COACHVIEW

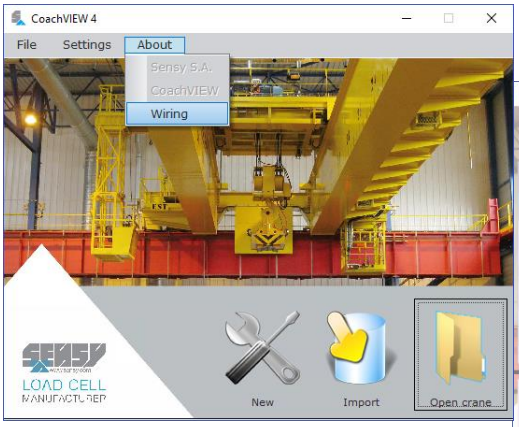
USER MANUAL

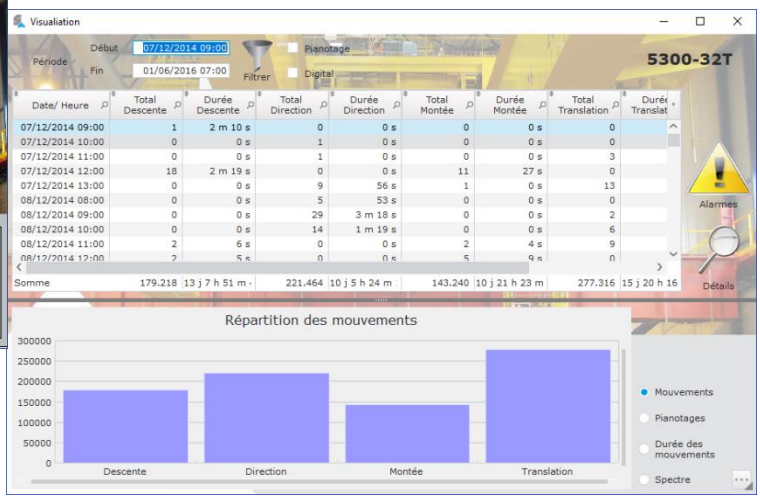
1. PRESENTATION

CoachView has been exclusively developed for SENSY COACH-II electronics. COACH-II is a specific datalogger, dedicated to hoisting equipment. It is an “add-on” to the load limitation system.

If your hoisting system is equipped with our load limitation devices, COACH-II has to be connected to the analogical output (0-10 V or 4-20 mA) of the load limiter, but it can also use analogical output from any other device providing the applied load information (PLC, …).

CoachView main functions are:
- Creation and management of configuration files for COACH-II (capacity, set points, alarms).
- Analysis of the recordings performed by COACH-II.





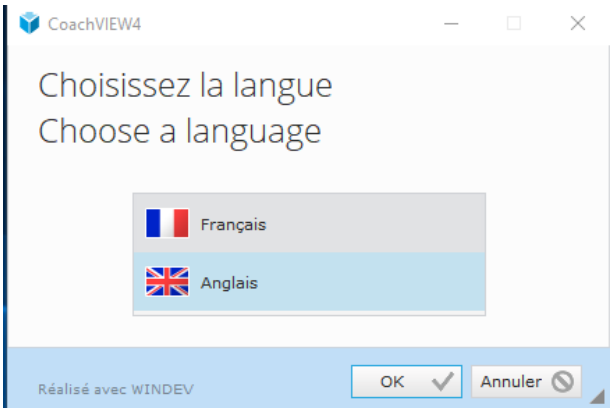
2. INSTALLATION

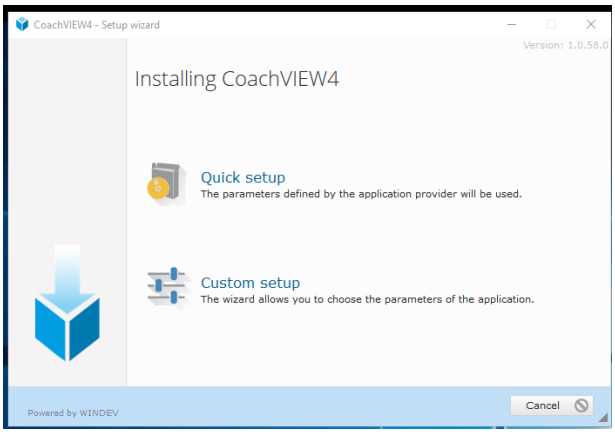
2.1. Download

The software can be downloaded from the SENSY servers at the address:
https://mega.nz/#!1BJWCJqZ!iW1sVj09OXiuSXMeUNAouY0nf2KZSCSd1G3TEkSdiyc
This software is compatible for 32 bits and optimized for 64 bits architecture.

2.2. Setup

This is a standard setup procedure. Unzip the archive in a directory and execute INSTALL.EXE. After simply follows the instructions on the screen (fast install is recommended)

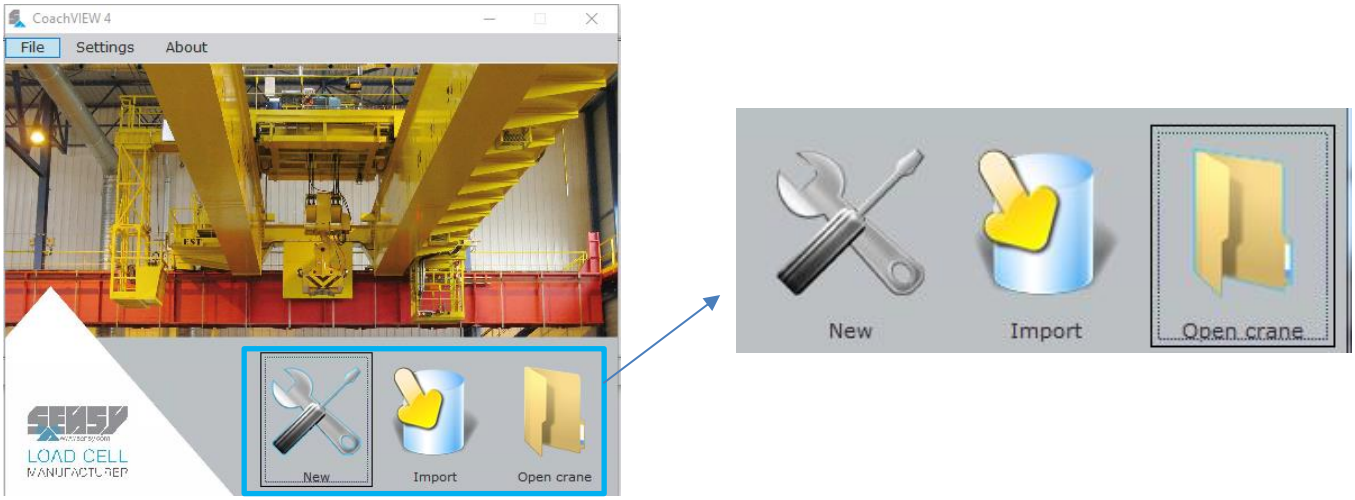




3. SOFTWARE – MAIN SCREEN

On the main screen you have a menu bar and 3 buttons to have access to the functions of this software:

- Create a crane
- Import existing data
- Open a crane and visualize the data stored.



Trough the Settings menu you can also change the language of the software. The supported languages are French and English.

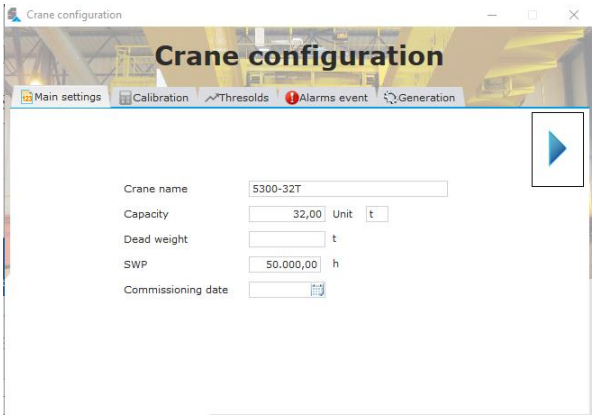
4. CRANE CONFIGURATION

4.1. Button « New » > General page

While creating a new configuration, a wizard helps you for the steps. For a new configuration, you have to use your keyboard arrows to switch between tabs to validate the input.

4.1.1. Main settings

Following fields are mandatory: Crane name, capacity, dead weight (can be 0) and Safe Working Period (SWP). Confirm setting by click on “Next”.

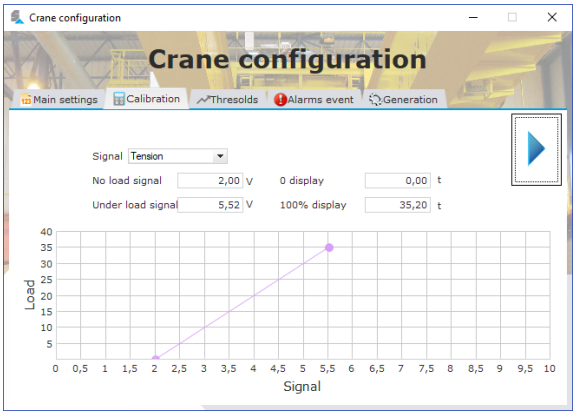


4.1.2. Signal type and calibration

This page is where you select the type of input signal and the corresponding loads.
Select input signal (V or mA).
Input corresponding load values for related input signals
Default settings example: 0 V = 0 kg = 0 % 8 V = 11100 kg = 110 %
For 4-20 mA input: 4 mA = 0 kg = 0 % 16.8 mA = 11000 kg = 110 %

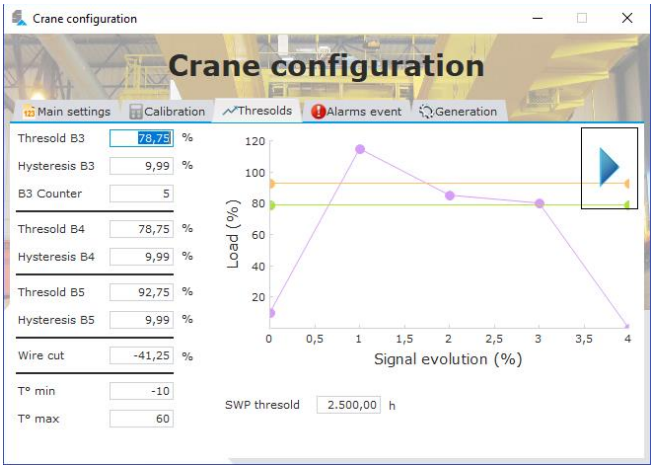
You could imagine setting 20 mA for 300 % for recording higher overloads

The calibration is performed during the installation of the coach and shouldn’t be modified. A bad modification of these values can create some disfunctions.



4.1.3. Set-points

This page allows the configuration of the overload set-points. You can have 3 different thresholds entered in % of the crane capacity. A hysteresis is also available on each one.
B3 counter allows you to calculate the number of overloads. When exceeded, an alarm can be set to inform the operator.

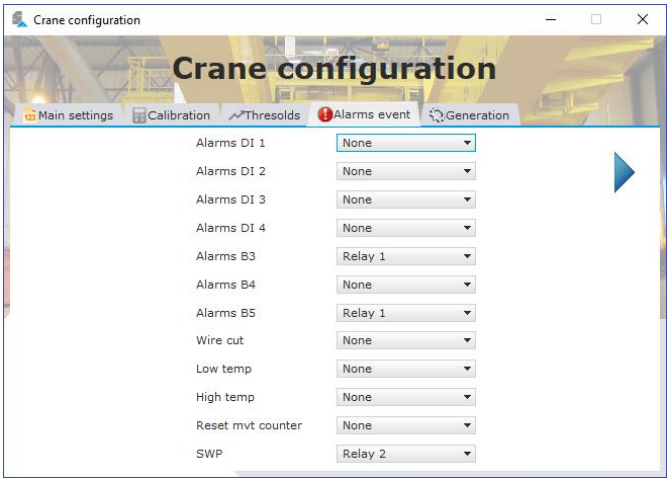


You can also add an alert for a temperature range, a SWP set-points and a wire cut detection.

4.1.4. Alarms action page

For each alarm, you will be required configuring an action.
Following actions are available:

- Relay 1 ON
- Relay 2 ON
- Relay 1 and relay 2 ON
- No action



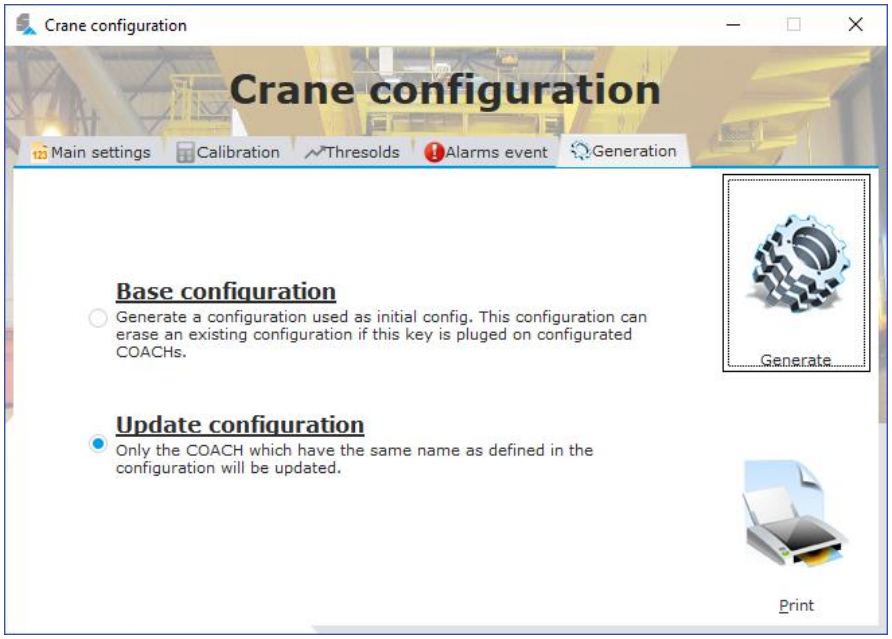
Note: 2 types of alarms exist, automatically or manually solved.
When automatically solved alarm trips, the related action occurs but as soon as the alarm disappears, the related action is automatically cancelled.
Alarm with manual solving will initiate the programmed action, but when the alarm disappears, the related action remains and must be manually reset through the “Alarm reset” button.

4.1.5. Generating a configuration file

From this page, you will choose the type of generation and then click on “Generate”.

- Create a configuration associated to a specific crane
  This one will be used only for the COACH which have the same name. Option mainly used.
- Create a generic configuration.
  This configuration will be written on each COACH when the stick will be plugged, overwriting the existing configuration. This function is used to preconfigure a bunch of devices fastly where the configuration will be tuned later.

When done, you will be prompted to print the calibration sheet.

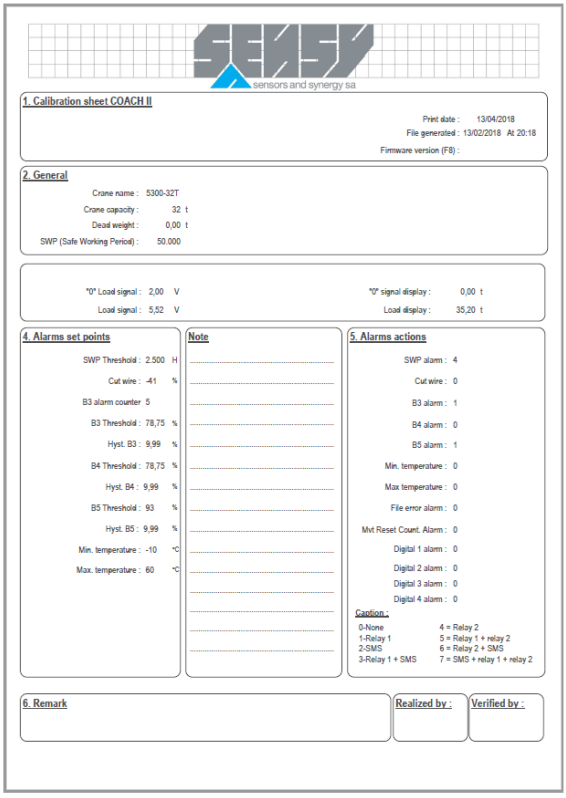


4.2. Existing configuration

When a COACH is imported, during opening you can see the whole configuration, edit and regenerate it if needed. At this moment, all tabs are enabled to allows you to navigate in the parameters. It's recommended to use the arrows if you modify any settings to ensure the validity of the inputs.

4.3. Calibration sheet

A report with all the values is available. All the configuration settings are on this sheet with a summary of the alarms.
Some verification fields are also presenting for quality assurance purposes.



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1. Calibration sheet COACH II

Print date : 13/04/2018
File generated : 13/02/2018 At 20:18
Firmware version (F8) :

2. General

Crane name : 5300-32T
Crane capacity : 32 t
Dead weight : 0,00 t
SWP (Safe Working Period) : 50.000

"0" Load signal : 2,00 V
Load signal : 5,52 V
"0" signal display : 0,00 t
Load display : 35,20 t

4. Alarms set points

SWP Threshold : 2.500 H
Cut wire : -41 %
B3 alarm counter 5
B3 Threshold : 78,75 %
Hyst. B3 : 9,99 %
B4 Threshold : 78,75 %
Hyst. B4 : 9,99 %
B5 Threshold : 93 %
Hyst. B5 : 9,99 %
Min. temperature : -10 °C
Max. temperature : 60 °C

Note

5. Alarms actions

SWP alarm : 4
Cut wire : 0
B3 alarm : 1
B4 alarm : 0
B5 alarm : 1
Min. temperature : 0
Max temperature : 0
File error alarm : 0
Mvt Reset Count. Alarm : 0
Digital 1 alarm : 0
Digital 2 alarm : 0
Digital 3 alarm : 0
Digital 4 alarm : 0

Caption :
0-None
1-Relay 1
2-SMS
3-Relay 1 + SMS
4 = Relay 2
5 = Relay 1 + relay 2
6 = Relay 2 + SMS
7 = SMS + relay 1 + relay 2

6. Remark

Realized by :

Verified by :

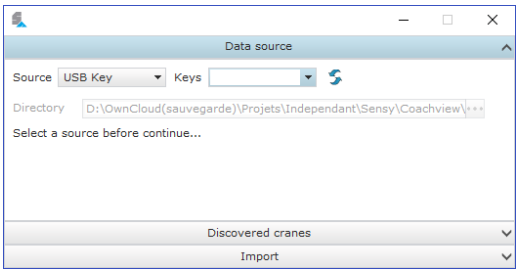
5. DATA IMPORTATION

With this new version you can import data from different sources:

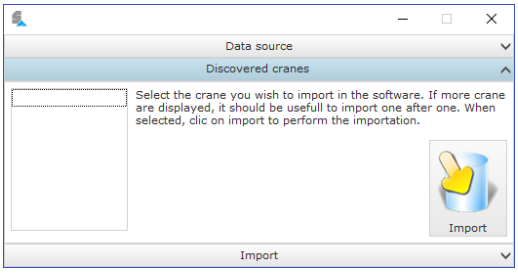
- USB stick
- Via a folder stored on your computer/network disk
- FTP connexion (with a GPRS option)

While performing an import, all the not imported data are added to the stored one. This operation can take many times in function of the size of the data on the COACH.
The FTP import needs to download all the data on your disk in a temporary folder before analyzing. The network download can take more time in function of the available bandwidth of the network.
If you've many cranes on the same USB stick, a list is displayed with the discovered crane. Simply select the crane you want to import and click import.

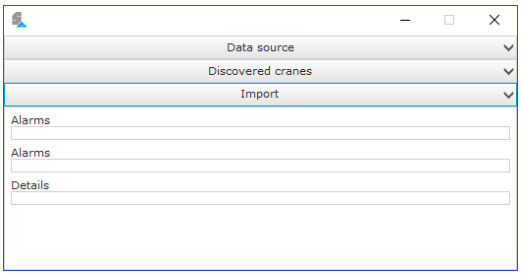
5.1. USB import



While selecting this mode, the connected drives are listed, just select the correct one. If you plugged the stick after the initialization of the window, click on the refresh button to update the drives.



The discovered cranes are listed on the left list. Clicking on import will start the importation process.



At the end of the analysis, a summary is shown with the number of discovered movements, discovered details and discovered alarms. During the process, gauges are displayed to see the evolution of the importation. Pay attention that the detail gauge will be stopped just before the end of the importation to perform a reorganization of the details.

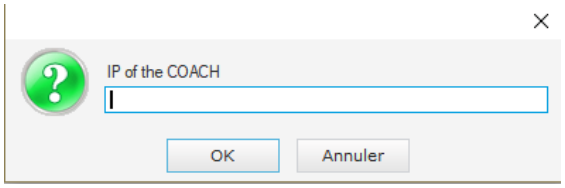
5.2. Import from directory

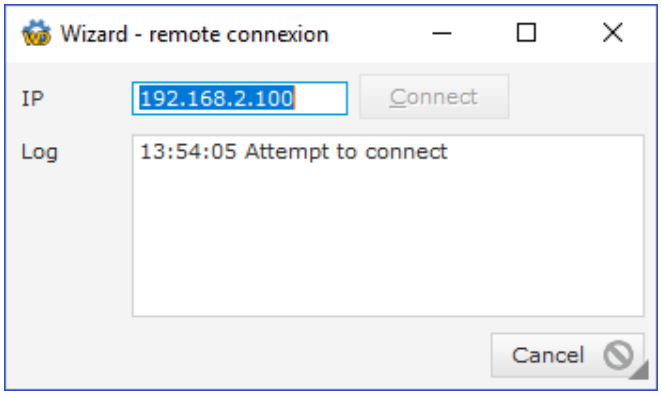
The importation by directory is the same as the USB stick but you've to browse on your computer to the right directory.
While browsing, just select the directory with the name of the crane, don't go inside.

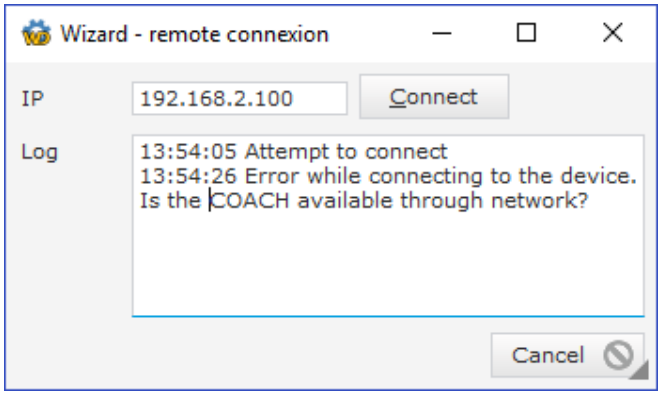
5.3. Import by FTP – GPRS

The importation is the same as the two other modes but you've to specify the IP address of the COACH. By default, the IP is set to 192.168.2.100. You need to be on the same network to perform this connection. If you don't know your network parameters, please contact your system administrator.

A wizard will show you the different steps for the downloading.





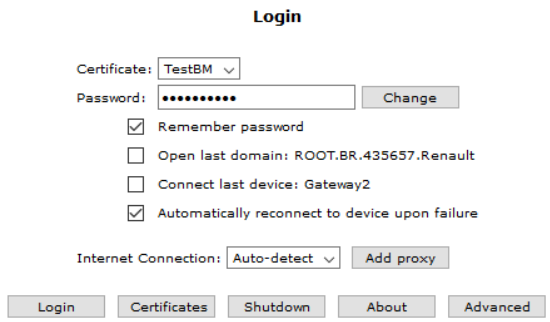


If the connection is OK, the log window will be filled with information and will close automatically. The end of the procedure is the same with the analysis and importation.

5.3.1. GPRS import

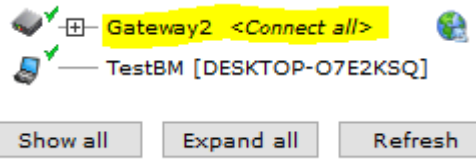
This mode allows you to get the recorded data by FTP but using an GPRS gateway. With this device, you will be able to get the data for each device (equipped with the gateway) you have anywhere in the world[1]. To achieve this, SENSY use a cloud to bring together all the COACH through a secured connection.

The use of this functionality needs to install a software to manage the secured connection. The software called "LinkManager" can be downloaded at the address https://www.br-automation.com/en/products/software/remote-maintenance/linkmanager/0rmlmwin/#downloads .
At the end of the installation, you will be asked to enter a certificate. If you don't have it yet, please ask yo SENSY to get one.
When installed, you can start LinkManager: an internet browser will pop, select the certificate and the password you received, and you can log in.

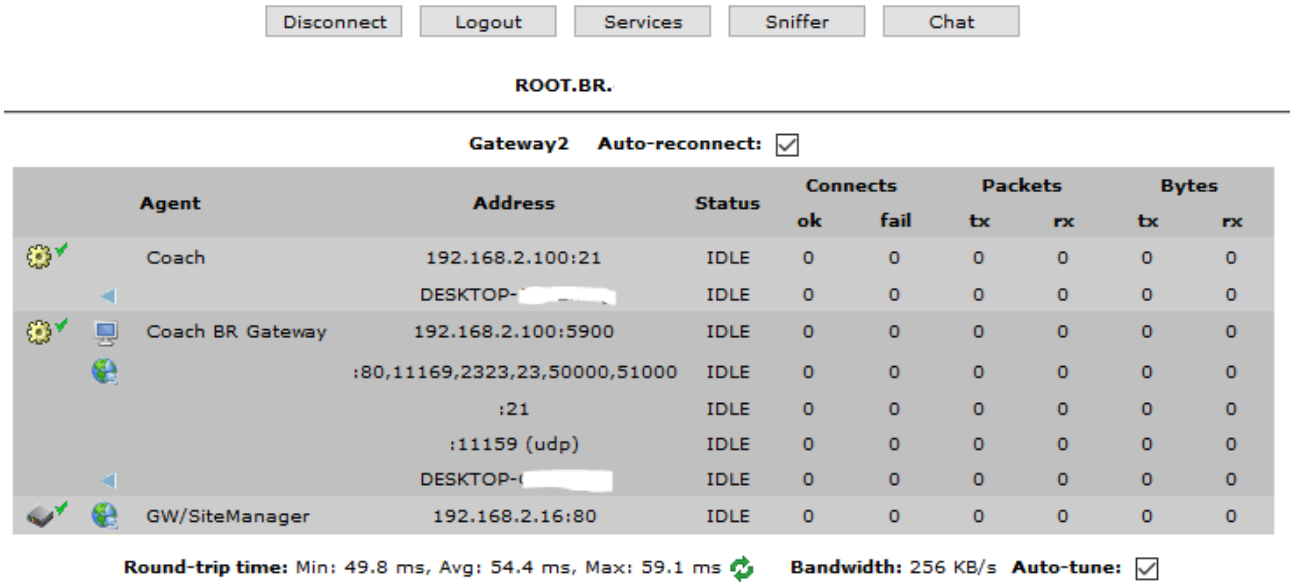


[1] If the network where you are allows you to initiate secured connections.

A new page will be shown with all the device you've access. Select the right device you want to connect to.



Click on the device (in this case « Gateway2 ») and after few seconds you'll be connected. It's not possible to be connected to multiple COACH at the same time. You must disconnect from the active connection and then initiate a new connection to another one.



Agent	Address	Status	Connects ok	Connects fail	Packets tx	Packets rx	Bytes tx	Bytes rx
Coach	192.168.2.100:21	IDLE	0	0	0	0	0	0
	DESKTOP-	IDLE	0	0	0	0	0	0
Coach BR Gateway	192.168.2.100:5900	IDLE	0	0	0	0	0	0
	:80,11169,2323,23,50000,51000	IDLE	0	0	0	0	0	0
	:21	IDLE	0	0	0	0	0	0
	:11159 (udp)	IDLE	0	0	0	0	0	0
	DESKTOP-	IDLE	0	0	0	0	0	0
GW/SiteManager	192.168.2.16:80	IDLE	0	0	0	0	0	0

Good practice: when you ask for a certificate, please tell your provider the name you would like for this device. In this case you'll see the provided name in the list of available devices. It will be easier to distinguish all your devices.

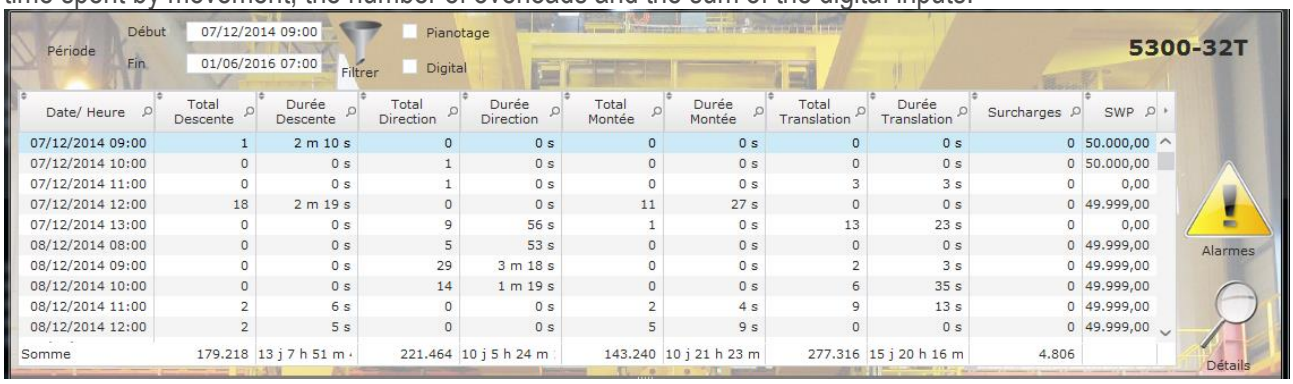
The connection to the device can be done using two media. You can connect the gateway to your local network using an ethernet cable, it will automatically contact the cloud. The second way is to use a SIM card to use the GSM network. Pay attention that using a sim card can cause extra fees.
If you want to use a SIM card, configure it with a pin code of 1111. It will be necessary to contact your provider to set the right access point. This connection is not guaranteed and is function of the network coverage in your region and in your facilities.

6. VISUALIZATION

The data are split in three parts:

6.1. Summary

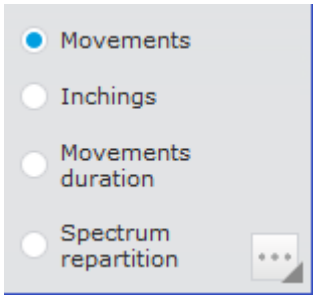
The data are displayed hour by hour. Each line contains the sum of each detected movement, inching's, the time spent by movement, the number of overloads and the sum of the digital inputs.



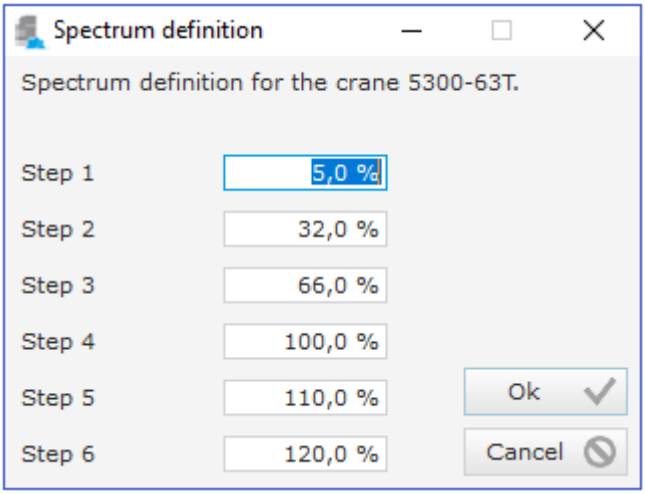
Date/ Heure	Total Descente	Durée Descente	Total Direction	Durée Direction	Total Montée	Durée Montée	Total Translation	Durée Translation	Surcharges	SWP
07/12/2014 09:00	1	2 m 10 s	0	0 s	0	0 s	0	0 s	0	50.000,00
07/12/2014 10:00	0	0 s	1	0 s	0	0 s	0	0 s	0	50.000,00
07/12/2014 11:00	0	0 s	1	0 s	0	0 s	3	3 s	0	0,00
07/12/2014 12:00	18	2 m 19 s	0	0 s	11	27 s	0	0 s	0	49.999,00
07/12/2014 13:00	0	0 s	9	56 s	1	0 s	13	23 s	0	0,00
08/12/2014 08:00	0	0 s	5	53 s	0	0 s	0	0 s	0	49.999,00
08/12/2014 09:00	0	0 s	29	3 m 18 s	0	0 s	2	3 s	0	49.999,00
08/12/2014 10:00	0	0 s	14	1 m 19 s	0	0 s	6	35 s	0	49.999,00
08/12/2014 11:00	2	6 s	0	0 s	2	4 s	9	13 s	0	49.999,00
08/12/2014 12:00	2	5 s	0	0 s	5	9 s	0	0 s	0	49.999,00
Somme	179.218	13 j 7 h 51 m	221.464	10 j 5 h 24 m	143.240	10 j 21 h 23 m	277.316	15 j 20 h 16 m	4.806	

You can apply a filter on this table using the datetime fields, and also to add/remove the inching and digital input columns if not applicable.
A graphical view is available under the table.

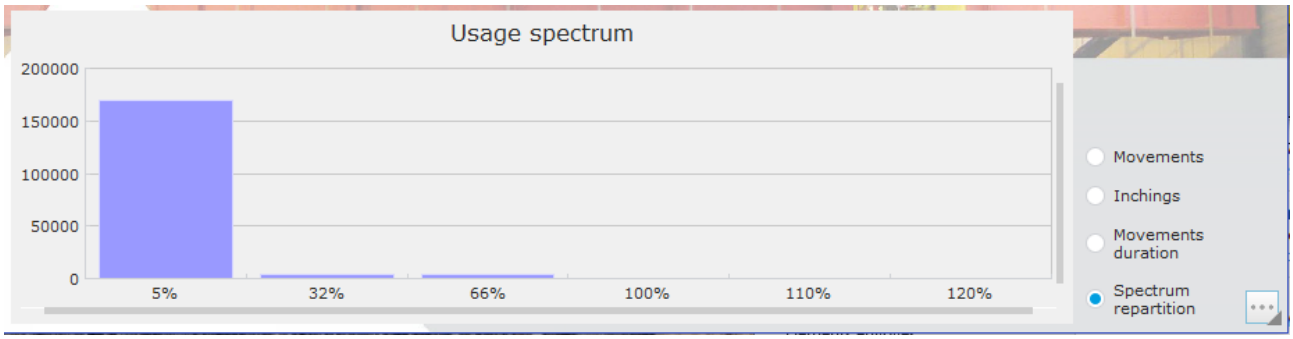
It's possible to define an usage spectrum. A specific spectrum can be defined for each crane by clicking on "…".



If it's the first time for this crane, a default spectrum will be created. You can replace the value to fit to your usage.

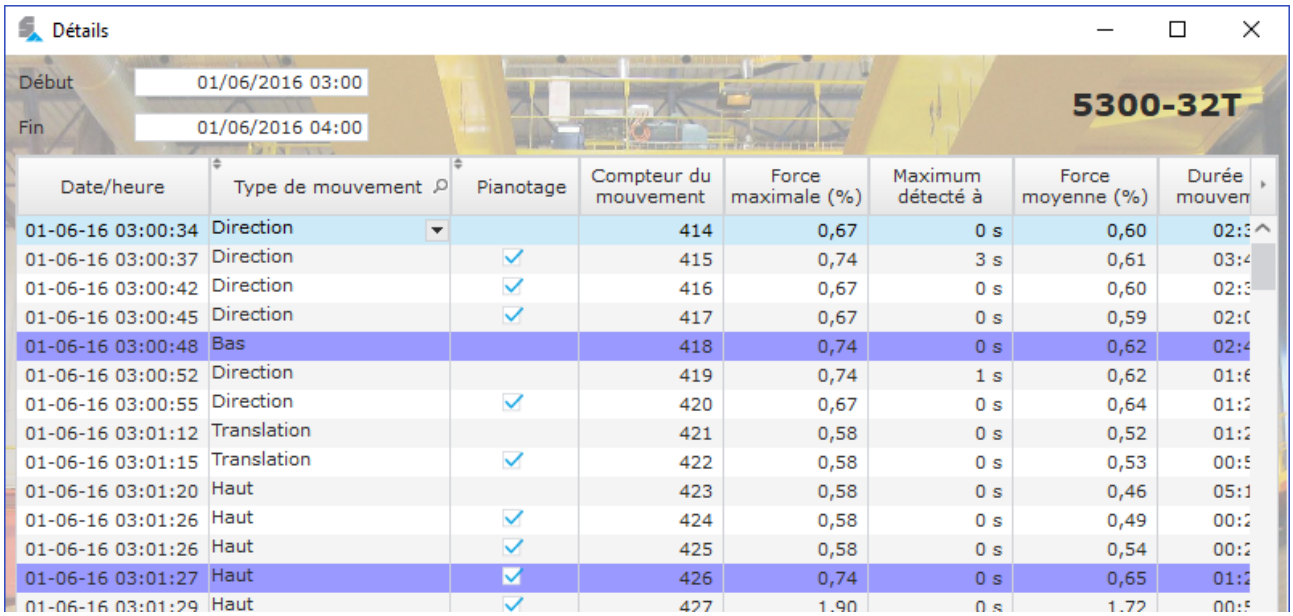


The spectrum is displayed as a bargraph. Please note that the computation of each movement can take few seconds.



6.2. Details

For a selected period, it's possible to list all the associated movements if available. At this moment, each movement is displayed with the maximum force, when the maximum was detected, mean force inching's, In this listing, the composed movements are displayed with a blue background. That mean you can double-click on the row to decompose the movement. All the forces are displayed in % of the nominal capacity of the crane as entered in the configuration.



Date/heure	Type de mouvement	Pianotage	Compteur du mouvement	Force maximale (%)	Maximum détecté à	Force moyenne (%)	Durée mouven
01-06-16 03:00:34	Direction		414	0,67	0 s	0,60	02:3
01-06-16 03:00:37	Direction	✓	415	0,74	3 s	0,61	03:4
01-06-16 03:00:42	Direction	✓	416	0,67	0 s	0,60	02:3
01-06-16 03:00:45	Direction	✓	417	0,67	0 s	0,59	02:0
01-06-16 03:00:48	Bas		418	0,74	0 s	0,62	02:4
01-06-16 03:00:52	Direction		419	0,74	1 s	0,62	01:6
01-06-16 03:00:55	Direction	✓	420	0,67	0 s	0,64	01:2
01-06-16 03:01:12	Translation		421	0,58	0 s	0,52	01:2
01-06-16 03:01:15	Translation	✓	422	0,58	0 s	0,53	00:5
01-06-16 03:01:20	Haut		423	0,58	0 s	0,46	05:1
01-06-16 03:01:26	Haut	✓	424	0,58	0 s	0,49	00:2
01-06-16 03:01:26	Haut	✓	425	0,58	0 s	0,54	00:2
01-06-16 03:01:27	Haut	✓	426	0,74	0 s	0,65	01:2
01-06-16 03:01:29	Haut	✓	427	1,90	0 s	1,72	00:5

6.3. Analysis

When a decomposition is available (blue background), the movements are shown graphically and in a tabular view.

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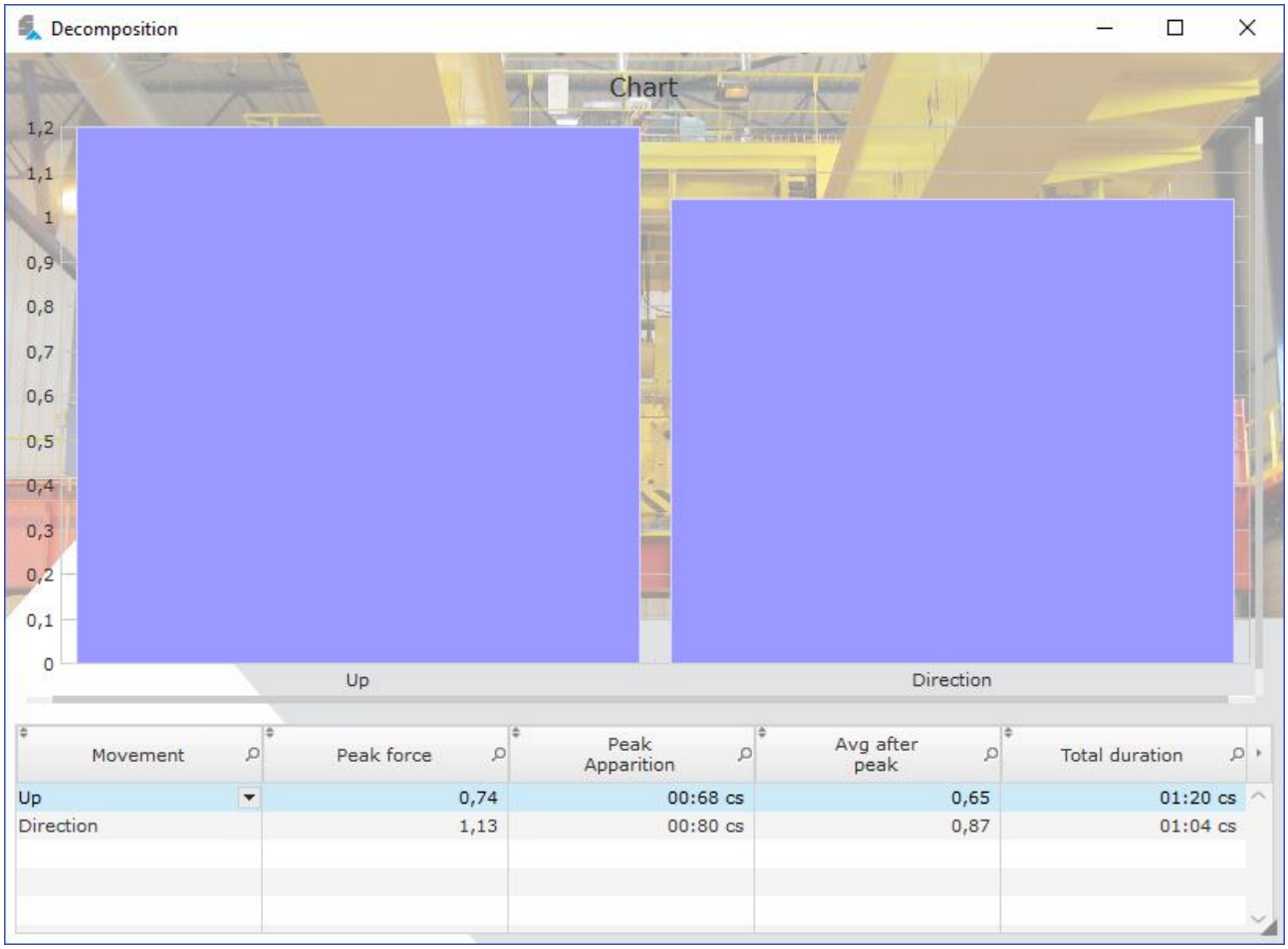
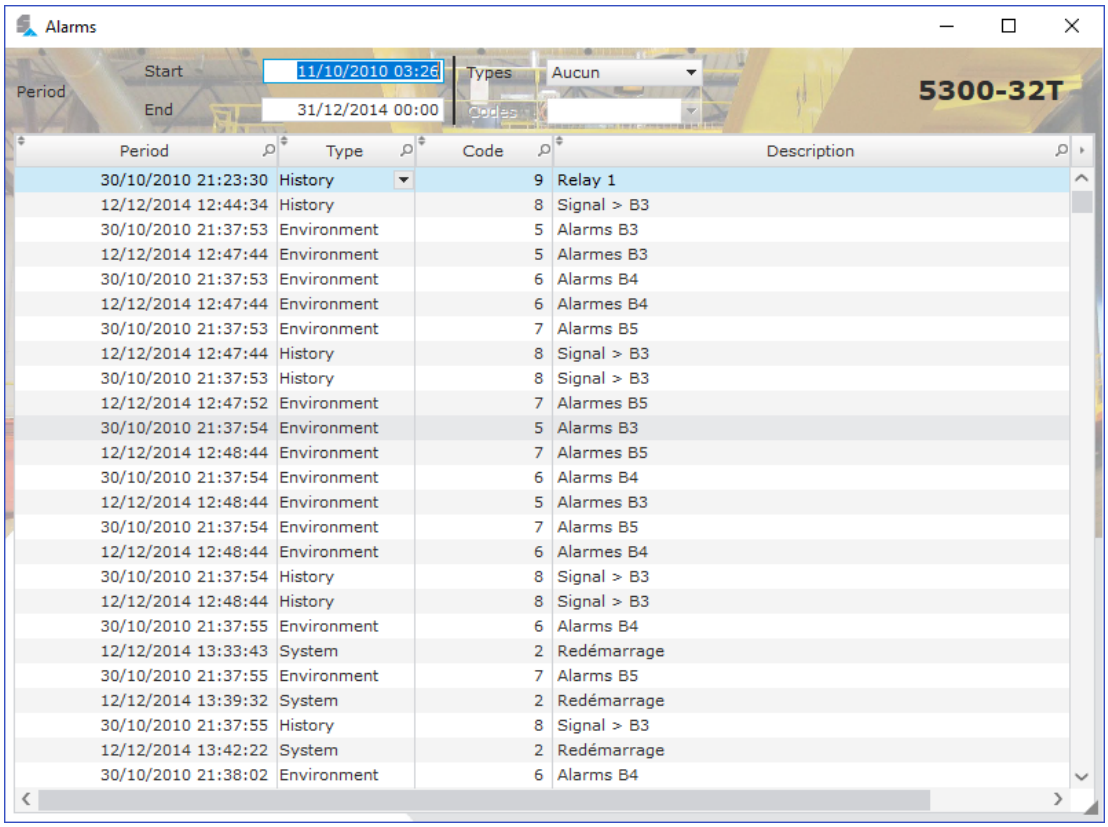


Movement	Peak force	Peak Apparition	Avg after peak	Total duration
Up	0,74	00:68 cs	0,65	01:20 cs
Direction	1,13	00:80 cs	0,87	01:04 cs

7. ALARMS VISUALIZATION

The COACH can monitor some events and record them as “alarms”. The alarms window allows you to see all the alarms or a part of them by using some filters. These filters can be used by a date period like the main visualization or by selecting only a kind of event.



Period	Type	Code	Description
30/10/2010 21:23:30	History	9	Relay 1
12/12/2014 12:44:34	History	8	Signal > B3
30/10/2010 21:37:53	Environment	5	Alarms B3
12/12/2014 12:47:44	Environment	5	Alarmes B3
30/10/2010 21:37:53	Environment	6	Alarms B4
12/12/2014 12:47:44	Environment	6	Alarmes B4
30/10/2010 21:37:53	Environment	7	Alarms B5
12/12/2014 12:47:44	History	8	Signal > B3
30/10/2010 21:37:53	History	8	Signal > B3
12/12/2014 12:47:52	Environment	7	Alarmes B5
30/10/2010 21:37:54	Environment	5	Alarms B3
12/12/2014 12:48:44	Environment	7	Alarmes B5
30/10/2010 21:37:54	Environment	6	Alarms B4
12/12/2014 12:48:44	Environment	5	Alarmes B3
30/10/2010 21:37:54	Environment	7	Alarms B5
12/12/2014 12:48:44	Environment	6	Alarmes B4
30/10/2010 21:37:54	History	8	Signal > B3
12/12/2014 12:48:44	History	8	Signal > B3
30/10/2010 21:37:55	Environment	6	Alarms B4
12/12/2014 13:33:43	System	2	Redémarrage
30/10/2010 21:37:55	Environment	7	Alarms B5
12/12/2014 13:39:32	System	2	Redémarrage
30/10/2010 21:37:55	History	8	Signal > B3
12/12/2014 13:42:22	System	2	Redémarrage
30/10/2010 21:38:02	Environment	6	Alarms B4

8. OPTION : DIGITAL INPUTS

The COACH has 4 binary inputs 24 V. A counter gives for each ones the total of pulsations seen by the input. You can use it for anything like brake usage, limit switch activations, …