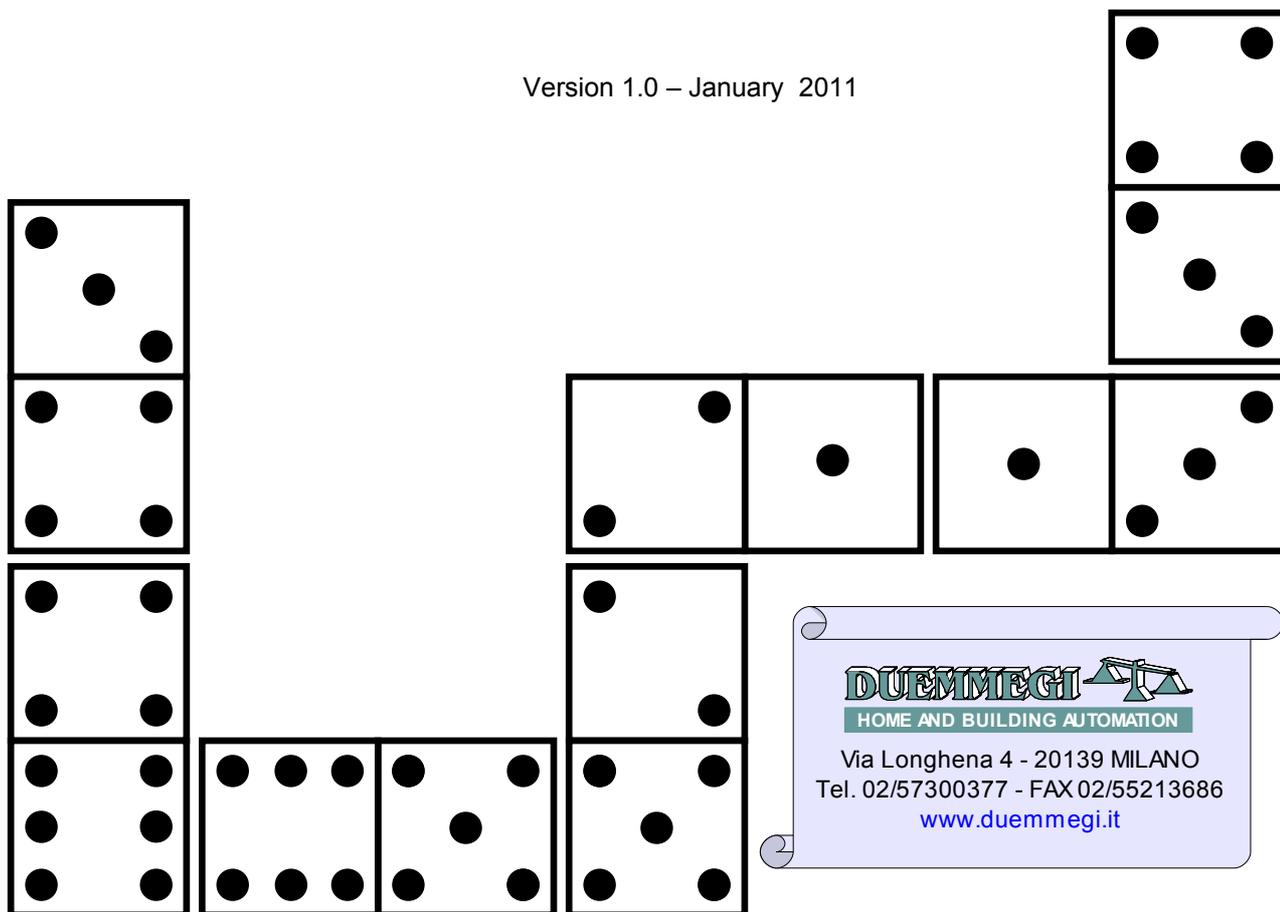


Domino

DFWEB Tutorial

Version 1.0 – January 2011



Introduction

The current manual refers to the *BDGRaph R.8.0.4* or higher and DFWEB module equipped with firmware R.1.0 or higher.

Resources assignment

The current manual refers to the DFWEB virtual points and internal registers that are exclusively system variables (resources) and these ones do not allow the realization of logic combinations. These resources, at this moment, are reserved to the management of DFCK3 and DFCT modules, as will be explained later.

DFCK3 Resources: virtual points

Typology	Virtual point	Note
Days of the week	V1984÷V1990	Mutually exclusive
Schedule Enable	V1993÷V1996	0=disable, 1=enable
Day Copy	V1997	0 → 1: increase the current day and activate the writing. At the end it returns to 0
Read DFCK3	V1998	Pointed by R1023, zone R1022
Write DFCK3	V1999	Pointed by R1023, zone R1022
Automatic/Manual Control	V1991	0=Automatic, 1=manual
Manual ON/OFF	V1992	0=OFF, 1=ON
Read/write result	V1982	0=OK, 1=Error
Expecting command	V1983	Writing/reading/copy operation in progress

DFCK3 Resources: registers.

Typology	Register	Note
First starting schedule	R1014	High Byte: HOUR; Low Byte: MIN
First ending schedule	R1015	High Byte: HOUR; Low Byte: MIN
Second starting schedule	R1016	High Byte: HOUR; Low Byte: MIN
Second ending schedule	R1017	High Byte: HOUR; Low Byte: MIN
Third starting schedule	R1018	High Byte: HOUR; Low Byte: MIN
Third ending schedule	R1019	High Byte: HOUR; Low Byte: MIN
Fourth starting schedule	R1020	High Byte: HOUR; Low Byte: MIN
Fourth ending schedule	R1021	High Byte: HOUR; Low Byte: MIN
Zone selection	R1022	The value contained in the register can range from 1 to 15
DFCKIII address	R1023	Force the zone to 1

DFCT Resources: virtual points.

Typology	Virtual point	Note
Week days	V1969÷V1975	Mutually exclusive (Mon÷Sun)
DFCT season	V1976	0=Winter; 1=Summer
Day copy	V1977	0 → 1:increase the current day and activate the writing (V1979). At the end V1977 return to 0.
DFCT reading	V1978	Pointed by R1009
DFCT writing	V1979	Pointed by R1009
Reading/writing result	V1967	0=OK, 1=Error
Command in progress	V1968	Reading/writing/copy operation in progress

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Typology	Register	Note
Daily program set-point	R1003	From 00:00 to 04:00
Daily program set-point	R1004	From 04:00 to 08:00
Daily program set-point	R1005	From 08:00 to 12:00
Daily program set-point	R1006	From 12:00 to 16:00
Daily program set-point	R1007	From 16:00 to 20:00
Daily program set-point	R1008	From 20:00 to 24:00
DFCT address	R1009	Force the day to the current day

Generic resources: virtual points.

Typology	Virtual point	Note
Bad module	V2001	Only with DFWEB as master
Bad bus	V2002	Only with DFWEB as master

Main pages setting

It is necessary to realize some preliminary maps before the realization of the maps for DFCT and DFCK3 modules management. The following figure shows an example of index.bdm map. From this map it is possible to recall the uindex.bdm map that allows to manage DFCT and DFCK3 modules.

Index page realization

The index page could contain two animations for recalling, respectively, the uindex page (that allows to access to DFCK3 and DFCT pages) and the logout page to end the connection with DFWEB module.

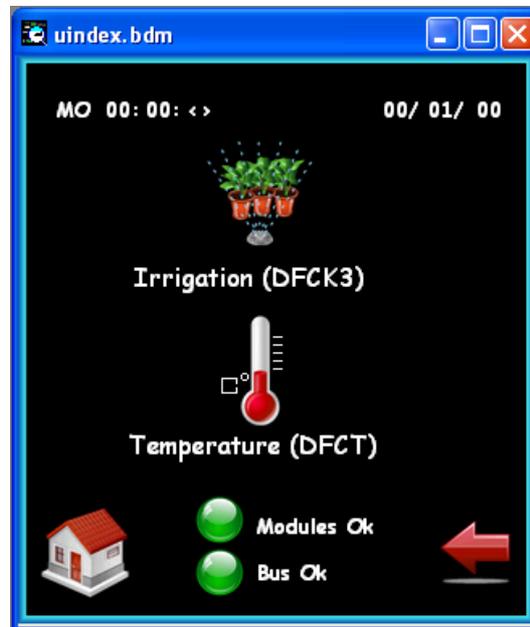


The door with green arrow refers to "Open Map" animation type, recalling the uindex page. The door with red arrow refers to the Open Map animation type recalling the logout page.

DFWEB + DFCK3 use

Main page setting

Create a new uindex.bdm map with the desired dimensions and containing two animations that will be used to recall the DFCK3 (Irrigation (DFCK3)) and DFCT (Temperature (DFCT)) related pages. In the realized page, the information related to hour, date, bus and modules diagnostics has been inserted. The appearance of the page could be the following:

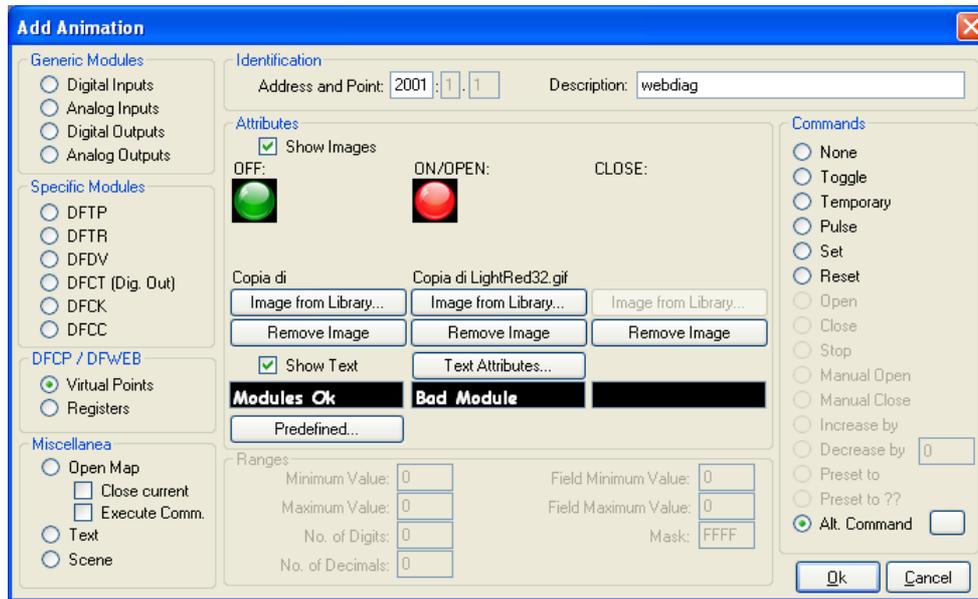


For the hour and the date of the system (read from DFCK3) the Specific Modules → DFCK animation has been used, assigning the proper parameters as described in the BDGRaph manual (R.8.0.4 or higher).

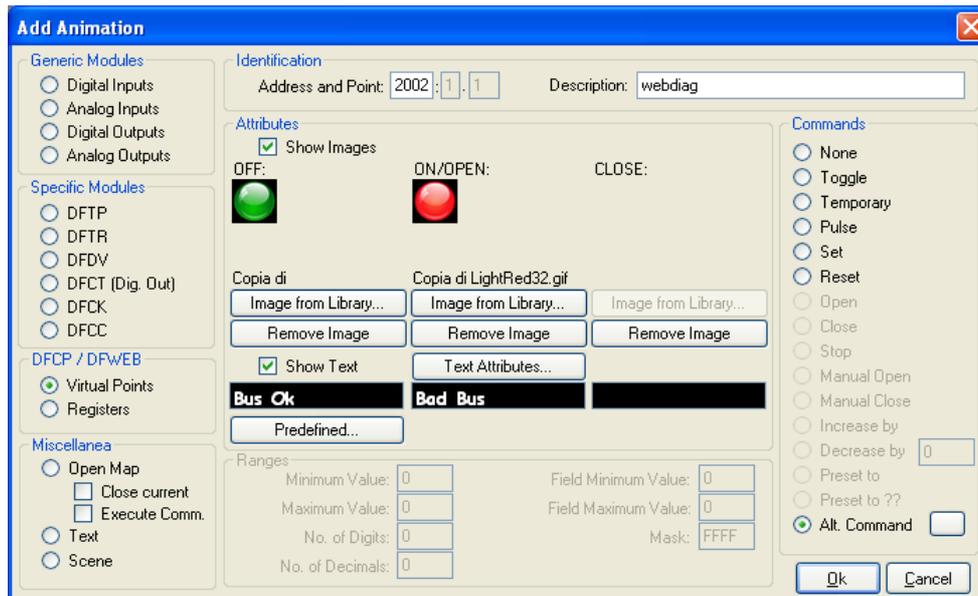
Note the two diagnostic animations “**Modules OK**” and “**Bus OK**”, reporting the system status through the virtual points V2001 and V2002 respectively; these two animations can be realized by using “Virtual Points” animations type, to which the alternative commands for opening the map **webdiag.htm** has been associated.

NOTE: the Temperature (DFCT) animation will be described in details in the section *DFWEB + DFCT Use*.

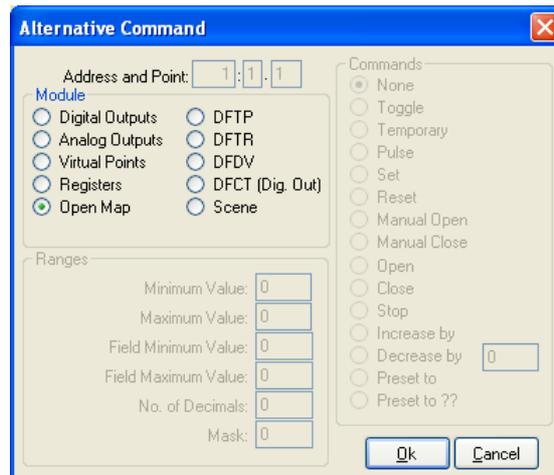
The configuration panel for the animation related to the modules diagnostic is the following:



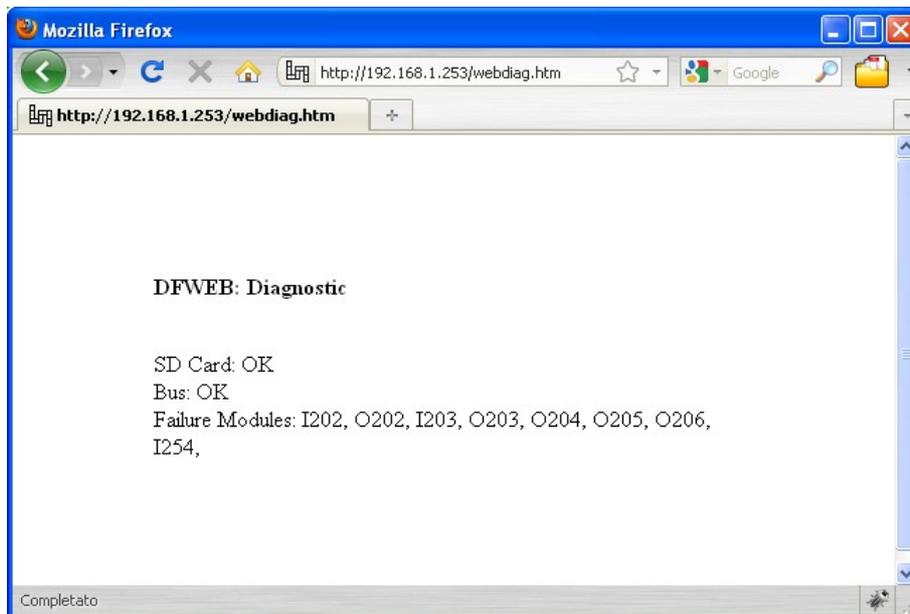
The configuration panel for the animation related to bus diagnostic is the following:



Both animations, as said above, have an associated command for the opening of the diagnostic page of DFWEB module (web-diag.htm). The alternative command is configured as in the following figure.



The opening of map will open the page indicated in the description field of main animation (for more details refers to the manual BDGraph R.8.0.4 or higher). In the case of module failure or disconnected, the module failure signal will be activated; clicking on the same animation, the webdiag.htm page will be recalled, as shown in the following figure.

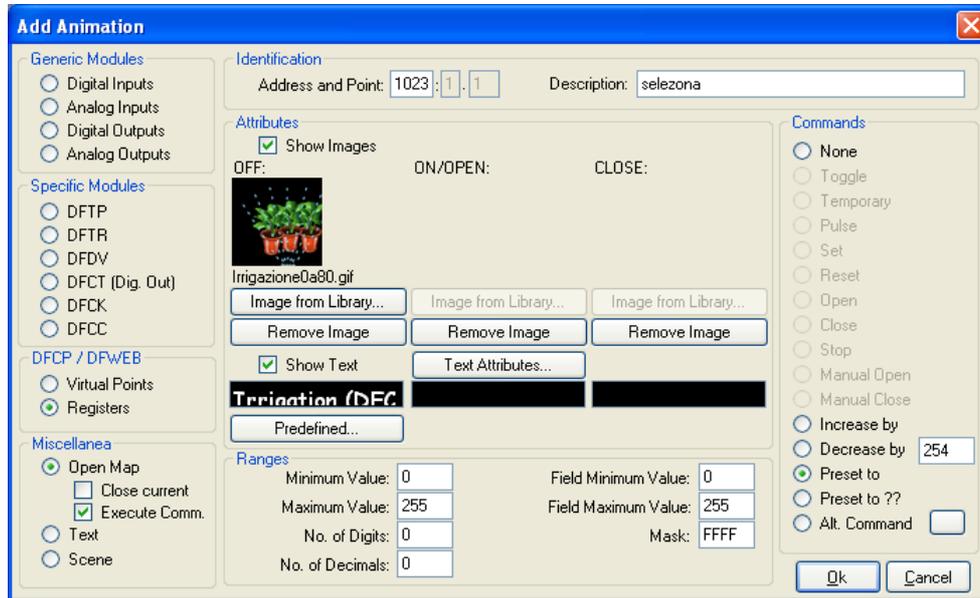


In the example of the previous screen shot, the status of SD-card and the bus is OK, while there is a Failure Modules warning because of the disconnection from the bus of some input and output modules set in DFWEB module configuration but now is disconnected (for more details on DFWEB module configuration refers to Appendix B of manual of BDGraph R.8.0.4 or higher).

Now we will describe in details the pages related to the management of DFCK3 (schedule time) and DFCT (temperature regulation).

Icon setting to recall the page related to DFCK3 module

Insert an animation of the type **“Open Map”** + **“Execute Command”** + **“Preset to”**; in the **“Preset to”** field enter the desired DFCK3 address (in this example 254). Inside the address field of the animation insert the value 1023 (**R1023**). The configuration window of the animation will have the following aspect:



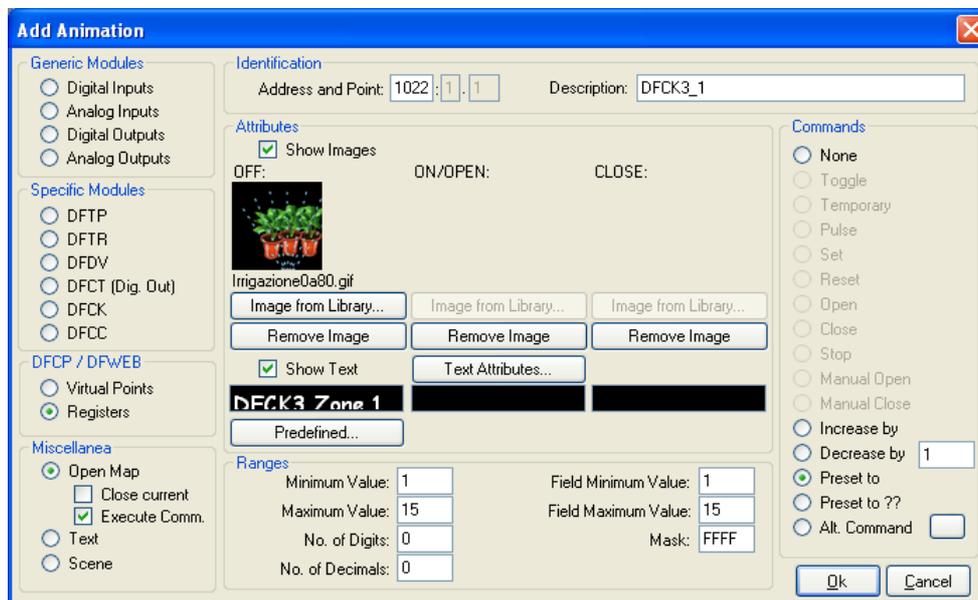
The **“Maximum Value”** and the **“Field Maximum Value”** must be set to 255.
The map that will be opened by this icon is **“selezona.bdm”** described in the following paragraph.

Zone selection page setting

The animation "Irrigation (DFCK3)" previously inserted in the uindex page will recall the map for selection of the desired zone. In our example we will consider 3 zones (DFCK3 can manage up to 15 zones). The map for the zone selection has been called *selezona.bdm* and it allows to select 3 of the 15 available zones as said above.



The animations DFCK3 Zone 1, DFCK3 Zone 2 and DFCK3 Zone 3 have been set as follows:



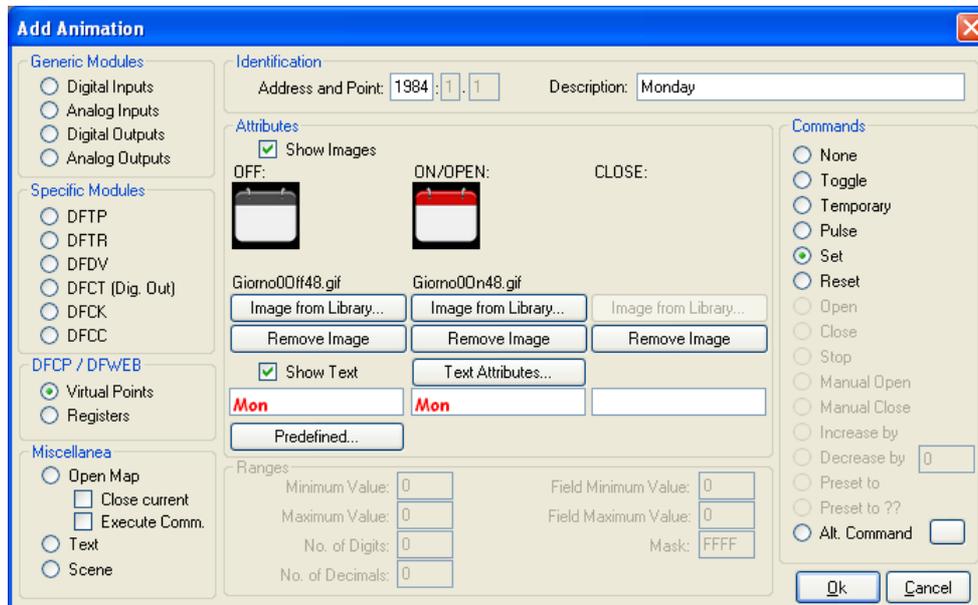
As shown in the previous picture, the animation type is **Open map & Execute Command** with address and point equal to 1022 (corresponding to R1022, that must contain the zone number) and Preset to 1, since the interested zone is zone 1. The icons of the other zones of our example will be the same, but of course varying the text, and the "Preset to" related number, while the Description in our example is the same (in facts it is also possible to recall different maps depending on the preferences or needing).

A map named **DFCK3_1.bdm** has thus to be created and the final appearance, in our example, will be following:



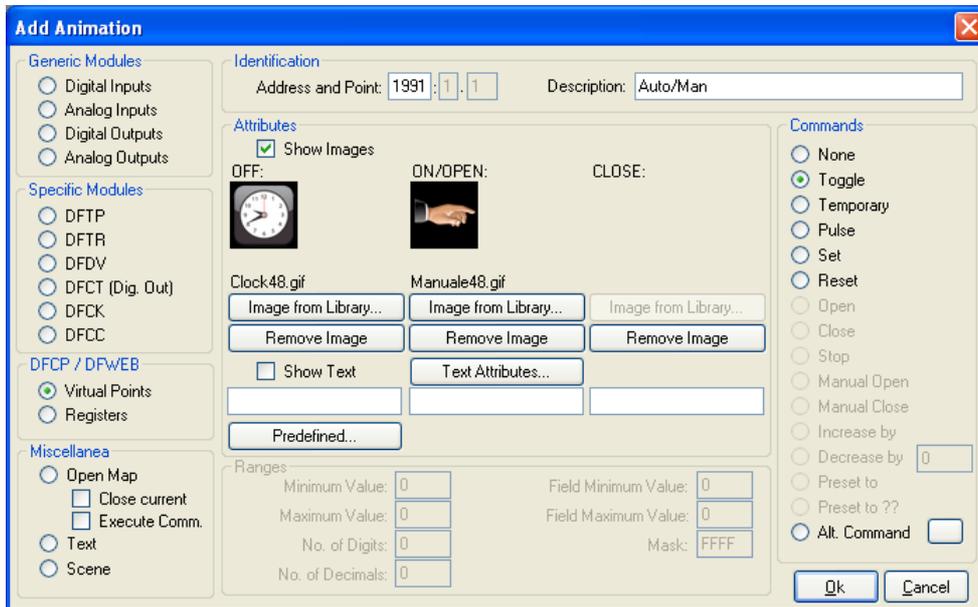
The icons of this page will be described in the following.

1. In the new map insert seven animations for the selection of the day of the week, the type is “Virtual Point” with address from V1984 to V1990 (MON – SUN) and with “Set” command, as follows:

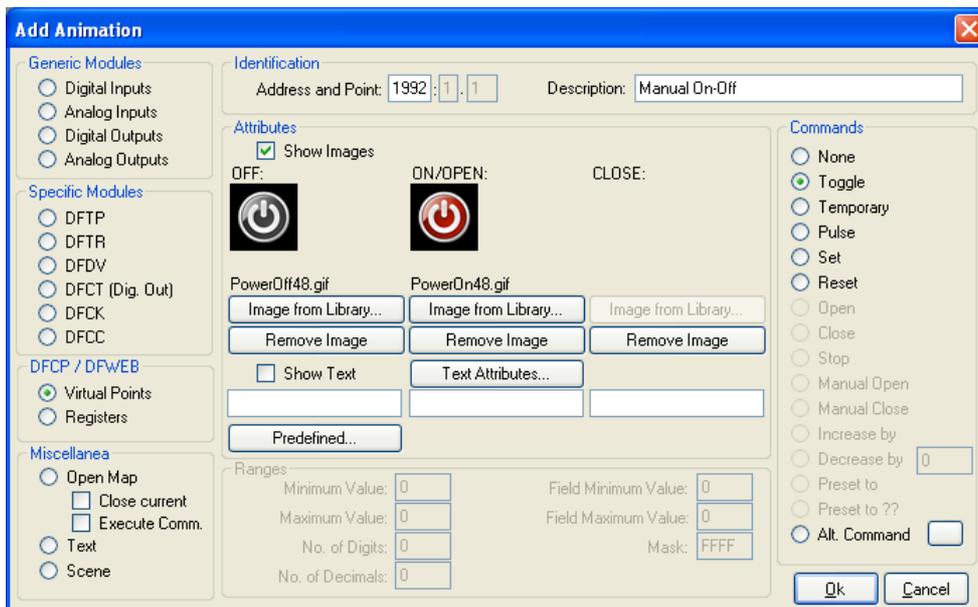


DFWEB

2. An animation to set “Automatic/Manual” must be inserted: select an animation of “Virtual Point” type with address 1991 (V1991) and with command “Toggle”. (0 = Auto, 1 = Man)

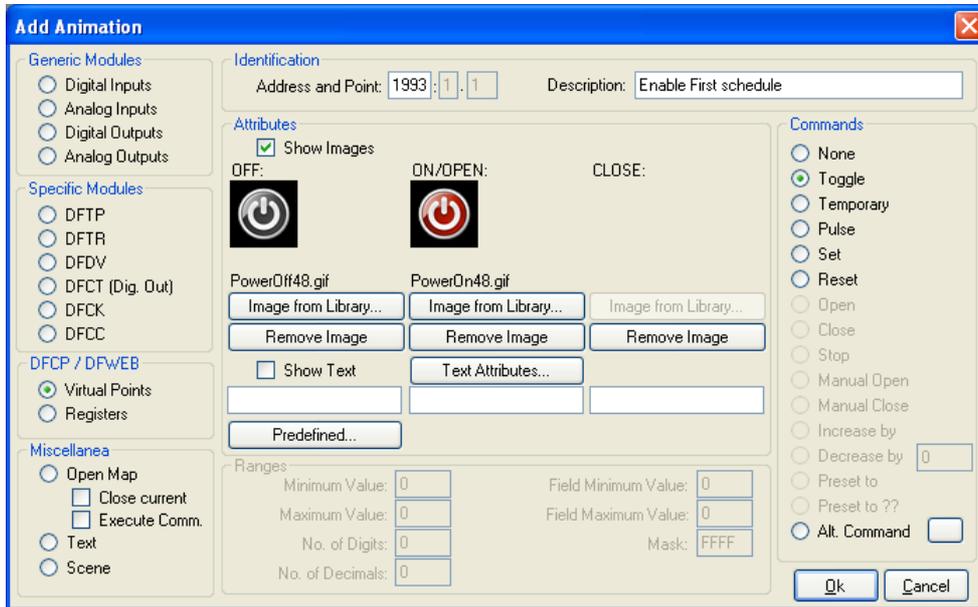


3. An animation of “Virtual Point” type must be inserted with address 1992 (V1992) with command “Toggle”. This animation is related to the ON/OFF command for the Manual option

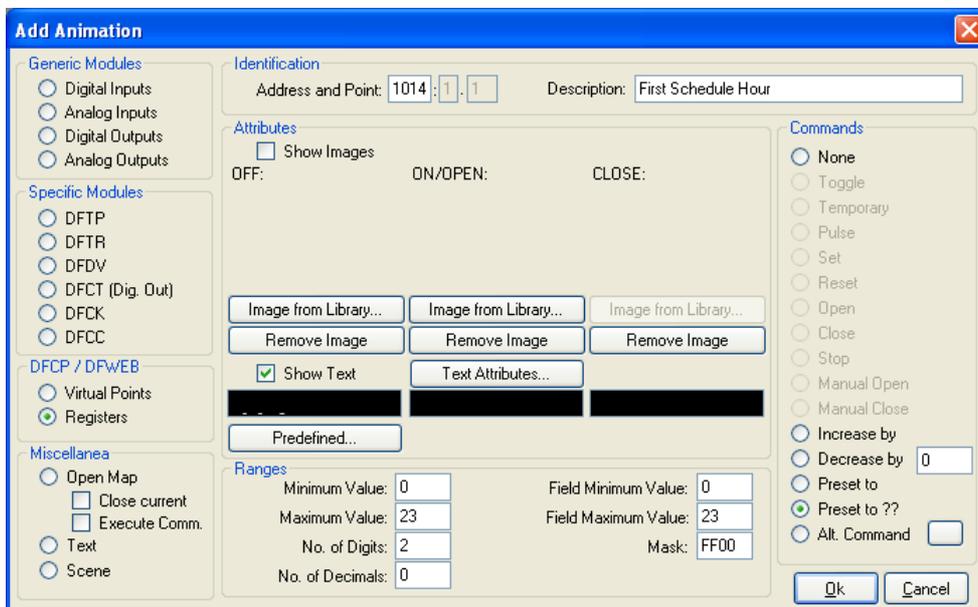


DFWEB

4. Insert four animations for the enable/disable function for each scheduled time; these animations are of the type “Virtual Point” with address from 1993 to 1996 (from the first schedule to the fourth schedule). Select as command the option “Toggle” (0: disable, 1: enable).

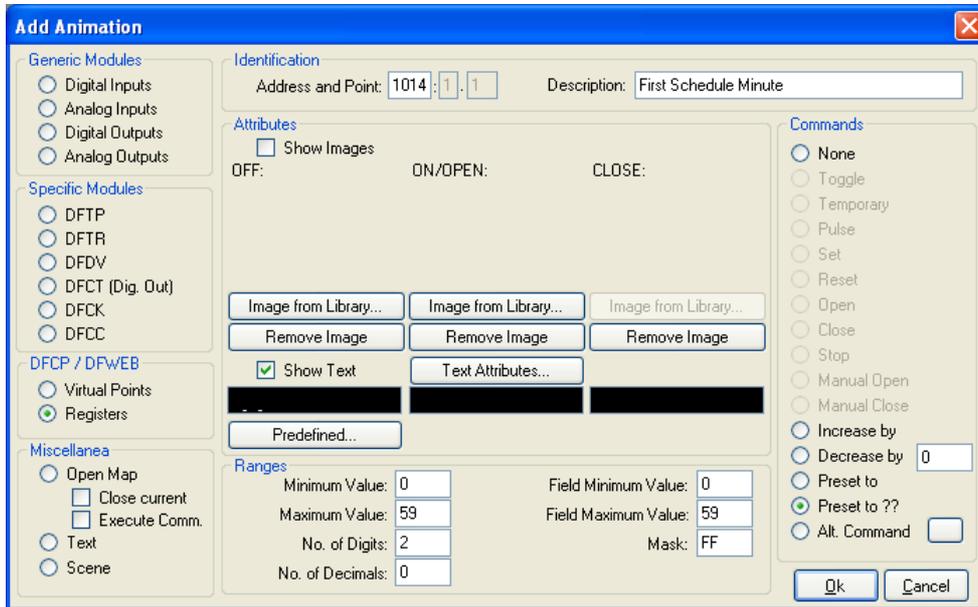


5. For the start of the first scheduled time (ON schedule), insert an animation of Register type with address 1014 and command “Preset to ??”. Enter in the field text, below the images, the symbols “<>”. Enter also as minimum value 00, as maximum value 23 (the hours of a day), both for displayed values and field values. Enter FF00 as mask (the byte related to minutes will be masked, so the low byte). Enter the value 2 as No Of Digits. The configured animation will be as shown in the following screenshot.



DFWEB

6. Insert an animation like the previous one, but with maximum value 59 and 00FF as mask; this is related to the minutes, then the high byte related to the hour has to be masked. As No Of Digits insert the value 2. The animation thus configured is shown in the following screen shot.



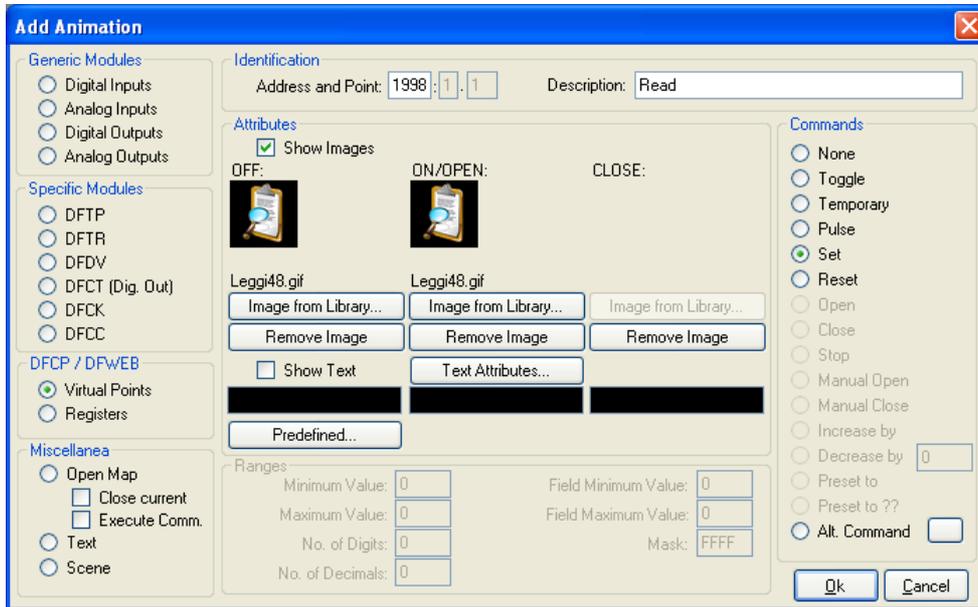
7. Repeat the previous two points but change the address with 1015: in this way we will set the end of the first scheduled time (OFF schedule).

8. The other three schedules have to be set as described at points 5, 6 and 7 (from the second to the fourth schedule), using the pair of address 1016-1017, 1018-1019, 1020-1021. These pairs of registers represent respectively the second, the third and the fourth schedule. Resuming, for the scheduler we will have the following assignment.

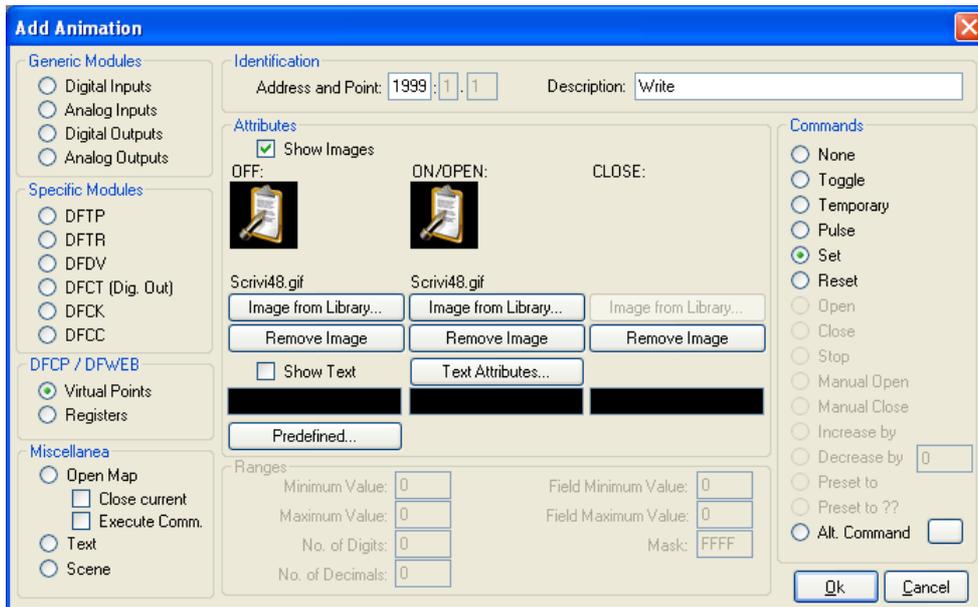
Schedule	ON time	OFF time	Min Value	Max Value	Field Min Value	Field Max Value	Mask
First schedule (hour)	1014	1015	0	23	0	23	FF00
First schedule (minute)	1014	1015	0	59	0	59	00FF
Second schedule (hour)	1016	1017	0	23	0	23	FF00
Second schedule (minute)	1016	1017	0	59	0	59	00FF
Third schedule (hour)	1018	1019	0	23	0	23	FF00
Third schedule (minute)	1018	1019	0	59	0	59	00FF
Fourth schedule (hour)	1020	1021	0	23	0	23	FF00
Fourth schedule (minute)	1020	1021	0	59	0	59	00FF

Placing DFCK3 manage buttons

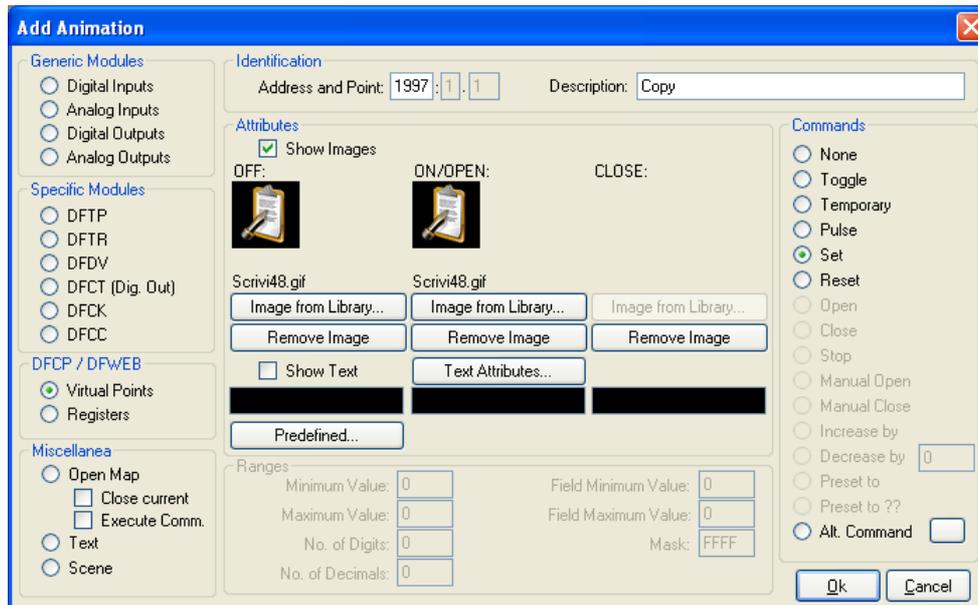
1. Insert the Read button. Set it as virtual point 1998 with the command SET.



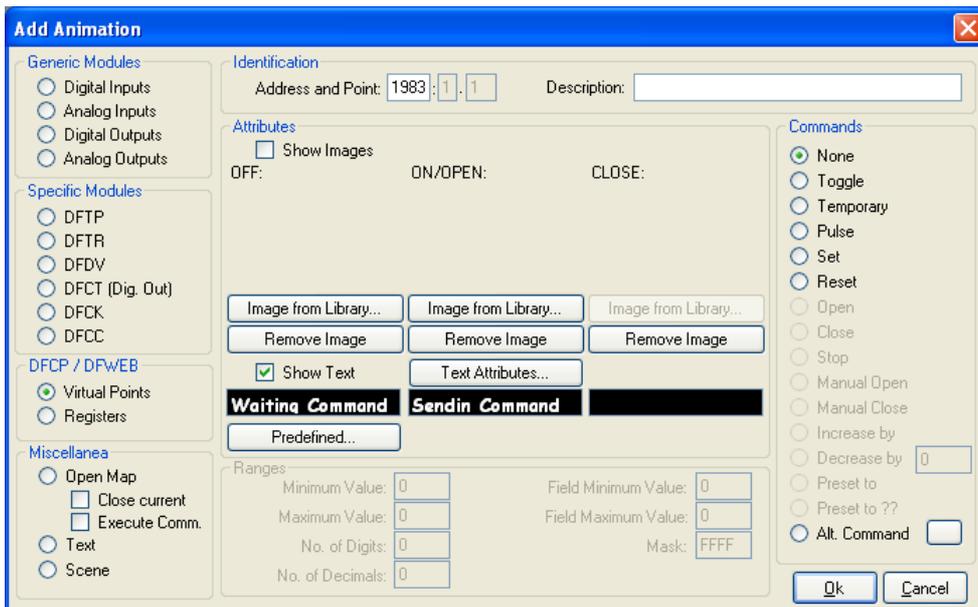
2. Insert the button Write. Set it as virtual point 1999 with command SET.



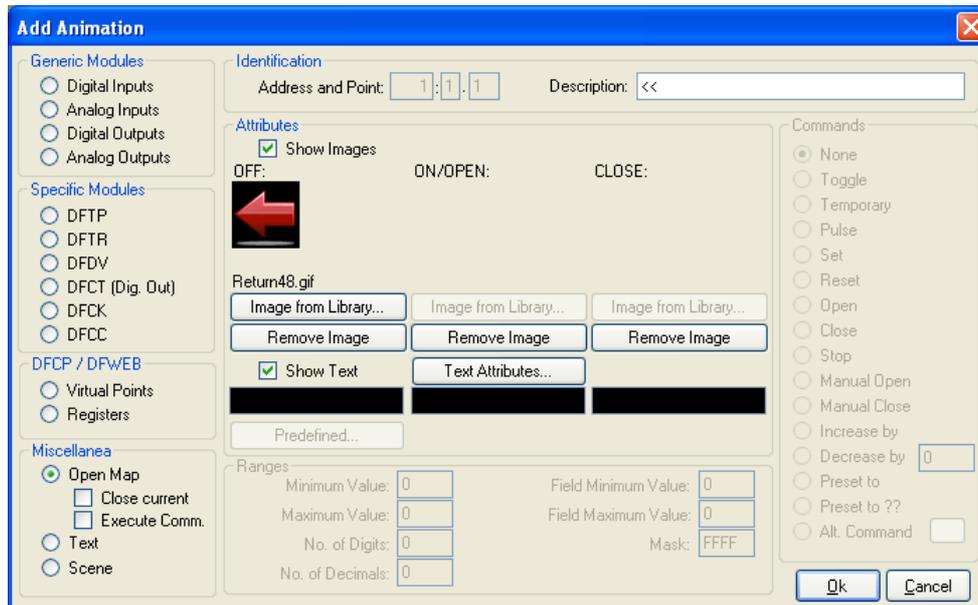
3. Insert the button Copy. Set it as virtual point 1997 with command SET.



4. Insert the Waiting animation. Set it as virtual point 1983 with command None.



5. Insert the button Back. The button is set as Open Map and Description must be <<.



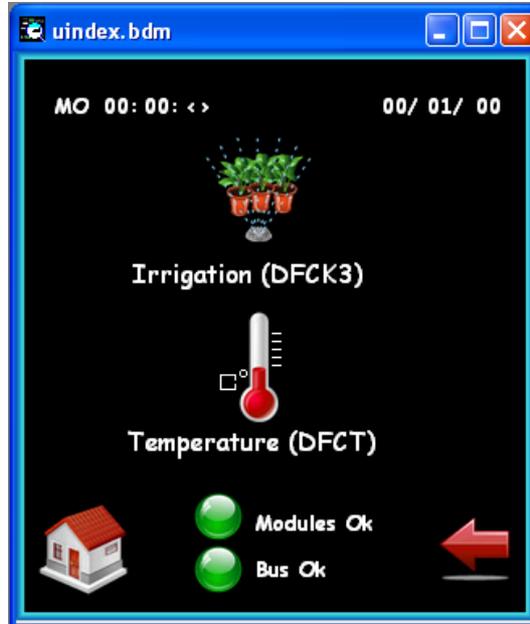
The final appearance of the map, as said above, will be the following.



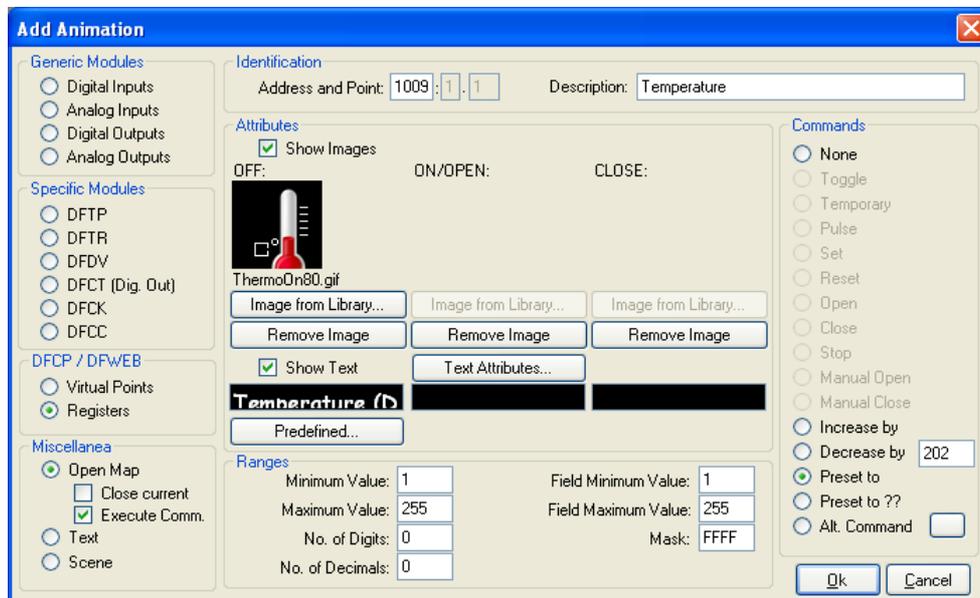
Using DFWEB + DFCT

Main page setting

The uindex.bdm map, as seen before, also contains an animation for DFCT module management.

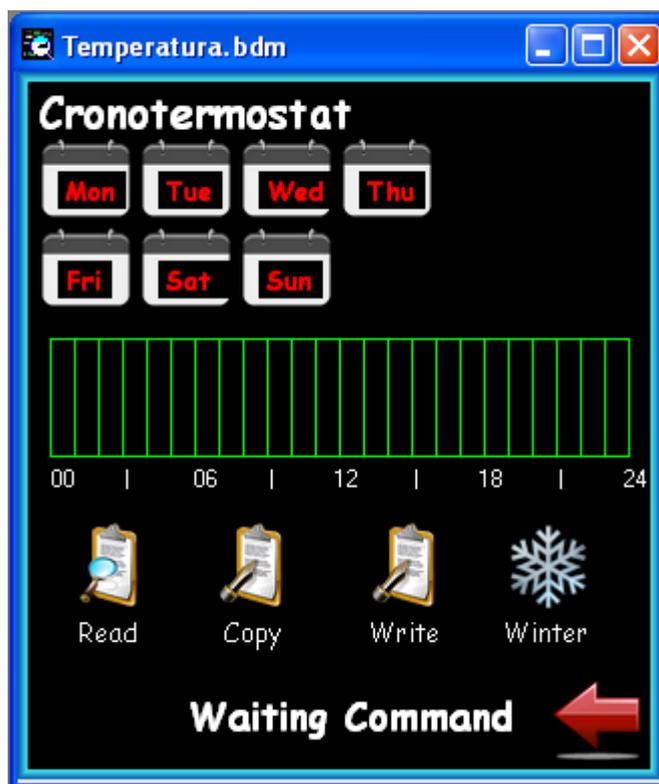


Thus, it will be necessary to insert an animation that set the Address value by means of an animation of the type **Open Map** with the option **Execute Command** enabled and with the address 1009 (R1009, DFCT address). The command **“Preset to”** has to be set to the value of the address assigned to DFCT (in this example the DFCT module has the address 202). Set the range with minimum value 1, maximum value 255 and Mask FFFF.



In the new map for the management of DFCT module (Temperatura.bdm) we will proceed as for DFCK3 case with the insertion of various animations; these animations will be described in the following.

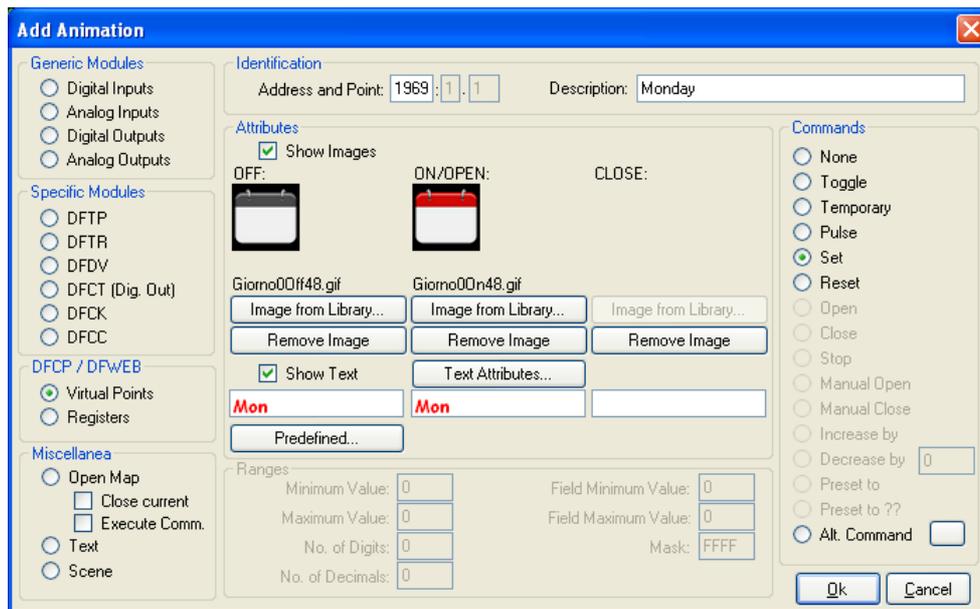
The map that will be created (Temperatura.bdm) is shown in the following picture.



DFCT setting page

1. In the new map (Temperatura.bdm) insert seven animations of "Virtual Point" type with address from V1969 to V1975 (MON – SUN) with "Set" command.

Day of the Week	Animation Type	Address and Point	Command
Monday	Virtual Point	1969	SET
Tuesday	Virtual Point	1970	SET
Wednesday	Virtual Point	1971	SET
Thursday	Virtual Point	1972	SET
Friday	Virtual Point	1973	SET
Saturday	Virtual Point	1974	SET
Sunday	Virtual Point	1975	SET

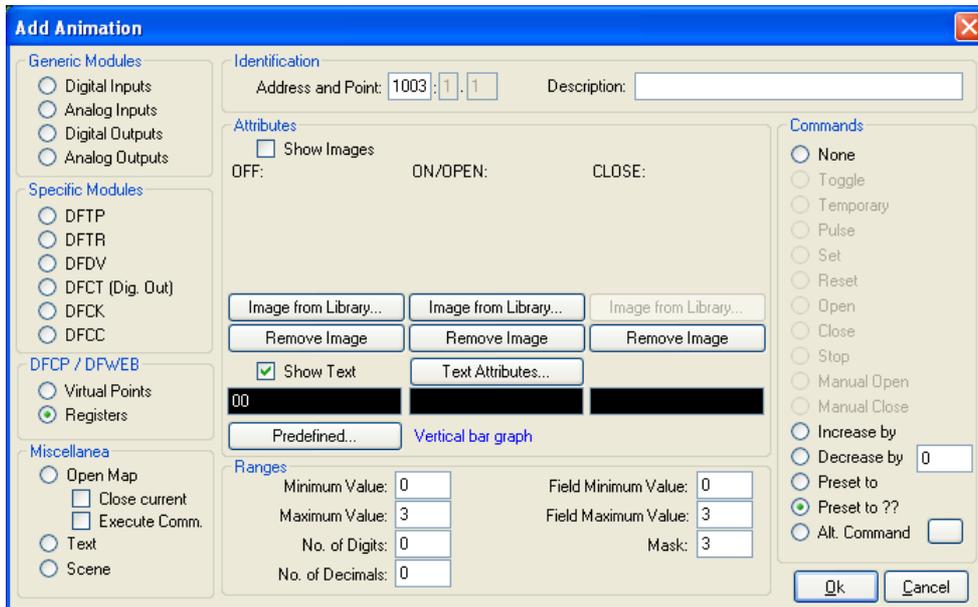


2. Insert 24 animations of “Register” type with address from 1003 to 1008 (see the following table for the complete meaning) with command “Preset to ??”. Clicking on the “Predefined” button, set as BarGraph the 24 animations; approaching each one to the other each bargraph, a graphic representation of the scheduler program will be obtained, with a resolution of one hour. The 24 animations are “grouped” in 6 groups, as shown in the following table.

Hours (24 hour format)	Address	Minimal Value	Maximal Value	Field Minimum Value	Field Maximum Value	Mask
00	1003	0	3	0	3	3
01	1003	0	3	0	3	30
02	1003	0	3	0	3	300
03	1003	0	3	0	3	3000
04	1004	0	3	0	3	3
05	1004	0	3	0	3	30
06	1004	0	3	0	3	300
07	1004	0	3	0	3	3000
08	1005	0	3	0	3	3
09	1005	0	3	0	3	30
10	1005	0	3	0	3	300
11	1005	0	3	0	3	3000
12	1006	0	3	0	3	3
13	1006	0	3	0	3	30
14	1006	0	3	0	3	300
15	1006	0	3	0	3	3000
16	1007	0	3	0	3	3
17	1007	0	3	0	3	30
18	1007	0	3	0	3	300
19	1007	0	3	0	3	3000
20	1008	0	3	0	3	3
21	1008	0	3	0	3	30
22	1008	0	3	0	3	300
23	1008	0	3	0	3	3000

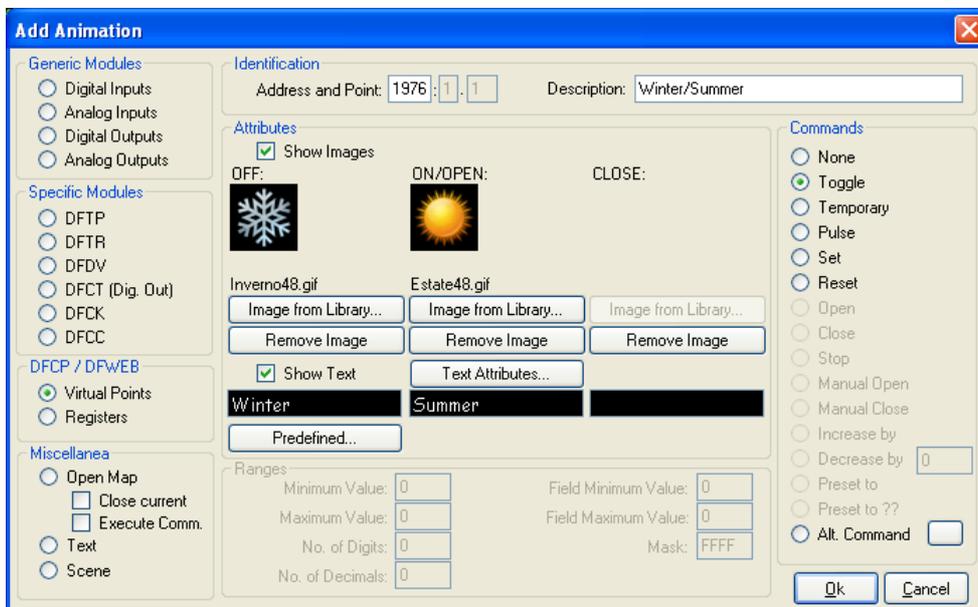
DFWEB

In practice, each register is divided in 4 groups of 4 bits each one (nibble); each group of 4 bits will have a value from 0 to 3 that corresponds at one of 4 setpoints of DFCT (OFF, SP1, SP2, SP3).



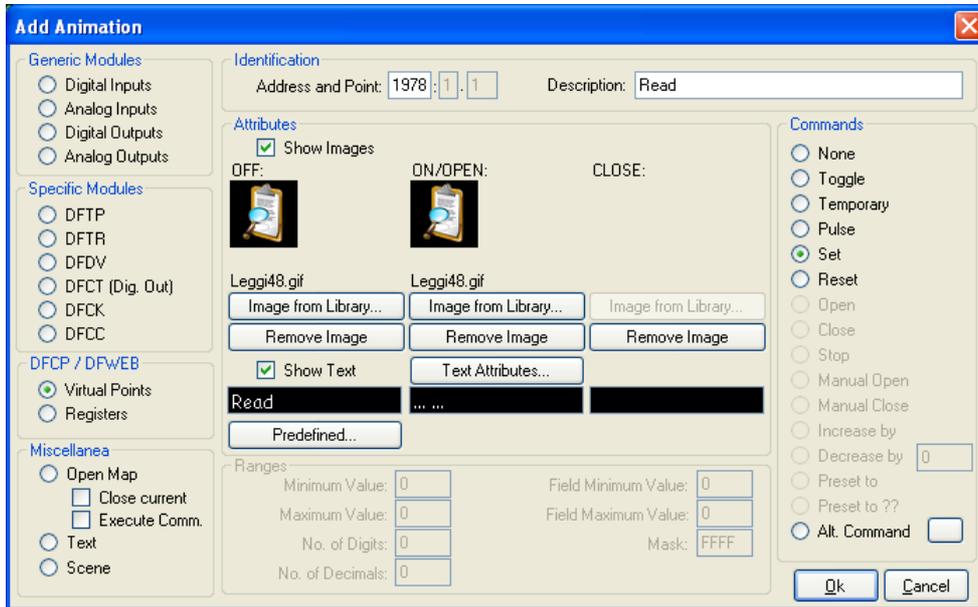
The previous table allows to make easy the configuration of the 24 animations related to the 3 set points that can be set, for each hour, with DFCT module. Each BarGraph refers to a schedule of 1 hour, thus the 24 bargraphs allow to manage the 24 hours of a day. Each minimum vale, maximum and from field value ranges from 0 to 3; take in account that it is very **important to configure correctly the mask** (see the table).

3. Insert an animation for the Summer/Winter setting, with configuration as Virtual Point with address 1976 and with command Toggle (see the following screen-shot).

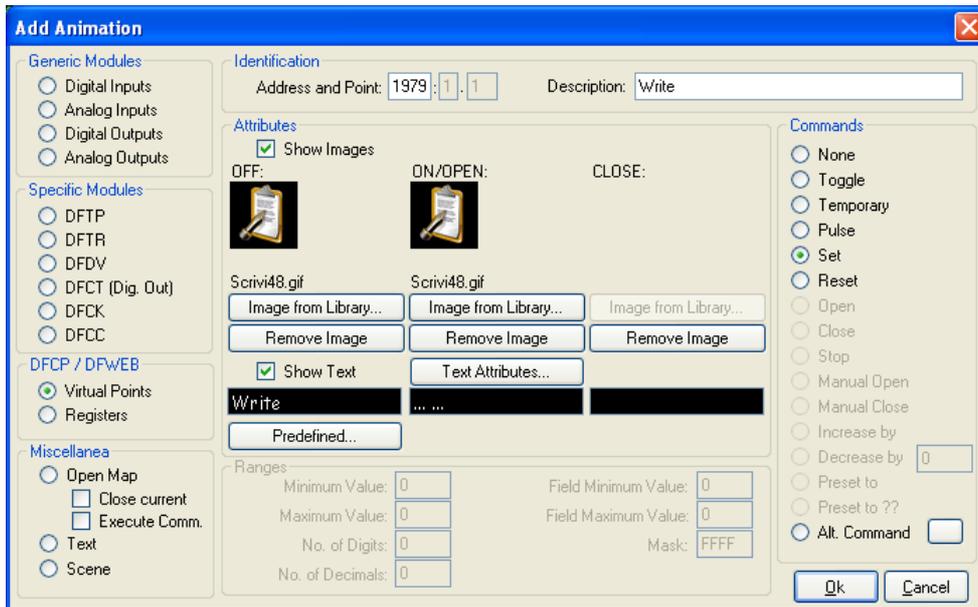


Adding the buttons for the management of DFCT

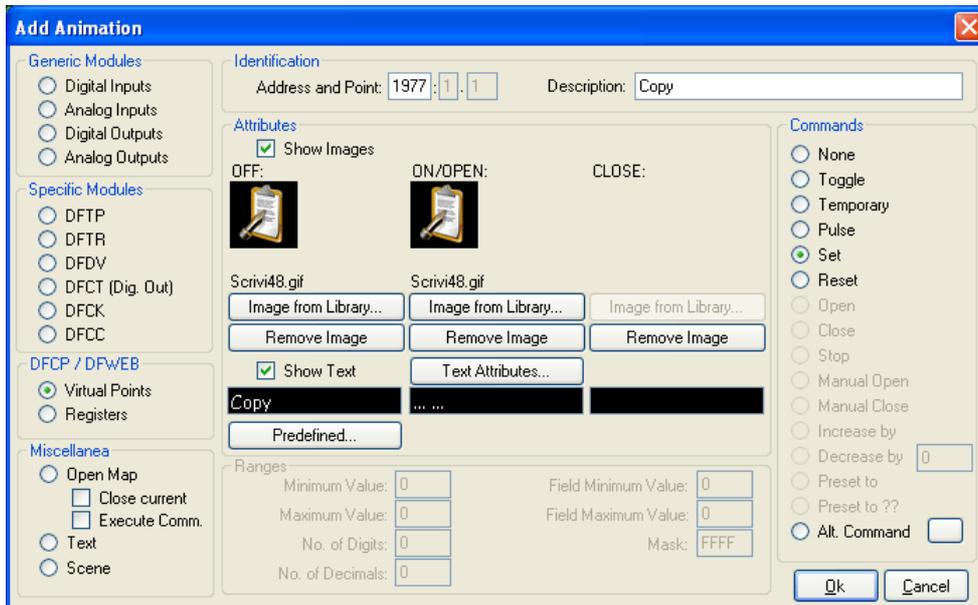
1. Insert a button **Read**. It is configured as virtual point 1978 with SET command.



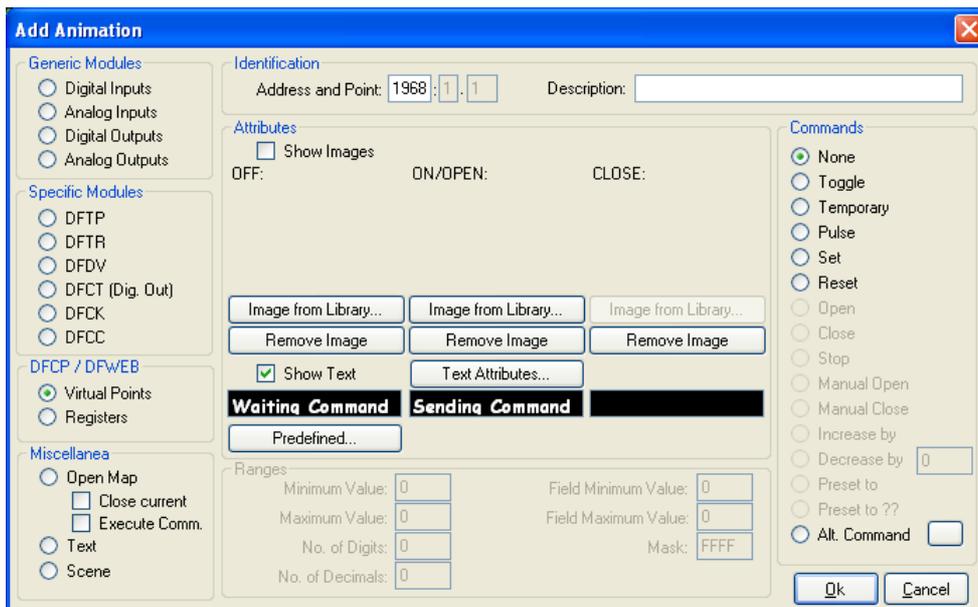
2. Insert a button **Write**. It is configured as virtual point 1979 with SET command.



3. Insert a button **Copy**. It is configured as virtual point 1977 with SET command.



4. Insert the Waiting animation. It is configured as virtual point 1983 with None command.



Final appearance of DFCT map

The final appearance of the map related to the DFCT module management is the following.

