DFDALI64: DALI gateway

DFDALI64 module allows to manage up to 6 DALI devices through the **Domino** bus. DFDALI64 module can be successfully employed in domestic and professional lighting applications, where systems communicating by the DALI protocol are used.

DFDALI64 module offers the following main features:

✗ automatic addressing of connected DALI devices

✗ up to 16 groups or broadcast operation

✗ all functions are accomplished by the module and it may be controlled by any real or virtual input of the system, by supervisor or by video terminal

✗ it can operate without DFCP controller

✗ possibility of control from one or more pushbuttons connected to **Domino** bus

✗ Up/Down and Single commands may be defined for the manual regulation of lighting level

✗ information on the bus of the current level of the 16 groups

✗ programmable ramp, in the range 0 to 60 seconds

✗ setting of minimum and maximum output levels

✗ dynamic lights scenes can be easily implemented through DFCP

✗ up to 16 presets stored in the non-volatile memory of the DALI devices

✗ programmable output level in case of failure of **Domino** or DALI bus

✗ diagnostics of the DALI line

✗ galvanic insulation between DALI and **Domino** buses

DALI devices can be controlled as follows:

Broadcast: each command sent on the DALI line will be executed by all the connected devices, therefore all the related devices will behave in the same way.

Groups: the command will be sent to groups, therefore each group of devices will behave independently; the DALI protocol allows up to 16 groups and each device can belong to one or more groups

Individually: the commands will be individually sent to each device, therefore each single device will behave independently; in this case, however, the functionality will be limited as described in the following, therefore the use of groups is absolutely recommended.

DFDALI64 module performs dimming functions (Up, Down and Single commend), saving and recalling of scenes and Preset to defined value.

The power supply needed for DFDALI64 module operation is derived from the **Domino** bus itself and from 230V~ line (for the DALI section). Three fixed 2-way terminal block allow the connection of the module to the Domino bus, to the 230V~ line and to the DALI bus.

Near to the **Domino** bus terminal block, the module features a small pushbutton (PRG) for the assignment of the address and a green LED that shows the operating status; this green LED normally flashes every 2 seconds about to signal that the module is properly supplied and operating.
Near to the DALI bus terminal block, the module features a small pushbutton ☼ for the manual command of the connected DALI devices; the function performed by this button are the continuous regulation of the brightness level and the one-touch switching on and off. Near to this button, a yellow LED reports the communication activity on the DALI line and the diagnostic information.
Removing the cover of the bus terminal block, a small connector (PRG) can be accessed; this one allows the connection to DFPRO optional tester/programmer.
DFDALI64 module is housed in a standard DIN 3M box for rail mounting.
Note: this technical sheet applies to DFDALI64 modules equipped with firmware 1.1 or higher.

Address programming

DFDALI64 module takes one output address and, if enabled, up to 18 input addresses (the first one having the same value of the out address). A white label on the front panel allows the writing of the assigned base address for an immediate visual identification. For details about address programming refer to the related documentation.

Wiring diagram

The schematic diagram in Figure 1 shows the connections to be made between DFDALI64 module and the **Domino** bus, the ac line and the DALI line. **Domino** bus, ac line and DALI line are galvanically insulated each one from the others. It is suggested to use, for the DALI line, a normal 2-core cable with double insulation.

It is recommended to avoid the using of multi core cables carrying both the two DALI signals and ballast supply, because the capacitive coupling between the signal wires and the power lines may cause very dangerous conditions for the human safety.

The following table gives some rules for the MINIMUM cable section. As said above, no special cables are required for the DALI line, provided that they have double insulation. In any case, the distance between DFDALI64 module and the farthest ballast must not be more than 300m.

Connection	Suggested cable
Domino bus	2 x 0.8 mmq unshielded
DALI SUPPLY	1 mmq (if the power supply is near to the module)
DALI line	Up to120m: 2 x 0.50mmq Up to 175m: 2 x 0.75mmq Up to 230m: 2 x 1.00mmq Up to 300m: 2 x 1.50mmq

Automatic DALI device addressing

The DFDALI64 module autonomously and automatically manages the addressing of the connected DALI devices: at power-on or at the reset, the module performs a scan of the DALI field to detect if devices are present, which address they have, if someone has no address, if repeated addresses are present. If there are devices without address or with a repeated address, the procedure for assigning and resolving any conflicts starts; at the end of this initialization (which as mentioned is performed at power-on or reset) the DFDALI64 module has the image of the DALI field.

This feature allows addressing DALI devices simply by connecting them to the module, thus avoiding the use of additional tools.

Broadcast or group operation

The DFDALI64 module allows two modes of operation: broadcast mode and group mode. Operation in first way or in the another one depends only on how the module was configured using the configuration panel in DCP IDE or BD-Tools, on the Groups tab (see in the following).

The group composition, if present, is memorized in the connected DALI devices (each one is assigned to one or more groups, or to no group) but also in the internal memory of the DFDALI64 module.

If the "table" of the groups is empty, then the module will manage the commands and the information in broadcast mode (the commands are sent to all the connected DALI devices, thus all of them will behave in the same way). If instead the "table" of the groups in the module memory is not empty (so at least one group has been created), then DFDALI64 will manage the commands and the information for groups.
Remember that the DALI protocol allows a maximum of 16 groups.
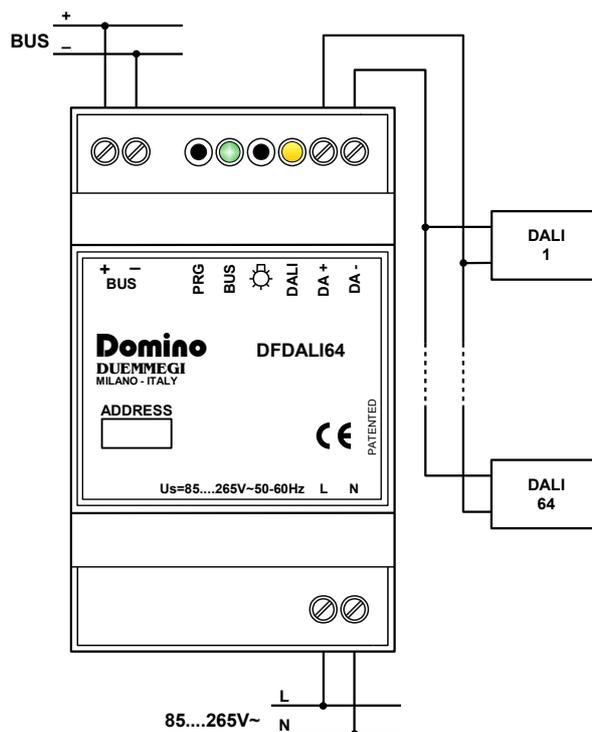
Figure 1: Connection diagram

Information on the bus

DFDALI64 takes, inside the **Domino** bus, 1 output address and, if enabled, 1 or 2 input addresses plus optionally up to 16 additional for reporting the current level of each group. The meaning of the data field of the two sections will be described here below.

Input section

On the two input addresses, if enabled, 16 points each one are available for the diagnostics of DALI system and fo the ON/OFF status of lamps controlled by DALI devices, as described in the following table:

IN		
Point	n	+1
1		Lamps ON group 1
2		Lamps ON group 2
3		Lamps ON group 3
4	Broadcast level (^{1})	Lamps ON group 4
5		Lamps ON group 5
6		Lamps ON group 6
7		Lamps ON group 7
8		Lamps ON group 8
9	-	Lamps ON group 9
10	At least one lamp ON	Lamps ON group 10
11	Polling disabled	Lamps ON group 11
12	Supply loss DALI side	Lamps ON group 12
13	Test button pressed	Lamps ON group 13
14	Lamp failure	Lamps ON group 14
15	Unconnected DALI line	Lamps ON group 15
16	Short circuit on DALI line	Lamps ON group 16

Input address n

The first available information (points 1÷8 of the channel) is the brightness level of the DALI devices but _only in the case the module has not been configured for group operation_, therefore this information is valid for broadcast mode only (all connected devices behave in the same way). If instead DFDALI64 module has been configured to manage one or more groups, then the value reported by the low byte at the base address will be 254.
The points from 10 to 16 at the base address are:

At least one lamp ON: at least a lamp managed by the connected DALI devices is ON (output level is between 1 to 100%)
Polling disabled: during normal operation, the DFDALI64 module cyclically polls the connected DALI devices to detect levels and possible anomalies; if necessary, this polling activity can be interrupted (by sending a command as described below): this point indicates this condition (point = 1 means polling disabled)
Supply loss DALI side: this point is ON if 230V~ line is unconnected or it is OFF
Test button pressed: this point goes ON when the test button ☼ is pressed
Lamp failure: ON when one or more lamps managed by DALI devices is fault
Unconnected DALI line: ON when no devices are connected to the DALI line

Short circuit on DALI line: ON when a short circuit occus on DALI line

Note (^{1}): the Broadcast level is intended as the current output brightness level of only one of the connected DALI devices that is taken as a sample; since all the devices are controlled in broadcast mode, it is assumed that everyone are in the same operating conditions and in particular that they have the same output level.

The value of the current brightness level is in the range 0 to 100. To read the brightness level of each group on the DALI line, a script for DFCP is available for this purpose; contact **DUEMMEGI** for more information.

Input address n+1

16 points at the input address n+1 report the status of the lamp on (intended as a non-zero level) for each of the 16 available groups.
If no groups have been configured in DFDALI64, all these points will be inactive; remember that in this case (no group configured), the module must be used exclusively in broadcast mode and therefore to have the ON-OFF status of the lamps, the input point 10 at the base address must be considered ("At least one lamp ON") .

Input addresses n+2 to n+17

Using the tool in DCP Ide or BDTools it is possible to "map" the current brightness levels of the groups in as many input addresses. The tools allow to assign an address to the desired group and for the desired groups; see the description of the configuration tools, "Levels" tab.

Output section

The data field (16-bit) for the execution of the commands on the DALI devices has the following meaning:

OUT	
Point	n
1	
2	
3	
4	
5	Function
6	
7	
8	
9	
10	
11	
12	
13	Destination
14	
15	
16	

The Destination identifies the recipients of the specified Function and it can assume the values listed in the following table:

Written data		Destination
HEX	DEC	
0x00	0	All the ballasts on the line (broadcast)
0x01 ÷ 0x40	1 ÷ 64	single ballast (1÷64) (test only)
0x81 ÷ 0x90	129 ÷ 144	single group (1÷16) of ballasts

NOTE: the control towards the single DALI device can only be used to perform functional tests or to switch the lamps ON/OFF in order to identify them when creating groups; do not perform Up/Down/Single command functions on a single device. If the application requires a single device, a group containing it must be created.

The function executed by the recipient depends on the value written on the low byte of the output data field, as described in the following table:

Dato scritto		Funzione
HEX	DEC	
0x00 ÷ 0x64	0 ÷ 100	Set the brightness to 0÷100% according to the current ramp
0x7D	125	Up command without one-touch function
0x7E	126	Down command without one-touch function
0x7F	127	Single command without one-touch function
0x80	128	No operation
0x87	135	Set the current brightness as MIN value
0x88	136	Set the current brightness as MAX value
0x89	137	Reset MIN value to default (1%)
0x8A	138	Reset MAX value to default (100%)
0x8C ÷ 0xAA	140 ÷ 170	Set the current ramp to 0 ÷ 30 seconds (1s step)
0xAB ÷ 0xAD	171 ÷ 173	Set the current ramp to 40 ÷ 60 seconds (step 10 s)
0xB5 ÷ 0xC4	181 ÷ 196	Save the current brightness to Preset 1÷16
0xC9 ÷ 0xD8	201 ÷ 216	Recall brightness from Preset 1÷16 according to current ramp

The value to be written in the output data field to perform a given function to a given destination will be thus:

✗ in hexadecimal: 0xYYZZ where YY is the destination in hexadecimal format (HEX) and ZZ is the code of the function in hexadecimal format (HEX)

✗ in decimal: K where K is given by [(256 x YY) + ZZ], where YY is the destination in decimal format (DEC) and ZZ is the code of the function in decimal format (DEC)

Notes:

✗ The code 128 is required only to inform DFDALI64 when interrupt a running function. For instance, to perform an Up function, the code 125 must be sent: the brightness will increase until the sending of code 128.

✗ The change from a brightness level to another one will be executed according to a ramp that can be set as desired by the codes 140 to 173. The ramp value will be stored in the non volatile memory of the ballasts, therefore a power failure does not affect it. The ramp value has no any effect on the variation speed of the functions Up, Down and Single command.

In addition to the *Function* codes listed in the previous table, there are 3 codes that do not concern actions on DALI devices but only on the DFDALI64 module; in this case the destination must be 0. These codes are:

Dato scritto		Funzione
HEX	DEC	
0x70	112	Disable polling
0x71	113	Enable polling
0x8B	139	Save the current brightness level as value to be loaded during bus failure conditions

✗ DFDALI64 module, normally, polls all the ballasts connected to the line; this polling can be disabled sending the code 112 (of course losing all information about the diagnostic and the current level). The code 113 will enable again the polling; the current status of the polling is reported by the point 11 of the input section (if enabled). At the module power up or after a reset the polling is always enabled by default.

✗ The code 139 saves, in the non volatile memory of the ballasts, the brightness level which will be automatically recalled when a DALI or **Domino** bus failure occurs.

Manual command by module button

A button ☼ with the following functions is available near the DALI bus terminal: a short press causes all connected devices to be switched ON or OFF, while keeping the button pressed the brightness increases or decreases according to the previous action (each prolonged pressure reverses the previous one). This button is useful during the setting up of the system.

DALI diagnostic LED

The yellow LED, located next to the button described above, flashes continuously during normal operation. The yellow LED is permanently on when one or more of the following events occur:

• Lamp failure
• Unconnected DALI line or no DALI device connected
• Short circuit on the DALI line

If a short circuit occurred, an automatic reset procedure is provided which allows the module to return to normal operation with a maximum delay of 15 seconds since the short circuit has been removed.

The LED will instead be off if the DALI section is not powered or if polling has been disabled.

In all cases, the type of fault that has occurred can be discriminated by means of the map in DCP IDE or BDTools or by a supervisor or a video terminal connected to DFCP, by reading the input channel as described in the related paragraph.

Note:

✗ When a lamp failure occurs, it is not possible to know on which DALI device that event occurred

Management by DFCP or by I/V table

The sending of commands or values to DALI devices can be performed through a supervisor simply writing the memory locations of DFCP (in the following, no distinction will be made between DFCP and DFCP4) related to the output of the installed DFDALI64 modules. In any cases, DFDALI64 module must be declared by the following directive (example with base address 1 and 2 input addresses):

```
DFDALI64 ( I1, I2, O1 )
```

If the input addresses are not used, remove them from the declaration. As option, or in addition, it is possible to send commands or value from DFCP to DALI module through proper equations as in the following example:

```
V1 = !(I12.1 | I12.2 | I12.3)
AO1 = P(128)V1 & \
      P(125)I12.1 & P(126)I12.2 & \
      P(50)I12.3
```

where `I12.1` and `I12.2` are, for instance, the Up and Down inputs and `AO1` is DFDALI64 module with address 1; `I12.3` will set the brightness to 50%. The specified value, at each variation, will be transferred to the DALI output (`AO1`). At the releasing of each pushbutton, the value is always set to 128 (no operation, but needed to inform the module about the releasing of the buttons). In this case the described Up, Down and Preset functions acts on all connected ballasts (broadcast commands).

Warning: the codes 125, 126 and 127 do not allow the one-touch function but simply the light level adjustment. To have the one-touch function use instead the I/V table (see below).

To get the same result on a group, it is easiest (even if not mandatory) to use the hexadecimal format to write the equations, because the address of the ballast has to be specified in the high byte of the channel:

```
V1 = !(I12.1 | I12.2 | I12.3)
AO1 = P(0x8180)V1 & \
      P(0x817D)I12.1 & P(0x817E)I12.2 & \
      P(0x8132)I12.3
```

The specified value, at each variation, will be transferred to DALI devices belonging to group 1. At the releasing of each pushbutton, the value is always set to `0x8180` (no operation, but needed to inform the module about the releasing of the buttons).

Of course the commands to DALI devices can be also sent by DFCP through the using of the Scripts or by the DALI equation (refer to DFCP user's manual); the choice of the best method depends on the specific application.

DFDALI64 can however work even without DFCP, associating the desired commands to real or virtual input points; this association is established by means of specific equations to be programmed in the module (to be understood they are equations to be inserted in BDTools or on the right side of the TAB equations of DCP IDE).
The syntax of the equations for DFDALI64 is the following:

```
DALI 1.5 = MI22.1 | UI22.2 | DI22.3 | \
           P(50)I22.4 | \
           S(1)I22.5 | R(1)I22.6
```

`DALI 1.5` indicates DFDALI64 module address 1 group 5 (in a similar way as a digital output is of the type `O1.5`). The space after the word `DALI` is not mandatory and can therefore be omitted.
On the right of the sign =, operators of type `M` (single command), `U` (Up), `D` (Down), `P` (Preset to x%), `S` (Save scenery x) and `R` (Recall scenery x) are allowed; all these operators, with the related parameter in the case of `P`, `S` and `R`, are followed by address and command point (real or virtual). For each operator, multiple terms are allowed in the same equation as in the following example:

```
DALI 1.5 = MI22.1 | MI32.1 | MI42.1 | \
           P(50)I22.4 | P(0)I100.4
```

The `DALI 1.5` notation in the previous examples indicates, as said, DFDALI64 address 1 group 5; the group number after the point must be between 1 and 16, but it can also be 0 if groups are not used and therefore the module is working in broadcast mode.
The same result can be obtained with the same operators using the I/V Table described later in this manual; the two methods are absolutely equivalent.

Setting up

DCP IDE and BDTools allow to set the operating parameters of DFDALI64 module during the system setting up and to perform some diagnostic functions. The setting up is performed via the **Domino** bus and DFCP (or DFRS or DFPRO) through a specific configuration panel that can be accessed from the menu of DCP IDE or BDTools.

From the menu, select Configuration, Lighting Gateway and then DFDALI64. The configuration panel shown in Figure 2 will be opened; the main parameters and options can be here defined as it will be described in the following of this paragraph.

Before to proceed with any action, the communication between the PC and, for instance, DFCP has to be opened. The top side of the configuration panel reports the section for the addresses management.

After having entered the address of the DFDALI64 to be managed, it is possible to enable on or both input addresses of the module through the check box named "Input Address" and "Input Address+1"and then clicking on the button Program; by the button Read it is instead possible to check the current setting.

Six tabs in the window allow some well defined functions as described in the following.

The button ID & Ver. on the lower side allows to read the firmware version of the selected DFDALI64 module.

Addressing

The DFDALI64 module automatically assigns the address of the connected DALI devices without the need for any manual operation, simply "switching on" the module; of course, if the devices already have an address, that is maintained.

Adding a DALI device without an address, it will be addressed with the first available free address; if two devices have the same address, they will be managed to resolve the conflict. However, it is possible to force some operations through the tool as described below.

Remove the address. In some cases it may be useful to remove the address of all connected DALI devices or of a well specified device.

Restore the factory setting. The DALI devices are factory set without any address and with a basic configuration for the main parameters; the following table shows a typical default configuration:

Parameter	Value
Minimum brightness level	1%
Maximum brightness level	100%
Brightness level in failure conditions	100%
Ramp value	0 seconds
Belonging to groups	None
Preset	None

These settings can be restored both for all connected devices and for a single device.

Mapping

The assignment of the address to the devices, due to the prerogative of the DALI system, occurs randomly; it may be useful, but not mandatory, to reorder addresses in order to facilitate the supervision and management of the installed DALI devices, see Figure 3.

The address 1 to 64 of each ballast can be changed to a new desired value (always in the range 1 to 64). For each address, the program shows a line similar to the following one: 0 I 1 ----> 23 ☑.

The button 0 allows to switch off the ballast with address specified in the gray text box (1 in this example) while the button I allows the switching on; this function is useful to see where the ballast addressed 1 (in this example) is physically located. In the white text box the new desired address must be entered (23 in this example) for the ballast whose current address is 1. The execution of the mapping procedure (pressing the button Start) will take place only for the ballasts selected by the related checkbox. A timer icon will inform that the operation is running.
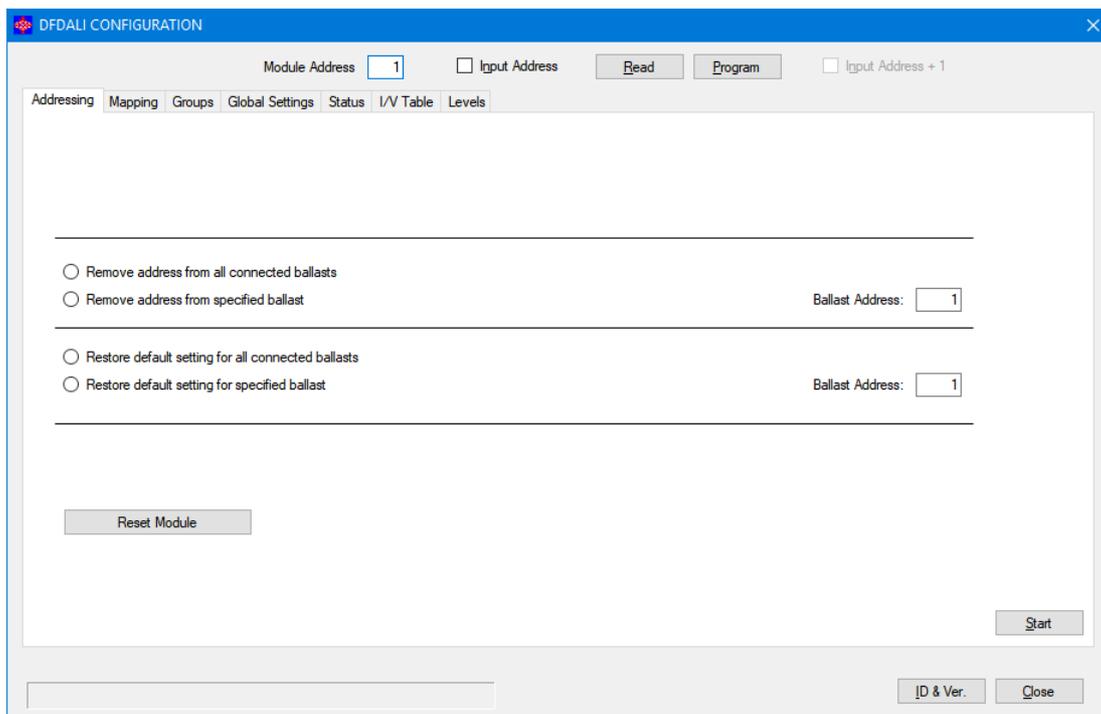
Figure 2: Configuration Panel – Addressing TAB
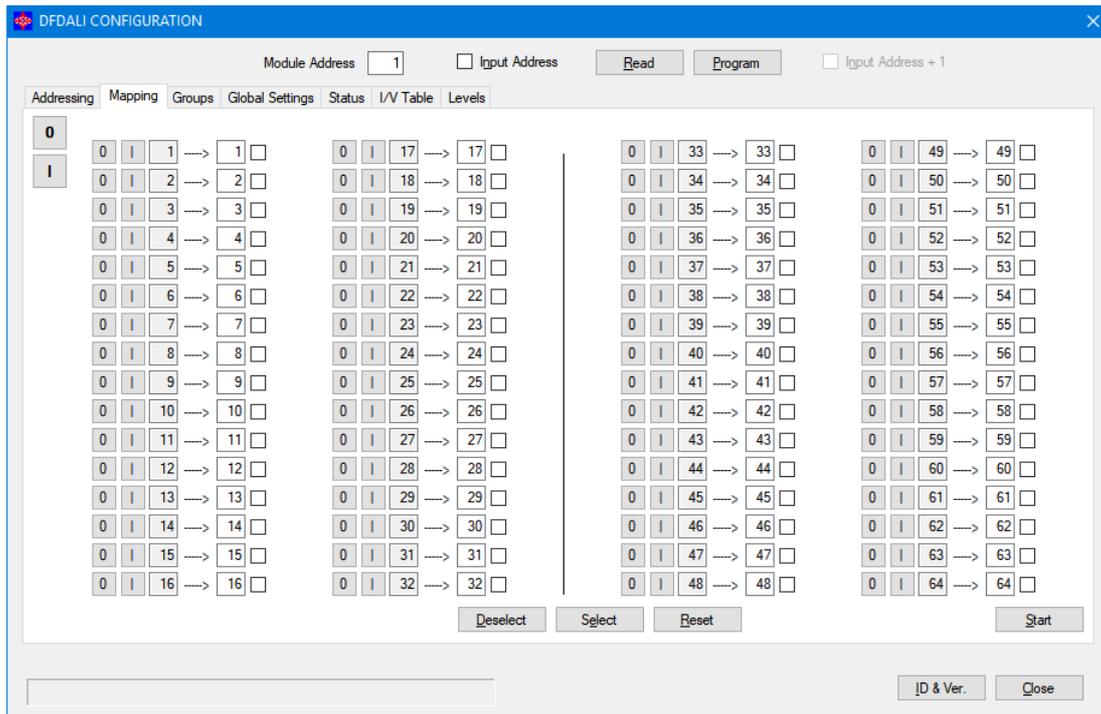
Figure 3: Mapping

At the end of the procedure, the normal mouse icon will be restored. The time require by the mapping procedure is about 1sec per ballast. The two big buttons 0 and I on the left side allow to switch off and to switch on all the ballasts connected to the line. The buttons Select (select all) and Deselect (deselect all) and Reset (restore the address value in the consecutive order) complete this TAB.

Groups

This TAB, Figure 4, features a grid where each ballast can be assigned to one or more groups. This choice can be done by clicking on each cell located at the intersection between the desired ballast (the columns) and the desired group (the rows). A X symbol will be shown in the related cell.

Figure 4: Groups

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Rel.: 1.2 September 2018   Page 7 of 12
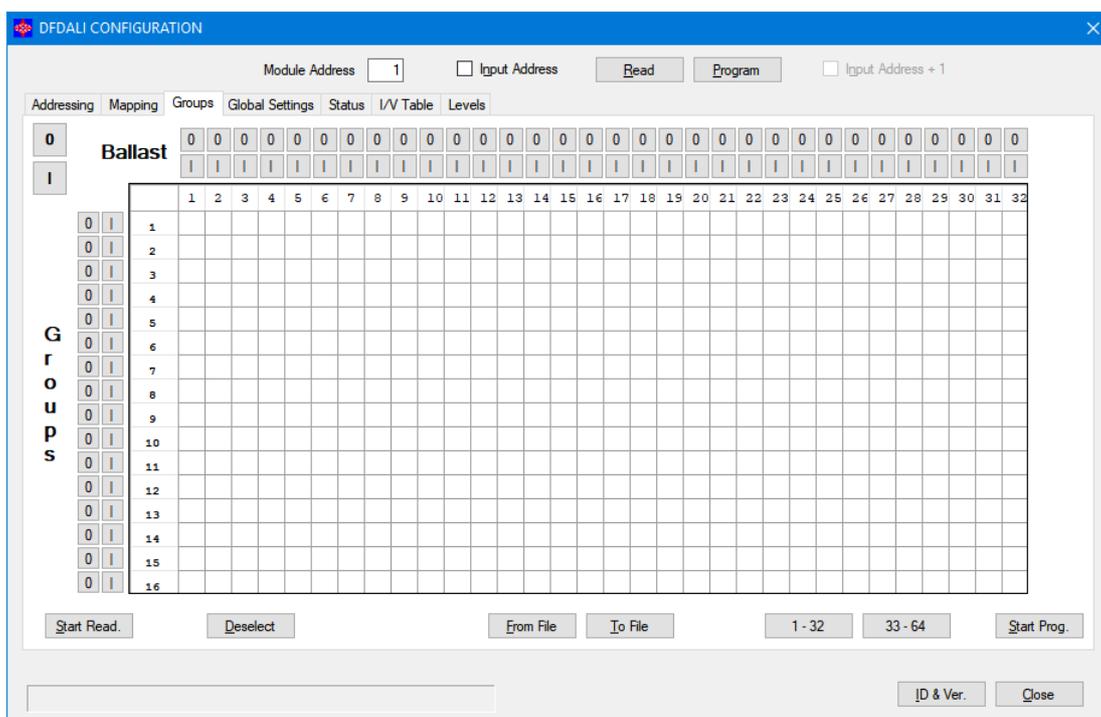
In the example of the figure, the group 1 contains the ballasts 1-2-5, the group 2 the ballasts 1-3 and the group 3 the ballasts 2-4-5.

Since it is graphically difficult to report all 64 ballasts in the same grid, this one has been divided into two pages; the two buttons 1-32 and 33-64 allow switching from one page to another. The Deselect button removes all the X symbols on the grid.

The execution of the group assignment, by pressing the Start Prog. button, will transfer the group composition to the ballasts and to the memory of the DFDALI64. A timer icon will inform that the operation is running.

The Start Read button transfers to the table the configuration of the groups currently stored in the DFDALI64; be careful that the configuration will not be retrieved from the installed ballasts, but only from the module memory.

The buttons 0 and I respectively allow to switch OFF and ON the related ballast or the related group; the buttons on the top side act on the single ballast, the buttons on the left side act on the groups and the two big buttons 0 and I switch off and on all the connected ballast.

The buttons From File and To File allow to store and recall the settings of the groups; as mentioned, the group setting is stored also into DFDALI64 module, but it is however recommended to save them into a file for backup.

The time required by this procedure is about:

$$T = 8sec + (0,5sec \times \text{"nr. of X in the window"})$$

Global Settings

In this TAB, Figure 5, it is possible to set, for all ballasts on the DALI line, the following parameters:

MIN: minimum brightness value (%); enabling the Reset check box, the default value will be restored (1%).

MAX: maximum brightness value (%); enabling the Reset check box, the default value will be restored (100%).

BUS F.: the brightness value (0-100%) to be recalled by ballasts during failure of **Domino** and/or DALI bus; the value 101 means that the outputs will keep the last value.

Ramp: the ramp value in seconds.

Pwr On: the brightness value (0-100%) to be recalled by ballasts at their power up; the value 101 means that the value outputted before the power off will be recalled.

Preset: writing a value (0 to 100) and clicking on the button on the right side, the brightness will be forced to that value.

M1 ÷ M16: the value to be loaded into the 16 presets; the button on the right side allows to recall the related preset stored into the ballast.

Each option features a Store button, allowing to send to the module the related parameter.

Status

This TAB, Figure 6, shows the current brightness level for each one of the 16 groups (pointed that the module has been set for group operation).
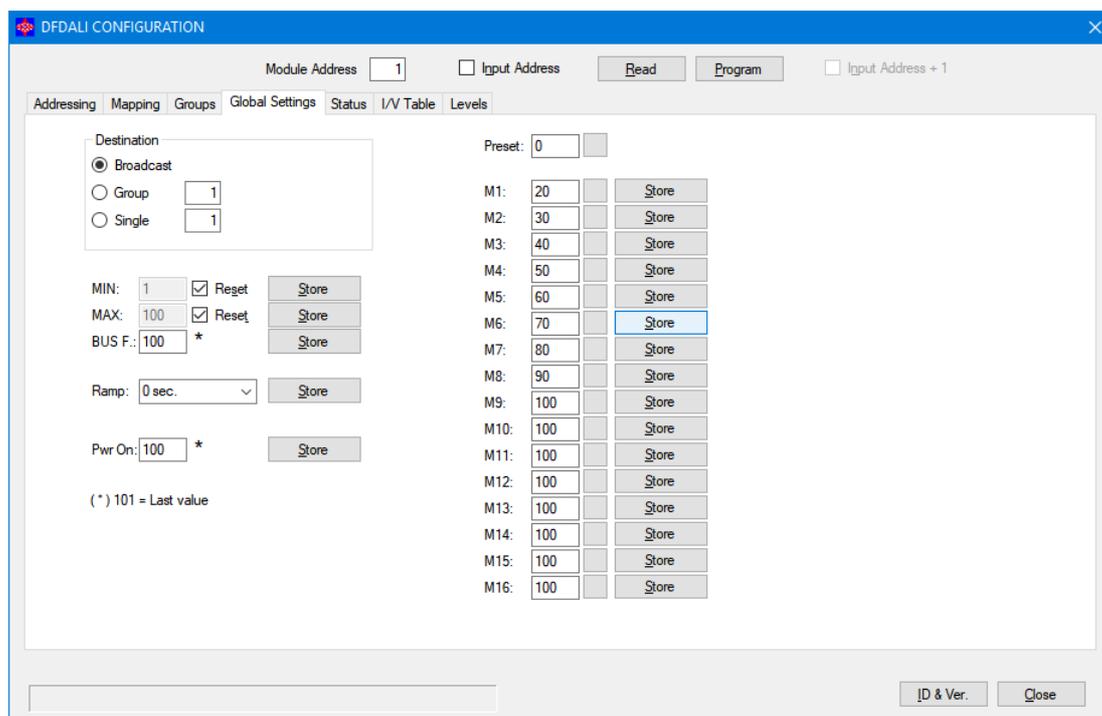
Figure 5: Global Settings
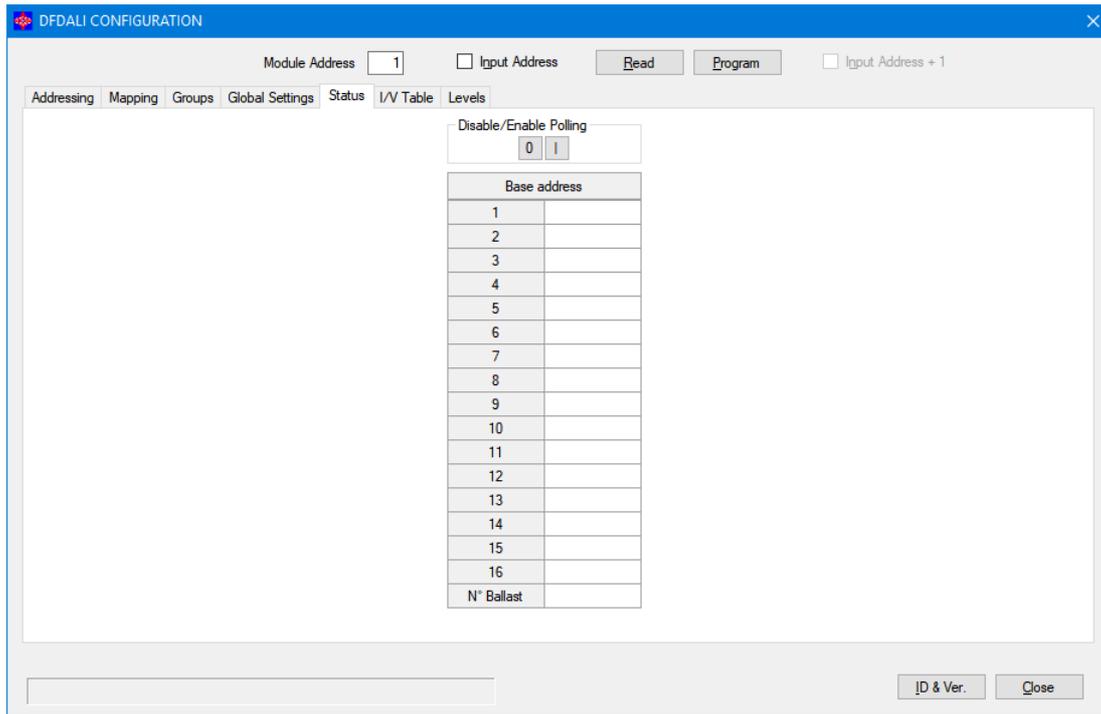
Figure 6: Status

These values are in the range 0 to 100; if "-" is shown, it means that the group does not exist or no ballast of that group is responding.

If a lamp failure occurs, a X symbol on a pink background will be shown. In addition it is possible to force the brightness entering the value in the cell related to the desired device and confirming by the Enter key.

The text box N° Ballast reports the total amount of DALI devices detected by DFDALI64 module.

A pair of buttons on the top side of the table allow to enable and disable the polling on the DALI line. When the polling is disabled, the label "Base address" will be shown over a red background.
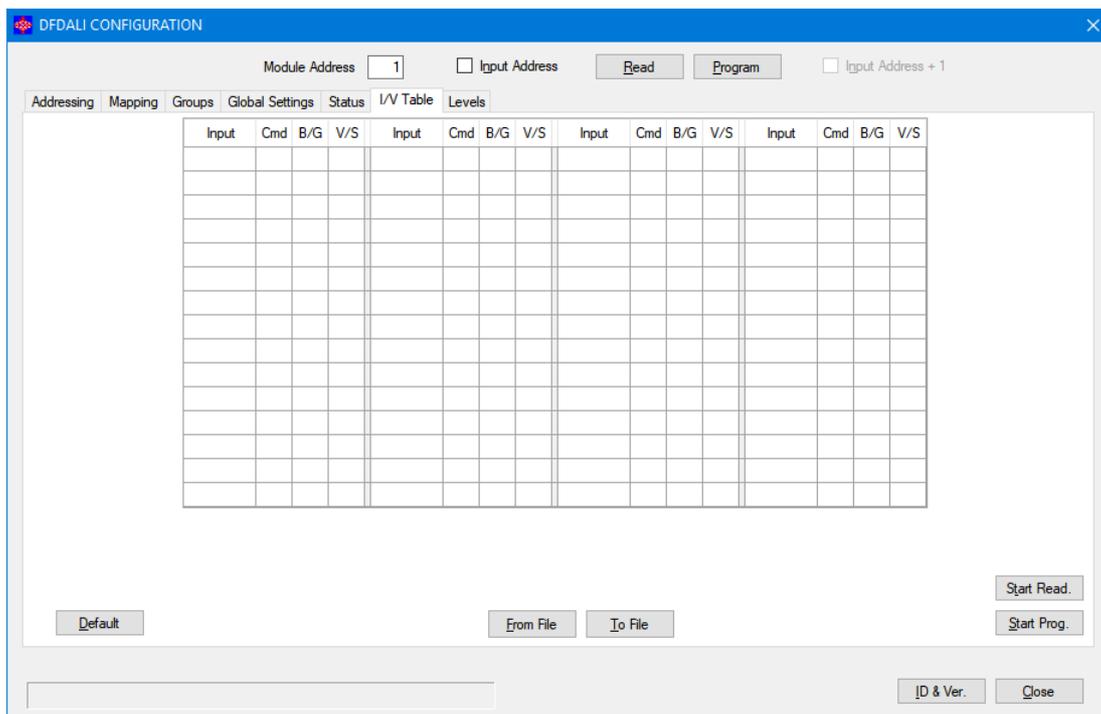
Figure 7: I/V Table

I/V Table

The TAB shown in Figure 7 allows to create up to 60 relationship between real or virtual inputs of the **Domino** bus and the following commands: Up, Down, Single Command, Recall scenery, Save scenery and Preset.

These functions are managed directly by DFDALI64 module, thus without the need of any controller and any programming.

To compile the table, left click with the mouse on the first available cell on the Input column, enter address and point (without I or V, with ! if needed) and press Enter.

The command list will appear: choose the desired function among Mono, Up, Down, Recall, Save and Preset.

The cell of the column Cmd will then show the symbol of the chosen function; to change the function, simply click again on the cell. The next cell on the column B/G (Broadcast or Group) will be then automatically highlighted: enter the desired value, that is 0 for Broadcast or the desired group number number 1 to 16 and press Enter.

If instead the desired function is Save or Recall scenery, press Enter again: the related cell will be automatically highlighted in the column S (Scenery): enter the desire number, that is the number of the scenery (1 to 16) to be saved or recalled, then press Enter.

Finally, if the desired function is Preset, enter the desired value 0-100 in the related box of the V/S column (Value/ Scenery) and then press Enter.

- ⦿ -
- ◯ (M) Mono
- ◯ (U) Up
- ◯ (D) Down
- ◯ (R) Recall
- ◯ (S) Save
- ◯ (P) Preset

The buttons Start Prog. and Start Read. in the I/V Table TAB allow, respectively, to transfer the values currently shown in the I/V Table to DFDALI64 module and read the current configuration of DFDALI64 and report it into the table.

The buttons From File and To File allow, respectively, to open a file, with .TIV extension, containing a previously saved I/V table and to save the I/V table shown in the window to a file. The Default button clears the table.

As already mentioned in a previous paragraph, the filling of the I/V table or the writing of the equations are absolutely equivalent operations, so that if you execute from the table a reading of a DFDALI64 that has been programmed with the equations, the table will be filled consequently.

Levels

This tab, Figure 8, allows to assign the value of the current level of one or more groups to as many input addresses, so that this information can be easily used. The information about the current level of the groups can be assigned in the desired order and in the desired quantity to the input addresses from n + 2 on-wards (the options "Input Address" and "Input Address + 1" must be enabled).

To fill the table reporting the group levels, select the desired group and then click on the + button; the button - allows you to remove a group from the address it was assigned to.
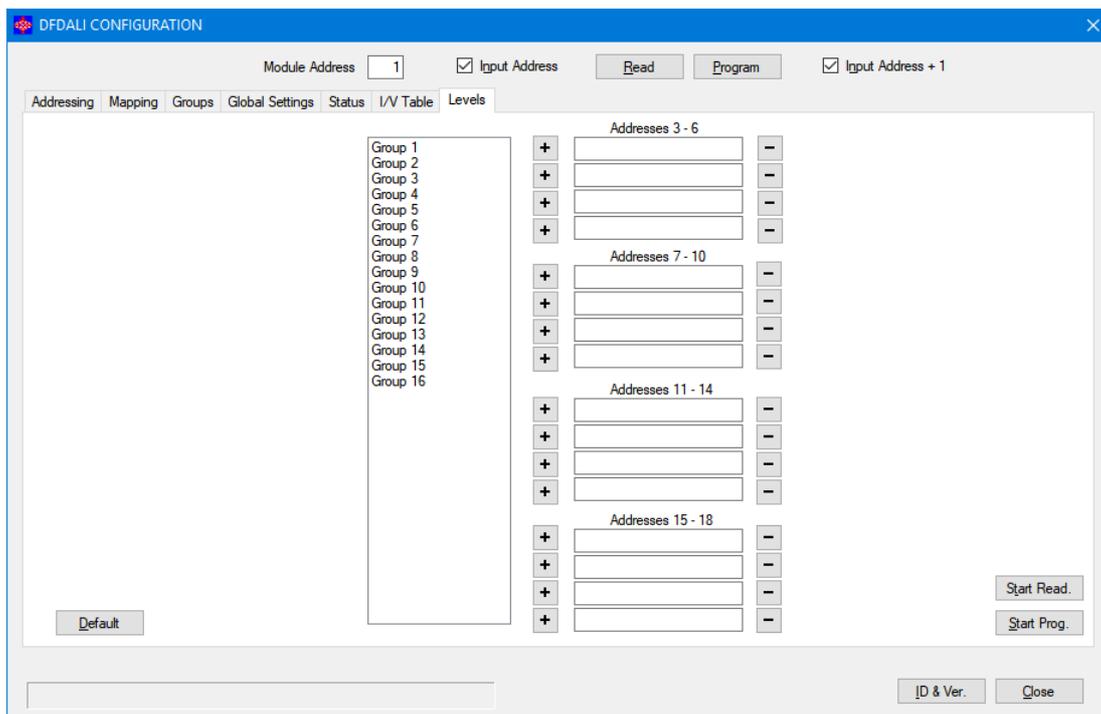
Figure 8: Levels

Mapping

DFDALI64 module is shown into the map of DCP IDE or BDTools like in the following figure. As for all **Domino** modules, the background of the module will be in green color if the module is connected and properly working, otherwise the background will be in red color.

New Group		
IN	1	2

Lamp ON · NO Polling · DALI PW Fail · BTN · LAMP Fail · NO Load · Short Circuit

0 Destination
0 Function

Lamp ON G1	Lamp ON G9
Lamp ON G2	Lamp ON G10
Lamp ON G3	Lamp ON G11
Lamp ON G4	Lamp ON G12
Lamp ON G5	Lamp ON G13
Lamp ON G6	Lamp ON G14
Lamp ON G7	Lamp ON G15
Lamp ON G8	Lamp ON G16

0 DEC

IN+1   DFDALI64
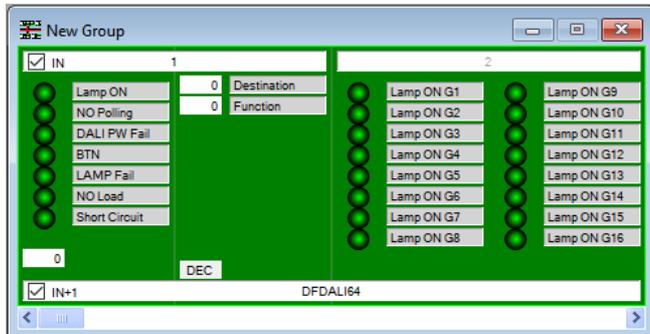
The portion on the left side is related to the input section and it reports the diagnostic information and the brightness level of the reference ballast when operating in broadcast mode (text box on the bottom). The portion on the right side at the base address is related to the output section and it features two text boxes for entering the destination and command values.

Finally, the section at base address +1 reports the lamp ON status for each one of the 16 groups.

Outline dimensions

Domino
DUEMMEGI
MILANO - ITALY
DFDALI64

ADDRESS

Us=85....265V~50-60Hz   L   N

90mm

53.5mm

58mm
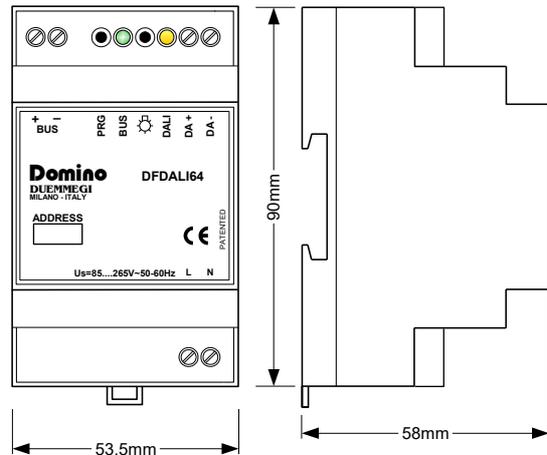
Technical characteristics

Supply voltage **Domino** bus side	By specific centralized power supply mod. DFPW2
Supply voltage DALI section	85 ÷ 265V~
Current consumption on **Domino** bus side	Equal to 2 standard **Domino** modules
MAX current consumption DALI section	3VA
Number of managed DALI devices	64 MAX
Number of generic commands	60 (I/V Table)
Operating temperature	-5 ÷ +50 °C
Storage temperature	-20 ÷ +70 °C
Protection degree	IP20

Note: this technical sheet applies to DFDALI64 modules equipped with firmware 1.1 or higher.

Correct disposal of this product

(Waste Electrical & Electronic Equipment) (Applicable in the European Union and other European countries with separate collection systems). This marking on the product, accessories or literature indicates that the product should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Installation and use restrictions

Standards and regulations

The design and the setting up of electrical systems must be performed according to the relevant standards, guidelines, specifications and regulations of the relevant country. The installation, configuration and programming of the devices must be carried out by trained personnel.

The installation and the wiring of the bus line and the related devices must be performed according to the recommendations of the manufacturers (reported on the specific data sheet of the product) and according to the applicable standards.

All the relevant safety regulations, e.g. accident prevention regulations, law on technical work equipment, must also be observed.

Safety instructions

Protect the unit against moisture, dirt and any kind of damage during transport, storage and operation. Do not operate the unit outside the specified technical data.

Never open the housing. If not otherwise specified, install in closed housing (e.g. distribution cabinet). Earth the unit at the terminals provided, if existing, for this purpose. Do not obstruct cooling of the units. Keep out of the reach of children.

Setting up

The physical address assignment and the setting of parameters (if any) must be performed by the specific softwares provided together the device or by the specific programmer. For the first installation of the device proceed according to the following guidelines:

- Check that any voltage supplying the plant has been removed
- Assign the address to module (if any)
- Install and wire the device according to the schematic diagrams on the specific data sheet of the product
- Only then switch on the 230Vac supplying the bus power supply and the other related circuits

Applied standards

This device complies with the essential requirements of the following directives:
2014/30/UE (EMC)
2014/35/UE (Low Voltage)
2011/65/UE (RoHS)

Note

Technical characteristics and this data sheet are subject to change without notice.