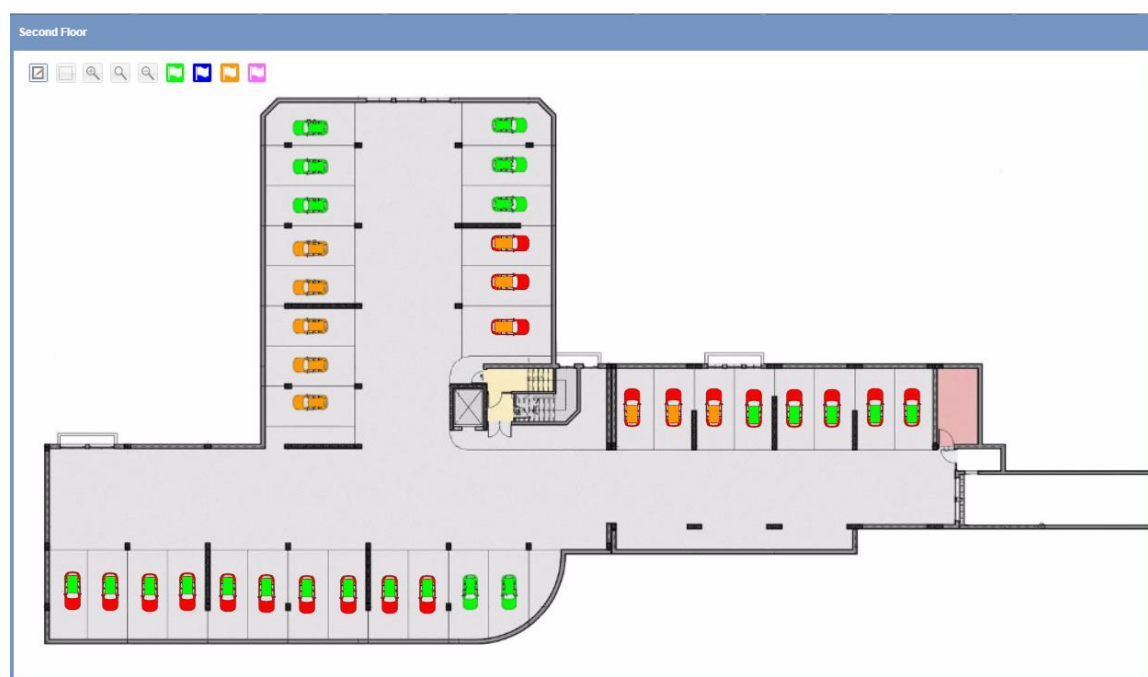
Step	Action
1	Open the <b>Scheduler</b> window
2	Click on an event part of a series: the following window appears:
3	<p><b>Delete repetition:</b> delete this event, but keep all the other future events;</p> <p><b>Delete series:</b> delete this event and all the future events;</p>



# 15 DRAWING

## 15.1 User interface

The **drawings** window gives you a real complete overview of the layout of the Car Park installation and shows the current status of the parking bays included in the drawing.




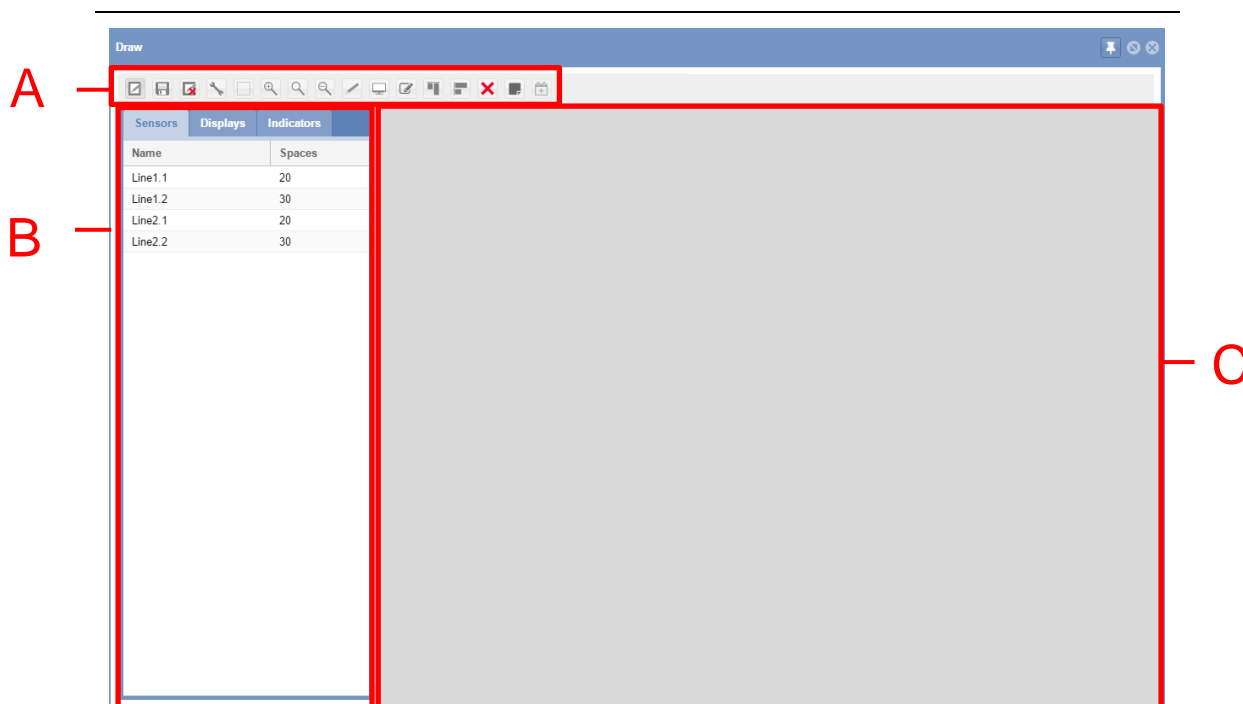
A Drawing window

The image above shows an example of a drawing: each icon (a small car) represents a parking space (in this manual it is referred to as a **bay**). The colouring/pattern of each bay is an indication of the bay sensor's status and its category. These properties can be defined in the [Status/categories setup](#) of this manual. This information tells you what the real-time status of each of them is.

You can create a drawing for each floor of your Car Park project; the different drawings are shown by clicking on the related node (group) on the left panel of the CPY Web Server, or you can define a [Layout](#) in order to display all the drawings at a glance in the dashboard area.

## 15.1.1 Drawing window

If you click on the  **Drawings** tab from the navigation bar, then **Add Drawing**, the following window will appear:


















Drawing window in edit mode

The **Edit Drawing** window includes 3 sections:


Section	Description
A	The <b>Drawing toolbar</b> offers all the tools for Drawing and Category assignment
B	The list shows <b>Sensor</b> and <b>Displays and Indicators</b> tabs available for the selected node (group)
C	The <b>Canvas area</b> includes all the graphical items such as background image, bay icons and displays. The area can be panned (scrolled left/right and up/down) and zoomed

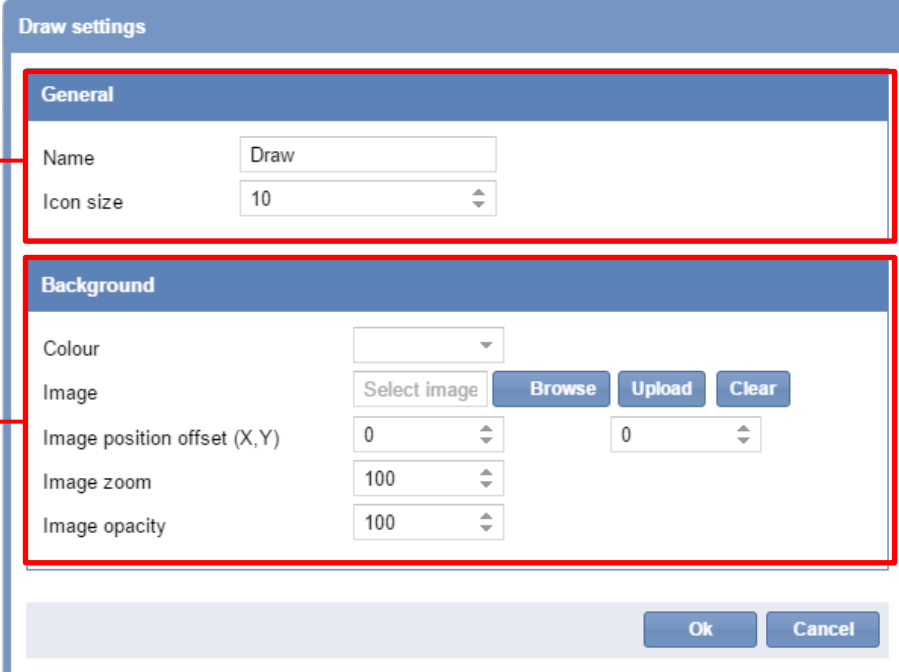
### 15.1.1.1 Drawing toolbar

The **Drawing toolbar** offers several tools for selecting, drawing, or modifying the bay and display properties. The available tools are as follows:

Command	Action
	Edit drawing
	Save drawing
	Delete drawing
	Settings
	Selection (works as a toggle): click to select and click again to deselect. It can be used to activate drag handles
	Zooming
	Assisted Drawing / Free hand drawing Works as a toggle: click to select the <b>Free hand drawing</b> and click again to select <b>Assisted drawing</b> mode
	Display settings
	Edit position for selected bays
	Vertical alignment
	Horizontal alignment
	Delete
	Works as a toggle: show/hide <b>lane, line, position</b> information for each bay
	Shows the bays that belong to an Indicator
	Quick booking activity for selected bays

### 15.1.1.2 Draw settings

The **Settings** are accessed by clicking the  button in the **Drawing toolbar**:



In this dialog, you can configure the drawing's name, the size of the bay icons in the drawing and decide how the drawing's background image is displayed. When a field is updated, the changes can immediately be seen on the drawing. The dialog has the following fields:

Section	Field description
<b>A</b>	<b>Name</b> Can be used to modify the name of the drawing
	<b>Icon size</b> Sets the size of the bay icon representing parking bay sensors. The number represents the length in pixels. This option is useful when making your bay icons match the scale of your background image
<b>B</b>	<b>Colour</b> Shows a colour-picker dialog that selects the colour that will be seen behind the background image
	<b>Image</b> Upload a background image

---

### Image position offset (X, Y)

*First field:* this field contains the horizontal offset of the background image. The offset is measured in pixels. The higher the offset, the further the image moves to the right

*Second field:* this field contains the vertical offset of the background image. The offset is measured in pixels. The higher the offset, the further the image moves down

---

### Image zoom

This field scales the background image size up or down, depending on whether the number entered is above or below 100. The number in the field represents the percentage of the image's original size that you want it to be scaled to

---

### Image opacity


This sets the opacity of the background image. It is possible to set an opacity between 0% and 100%. The lower the opacity, the more transparent the background image will become and the more the selected Colour will be seen

---

## 15.2 Procedures

### 15.2.1 Upload a background image

You can put a background image in your drawing window. This is not interactive but serves to put the bay icons location in perspective. Follow this procedure:


Step	Action
1	Click on  <b>Draw settings</b> from the Drawing menu <i>Note: this is accessible only in Edit mode</i>
2	In the <b>Image</b> section, click the <b>Browse</b> button: a standard Windows browse interface will appear
3	Locate and highlight the background image from your computer <i>Note: The supported file formats are JPG, PNG and GIF</i>
4	Click on <b>Open</b> , then on the <b>Upload</b> button
5	The background image will also be uploaded onto the canvas area

---



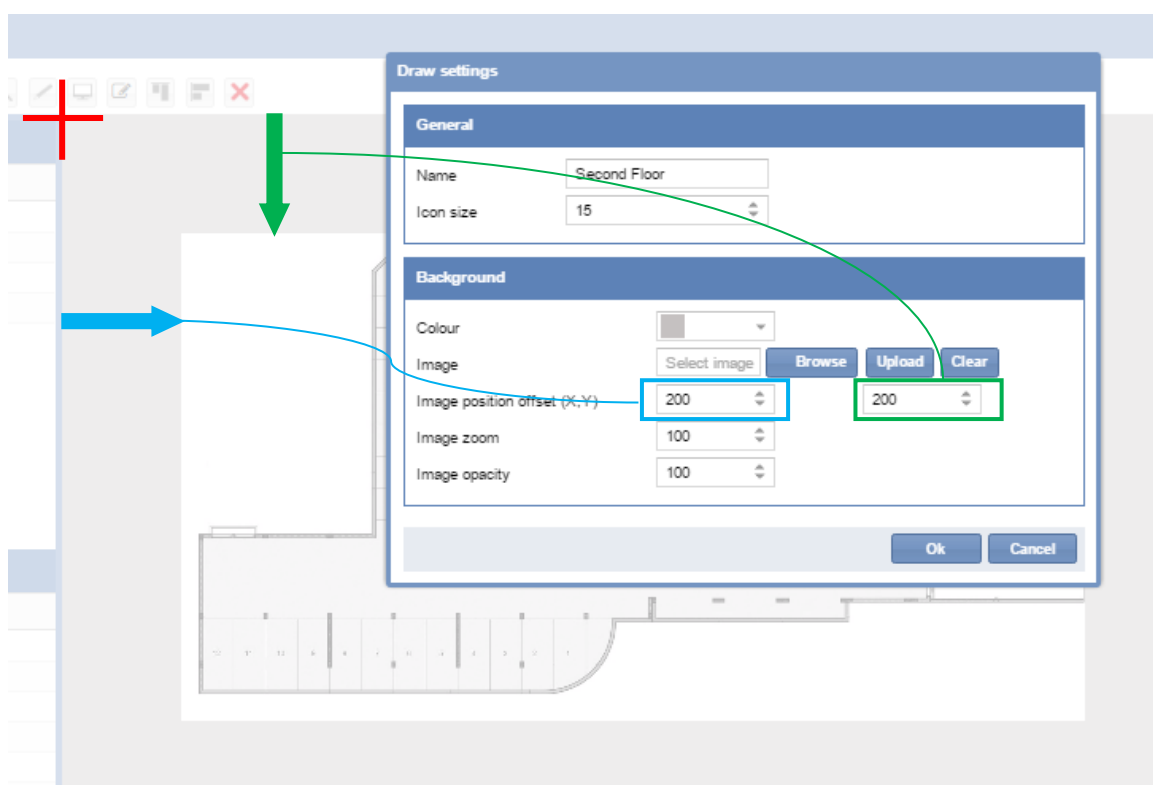
## 15.2.2 Delete a background image

To delete a background image that has been uploaded in a drawing, follow this procedure:

Step	Action
1	Click on  <b>Draw settings</b> from the Drawing menu <i>Note: this is accessible only in Edit mode</i>
2	In the <b>Image</b> section, click the <b>Clear</b> button: The drawing's current background image will be deleted

## 15.2.3 Apply an offset Image position

Follow this procedure to apply an offset to the background image:

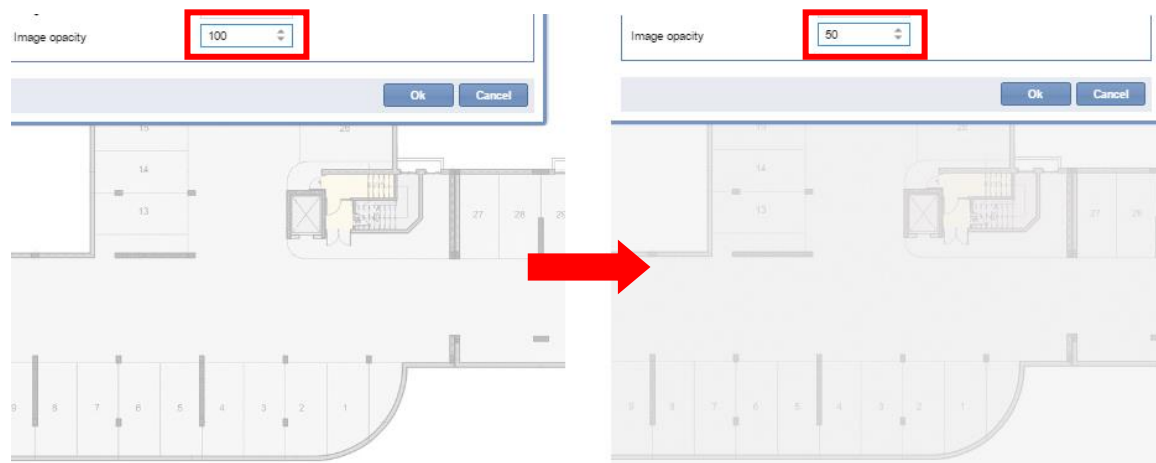


The changes made are not permanent until the **OK** button is pressed. If you are not satisfied with the changes, simply press **Cancel** and the changes will be reversed after closing the drawing.

## 15.2.4 Manage the image opacity

The opacity property specifies the **transparency** of the background image. This property can take a value from 0 (%) to 100(%). The lower the value, the more transparent the image is.


The picture below shows the original background image (100%) and the opacity set to 50%



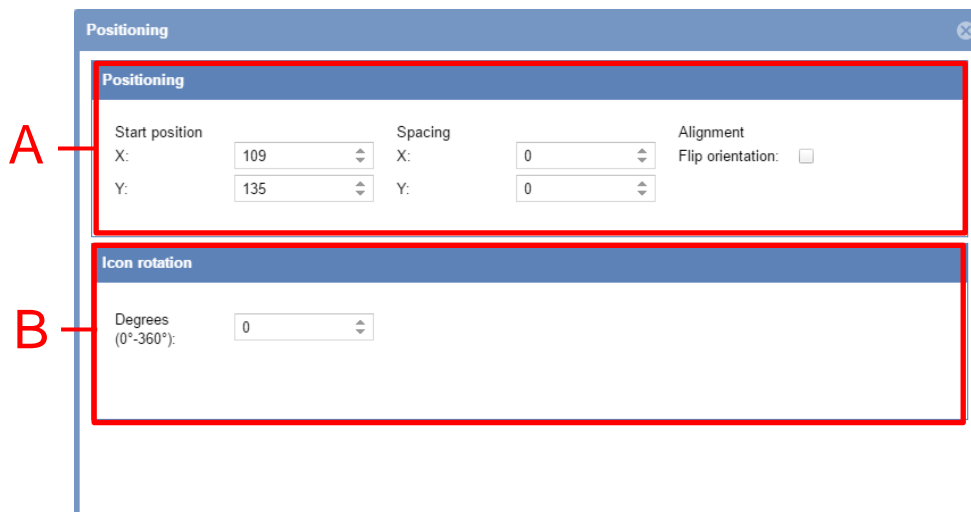
The changes made are not permanent until the **OK** button is pressed. If you are not satisfied with the changes, simply press **Cancel** and the changes will be reversed after closing the drawing.

## 15.3 User interface

### 15.3.1 Positioning

You can open the **Positioning** dialog by clicking on  in the **Drawing toolbar**.

This dialog is used to define the placement of the sensors relative to each other, as well as to the rest of the drawing. Adjustments made here can instantly be seen on the drawing. The dialog has the following sections:



The dialog has the following fields:

Section	Field description												
<b>A</b>	<p>The <b>Start position</b> defines the collection of the positions of the bays icons on the drawing. The initial values are the positions where the bay icons were placed</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td><b>X</b></td> <td>The horizontal offset of the collection. The greater the number, the further left on the drawing the collection is moved</td> </tr> <tr> <td><b>Y</b></td> <td>The vertical offset of the collection. The greater the number, the further down on the drawing the collection is moved</td> </tr> </tbody> </table> <p>The <b>Spacing</b> arrows increase/decrease the space between the bay icons on their respective axes.</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td><b>X</b></td> <td>Arrows increase/decrease spacing between sensors on the horizontal axis.</td> </tr> <tr> <td><b>Y</b></td> <td>Arrows increase/decrease spacing between sensors on the vertical axis</td> </tr> </tbody> </table>	Field	Action	<b>X</b>	The horizontal offset of the collection. The greater the number, the further left on the drawing the collection is moved	<b>Y</b>	The vertical offset of the collection. The greater the number, the further down on the drawing the collection is moved	Field	Action	<b>X</b>	Arrows increase/decrease spacing between sensors on the horizontal axis.	<b>Y</b>	Arrows increase/decrease spacing between sensors on the vertical axis
Field	Action												
<b>X</b>	The horizontal offset of the collection. The greater the number, the further left on the drawing the collection is moved												
<b>Y</b>	The vertical offset of the collection. The greater the number, the further down on the drawing the collection is moved												
Field	Action												
<b>X</b>	Arrows increase/decrease spacing between sensors on the horizontal axis.												
<b>Y</b>	Arrows increase/decrease spacing between sensors on the vertical axis												

The **Alignment Flip orientation** check box: enabling this will swap the number of bay icons spread across the vertical axis with the number of bay icons spread across the horizontal axis.

**B** **Degrees (0° – 360°):** The position of a selected **Sensor line** can be adjusted by angle in degrees

## 15.4 Things to know

### 15.4.1 Selecting spaces

The bay selection can be performed in both **View** mode and **Edit** mode in a Drawing. You are in edit mode when the edit button is pressed on a Drawing, otherwise you are in view mode. The actions available are as follows:

Mode	Actions
<b>View mode</b>	<ul style="list-style-type: none"> <li>• Change categories</li> <li>• Perform selection</li> </ul>
<b>Edit mode</b>	<ul style="list-style-type: none"> <li>• Move bays in the canvas area</li> <li>• Select group of bays to edit spacing</li> <li>• Select group of bays to apply graphical properties</li> </ul>

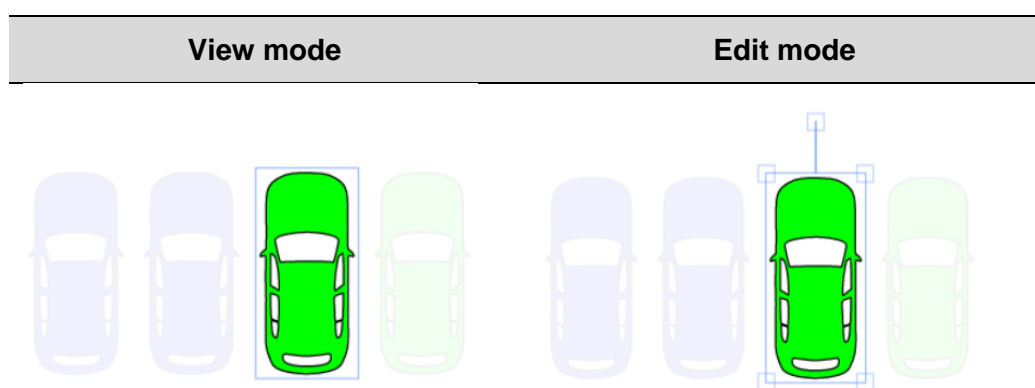
## 15.5 Procedures

Follow the proper procedure to make a selection:

### 15.5.1 Select a single bay

To select a single bay icon, click on it:

You will know a bay icon has been selected when a box appears around it



A light-blue box appears around the selected bay

A light-blue box with the drag point appears around the selected bay

*Note: to deselect the bay, click on a blank part of the drawing*

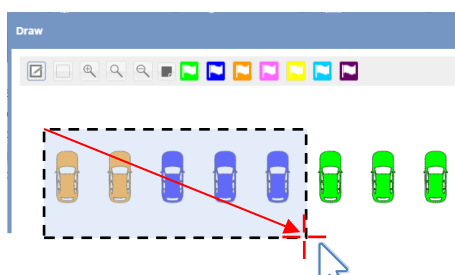
## 15.5.2 Select multiple bays

To select multiple bays, follow this procedure:

Step	Action
1	Select the Drawing with the bay icons you want to select
2	Put the mouse pointer near the first bay icon
3	a. Click and hold your left mouse button on the top left portion of where you want to start highlighting



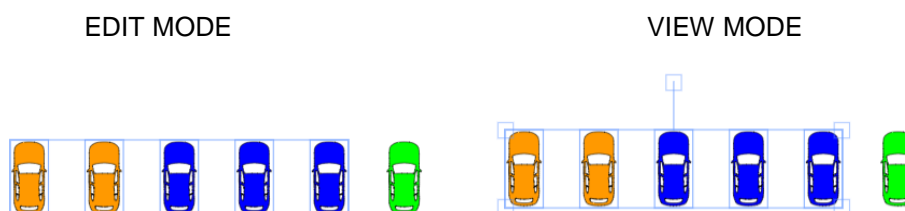
b. Drag the box until the last bay icon has been highlighted



c. Release the left mouse button

4 Once the bay icons have been selected, they can be booked, moved, dragged to another canvas area or deleted

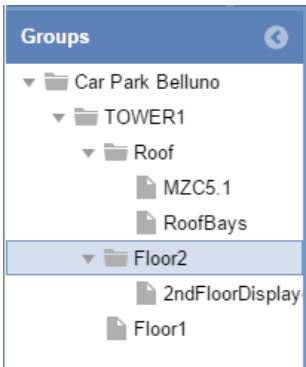

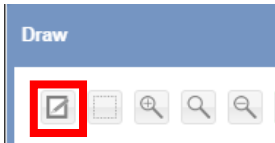
The pictures below shown the selection according to the Drawing **mode**



*Note: to deselect the bay, click on a blank part of the drawing*


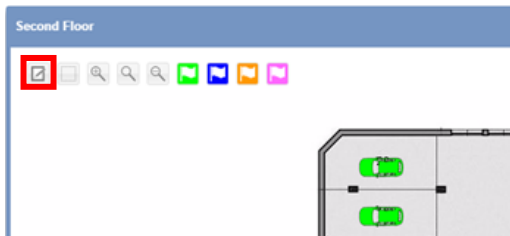
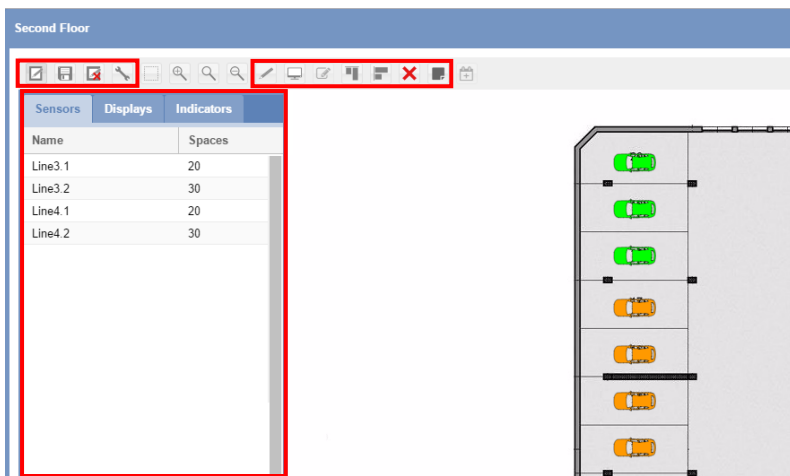

## 15.5.3 Add new drawing

To add a new blank drawing, follow this procedure:

Step	Action
1	<p>Select a group from the Groups panel (see below)</p>  <p><i>Note: you have to select a node (group), otherwise the Drawing window that will be shown will be blank (no Sensor, Displays or Indicators)</i></p>
2	In the <b>Drawings</b> tab, click <b>Add Drawing</b> button to open a <i>new blank drawing</i>
3	<p>Click on the  <b>Edit button</b> from the command bar to enter into <b>Edit mode</b></p> 
4	<p>Click on the <b>Settings</b> button, where the drawing settings will appear: Enter the desired name for the drawing. Follow the procedures in <a href="#">Drawing</a> chapter</p>
5	Click <b>OK</b> to save the changes, or <b>Cancel</b> to exit without saving any changes

## 15.5.4 Edit a Drawing

To access a Drawing in **edit mode**, follow this procedure:

Step	Action																																				
1	<p>Click on the  <b>Edit button</b> from the Drawing toolbar</p> 																																				
2	<p>The extra button will be shown in the Drawing toolbar</p>  <table border="1" data-bbox="400 824 686 1205"> <thead> <tr> <th colspan="2">Sensors</th> <th colspan="2">Displays</th> <th colspan="2">Indicators</th> </tr> <tr> <th>Name</th> <th>Spaces</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Line3.1</td> <td>20</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Line3.2</td> <td>30</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Line4.1</td> <td>20</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Line4.2</td> <td>30</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Sensors		Displays		Indicators		Name	Spaces					Line3.1	20					Line3.2	30					Line4.1	20					Line4.2	30				
Sensors		Displays		Indicators																																	
Name	Spaces																																				
Line3.1	20																																				
Line3.2	30																																				
Line4.1	20																																				
Line4.2	30																																				
3	<p>Click on the  <b>Save</b> button to save the changes.</p> <p><i>Note: the edit button works as a toggle: click to enter into <b>Edit mode</b> and click again to go back to View mode, without saving the changes.</i></p>																																				

## 15.6 Things to know

### 15.6.1 Sensors Line

Before drawing a Sensor line, you have to select the node (group) which includes the sensor line you need to draw. After you have added a new blank drawing, all the sensor lines available for the selected group are shown in the menu on the left.

## 15.7 Procedures

### 15.7.1 Add a line in the drawing

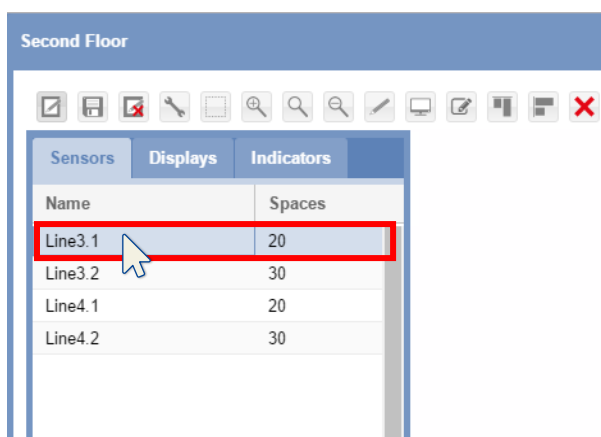
In order to add a sensor LINE onto the canvas, follow this procedure:

**Note: You can drag only one sensor LINE at a time**

Step	Action
------	--------

1 [Add new drawing](#)

2 From the **Sensors** tab in the **left panel**, click on a **Sensor line**

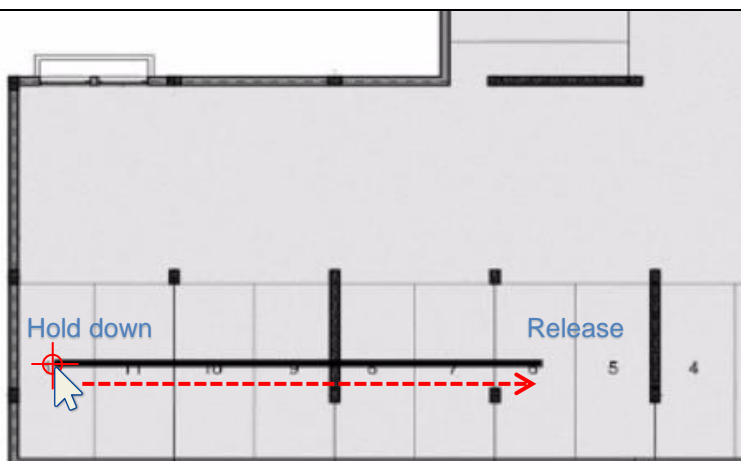


*Note: The selected Sensor line will be highlighted in light blue*

3 Once you have made your selection, position the mouse pointer onto the canvas area of your drawing

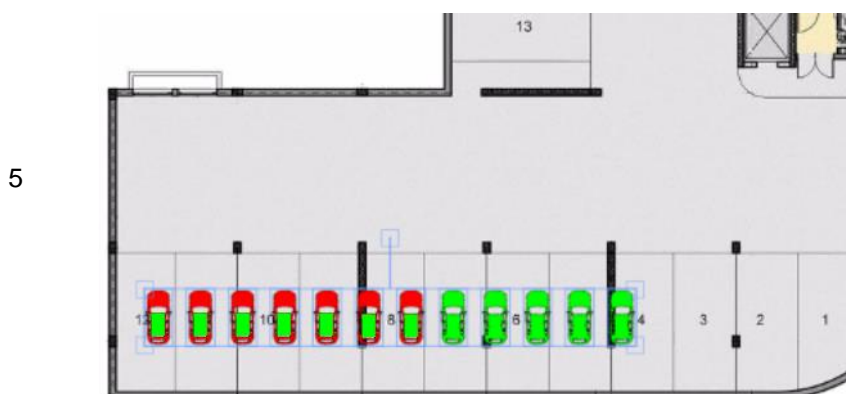
- 4
- a. Hold the left mouse button down on the point where you want to start dragging
  - b. Drag the Sensor Line to the point where you want to finish.







c. Release the left mouse button

The bay sensors will be added: see the picture below




6 The sensors added remain selected: you can **move** them onto the canvas area, adjust the spacing by clicking the  **Edit position for selected spaces** button, or deleted by clicking the  **Delete** button

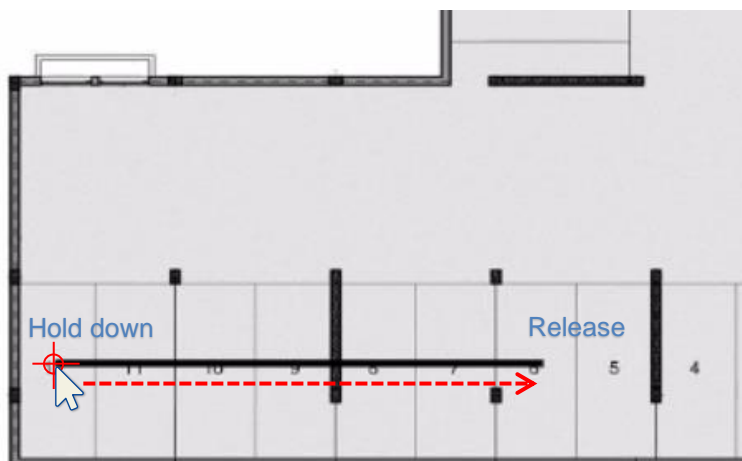
## 15.7.2 Assisted / Freehand drawing

A Sensor line can be dragged in two modes, **Assisted mode** or in **Freehand mode**, as follows:



Step	Action
------	--------

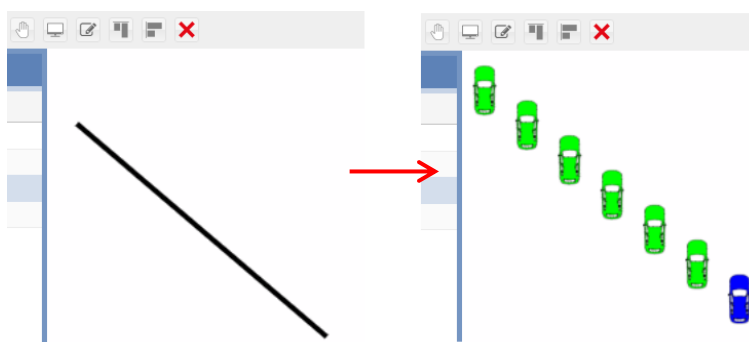
1

By default, the  **Assisted Drawing** option is selected: The **Line** can be dragged vertically or horizontally.



2

By clicking on the  **Assisted Drawing** button, the drawing mode turns into the  **Freehand** drawing mode: you can drag a Sensor Line at any angle





## 15.7.3 Move the bay icons in the drawing

Follow this procedure to move one or more bay icons into the drawing window:

Step	Action
1	In Drawing <b>Edit mode</b> , click on one or more of the bay icons you wish to move
2	Hold the left mouse button down
3	Move the mouse cursor to the desired location
4	Release the left mouse button

## 15.7.4 Alignment operations

If you have several unorganized bay icons you wish to align, you can do so with the  **Vertical alignment** and  **Horizontal alignment** buttons in the **Drawing toolbar**.

### 15.7.4.1 Horizontal alignment

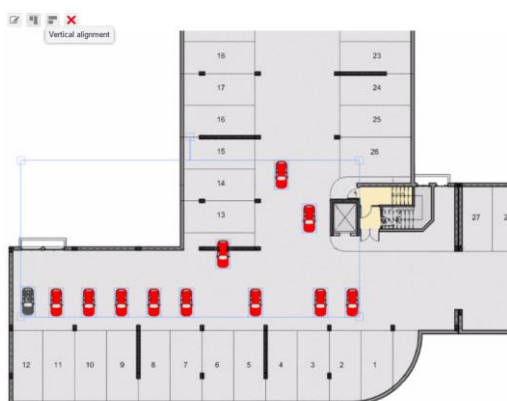
This button will align all the selected bay icons in a horizontal line, as seen below:

Step	Action
------	--------

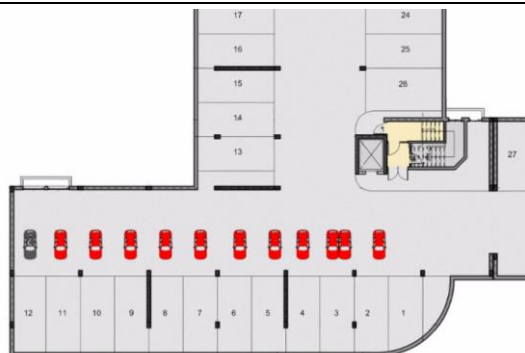
- 1 Select the bay icons



- 2 Click on the  **Horizontal alignment** button



- 3

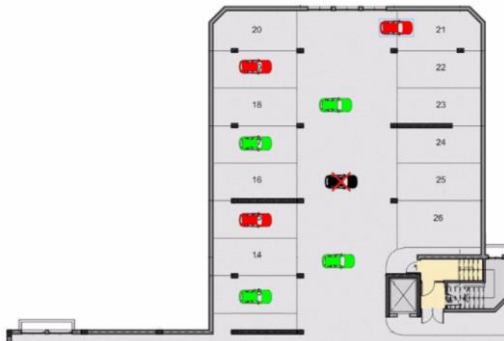


### 15.7.4.2 Vertical alignment

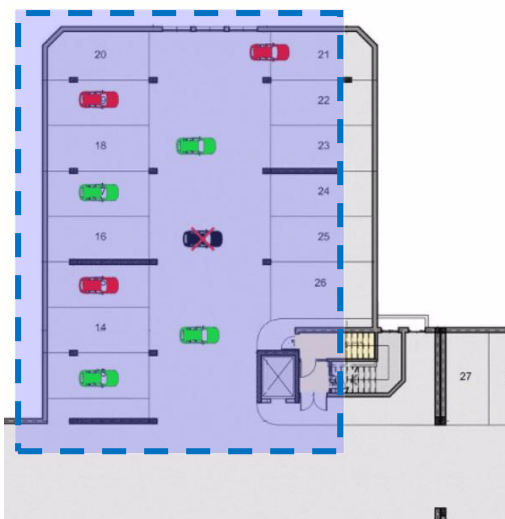
This button will align all the selected bay icons in a vertical line, as seen below:

Step	Action
------	--------

1 

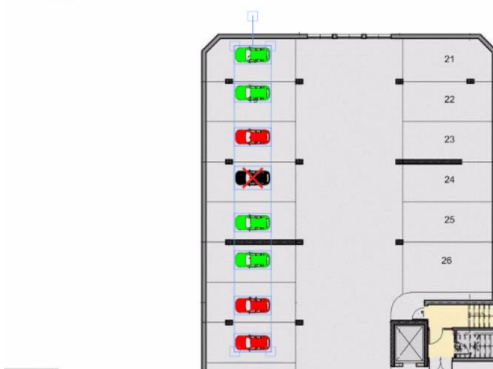


2 Select the bay icons



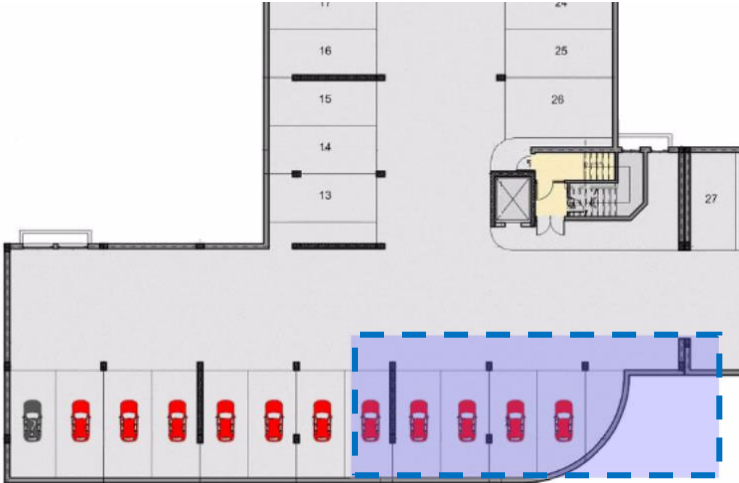

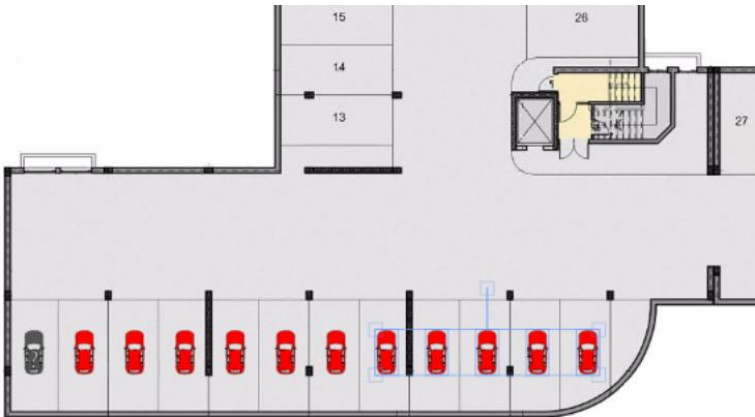
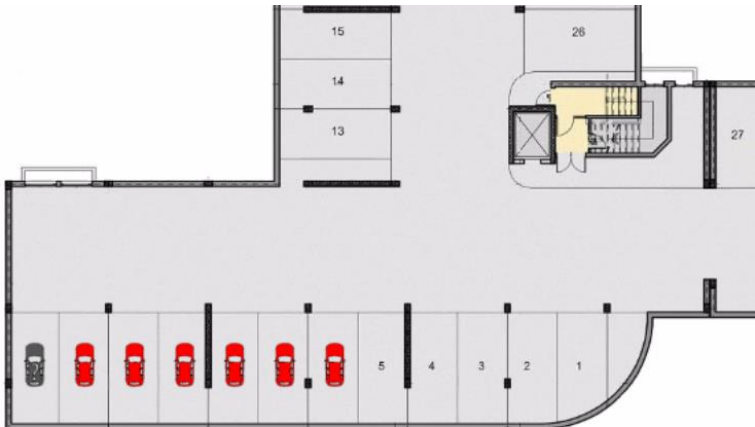
3 Click on the  **Vertical alignment** button






## 15.7.5 Delete a bay

To delete bay icons, follow this procedure:

Step	Action
1	<p>Select the bay icons</p> 
2	<p>Press the  <b>Delete</b> button</p> 
3	<p>Press the <b>Yes</b> button for confirmation</p> 

## 15.7.6 Delete a drawing

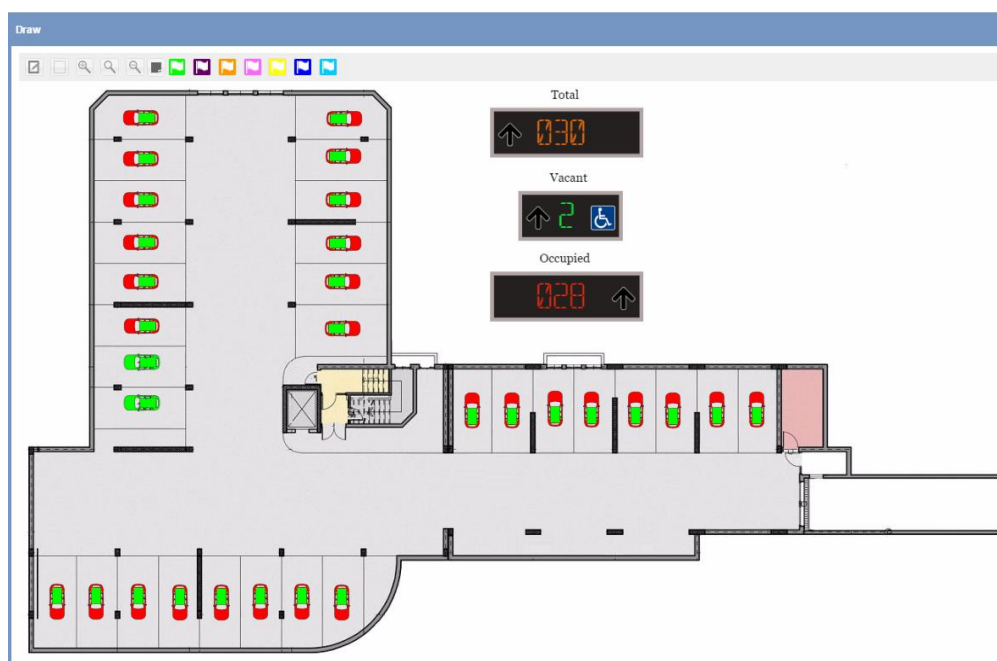
To delete a drawing from the **Drawings** menu and the system as a whole, follow this procedure:

Step	Action
1	Open a <b>Drawing window</b> by clicking on the selected node from the <b>Groups panel</b> on the left side
2	Once you have made your selection, click on the Edit button on the drawing you want to delete in order to show the extra button
3	Click on the  <b>Delete drawing</b> button
4	Click on <b>OK</b> to confirm the operation, otherwise click on <b>Cancel</b> to annul the operation

## 15.8 User interface

### 15.8.1 Displays

The displays can be used to present an overview of the parking lot in real-time. The picture below shows a Drawing window of a Car Park project where three displays are used to present the occupancy status of a floor with **Total** bays, **Vacant** bays and **Total occupied** bays statuses.



Displays on a Drawing window

## 15.9 Things to know

### 15.9.1 Real display and virtual display

The displays that can be added in a Drawing, also called **Software display**, can be of two types:

Type	Description
<b>Real display</b>	A software version of a real display. <i>Note: See the Hardware manual for additional information about Display model and installation instructions.</i>
<b>Virtual display</b>	A Virtual display created by the user

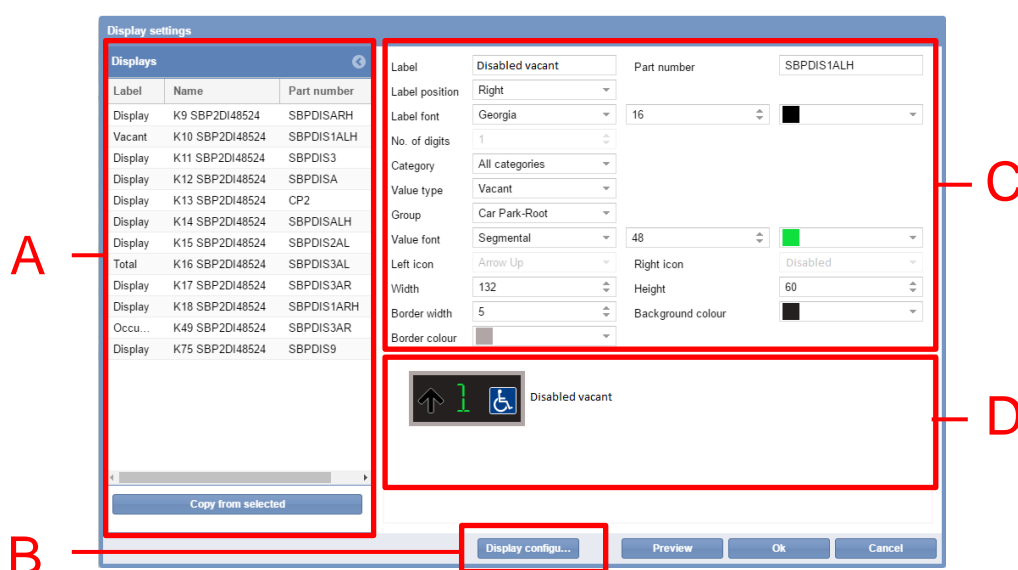
Each **software display** can be configured in terms of:

- **Appearance:** both display types can be proportionally resizable; the label, the colour of digits, etc...
- **Value:** the numeric value can be assigned to the software display, which is updated in real time with the software value. For the **Virtual type**, it has to be linked to a group of sensors and one category

## 15.9.2 Software display settings

By clicking on the  **Display settings** button, the following window appears:

*Note: The Display settings window is accessible only in **Drawing edit mode**.*



Display settings window

The **Display settings** window is defined as follows:

Section	Description
A	The <b>Displays</b> section shows the list of displays available in terms of <b>Real</b> display and <b>Virtual</b> display
B	Display configuration window <i>Note: Only for <b>Real displays</b></i>



**C** The elements list of the **Display settings** window:

Field	Description
<b>Label</b>	Enter text that describes the display: the text will be shown in the position defined in the Label position field
<b>Label position</b>	Defines the position where the text Label will be shown
<b>Label font</b>	Defines the label font, size and colour
<b>No. of digits</b>	No. of digits to display value <i>Note: cannot be changed for real display</i>
<b>Category</b>	Select from the categories defined in the Car Park project
<b>Value type</b>	Choose between the following: <ul style="list-style-type: none"> <li>▪ number of <i>Vacant bays</i></li> <li>▪ number of <i>Occupied bays</i></li> <li>▪ <i>Total number of bays</i></li> </ul>
<b>Group</b>	Select the group to represent the value in the display
<b>Value font</b>	Defines the Value font, size and colour
<b>Left icon</b>	<b>For real displays:</b> shows the real display icon (when available) <b>For virtual displays:</b> shows the available icon you can use for the left side of the display
<b>Right icon</b>	<b>For real displays:</b> shows the real display icon (when available) <b>For virtual displays:</b> shows the available icon you can use for the right side of the display
<b>Width</b>	Defines the width of the software display (in pixels)
<b>Height</b>	Defines the height of the software display (in pixels)
<b>Border width</b>	Specifies width of display border (in pixels)
<b>Background colour</b>	Assigns a background colour to the software display
<b>Border colour</b>	Defines the border colour of the software display

**D** The **preview area** shows a preview simulation of the software display

## 15.9.3 Virtual and Real Displays


A **Virtual display** is fully customizable since all the fields are changeable.

As concerns the software copy of a **Real display**, you can customize the appearance, the group and category of bays have to be shown. However, you cannot change the fields related to the Physical part number, such as those seen in the orange boxes below:

- Part number
- No. of digits
- Left icon
- Right icon


Label	Occupied	Part number	SBPDIS3AR	
Label position	Top			
Label font	Georgia	16		
No. of digits	3			
Category	All categories			
Value type	Occupied			
Group	Car Park-Root			
Value font	Segmental	48		
Left icon	No icon	Right icon	Arrow Up	
Width	196	Height	60	
Border width	5	Background colour		
Border colour				

Occupied



## 15.10 Procedures


The **Displays** tab shows all the Real Displays present in the Car Park project; you can add them to a Drawing as a software copy of the real display.

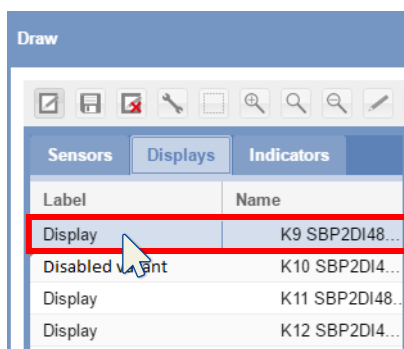
The **Displays** tab also presents Virtual displays that have been created in the Car Park project: The Virtual types are shown with a small  icon in the top-right corner, as shown in the example below:



### 15.10.1 Add a Display from the **Displays** tab

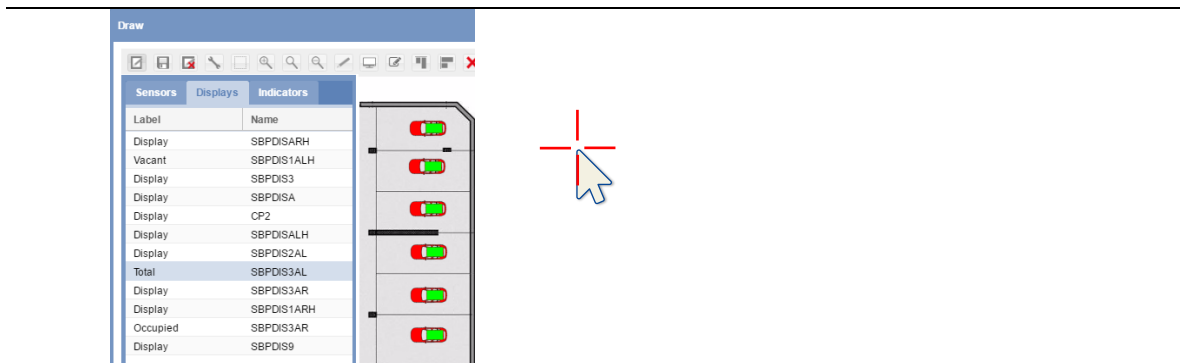
Follow this procedure to add a display in a drawing:

Step	Action
1	Open the <b>Drawing window</b> where you want to add a display
2	Click on  <b>Edit</b> from the Drawing toolbar
3	Click on the <b>Displays</b> tab from the <b>Left Panel</b>
4	From the <b>Displays</b> , click on the text of the selected display

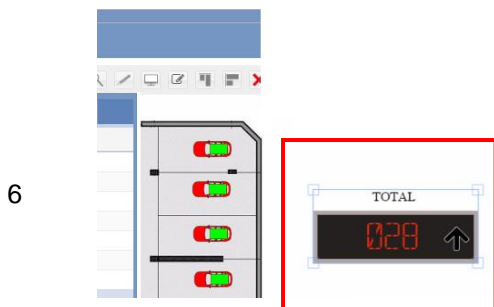


*Note: The selected display will be highlighted in light blue*

5	Click the left mouse button on the area where you want to put the software display element
---	--



The display will be added to the drawing



You can edit the software display by clicking on the **Display configuration** button. See the [Edit a Software display \(associated to a Real Display\)](#) procedure

## 15.10.2 Edit a Software display (associated to a Real Display)

A software display can be edited by clicking on the **Display settings** window from the Drawing toolbar. Follow this procedure:

Step	Action
1	<a href="#">Add a Display from the Displays tab</a>
2	Click the software display with the left mouse button to select it:
3	Click on the <b>Display settings</b> button from the command bar: The Display settings will appear
4	Edit all the fields required (see <a href="#">Software display settings</a> table)

*Note: a light-blue box with the drag point appears around the selected display*

---

*Note: you can click on the **Preview** button to see the appearance*

---

5 Click on the [Display configuration](#) button for additional settings

---

6 Click on the **Save** button to store the changes.

---

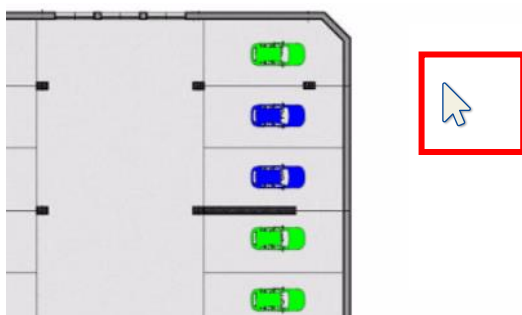
### 15.10.3 Create a new Virtual display

Step	Action
------	--------

1 Open a **Drawing window** in edit mode


---

2 Click with the left mouse button in a blank area of the background where the display will be



*Note: a light-blue box with the drag point appears around the selected display*

---

3 Click on the  **Display settings** button from the command bar: The Display settings will appear

---

Edit all the fields required ([see the table for detailed information](#))

4

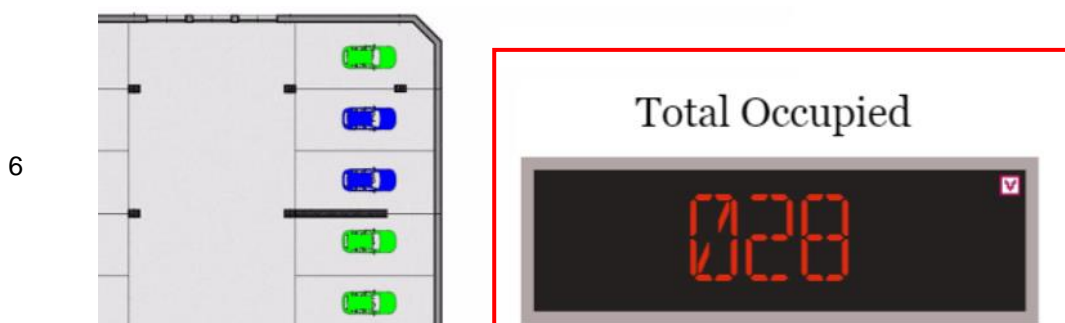
*Note: you can click on the **Preview** button to see the appearance*

---

5 For the Virtual display, the **Display configuration** button is not clickable

---

Click on the **Save** button to store the changes. See the example below:

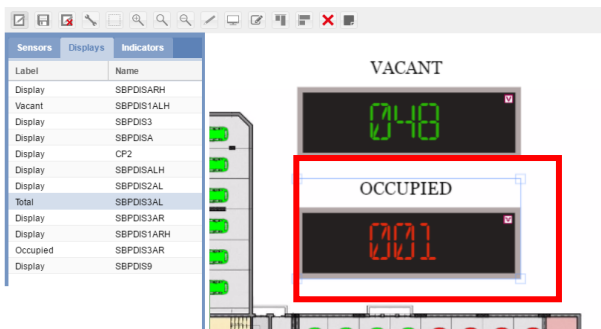


## 15.10.4 Delete a Display

To delete a **display** from the Car Park project, follow this procedure:

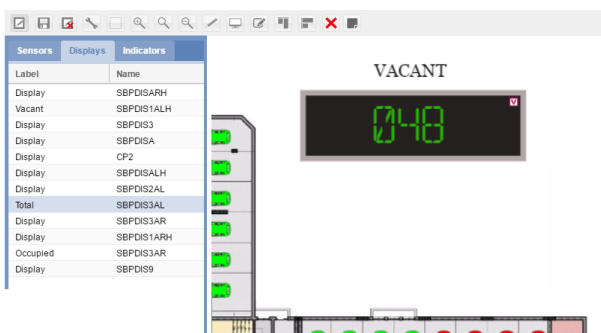
Step	Action
------	--------

- 1 Open Drawing in **edit mode**
- 2 Select the **display** you want to delete



*Note: the display will be highlighted with a light blue rectangle*

- 3 Click on the  **Delete** button and click on  **Save drawing** to delete it from the drawing and the Displays tab.



*Note: if you exit without clicking on Save, the Display will not be deleted*

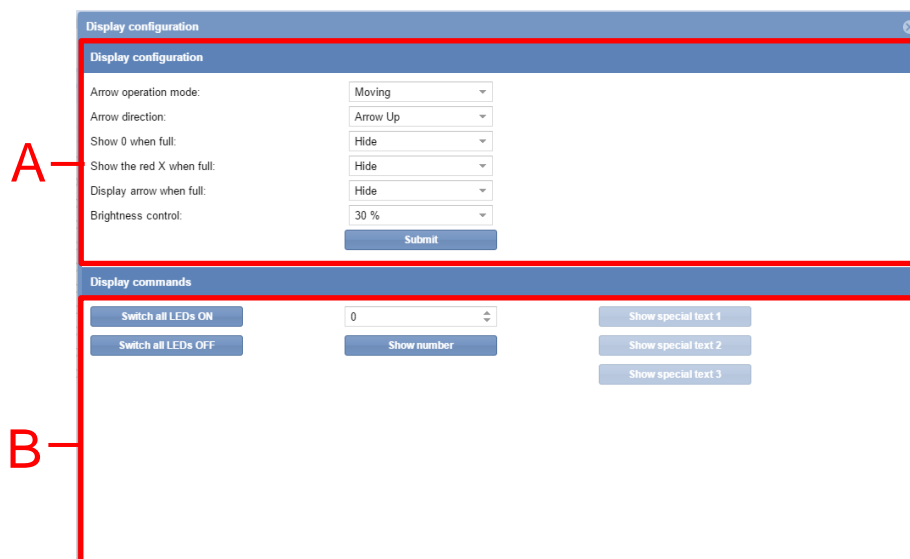
## 15.10.5 Display configuration and commands

### 15.10.5.1 Digits display with left/right icons

The **Display configuration** button opens the real configuration window, in which you can configure the following parameters.

**Note: This window is available ONLY for the Software copy of the Real Display.**

Please refer to the SBP Tool for the protocol for System configuration.



Display configuration window

The **Display configuration** window includes these sections:

Section	Description
A	In the <b>Display configuration</b> section, you can configure the appearance and behaviour of the display elements.
B	In the <b>Display commands</b> section, you can perform system checks.

### 15.10.5.2 Display configuration

The fields are shown according to the Display Part number, as defined as follows:

Field	Description
<b>Arrow operation mode</b>	Defines the arrow condition in operation mode: <ul style="list-style-type: none"> <li>• Static</li> <li>• Moving</li> </ul> <i>Note: this field is available ONLY for display module with arrow</i>
<b>Arrow direction</b>	Defines the arrow orientation (if available) <i>Note: this field is available ONLY for display module with arrow</i>
<b>Show 0 when full</b>	The display shows <b>0</b> in FULL situation (Hide, Show)
<b>Show the red X when full</b>	The display shows <b>red X</b> in FULL situation (Hide, Show)
<b>Display arrow when full</b>	The display shows the arrow in FULL situation (Hide, Show) <i>Note: this field is available ONLY for display module with arrow</i>
<b>Brightness control</b>	The brightness of the real display can be set to: <ul style="list-style-type: none"> <li>• 30%</li> <li>• 50%</li> <li>• 75%</li> <li>• Automatic: the brightness is automatically adjusted according to the internal lux-sensor</li> </ul>

### 15.10.5.3 Display commands

Field	Description
<b>Switch all LEDs ON</b>	Sends special values to switch all the LEDs ON
<b>Switch all LEDs OFF</b>	Sends special values to switch all the LEDs OFF
<b>Show number</b>	Shows the number set in the box above the <b>Show number</b> field



## 15.11 Procedures

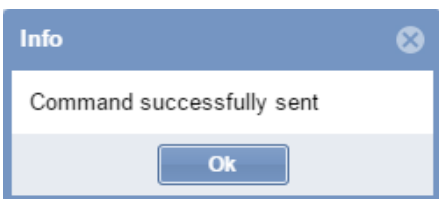
### 15.11.1 Configure digits display with left/right icons

To configure a *digits display* with left/right icons, follow this procedure:

Step	Action
1	Enter Drawing in <b>edit mode</b>
2	Select a <i>digits display</i> module from the <b>Displays</b> tab <i>Note: The selected display will be highlighted in light blue</i>
3	Click on the <b>Display configuration</b> button from the <b>Display settings</b> window
4	Configure the display properties in the Display configuration section
5	Click on the <b>Submit</b> button to save the changes

### 15.11.1 Send command to a display

To send a command to a real display, follow this procedure:

Step	Action
1	Enter Drawing in <b>edit mode</b>
2	Select a display module from the <b>Displays</b> tab, <b>or select it from a Drawing window where it is.</b> <i>Note: The selected display will be highlighted in light blue</i>
3	Click on the <b>Display configuration</b> button from the <b>Display settings</b> window
4	In the <b>Display command</b> section, click on the command you need in order to perform the test. The following message will appear to confirm the command has been sent successfully: 
5	Click on the <b>Submit</b> button to save the changes
6	<i>Note: When a command is sent to a display, a small red dot icon will appear in the Drawing window (see the picture below). It will remain so as long as the command is active</i>

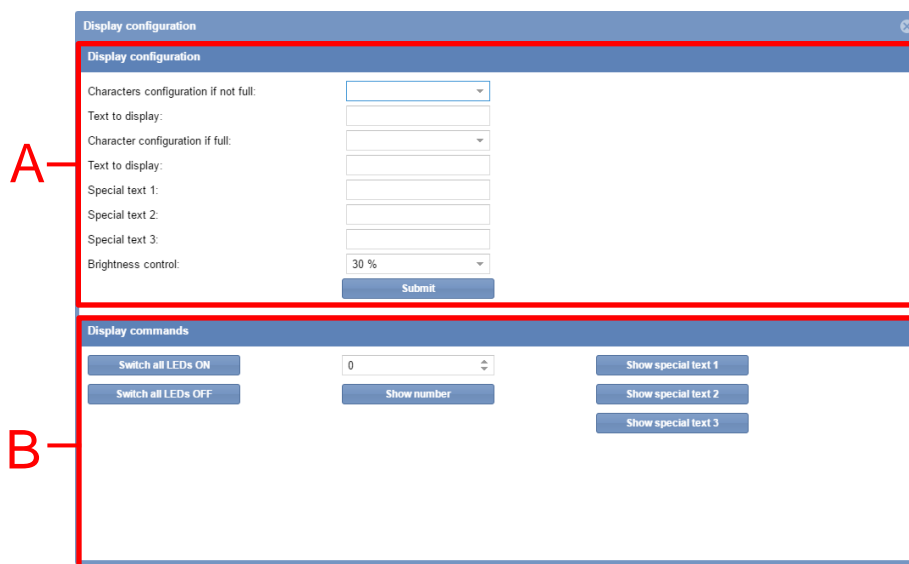


- 
- 7 Click again the command button sent before deactivating: the small red dot icon will disappear
- 

## 15.11.2 Display configuration and commands

### 15.11.2.1 Alphanumeric display with 9 characters (SBPDIS9x module)

By clicking on the Display configuration button, the following window appears:



Display configuration window

The **Display configuration** window includes these sections:

Section	Description
A	In the <b>Display configuration</b> section, you can configure the appearance and behaviour of the display elements. <i>Note: the field changes according to the Display part number</i>
B	In the <b>Display commands</b> section, you can perform system checks. <i>Note: the available button changes according to the Display part number</i>

### 15.11.2.2 Display configuration

Field	Description
<b>Characters configuration if not full</b>	Defines the text to show in <b>not full</b> condition: <ul style="list-style-type: none"> <li>• Text Only, up to 9 characters (AAAAAAAAA)</li> <li>• 6 characters and 3 digits (AAAAAxxx)</li> <li>• 5 characters and 4 digits (AAAAxxxx)</li> <li>• 4 characters and 5 digits (AAAAxxxxx)</li> </ul>
<b>Text to display</b>	Enter the text to display for <b>not full condition</b> (number of characters, number of digits) according to the field above
<b>Characters configuration if full</b>	Defines the text to show in not full condition: <ul style="list-style-type: none"> <li>• Text Only, up to 9 characters (AAAAAAAAA)</li> <li>• 6 characters and 3 digits (AAAAAxxx)</li> <li>• 5 characters and 4 digits (AAAAxxxx)</li> <li>• 4 characters and 5 digits (AAAAxxxxx)</li> </ul>
<b>Text to display</b>	Enter the text to display for <b>full condition</b> (number of characters, number of digits) according to the field above
<b>Special text 1</b>	
<b>Special text 2</b>	Defines the Special text to display: these Special texts can be shown with the Scheduler events
<b>Special text 3</b>	

### 15.11.2.3 Display commands

Field	Description
<b>Show special text 1</b>	Send special values to show the text strings defined in the section above:
<b>Show special text 2</b>	<ul style="list-style-type: none"> <li>• Special text 1</li> <li>• Special text 2</li> </ul>
<b>Show special text 3</b>	<ul style="list-style-type: none"> <li>• Special text 3</li> </ul>

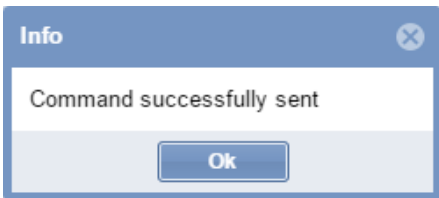
### 15.11.3 Configure alphanumeric display SBPDIS9x

To configure the SBPDIS9 module with 9 alphanumeric digits, follow this procedure:

Step	Action
1	Enter Drawing <b>edit mode</b>
2	Select a <b>SBPDIS9</b> display module from the <b>Displays</b> tab <i>Note: The selected display will be highlighted in light blue</i>
3	Click on the <b>Display configuration</b> button from the <b>Display settings</b> window
4	Configure the display properties in the Display configuration section
5	Click on the <b>Submit</b> button to save the changes

### 15.11.4 Send command to show a special text

To send a command to show a special text, follow this procedure:

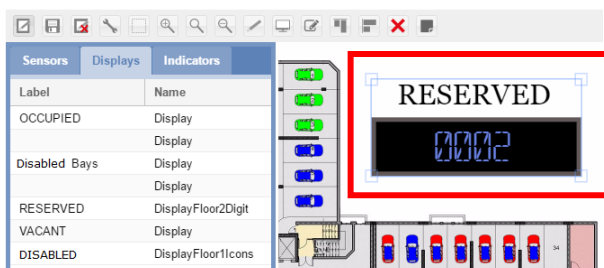
Step	Action
1	Enter Drawing in <b>edit mode</b>
2	Select a display module from the <b>Displays</b> tab, <b>or select it from a Drawing window where it is.</b> <i>Note: The selected display will be highlighted in light blue</i>
3	Click on the <b>Display configuration</b> button from the <b>Display settings</b> window
4	In the <b>Display command</b> section, click on the <b>Show special text</b> field you want to show. The following message will appear to confirm the command has been sent successfully: 
5	Click on the <b>Submit</b> button to save the changes
6	<b>Note:</b> When a command is sent to a display, a small red dot icon will appear in the Drawing window. It will remain so as long as the command is active
7	Click again the command button sent before deactivating: the message will be removed from the display

## 15.11.5 Remove a display from a Drawing



Follow this procedure to remove the software copy of a Real Display from a drawing: the display cannot be deleted by the Displays tab (SBP2CPY project):

Step	Action
------	--------

- 1 Open Drawing in **edit mode**
- 2 Select the **Real display** you want to delete



*Note: the display will be highlighted with a light blue rectangle*

- 3 Click on the  **Delete** button and click on  **Save drawing** to delete.

*Note: you can add it again from the Displays tab as a new software copy*

## 15.12 User interface

### 15.12.1 Indicators

The SBPILED is an 8-colour LED indicator and it is part of the Dupline® 3 Parking Guidance System. It can be mounted outside the parking bays along the driving lane and it is used to indicate the status (e.g. vacant, occupied,) of a group of bays. A dedicated function is available in the SBP Tool in order to define which bays have to be represented by an Indicator.

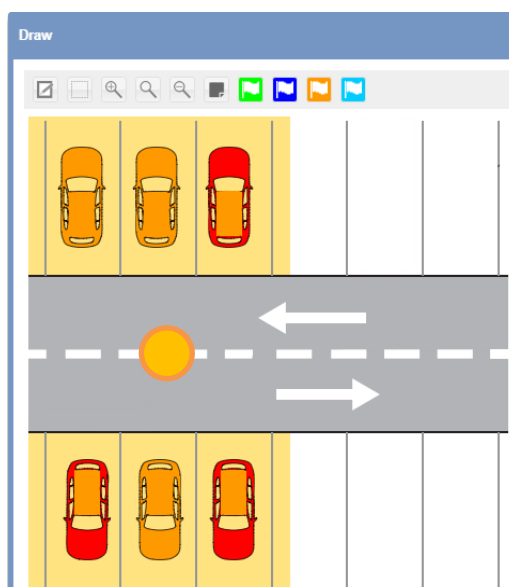
*Please refer to the SBP Tool manual for further details about configuration.*

The following table shows the behaviour of the SBPILED Indicator:

Bays	SBPILED Indicator
At least one bay is vacant	The <b>SBPILED</b> LED is lit up in the default colour of the category of the bays.
All the bays are occupied	The <b>SBPILED</b> LED is lit up in RED (default colour for Occupied status)

## 15.13 Things to know

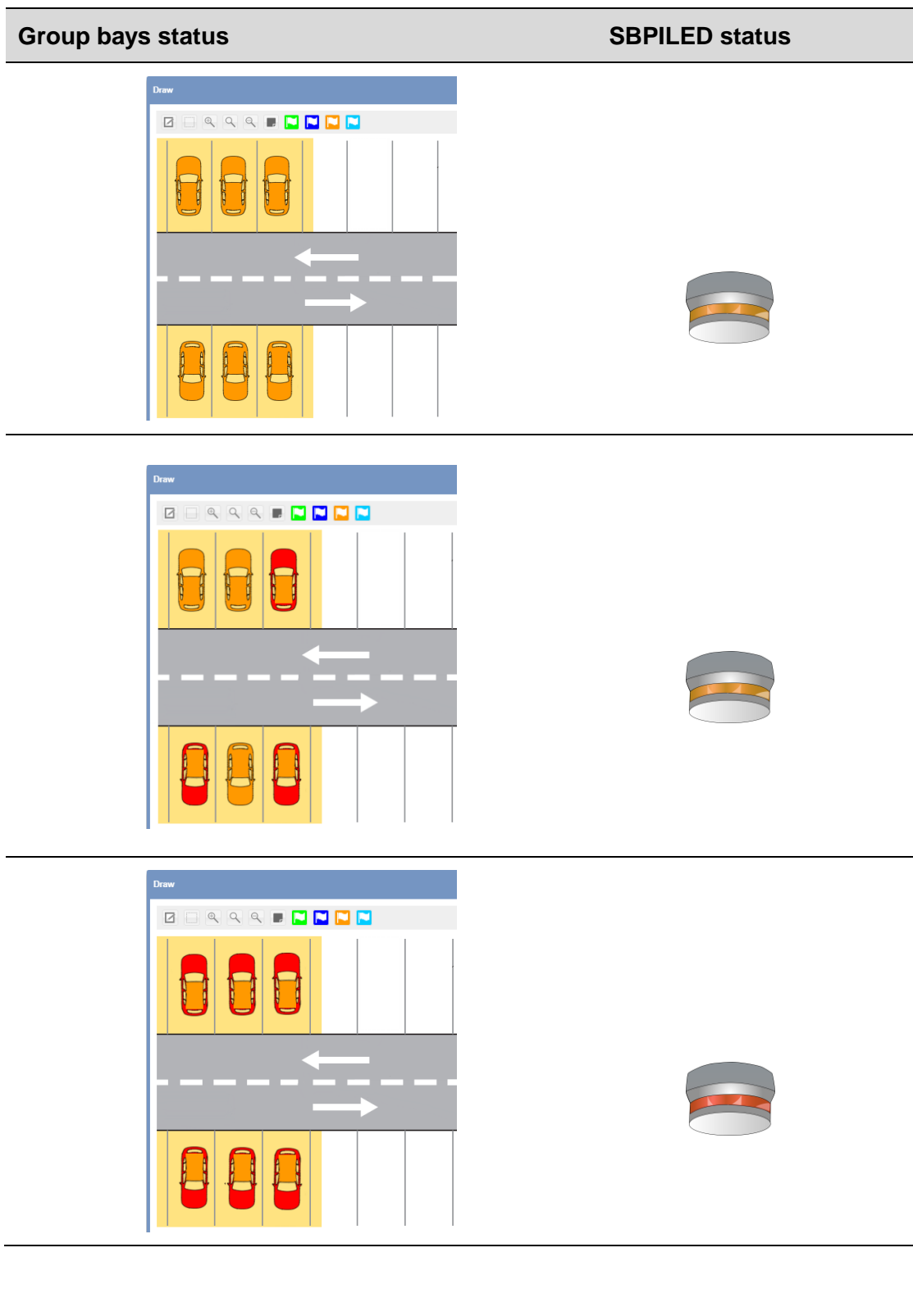
Each bay can be associated to an Indicator means the dedicated function. The picture below shows a Drawing window of a Car Park project where 6 bays are set in the **Reserved** category (orange colour), managed by an Indicator.



**Software Indicator on a Drawing window**

### 15.13.1.1 Example

The example below shows a group of 6 bays set as **Reserved** category. When at least one of the bays is vacant, the SBPILED is lit up in orange (default colour for **Reserved** category).




## 15.14 Procedures

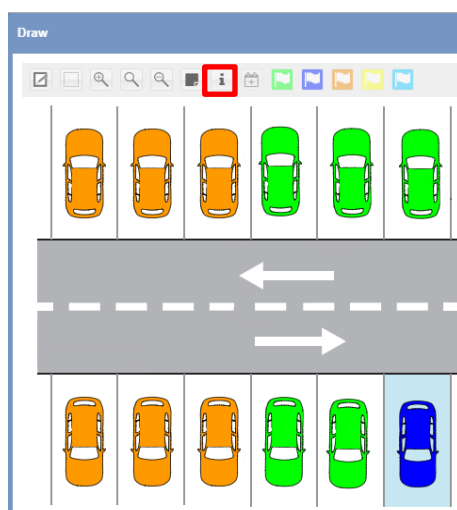
### 15.14.1 Verify which bays belong to an Indicator

Follow this procedure to change the category of the bays associated to an Indicator: the category value is assigned to all the bays which belong to the indicator. In the command bar there is a button to show which bays belong to an Indicator: follow this procedure to check:

Step	Action
------	--------

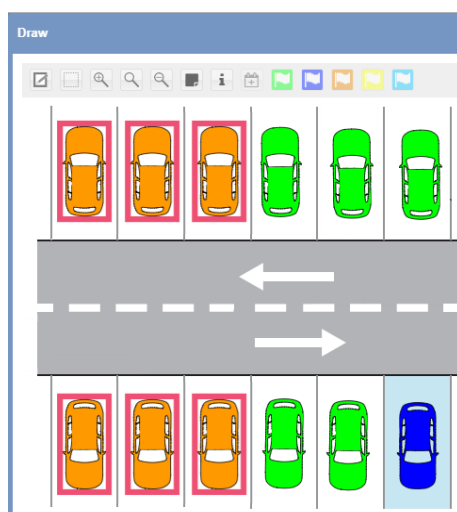
1

Enter Drawing in **edit mode** and Click on the  button from the toolbar:



2

The bays that belong to an indicator are identified by a coloured rectangle box:



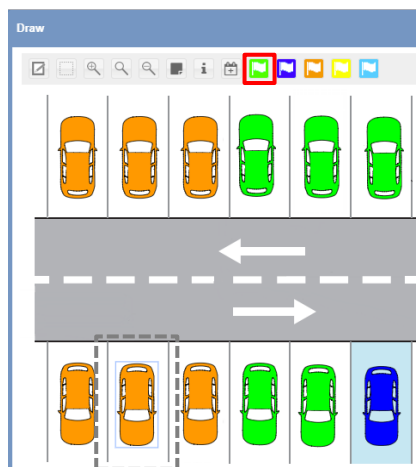
*Note: if several Indicators are present, each group of bays that belong to the same indicator are shown with the same colour*



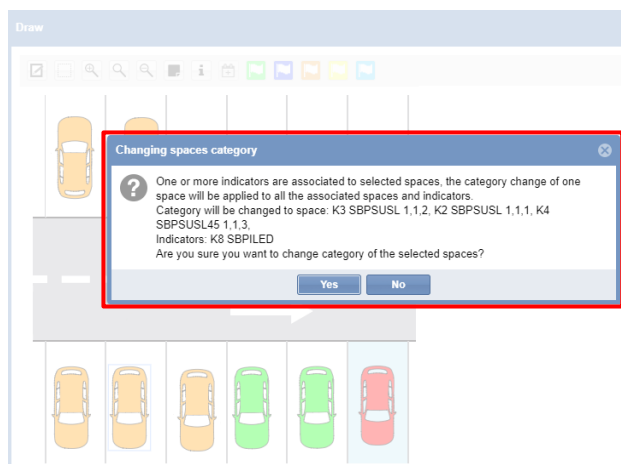
## 15.14.2 Change the category of the bays associated to an Indicator

Follow this procedure to change the category of the bays associated to an Indicator: the category value is assigned to all the bays which belong the indicator:

Step	Action
1	Select a bay that is part of the group Indicator and click on the flag of the desired category (e.g. <b>Normal</b> category):



2	If one or more bays selected are associated to an Indicator, the following message appears:
---	---

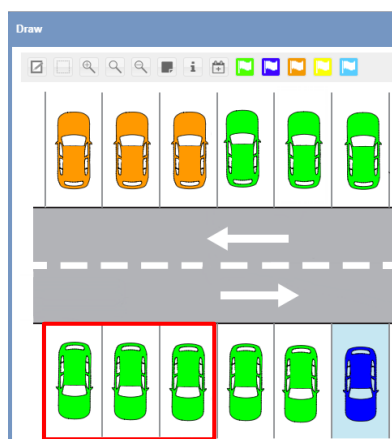


3	Click <b>Yes</b> button to change the category for all the bays
---	---

4	A dialog message shows the detailed operation
---	---

SBP2WEB list					Bays error list
Status	Name	Type	Categ...	Message	Name
●	CP3 Floor1	Indicator	Normal	Command successfully sent	
●	CP3 Floor1	Bay	Normal	Command successfully sent	

- 5 The example below shows the result, the 3 bays shown in the red rectangle are booked as **Normal** category






## 15.15 Operations with the drawings

### 15.15.1 Zooming the drawing



The drawing interface has three zoom options:

Command	Action
	<b>Zoom in</b> Enlarges the drawing
	<b>Zoom to fit</b> Resizes the drawing to fit the current window size
	<b>Zoom out</b> Shrinks the drawing


## 15.15.2 Change the categories (booking and unbooking) bays

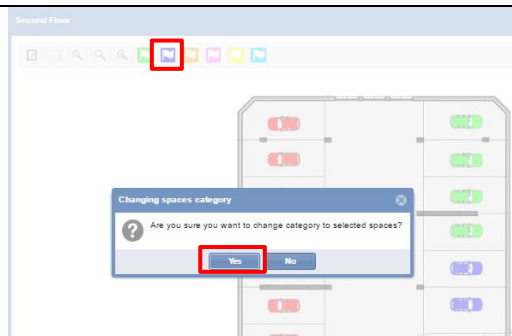
In the command bar there are the buttons related to the available categories of the Car Park project. You can enable up to 7 different categories: please refer to the [Categories/Status menu](#)



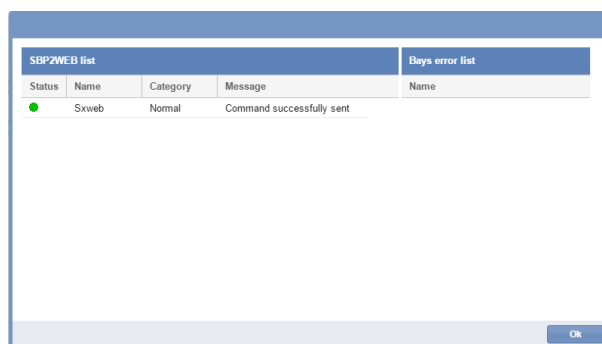
Follow this procedure to change the category of one or more bays:

The type of light used for a booking is indicated on the drawing as illustrated below:

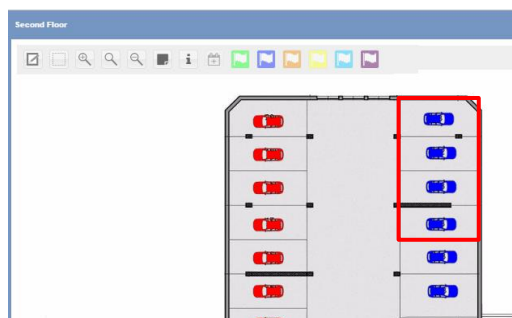
Step	Action
1	If one or more bay icons are selected when the button is clicked, these bays will become booked with their category
2	<p>Select one or more bays</p>  <p><i>E.g. change the category for the 4 bays in the red rectangle below from <b>Normal</b> to <b>Reserved</b> category</i></p>
3	Click on the flag of the desired category (e.g. <b>Reserved</b> category)



- 4 On the Change spaces category dialog, click **Yes** button  
A dialog message shows the detailed operation



- 5 The example below shows the booking result, the 4 bays shown in the red rectangle are booked as **Reserved** category

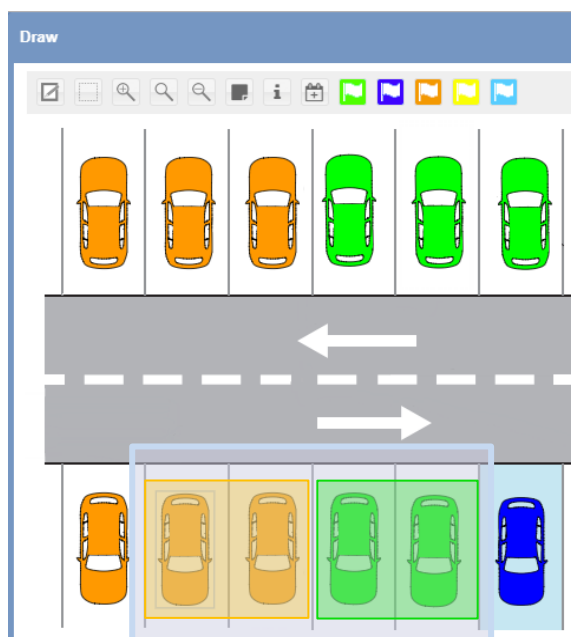


### 15.15.2.1 Change the category of mixed groups of bays associated or not to indicators

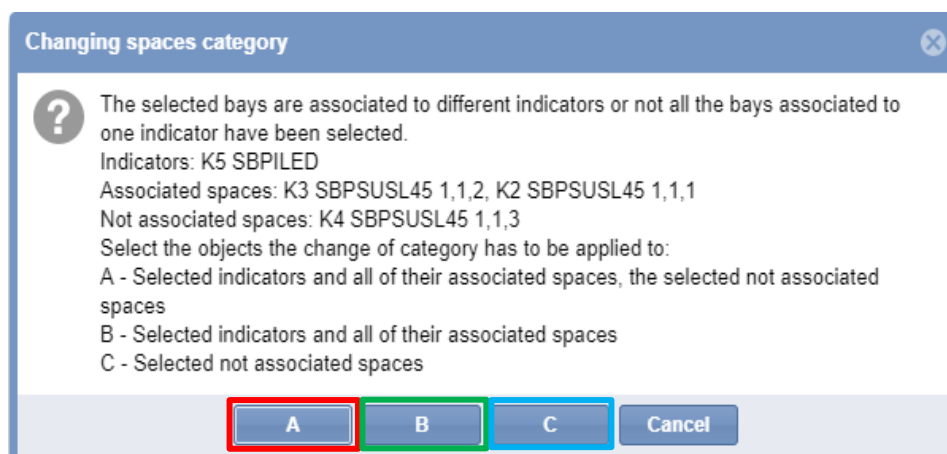
The example below shows a drawing with a group of bays that belong to an Indicator together with single sensor bays. If the selected bays are associated to different indicators or not all the bays are associated to one indicator, a message is displayed with different options, as described below:

Step	Action
------	--------

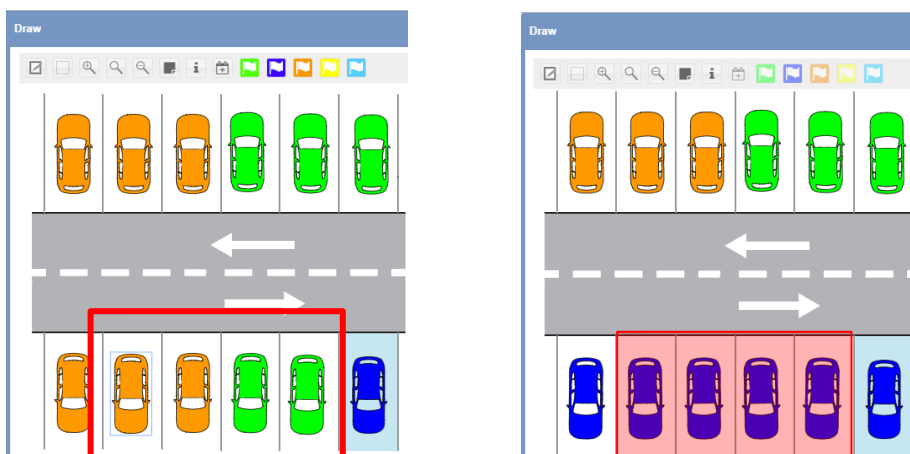
- |   |  |
|---|--|
| 1 | In the example shown below the selected bays in orange colour belong to an indicator, while the selected bays in green color do not belong to any indicator. |
|---|--|



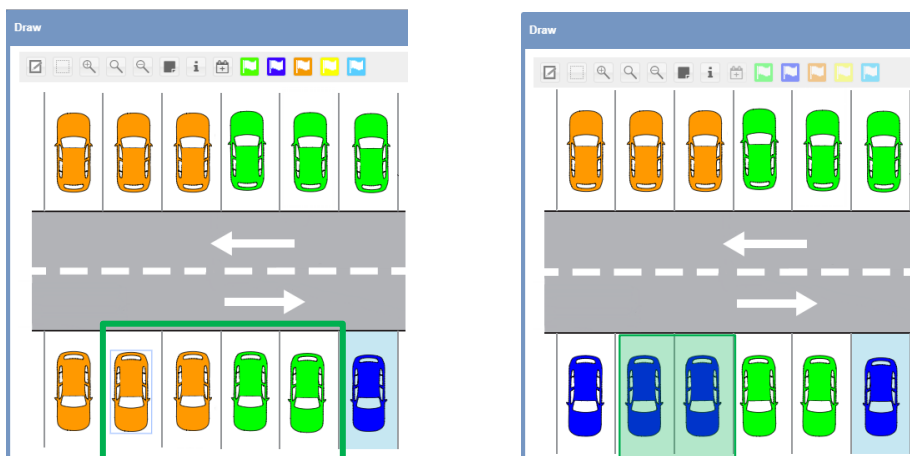
- |   |  |
|---|--|
| 2 | Click on a flag to change the category, the following message is displayed:<br>This message is shown whenever the selected bays are associated to different indicators or not all the bays associated to one indicator have been selected: |
|---|--|



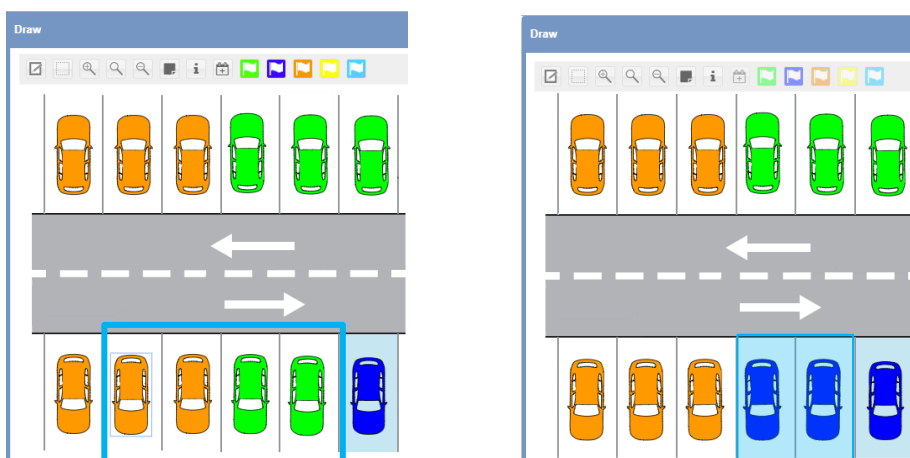
- 3 Click on option **A** to change the category ONLY for the bays that belong to an Indicator: Only the select left bays will be booked with the new category:



- 4 Click on option **B** to change the category for BOTH the bays that belong to an Indicator and the bays that are not associated to any indicator:



- 5 Clicking on option **C** to change the category ONLY for the bays that are not associated to any Indicator; the category will not be changed for the bays that belong to an Indicator:

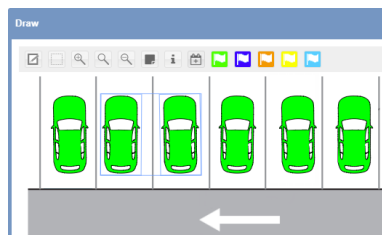



### 15.15.3 Create a new event directly from a drawing

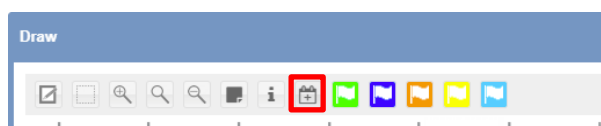
In the command bar you can create a quick booking activity directly from the drawing, for the selected bays. Follow this procedure to add a new booking activity for one or more bays:

Step	Action
------	--------

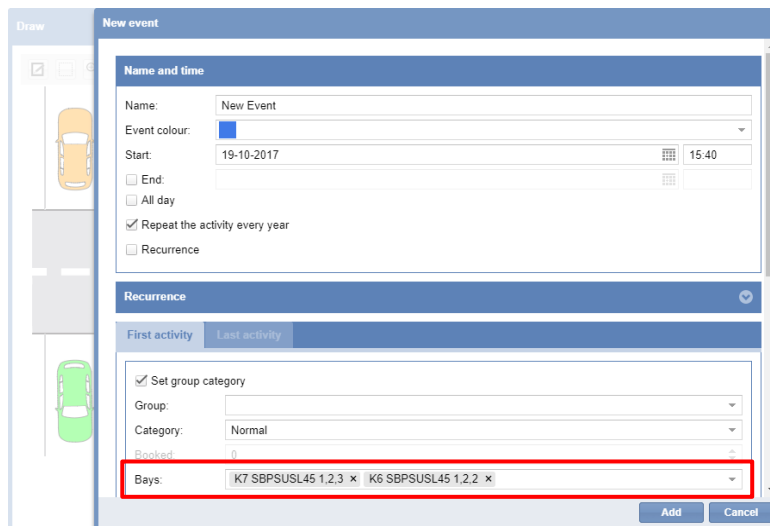
- 1 Enter Drawing in **view mode** and select the bays want to create a booking activity:



- 2 Click on the  button from the command bar:



- 3 The New event window is opened with the selected bays automatically set in the Bay field:



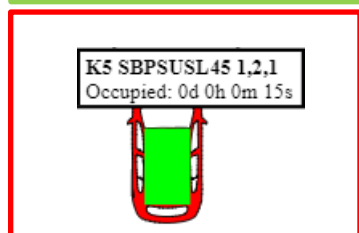
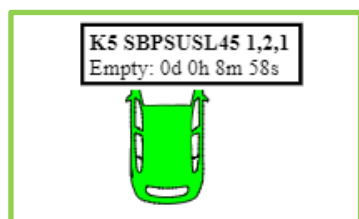
*Note: you can add/remove additional bays different that the selected ones, clicking on the small v icon on Bays field.*

- 4 See [Create a new event](#) procedures to create the new booking activity.



## 15.15.4 Tooltip overview (bay icon)

By hovering over a bay icon with the mouse, the tooltip dialog appears with the bay sensor information such as:



### Bay Icon

- **Kxx - Sensor Part Number - Lane Line Position**
- **Empty /Occupied:** how long the bay is empty or occupied
- **Indicator:** (only for bays that belong to an Indicator) show the related Indicator
- **Diagnostic info:** e.g. error condition, Cross Talk

## 15.15.5 Tooltip overview (Display)

By hovering over a Display with the mouse, the tooltip dialog appears with the Display information such as:



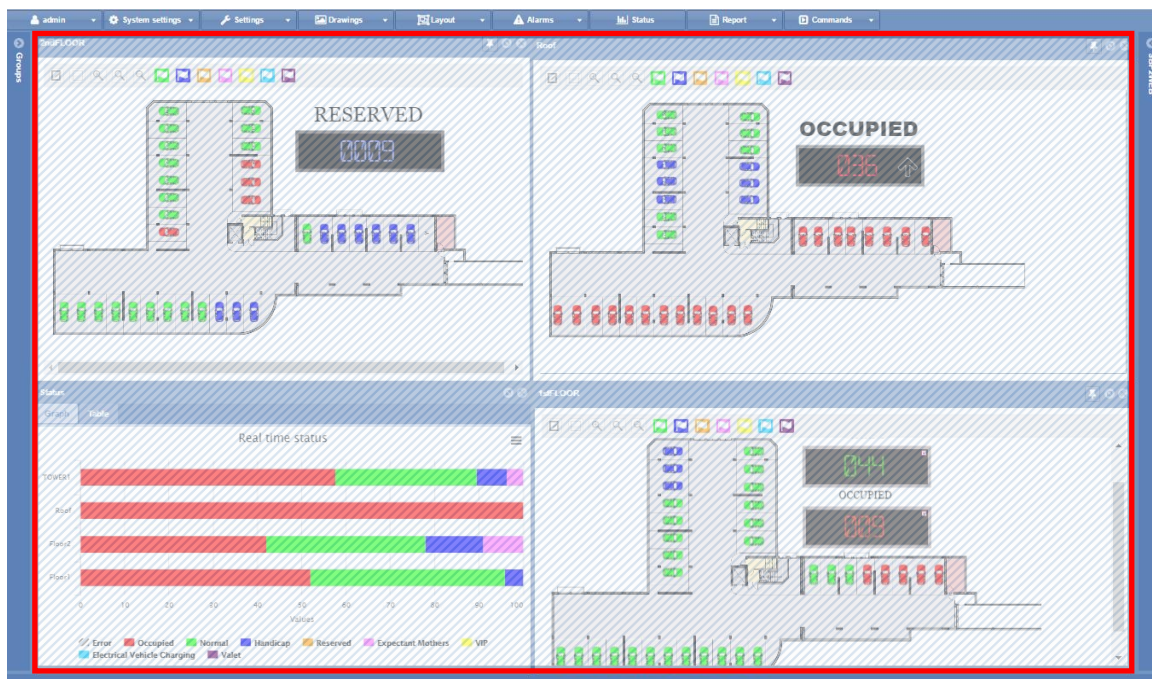
### Display Icon

- **Kxx - Display Part Number**
- **Disconnect time:** how long the display is disconnected
- **Diagnostic info:** e.g. Hardware error

# 16 LAYOUTS

## 16.1 User Interface

**Layout** describes the positioning of the constituent parts, such as the **Drawing** and **Status** windows, on the dashboard area. See the highlighted area below:



By using the Layout, you can create different views of your parking lot in order to see the occupancy status, depending on the selected node, and considering the size of the parking lot.

## 16.2 Things to know

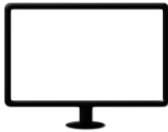
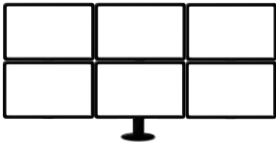
### 16.2.1 The Basics of Layout

A Layout can be created for a tree node, optimized for a device or for a specific user. The Layout is a combination of three conditions:

- **Client-PC (browser):** the CPY runs as a webserver in a browser: it could be that the Layout must be created according to the screen size of the PC or the number of screens if a multiple screen solution is used.
- **User:** you can create several Layouts and assign each one to a dedicated user.
- **Rules:** A rule defines how to arrange the elements on the screen when a node is selected. There are different level priorities which help you to define the best view for each level node.

## 16.2.2 Single screen or Multi screen

The most important choice is the type of Device, **Single screen** or **Multi screen**. This depends on the size of the **parking lot** (number of floors, or number of parking bays).

Device type	Indications
<p><b>Single screen</b></p> 	<p>If you have to manage a small parking lot with 3 floors, you can optimize the Layout on a single screen. You can adjust the zoom factor of the browser to obtain the best distribution of your elements</p>
<p><b>Multi-screen</b></p> 	<p>This solution is suggested for a large parking lot, for example where thousands of parking bays are distributed on several floors.</p> <p><i>Note: when the Multi screen Device is selected, all the screens must have the same screen resolution and screen size, also the browser.</i></p>

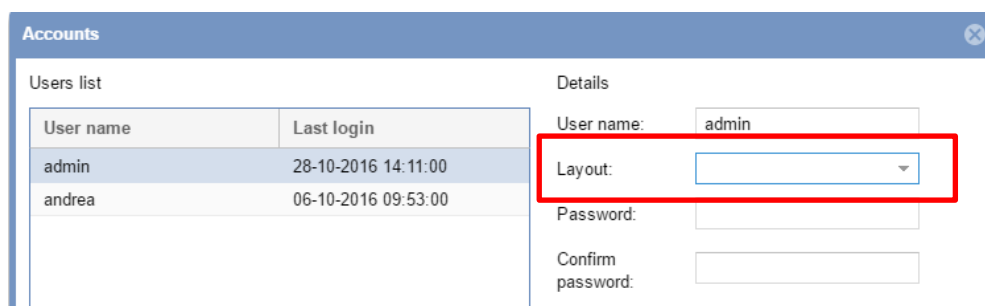
The Layout must be designed using the same screen configuration as that used by the operator:

When the SB2CPY is started, the system reads the Layout set for the user and places the elements exactly as they are defined during the Layout editing.

**N.B: A Layout created for a Multi-screen device may not work correctly for a Single screen, also vice versa.**

## 16.2.3 User and Layout assignment

To assign a template to a specific user, the user account has to be edited. There is a field in the [Accounts](#) window labelled **Layout** where you can set the specific Layout from the combo-box.



The screenshot shows the 'Accounts' window with a 'Users list' table and a 'Details' form. The 'Layout' field in the details form is highlighted with a red box.

User name	Last login
admin	28-10-2016 14:11:00
andrea	06-10-2016 09:53:00

Details

User name: admin

Layout:

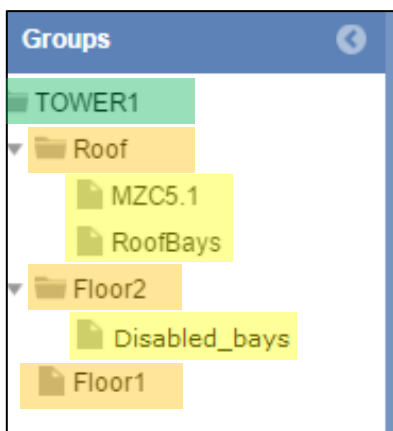
Password:

Confirm password:

*Note: When a user logs into the CPY webserver, the system loads the Layout assigned: if the Layout does not exist (e.g. the Layout has been deleted), the default Layout system is applied.*

## 16.2.4 Rules

The Layout is the set of rules that lays out the view of all the tree nodes, representing a particular group of the parking lot. See the example below of the node hierarchy of a project.



In the figure on the left, the parent-child relationship within the tree is as follows:

**TOWER1** is the root and parent of **Roof**, **Floor1** and **Floor2**.

**MZC5.1** and **Roof Bays** are the children of **Roof**;

**Disabled\_bays** is the child of **Floor2**;

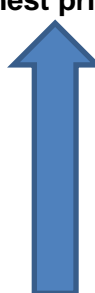
**Floor1** has no child

Each one is a node: the children of the root (highlighted in orange) are nodes at the same level, as well as their children (the nodes highlighted in yellow are at the same level).

### 16.2.4.1 Priority order of rules

When you select a tree node, the system checks if a rule for the selected node exists, then checks if a rule for that level exists, then checks if a rule for all nodes exists. If not, no windows are displayed.

The rules have to be applied to the node: the system asks you where you want to apply them:

Priority level	Node type
<div style="text-align: center;">  </div> <p>Highest priority</p>	<p><b>Node</b> A rule applied to a specific node has the highest priority: the other rules applied to the level's node will be ignored.</p>
	<p><b>Level</b></p>
	<p><b>All nodes</b></p>
Lower priority	

### 16.2.4.2 Priority example

The following example explains how the rules work, in particular how the nodes priority works.

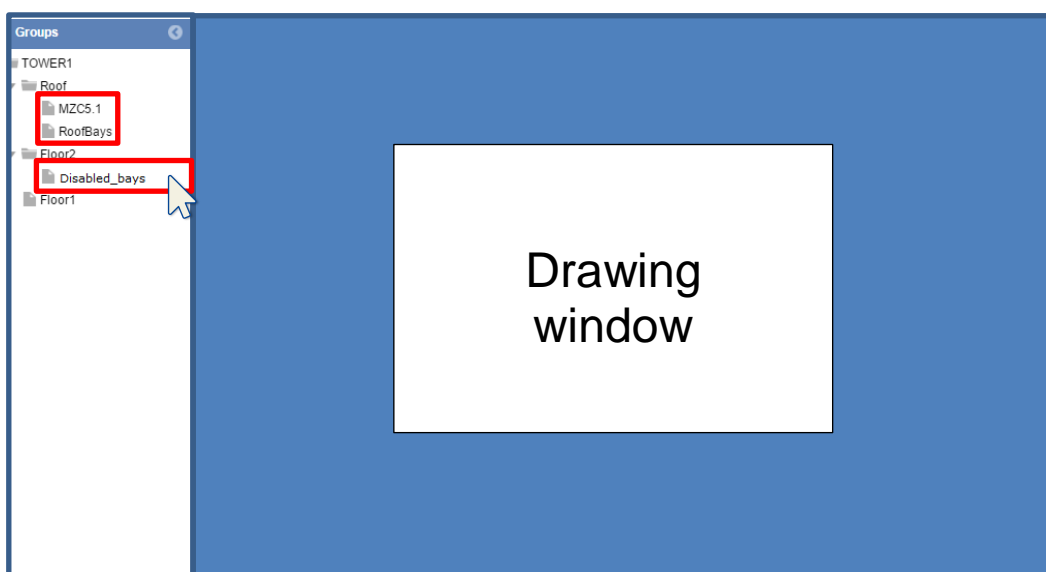
By clicking on a **floor level node** (e.g. Floor1, Floor2, Roof) you can choose a different view, for example to display the **drawing** and **status** window for each of them.

#### All nodes priority

You can start-from the lower level, in order to apply the rule with the lower priority:

When *All nodes* rule is applied, this ensures that any existing rule defined for **Current level** or **Current node** will not be overridden.

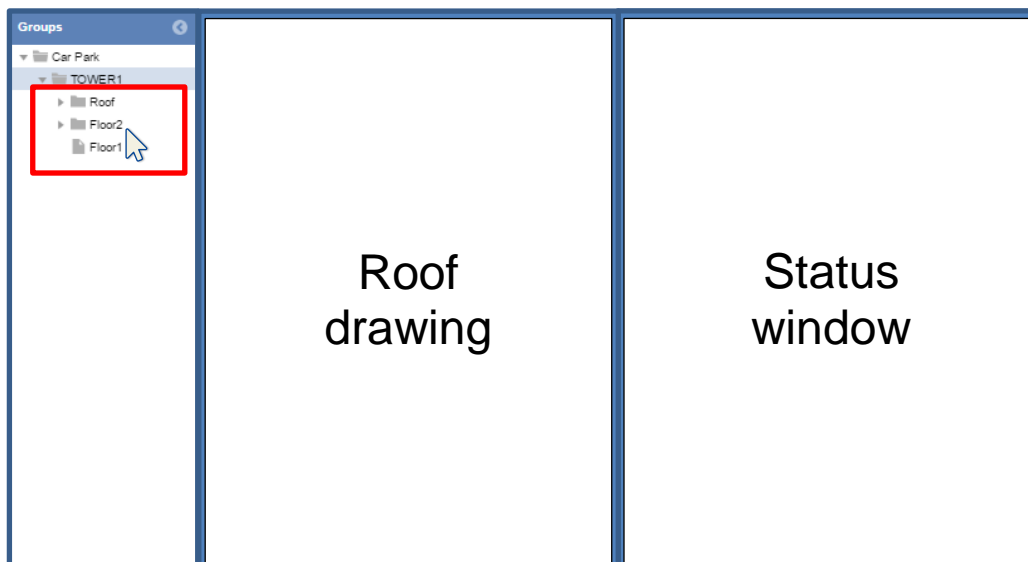
By clicking on one of the children of the floors (**MZC5.1, RoofBays or Disabled\_bays**) the rule will be applied for all nodes, for example if you want to place the drawing window in the centre of the screen. See the figure below:



N.B: when **All nodes** is selected, the same rule will be applied for all the nodes.

### Current level priority

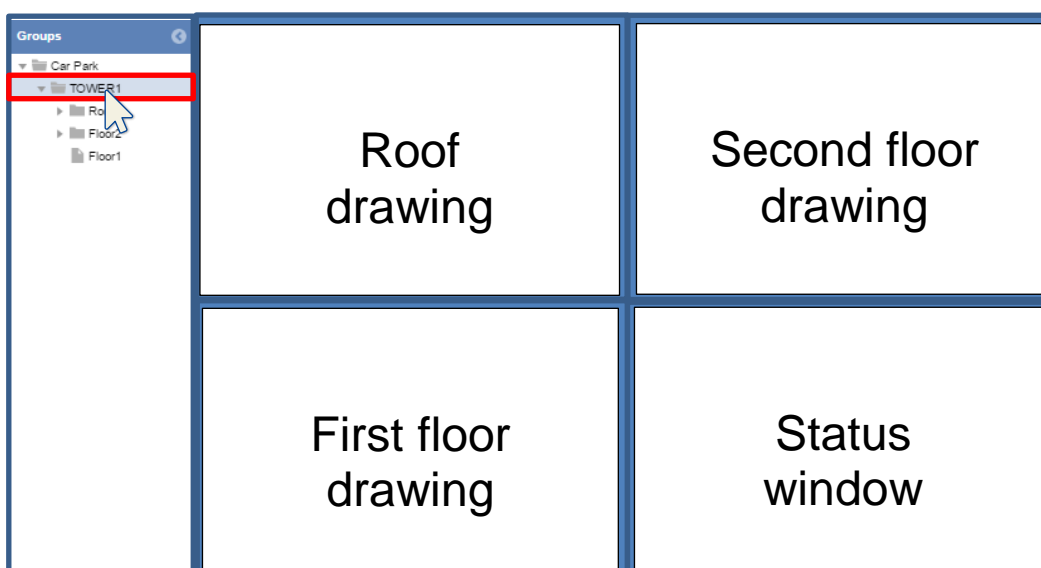
You can set the Current level rule in order to assign the same Layout to all the nodes at the same level: the priority is higher than All Nodes, so the level rule will be applied to all the floor levels. By clicking one of the floors level node (e.g. **Floor1**, **Floor2**, **Roof**) the rule will be applied for all nodes at the same level, in this case Floor1, Floor2 and Roof. For example, if you want to place the **drawing** and **status** window together in the screen. See the figure below:



*Tips: Applying this rule will avoid having to adjust the view for each tree node: the rule will be propagated to all the nodes at the same level.*

### Current node priority

The Current node rule can be used when you want to assign a view for a selected node. By clicking on the root node (e.g. TOWER1) the rule will be applied only for the node selected, and will override any existing rule created at level node or all nodes. In this case, you can choose to display all the drawings of your parking lot when TOWER1 node is selected. See the figure below:



## 16.3 User interface

### 16.3.1 Rule setting window

In the Rules setting window you have to define the rule priority every time a node is edited. The priority has to be set individually, according to the indications explained above.

By clicking on **Save rule** from the **Layout** tab, the following window will appear:



The behaviour of the different options works as follows:

Rule	Behaviour
<b>Current node</b>	The rule will be applied <b>only</b> for the selected node
<b>Current Level</b>	The rule will be applied to <b>all the nodes at the same level</b> (e.g. Root, Floor1 and Floor2) <i>Note: the system applies the same rule for all the levels, also if new nodes are added later</i>
<b>All Nodes</b>	The rule will be applied to all the nodes in the project.

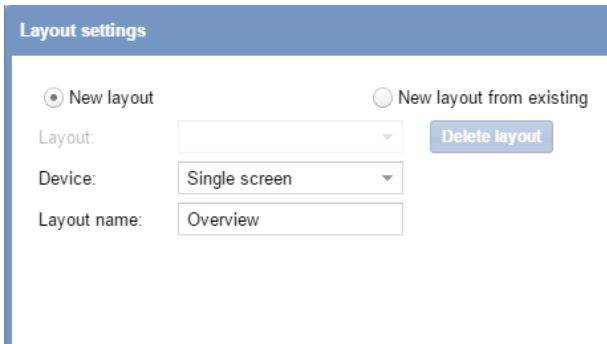
Override option	Priority type
<b>Override other rules</b>	When this option is checked, any old rules created in the past will be deleted and replaced with the new ones.  <b>Current Level:</b> If you select “override other rules”, the rule will be applied to the node selected in the tree and every other rule for that node will be ignored

## 16.4 Procedures

### 16.4.1 Create a new Layout

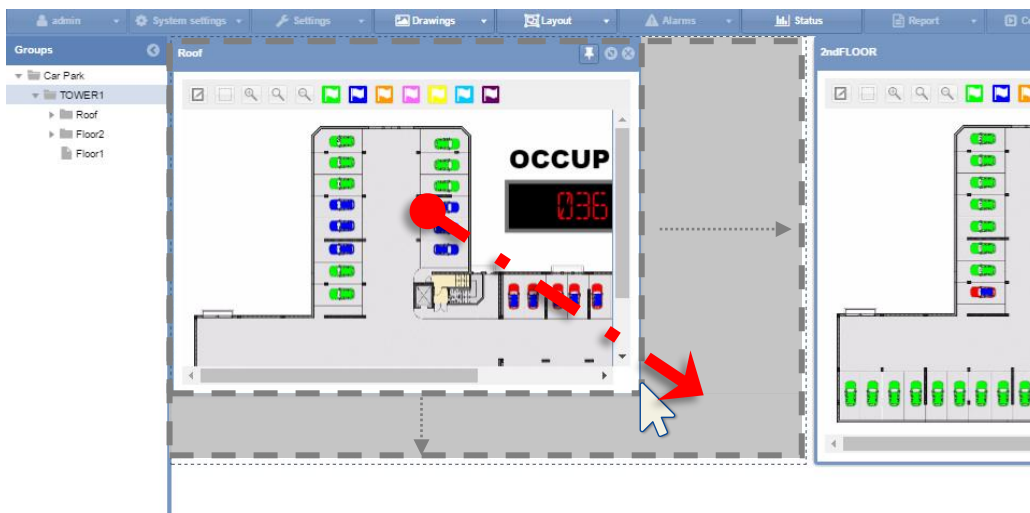
**Before starting with Layout editing, the drawings must be already done (see Drawing).**

To create a new Layout, follow this procedure:

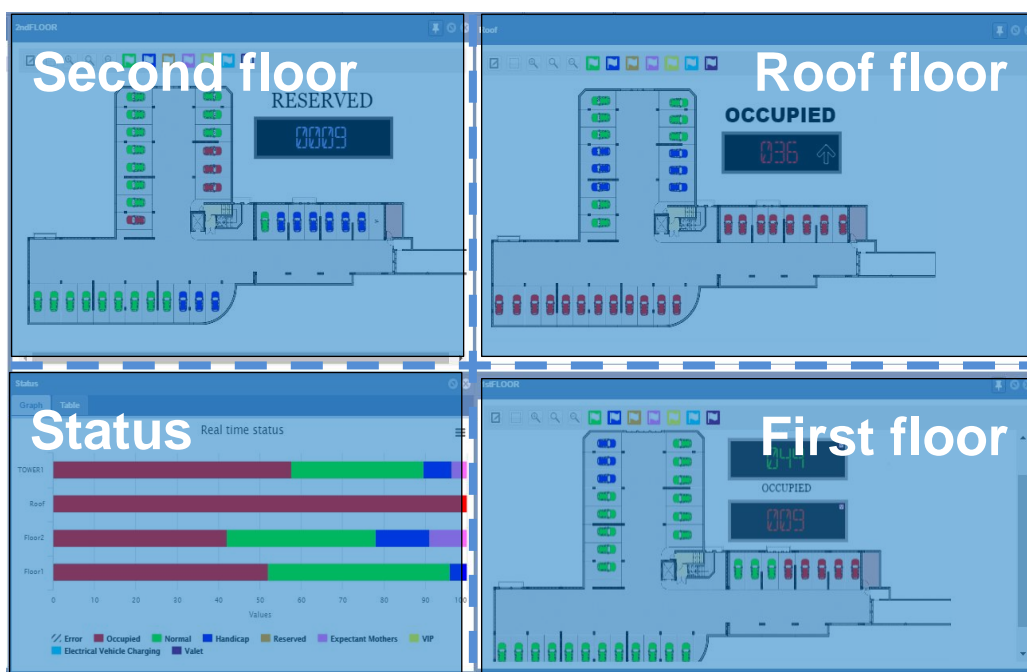
Step	Action
1	Click on the <b>Edit layout</b> tab from <b>Layout</b> tab
2	Click on <b>New layout</b> in the <b>Layout settings</b> window
	
3	Select the type of <b>Device</b> that the current Layout is associated to: <ul style="list-style-type: none"> <li>• Single monitor</li> <li>• Multi monitor</li> </ul> <p><i>Note:</i> see <a href="#">Single screen or Multi screen</a></p>
4	Enter a description in the <b>Layout name</b> field
5	Click <b>OK</b> button to close the window. Now you are in <b>edit layout mode</b>
6	Choose an element from the Groups tree, such as a node in which there is one or more Drawings you want to rearrange (e.g. adjust their sizes) <i>e.g. By clicking on TOWER1, the drawing for the sub-nodes, such as Floor1, Floor2, Roof, will be shown.</i>



- 7 For each element (such as **Drawing** or **Status** window) you want to add:
- Click and drag across the dashboard area to form a square or rectangle
  - Resize element by clicking on a border and dragging it to a new position
  - Move the element by clicking and dragging.

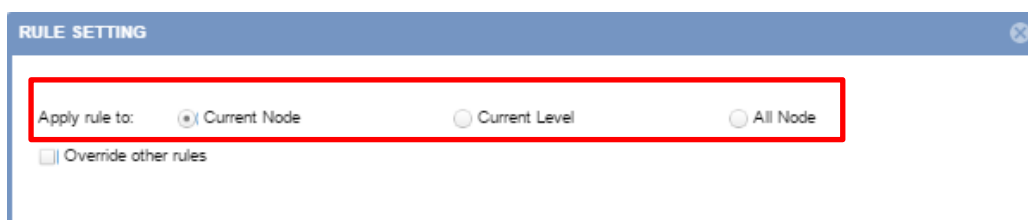


- 8 When you are ready to apply changes to your elements, click on **Save rules** from the **Layout** tab.



This is an example of the final positioning of the elements

- 
- 9 In the **Rule settings** window select the node level where the rule has to be applied:



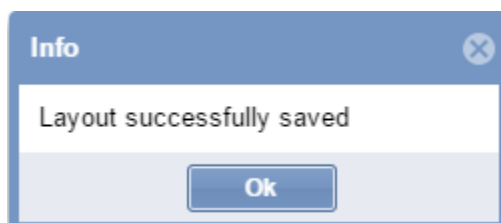
The options are:

- Current node (default)
- Current Level
- All Nodes

- 
- 10 After the Node level has been selected, check **Override other rules** if you want to delete any rules that have been previously created. *Note: See [Priority order of rules](#) for more information*

Press the **OK** button to save the rule

- 
- 11 Click on **Save Layout** from the **Layout** tab: a confirm dialog will appear.

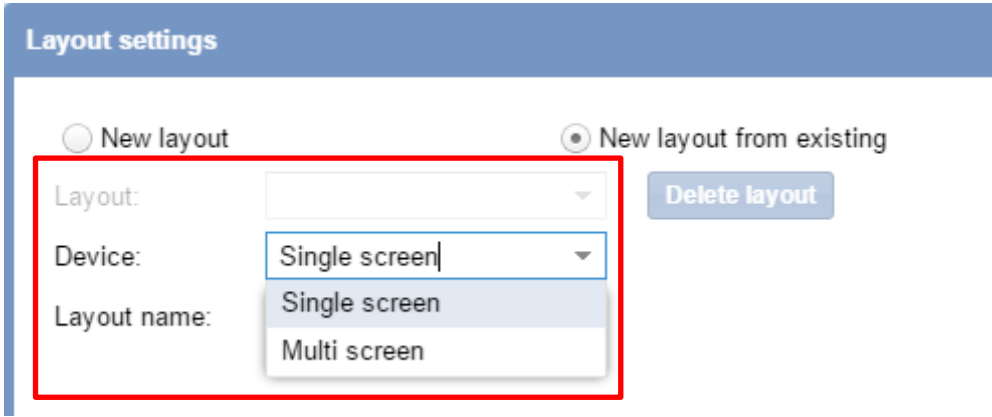


- 
- 12 Click **Exit layout editing** from the **Layout** tab to exit editing
- 

*Note: The Layout must be assigned to the user who accesses the CPY webserver.*

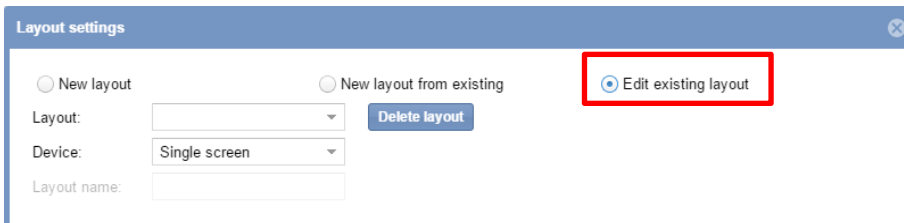
## 16.4.2 Create a new Layout from an existing Layout.

You can create a new Layout starting from an existing Layout. Follow this procedure:

Step	Action
1	Click on <b>Edit layout</b> from the <b>Layout</b> tab
2	Click on <b>New layout from the existing</b> selector in the <b>Layout settings</b> window
	
3	From the <b>Layout</b> combo-box select the Layout you want to use as a Template <i>Note: The Device type cannot be changed</i>
4	Select the type of <b>Device</b> that the current Layout is associated to: <ul style="list-style-type: none"> <li>• Single monitor</li> <li>• Multi monitor</li> </ul> <i>Note: see <a href="#">Single screen or Multi screen</a></i>
5	Enter a name for the one newly copied in the <b>Layout name</b> field
6	Click the <b>OK</b> button to close the window. Now you are in <b>edit layout mode</b>
7	Follow <b>steps 6-12</b> of <a href="#">Create a new Layout</a> procedure

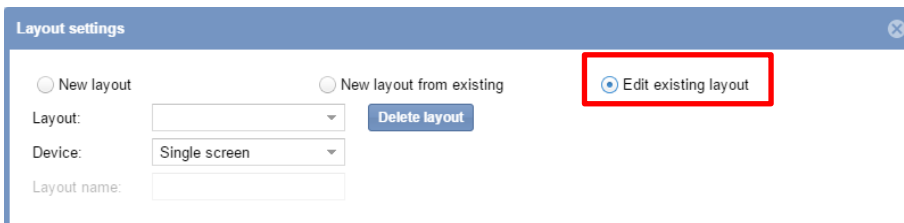
## 16.4.3 Edit an existing Layout

You can modify an existing Layout, for example to make some changes after the Layout creation. Follow this procedure:

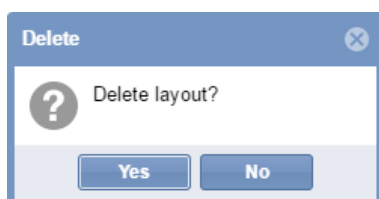
Step	Action
1	Click on the <b>Edit layout</b> tab from the <b>Layout</b> tab
2	Click on the <b>Edit existing layout</b> selector in the <b>Layout settings</b> window 
3	From the <b>Layout</b> combo-box select the Layout you want to modify <i>Note: The Device type and the Layout name cannot be changed</i>
4	Click the <b>OK</b> button to close the window. Now you are in <b>edit layout mode</b>
5	Follow <b>steps 6-12</b> of <a href="#">Create a new Layout</a> procedure

## 16.4.4 Delete a Layout

To delete a Layout, follow this procedure:

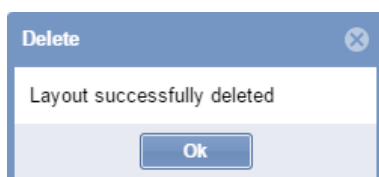
Step	Action
1	Click on the <b>Edit layout</b> tab from the <b>Layout</b> tab
2	Click on the <b>Edit existing layout</b> selector in the <b>Layout settings</b> window 
3	From the <b>Layout</b> combo-box select the Layout you want to delete

- 
- 4 Click on the **Delete layout** button: the following dialog will appear



Click on the **Yes** button to delete the selected Layout. Click on the **No** button to go back to the **Layout setting** window.

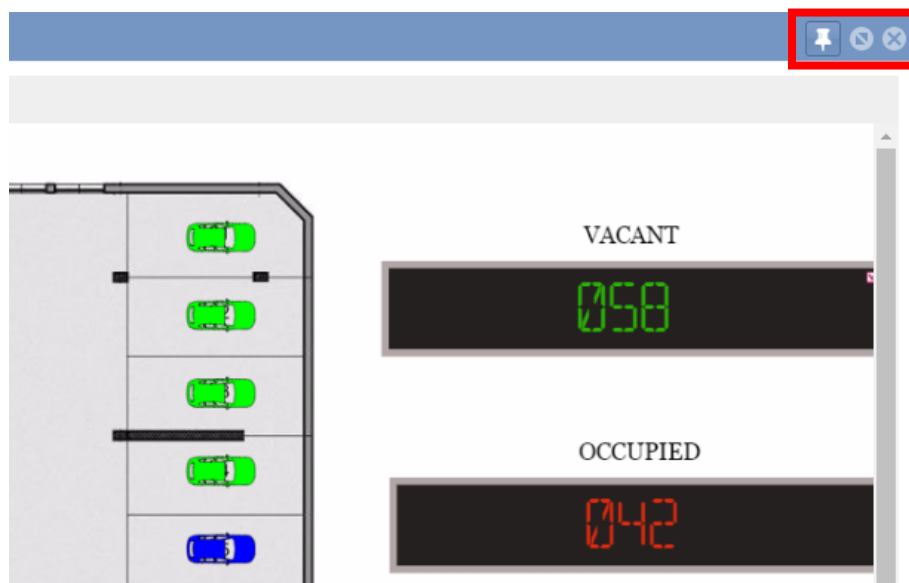
- 
- 5 The following dialog confirms that the operation has been completed successfully.



## 16.5 Operations with the Layout

### 16.5.1 Pin the window

In the top-right corner of the drawing window there are three buttons:



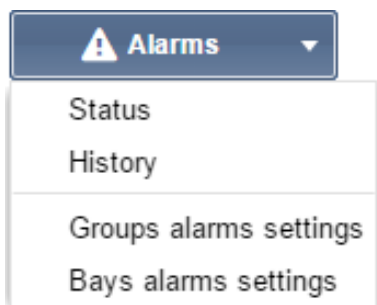
Normally if you click on a node, the previous element (drawing window) will be hidden and the new elements of the selected node will be shown in the dashboard area.

You can make the window always-on-top by clicking on the **pin icon**: the window will also be shown if you change the node selection, until you are logged-in.

# 17 ALARMS


## 17.1 User interface

By clicking on  **Alarms** tab from the navigation bar, the following menu will appear:



The **Alarms** menu allows you to set time and utilization limits for the bays and groups of the Car Park project. It will inform you if Car Park activity goes beyond these limits, as well as if technical problems should arise. The alarm system is invaluable in maintaining an overview of the parking lot. This is especially true for large scale Carparks.

Section	Features
<u><b>Alarms status</b></u>	Shows the current active alarms
<u><b>Alarms history</b></u>	Shows the alarms that occurred in a selected period
<u><b>Groups alarms settings</b></u>	Defines the minimum percentage of bays that should be vacant in a selected group
<u><b>Bays alarms settings</b></u>	Defines the maximum time that a bay should be occupied

*Note: Whenever an alarm is active, the Alarm tab will change to a warning sign, and the  icon will blink.*

## 17.1.1 Status tab

The **Alarms status** window shows the alarms that are currently active:



The window has the following elements:

Area	Description								
A	<table border="1"> <thead> <tr> <th>Button</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td><b>Acknowledge</b></td> <td>This button allows the acknowledge action for a selected alarm <i>Note: your user account must have the right permissions to acknowledge an alarm for this button to be enabled. See the account section</i></td> </tr> <tr> <td><b>Excel</b></td> <td>This button allows the export of the current alarms to an Excel file</td> </tr> <tr> <td><b>Hide acknowledged</b></td> <td>This check-box hides the alarms that have been acknowledged</td> </tr> </tbody> </table>	Button	Action	<b>Acknowledge</b>	This button allows the acknowledge action for a selected alarm <i>Note: your user account must have the right permissions to acknowledge an alarm for this button to be enabled. See the account section</i>	<b>Excel</b>	This button allows the export of the current alarms to an Excel file	<b>Hide acknowledged</b>	This check-box hides the alarms that have been acknowledged
	Button	Action							
	<b>Acknowledge</b>	This button allows the acknowledge action for a selected alarm <i>Note: your user account must have the right permissions to acknowledge an alarm for this button to be enabled. See the account section</i>							
<b>Excel</b>	This button allows the export of the current alarms to an Excel file								
<b>Hide acknowledged</b>	This check-box hides the alarms that have been acknowledged								



B The **Active Alarms** section shows the active alarms:

Field	Description
<b>Alarm On</b>	The point in time when the alarm was registered
<b>Source</b>	The source of the alarm: this can be a specific bay, a group or a SBP2WEB controller
<b>Name</b>	The name of the specific Group/Bay/MCG network that set off the alarm
<b>Code</b>	The alarm code, a unique identifier of the type of alarm shown
<b>Text</b>	A brief description of the alarm type
<b>Acknowledged</b>	The point in time when the alarm was acknowledged. If the alarm has not been acknowledged this field will be blank
<b>User name</b>	The user who acknowledged the alarm. If the alarm has not been acknowledged this field will be blank

## 17.2 Procedures

### 17.2.1 Acknowledge an alarm

This will not clear the alarm. It simply announces to other users that you have seen the alarm and presumably plan to take action to rectify the problem. This way, other users know that they do not need to take action.

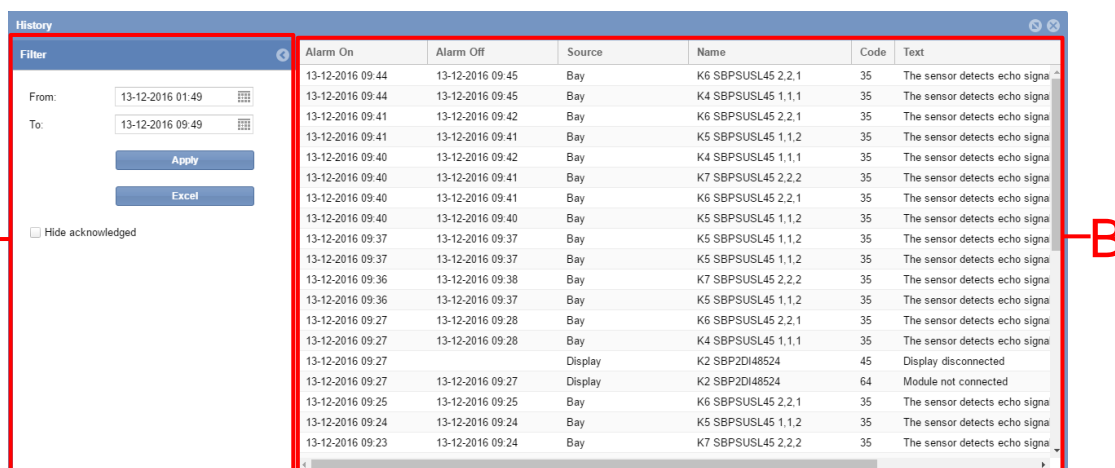
Follow this procedure to acknowledge an alarm:

Step	Action
1	Click on <b>Alarms status</b> from <b>Alarms</b> menu
2	Select an active alarm from the table ( <b>B area</b> ) <i>Note: you can check <b>Hide acknowledge</b> option to hide the alarms that have been acknowledged.</i>
3	Press <b>Acknowledge</b> button

## 17.3 User interface

### 17.3.1 Alarms History tab


The **Alarms History** window lets you view alarms from a selected period; that is, alarms which have occurred and disappeared (no longer active). This feature is particularly useful when you are identifying re-occurring issues in your current carpark configuration.



Area	Description
------	-------------

A **Filter** options allow you to select the required period from which you wish to view historical alarms. The filter has these fields:

Field	Description
<b>From</b>	This field defines the earliest point in time when an alarm could have occurred to be included in the results
<b>To</b>	This field specifies the filter ending point in time when an alarm could have occurred to be included in the results
<b>Excel</b>	This button allows for the export of all displayed historical alarms to an Excel <i>.xlsx</i> file
<b>Hide acknowledged</b>	This check-box, when selected, hides the alarms that have been acknowledged

*Note:* This window can be hidden with the button 


- B The **Alarms** table shows the historical alarms that occurred in the selected period. It has the following fields:

Field	Description
<b>Alarm On</b>	The point in time when the alarm was registered
<b>Alarm Off</b>	The point in time when the alarm stopped being active
<b>Source</b>	The source of the alarm: this can be a specific bay, a group or a SBP2WEB
<b>Name</b>	The name of the specific Group/Bay/Network that set off the alarm
<b>Code</b>	The alarm code, a unique identifier of the type of alarm shown
<b>Text</b>	A brief description of the alarm type
<b>Acknowledged</b>	The point in time when the alarm was acknowledged. If the alarm has not been acknowledged this field will be blank
<b>User name</b>	The user who acknowledged the alarm. If the alarm has not been acknowledged this field will be blank

## 17.4 Procedures

### 17.4.1 Show the alarms which occurred in a selected period

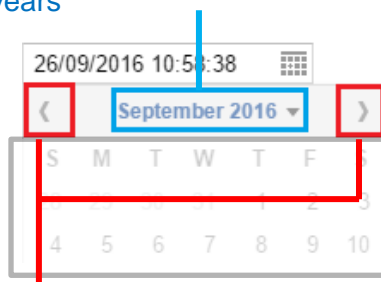
Follow this procedure to show the alarms that occurred in a selected period:

Step	Action
1	Click on <b>Alarm history</b> from <b>Alarms</b> menu
2	In the <b>From</b> field, click on the  icon

3

From the **popup calendar** select the **start** date

Click on the month to select the year through years



Click on the arrows to select the month through months

The hour can be edited by clicking on it and entering the time desired.

4

In the **To** field, click on the  icon

5

In the **popup calendar** select the **end** date to define the **filter end point**.

*Note: the current time is selected as the predefined end point*

6

Once the filter has been adjusted to match your criteria, press the **Apply** button to update the query with the new preferences

7

*Optional step:* you can press the **Excel** button to save all the historical alarms to an **.xlsx** file

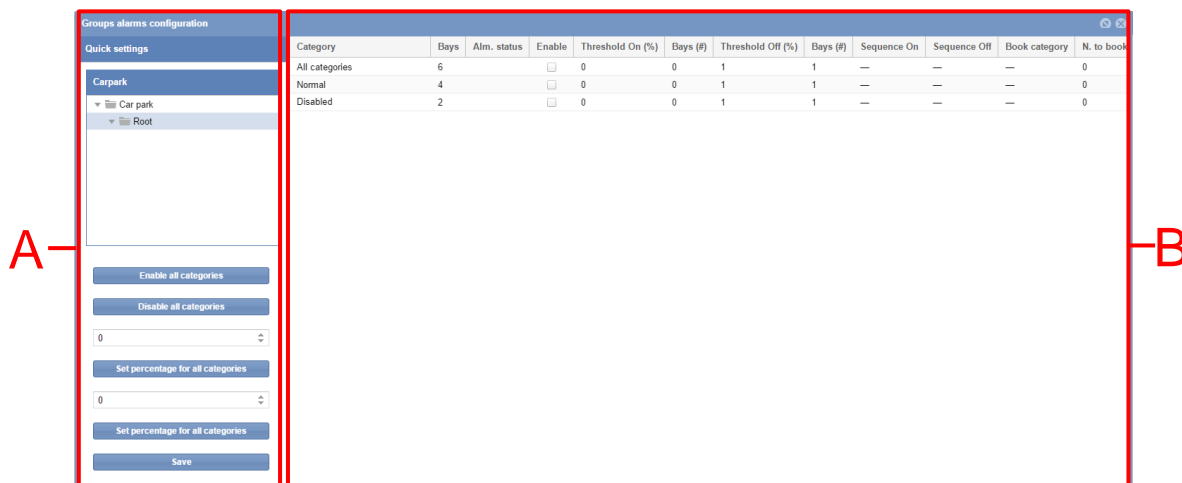
*Note: to hide the alarms that have been acknowledged, check the **Hide acknowledged** checkbox*

## 17.5 User interface

### 17.5.1 Groups alarms settings

The **Groups alarms settings** window lets you define the minimum percentage of bays that should be vacant in a group at any given point in time. The percentage can also be set for specific categories of bays, such as **Disabled**, **Reserved**, etc...

*Note: ONLY the users that have the permission can view these settings.*



Area	Description
------	-------------

**A** In the **Quick settings** section, you can define global rules for all the categories of the group selected in the Carpark section.

Option	Description
<b>Carpark</b> (groups structure)	This field enables you to choose the group from which the displayed data should originate
<b>Enable all categories</b>	This button enables all the categories of the selected group
<b>Disable all categories</b>	This button disables all the categories of the selected group
<b>Set percentage for all categories</b>	This field sets a threshold On value for all the categories of the Car Park project
<b>Set percentage for all categories</b>	This field sets a threshold Off value for all the categories of the Car Park project

B The table for these settings has a row for each enabled category of the selected group. The fields are as follows:

Field	Description
<b>Category</b>	The name of the category <i>Note: All categories row defines whether a minimum free bays limit is enabled for all categories of the selected group.</i>
<b>Bays</b>	The total number of bays for each selected category
<b>Alm. status</b>	The Alarm status for each threshold rule <i>Note: an active alarm cannot be deactivated</i>
<b>Enable</b>	This defines if a category is eligible for the threshold rule
<b>Threshold On (%)</b>	When the percentage of vacant bays of the selected category falls below this value, the alarm goes On for this category
<b>Bays(#)</b>	The number of bays corresponding to the <i>Threshold On (%)</i> value
<b>Threshold Off (%)</b>	When the percentage of vacant bays of the selected category rises above this value, the alarm goes Off for this category
<b>Bays(#)</b>	The number of bays corresponding to the <i>Threshold Off (%)</i> value
<b>Sequence On</b>	The sequence will be activated when the alarm goes On
<b>Sequence Off</b>	The sequence will be activated when the alarm goes Off
<b>Book category</b>	The category in which the bays will be occupied
<b>N. to book</b>	The number of bays to be reserved, picked up by the category set in <i>Book category</i> combo-box

## 17.6 Things to know

### 17.6.1 About the threshold rule

The **Groups alarms configuration** window provides a feature used to specify rising or falling threshold rules based on the vacant/occupied status of the bays in the Car Park project. When the threshold is reached, depending on the defined limit, a set of actions can be performed, as follows:

- Book a specific *number* of bays from a specific category.
- Run a sequence

### 17.6.1.1 Example - Book $n$ bays

For the **Disabled** category, a rule is defined to book 1 bay from the **Normal** category, when the number of vacant bays for Disabled goes below a specific value. The available categories are defined as follows:

Category	N° of bays
Normal	10
Disabled	2

The threshold rule is set in the **Group alarms configuration** window as follows:

Category	Bays	Alm. status	Enable	Threshold On (%)	Bays (#)	Threshold Off (%)	Bays (#)	Sequence On	Sequence Off	Book category	N. to book
All categories	6		<input type="checkbox"/>	0	0	1	1	—	—	—	0
Normal	4		<input type="checkbox"/>	0	0	1	1	—	—	—	0
Handicap	2		<input checked="" type="checkbox"/>	50	1	51	3	—	—	Normal	1
Reserved	0		<input type="checkbox"/>	0	0	1	1	—	—	—	0
Electrical Vehicle Charging	0		<input type="checkbox"/>	0	0	1	1	—	—	—	0

The table below shows an events example:

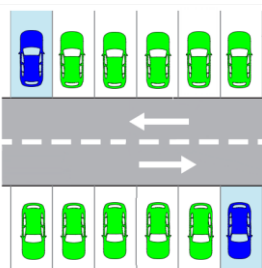
Status	Alarm status	Disabled Vacant / Total	Total Normal
--------	--------------	----------------------------	--------------

The system is in a normal condition

INACTIVE

2/2 (100%)

10

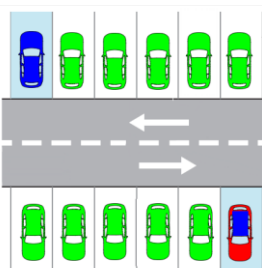


When less than 50% of Disabled bays are vacant, the Alarm condition will be activated

ACTIVE

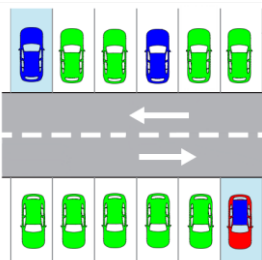
1/2 (50%)

10



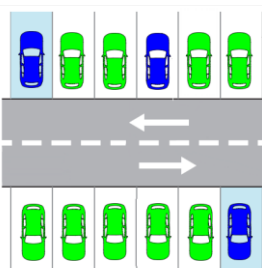
---

As a result of the Alarm condition a bay has been booked from <b>Normal</b> category	ACTIVE	2/3 (<50%)	9
--	--------	------------	---



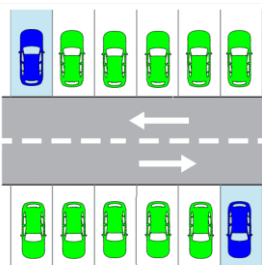

---

The Alarm condition is still active till the number of disabled bays goes above 3	ACTIVE	3/3 (>51%)	9
---	--------	------------	---




---

The Alarm condition will be deactivated and the booked bays will be reassigned to the <b>Normal</b> category	INACTIVE	2/2	10
--	----------	-----	----



*Note: The CPY calculates the number of bays from the set percentage.*



*Note: The Alm. status field shows the alarm status condition.*



## 17.7 Procedures

### 17.7.1 Book bays with a threshold rule

To define a new rule, e.g. as shown above, follow this procedure:

Step	Action
1	Click on <b>Groups alarms settings</b> from the <b>Alarms</b> menu
2	In the <b>Carpark</b> tree view select a group (node): the relevant bays will be shown in the table on the right
3	In the <b>Enable</b> column select the <input checked="" type="checkbox"/> check box to enable the required categories
4	<p>In the <b>Threshold On (%)</b> insert the percentage value and press <b>ENTER</b></p> <p><i>Note: in the <b>Bays(#)</b> field, the system shows the number of bays</i>            e.g. Category has 50 bays -&gt; <b>Threshold On (%)</b>: 20% -&gt; <b>Bays(#)</b>: 10 bays</p> <p><i>Note2: The Threshold ON value must be smaller than Threshold OFF</i></p> 
5	<p>In the <b>Threshold Off (%)</b> insert the percentage value and press <b>ENTER</b></p> <p><i>Note: in the <b>Bays(#)</b> column the system shows the number of bays</i>            e.g. Category has 50 bays -&gt; <b>Threshold Off (%)</b>: 22% -&gt; <b>Bays(#)</b>: 11 bays</p> <p><i>Note2: The Threshold OFF value must be greater than Threshold ON</i></p> 
6	<p>In the <b>Sequence On</b> you can set a sequence that will be executed when the alarm goes On</p> <p><i>Note: The Sequences have to be defined in the SBP Tool</i></p>
7	<p>In the <b>Sequence Off</b> you can set a sequence that will be executed when the alarm goes Off</p> <p><i>Note: The Sequences have to be defined in the SBP Tool</i></p>
8	In the <b>Book category combo-box</b> select the category into which the bays will be occupied
9	In the <b>N. to book</b> field enter the number of bays to be occupied

---

10 In the **Quick settings** section click the **Save** button to save the changes

---

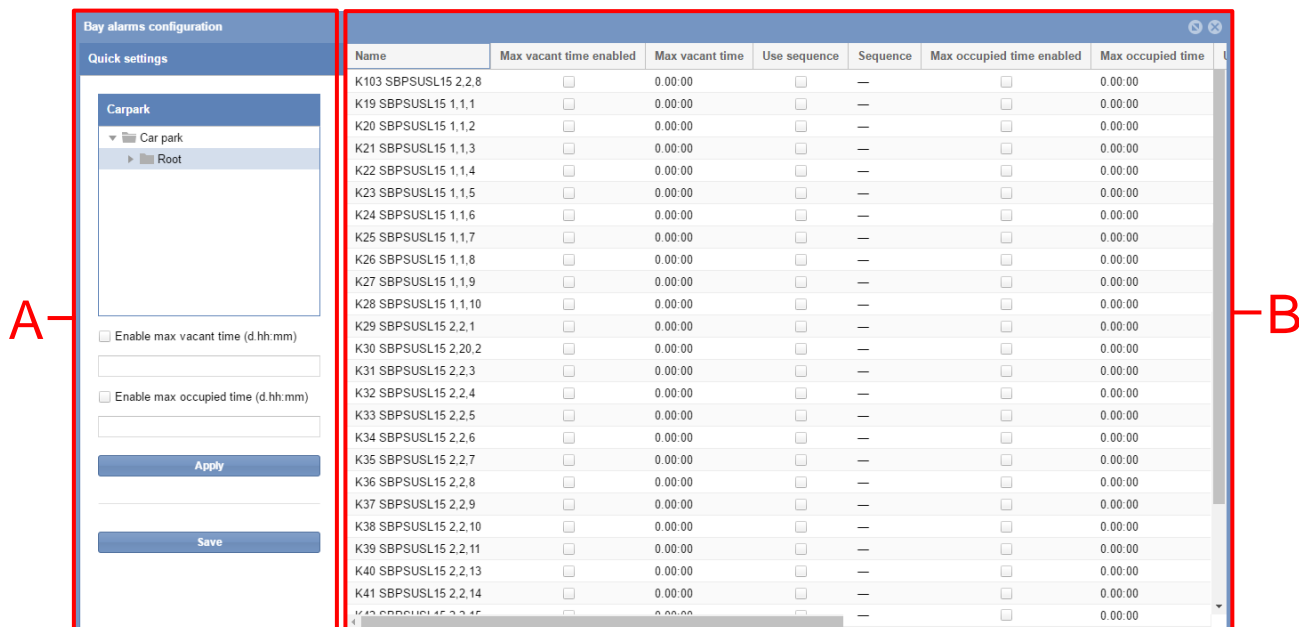
### 17.7.2 Book bays with a global threshold rule

**All category** rows, available for each virtual group of the Car Park project, can be used to set global rules for all the categories. The procedure is the same as for the individual rules.

## 17.8 User interface

### 17.8.1 Bay alarms settings

The **Bay alarms settings** window allows you to set time limits on occupation periods, as well as vacant periods, for each individual bay in a group.



**Note:** All users can view the **Bay alarms settings**, although your user account must have special permission to modify them.

Area	Description								
A	In the <b>Quick settings</b> section, you can define global rules for all the bays in the group selected in the <b>Carpark</b> tree view. The fields are as follows:								
	<table border="1"> <thead> <tr> <th>Option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><b>Carpark</b> (Groups tree view)</td> <td>This field lets you choose the group that the data shown should originate from</td> </tr> <tr> <td><b>Enable max vacant time</b> (d.hh:mm)</td> <td>This option lets you assign the Max vacant time for all bays in the selected virtual group <i>Note: The times in this field have the following format: [days].[hours]:[minutes]</i></td> </tr> <tr> <td><b>Enable max occupied time</b> (d.hh:mm)</td> <td>This option let you assign the Max occupied time for all bays in the selected virtual group <i>Note: The times in this field have the following format: [days].[hours]:[minutes]</i></td> </tr> </tbody> </table>	Option	Description	<b>Carpark</b> (Groups tree view)	This field lets you choose the group that the data shown should originate from	<b>Enable max vacant time</b> (d.hh:mm)	This option lets you assign the Max vacant time for all bays in the selected virtual group <i>Note: The times in this field have the following format: [days].[hours]:[minutes]</i>	<b>Enable max occupied time</b> (d.hh:mm)	This option let you assign the Max occupied time for all bays in the selected virtual group <i>Note: The times in this field have the following format: [days].[hours]:[minutes]</i>
Option	Description								
<b>Carpark</b> (Groups tree view)	This field lets you choose the group that the data shown should originate from								
<b>Enable max vacant time</b> (d.hh:mm)	This option lets you assign the Max vacant time for all bays in the selected virtual group <i>Note: The times in this field have the following format: [days].[hours]:[minutes]</i>								
<b>Enable max occupied time</b> (d.hh:mm)	This option let you assign the Max occupied time for all bays in the selected virtual group <i>Note: The times in this field have the following format: [days].[hours]:[minutes]</i>								

B The **table** for these settings shows a row for each bay present in the selected Virtual group. The fields are as follows:

Field	Description
<b>Name</b>	This defines the name of the bay the alarm settings belong to
<b>Max vacant time enabled</b>	This indicates whether or not the maximum limit for how long a bay can be vacant is enabled
<b>Max vacant time</b>	The amount of time that the bay in question can be vacant before an alarm is triggered. This requires the <b>Max vacant time enabled</b> checkbox to be checked
<b>Use sequence</b>	When the <b>Max vacant time</b> is reached, a sequence can be activated
<b>Sequence</b>	The sequence will be activated when the <b>Max vacant time</b> is reached
<b>Max occupied time enabled</b>	This indicates whether or not the maximum limit for how long a bay can be occupied is enabled
<b>Max occupied time</b>	The amount of time that the bay in question can be occupied before an alarm is triggered. This requires the <b>Max occupied time enabled</b> checkbox to be checked
<b>Use sequence</b>	When the <b>Max occupied time</b> is reached, a sequence can be activated
<b>Sequence</b>	The sequence will be activated when the <b>Max occupied time</b> is reached
<b>Set event based category</b>	In the <b>Set event based category</b> column select the <input checked="" type="checkbox"/> check box to enable for the selected bay
<b>Event based category</b>	In the <b>Event based categories combo-box</b> select the category into which the bays will be occupied

## 17.9 Things to know

### 17.9.1 About the threshold rule

By setting an alarm to go ON when an occupation period exceeds the maximum occupation time, you can ensure that the users are not staying longer than they are permitted. Meanwhile, a limitation on the amount of time a bay can be vacant is a good way to ensure that your Car Park project is being fully utilized.

## 17.10 Procedures

### 17.10.1 Set a Max vacant time / Max occupied time


Follow this procedure to set a max vacant and/or Max occupied time for the bays of a virtual group, individually:

Step	Action
1	Click on <b>Bays alarms settings</b> from the <b>Alarms</b> menu
2	In the <b>Carpark</b> tree view select a virtual group: the relevant bays will be shown in the table on the right
3	In the <b>Max vacant time enabled</b> column select the <input checked="" type="checkbox"/> check box to enable the required bays
4	In the <b>Max vacant time</b> insert the value and press <b>ENTER</b> Note: if the time you have entered does not match the format <i>[days].[hours]:[minutes]</i> , you will be unable to deselect the field until this is corrected
5	In the <b>Use sequence</b> column select the <input checked="" type="checkbox"/> check box to enable the required bays
6	In the <b>Sequence</b> you can set a sequence that will be executed when the <b>Max vacant time</b> value is reached Note: The Sequences have to be defined in the SBP Tool
7	In the <b>Max occupied time enabled</b> column select the <input checked="" type="checkbox"/> check box to enable the required bays
8	In the <b>Max occupied time</b> insert the value and press <b>ENTER</b> Note: if the time you have entered does not match the format <i>[days].[hours]:[minutes]</i> , you will be unable to deselect the field until this is corrected
9	In the <b>Use sequence</b> column select the <input checked="" type="checkbox"/> check box to enable the required bays
10	In the <b>Sequence</b> you can set a sequence that will be executed when the <b>Max occupied time</b> value is reached Note: The Sequences have to be defined in the SBP Tool
11	In the <b>Set event based category</b> column select the <input checked="" type="checkbox"/> check box to enable the required bays: the selected bays
12	In the <b>Event based categories combo-box</b> you can select an event based category that will be set when the <b>Max vacant time / Max occupied time</b> value is reached This functionality permits to change the colour to a bay sensor to distinguish from the standard colour for occupy status
13	In the <b>Quick settings</b> section click the <b>Save</b> button to save the changes

## 17.10.2 Book bays with a global threshold rule

When a time checkbox is checked and the time field has been filled out:

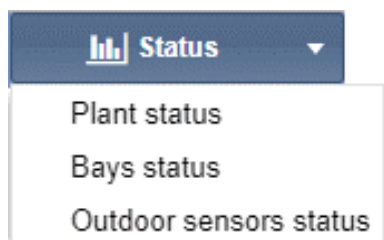
Step	Action
1	Click on <b>Bays alarms settings</b> from the <b>Alarms</b> menu
2	In the <b>Carpark</b> tree view select a virtual group: the relevant bays will be shown in the table on the right
3	In the <b>Enable max vacant time (d.hh:mm)</b> field select <input checked="" type="checkbox"/> the check box
4	In the box below insert the value and press <b>ENTER</b> Note: if the time you have entered does not match the format <i>[days].[hours]:[minutes]</i> , you will be unable to deselect the field until this is corrected
5	In the <b>Enable max occupied time (d.hh:mm)</b> field select <input checked="" type="checkbox"/> the check box
6	In the box below insert the value and press <b>ENTER</b> Note: if the time you have entered does not match the format <i>[days].[hours]:[minutes]</i> , you will be unable to deselect the field until this is corrected
7	In the <b>Set event based category</b> field select <input checked="" type="checkbox"/> the check box
8	In the combo-box below select the <b>event based category</b> will be applied to all corresponding bays in the selected virtual group.
9	In the <b>Quick settings</b> section click <b>Apply</b> : the changes will be applied to all corresponding bays in the selected virtual group.  <i>Note: If a time checkbox is unchecked and <b>Apply</b> is clicked, all the corresponding time limits will be disabled</i>

*Note: changes made to the field will become permanent when the **Save** button is clicked. If at any point (before clicking **Save**) you regret any changes made, click the  icon to close the window without saving any changes.*

# 18 STATUS

## 18.1 User interface

By clicking on  **Status** tab from the navigation bar, the following menu will appear:

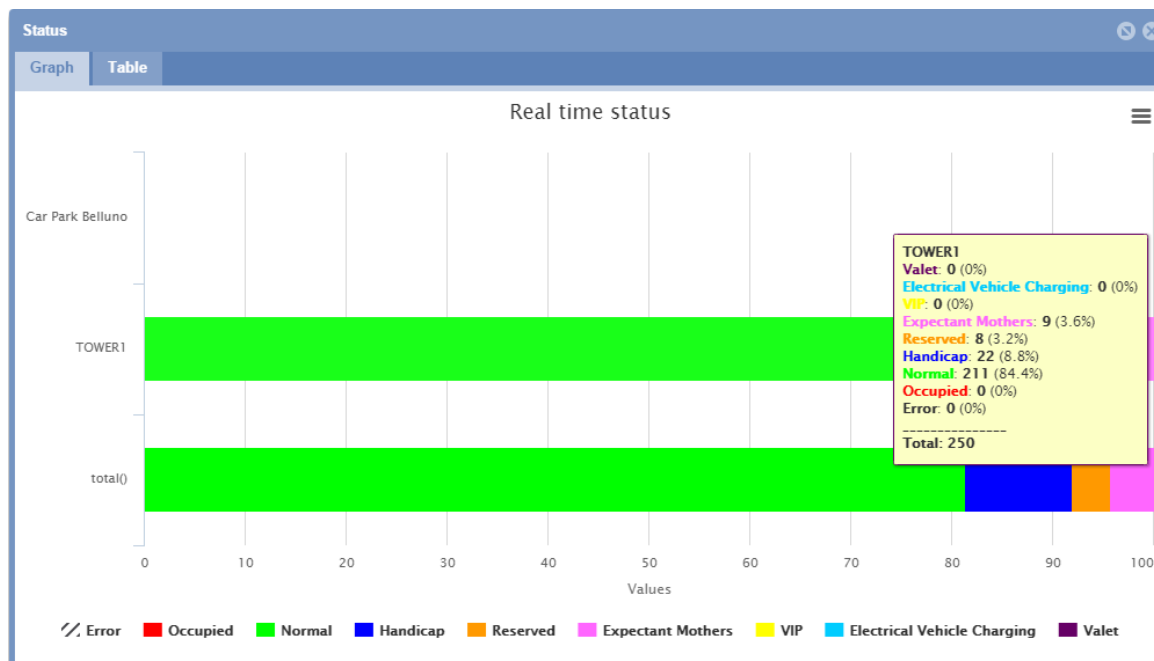


The **Status** menu allows you to set time and utilization limits for the bays and groups of the Car Park project. It will inform you if Car Park activity goes beyond these limits, as well as if technical problems should arise. The alarm system is invaluable in maintaining an overview of the parking lot. This is especially true for large scale Carparks.

Section	Features
<u><b>Plant status</b></u>	Shows the current active alarms
<u><b>Bays status</b></u>	Shows the alarms that occurred in a selected period

## 18.2 User interface

By clicking on **Plant status** tab from the navigation bar, the Real time status window will appear:



The **Real time status** window shows the live occupation status of the various groups of the Car Park project, as they are defined in the SBP Tool. The status is live in the sense that it is continuously monitored by the software.

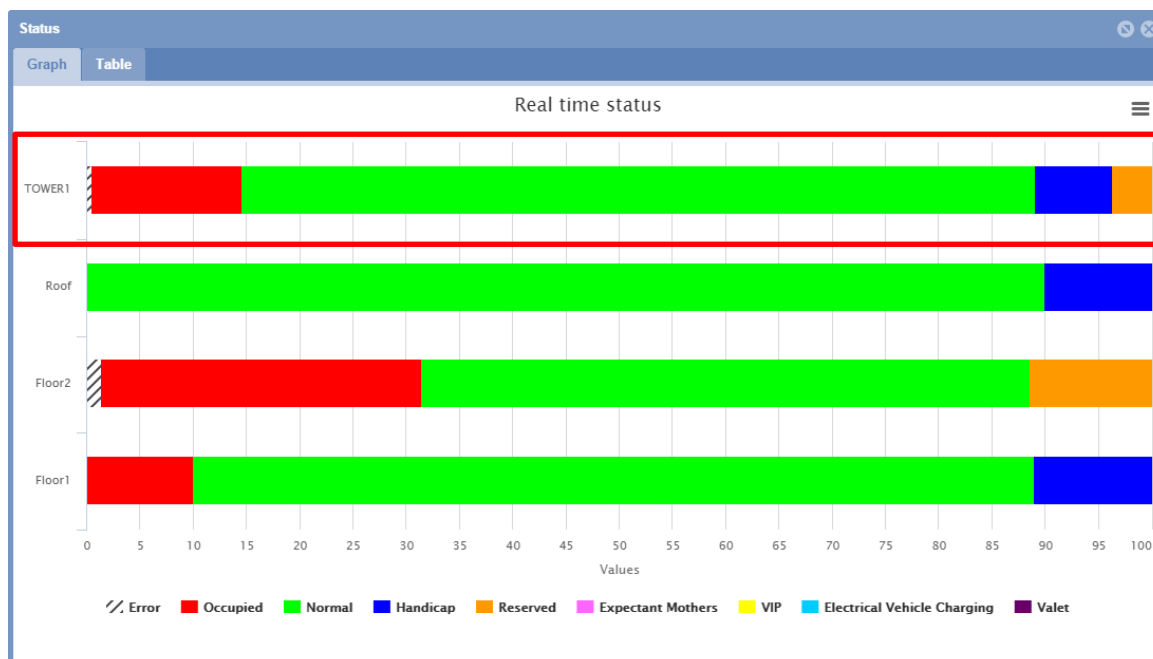
You can choose to have the collected data illustrated either by:

Section	Features
<b><u>Graph tab</u></b>	Shows a graphical report of the live occupation
<b><u>Table tab</u></b>	Shows a textual report of the live occupation



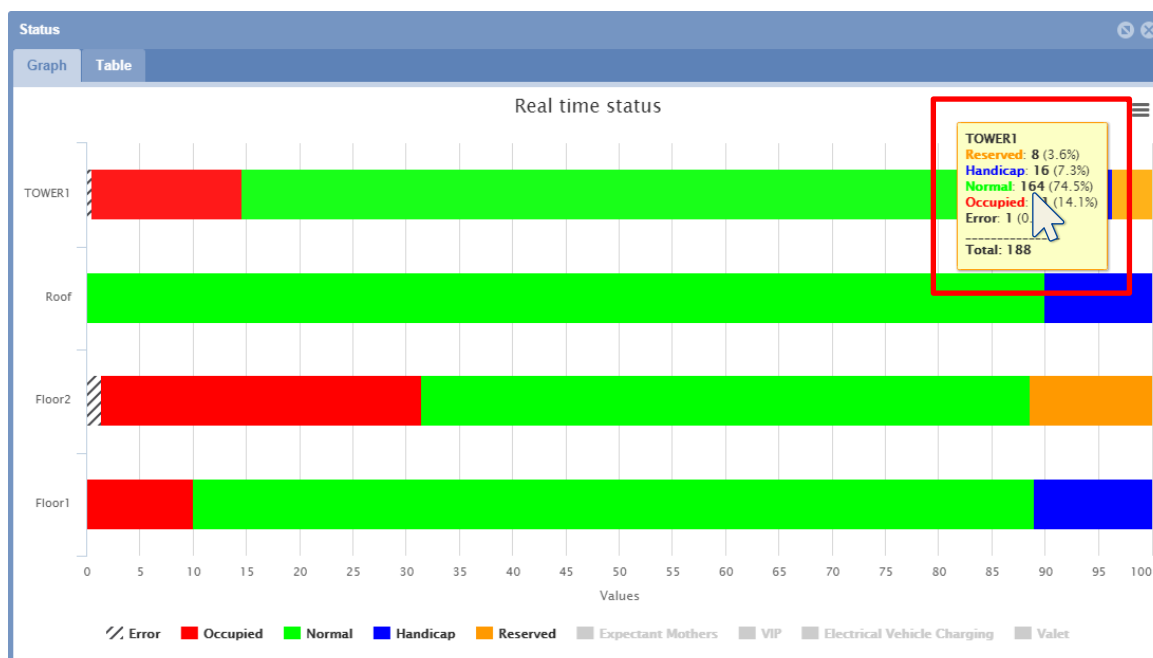
## 18.2.1 Graph tab

The **Graph** tab shows a graphical representation of percentage of bay sensors registered as occupied in each group and percentage in the available categories.



### 18.2.1.1 Hovering (Show detailed information)

In the **Graph** tab, by hovering a coloured section of a group's bar with the mouse, a tooltip will appear with the live occupation details:



## 18.3 Things to know

### 18.3.1 Categories

The *Group Status window* status bar quantifies the categories of bay sensors. In the example above the categories managed are:

<b>TOWER1</b> <b>Reserved:</b> 8 (3.6%) <b>Disabled:</b> 16 (7.3%) <b>Normal:</b> 164 (74.5%) <b>Occupied:</b> 31 (14.1%) <b>Error:</b> 1 (0.5%) ----- <b>Total:</b> 188	<b>Node</b> <ul style="list-style-type: none"> <li>• <b>Reserved:</b> total number of bays</li> <li>• <b>Disabled:</b> total number of bays</li> <li>• <b>Normal:</b> total number of bays</li> <li>• <b>Occupied:</b> total number of bays occupied</li> <li>• <b>Error:</b> total number of bays in error</li> </ul> ----- <ul style="list-style-type: none"> <li>• <b>Total:</b> total vacant bays</li> </ul>
---	---

It divides these quantities of bay sensors according to their status. This is done to provide a better overview of the state occupancy of the parking lot.

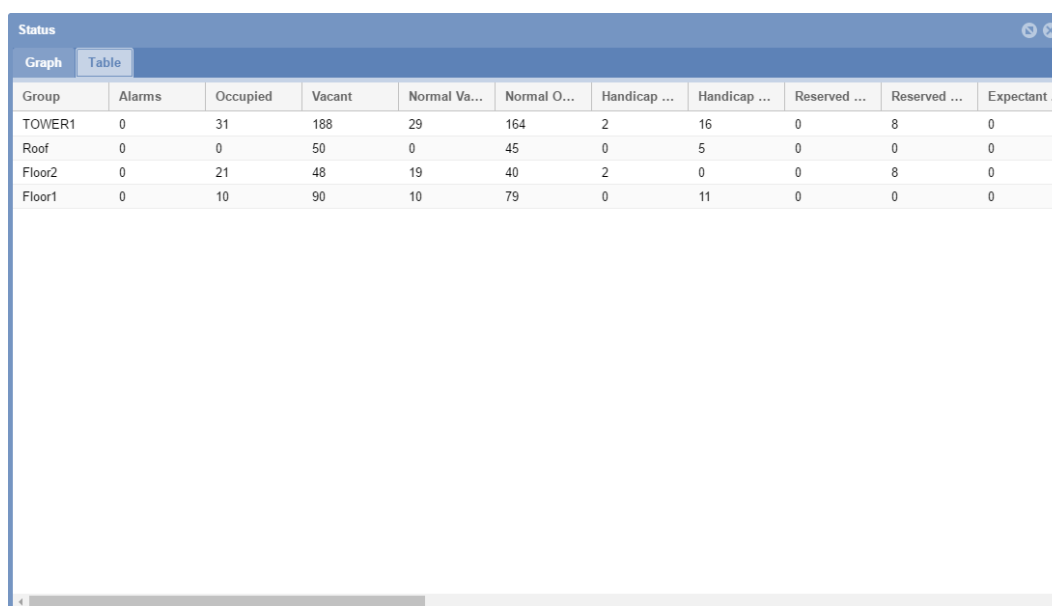
### 18.3.2 Unknown status

When the Car Park project is first configured and started by the SBP Tool, it is normal for some (if not all) of the sensors to be categorized under the **Unknown status** for a short period of time. This is because the sensors are still being detected and the aforementioned sensor occupied delay has not yet elapsed for all of them. However, if the Unknown status persists, consult the **Alarm > Status** section and see if any of the SBP2WEB masters are experiencing a communication error. If so, check the hardware and software configuration in the SBP Tool.

## 18.4 User interface

### 18.4.1 Table tab

The **Table** tab presents the same data as the **Graph** tab, but in plain text form.



Group	Alarms	Occupied	Vacant	Normal Va...	Normal O...	Handicap ...	Handicap ...	Reserved ...	Reserved ...	Expectant ...
TOWER1	0	31	188	29	164	2	16	0	8	0
Roof	0	0	50	0	45	0	5	0	0	0
Floor2	0	21	48	19	40	2	0	0	8	0
Floor1	0	10	90	10	79	0	11	0	0	0

In the Table tab you can see a row for each group of the Car Park project. The fields are as follows:

Field	Description
<b>Group</b>	Shows the group's name
<b>Alarms</b>	Shows the current active alarm count for the group. See the <a href="#">Alarms</a> chapter for more details on this
<b>Occupied</b>	Shows the total number of bays that are occupied in the current group
<b>Vacant</b>	Shows the total number of vacant bays available
<b>[Category 1] Vacant</b>	Shows the vacant bays for category 1 (Default "Normal")
<b>[Category 1] Occupied</b>	Shows the occupied bays for category 1 (Default "Normal")
<b>[Category 2] Vacant</b>	Shows the vacant bays for category 2 (Default "Disabled")
<b>[Category 2] Occupied</b>	Shows the occupied bays for category 2 (Default "Disabled")
<b>[Category n] Vacant</b>	Shows the vacant bays for category <i>n</i>
<b>[Category n] Occupied</b>	Shows the occupied bays for category <i>n</i>
<b>Bays</b>	Shows the total number of bays for this Group (node)

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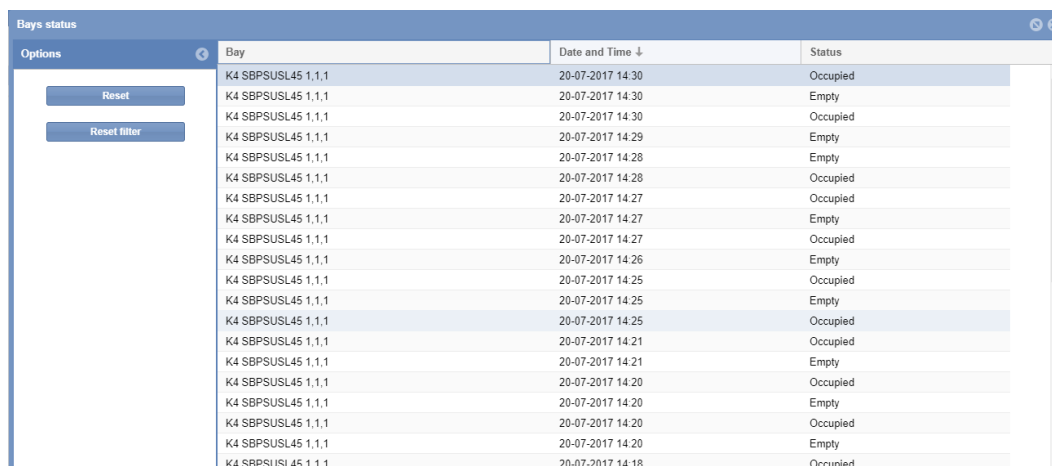
<b>[Category 1] Total</b>	Shows the total number of bays (vacant and occupied) for category 1
<b>[Category 2] Total</b>	Shows the total number of bays (vacant and occupied) for category 2
<b>[Category n] Total</b>	Shows the total number of bays (vacant and occupied) for category <i>n</i>
<b>Error!</b>	Shows the total number of bays in Error for the selected group

---

## 18.5 User interface

### 18.5.1 Bays status

The **Bays status** window presents the same data as the **Graph** tab, but in plain text form.



Options	Bay	Date and Time ↓	Status
<input type="button" value="Reset"/>	K4 SBPSUSL45 1.1.1	20-07-2017 14:30	Occupied
<input type="button" value="Reset filter"/>	K4 SBPSUSL45 1.1.1	20-07-2017 14:30	Empty
	K4 SBPSUSL45 1.1.1	20-07-2017 14:30	Occupied
	K4 SBPSUSL45 1.1.1	20-07-2017 14:29	Empty
	K4 SBPSUSL45 1.1.1	20-07-2017 14:28	Empty
	K4 SBPSUSL45 1.1.1	20-07-2017 14:28	Occupied
	K4 SBPSUSL45 1.1.1	20-07-2017 14:27	Occupied
	K4 SBPSUSL45 1.1.1	20-07-2017 14:27	Empty
	K4 SBPSUSL45 1.1.1	20-07-2017 14:27	Occupied
	K4 SBPSUSL45 1.1.1	20-07-2017 14:26	Empty
	K4 SBPSUSL45 1.1.1	20-07-2017 14:25	Occupied
	K4 SBPSUSL45 1.1.1	20-07-2017 14:25	Empty
	K4 SBPSUSL45 1.1.1	20-07-2017 14:25	Occupied
	K4 SBPSUSL45 1.1.1	20-07-2017 14:21	Occupied
	K4 SBPSUSL45 1.1.1	20-07-2017 14:21	Empty
	K4 SBPSUSL45 1.1.1	20-07-2017 14:20	Occupied
	K4 SBPSUSL45 1.1.1	20-07-2017 14:20	Empty
	K4 SBPSUSL45 1.1.1	20-07-2017 14:20	Occupied
	K4 SBPSUSL45 1.1.1	20-07-2017 14:20	Empty
	K4 SBPSUSL45 1.1.1	20-07-2017 14:18	Occupied

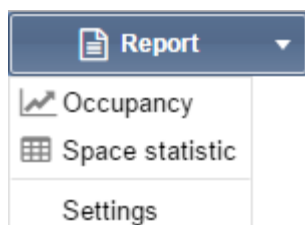
In the Bays status tab you can see a row for each group of the Car Park project. The fields are as follows:

Field	Description
<b>Bay</b>	Shows the bay's name
<b>Date and Time</b>	Shows the date and time when the event has occurred
<b>Status</b>	Shows the current status of the bay



# 19 REPORT

## 19.1 User interface

The **Report** menu contains two of the key analysis functions of the CPY webserver. By clicking on the **Report** tab from the navigation bar, the following menu will appear:

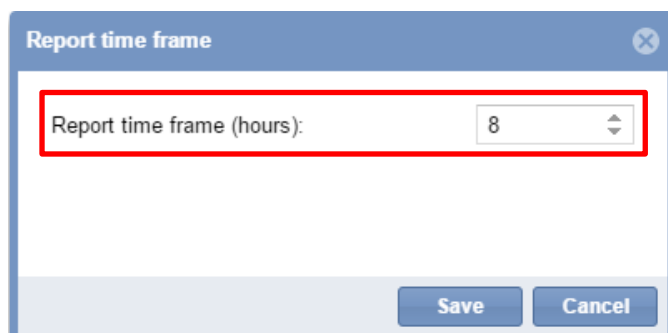


These reports provide an overview of Car Park usage patterns, on a scale varying from a single parking bay, to the entire Car Park project (parking lot).

Section	Features
 <b>Occupancy</b>	Shows a history report about the occupied/vacant status of a selected group of Car Park project
 <b>Space statistic</b>	Shows a detailed report about status of each bay of a selected group of Car Park project
<b>Settings</b>	Set the delta period for the report time interval

### 19.1.1 Report time frame window

In the **Setting** tab of the **Report** menu, you can set the difference between the **Start date** and the **End date** used by default from the Report functions.



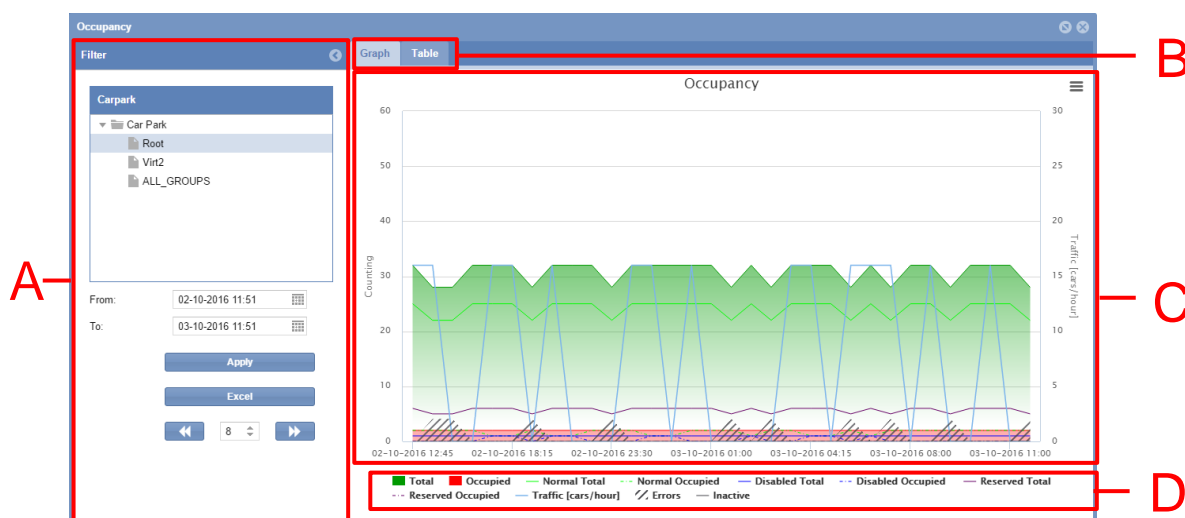
## 19.1.2 Occupancy

The **Occupancy** function takes a virtual snapshot of the state of occupancy in each group of the Car Park, every fifteen minutes (UTC time). You can choose to have the collected data illustrated either:

- Graphically in the **Graph** tab
- Textually in the **Table** tab

## 19.1.3 Graph tab

The **Graph** tab contains a chart which illustrates the Car Park occupancy history.




Graph tab of Occupancy window

Area	Description
------	-------------

- A The filter is used to specify the period of time, as well as the group of the carpark where the data shown should stem from. This allows you to specify which part of the occupation history you're interested in. By limiting the scope of the data, it becomes easier to interpret. The filter has three fields:

Filter	Description
<b>Groups</b>	This field lets you choose the group (real or virtual) where the data shown should originate
<b>From</b>	This field specifies the filter starting point. All occupation history data that occurred between this point in time and the filter end point will be shown
<b>To</b>	This field specifies the filter ending point

*Note: The window can be hidden with the  button*

- B You can switch from **Graph** tab to **Table** tab

- C This shows the graph based on the filter set. The graph axes adjust automatically to the data requested, in order to present in the most interpretable manner possible. The time (horizontal) axis resolution will change in accordance with the length of the selected filter period. The longer the period, the lower the resolution.

By clicking on the  icon you can export the report (see [Export the graph in different formats](#) )

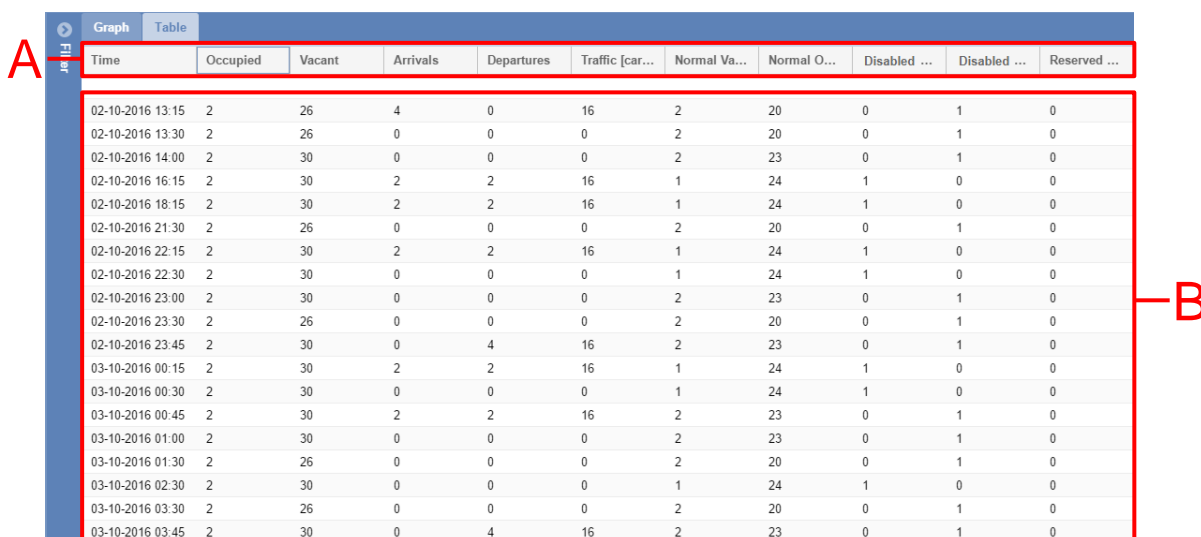
- D You can enable or disable the showing of specific statistics by clicking the labels of the available categories (**C area**).

*Note: only the Graph tab shows the group categories*



## 19.1.4 Table tab

The **Table** tab shows the same data as the **Graph** tab. By clicking on **Table** tab from the **Occupancy** window, the following interface will appear:



Time	Occupied	Vacant	Arrivals	Departures	Traffic [car...	Normal Va...	Normal O...	Disabled ...	Disabled ...	Reserved ...
02-10-2016 13:15	2	26	4	0	16	2	20	0	1	0
02-10-2016 13:30	2	26	0	0	0	2	20	0	1	0
02-10-2016 14:00	2	30	0	0	0	2	23	0	1	0
02-10-2016 16:15	2	30	2	2	16	1	24	1	0	0
02-10-2016 18:15	2	30	2	2	16	1	24	1	0	0
02-10-2016 21:30	2	26	0	0	0	2	20	0	1	0
02-10-2016 22:15	2	30	2	2	16	1	24	1	0	0
02-10-2016 22:30	2	30	0	0	0	1	24	1	0	0
02-10-2016 23:00	2	30	0	0	0	2	23	0	1	0
02-10-2016 23:30	2	26	0	0	0	2	20	0	1	0
02-10-2016 23:45	2	30	0	4	16	2	23	0	1	0
03-10-2016 00:15	2	30	2	2	16	1	24	1	0	0
03-10-2016 00:30	2	30	0	0	0	1	24	1	0	0
03-10-2016 00:45	2	30	2	2	16	2	23	0	1	0
03-10-2016 01:00	2	30	0	0	0	2	23	0	1	0
03-10-2016 01:30	2	26	0	0	0	2	20	0	1	0
03-10-2016 02:30	2	30	0	0	0	1	24	1	0	0
03-10-2016 03:30	2	26	0	0	0	2	20	0	1	0
03-10-2016 03:45	2	30	0	4	16	2	23	0	1	0

Table tab of Occupancy window

Area	Description
A	The header row shows the columns of the table
B	The table reports the results of the chart as text

*Note: Like the **Graph** tab, this will adjust its time resolution in accordance with the selected filter period.*

## 19.2 Things to know

### 19.2.1 Customizable items of a report

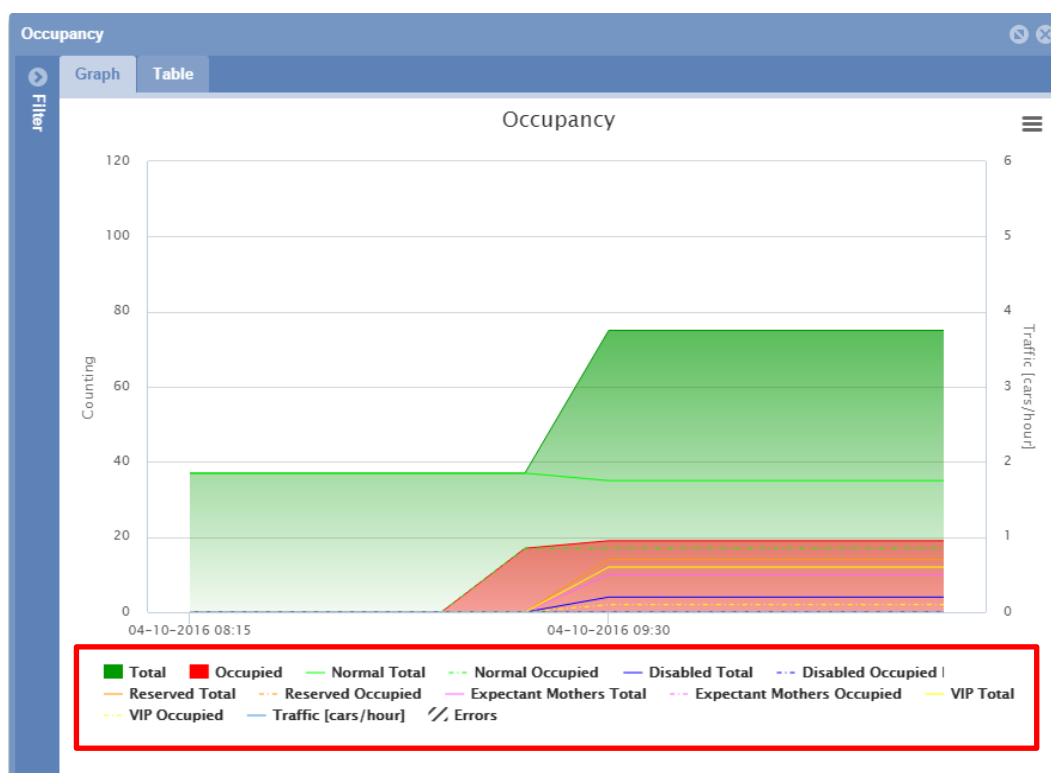
You can customize the following report items:

Tab	Items
<b>Graph</b>	<ul style="list-style-type: none"> <li>Show / hide categories</li> <li>Show / hide statuses</li> </ul>
<b>Table</b>	<ul style="list-style-type: none"> <li>Column position</li> <li>Sort the data into Ascending/Descending order by column</li> </ul>

### 19.2.2 Elements in the graph

As well as showing which of the total parking spaces are occupied/vacant, the chart also shows detailed data for all the categories managed in the Car Park project. See [Status/Categories setup](#).

In addition to the occupied/vacant statuses, the chart also shows how many of the total disabled bays are occupied, as well as which spaces are booked and how many of these are occupied. The chart goes on to illustrate traffic patterns and, if an error should occur, it will illustrate this too.



All the categories and statuses managed by the Car Park project are reported below the current graph (see the red rectangle in the picture above) with a label for each category (occupied/vacant)

After you create a report, you can select which elements you want to show in a chart.


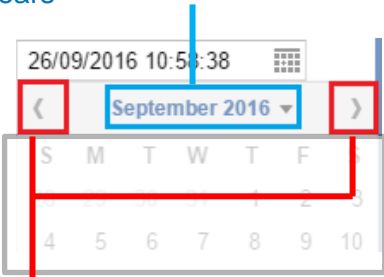

The elements which can be shown in the chart are:

- **Category** (Disabled, VIP etc..)
- **Bay status** (e.g. if the real bay sensor is in **Error** condition)
- **Traffic [cars/hour]**

## 19.3 Procedures

### 19.3.1 Create a new report (Graph/Table)

Follow this procedure to create a new report:

Step	Action
1	Click on <b>Occupancy</b> from the <b>Report</b> menu
2	In the <b>Filter</b> section → <b>Groups</b> , select the desired group
3	In the <b>From</b> field, click on the  icon
4	In the <b>popup calendar</b> select the <b>start</b> date <p style="color: blue; text-align: center;">Click on the month to select the year through years</p>  <p style="color: red; text-align: center;">Click on the arrows to select the month through months</p>
	The hour can be edited by clicking on it and entering the desired time. <b>Note: The start date must be before the end date</b>
5	In the <b>To</b> field, click on the  icon
6	In the <b>popup calendar</b> select the <b>end</b> date to define the <b>filter end point</b> . <i>Note: the current time is set as the predefined end point</i>

- Once the filter has been adjusted to match your criteria, press the **Apply** button to update with the new preference.

*Note: If you change the current group (the node on the tree), the graph/table will be generated automatically without pressing the Apply button*

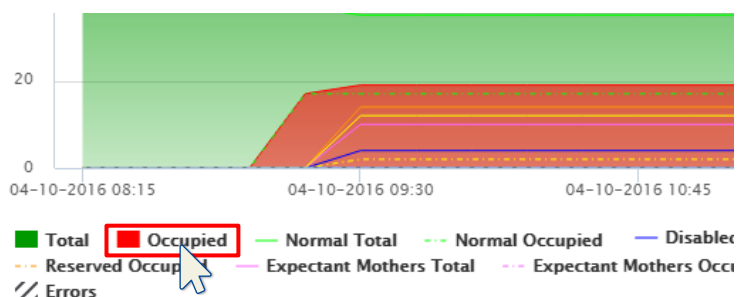
### 19.3.2 Show / hide elements in the graph

In order to show/hide the different elements, follow this procedure:

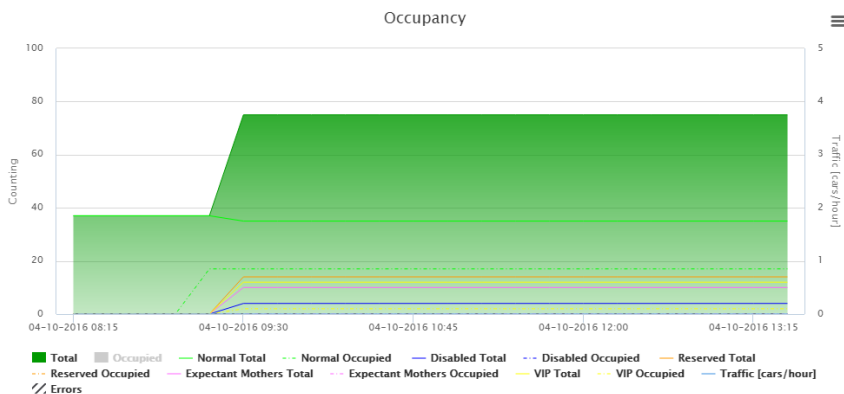
Step	Action
------	--------

- [Create a new report](#) if you don't have an already existing one

- At the bottom of the chart, click on one or more **text labels** of the categories, in order to hide/show from current view:



- In the example below, the **Occupied** category has been hidden

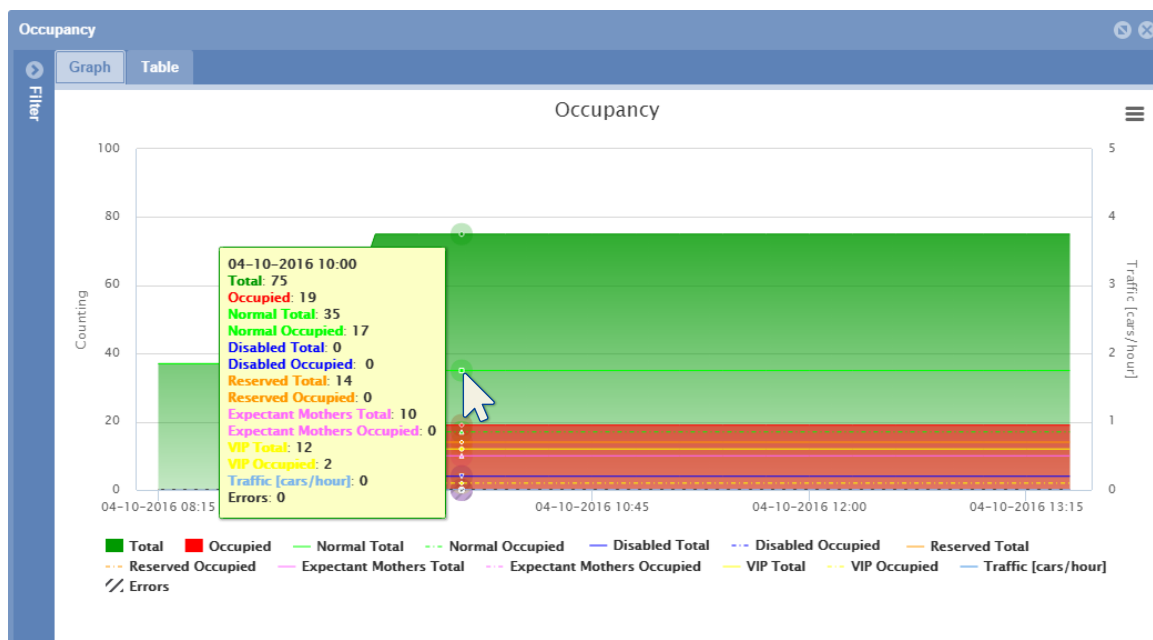


*Note: This selection does not affect the data in the **Table** tab, but it affects the list shown in the tooltip and reports that can be saved from the graph.*

### 19.3.3 Show the status in the tooltip

The tooltip is a little box that pops up when you hover the mouse over the chart area. The tooltip content is automatically generated based on the elements available for the chart.

You can see the tooltip by hovering your mouse over any part of the chart area. It shows, in text format, the status of the Car Park at the exact moment the mouse pointer is placed.




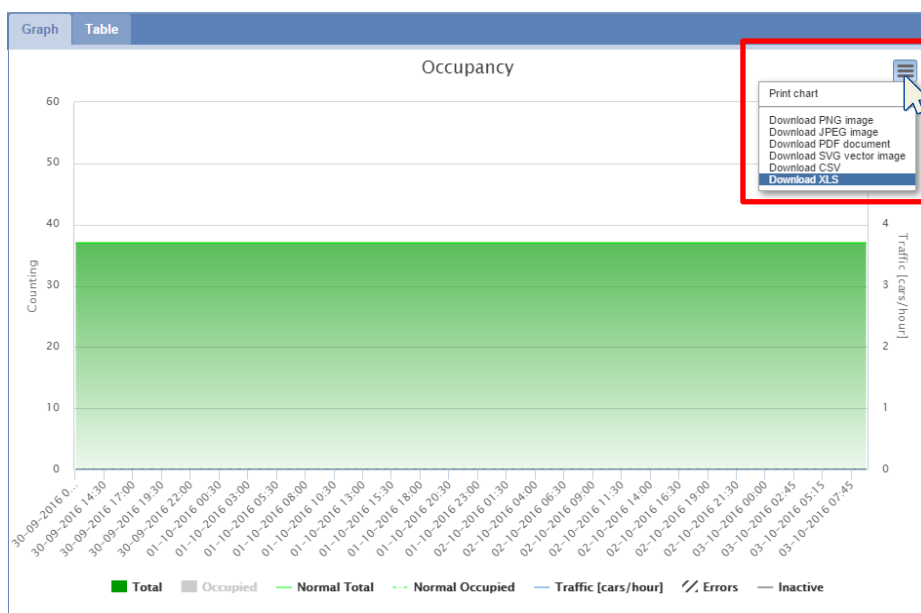
*Note: the data represented in the tooltip popup based on the label selected at the bottom part of the chart*

## 19.3.4 Export the graph in different formats

You can export the generated report into one of the available file formats, e.g. a CSV file or an XLS table. There are also different image formats available to save it as a graph.

Step	Action
1	<a href="#">Create a new report</a> if you don't have an already existing one

- 2 In the top-right part of the chart area (see the red rectangle below), click on the  icon:



- 3 Select one of the format files to save it.



*Note: Depending on your browser settings, there are different ways to download files: please refer to the download setting of the browser used.*

## 19.3.5 Sort the contents of a table report

Step	Action
1	<a href="#">Create a new report</a> if you don't have an already existing one

- 2 Select Table tab from the Occupancy window

- 3 From the header row, click the  icon next to the required box, then:

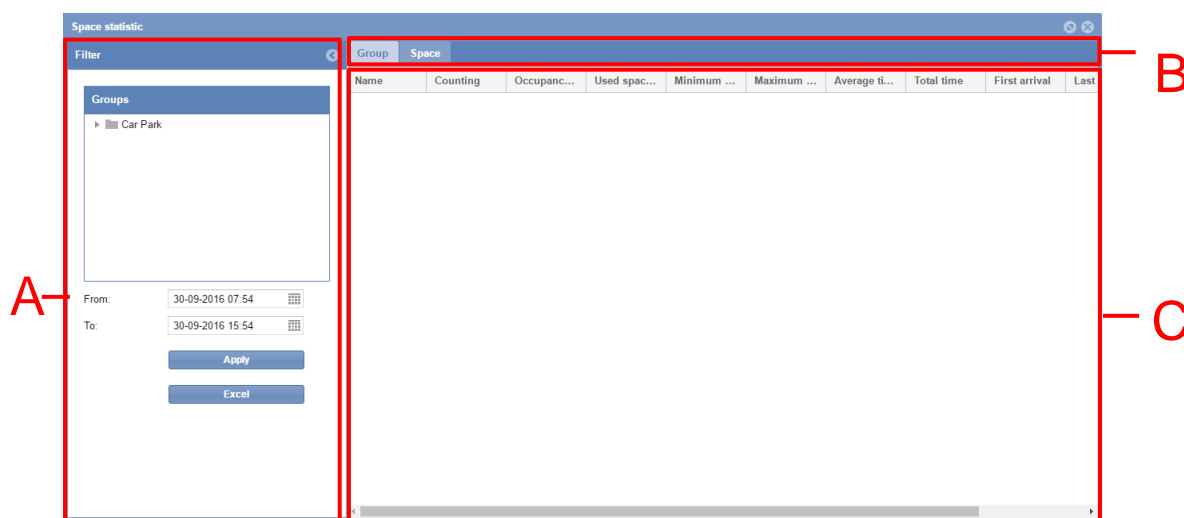
- click  to sort in ascending alphanumeric order (Sort A to Z)
- click  to sort in descending alphanumeric order (Sort Z to A)

## 19.4 User interface


### 19.4.1 Space statistic

The space statistic function focuses on the analysis of parking bay utilization. It does so by looking at the time intervals during which spaces have been occupied and generating statistics by comparing these intervals to each other in the context of the period selected by the user.

- **Group** tab: the statistics can be viewed for the selected group;
- **Space** tab: the statistics can be viewed for individual spaces;



Space statistic window

Area	Description								
A	<p>The filter is used to specify the period of time, as well as the group of the carpark, where the data shown should stem from. This allows you to specify which part of the occupation history you're interested in. By limiting the scope of the data, it becomes easier to interpret. The filter has three fields:</p> <table border="1"> <thead> <tr> <th>Filter</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><b>Groups structure</b></td> <td>This field lets you choose the group (real or virtual) that the data shown should originate from.</td> </tr> <tr> <td><b>From</b></td> <td>This field specifies the filter starting point. All occupation history data that occurred between this point in time and the filter end point will be shown.</td> </tr> <tr> <td><b>To</b></td> <td>This field specifies the filter ending point</td> </tr> </tbody> </table> <p><i>Note: The window can be hidden with the button </i></p>	Filter	Description	<b>Groups structure</b>	This field lets you choose the group (real or virtual) that the data shown should originate from.	<b>From</b>	This field specifies the filter starting point. All occupation history data that occurred between this point in time and the filter end point will be shown.	<b>To</b>	This field specifies the filter ending point
Filter	Description								
<b>Groups structure</b>	This field lets you choose the group (real or virtual) that the data shown should originate from.								
<b>From</b>	This field specifies the filter starting point. All occupation history data that occurred between this point in time and the filter end point will be shown.								
<b>To</b>	This field specifies the filter ending point								
B	You can switch from <b>Group</b> tab to <b>Space</b> tab								
C	<p>This section shows the data table based on the group selection</p> <p>Refer to the table below for more info about the fields available for <b>Group</b> tab and <b>Space</b> tab</p>								

## 19.5 Things to know

### 19.5.1 Group tab

The table found under the **Group** tab shows the group statistics for all the space sensors assigned to the group that the user has selected. If the selected group is subdivided into smaller groups, the statistics for these smaller groups will be shown.

The fields of the **Group** table show the following data:

Permission	Description
<b>Name</b>	The group name, as defined in the <b>Configuration of the SBP2CPY</b>
<b>Counting</b>	The number of times a bay has been newly occupied in the group during the selected period (the filter period)
<b>Occupancy time %</b>	The percentage of time the group is occupied. Calculated by: $\frac{([\text{The sum of the group's bay occupancy time}] / ([\text{The selected period (filter period)}] * [\text{number of bays}]]) * 100}$
<b>Used space %</b>	The percentage of the parking bays in the selected group that were occupied during the selected period
<b>Minimum time</b>	The shortest time interval in which a car was parked in a bay during the selected period



<b>Maximum time</b>	The longest time interval in which a car was parked in a bay during the selected period
<b>Average time</b>	The average length of the occupation times that occurred in the selected period
<b>Total time</b>	The sum of each parking bay's total occupation time during the selected period
<b>First arrival</b>	The starting point of the first occupation time found in the selected period
<b>Last departure</b>	The ending point of the last occupation time found in the selected period. Note: be aware that if this is equal to the selected <i>From time</i> , all the occupation intervals in the selected period are currently active. This means all bays in the group are currently occupied.

## 19.5.2 Space tab

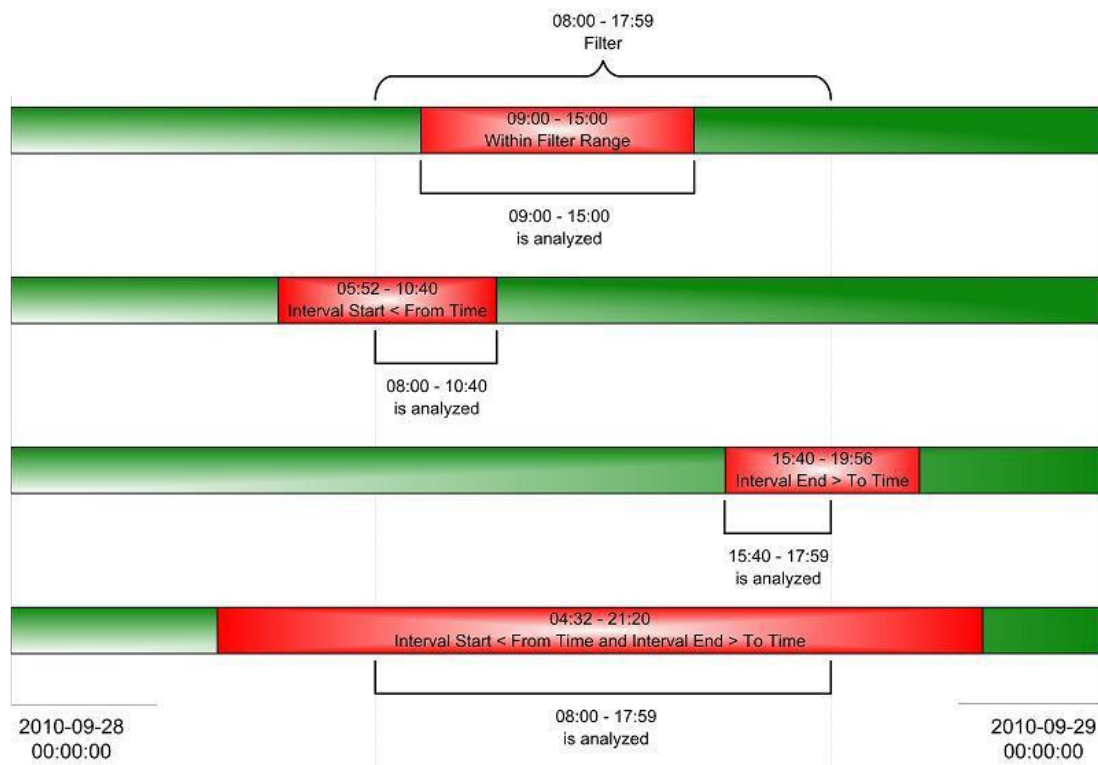
The table found under the **Space** tab shows the statistics of each individual bay sensor in the area that the user has selected. The fields of the table show the following data:

Permission	Description
<b>Name</b>	The sensor's name, as defined in the SBP Tool
<b>Counting</b>	The number of times the bay was occupied during the selected period (the filter period)
<b>Occupancy time %</b>	The percentage of time in the selected period that the bay was occupied
<b>Minimum time</b>	The shortest time interval in which a car was parked in the bay during the selected period
<b>Maximum time</b>	The longest time interval in which a car was parked in the bay during the selected period
<b>Average time</b>	The bay's average occupation time during the selected period
<b>Total time</b>	The bay's total occupation time in the selected period
<b>First arrival</b>	The starting point of the first occupation interval found in the selected period
<b>Last departure</b>	The ending point of the last occupation interval found in the selected period. Be aware that if this is equal to the selected <i>From time</i> , the selected period only contains an active occupation interval. This means that the bay is currently occupied

*Note: If a bay associated with the selected group does not appear in the table, it is because it has not been occupied during the selected period.*

## 19.5.3 Example

While the filter has the function of narrowing down the data the software should display, it also functions as a cut off point for the occupation intervals being analyzed.



The above diagram shows four different scenarios where an occupation interval for a single parking bay is filtered. As can be seen in the first scenario (TOP), when the interval starts and ends within the filter period, the full interval is analyzed by the software. However, as can be seen in the other three scenarios, if any part of an interval lies outside the filter period, it will be disregarded by the software.

An example: there are 10 parking bays in a group. Each of these has been occupied during the hour between 9 and 10 in the morning. In the filter you select the group and set *From time* to 09:11:00 and *To time* to 09:12:59. The resulting output will show that the minimum, maximum and average time for all the bays in the group will be 01:59. This is correct, seen in the context of the selected filter period, but it can be misleading.


*Note: In order to avoid confusion it is recommended that you:*

1. *Avoid making your filter periods too short. If this advice had been followed in the example above, useable statistics would have been acquired.*
2. *Look at the First Arrival/ Last Departure times. If they fall outside the filter period, then part of an interval has been disregarded.*

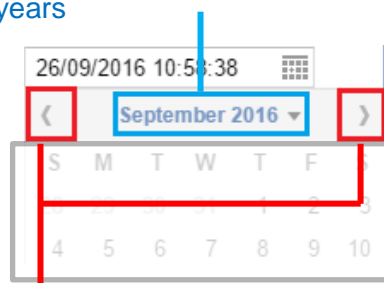
## 19.6 Procedures

### 19.6.1 Create a new report (Space statistics)

Follow this procedure to create a new report:

Step	Action
1	Click on <b>Space statistics</b> from <b>Report</b> menu
2	In the <b>Filter</b> section → <b>Groups</b> , select the desired group
3	In the <b>From</b> field, click on the  icon
4	In the <b>pop-up calendar</b> select the <b>start</b> date


Click on the month to select the year through years



Click on the arrows to select the month through months

The hour can be edited by clicking on it and entering the time required.

**Note: The start date must be before the end date**

5	In the <b>To</b> field, click on the  icon
6	In the <b>pop-up calendar</b> select the <b>end</b> date to define the <b>filter end point</b> . <i>Note: the current time is set as the predefined end point</i>
7	Once the filter has been adjusted to match your criteria, press the <b>Apply</b> button to update the selection with the new preference. <i>Note: If you change the current the node in the tree (the group level you want shown), the graph will be generated automatically without pressing the Apply button</i>

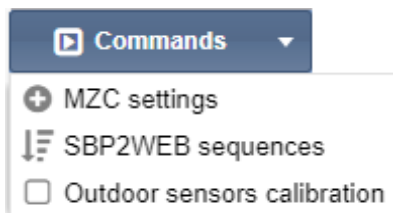
## 19.6.2 Sort the contents of a table

Step	Action
1	<a href="#">Create a new report</a> if you don't have an already existing one
2	From the <b>Space statistics</b> tab in the Occupancy window select: <ul style="list-style-type: none"> <li>• <b>Group</b> tab</li> <li>• <b>Space</b> tab</li> </ul>
3	From the <b>header row</b> , click the ▼ icon next to the box required, then: <ul style="list-style-type: none"> <li>• click ↑ to sort in ascending alphanumeric order (Sort A to Z)</li> <li>• click ↓ to sort in descending alphanumeric order (Sort Z to A)</li> </ul>

# Commands

---

If you click on the **Commands** tab from the navigation bar, the following menu will appear:





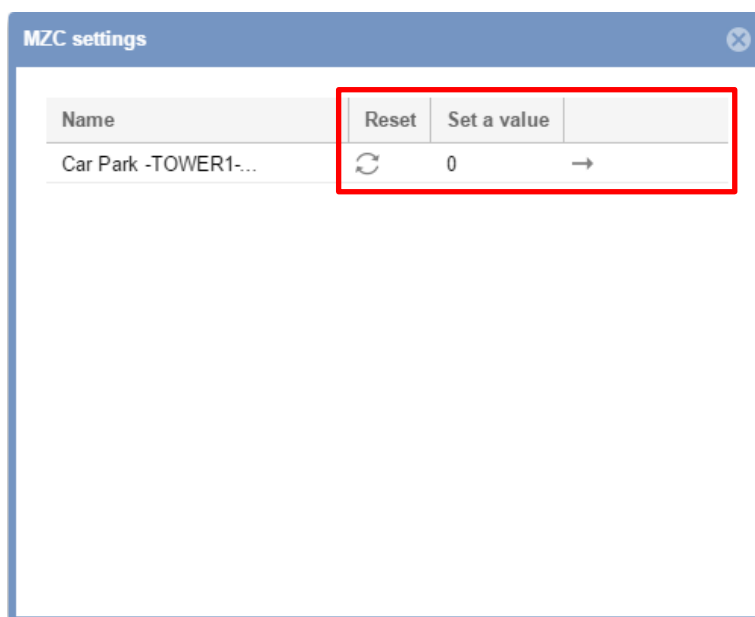
The **Commands** menu includes the following options, as shown below:

Option	Features
<b>+</b> <u>MZC settings</u>	<ul style="list-style-type: none"> <li>▪ Reset the value for a MZC group</li> <li>▪ Send a numeric value for a MZC group</li> </ul>
<b>⇩</b> <u>SBP2WEB sequences</u>	Execute SBP2WEB sequences <i>Note: the sequences shown are configured from the SB Tool</i>

## 20 MZC SETTINGS

### 20.1 User interface

If you click on the  **Commands** tab from the navigation bar, then  **MZC settings**, the following window will appear:




MZCsettings window

You can Reset or send a specific numeric value to the Master Zone Counter of your Car Park project

## 20.2 Procedures

### 20.2.1 Reset MZC group

To reset a Master Zone Counter group, follow this procedure:

Step	Action
1	Click on <b>Commands</b> from the navigation menu, then click the <b>MZC settings</b> tab
2	Click the  <b>Reset</b> button next to the <b>MZC group</b> selected
3	On the <b>Confirm</b> popup, click the <b>Yes</b> button




4	If there is a problem, the system will show the following popup:
---	--

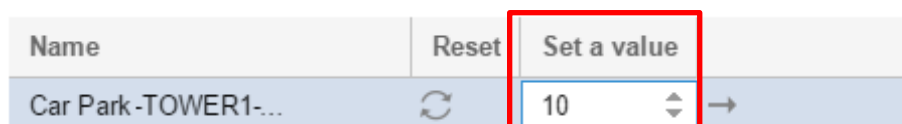


*Note: please repeat the procedure above; if the problem continues, contact technical support*

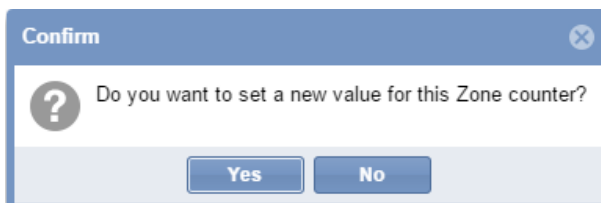
### 20.2.2 Set a value to a MZC group

To set a value to a Master Zone Counter, follow this procedure:

Step	Action
1	Click on <b>Commands</b> from the navigation menu, then click the <b>MZC settings</b> tab
2	Enter a numeric value in the <b>Set a value</b> box next to the <b>MZC group</b> selected
3	Click on the  <b>Send</b> button to send the new value to the MZC group



- 
- 4 On the **Confirm** popup, click the **Yes** button



- 
- 5 If there is a problem, the system will show the following popup:





*Note: please repeat the procedure above; if the problem continues, contact technical support*

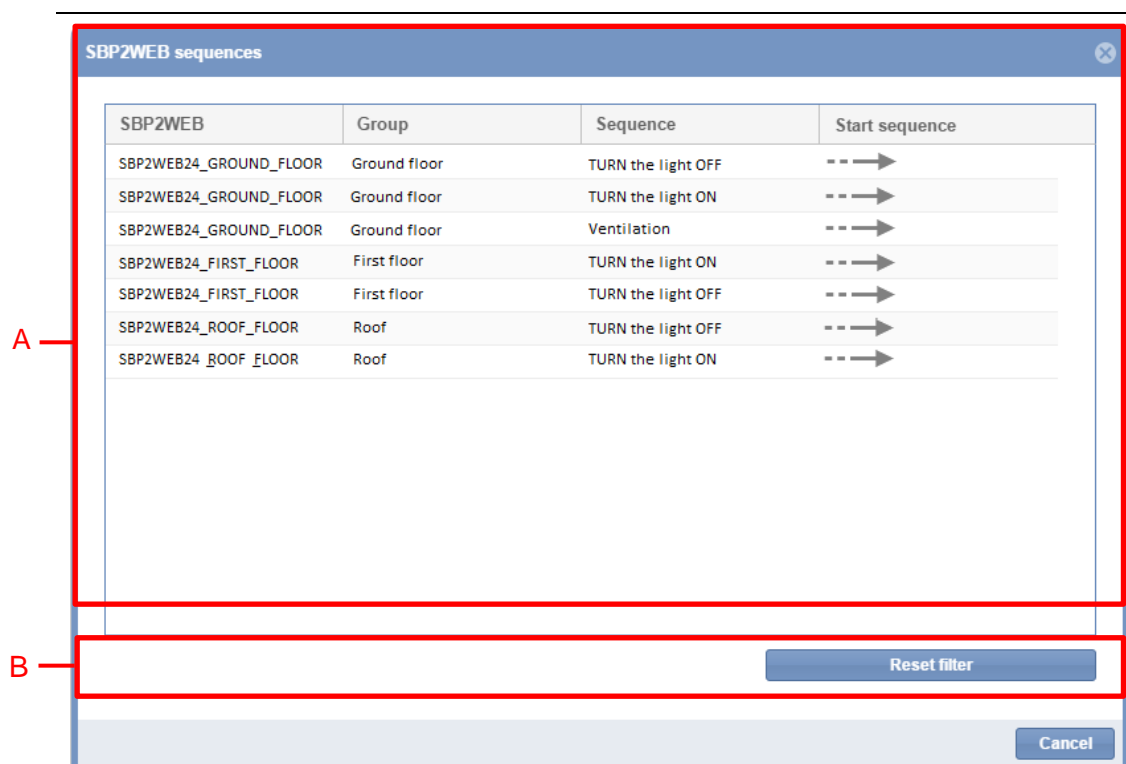
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# 21 SBP2WEB SEQUENCES

## 21.1 User interface

If you click on the  **Commands** tab from the navigation bar, then  **SBP2WEB sequence**, the following window will appear:



SBP2WEB sequences window

The **SBP2WEB sequences** window includes two sections, as shown below:

Section	Description
A	Shows the list of the sequences of all the SBP2WEBs managed in the current Car Park project
B	<ul style="list-style-type: none"> <li>▪ Execute selected sequence</li> <li>▪ Reset filter</li> </ul>

## 21.2 Things to know

### 21.2.1 Sequences


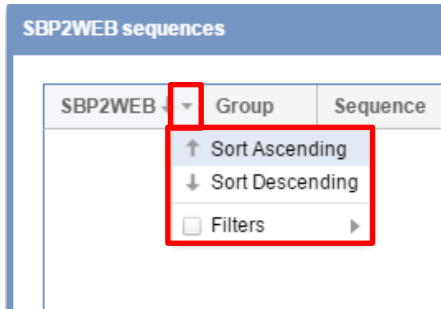


The sequences that can be executed from the SBP2CPY can be created from the SB Tool. The sequences can be related to lights, roller blinds, intruder alarm, sirens, timers and zone temperature functions. The sequences must be synchronized with the SB Tool to the SBP2CPY: please refer to the SB Tool manual.

## 21.3 Procedures

The list of available sequences is shown in the **SBP2WEB sequences** window. You can adjust it by using the filter options available in the header bar.

### 21.3.1 Sort the sequences


Carry out the following procedure in order to sort the sequences into ascending/descending order by column:

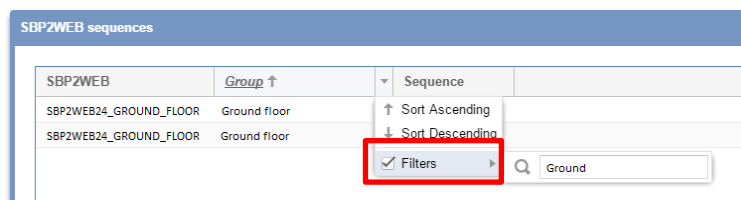
Step	Action
1	Click the arrow  in the column you want to sort:
	
<p><i>Note: each column presents the same filter options, as indicated above.</i></p>	
2	<ul style="list-style-type: none"> <li>▪ Click  to sort in ascending alphanumeric order (Sort A to Z)</li> <li>▪ Click  to sort in descending alphanumeric order (Sort Z to A)</li> </ul>
3	You can remove the filter selection by clicking on the <b>Reset filter</b> button

## 21.3.2 Filter by specific text

Carry out the following procedure in order to filter the sequences by specific text:

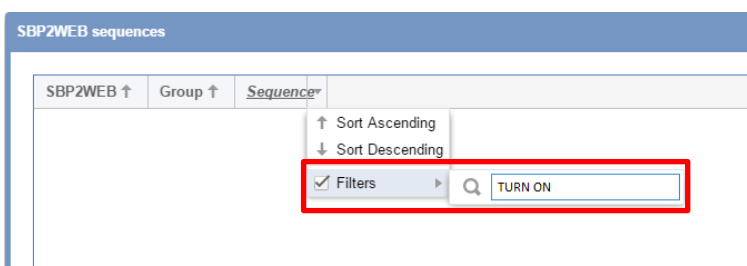
Step	Action
------	--------

- 1 Click the arrow  in the table header of the column you want to filter

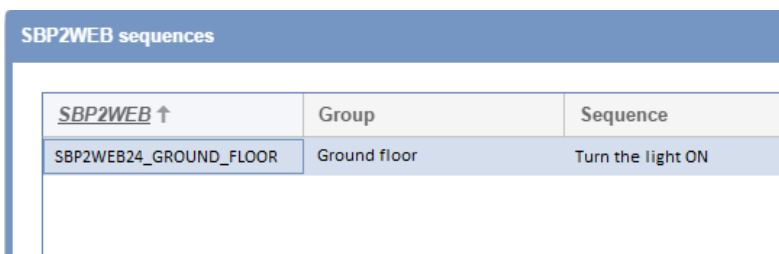


- 2 Tick the Filters check-box

- 3 Enter the text criteria you require in the adjacent box: for example, to show a sequence that contains a specific text string, ( e.g. *TURN ON*)



- 4 The system will provide all the sequences that satisfy the search criteria.



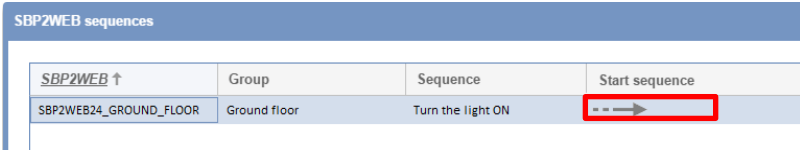


The filter name in the table header changes with underline to indicate a filter is applied, as shown in the picture above for the **SBP2WEB** column.

- 5 You can remove the filter selection by clicking on the **Reset filter** button

### 21.3.3 Execute an SBP2WEB sequence

To execute a sequence, follow this procedure:

Step	Action
1	Click on <b>Commands</b> from the navigation menu, then click the <b>SBP2WEB sequences</b> tab
2	Click the <b>sequence</b> record you want to execute with the left mouse: it will be highlighted in light-blue: 
3	Click on  to start the sequence 

## 22 APPENDIX

### 22.1 Procedures

#### 22.1.1 Install SH2DSP24 adapter

To connect the 3G modem adapter, the SH2DSP24 module, you will have to go through the following steps:

- Make sure the SBP2CPY24 and the SH2DSP24 are not powered.
- Connect the SH2DSP24 to the SBP2CPY through the auxiliary bus on the left side of the SBP2CPY24.
- Make sure the **SIM is not protected by a PIN code** (should that be the case, disable the protection).
- Insert the SIM into the dongle modem through the special slot.
- Restore the power supply of both devices (SBP2CPY and SH2DSP24).
- Make sure that both devices are located in a dry place, protected against rain and dust.

On the front of the SH2DSP24 there are two LEDs, which indicate the following:

- 1) Green LED: Steadily on => the equipment is powered.
- 2) Blue LED: Off => no power supply. Fast blinking => searching for the cover signal / not registered / switching off. Slow blinking => Service is registered and signal is available. Steadily on => communication under way.

## 22.2 Things to know

### 22.2.1 TCP/IP networking

#### 22.2.1.1 Inbound TCP/IP communication

TCP/IP port number	TCP/IP port description	Purpose
80	HTTP	Access to the internal web-server
52325	SSH	Remote tunnelling feature; connection from SBP2WEB24 to SBP2CPY24

#### 22.2.1.2 Outbound TCP/IP communication

TCP/IP port number	TCP/IP port description	Purpose
53	DNS	Domain name resolution
37	NTP	Network time services access
25	SMTP	Email message dispatching

## 22.2.2 SMS commands list


The following commands are available by sending an SMS to the SH2DSP24 SIM number:

Command	Syntax	Notes
<b>CPY Reboot</b>	REBOOT <i>password</i> (e.g. REBOOT 1234)	Password defined by the user in the relevant section in the page above; the system sends an acknowledgement to the calling phone (REBOOT OK)
<b>Data communication ON</b>	DATA MODEM ON <i>password</i> (e.g. DATA MODEM ON 1234)	Password defined by the user in the relevant section in the page above; the system sends an acknowledgement to the calling phone (DATA MODEM ON OK)
<b>Data communication OFF</b>	DATA MODEM OFF <i>password</i> (e.g. DATA MODEM OFF 1234)	Password defined by the user in the relevant section in the page above; the system sends an acknowledgement to the calling phone (DATA MODEM OFF OK)
<b>Public IP inquiry</b>	IP <i>password</i> (e.g. IP 1234)	Password defined by the user in the relevant section in the page above; the system sends the IP address by SMS to the calling phone

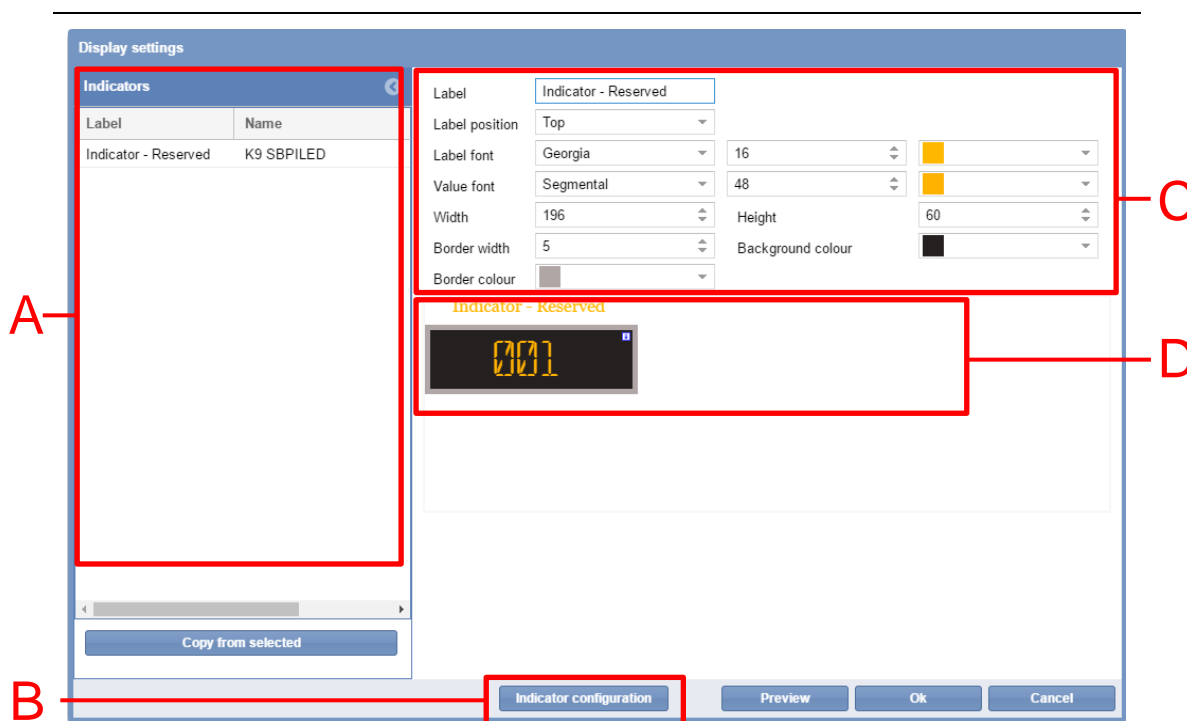
## 22.2.3 Indicator settings

Each SBPILED indicator configured in a Car Park project has its own Software version, called Software Indicator, and can be added to a Drawing. Each **Software Indicator** can be configured in terms of:

- **Appearance: The Software Indicator** can be customised in terms of size, label, colour of digits, etc...
- **Change category:** the category can be assigned to all the bays which are part of the Indicator function.

By clicking on the  button the following window appears:

*Note: The Indicator settings window is accessible only in **Drawing edit mode**.*



**Indicator configuration window**




The **Indicator settings** window is defined as follows:

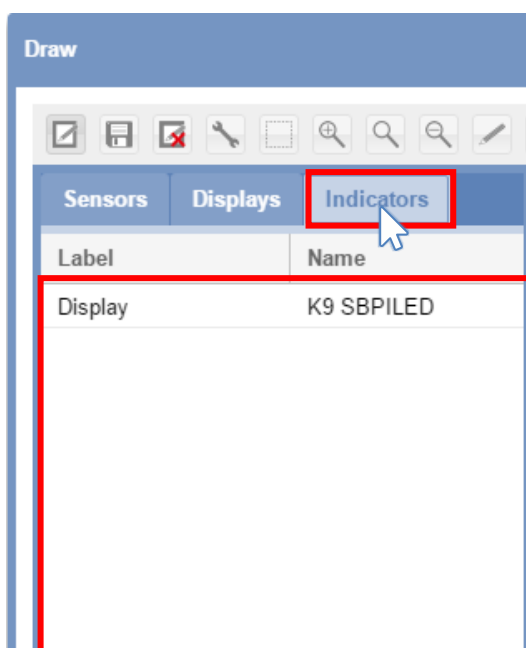
Section	Description																				
<b>A</b>	The <b>Indicators</b> tab section shows the list of indicators available																				
<b>B</b>	Indicator configuration window																				
<b>C</b>	The elements list of the <b>Indicator settings</b> window: <table border="1" data-bbox="422 555 1401 1301"> <thead> <tr> <th>Field</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><b>Label</b></td> <td>Enter text that describes the display: the text will be shown in the position defined in the Label position field</td> </tr> <tr> <td><b>Label position</b></td> <td>Defines the position where the Label text will be shown</td> </tr> <tr> <td><b>Label font</b></td> <td>Defines the label font, size and colour</td> </tr> <tr> <td><b>Value font</b></td> <td>Defines the Value font, size and colour</td> </tr> <tr> <td><b>Width</b></td> <td>Defines the width of the software display (in pixels)</td> </tr> <tr> <td><b>Height</b></td> <td>Defines the height of the software display (in pixels)</td> </tr> <tr> <td><b>Border width</b></td> <td>Specifies the width of the display border (in pixels)</td> </tr> <tr> <td><b>Background colour</b></td> <td>Assigns a background colour to the software display</td> </tr> <tr> <td><b>Border colour</b></td> <td>Defines the border colour of the software display</td> </tr> </tbody> </table>	Field	Description	<b>Label</b>	Enter text that describes the display: the text will be shown in the position defined in the Label position field	<b>Label position</b>	Defines the position where the Label text will be shown	<b>Label font</b>	Defines the label font, size and colour	<b>Value font</b>	Defines the Value font, size and colour	<b>Width</b>	Defines the width of the software display (in pixels)	<b>Height</b>	Defines the height of the software display (in pixels)	<b>Border width</b>	Specifies the width of the display border (in pixels)	<b>Background colour</b>	Assigns a background colour to the software display	<b>Border colour</b>	Defines the border colour of the software display
Field	Description																				
<b>Label</b>	Enter text that describes the display: the text will be shown in the position defined in the Label position field																				
<b>Label position</b>	Defines the position where the Label text will be shown																				
<b>Label font</b>	Defines the label font, size and colour																				
<b>Value font</b>	Defines the Value font, size and colour																				
<b>Width</b>	Defines the width of the software display (in pixels)																				
<b>Height</b>	Defines the height of the software display (in pixels)																				
<b>Border width</b>	Specifies the width of the display border (in pixels)																				
<b>Background colour</b>	Assigns a background colour to the software display																				
<b>Border colour</b>	Defines the border colour of the software display																				
<b>D</b>	The <b>preview area</b> shows a preview simulation of the indicator element shown in the drawing																				

## 22.3 Procedures

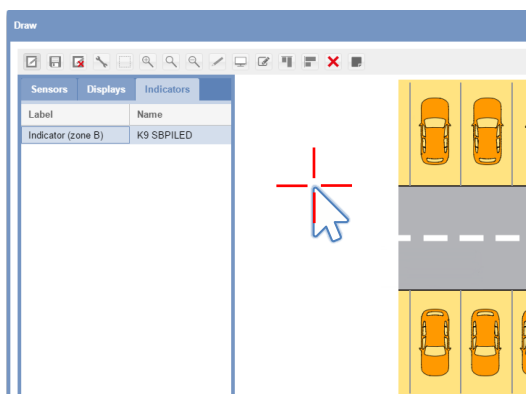
### 22.3.1 Add an Indicator from the Indicator tab

Follow this procedure to add a **Software Indicator** in a drawing:

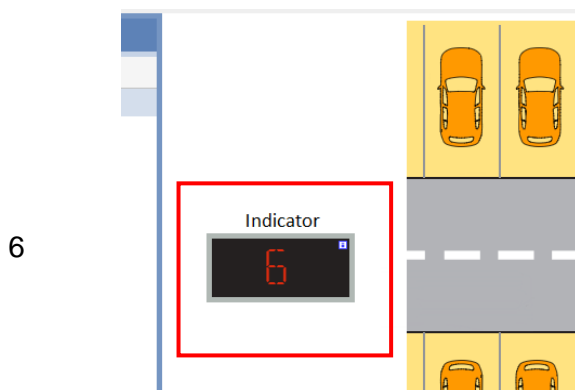
Step	Action
1	Open the <b>Drawing window</b> where you want to add a Software Indicator
2	Click on  <b>Edit</b> from the Drawing toolbar
3	Click on the <b>Indicators</b> tab from the <b>Left Panel</b>




- From the **Indicators** tab click on the text of the selected Indicator  
*Note: The selected indicator will be highlighted in light blue*
- Click the left mouse button on the area where you want to put the Software Indicator element




The indicator will be added to the drawing

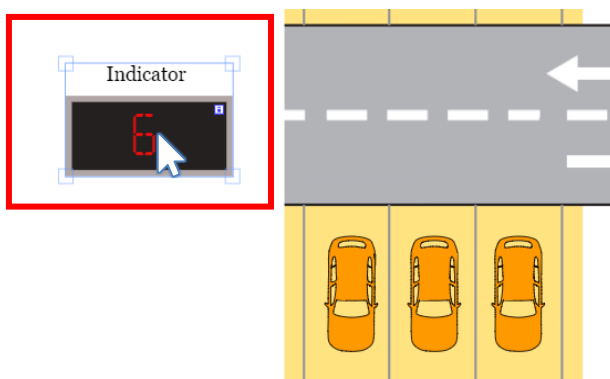


You can edit the indicator by clicking on the  **Display configuration** button. See the procedure [Edit a Software Indicator](#)

## 22.3.2 Edit a Software Indicator

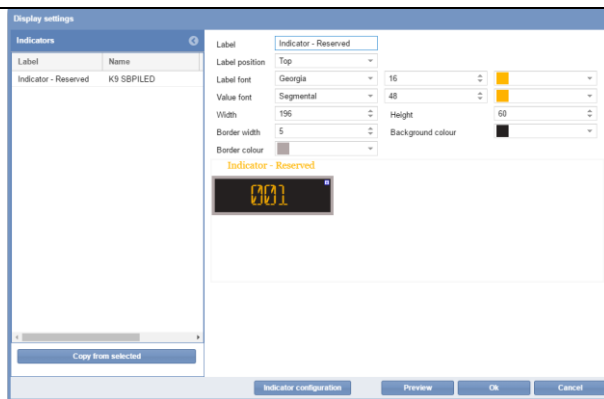
A Software indicator can be edited by clicking on the  icon from the Drawing toolbar. Follow this procedure:

Step	Action
1	<a href="#">Adding a Software Indicator</a> to a drawing
2	Click the Software Indicator with the left mouse button to select it:



*Note: a light-blue box with the drag point appears around the selected Software indicator*

3	Click on the  <b>Display settings</b> button from the command bar: The <i>Indicator settings</i> window will appear:
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- 
- 4 Edit all the fields required (see [Indicator settings](#) for detailed information)  
*Note: you can click on the Preview button to see the appearance*

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  - 5 Click on the Indicator configuration button for additional settings

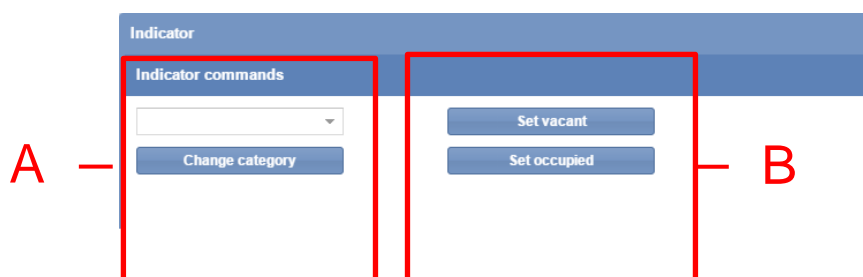
---

  - 6 Click on the **Save** button to save the changes.

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### 22.3.3 Indicator configuration and commands

The **Indicator configuration** button opens the configuration window, in which you can configure the following parameters:



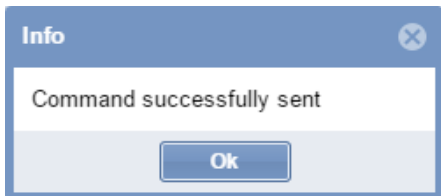

**Indicator configuration window**

The **Indicator configuration** window includes these sections:

Section	Description
<b>A</b>	<p><b>Change category</b></p> <p>You can set the category to which the bays belong</p>
<b>B</b>	<p><b>Set Vacant</b></p> <p>The SBPILED LED is lit up in [<i>default colour for set category</i>]</p> <p><b>Set Occupied</b></p> <p>The SBPILED LED is lit up in RED [<i>default colour for <b>Occupied</b> status</i>]</p>

## 22.3.4 Send command to an Indicator

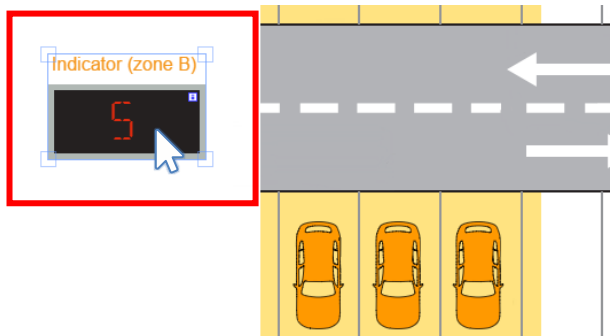
To send a command to an Indicator, follow this procedure:

Step	Action
1	Enter Drawing in <b>edit mode</b>
2	Select a Software Indicator from the drawing
3	Click on the <b>Indicator configuration</b> button from the <b>Indicator settings</b> window
4	In the <b>Indicator command</b> section, click on the command you need in order to perform the test. The following message will appear to confirm the command has been sent successfully: <div data-bbox="384 725 826 920" data-label="Image">  </div>
5	Click on the <b>X</b> button to close the Indicator configuration window
	Note: When a command is sent to an Indicator, a small red dot icon will appear in the Drawing window (see below). It will remain for as long as the command is active
6	<div data-bbox="426 1171 767 1335" data-label="Image">  </div>



## 22.3.5 Delete an Indicator

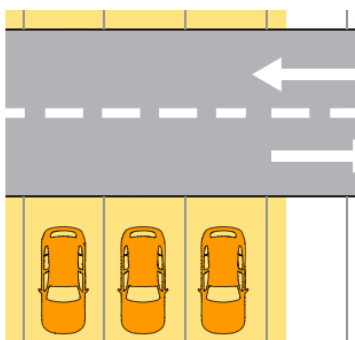
To delete an Indicator from a drawing, follow this procedure:

Step	Action
1	Open Drawing in <b>edit mode</b>
2	Select the <b>Indicator</b> you want to delete



*Note: The Indicator will be highlighted with a light blue rectangle*

- 3 Click on the  **Delete** button and click on  **Save drawing** to delete the Indicator from the drawing



*Note: If you exit without clicking on Save, the Indicator will not be deleted*

*Note 2: Although the indicator is deleted, the association of the bays to it will not. To dissociate it, the configuration on the SBP Tool must be changed.*