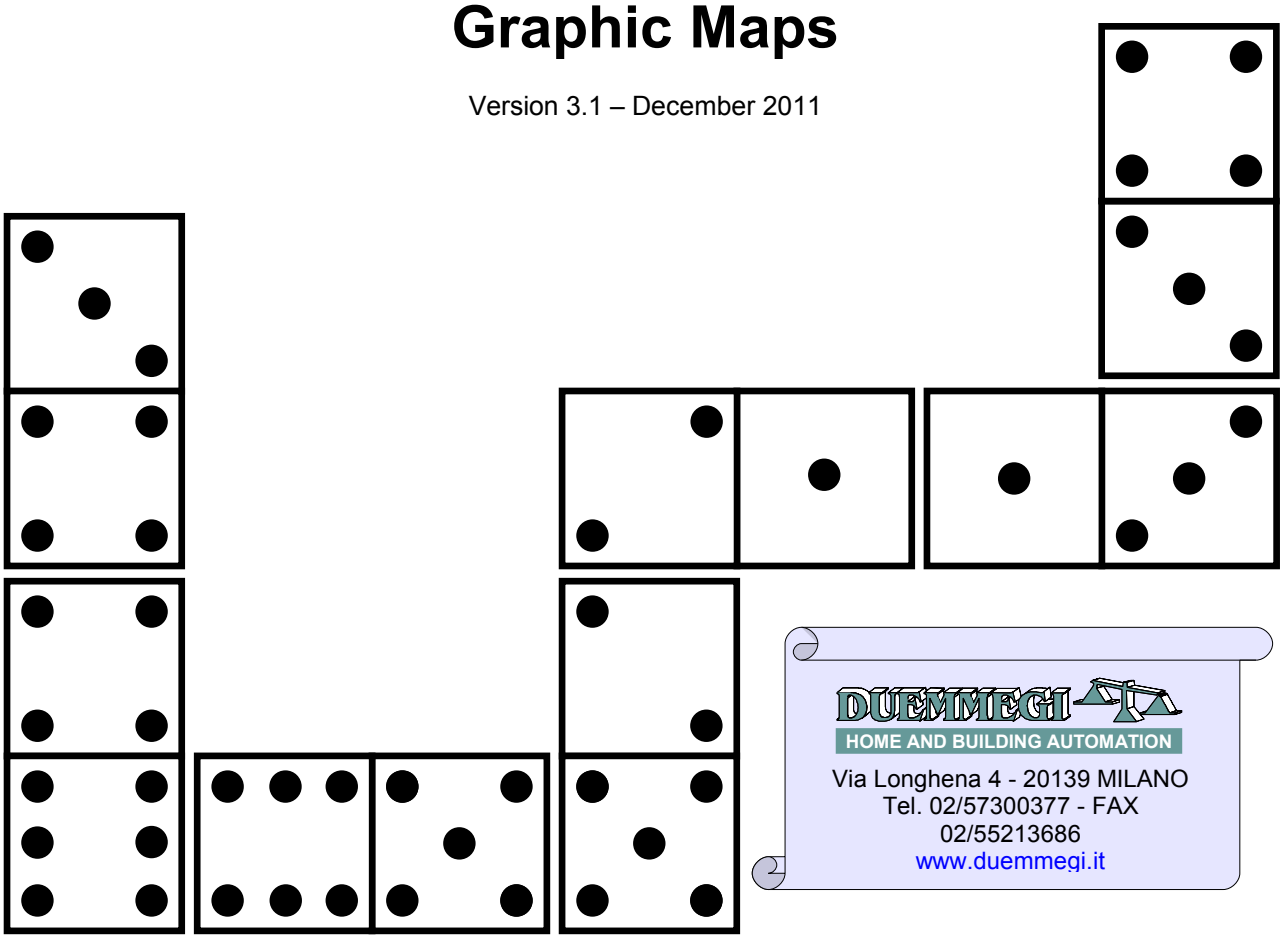
Domino

BDGraph
Graphic Maps

Version 3.1 – December 2011



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A1– Revision list

1.0 September 2009	First emission
1.1 December 2009	Several enhancement to the manual
2.0 February 2010	Implementation of multi-access, enhancement of tutorial
2.1 April 2010	Added BarGraph and Scenery, enhanced the table of analog module scaling
2.2 September 2010	Added option Slider, Color picker and Alternative command. Updated Appendix A.
2.3 November 2010	Added DFWEB configuration options, polling time, enable/disable cache and other. Added Appendix B and Appendix C.
3.0 March 2011	New project structure. Added management of iPhone/iPad rotation, “Frame” predefined control, buttons for text attributes setting. Added transparency setting for sliders and bar graphs. Enhancement of the project tree with images. Added Events management.
3.1 December 2011	Added RGB management and Scenery Registers, added gradient of BarGraph. Added blinking image option, text and text + imagine. Added field updating for colorpicker on registers. Added DFDALI module for the DFWEB configuration. Added preset commands (GoTo) for DFTP module. Added instant button for sceneries. Added manage error with the possibility of recommendation by mail message. Added Safari Full-Screen navigation option with iPhone and iPad device.

A2- Recommendations

This manual refers to the tool Graphical Maps BDGraph R.8.2.2 or higher; when used together to the WEBS module, this last one must have firmware release 2.5 or higher. When used together to the DFWEB module, this last one must have firmware release 1.1/1.0 or higher.

It is necessary to enable cookies in the Web browser to use WEBS (or DFWEB) module as Web-Server.

WARNING: starting from release R.8.2.0 of BDGraph, previous projects must be reviewed and re-compiled. Starting from release 8.2.0 any compatibility with previous project will be lost.

Starting from this release, it is possible to use the BDGraph in LOCK modality: the program can be launched without the possibility of editing the maps (this is very useful when BDGraph is used as supervisor). To lock the maps, it is necessary to modify the icon on the desktop by right clicking with the mouse and then selecting Property: in the command line add /LOCK option (the results of the operation is ..\BDGraph\V820\BDGraph.exe /LOCK).

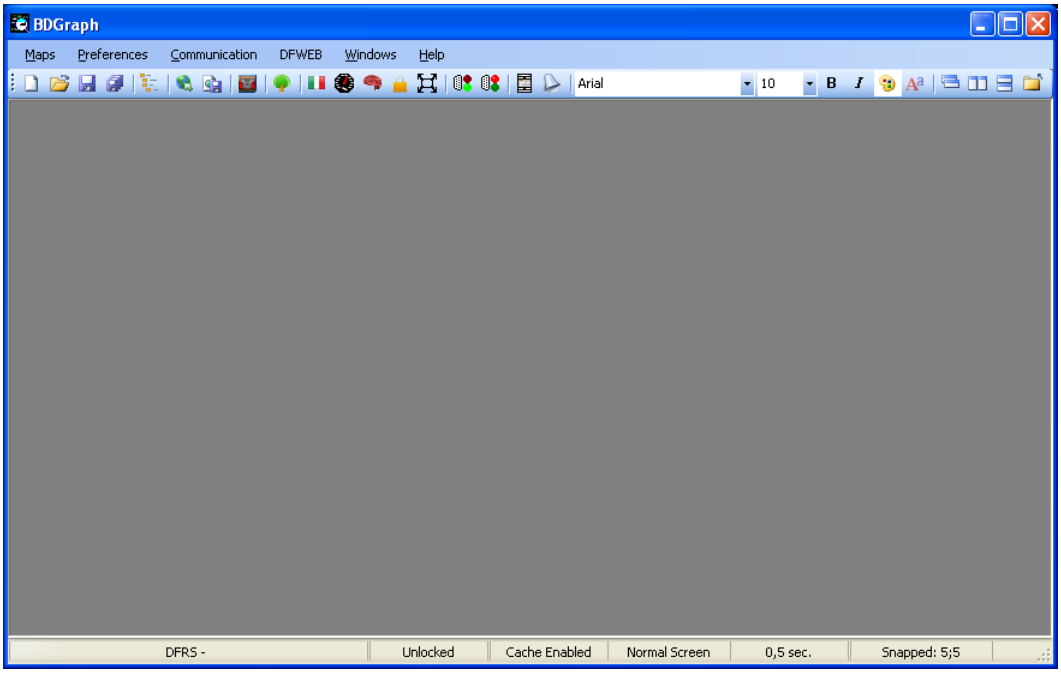
1- BDGraph

BDGraph is a tool thought for the creation of graphical maps of a Domino plant, making possible the management of the plant as a supervisor through DFRS or DFCP. Each maps is a background image where some animations are positioned, offering an immediate identification of the conditions of the plant. The animations, if associated to output points, also allow to control the plant, for example to turn on or turn off the light. Afterward the features and the use of this tools will be described.
In addition, this tool allows to convert in .html format the created graphical maps; in this way it is possible to load .html pages in the Web Server module DUEMMEGI WEBS.

Starting from the release 8.0.4 of BDGraph and the version 2.3 of the firmware of Web-Server WEBS module, it is possible to implement a multi-users access (up to 5 users included an Administrator user). The multi-user management is possible only if using WEBS module as Web-Server. For more details about multi-user capability of WEBS module see the related technical sheet.
The multi-access feature cannot be used when using BDGraph as supervision program installed on a PC connected to the Domino bus through one of the possible interfaces (DFRS, DFTS, DFCP).

Before to proceed to the development of a new project, it is recommended to follows the following steps:
1. Ask yourself if the project to be developed has as target the development of html pages to be loaded into WEBS module, or on the contrary the maps will be used on the PC, inside BDGraph itself, acting as supervisor connected to Domino bus through one of the possible interface (DFRS, DFTS, DFCP)
2. Regardless of the answer to the previous question, create a new folder that wil contain all the project files (file .bdm, background images, etc. as will be detailed in the following)
3. If the target is using BDGraph as supervisor, then start to develop the graphical maps as desired
4. If the target is instead the development of html pages to be loaded into WEBS module, then consider that more maps for the different access levels must be generally developed; the html version of this maps will be then saved into the related user folders (usera, user1, user2, user3 and user4). Anyway, it is important, for WEB application, that the first map (the mother of all the maps) be named index.bdm; on this first map it is required to place an icon (e.g. button) that will recall another map named uindex; an icon on the first map for the logout is also a good idea.

For more details refer to the tutorial in this same manual.
In the following chapters, instead, the features and functions of BDGraph program will be described.
BDGraph program looks like the following figure:



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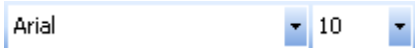
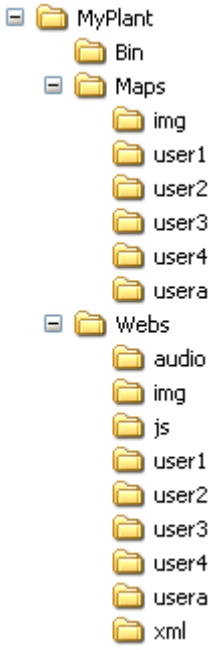
The meaning of the button in the menu bar is the following:

 : new map creation
 : open existing map
 : save current map
 : save all opened maps
 : create site structure
 : export the map in HTML format
 : convert the map in a Web site (see in the following)
 : sceneries setting
 : project tree
 : language
 : polling time
 : enable/disable cache
 : lock/unlock animations
 : enable/disable Full Screen
 : enable communication
 : disable communication
 : DFWEB configuration
 : events


: fonts and dimension of text
 : bold
 : italic
 : text color
 : apply selected attributes to all text in the maps
 : cascade of graphical maps window
 : tile vertically the graphical maps window
 : tile horizontally the graphical maps window
 : close all

1.1- Creation of the project structure

Before to proceed to the creation of the desired maps, it is **ABSOLUTELY** required to create the project structure. To do this, press the button "**Create Project Structure**"; select, in the windows that will appears, where the project has to be placed and then click on the button to create a new folder, assigning a name to the project. Supposing to have assigned the name MyPlant, the structure that will be created will looks like the following:



As it can be seen\ in the previous figure, the structure is made by 3 main folders (**Bin**, **Maps** e **Webs**); these folders must contain:

•**Maps\img**: the background images (created by the user) and the icons effectively used in the project (automatically added by the program)
•**Maps**: the file index.bdm (mandatory, see in the following)
•**Maps\userX**: the file uindex.bdm (mandatory, see in the following) and all .bdm files related to the graphical maps that will be developed for the several users (usera, user1, user2, user3 and user4)
•**Webs\img**: the background image (created by the user) and all the icons effectively used by the .htm files that will be generated (automatically added by the program)
•**Webs**: the file index.htm that will be generated
•**Webs\userX**: The file uindex.htm and all other .htm files that will be generated for the several users (usera, user1, user2, user3 and user4)
•**Bin**: the .bin file related to the developed project, in a format suitable to be uploaded into WEBS module

All other folders are reserved and their content must not be changed if not otherwise specified.

For more details, refer to the tutorial in this same manual.

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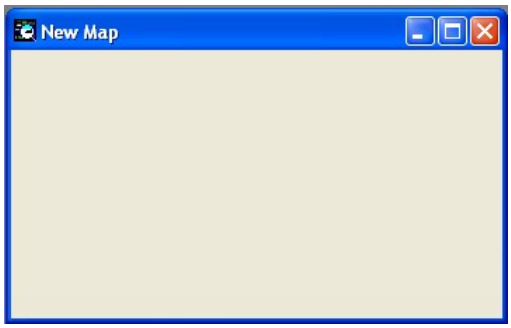
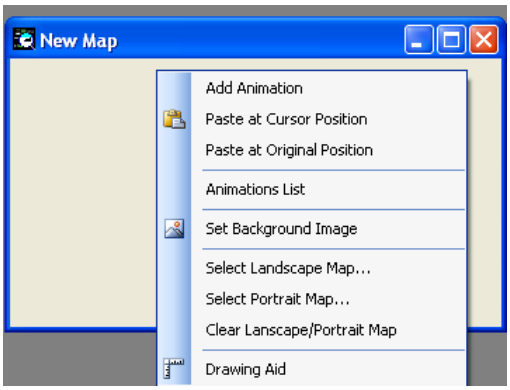
2- Creation of a new graphical map

After having launched BDGraph, select **New Map....(CTRL + N)** from **Maps** menu. The following window will be shown:





Pressing the right key of the mouse inside the window, a menu will be shown; from this one it is possible to make the following operations:

- Add Animation
- Paste at Cursor Position
- Paste at Original Position
- Animation List
- Set Background Image
- Select Landscape Map
- Select Portrait Map
- Clear Landscape/Portrait Map
- Drawing Aid

The first phase, normally, is the definition of the background image.

Allowed files are the most common graphical formats like .BMP, .JPEG, .WMF e .GIF. Generally, the preferred format is JPEG because of the small dimensions of file, overall in the case of WEB navigation of maps.

The chosen background picture will become the background of the window, and it will have the same dimensions of the loaded picture. Save the map with the wanted name and with .bdm extension (from menu **Maps** → **Save Map** o **Save Map As**), paying attention to save it in the proper folder as explained at paragraph 1.1.

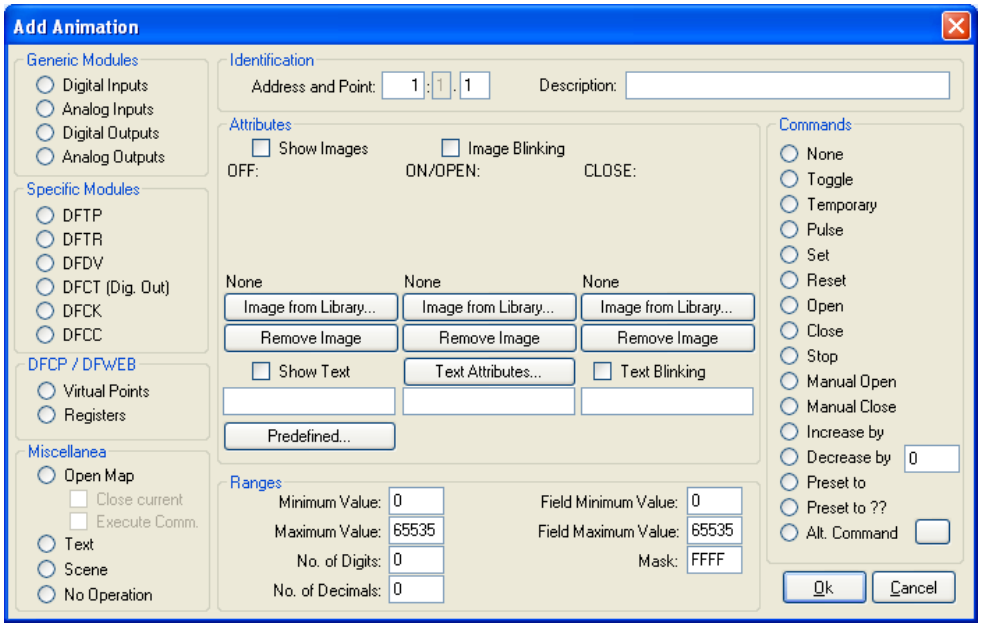
Starting from release R.8.2.0 of BDGraph and next releases, together to firmware R.2.4 of WEBS and R.1.1 of DFWEB, it is possible to jump from a map to another one by the rotation of iPhone/iPad from the portrait to landscape orientation and vice versa. Given a map, right clicking inside the map itself and selecting “Select Landscape Map”, the program will ask for the map to be opened (that must be already created, of course) when the device will be rotated; for this last map, select then “Select Portrait Map” and choose the starting map, in order that it will be shown when the device will be oriented to its original position.

To cancel the map changing related to the device orientation, select the option “**Clear Landscape/Portrait Map**”.

WARNING:
- ***the names of the folders cannot contains spaces***
- ***the name of the files must have max length of 32 characters and cannot contain spaces***

3- Adding animations

An animation is an icon and/or a text that reflects the state of the field point. If the point is related to an output module, the animation also allow the command of the point itself.
The animation can be inserted by righting inside the sensitive area and selecting **Add Animation**. A window will be opened and through this it is possible to choose the features of the animation to be created. The following picture shows a screen-shot of the animations window; the window fields are describe on the following, while for a better examination of the various configuration possibility refer to the following paragraphs.



Generic Modules: allows the selection of generic module related to the animation to be added. It is possible to choose between Inputs (Digital or Analog) and Outputs (Digital or Analog).

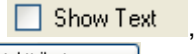
Specific Modules: allows the selection of specific (dedicated) modules related to the animation to be added (DFTP, DFTR, DFDV, DFCT, DFCK, DFCC).

DFCP/DFWEB: if the animation is related to DFCP controller, this option allows to control/visualize the virtual points and the registers of the controller itself.

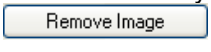
Miscellanea: the option Open Map allows to assign to an animation the possibility to close (if the option is enabled) the current map and to open another map (e.g. a button for page changing). The Text option allows to place fixed text on the map; the visualized text will be the same inserted on the text-box corresponding to the OFF animation (on the left bottom); it is also possible in this case to assign a Description of the insert text. The option Scene allows to define an animation that recalls a scenery previously defined (see related paragraph). The option No Operation allows to add an icon that does not perform any function (e.g. to place an icon that will be used in the future development of the project).

Identification: allows to assign to the animation the related address, channel (that for Domino must be always 1) and Point, or register number or virtual point, and a short Description (60 maximum alphanumeric characters); the description appears as a tooltip when the mouse cursor is positioned on the icon.

Attributes: allows the selection of Attributes that can be assigned to the animation. The checkbox 

, allows to choose the possibility to show or less the icon (or image) assigned to the animation; this option can be disabled only if a text has been associated to the animation. As shown in the previous screen-shot, it is possible to assign an icon to the various states of related animation (OFF, ON/OPEN and CLOSE). Moreover, by the selection of the checkbox 

, it is possible to enable/disable the text associated to the animation (by the selection of 

it is possible to modify the style, the dimension and the color of the text). The image can be remove by the button 

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Ranges: is used only with generic analog Input and Output modules , with specific DFCC module and when the registers of DFCP module are used. It allows to assign various parameters like the zero value, the full scale value and the number of decimals (see the following example).

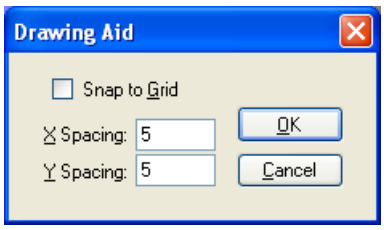
Commands: allows to assign various configuration commands to the animation (for outputs only). For more details about command use and functions, see the **Appendix B**.

The features reported above are not always available, but they are function of the specific module type.

From the R.8.2.1 of BDGraph it is possible to insert two useful new functions that are very used if these are associated to the digital alarm output: the Image Blinking function and the Text Blinking function. The function can be utilize together or stand alone. ***The Text Blinking doesn't function on Internet Explorer.***

3.1- Animations placement

Once added the wanted animation, it is possible, by the combination of CTRL plus right mouse button, to move the animation in any location of the page.
To improve the icon positioning it is possible to use the option **Drawing Aid** by right mouse click inside the animations window. In this way the newt window will appear :



It is possible, through this window, to configure the snap X and Y value and to block the animation to the grid. In this way the positioning of various icons will be simplified and more precise. The snap value is referred to the number of pixels. On status bar will compare the information related to the lock/unlock of the grid and the information of used snap.
As will be said in the following, it is possible to associate to each animation a dynamic text; to simplify the positioning of these texts and the images associated to animations, it is possible to use two appropriate functions by right clicking on the wanted animation: "**Center Image and Text**" and "**Align Image and Text**". The options of the next table are available:

Center Image and Text	Align Image and Text
Vertically	Top - Bottom
Vertically, Text on Left	Left- Right
Vertically, Text on Right	Top Right
Horizontally	Top Left
Horizontally, Text on Top	Bottom Right
Horizontally, Text on Bottom	Bottom Left

WARNING: for each graphic map it is possible to insert a maximum of 100 Animations for page

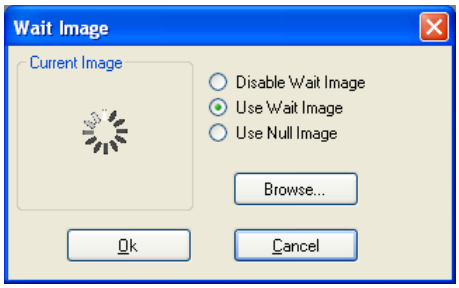
3.2- Animations moving

As said in the previous paragraph, it is possible to move the animations individually (**CTRL + left button**) or by group; in this last case it is necessary to select all animations to be moved (**SHIFT + left button**) and after that move them with the combination **CTRL + left button** or with the combination **CTRL + Keyboard Movement Arrows**. To deselect the animations, use the combination **SHIFT + right button**.
It is possible, in alternative, to select or deselect the icons, to use the contextual menu (Right click of the mouse).

3.3- Maps/site option setting

In addition to the program language (Italian, English, Chinese), it is possible to set three main parameters in the Preferences menu of BDGraph, as listed here below:

- **Polling time:** by the selection of this option a window will appear, where it is possible to insert the polling time (from 0 to 9999 msec) that can be used with DFCP controller module. After having entered the wanted polling time, it will be necessary to press OK button. The default polling time it is set to 500 msec.
- **Enable/disable browser cache:** it is possible to enable or disable the browser cache with this option. It is recommended to disable this option during the project development and it is recommended to enable it after the end of the development. The browser, enabling this option, keeps in memory the images of the related maps; on the contrary, it is possible that during the development the changes made are not visible
- **Lock/Unlock animations:** with this option, once completed a map or during its realization, it is possible to allow or less the moving of the animations
- **Wait Image**: it is possible to use this option to insert or less the wait images that will utilize during the animation state loading, for example, light point state. It is possible to use a clear wait image.



- **Command Highlight Control:** this option allows to modify the feedback color of the command in the .htm web page. In practice when a web page related to the map is open and we are selecting an animation, this will be highlight by a panel with a selectable color: This color is setted by the Command Highlight Control option.

In the main BDGraph window (in the bottom side of the window), on the status bar, the current setting of all the options are shown.

3.4- Full Screen Navigation

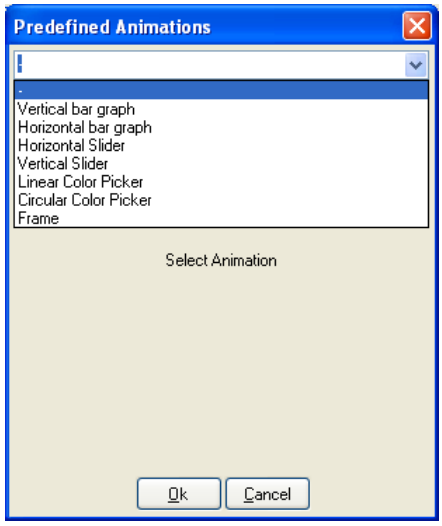
It is possible to use the Full Screen navigation from R.8.2.2 of BDGraph in Safari Web Browser with iPhone and ipad device. It is necessary to set this type of navigation, to select Option → Enable/Disable Full Screen. In this it will be possible to surf on the WEBS web-site in Full Screen way from iPhone and iPad. Pay attention please because to use this option it is necessary to open the project, enable this option and export again the mpas in .htm format: for the currect functioning of the option is is ABSOLUTELY NECESSARY to add the recall icon in the Home Screen of iPhone/iPad device (for more details about the adding of a recall icon to the Home Screen please see the AppNote ApplicationNote_iPhone.pdf of Duemmegi).

3.4- Predefined animations

When using analog input or output modules, DFDV module and registers, it is possible to associate to animations some elements as **BarGraph** (vertical and horizontal), **Slider** (vertical and horizontal), **ColorPicker** (linear and circular) and **Frame**.

The Predefined animations can be use instead of animation images to provide a visual representation of analog values. It is necessary to press the button 

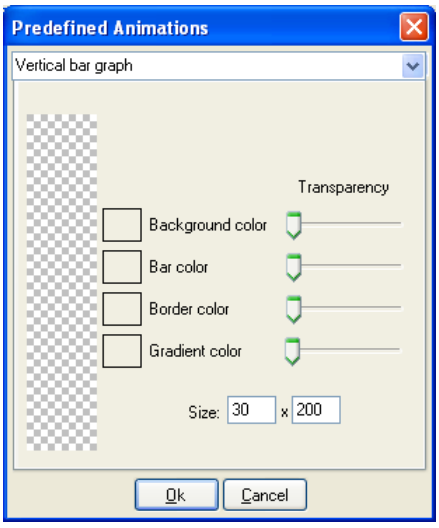
to insert this type of animation; in this way are shown the following configuration window where it is possible to select the wanted animation from the menu.

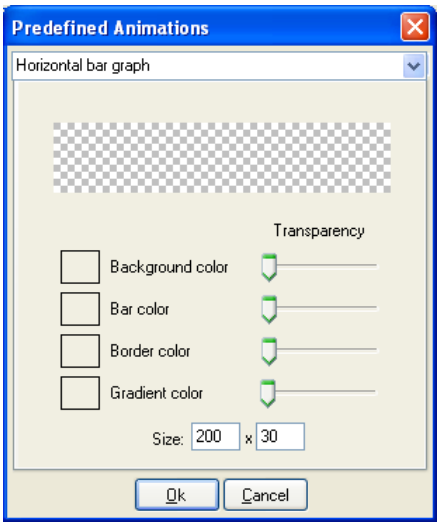


It is possible to move the predefined animations by the keyboard, with the combination CTRL + arrow key (up, down left right) (for more details see the paragraph 3.2).

BarGraph

It is possible, as said above, to choose among the vertical or horizontal option; it is possible do set as desired the **Background Color, Bar Color**, **Bord Color** and **Transparency**. It is necessary, following the desired colors selection, to press OK button; in this way will be re-direct to th animation insertion window where it is possible to complete the procedure by press OK button. Following the insertion of BarGraph animation, will be possible, by the combination of CTRL + SX MOUSE button in the right-lower border of the map, to modify the dimensions as personal style; it is possible to modify the dimension of the BarGraph during the insertion phase by the modify of the Size values.



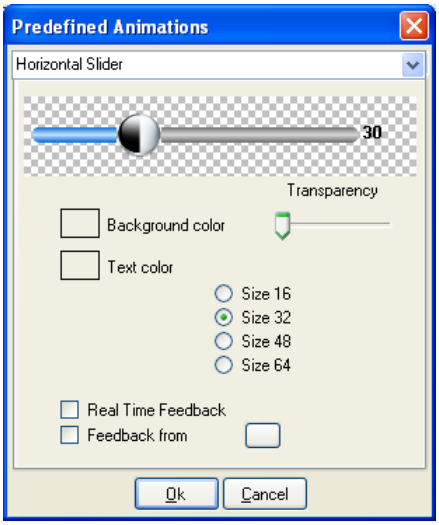


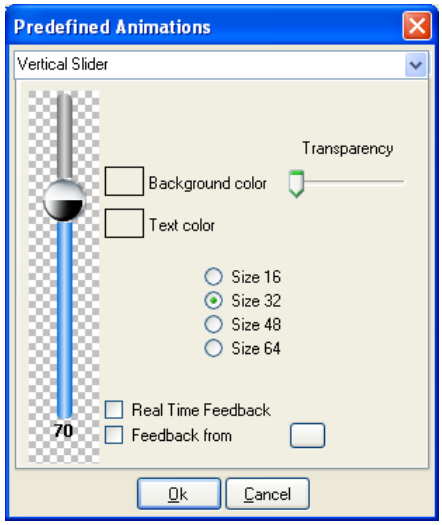
From the R.8.2.1 of BDGraph and the R.2.6 of the WEBS firmware, it is possible to set the transparency of the background of the bar, of border and of the gradient. In this way it is possible to personalize the BarGraph at each type of background and utilize.

Slider

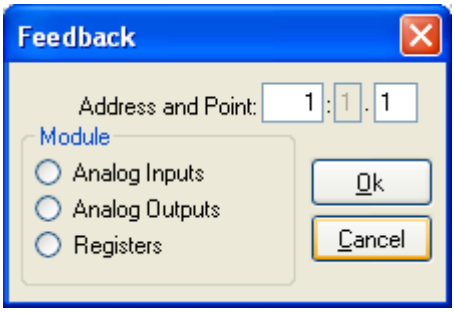
This type of animation, suitable to be used with dimmer modules (DFDV, DFDI2), can be used to transfer the wanted value to the analog output and to see a feedback of the output value. This animation has been developed for the use with touch devices such as last generation smartphone and tablet PC (iPhone, iPad, iPod-Touch, etc.). It is possible, for this reason, to choose between three different dimensions, depending on the wanted characteristics (Half size, Normal Size, Double Size). It is possible to change the colors and transparency like for the BarGraph animation.

WARNING: due to a software modification concerning the Slider animation types (both horizontal and vertical) all maps containing these animations and created with BDGraph older than release 8.0.4, must be recreated and exported again as .htm.



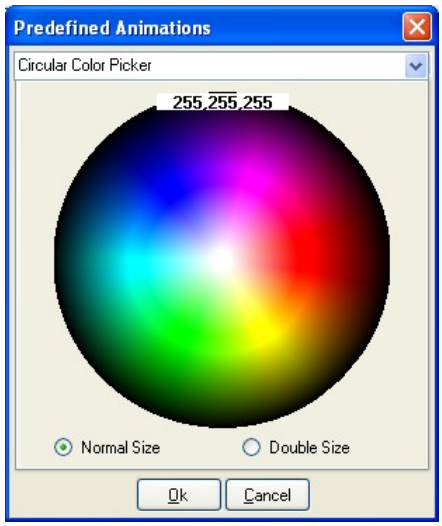


It is possible from the BDGraph R.8.2.1 and WEBS FW R.2.6 to set the slider to be aligned or not with the field control state by the option “Real Time Feedback”: if this option is disabled, the slider status will be disable respect to the field, the slider state will be disiligned respect to the field and it will be automatically realigned when the web page will be open. It is possible with the option “Feedback from” to choose if the slider must be received the feedback from field that is send by the analog input, analog output or register; to make this will be necessary to press the button near “Feedback from” and select the wanted type of feedback when the following windows is shown:



ColorPicker

This animation has been developed for the use with DFDMX module to manage the colors of DMX devices connected to the module. By the movement of the mouse cursor on the palette or by the "tap" on touch devices, it will be possible to change the DMX device value. Over the palette, the decimal values related to the colors (R,G,B) are shown. The ColorPicker animation, like the Slider, has been thought to be used on touch and tablet devices (iPhone, iPad, iPodTouch, etc.).



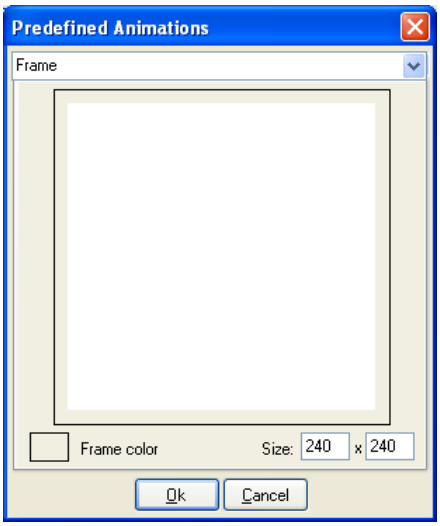
In the ColorPicker animation, it is possible to modify the palette dimensions to make compatibility with the specific application.

WARNING: the Slider and ColorPicker animations are not supported by the browser Internet Explorer (until future upgrade of it). Also, these animations are not supported by smartphone without Touch display, From the FW R.2.6 of WEBS it is implemented the upgrade from field for animations of ColorPicker type that are supported from registers.

Frame

This animation allows to recall, from a .htm page, another page referred to a different IP address ; this IP address has to be specified in the description field of the frame animation. This animation is very useful when it is required to show, inside a page of WEBS, the video image coming from a LAN camera and the commands related to the shown room: inside the same .htm page it will thus possible to see the video of a camera with a given IP address and animations for the control and command, for example, of lights and dimmers.

Another application of the frame predefined animation is the displaying, in the same page, of information related to 2 different DFCP: it will be enough to enter, in the description of the frame, the IP address of the second WEBS. In this way it is possible to display and control, inside the same page, points belonging to different DFCP (or systems).



The border color of the frame can be modified selecting the option Frame Color. To change the dimension of the frame use the combination CTRL + left button of the mouse on the bottom right corner, of course after having added the frame to the map. It is possible to modify the dimension of BarGraph during the adding phase by the modify of the Dimensions field value.

3.5- Animations for input and output digital modules

This category includes all **Domino** modules having generic digital inputs and/or outputs (ON/OFF). Some of these ones are:

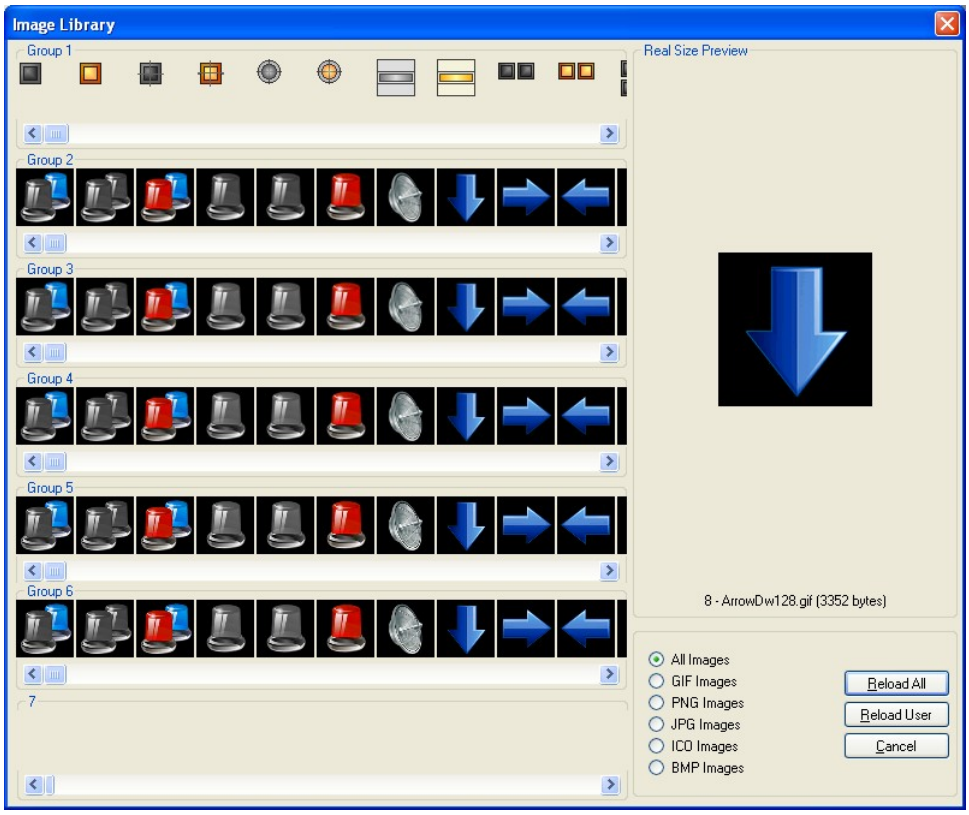
- DF4I, DF8I, DFTP/I, DF4RP/I
- DF4I/V
- DF8IL, BRIDGE88
- DFIR, DFWRX
- DF2R, DF4R, DF4RP
- DFTR point 2
- DFDV point 2
- DFCT digital section of input or output
- DFCL
- DFGSM
- DFCP public virtual points

For the digital input and output modules, the information to enter are:

- the address of the module and the point
- the module description

- the two images associated to OFF and ON/OPEN state of the point (the OPEN and CLOSE state is relative to rolling shutter control modules). To insert the wanted image push the button Image from Library... in order to load the images allowable in the library; moreover (or in alternative) it is possible to use a dynamic text (a text for the OFF state and a text for the ON state). To insert the desired text, write in the two boxes below the buttons used to recall the image from the library .
- the command type for output modules (none, toggle, momentary, set, reset, etc.)
- the animation description (maximum 31 alphanumeric characters); this description is shown as “tips” when the mouse is positioned on the icon
- the attributes of dynamic text (type of character, style, dimension, effects and color)

As said above, the choice of the images to be assigned for the various functions of a module must be made by the selection of Image from Library... button; pressing this button, the next window will be shown:



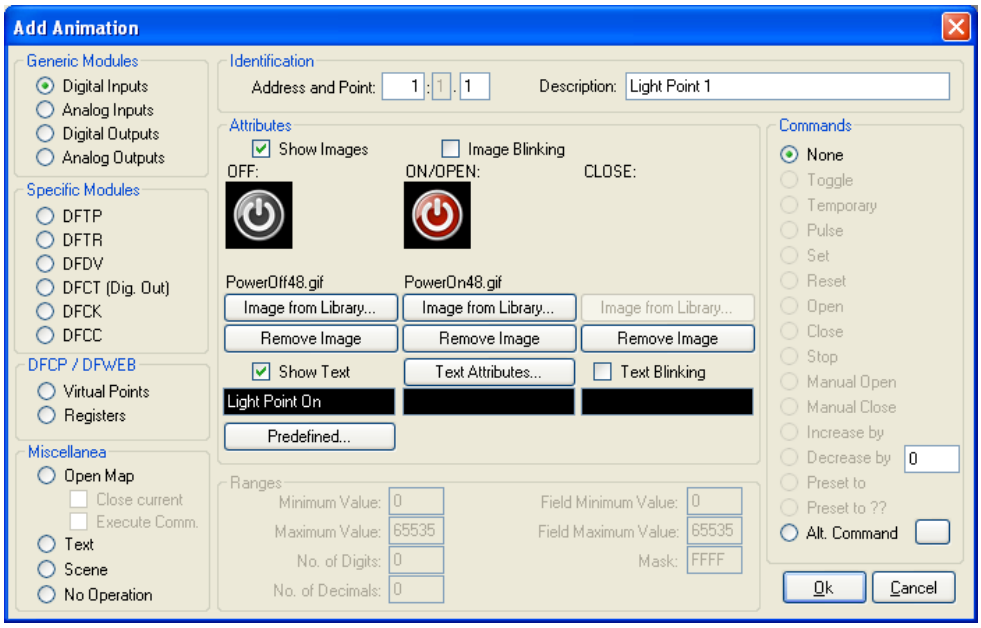
This window features **6 different groups of images in the Library** (the classification in groups allows to find the desired icon in a easier way); use the related scrollbars to scroll all available images.

The seventh group contain the used images on the map of current project and allowed to cancel the single image that are not necessary: by the click with the right button of the mouse corresponding of the images the would be cancel, will show a popup menu that allowed the execution of the operation.

It is possible to use the Library of supplementary icons available on the Duemmegi site, copying them inside one of the folders of the 6 animations groups. The max limit of icons that can be stored inside the groups is equal to 255 x 6 formats. The 6 formats are GIF, PNG, JPG, ICO and BMP; selecting the option “All images”, only the first 255 files of each group will be available.

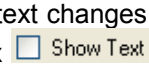
A seventh group is available (on the bottom of the window) where all the images used by the current project are saved. **In practice, when a map is saved (.bdm format), all icons that are used in that map are saved in a folder, named IMG**. This allows the project portability, because it is enough to copy all the project structure to transfer the project from a PC to another one.

A Preview of the selected image, with the related name, is shown on the right side of the Image Library window. After having chosen the desired icon, it is necessary to select it by the left click of the mouse.
For example, supposing that the state of a switch must be shown, a window like the following one is needed (for more details see the “Tutorial” section).



The button **OK** closes the window **Add Animation** and the created icon will been shown on the map in the top left side. The icon can be moved to the wanted position holding down **CTRL** button and the left mouse button and moving the mouse; when the position is reached, release the mouse and the **CTRL** buttons (or use the arrows buttons as described at paragraph 3.2).

In addition to the pre-defined library symbols for the icons, it is also possible to use the images defined by the user that must be saved in a file with appropriate graphical format (.GIF is the best format for its good compatibility with all browsers). It is necessary, to made this, to save the file inside one of icon groups in the library. For more advanced details about the creation of icons refers to **DUMMEGI** offices.

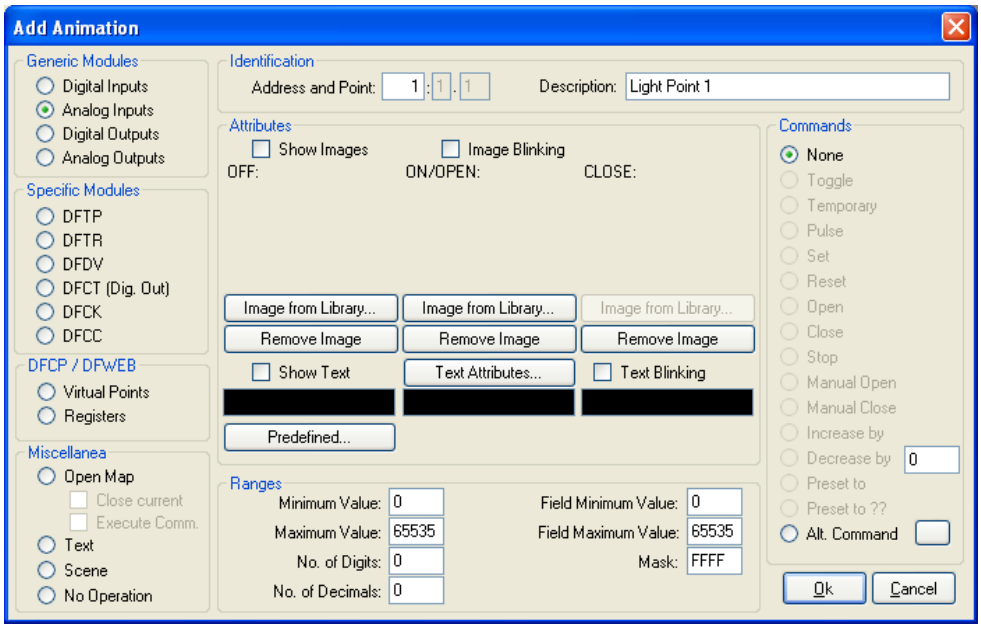
As said above it is possible to assign a dynamic text to the icons (the text changes as function of the state). The text can be shown in the graphic map by the selection of checkbox 

; in this way, the dynamic texts inserted for the attributes OFF, ON/OPEN and CLOSE will be visualized in correspondence of the icon on graphical map. By the use of 

it is possible to modify the characteristics of the text that will be visualized in the graphic map (font, dimensions, color, etc.). The icon text can be moved (independently from the icon) by the mouse and the CTRL button as said above.

3.6- Animations for analog inputs and outputs module

This category includes all **Domino** modules providing analog information (both input and output type). Some of these ones are: DFTA, DFTE, DFAI, DFDI, DFDM, DFMETO.



For each analog input module, the information to be entered are:

- the module address
- the animation image (the modality is the same shown for the digital inputs and outputs)
- the visualization ranges; in detail the zero value and the full range value that the user wants to visualize on the map and the zero value and full scale provided by the module (read value from field); it is necessary to insert two read values that is shown on the map; it is possible to insert the wanted numer of decimal for the visualization. The Field Minimum Value cab be negative; in this case the value is codified in twos-complement (see the following DFCC example)
- the type of character (Text Attribute) to use for the value visualization
- the animation description

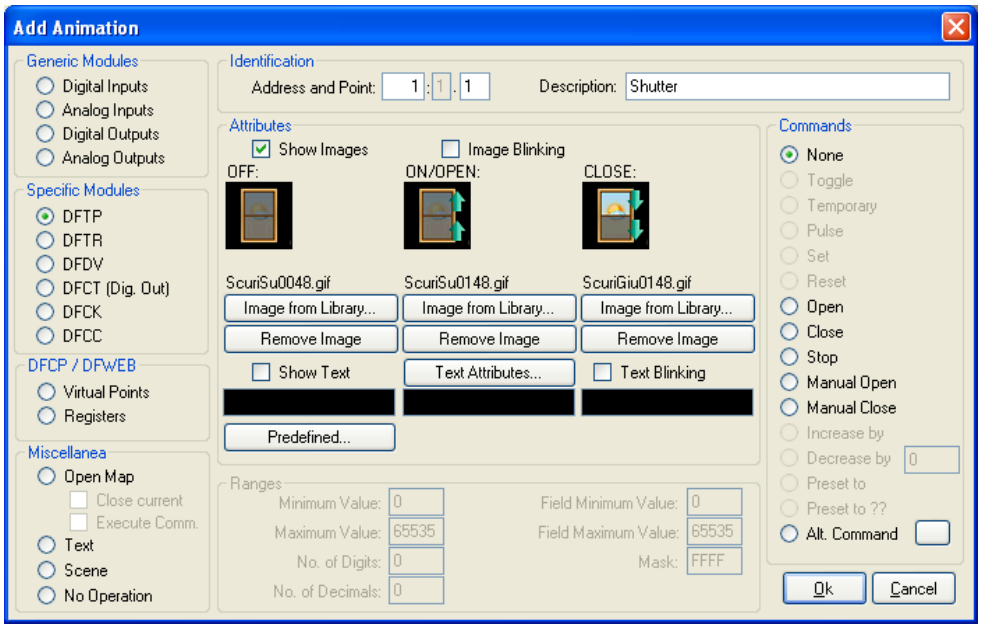
For example, DFTA module needs the following settings: the minimum and maximum value to be displayed on the map is -10/+41.1, corresponding to the module values 2630/3141. Therefore it required to enter -10 as Minimum Value and 2630 as Maximum value; besides of this, the Maximum Value to be displayed is 41.1 and 3141 is the Field Maximum value from module. The mask is used for “masking” bits that are not required for the analog value; however, it is normally FFFF.
Another example: for the section temperature of DFMETEO module: the Minimum and Maximum Value range is -30/+50, corresponding to the field 2430/3230.
The Field Minimum Value is negative if the values are codify in twos-complement: for example the cos fi of DFCC module must bu configure as following: minimum and maximum value -1/1, correspondent to the field read values -1000/1000.
More details are available in the APPENDIX A.

For the visualization of analog input value on the map the field name (although optional) must be entered followed by <> in the text-box “Show Text”, eventually followed by another fixed text (ex. measure unit).
For example, to visualize the temperature value from DFMETEO (channel 1), it is possible to write in the field “Show Text”: Temperature <> degrees. On the map, when it is connected to a **Domino** system, is shown, instead of <> the current value converted as required.

In the case of analog output, some commands are possible; these are “Increase by”, “Decrease by” and “Preset to”, specifying the increasing, decreasing and preset values on the related text-box (***note: from the firmware version 2.2 of WEBS module, the commands Increase and Decrease is allowed in the case of Web site***); it is moreover possible the command “Preset to ??”, that allows the preset a value that will be entered by keyboard: clicking on this animation, a window will appear (see on the following) where it is possible to enter the wanted value.

3.7- Animations for motor control modules

This category includes DFTP, DFTP/I and DFTR (point 1) modules.



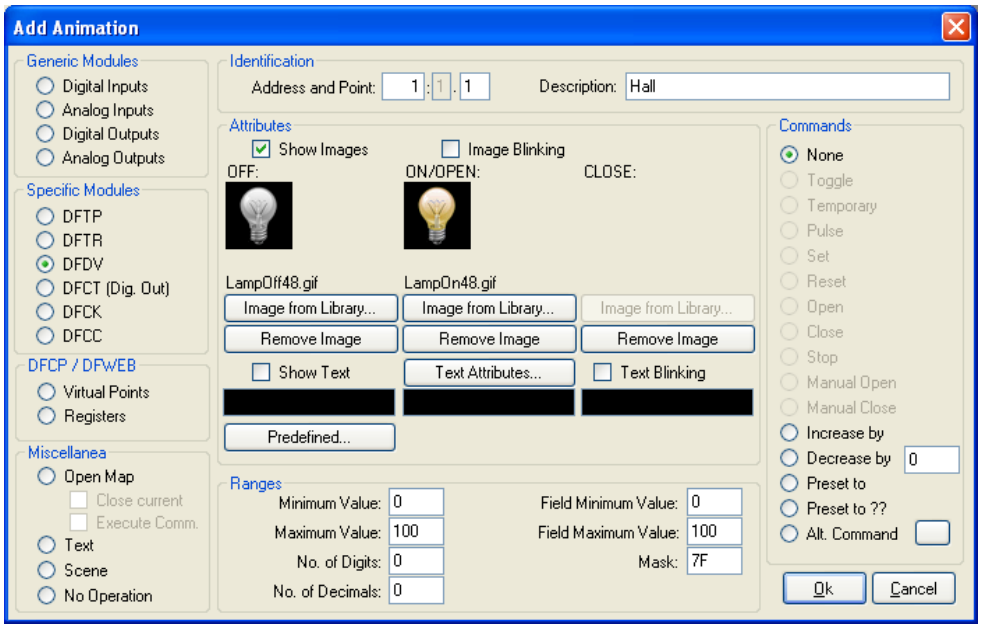
The animations for motor control modules need the following information:

- the module address and point
- the animation image. In this case the images are three, one for the motor stop, one for the motor opening and one for the motor closing. The image must be chosen by clicking on the button Image from Library... . If also a text is required, use the related text boxes.
- Command type: it is possible to choose among None (to visualize only the state), Open, Close, Stop, Manual Open and Manual Close. In the case of Manual Open and Manual Close, it is possible the manual command of the open and the close
- the dynamic text attributes (if it has been entered)
- the animation description

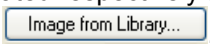
WARNING: the commands Manual Open, Manual Close and Stop, could be not functioning or not functioning correctly in the case of use with some smartphone. It is not advisable to use these commands in the case of smartphone application to avoid unpleasant malfunctions.

3.8- Animations for DFDV dimmer module

DFDV module only belong to this category (it is a particular module) relatively to the dimmer section only. For the others **Domino** dimmer use the generic animation for analog output module.



The animations for DFDV dimmer module need the following information:

- the module address and point
- the two animation images associated respectively to OFF and ON state of point. The image must be chosen by clicking on the button  . If also a text is required, use the related text boxes.
- Command type: as for the analog modules, it is possible to choose among None, Increase by, Decrease by, Preset to and preset to, with the apposite value in the relative text box (the command Increase and Decrease are not applicable for the Web site)
- the dynamic text attributes (if it has been entered)
- the animation description

As mentioned before, through WEBS or DFWEB modules, it is possible to control also digital output of DFDV dimmer module: to do this, once selected the animation for DFDV module, enter the related address, while the point must be set to 2. In this way, the command related to the configuration of a digital output will be enabled.

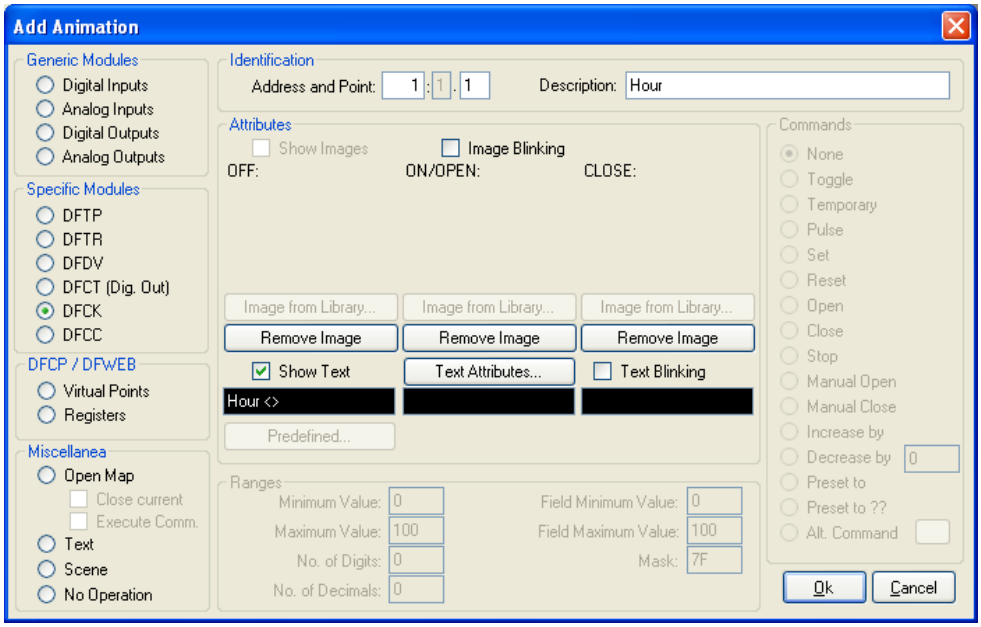
3.9- Animations for Date and Time

This animation allows to visualize the date and the time on the map. The information will be taken from DFCK I, II or III module, if these have been installed.
The date and time animation can be placed specifying, in the address field, the identification value related to the wanted clock module; the point related to the wanted information must be entered in the point field, as shown in the next table:

	Meaning
Point 1	Hours
Point 2	Minutes
Point 3	Seconds (only for DFCP)
Point 4	Day of the week
Point 5	Day of the month
Point 6	Month
Point 7	Year

It is necessary to enter the symbol <> in the text field; instead of this symbol, the value of selected parameter will be shown. The symbol <> can be anticipated or followed by any fixed text, as in the example of the following picture. To the identifier 1 corresponds the master clock module (if the DFCP controller is installed, the identifier 1 will correspond to its internal timekeeper).
WARNING: the point 3 (seconds) can be used only for the visualization of DFCP clock (the modules DFCKI, II and III does not provide the seconds)

The configuration window of the animation relative to the hours is shown in the next picture:



Therefore, the information to be entered are:

- the DFCK identification module (if DFCP controller has been installed, the identifier 1 corresponds to the internal clock) and the point related to the information to be visualized as listed in previous table
- the attributes of desired dynamic text
- the animation description

It is necessary to enter a different animation for each information listed in the previous table.

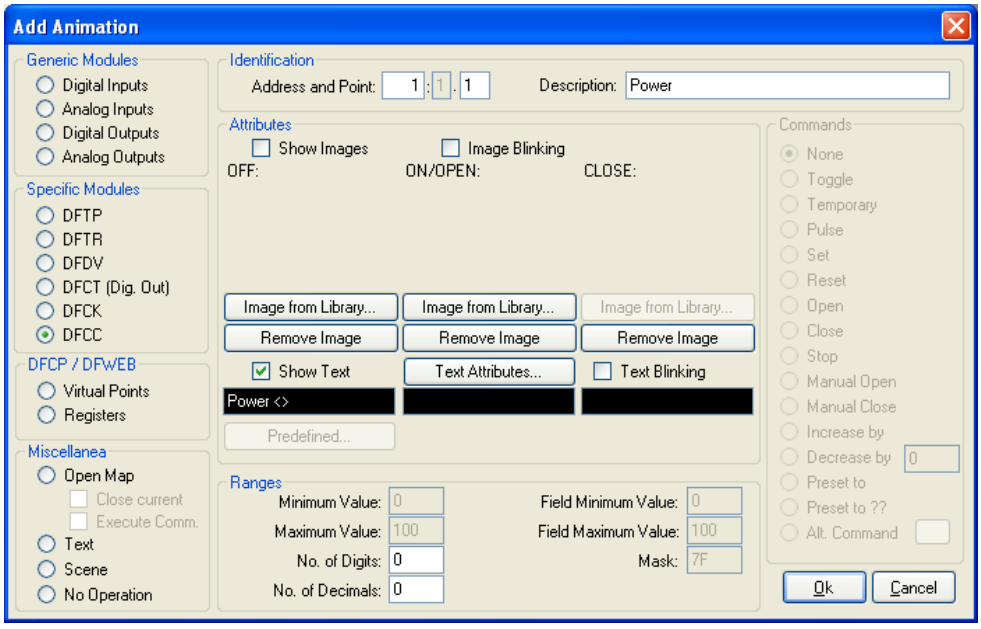
3.10- Animations for the measurement of electric parameters

This category includes the loads control module DFCC that provides several electrical measurements. The animation for electric measurements can be placed specifying, in the address field, the identifier value (from 1 to 9) related to DFCC module; the point related to the wanted information must be entered in the point field as shown in the following table:

	Meaning
Point 1	Power
Point 2	Reactive Power
Point 3	Apparent Power
Point 4	COS FI
Point 5	Average Power
Point 6	Reactive Average Power

It is necessary to enter the symbol <> in the text field; instead of this symbol, the value of selected parameter will be shown. The symbol <> can be anticipated or followed by any fixed text, as in the example of the following picture.

The configuration window of animation related to the power management will be:

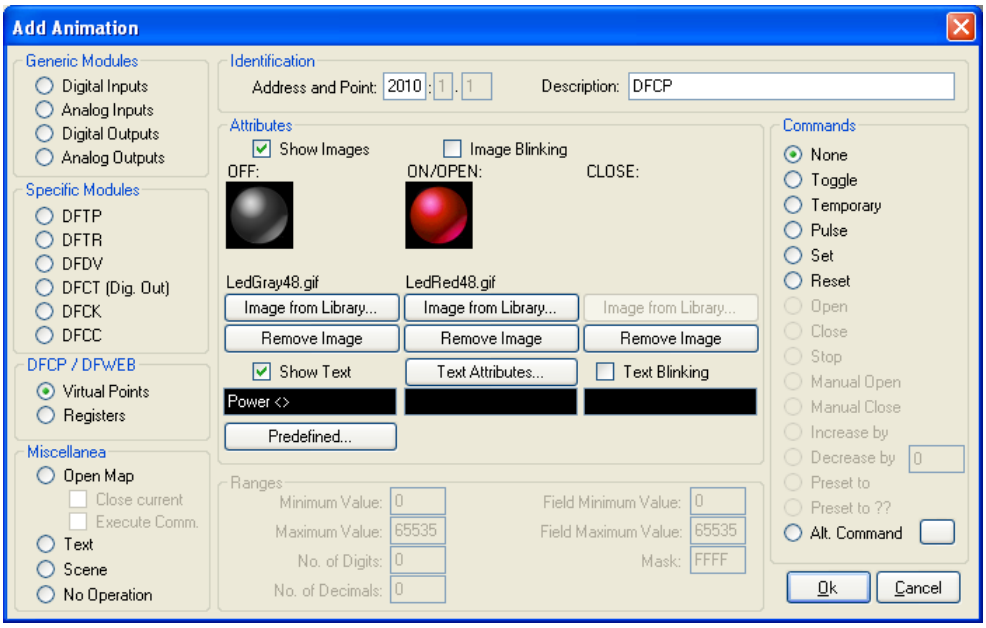


For this type of module, the information to be entered are:

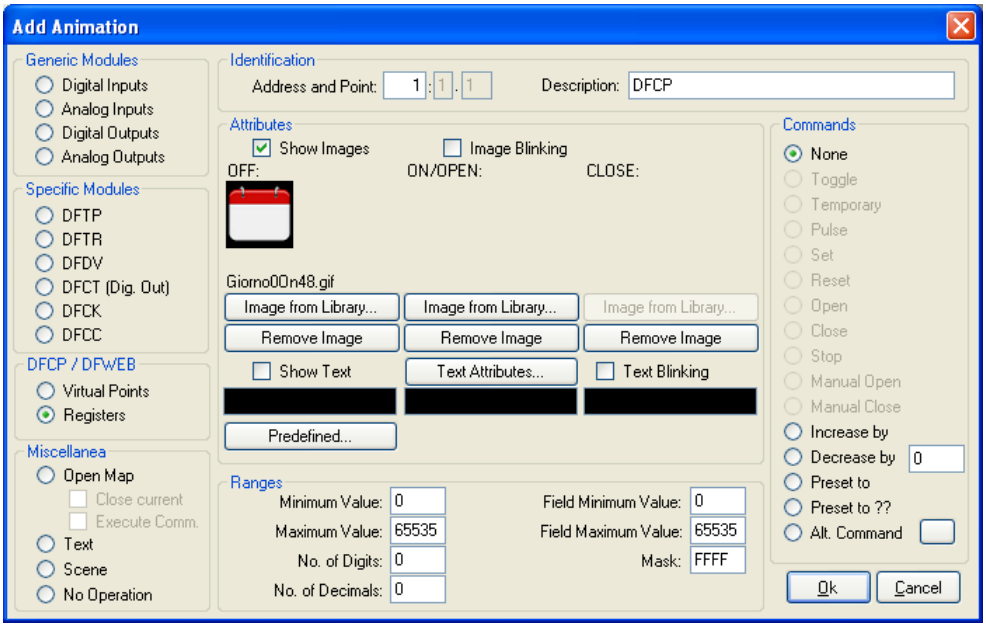
- the identifier of DFCC module and the point related to the information to be visualized as listed in the previous table
- the desired dynamic text attributes
- the animation description

3.11- Animations for virtual points and registers

It is possible, by the option related to virtual points and registers of DFCP (if installed), to insert in a graphic map some animations reporting the state of these points.
For example, if we want to show the activity or inactivity state of DFCP controller installed on a plant, it is possible to report on graphical map the state of virtual point 2010. It is necessary, to make this action, to enter in the “address” field the value of wanted virtual point, in this case 2010; the configuration of this example is reported in the following screenshot.



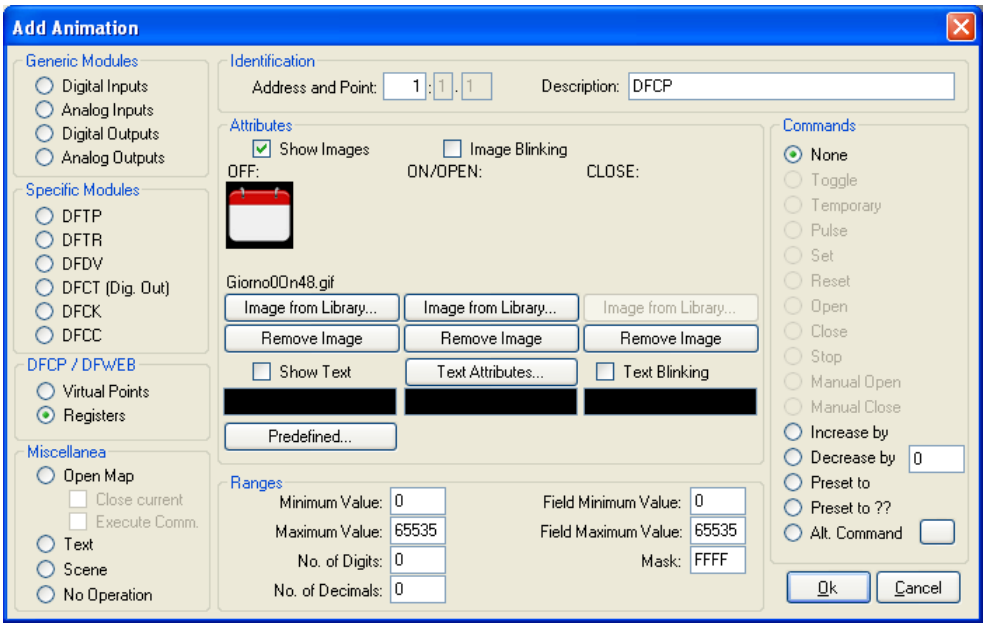
A virtual point shown on the map can be of course be controlled enabling one of the commands on the right side of the configuration window of animation.
A register animation can be used (in association to an installed DFCP), by the selection of Registers option and by the entering the register value in the Address field (R0 in the following example). It is moreover possible a description of the register.



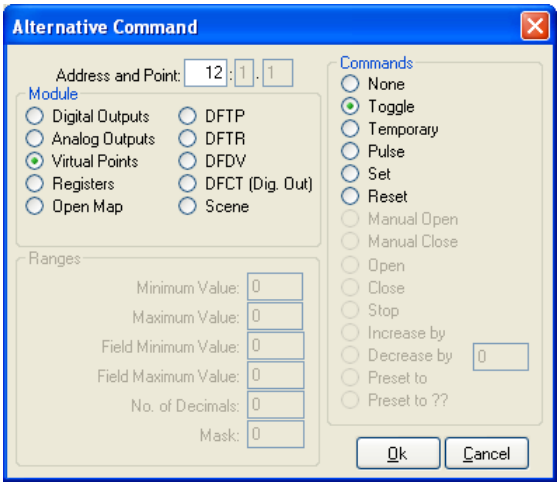
For registers are also allowed all the options related to the analog outputs (setting of Zero Value and Full Scale Value, No. of Decimals, Mask, commands Increase by, Decrease by, etc.)

3.12- Alternative command

For all module that can be controlled by BDGraph (except DFCK and DFCC) it is possible to use the Alternative Command; this option allows to show an information associated to a module and to send a command to a different module or point. The following is an example related to the register 1 of the previous paragraph where the Alternative Command option (Alt. Command) has been selected.



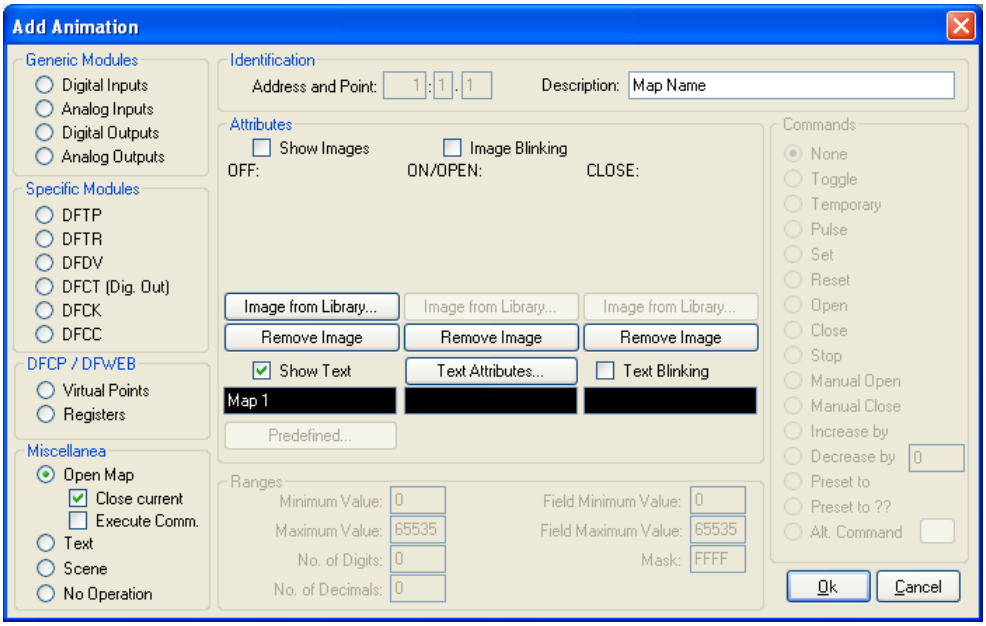
By clicking on the button  near to of Alt. Command option, the configuration window will appear like shown in the following figure.



It is possible, from this window, to select a destination for the command to be executed that is different from the register 1 used for visualization. The figure shows, as example, the toggle activation of the virtual point 12. In practice, the images and text related to register 1 will be visualized, but, when clicking on that icon, a commands to virtual point 12 will be sent.

3.13- Animations for navigation among different maps

The option “Open Map” allows the recall another different map from the current map. To configure this animation select the option “Open Map” and enter, in the “Description” field, the .bdm file to be recalled (the extension of file must not be included in the “Description”). When using the option “Close Current”, the current map will be closed before to open the next one.



The information to be entered for this type of animation, are:

- the .bdm file name of the opened map. The description, in this case, is the name of the selected file (without the file extension)
- for entering the animation image select the button  . If a text is required, use the apposite boxes
- the option for closing the current map. For example it is possible to enable this options when it is desired to have only one map opened at a time and when it is necessary to create a project with navigation among different maps (for example with the use of touch panel)
- the description of the animation

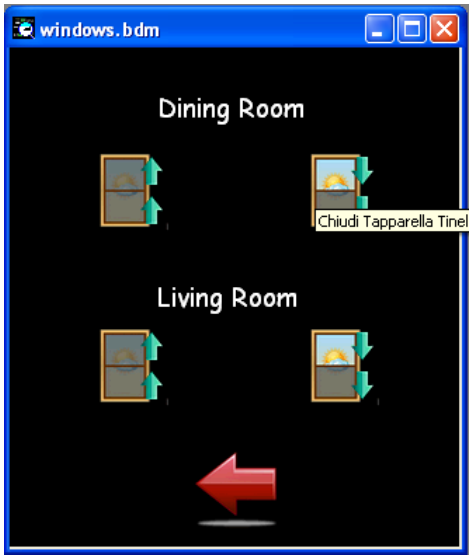
Note: if the target of the graphical map is the creation of a Web site for WEBS module, it is allowed to specify in the Description field a link to an IP address, both internal or external to the LAN (ex. Http://192.168.1.123), or a WEB address (ex. http://www.duemmegi.it) etc. Using special commands (see the next table) inside the field Description, it is possible to open the several pages for the configuration of WEBS module (for more information see the technical sheet of WEBS module).

Command	Corresponding Address
upload	*.../webupload.htm*
config	*.../webuconfig.htm*
index	*.../index.htm*
info	*.../webinfo.htm*
password	*.../webpass.htm*
reset	*.../webreset.htm*
logout	*.../weblogout.htm*
conn	*.../webconn.htm*
diag	*.../webdiag.htm*

It is possible to enter, in the field **Description**, the term **<<** and, in this way, it is possible to perform a Back to previous page function. ***This function is available only for the use with Web Browser, therefore using WEBS module (see the related Technical Sheet). This function cannot be used when the graphical maps program is used as Supervisor of the Plant.***

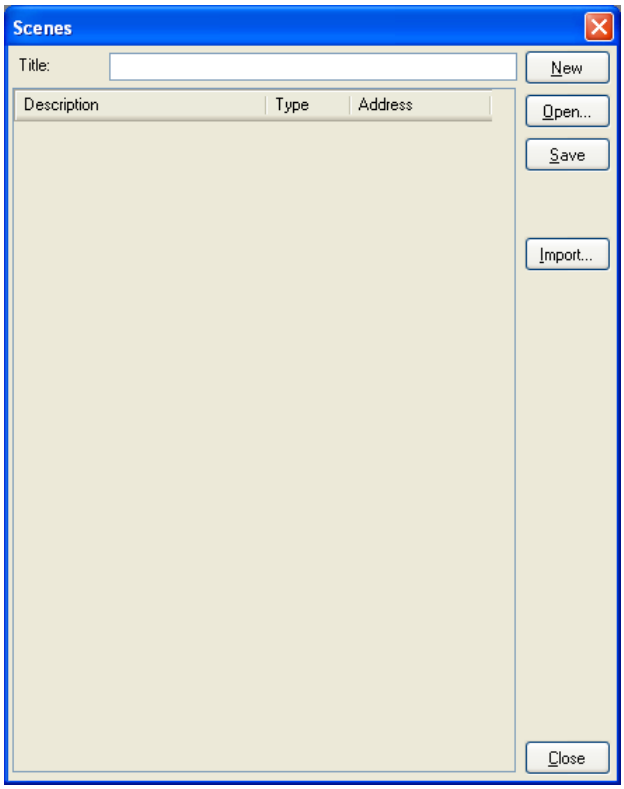
4.0- Scenery realization and management

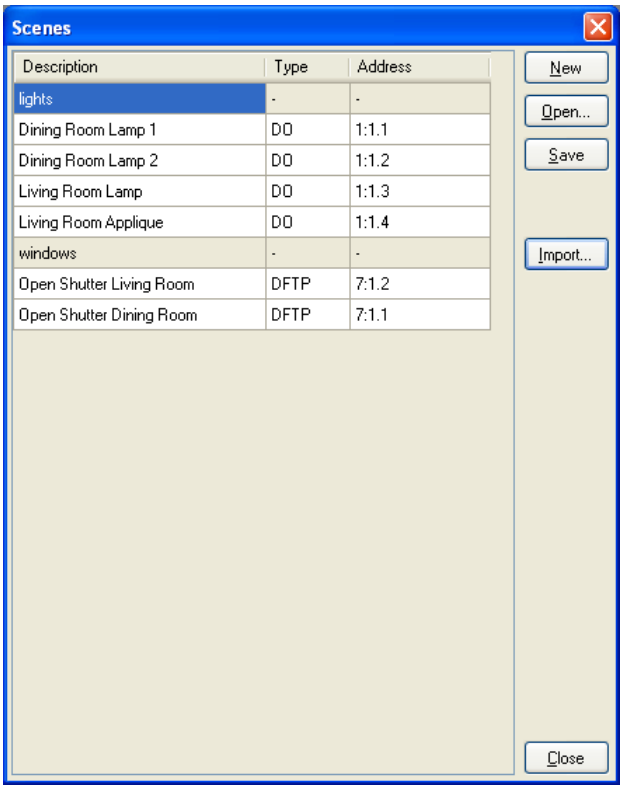
Before to proceed to the configuration of a scenery it is suggested to create a .bdm map that will be then imported in the wanted scenery. Therefore, let's proceed with the realization of a map containing light points and animations related to a DFTP module (the map creation is shown inside the tutorial section, see related chapter in this same manual); the realized maps are the following:



ATTENTION: the WEBS module can store up to 100 different sceneries.

After the realization of the maps, press the button  on the navigation bar of BDGraph: the window on the left side shown below will appear. To associate a scenery to the previous maps, press Import and select the file **lights.bdm** and the file **windows.bdm**. The result is shown on the window on right side here bottom.



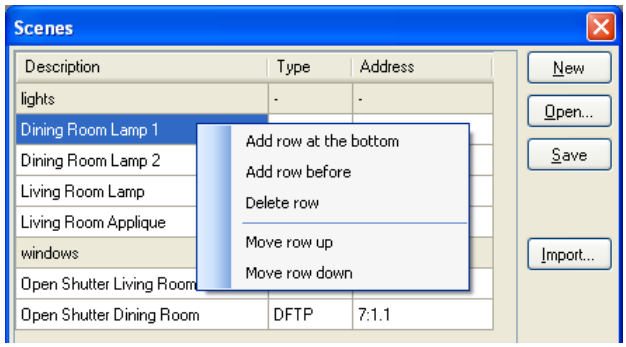


It is possible to insert a title for each realized scenery from the release 8.2.2 of BDGraph. As shown in the previous figure, depending on the number of maps that is imported on the scenery, a subdivision in different "zones" will be automatically created (in this case, a subdivision between the map of light points and the map of shutter command has been created).

Before to proceed, let's see the options that compose the scenery configuration panel.

- **New**: allows to create a new scenery by clearing the currently shown window
- **Open**: allows to open an existing scenery
- **Save**: allows to save the scenery previously created (the scenery must be saved with .htm extension, as shown following)
- **Import**: this function is necessary to import the animations related of the .bdm map created before
- **Close**: close the scenery configuration window

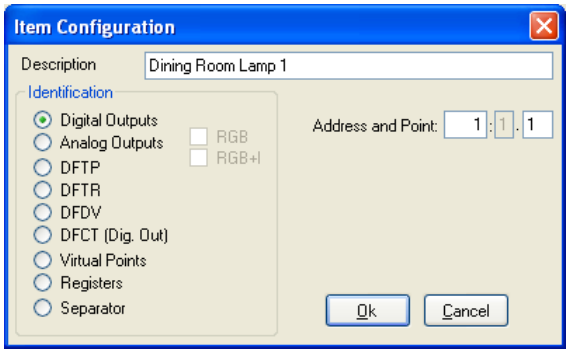
It is also possible to create a scenery in manual mode by clicking inside the Scenery window with the right button of the mouse and, after that, select **Add row at the bottom** (or before). By double click on the inserted item, the **Item Configuration** window will be shown (this one will be described in the following). This window can also used to modify the item features imported through a double click on the desired item (see in the following).
Resuming, by right clicking inside the Scenery window or on one item, the following pop-up menu will appear.



The following options are available:

- **Add row at the bottom**: a row is added to the end of scenery configuration table
- **Add row before**: a row is added in the previous position of current item
- **Delete row**: the row corresponding to the selected item is deleted
- **Move row up**: the selected row is positioned above the current row
- **Move row down**: the selected row is positioned below the current row

The following figure shows the item configuration window (**Item Configuration**):



This window allows to modify some characteristics of the items included in the scenery.

- **Description**: allows to modify the item name of each item of the scenery; the name can be different from the name assigned inside the map (the item description inserted on the map will be not modified)

- **Identification**: allows to modify the item type. It is possible to choose between Digital Outputs, Analog Outputs, DFTP, DFTR, DFDV and DFCT (digital outputs), Virtual Points and Separator. Through the option Separator, by the specification of the assigned name in the field Description, a separator between more zones will be added, as shown in the picture at the previous page. It is possible to use the Preset command (GOTO) for DFTP modules from R.8.2.2 of BDGraph.

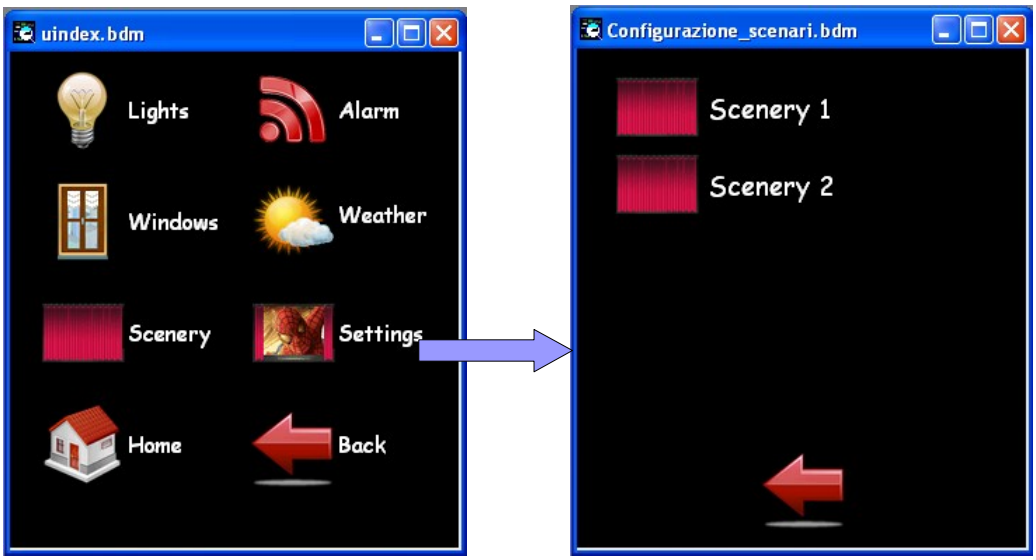
- **Address and Point**: allows to insert the related address and point

- **Address and Point**: allows to insert the related address, channel and point

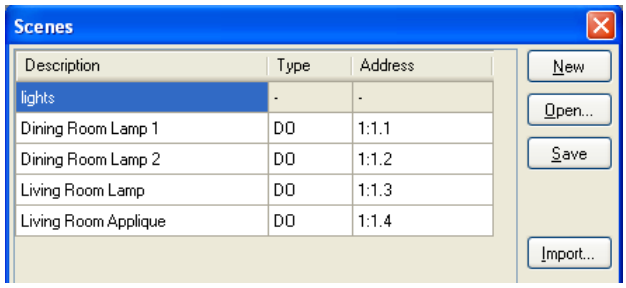
From the R.8.2.1 of BDGraph and Webs FW R.2.6, it is possible to control the DFDMX module from the scenery with the option Analog Output and by selection of controlled DMX module (RGB or RGB + I) and Registers.

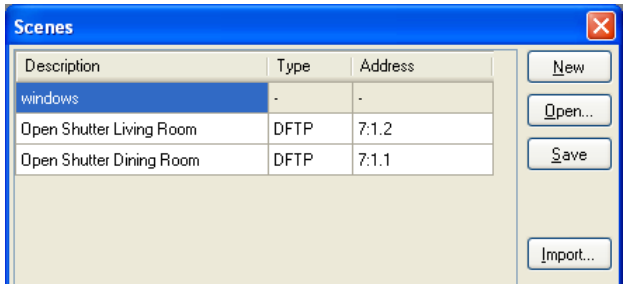
Once completed the items configuration, press OK to confirm or Cancel to exit from configuration.

It is necessary to save the scenery, after its configuration, as .htm file inside one of 5 user folders containing the .htm file of web site (**usera**, **user1**, **user2**, **user3**, **user4**). Supposing to have created 2 different sceneries and to have saved them inside the folder usera as *ScenarioLuci.htm*, *ScenarioFinestre.htm*, it is possible to create a proper map made by 2 buttons recalling the above mentioned .htm pages. These one will allow the configuration of different items. The pages with animations related to the configurations of the sceneries may be the following:



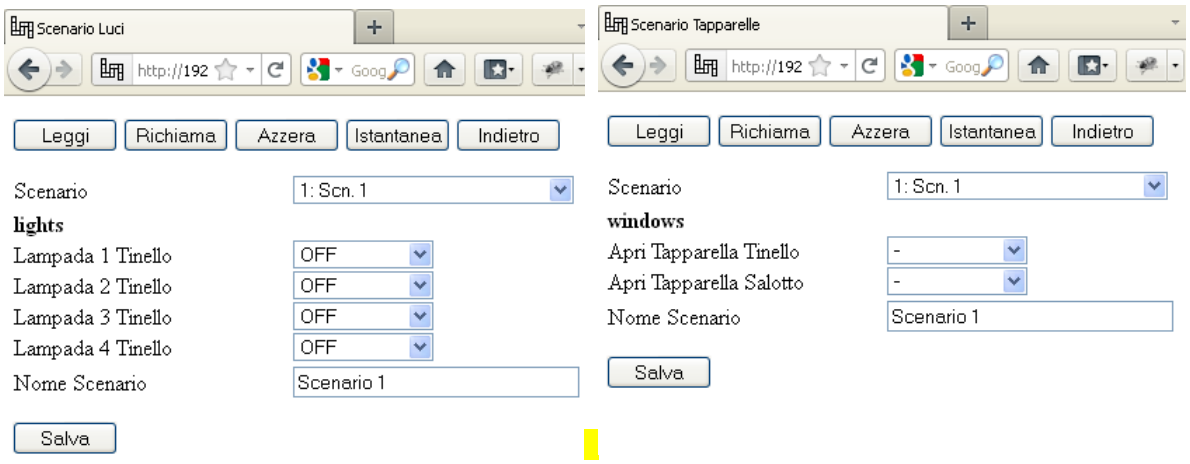
The animation “Settings” recalls the configuration scenery map (Configurazione_scenari.bdm). Therefore, inside the BDGraph the following two sceneries must be set, paying attention to save these ones with the same name shown in the Description field of the two animations, for example ScenarioLuci and ScenarioFinestre.





After having saved the two sceneries in the correct user folder (for example **user**), the .bin file to be transferred to WEBS module can be created.

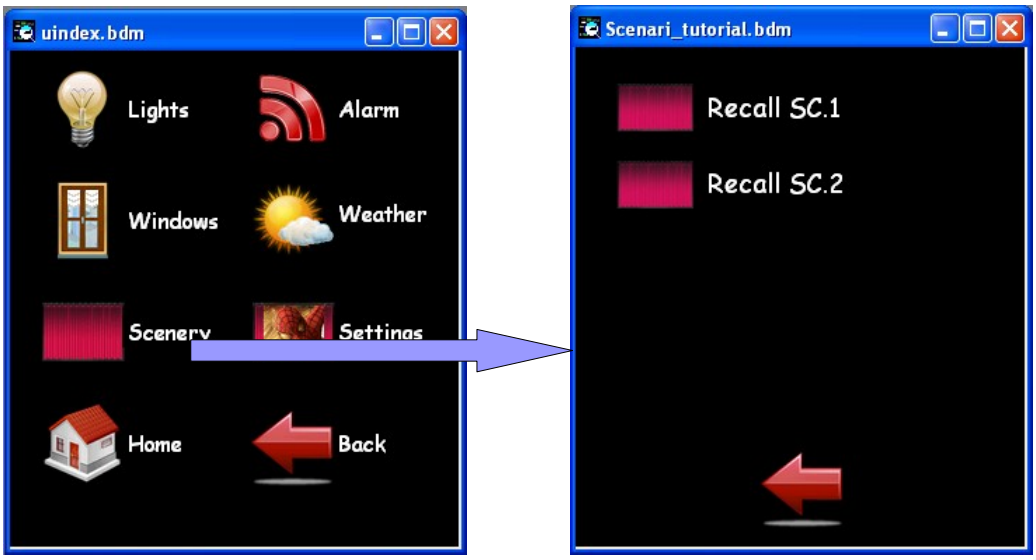
At this point, pressing the buttons Scenery 1 and Scenery 2, the pages shown in the following screen-shots will appear.



The title of sceneries is shown in web schedules, see the previous picture. Inside one of the previous .htm pages, it is possible to set the items to create the wanted scenery. The available options are the following:

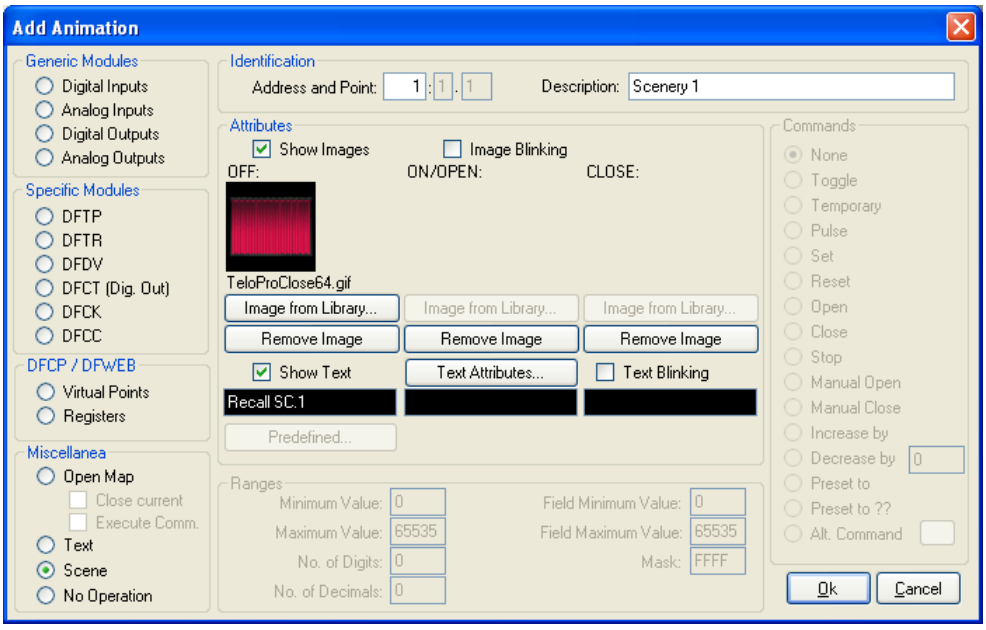
- **Scenery**: scrolling menu containing the textual list of each of the 100 allowed sceneries with the related name (the sceneries are named Scenery # for default)
- **Dining Room Lamp 1, Dining Room Lamp 2, etc.**: list of each item inside the current scenery. The wanted command can be selected for each item. The commands ON and OFF are available in the first example because only animations related to digital outputs has been used, while in the second example, the commands Open and Close are available for the shutter animations.
- **Scenery name**: it is the name assigned to the current scenery; it can be modified as wanted
- **Read**: allows to read the configuration of the selected scenery
- **Recall**: recall the selected scenery by setting the several items
- **Reset**: reset each setting assigned to the current scenery item
- Snapshot: allows to execute a photo of actual scenery configuration
- **Save**: save the current scenery
- **Back**: press this button to go back to the previously shown page

It is recommended to create another page containing the scenery animations. These animations allow to recall directly the previous configured sceneries. The uindex page and the page with the scenery recalling may have the following appearances.



The animation text to recall the scenery is arbitrary; **if it is equal to "<>", the name of saved scenery will be shown.**

It is necessary to set the animation Recall SC.1 in the following way:



As shown in the previous window, the option Scene has been used. It is required, as unique condition for the correct operation, the insertion of the scenery number previously set inside the Address and Point text box (the scenery in the example is the number 1).

5.0- Events

It is possible to define some points in order to, at their status changing, a map will be automatically opened and optionally an audio file will be played, or a scenery will be recalled. The variations of these points will be named “events”; the number of events that can be defined is 64.

At the occurrence of an event causing the opening of a map, WEBS module will activate one of the virtual points in the range V1901 to V1964 inside DFCP or DFWEB (correspondent to events 1 to 64), depending on the number of the event that occurred (see the first column in the configuration window); these points allow to have the information about the event that occurred even if the point which generated it has returned, in the meanwhile, to its steady state. It can be said that the virtual points V1901..V1964 are the “memory” of the related events.

The map that will be opened at the occurrence of an event must contain a button for resetting the related virtual point V1901..V1964; this button may be seen as a acknowledgement (ACK) of the event. Note that it will not be possible to change the displayed page until the virtual point will not be reset.

If a global reset button of points V1901....V1964 is required, it is necessary to add to DFCP controller an equation and a script for the management of the logic that must link the “global” virtual point V1900 and the single virtual points from V1901 to V1964; in this case, when the “global” virtual point V1900 is resetted to “0”, there are resetting each virtual points from V1901 to V1964.

In alternative it is possible to act to register R1000 to recognize the events: R1000 is reset to zero from WEBS module when an event is verified and it is predisposed to the follow writing operation; if it was write a number from 1 to 64 by field or by browser, the relative event is recognized (the related virtual point is reset to zero). If the value 65535 is wrote in R1000, each events are reset (this is equal to virtual point V1900).

It is possible to use indifferently the technique that is based on V1900 or the technique that is based on R100 to recognized the events; in the last case are not request script or specific equation in DFCP module, so it is preferred to use the technique based on register R1000.

If more events, recalling different pages, occur at the same time, the event with lower number has priority and therefore the related map will be opened; at the acknowledgement of this event, the page related to the next event will be automatically opened and so on.

The describe mechanisms do not take place for the event recalling a scenery.

To configure the events click on the related button in the bar of BDGRaph; the following window will be opened.

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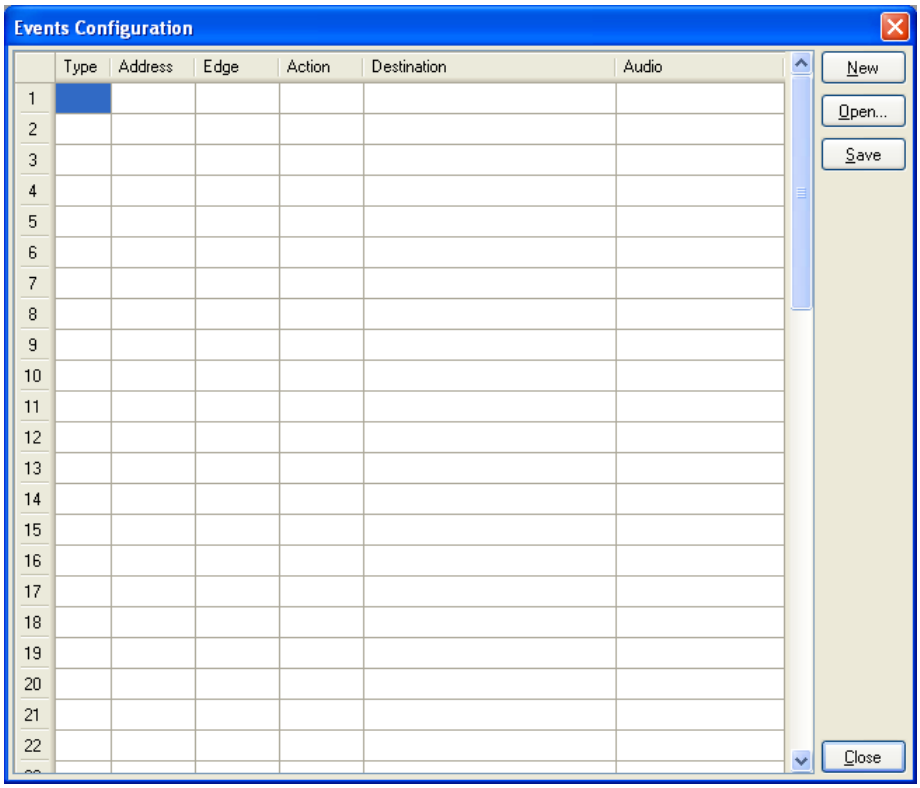
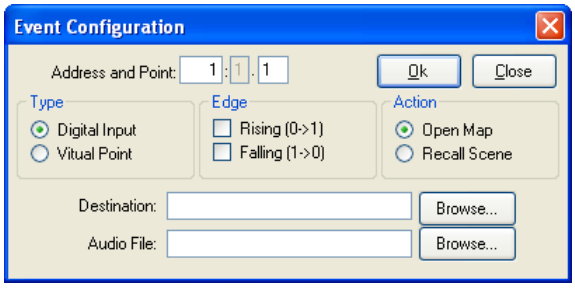


By double clicking of the left button of the mouse on any cell of the table, the configuration panel will be opened for that event:

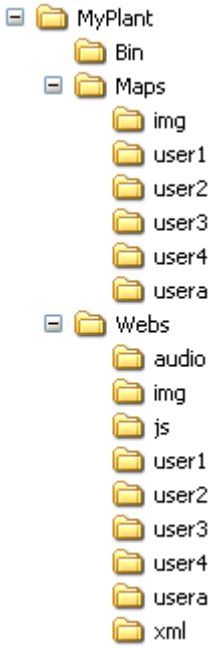


Like can be noted from the previous screen-shot, some options have to be set; in details:

- **Address and Point**: address and point to which the event has to be associated
- **Type**: input type (real or virtual point) to which the event has to be associated
- **Edge**: it is possible to set the event occurrence at the rising edge (Rising 0>1) , at the falling edge (Falling 1>0) or both ones
- **Action**: at the occurrence of an event it is possible to associate the opening of a map (Open Map) or the recalling of a scenery (Recall Scene). In the first case, the .htm file related to the desired map must be specified, in the second one, the number of the scenery
- **Destination**: the .htm file to be opened at the occurrence of the event or the scenery number. To choose the .htm file press the button Browse
- **Audio File**: when open map option has been selected, it is possible to associate an audio file to the event; the audio file may be MIDI, mP3 or Wave. To choose the audio file press the button Browse

Once finished the configuration of the event, press the button OK. The event table will be updated, thus reporting all information set.

Once completed the setting of all events, next step require to export the file **Events.xml** (the name MUST NOT be changed) pressing the button Save in the event configuration window. The file Events.xml must be saved inside the folder Webs\xml.



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6.0- Summary of animations management

6.1- Selection of one or more animations

To select an animation it is possible, as said in the paragraph 3.3, to use a combination **SHIFT + left MOUSE** or, in alternative, to click on the interested animation, with the Right button and so choose among the options Select or Select All. It is possible to deselect one or more animations by the command Deselect or Deselect All.

6.2- Moving an animation or a selection of animations

As said above, it is possible to move the animations both individually (**CTRL + left MOUSE**) or by selection; in this last case it is necessary to select the animations to be moved (**SHIFT + left MOUSE**) and after that make the movement with the combination of **CTRL + left MOUSE** or with the combination **CTRL + keyboard Arrows**. To deselect the animations it is necessary to use the combination **SHIFT + right MOUSE**.

6.3- Editing an animation

To edit the animation features click with the right button of mouse on the animation itself and select "**Edit**". The configuration window of animations will be opened where the settings can be changed.

6.4- Copying an animation

To duplicate an animation, click with the right button of mouse on the animation to be copied, then select "**Copy**". To paste the animation which has been copied, click with the right button of mouse in any point of the map and select "**Paste Animation**". The setting of the pasted animation can be then modified as said above.

6.5- Deleting an animation

To delete an animation, use the option "**Delete**" by clicking on the interested animation with the right button of mouse.

6.6- List of animations

It is possible, by clicking the right button of mouse in a clean zone of map, to select the option "**Animations List**"; this list is referred to the animations currently in the map (sorted by insertion order), the related description, the animation type, the address and point associated to animation (if present) and the command associated to animation. By clicking on an animation of the list, it is possible to modify the features of the animation itself.

6.7- Settings of animations

It is possible, by clicking the right button of mouse on an animation of the map, to select the option "**Properties**"; this list refers to the settings of selected animation, included the position and the description.

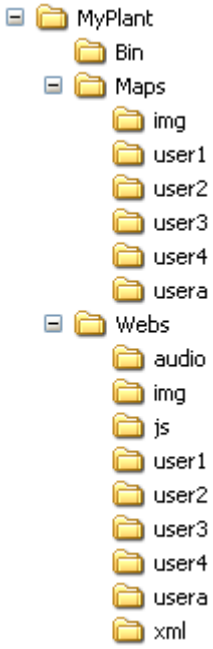
7.0- Tutorial

Let's see now, step by step, how a set of graphical maps can be created; the target of this tutorial is the creation of a multi-access WEB site to be loaded into WEBS module.

Download BDGraph from Duemmegi site (www.duemmegi.it) and install it on the PC. The software package also provides the program BootWEBS, allowing to upgrade the firmware of WEBS module. This tutorial refers to WEBS with firmware 2.4 or higher.

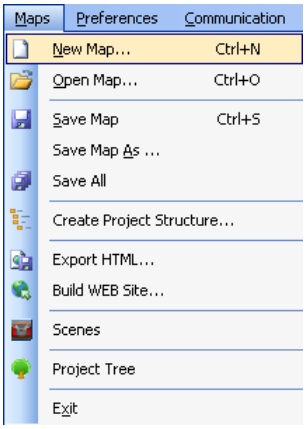
Step 1: creation of the project structure

Before to proceed to the creation of the maps, it is absolutely required to create the project structure selecting Map → Create Project Structure. In this way, a window will be shown allowing to select the destination folder of the whole project structure; once chosen the destination, a new folder could be created by means of the specific button (the name to be chosen must identify the project, MyPlant in this example), then close this procedure pressing the button OK. The structure of the project will be the following.

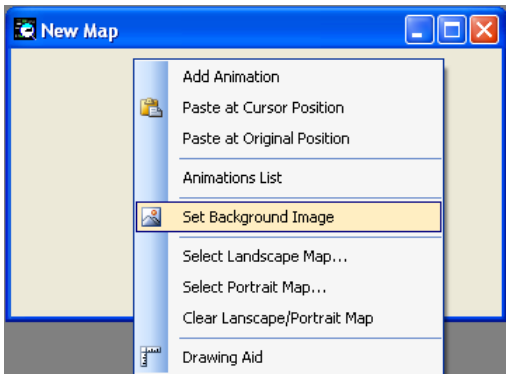


Step 2: creating the index map

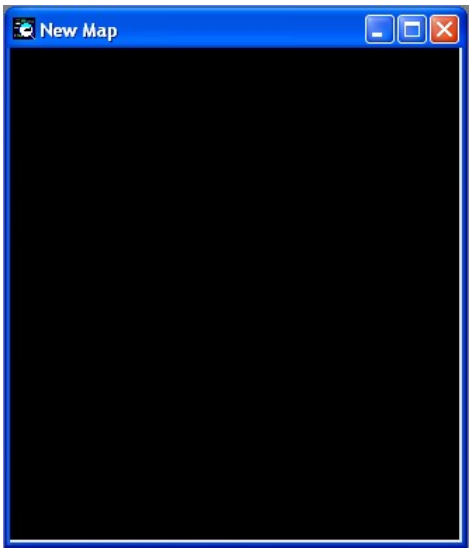
From the menu of BDGraph select **Maps** and then **New Map**.



This will open a new window containing the new map. Let's set the background image saved before (BackImage.jpg) in MyPlant\Maps; to do this, right click inside the window and select **Set Background Image**.



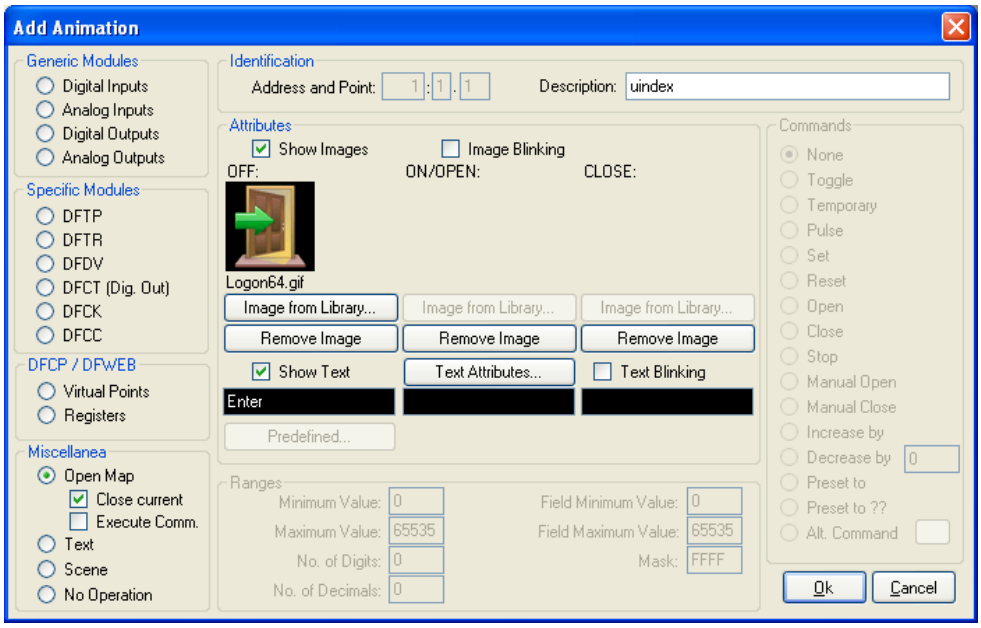
Then select BackImage.jpg in the folder Myhome. The result will be the following:



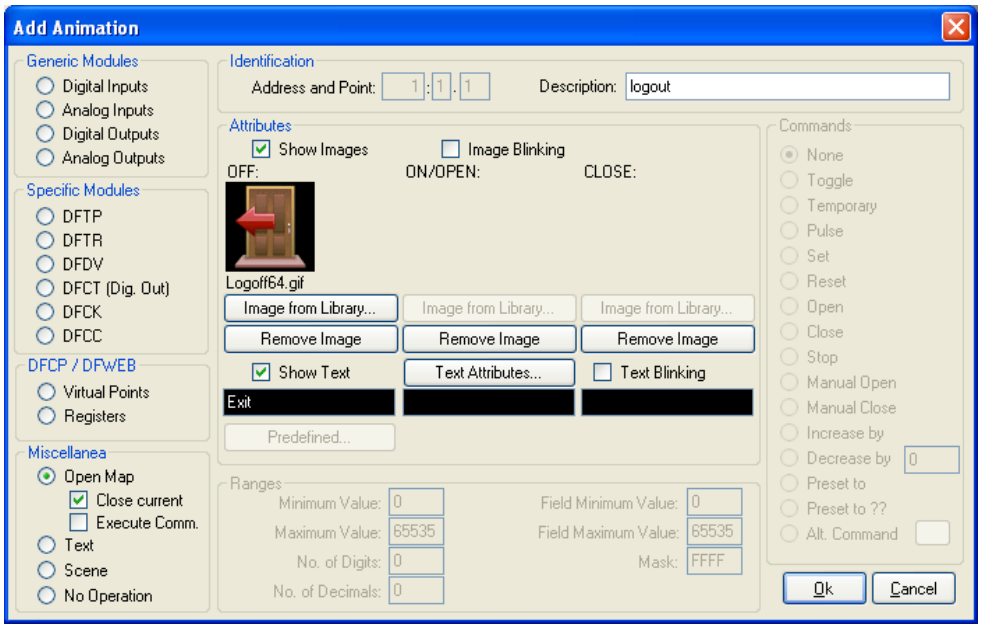
Now let's save the map in the folder **MyPlant\Maps** assigning the name index.bdm. To do this select, from BDGraph menu, **Maps** and then **Save Map**.

Step 3: adding animations

Let's add now the animations to the map, right clicking inside the window and selecting **Add Animation**:
The window for adding animations will be shown. Since this is the first map of the WEB site that will be created, two buttons meaning Enter and Exit (or logout) will be placed. This is important because the system must know who is the user that is logging in: each user will be redirected, by the Enter button, to the secondary index page (uindex) as will be explained later.
The window for adding animation, after having configured it, will appear as follow:

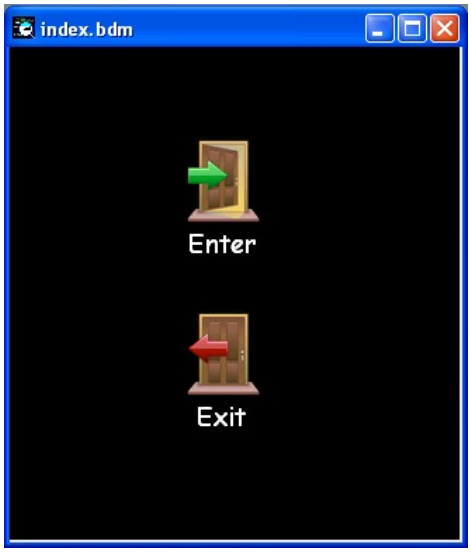


Note that the animation recall a new map named uindex (see Description field). This is mandatory, because, as said before, the system must redirect to a user index page depending on the user that logged in.
For the Exit button add a new animation with the following characteristics:



Note that the animation Description is “logout”, that is one of the keywords listed at paragraph related to the animation for navigation between maps: this allows to logout from WEBS module when pushing this button.

The resulting map will be the following:



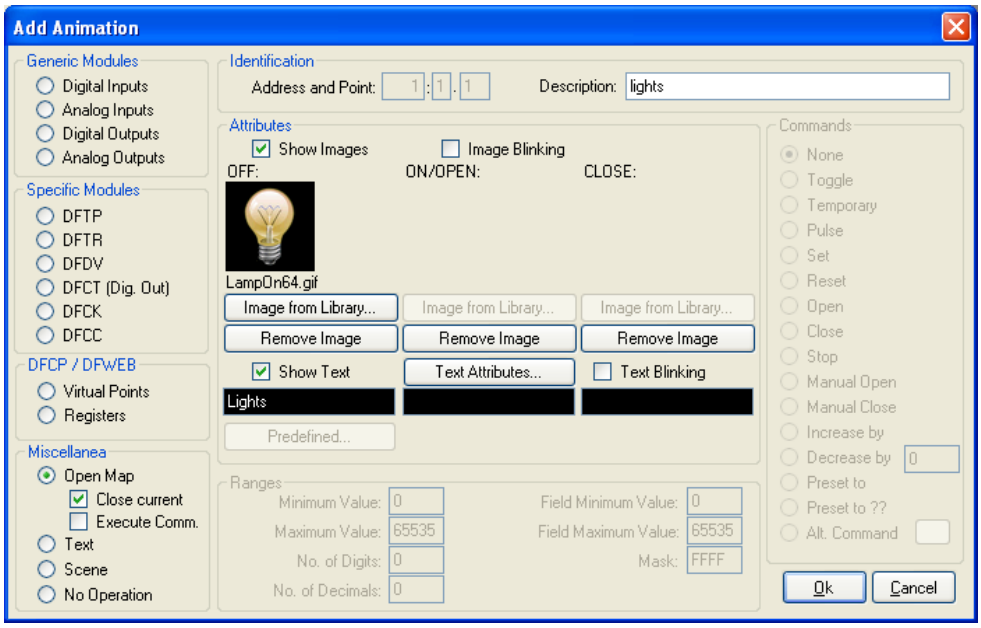
Step 4: creation of index page for administrator user

As said before, a fundamental step for the multi access feature of WEBS is the creation of secondary index pages, one for each different user.
Let's suppose that our application requires only 2 users: administrator and user1; in this case, we must create 2 user index maps, both ones named uindex but one saved inside **MyPlant\Maps\usera** and the other one saved inside **MyPlant\Maps\user1**.

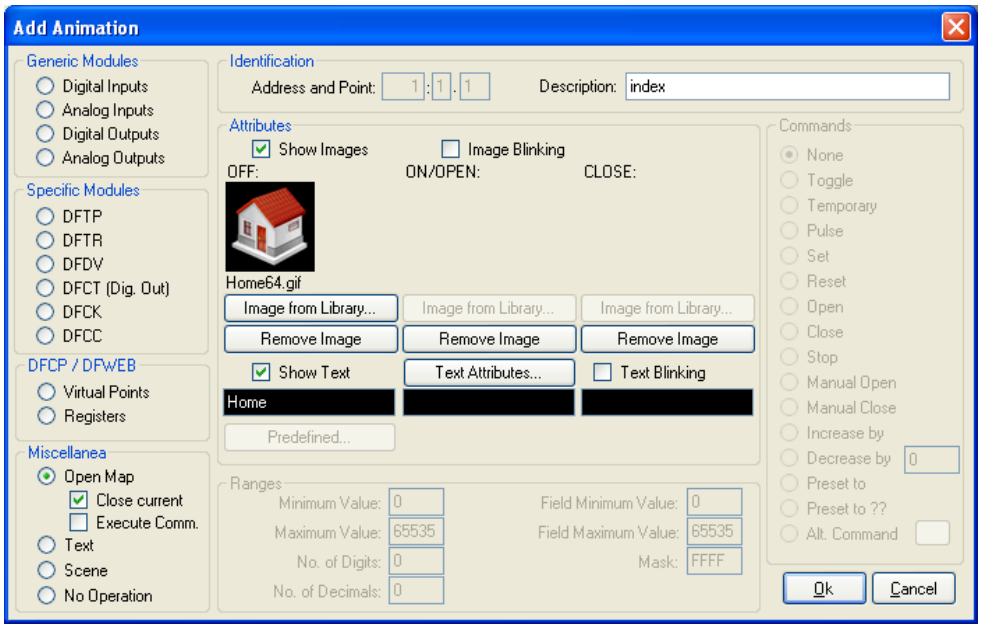
Depending on the log in type made when accessing to WEBS, the system will automatically recall one of the two pages. Of course, each page must contains the wanted points, command etc. allowed for that user (this is a choice made during the project and depending on the target to be reached).

For Instance, we will now create the index page for the administrator user. Therefore, let's create a new map, add the background image (for simplicity this will be the same used by the main index page, but any other image can be of course used) and save it as uindex.bdm inside **MyPlant\Maps\usera**. The result may be the following:

Each icon on this page will recall a new map containing the information about that matter. For instance, the Lights icon in the previous map has been configured as follows:



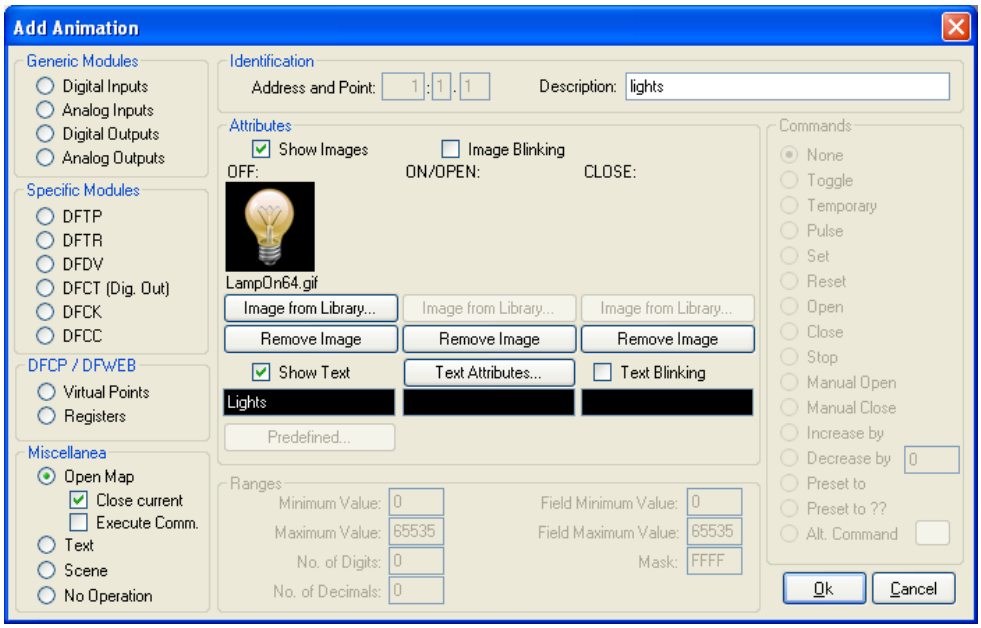
Note that this icon recall a new page named “lights” that must be placed inside the same folder **MyPlant\Maps\usera**. The other icons will be configured in a similar way. The home icon will instead recall the index page:



Step 5: creation of index page for user1

We will now create the index page for the user1. Let's suppose that it must be graphically equal to the related administrator index; in this case we can speed up the procedure selecting the uindex.bdm map of the administrator and, from BDGraph menu, select **Maps** and then **Save Map As**, then assigning the name uindex.bdm but placing it inside the folder **MyPlant\Maps\user1**.

Now we will edit each icon depending on what functions have to be performed for user 1.

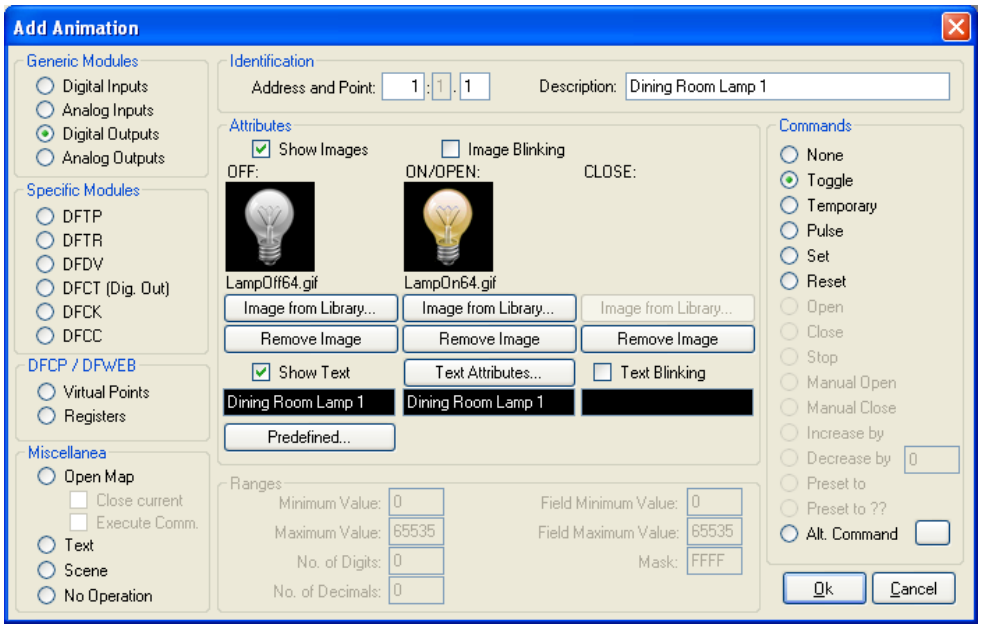


Of course, it is absolutely admitted that the index page for each user be completely different each one from the others; this is a project choice and it depends on the requirements of the applications.

Step 6: creation of Lights control page for administrator user

We will now create the Lights control page for administrator user. Therefore, let's create a new map, add the background image (for simplicity this will be the same used by the main index page, but any other image can be of course used) and save it as lights.bdm. The result may be the following:

The first icon has been defined as in the following figure; the other ones have been defined in a similar way.



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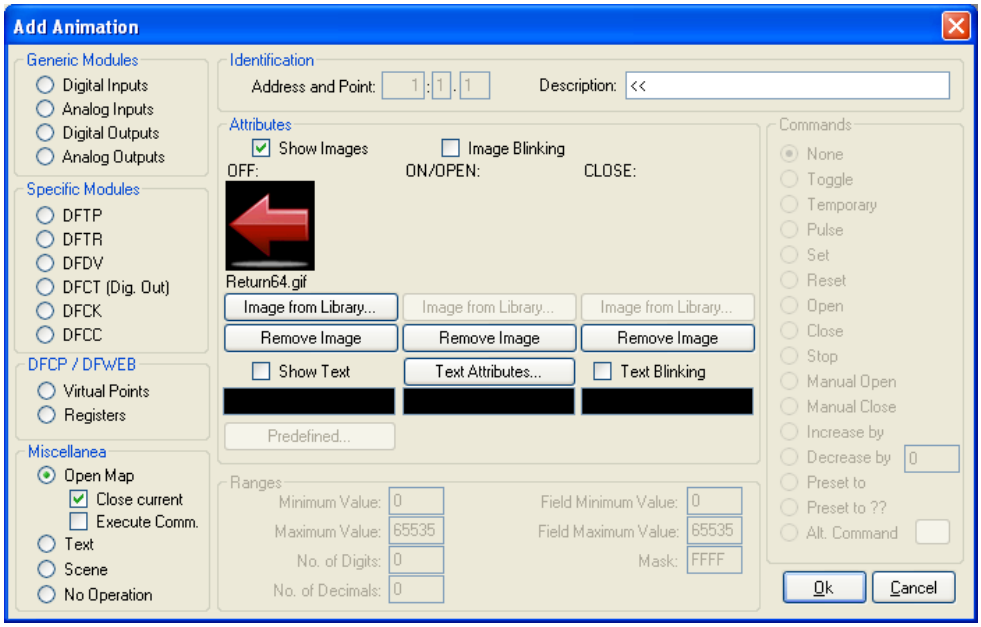
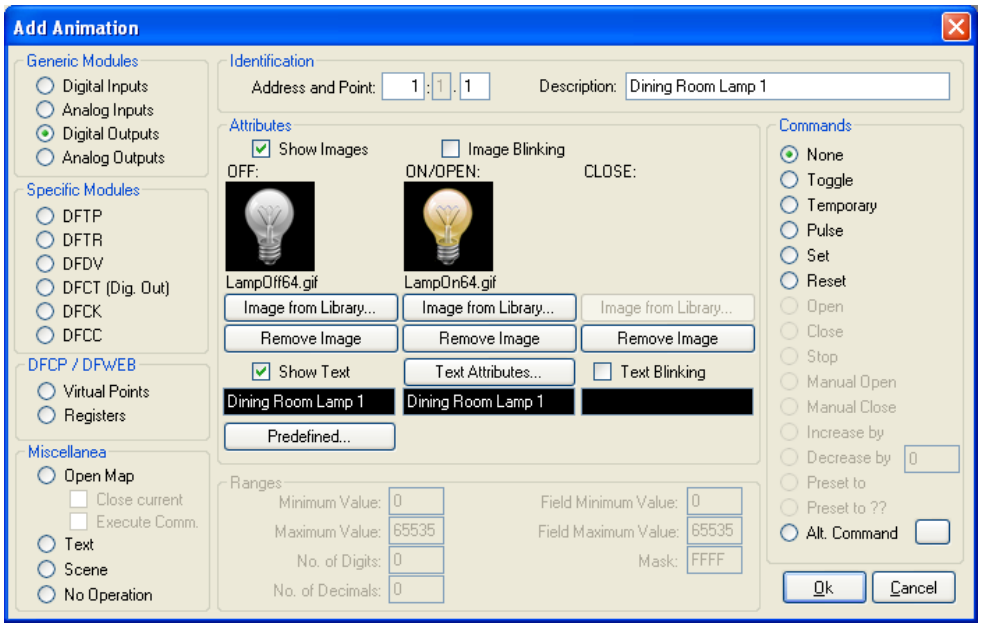
The icon on the bottom allows to go back to the previous page and it ha been defined as follows:



Step 7: creation of Lights page for user1

Let's suppose that user1 can only see the status of the lamp, but it cannot switch on and off them; we can create a new map but, if the user1 map must be graphically equal to the related administrator map, we can speed up the procedure selecting the lights.bdm map of administrator and save it, with the same name, inside the folder **MyPlant\Maps\user1**.

Once create this map, let's edit the icons, for example simply changing the Commands type from Toggle to None (see on the right side of the following figure).



Let's Proceed in a similar way for the other 3 icons, leaving unchanged the “go back” icon.

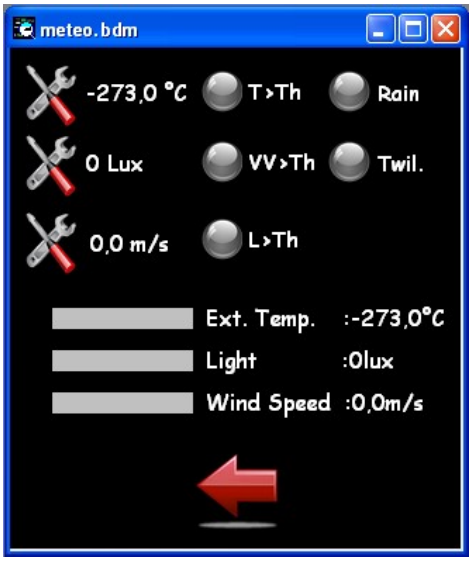
Step 8: creation of the other pages for administrator and user1

We have to create now other 3 pages for administrator and user1 (for a total of 6 pages), related to Alarm, Windows and Meteo. The pages will be named Alarm, Windows, and Meteo. The procedure to create these pages is similar to that seen in the previous steps.

We will now focus only on the Meteo page because it involves a special module (DFMETEO) and both digital and analog value. Let's create a new map named meteo.bdm. We will place on this map 5 digital input points related to Rain, Twilight, Temp.>Threshold, Daylight>Threshold and Wind>Threshold (see DFMETEO technical sheet). Assuming DFMETEO has address 10, then this points will be from I13.1 to I13.5.

Then we will place the temperature, lux and wind speed information. Also we will place 3 icons (gear) to set the 3 threshold values (temperature, daylight and wind speed) writing to output addresses of DFMETEO (see technical sheet).

The resulting page may be:



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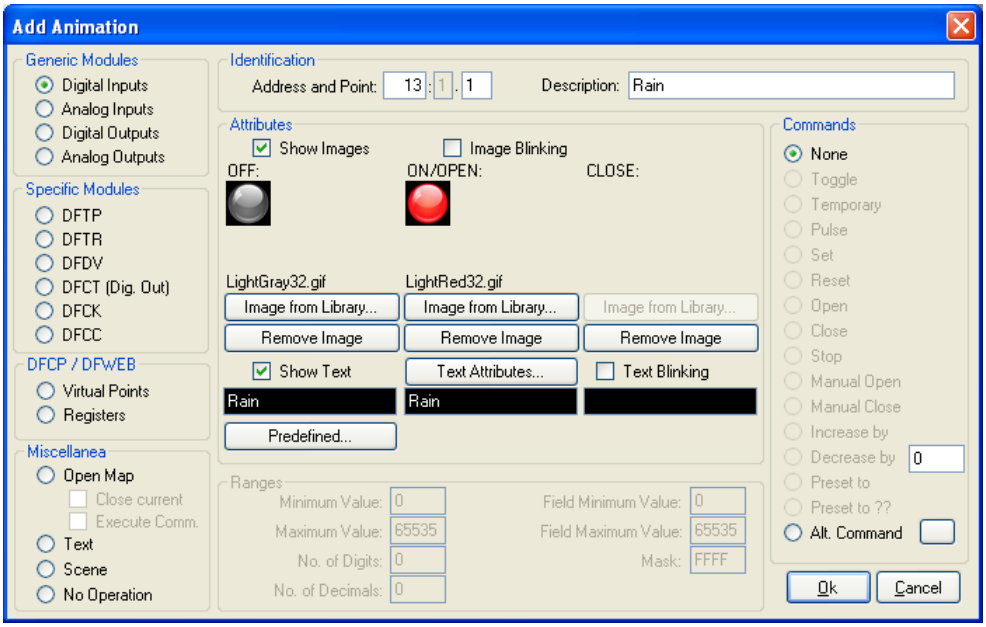
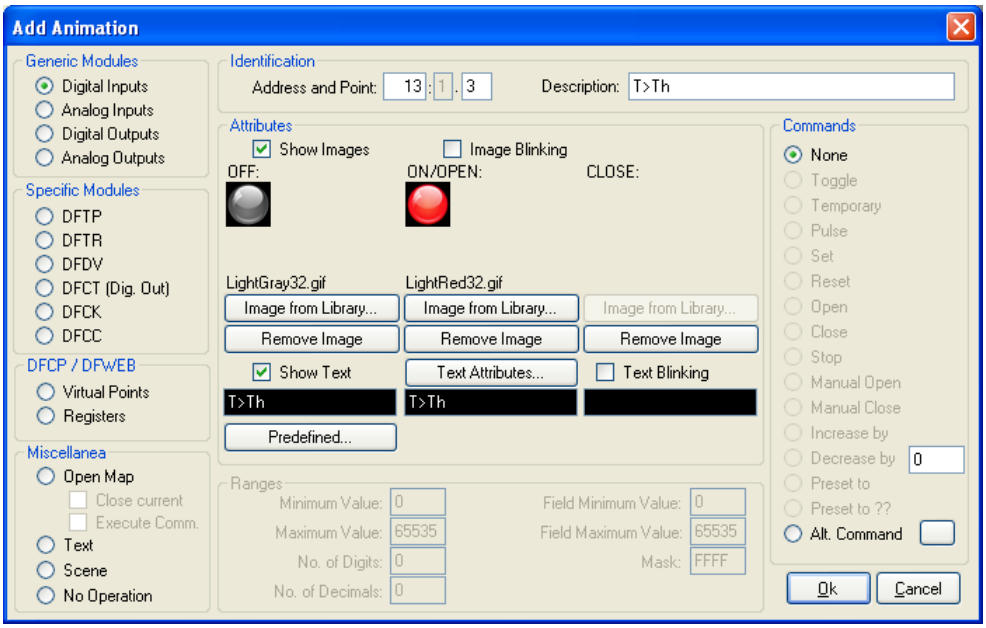
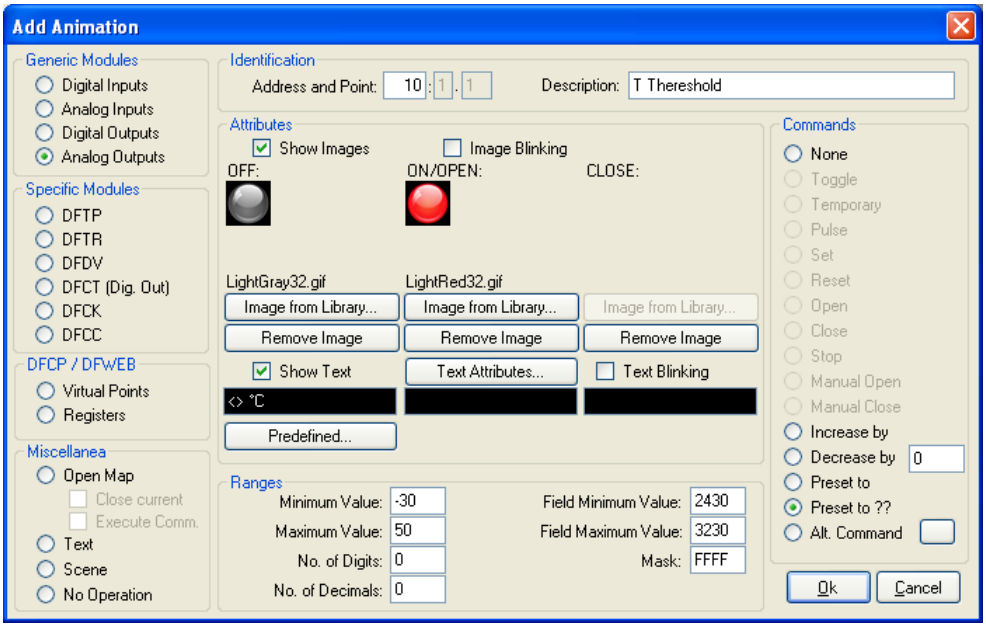
The Rain icon has been configured as follows:



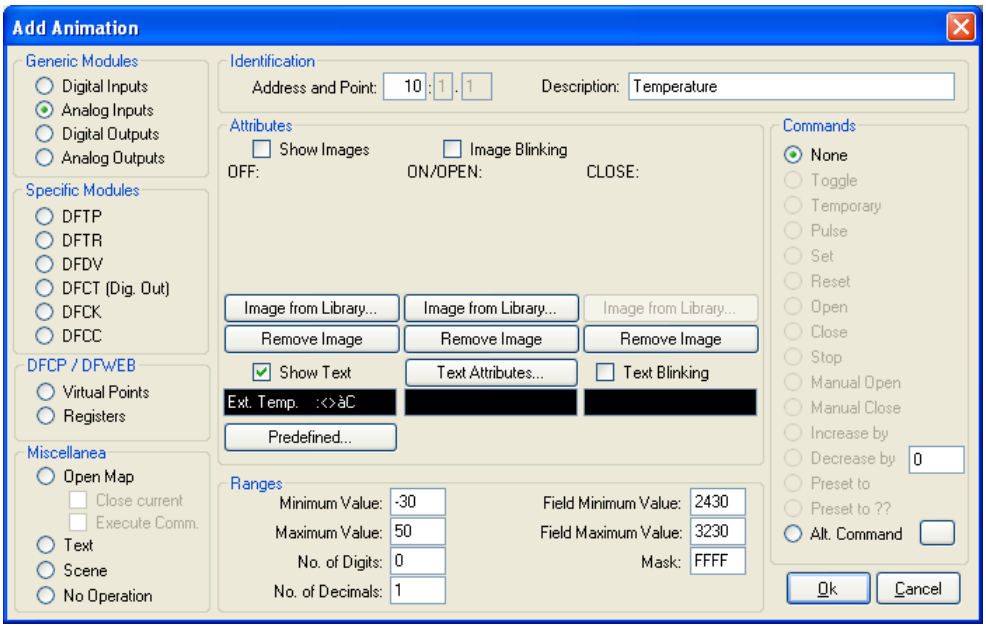
The T>Th icon:



The Temperature threshold icon:



The Ext Temperature value:



The other icons on this page have been configured in similar way.

It is possible to associate at the analog value the animation type BarGraph by clicking on **Predefined** button and then configuring the BarGraph colors. It is not possible to associate an image is used BarGraph for an animation.
The result may be the following:

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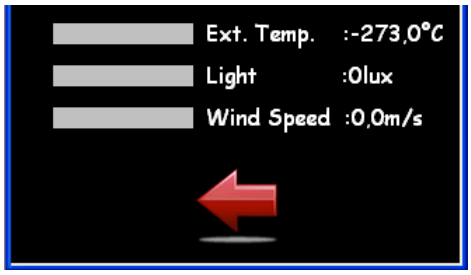
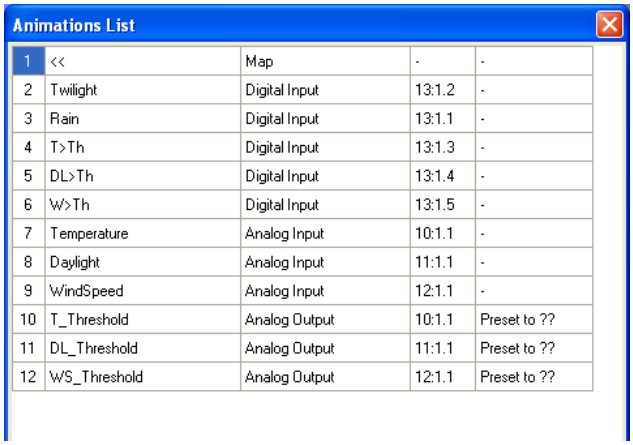


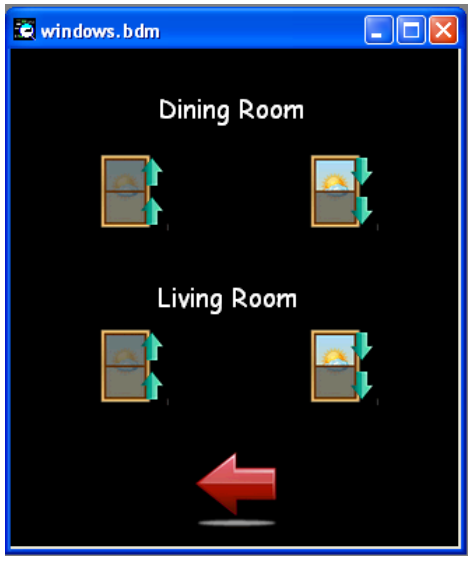
To check the icons placed on a page, right click inside the map (in an empty zone) and then select **Animations List**. Doing this for the page here described, the following window will appear:



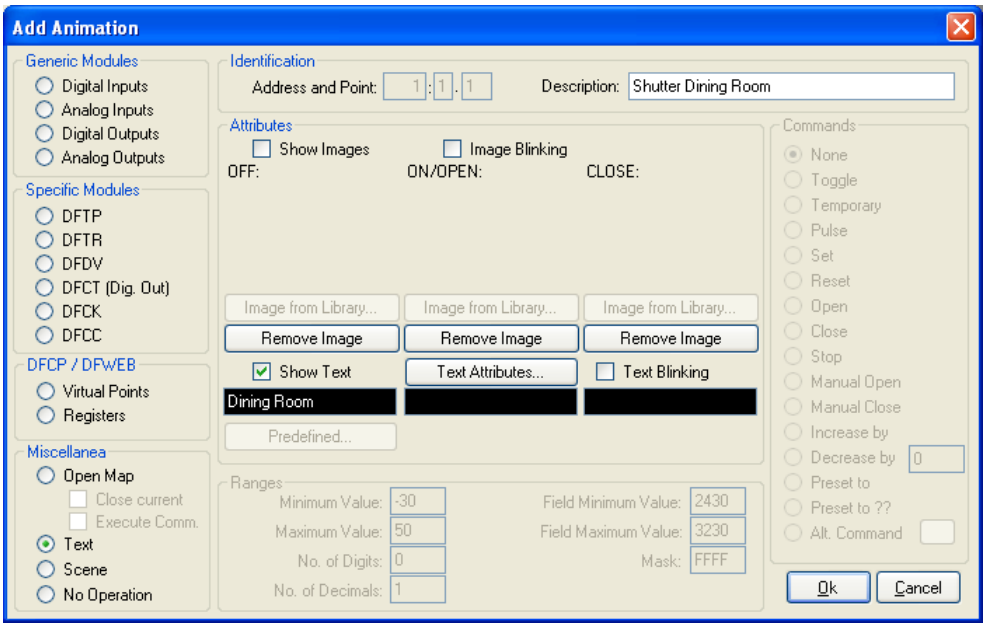
1	<<	Map	-	-
2	Twilight	Digital Input	13:1.2	-
3	Rain	Digital Input	13:1.1	-
4	T>Th	Digital Input	13:1.3	-
5	DL>Th	Digital Input	13:1.4	-
6	W>Th	Digital Input	13:1.5	-
7	Temperature	Analog Input	10:1.1	-
8	Daylight	Analog Input	11:1.1	-
9	WindSpeed	Analog Input	12:1.1	-
10	T_Threshold	Analog Output	10:1.1	Preset to ??
11	DL_Threshold	Analog Output	11:1.1	Preset to ??
12	WS_Threshold	Analog Output	12:1.1	Preset to ??

NOTE: *the last right column reports the alternative commands.*

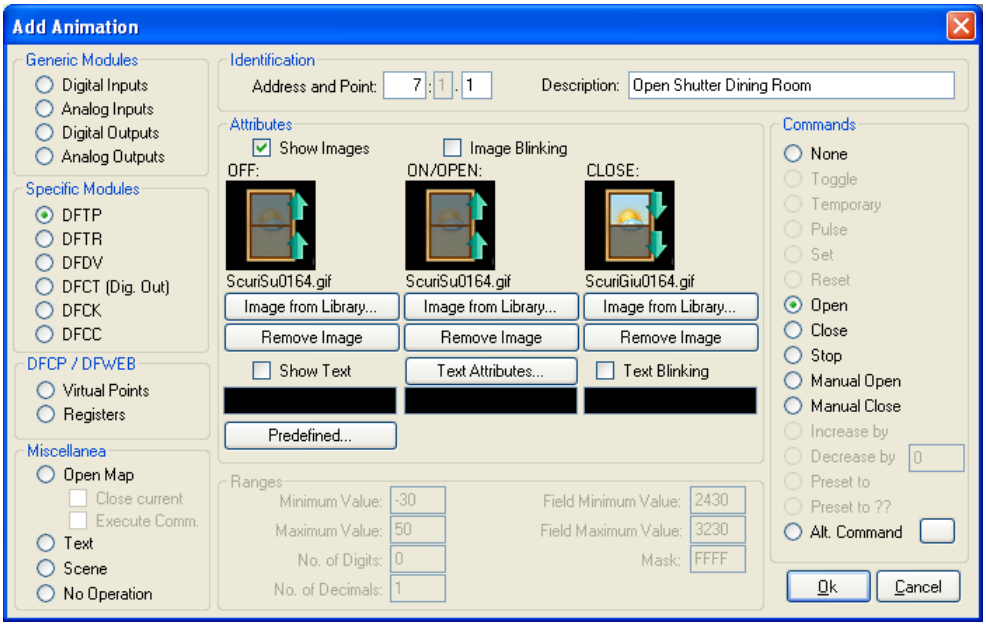
This allow to quickly check the correctness of the configuration executed. By selecting an animation on the list, the configuration window of the animation itself will appear. In this way it is possible to modify the features of animation itself. The following is an example of page related to the shutters, controlled by DFTP module:

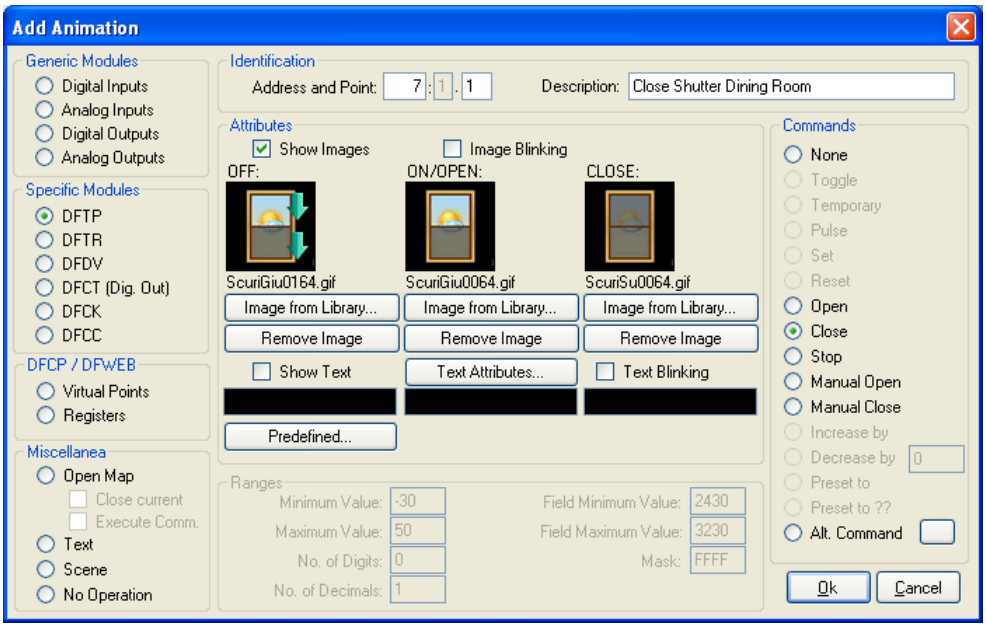


The labels “Dining Room” and “Living Room” have been placed using a text icon as follows:



The opening icon and closing icon have been configured as follows:





Step 9: scenery creation

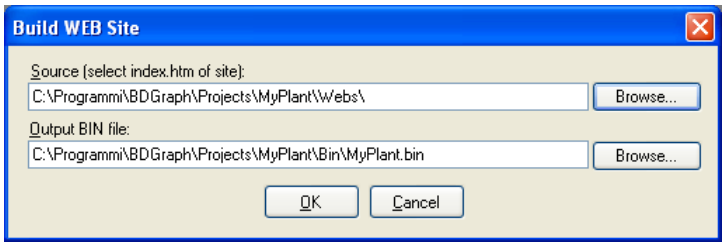
For the realization and creation of scenery refers to the related chapter in this same manual.

Step 10: creation of the WEB site

After the creation of all required maps, it is possible to create the Web site that will be uploaded to the memory of WEBS module (see the related technical sheet for more information).
For each .bdm file in MyPlant\Maps and the other user sub-folders, the correspondent .htm file must be generated.
This operation can be manually done, one file at each time, or it can be automatically performed using the project tree (see the related appendix in this same manual). It is suggested to always use the project tree because it avoids to do errors in positioning the .htm files inside the structure; in any case, the manual procedure can be used when, for example, only one map has been changed and it is useless to re-generate all the files.
The manual procedure will be here described, while for the automatic procedure and the project tree description refer to the mentioned appendix.

Therefore, let's proceed to the creation of .htm files by means of the button  (Export HTML): it is necessary to open, one at time, the maps that have been created (.bdm extension) and then push the button Export HTML; a window will appear allowing to select the folder where the related .htm file of the selected map has to be saved. The file name will be automatically proposed and **if not otherwise specified it must not be changed**. The file **index.htm MUST BE ABSOLUTELY** saved inside the folder MyPlant\Webs. The **uindex.htm** files **MUST BE** saved inside the related folder of the considered user (MyPlant\Maps\usera, user1, user2, user3 e user4). All .htm files related to the user pages **MUST BE NECESSARILY** saved inside the related users folder (MyPlant\Maps\usera, user1, user2, user3 e user4).

After the creation of all HTML files of the project, it is necessary to create (build) the Web site by the pressing the button  (Build Web Site); the following window will appear:



The building of the Web site consists in the creation of a .bin file containing all the involved HTML pages; this file is in a proper format to be uploaded to WEBS module and it must be saved (for instance as MyPlant.bin) inside the folder **MyPlant\Maps\Bin**. The source to be selected will be the file index.htm of the project (that must be found inside the folder MyPlant\Webs.

Pressing OK button, the procedure takes place. The created .bin file is now ready to be uploaded to the WEBS module memory.
To do this, enter on the web browser (Firefox, IE, Opera, etc.) address bar (supposing that the IP address of WEBS is 192.168.1.253) the following address:

http://192.168.1.253/webupload.htm

The upload window will appear; browse and selected the created Myhome.bin file and then press Upload button. At the end of the uploading, the web site is ready to be used.

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8.0- Appendix A

As said in the paragraph 3.4, this table reports the zero and full scale values (displayed and from field) to be entered in the animation window in order to have a correct representation of the Domino bus analog modules.

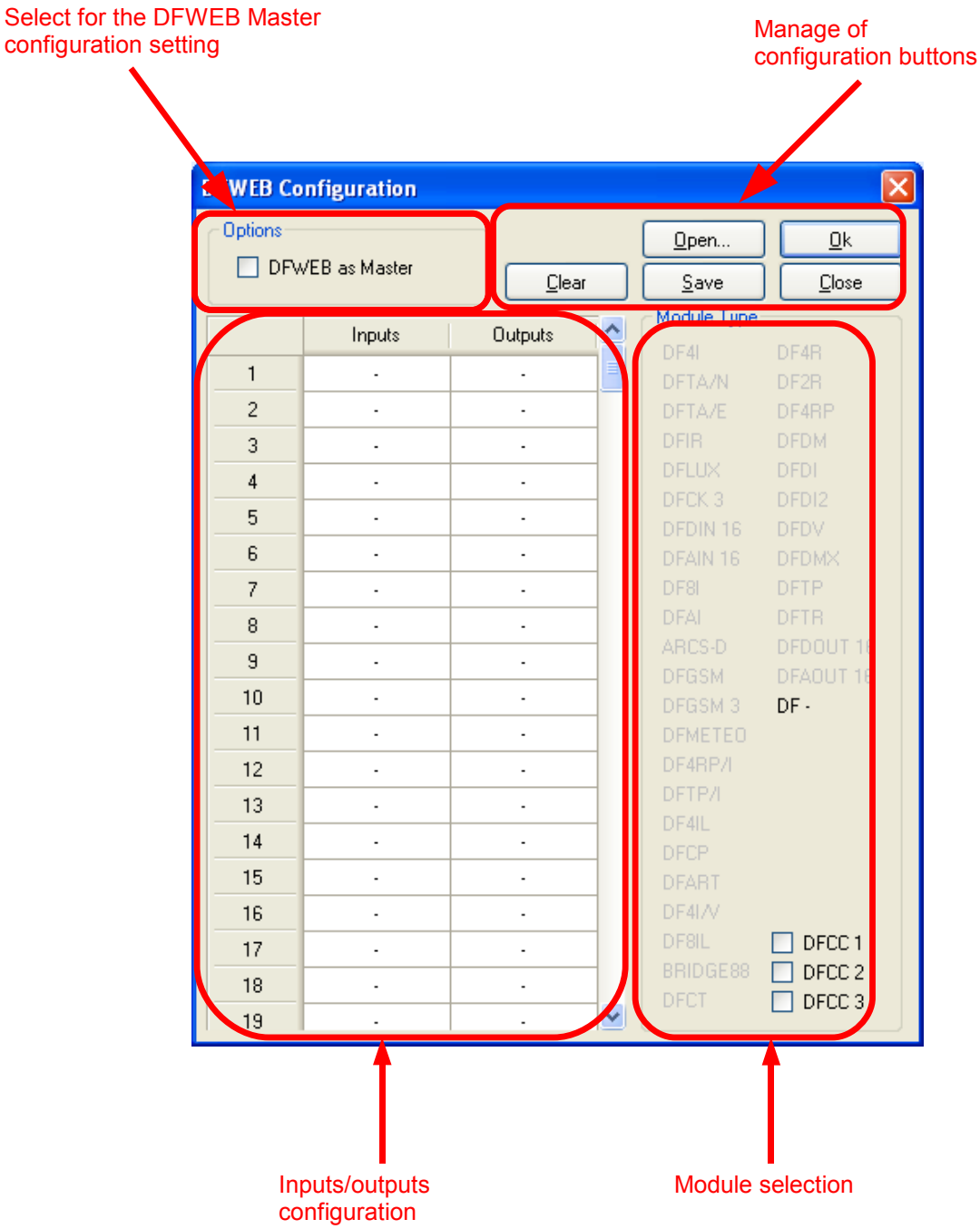
Domino Modules	MSK	Min. Value	Max. Value	Field Min. Val.	Field Max. Val.	Dec.
DFTA	7FFF	-10.0	41.1	2630	3141	1
DFTE	7FFF	-40.0	62.2	2330	3352	1
DFCT (temperature)	7FFF	-10.0	41.1	2630	3141	1
DFCT (SP1-2-3-M)	7FFF	10	35.5	2830	3085	1
DFDI	007F	0	100	0	100	0
DFDI2	007F	0	100	0	100	0
DFDM	007F	0	100	0	100	0
DFDV	007F	0	100	0	100	0
DFLUX (250)	7FFF	0	250	0	1000	0
DFLUX (500)	7FFF	0	500	0	1000	0
DFLUX (1000)	7FFF	0	1000	0	1000	0
DFLUX (1500)	7FFF	0	1500	0	1000	0
DFLUX (2000)	7FFF	0	2000	0	1000	0
DFMETEO (temp.)	FFFF	-30.0	50.0	2430	3230	1
DFMETEO (lux)	FFFF	0	99000	0	9900	0
DFMETEO (wind)	FFFF	0.0	70.0	0	700	1
DFMETEO (thresh.T)	FFFF	-30.0	50.0	2430	3230	1
DFMETEO (thresh.L)	FFFF	0	99000	0	9900	0
DFMETEO (thresh.W)	FFFF	0.0	70.0	0	700	1
DFSUN (500)	7FFF	0	500	0	1000	0
DFSUN (1000)	7FFF	0	1000	0	1000	0
DFSUN (2000)	7FFF	0	2000	0	1000	0
DFSUN (20000)	7FFF	0	20000	0	1000	0
DFSUN (100000)	7FFF	0	100000	0	1000	0

LEGENDA:

- **MSK**: mask
- **Dec.**: number of decimals
- **Min. value**: minimum value
- **Max. Value**: maximum value
- **Field Min. Val.**: field minimum value
- **Field Max. Val.**: field maximum value

9.0- Appendix B: DFWEB

The most important news of release 8.0.4 of BDGraph, is the introduction of the DFWEB module management, that allows to execute all the WEBS functions without the DFCP controller module (for more information about DFWEB module see the related technical sheet). It is necessary to follow the creation of all necessary maps, as explained in the previously pages of this manual, to configure the DFWEB module through the configuration window (Tools → DFWEB Configuration). The opened window will be the following:



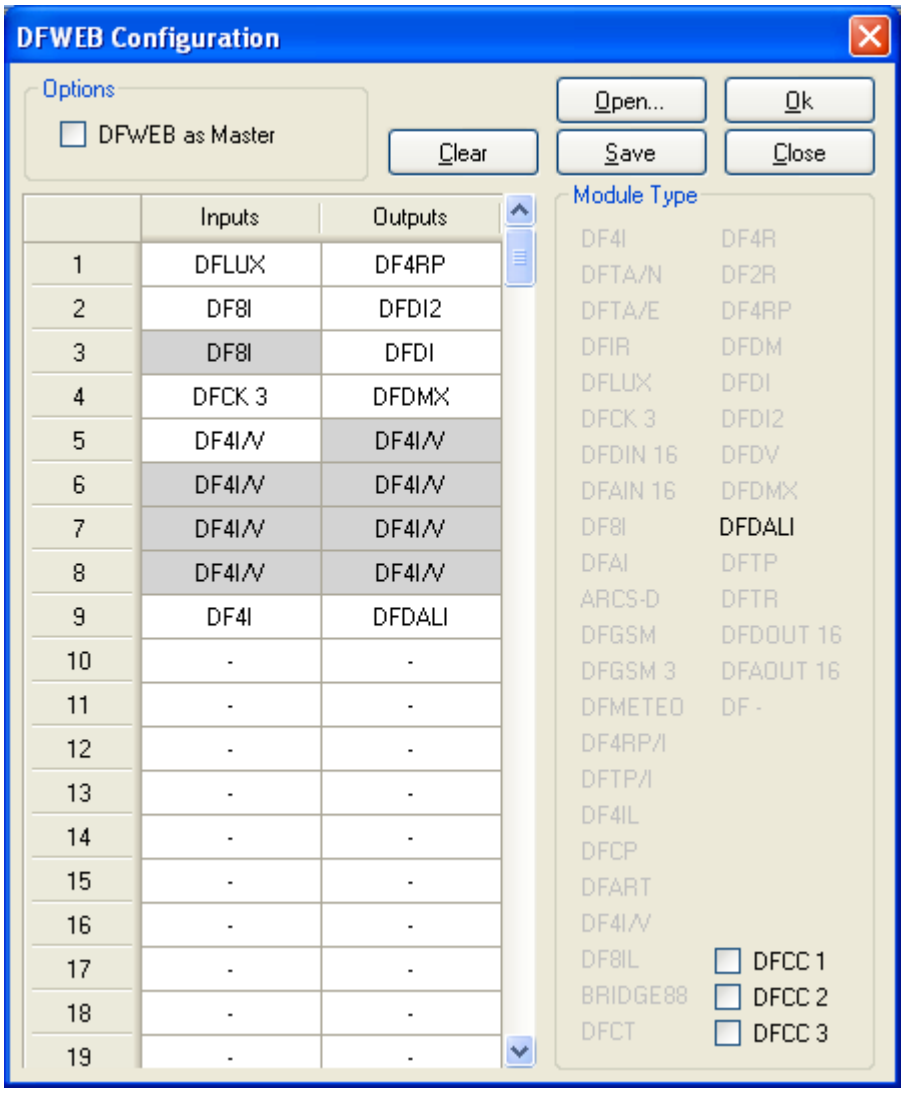
Configuration

It is necessary to select if the DFWEB module must be Master or Slave for the first time: the DFWEB is normally master because of the use without the DFCP controller module; is is necessary to deselect the box "DFWEB as Master" when using DFWEB module in a plant where DFCP controller module or DFTouch (set as master) have also been installed.

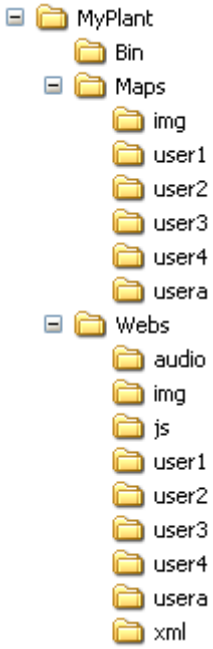
The table represented in the previous picture, must be completed with the **Domino** modules installed in the plant: to do this, first select the module type to be added in the area “Module Type” and then click in the text box related to the address assigned to the module. Let's suppose to have 5 modules with the following addresses:

Input Module	IN Address	Output Module	OUT Address
DFLUX	1	DF4RP	1
DF8I	2	DFDI2	2
DFCK3	4	DFDI	3
DF4I/V	5	DF4I/V	5
DF4I	9	DFDMX	4

The related configuration will be the following:



The grey boxes corresponds to the addresses automatically reserved to the modules with multiple address (in the previous example the DF8I and DF4I/V modules). Once completed, the configuration has to be saved pressing the Save button. In this way, the file **DfWebCfg.xml** will be saved (the name MUST NOT be changed); this file MUST BE NECESSARILY saved inside the XML folder of the project structure. The following figure shows the structure of a project named MyPlant.



The DFWebCfg.xml file previously saved can be recalled by the Open button. It is possible to clear the configuration panel with the Clear button.

NOTE: the DFWEB configuration table must be necessarily filled even if the DFWEB has been configured as slave device..

Events
As already said, DFWEB module can manage up to 64 events, exactly as for WEBS module. The configuration and all the considerations made for WEBS module apply to DFWEB module too, therefore refer to the related chapter in this same manual.

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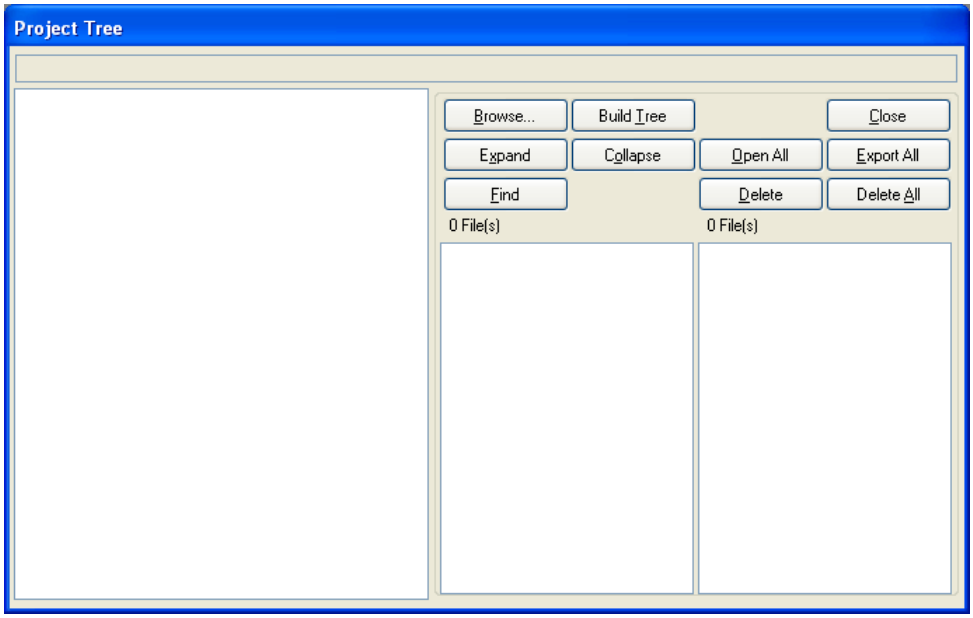
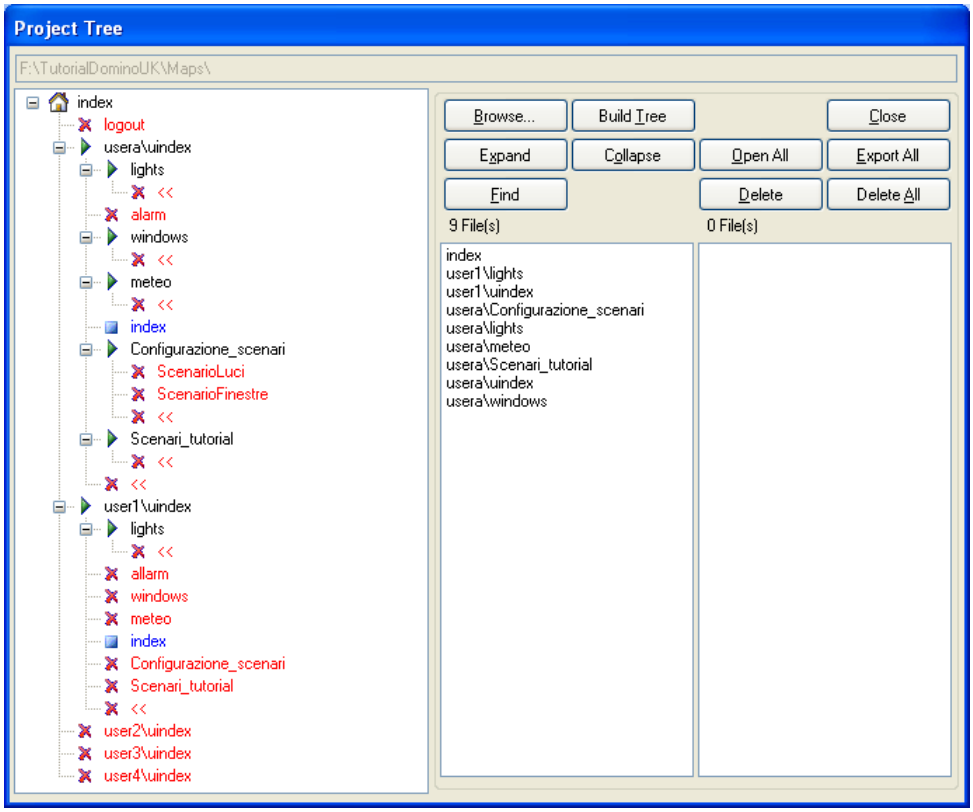
10.0- Appendix C: project tree

In the release of BDGraph to which this manual is referred to, a useful project management tool has been introduced: the Project Tree. Once opened the project tree window, by the related button, it will look like the following:



Once the structure of a project has been created, thus the index.bdm and the related structure, it will be possible, after having selected the desired index.bdm map by the Browse button, to create the whole project tree. Let's see an example referred to the tutorial reported in this same manual.
By the Browse button, select the file index.bdm and press the button “Build Tree”: in this way, the window will appear as follows:



It is present, as shown in the previous picture, a main “column” where the complete project structure is shown. There are three colors, black, blue and red that show, respectively, the associated maps characteristics.

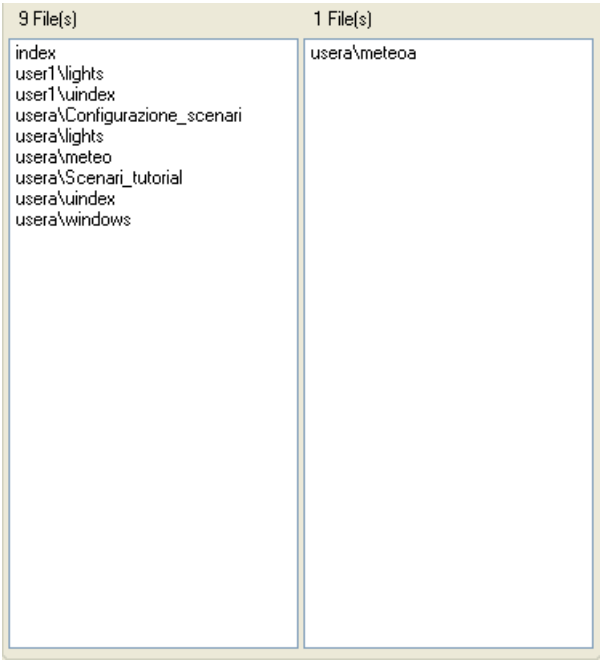
- **Black**: if the map was find inside the project tree for the first time
- **Red**: if the map doesn't have a source file (for example the logout map), or the shown .bdm file does not exist (because it is not yet been created or because it has been removed)
- **Blue**: if the map has been found and processed before at the current point of the tree (for example the index map).

It is possible to open the BDGraph maps reported on the project tree by a double click on the name of the map itself. Of course, this cannot be done for the links in red color (these ones haven't a source map file).

The two columns on the right side in the Project Tree window, see the following figure, report the following information:

- column on the left side: the .bdm files found in the folders of the project and effectively used in the project itself
- column on the right side: the .bdm files found in the folders of the project but not used in the project itself (in othr words, these files are not used because there is no any recalling of these maps inside the whole project)

On the top side of these two columns, the total amount of project files found (on the left) and the total amount of “stranger” files (on the right) found in the project folders but not used by the project itself are shown.



It is possible to open the .bdm file also from this section of the window by double clicking on the related maps.

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The buttons in the Project Tree window and their meanings are here bottom listed:

- **Browse**: to select the file index.bdm related to the project to be displayed and edited
- **Build Tree**: to create the project tree after the selection of the project
- **Expand**: to expand the tree, for example after a collapsing by the related button (see the following point) or when the structure is partially collapsed by the options + and – near the maps
- **Collapse**: allows to collapse the tree structure (after this action only the index map will be shown)
- **Open All**: with this function it is possible to open all .bdm files of the project in BDGraph window
- **Delete**: after the selection of one of the .bdm file or of the links that have not a source file, with this button it is possible to delete it
- **Delete All**: this option allows to delete all the map files
- **Export All**: it is possible to export all the .bdm file to .htm file for the publishing on the WEBS (or DFWEB) module. It is possible to export the .htm file related to the maps with the possibility to choose the destination folder for the wanted user, by pressing the button without the necessity of press the button for each .bdm file
- **Close**: close the project tree function

It is necessary to click on the Close button to close the Project Tree.