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TOUCH YOUR WORLD

Technical Manual
GATEWAY DALI/KNX

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Summary

1 Introduction

This manual describes the functions of the BX-DALI, KNX/DALI Gateway 64/16 device and how it can be set up and configured using the ETS configuration software.
The aim is to be able to program DALI addressing at the touch of a button, without a complex user interface with display screen, in order to facilitate the procedure and reduce programming time.
To start with, we need to know the number of identified devices in order to set them in the procedure mentioned below, to flash a certain channel and then locate it on the system or to program an individual device with the desired identifier. These are now operations that can be performed via the ETS and bus monitor.

2 Application and general details

2.1 Dali bus system specifications

DALI Digital Addressable Lighting Interface technology introduces digital into the lighting segment, making a simple lighting appliance compatible with even technologically advanced applications. In addition to the control of the lighting appliance, detailed information can be exchanged on its operating status or on the presence of faults. Lighting appliances thus become real devices and, thanks to the possibility of customising their parameters, they will behave as required.
The system allows sending switching and dimming commands and setting a defined brightness level, up to 64 Dali drivers for a total of 16 groups. In addition, the DALI protocol can be used to display other Dali driver status information and fault indications. Up to 64 Dali drivers (slaves) can be connected in a DALI segment.
Finally, 16 KNX scenarios are available that can be applied to dimming.

2.2 Device functions

The BX-DALI gateway is used to transform commands sent from the KNX Bus (e.g. switching and dimming commands) into DALI telegrams. In turn, status information from the DALI bus can be transformed into KNX telegrams, giving bi-directional direction.
The gateway is Category 1 (according to EN 62386-103), which means that the device must only be used in segments with connected DALI drivers (slaves) and not with other DALI control devices (masters), therefore no multi-master function is allowed.
The gateway, as Master device, provides power to a maximum of 64 Dali drivers/devices.

The device is capable of:

- Managing 16 DALI groups and/or individual addressing of up to 64 Dali drivers
- Addressing by push-button or group addresses
- Different operating modes for groups and Dali drivers such as permanent mode, night mode or "stair light" mode with individual switching for each light with specific burn-in
- Fault detection objects for each light/Dali driver
- Scenario module for extending scenario programming to groups and individual Dali drivers
- 'Quick exchange' function for quick and easy replacement of defective Dali drivers

3 Device commissioning

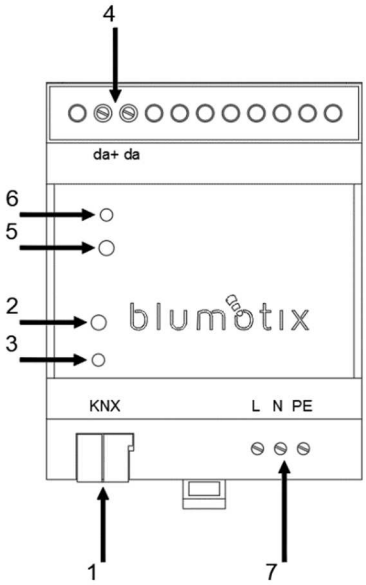
The commissioning of the DALI gateway can be carried out using the front button (5) for new installation and post-installation. For the rest of the configuration an ETS project has to be created in which group addresses have to be created and the Communication Objects assigned for the respective configurations. These new communication objects must be enabled in the ETS "configuration messages" settings - see relevant chapter.
The parameters of the Dali drivers / groups / scenarios can be configured by assigning the respective group address before the electrical installation is carried out.
This allows the system integrator using ETS and the electrician carrying out the installation to operate independently of each other.
Once electrical installation has been made, commissioning is completed via ETS as is its configuration.

The first step for successful configuration is to start the learning process named Inventory. This process allows all DALI Dali drivers connected to the DALI Bus to be recognised: they will be automatically recognised and each Dali driver will be assigned an address between 0 and 63.
In order to identify the DALI Dali drivers, the group address must be selected in which the data point has been assigned which allows controlling such function via the ETS Bus - see relevant chapter.

In order to re-assign the random enumeration order, the group address can be used in which has been assigned the communication Object that allows controlling this function via ETS Bus – see relevant chapter.
To download the DALI configuration, the Gateway application program must be downloaded via ETS: the data are downloaded onto the Dali drivers and the Gateway will signal the procedure with the rapid flashing of the green LED (6).
After programming, the ETS configuration must be downloaded to the Dali gateway within the ETS project: the Gateway will signal the procedure by means of a fast flashing green LED (6).

For a detailed description of commissioning, please read this documentation.

4 Start up



(1) KNX connector

(2) KNX programming button

(3) KNX programming status – Red indicator LED

(4) DALI bus connection terminals

(5) DALI function buttons

(6) DALI status – Green indicator LED

(7) 230Vdc mains supply terminal

4.1 Gateway start up

When the DALI Gateway device is powered from the 23V mains, after switching on it performs initialisation by searching for the connection to the KNX bus and the connection to the DALI bus.
If the device is new, no DALI and KNX signal LEDs will light up: the device is waiting to perform the configuration procedures of the DALI line and KNX bus.
If the device has already been programmed on the DALI bus side, the green LED no. 6 will be lit and will indicate the DALI line signal: this means that there are a number of DALI driver devices already recognised and ready to be controlled.

Green DALI LED	=	ON	=>	The Gateway has a number of recognised devices in memory
Green DALI LED	=	OFF	=>	The Gateway has no recognised device in memory

When the Gateway is first connected to a DALI line, automatic recognition of the connected DALI drivers must be performed and to each of them must be assigned a unique identification address for subsequent communication.

The Inventory procedure can be carried out in two different modes:

- Front button
- Using and assigning a group address to the pertinent communication Object.

The two different modes are shown below.

4.1.1 “Prolonged pressure” front button inventory

The procedure for recognising and programming the "Short Addresses" of the Dali Drivers known as "Inventory / New Installation" is started by pressing the button (5) for more than 5 seconds. Keep it pressed until the green LED (6) starts to flash very quickly.

At the end of the Short Address recognition and assignment procedure, if the Gateway has found and recognised at least one Dali driver, the green Led (6) will light up to signal the successful completion of the procedure. Another option is to use the ETS program – see relevant chapter.

Depending on the size of the DALI segment, the process may take up to 3/5 minutes.

4.1.2 “Short pressure” front button post-installation

To extend a DALI segment after the first inventory with new Dali drivers or to replace more than one faulty Dali driver, use the **"post-installation**" function. Post-installation can be carried out directly from the gateway via the front button (5) with a short press: in this case the LED will start flashing immediately and quickly.

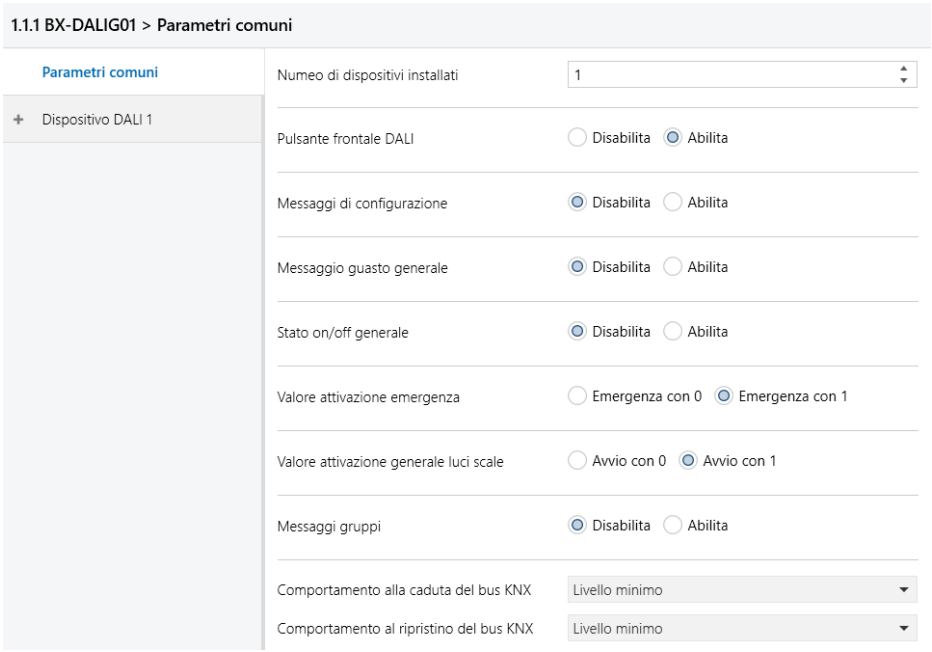
Another option is to use the ETS program - see relevant chapter. Depending on the size of the DALI segment, the process can take up to 3/5 minutes.

5 Common Parameters

The general device functions can be enabled inside this area.

5.1 Number of installed devices

Within this parameter it is always best to set the number of Dali Drivers to be controlled and which in turn are connected to the Gateway. In this way, the individual Dali Devices will be visible within the menu and it will be possible to set the parameters individually: the enumeration ranges from 1 to 64 devices. This information can also be set following the outcome of the number of Dali Drivers found received on the communication Object reserved for it - see relevant chapter.



5.2 DALI front button

Disabling this parameter allows the front button 5, reserved for Dali programming, to be disabled when the application program is downloaded

The button is factory enabled, as in the ETS library parameter.

5.3 Configuration messages

Enabling this parameter is essential to access the gateway configuration, thus enabling the Communication Objects for the configuration of Dali devices in their acquisition, enumeration and identification.

Messaggi di configurazione ○ Disabilita ◉ Abilita

Enabling the configuration messages also makes visible a second parameter concerning the programming of short addresses

Messaggi programmazione indirizzi DALI ○ Disabilita ◉ Abilita

Enabling of DALI address programming messages is deliberately kept separate and dedicated because unintentional use of the communication objects dedicated to these functions can lead to unintentional commands and accidental data.

Below are the Communication Objects made visible by both enabling operations.

50	Configurazione	Dispositivi DALI rilevati	1 byte	C	R	-	T	-	8-bit unsigned...	Basso
53	Configurazione	Inizio processo enumerazione	1 bit	C	-	W	-	-	1-bit, start/stop	Basso
54	Configurazione	Stato processo enumerazione	1 bit	C	R	-	T	-	1-bit, state	Basso
55	Configurazione	Inizio processo post-installazione	1 bit	C	-	W	-	-	1-bit, start/stop	Basso
56	Configurazione	Stato processo post-installazione	1 bit	C	R	-	T	-	1-bit, state	Basso
57	Configurazione	Inizio processo acquisizione	1 bit	C	-	W	-	-	1-bit, start/stop	Basso
58	Configurazione	Stato processo acquisizione	1 bit	C	R	-	T	-	1-bit, state	Basso
59	Configurazione	Prova di un dispositivo	1 byte	C	-	W	-	-	8-bit unsigned...	Basso
60	Configurazione	Dispositivo in prova	1 byte	C	R	-	T	-	8-bit unsigned...	Basso
61	Configurazione	Progr. indirizzo di tutti i dispositivi connessi	1 byte	C	R	W	T	-	8-bit unsigned...	Basso
62	Configurazione	Reset dispositivo (255=tutti)	1 byte	C	R	W	T	-	8-bit unsigned...	Basso
63	Configurazione	Imposta indirizzo dispositivo (1)	1 byte	C	R	W	T	-	8-bit unsigned...	Basso
64	Configurazione	Imposta indirizzo dispositivo (2)	1 byte	C	R	W	T	-	8-bit unsigned...	Basso
65	Configurazione	Esito progr/reset dispositivo	1 bit	C	R	-	T	-	1-bit, boolean	Basso

5.3.1 Communication Object #50 DALI devices found

50	Configurazione	Dispositivi DALI rilevati	1 byte	C	R	-	T	-	8-bit unsigned...	Basso

This 1-byte Communication Object, if associated with a group address, at the end of an inventory, start of enumeration process, post-installation the Gateway will always send a value between 1-64. During the enumeration process the number of the short Address assigned at that moment by the Dali gateway to the Driver in the field will be displayed live, at the end of the enumeration and therefore, after the last number shown inside the group address, the number of Dali drivers found on the line will be indicated.
If the telegram is lost, it is possible to make a reading on it by asking the Gateway directly for the information. This sending will take place both if the Inventory

command is executed from the front button (see relevant chapter) and from Communication Objects (see relevant chapter).

5.3.2 Communication Object #53 Start of enumeration process

53	Configurazione	Inizio processo enumerazione	1 bit	C	-	W	-	-	1-bit, start/stop	Basso

This 1-bit Communication Object, if associated with a group address, provides the option of writing the “active” value via the ETS bus monitor.
This will start the recognition and programming of the "Short Addresses" of the Dali Drivers called Inventory / New Installation. The green LED (6) will start flashing very fast indicating the start of the Inventory. At the end of the procedure for recognising and assigning Short Addresses, if the Gateway has found and recognised at least one Dali driver, the green LED (6) will light up to indicate the positive outcome of the procedure. Another possibility is to use the Dali programming button, (see relevant chapter). Depending on the size of the DALI segment, the process may take up to 3/5 minutes.

5.3.3 Communication Object #54 Status of enumeration process

54	Configurazione	Stato processo enumerazione	1 bit	C	R	-	T	-	1-bit, state	Basso

This 1-bit Communication Object, if associated with a group address, provides the option of writing the “active” value via the ETS bus monitor.
If the telegram is lost, it is possible to make a reading on it by asking the Gateway directly for the information.

Active	=>	Inventory running	=>	Green LED (6) flashes
inactive	=>	Inventory terminated	=>	Green LED (6) on steady

5.3.4 Communication Object #55 Start of post-installation process

55	Configurazione	Inizio processo post-installazione	1 bit	C	-	W	-	-	1-bit, start/stop	Basso

This 1-bit Communication Object, if associated with a group address, provides the option of writing the “active” value via the ETS bus monitor.
This will start the "post-installation" function: the LED (6) will start flashing immediately and quickly. This function is used to extend a DALI segment after the first Inventory with new Dali drivers or to replace more than one faulty Dali driver. Post-installation can also be done directly from the gateway by using the front button (5)

with a short press. Depending on the size of the DALI segment, the process can take up to 3/5 minutes.

5.3.5 Communication Object #56 Status of post-installation process

56	Configurazione	Stato processo post-installazione	1 bit	C	R	-	T	-	1-bit, state	Basso

This 1-bit Communication Object, if associated with a group address, provides the option of writing the “active” value via the ETS bus monitor.
If the telegram is lost, it is possible to take a reading from it by asking the Gateway directly for the information.

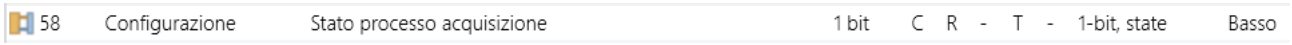
Active	=>	Inventory running	=>	Green LED (6) flashes
inactive	=>	Inventory terminated	=>	Green LED (6) on steady

5.3.6 Communication Object #57 Start of acquisition process

57	Configurazione	Inizio processo acquisizione	1 bit	C	-	W	-	-	1-bit, start/stop	Basso

This 1-bit Communication Object, if associated with a group address, provides the option of writing the “active” value via the ETS bus monitor.
This will start the acquisition of the "Short Addresses" of the Dali Drivers connected on the Dali line. The green LED (6) will begin to flash very quickly, indicating the start of acquisition. At the end of the Short Address recognition and assignment procedure, if the Gateway has found and recognised at least one Dali driver, the green Led (6) will light up to indicate the successful completion of the procedure. Depending on the size of the DALI segment, the process may take up to 3/5 minutes.
This procedure is particularly suitable for acquiring installations made with Gateways from different manufacturers: the assignment will always follow the enumeration from 1 to 64.
Please pay special attention: If a new enumeration has been given using a table within the existing gateway, the Blumotix Dali Gateway will acquire the Short Address present on the Dali Driver.

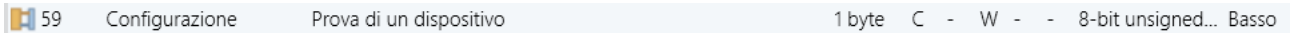
5.3.7 Communication Object #58 Status of acquisition process



This 1-bit Communication Object, if associated with a group address, will make it possible to receive the status of the acquisition process on the ETS bus monitor. If the telegram is lost, it is possible to take a reading from it by asking the Gateway directly for the information.

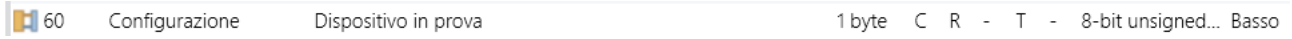
Active	=	Inventory running	=>	Green LED (6) flashes
inactive	=	Inventory terminated	=>	Green LED (6) on steady

5.3.8 Communication Object #59 Device test



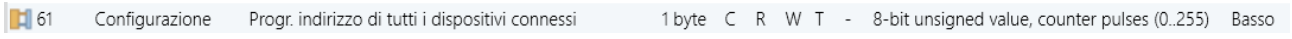
This 1-byte Communication Object, if associated with a group address, provides the chance to test the single Dali Driver by recalling the Short Address number assigned to it by the Gateway during acquisition. The value that can be set in hexadecimal follows a range from 1 to 64. If a valid index is set, the corresponding lamp starts flashing for a few seconds: it ends after about 15 flashes. Setting the value to zero stops the test. Setting the value 254 aborts any test in progress and activates the next index test.

5.3.9 Communication Object #60 Device being tested



This 1-byte Communication Object, if associated with a group address, provides the option of receiving, on the ETS bus monitor, the status showing the index (1-64) of the DALI device currently being tested (or the last one tested).

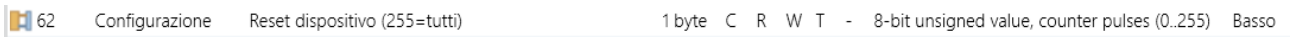
5.3.10 Communication Object #61 Prog. Address of all connected devices



This 1-byte Communication Object, if associated with a group address, allows a Short Address from 1-64 to be written on the currently-connected Dali bus line. This communication Object is particularly useful for pre-programming Dali drivers ahead of an installation, which must be connected in sequence one at a time.

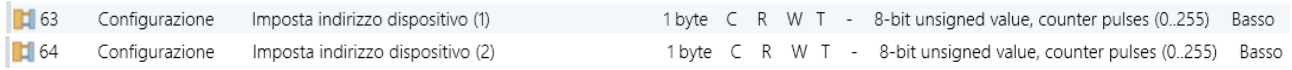
IMPORTANT: If more than one Driver is connected at the same time, these will be written with the same Short Address sent at that time, so be careful when using it. Refer to communication object #65 for the outcome of the command sent.

5.3.11 Communication Object #62 Reset device (255=all)



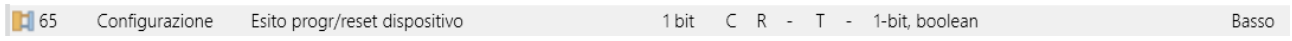
This 1-byte Communication Object, when associated with a group address, allows a factory reset of a specific Dali driver. By writing the Short Address 1-64 on the KNX bus, a reset will be sent to the chosen Dali driver.
IMPORTANT: The existing Short Address will also be deleted. By writing 255, a factory reset will be sent to all currently-connected Dali drivers on that Dali line, and will delete their short addresses.
For the outcome of the command sent, refer to communication object #65.

5.3.12 Communication Object #63 - #64 Set device address (1) - (2)



These 1-byte Communication Objects, when combined with a group address, make it possible to assign a different Short Address "Dali Driver number" from the one assigned during Inventory and post installation to a Dali Driver. In order to execute the command, a value from 1-64 must be sent to the KNX bus, and both communication objects must be used. These have no order of importance but must be executed the one after the other.
By sending the first and then the second value on the KNX bus, the Dali gateway will reverse the two Short Addresses. This new assignment will be written on the Dali Driver, assuming the two Dali Drivers are present in the system.
In the event of one of them not being present in the installation, the Gateway will assign the new number to the existing Dali Driver and delete the previously assigned number. This operation can also be useful for replacing a faulty Dali Driver.
Refer to communication object #65 for the outcome of the command sent.

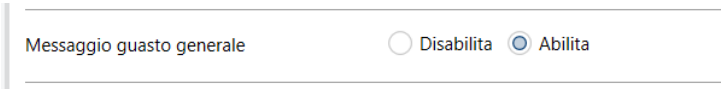
5.3.13 Communication Object #65 Prog/reset device outcome



This 1-byte Communication Object, when associated with a group address, allows the Dali gateway to receive confirmation of #61-#62-#63-#64

5.4 General fault messages

By enabling this parameter, Dali driver and lamp faults can be detected. The gateway supports this function by making a 1-bit Communication Object available.



The fault message corresponds to a faulty device or lamp.
The message will be sent in both fault cases.

Value received	=	1	=>	Driver fault Dali/Lamp
Value received	=	0	=>	No Driver fault Dali/Lamp

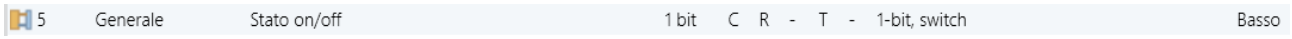
Then, within the individual Dali device settings, it will be possible to have the fault status also of the Dali driver with the individual Communication Object to send the information to the 1-bit KNX bus.

5.5 General on/off status

By enabling this parameter, it is possible to detect a general status value; when any status of the acquired Dali lamps changes, this Group Object will change status. In short, it is as if it were a logic gate in OR on the feedback of the statuses of the entire Gateway.

All devices / Groups	=	1	=>	Communication Object 1
All devices / Groups	=	0	=>	Communication Object 0

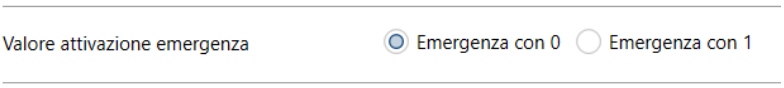
Upon enabling, the following will appear



This 1-bit Communication Object.

5.6 Emergency activation value

This parameter is part of the always-active Broadcasting messages.
Its activation value can be changed



The function of this object is to start or stop the panic-emergency mode in Broadcast on all Dali devices.

8	Generale	Attiva emergenza	1 bit	C	-	W	-	-	1-bit, alarm	Basso

This 1-bit Communication Object receives the enable/stop commands.
It will call up in Broadcast all devices enabled for this function with the possibility of assigning a dedicated setting to each Dali Driver (see relevant chapter).

5.7 General stair light activation value

This parameter is part of the always active Broadcasting messages. Its activation value can be changed.

The function of this object is to start the staircase light function in Broadcast on all Dali Devices.

3	Generale	Avvio luci scale	1 bit	C	-	W	-	-	1-bit, start/stop	Basso

This 1-bit Communication Object receives start/stop commands.
It will call up in Broadcast all devices enabled to this function with the possibility of assigning to each Dali Driver a dedicated setting (see relevant chapter).

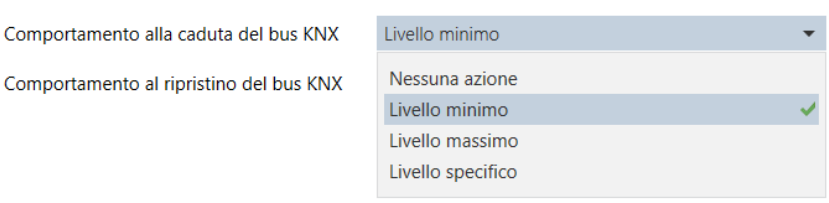
5.8 Group messages

This parameter enables the display of Group Objects dedicated to the 16 Dali Groups.

The numbered Communication Objects go from 100 Gruppo 1 to 192 Gruppo 16.
The individual groups can be controlled with different values and commands.

5.9 Behaviour in case of drop of KNX bus

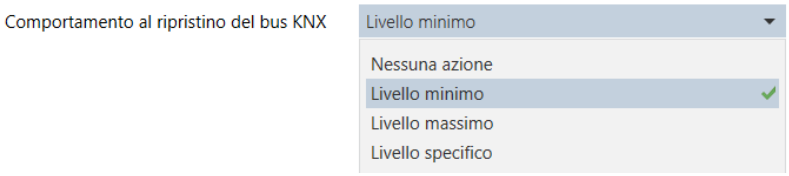
This parameter enables the possibility of defining a certain behaviour of the Gateway on Dali groups and devices, in the event of a power failure on the KNX bus.



The 'Specific level' allows the configuration of the brightness level to be reached following a KNX bus reset. In the "Specific level" parameter, a value from 0-100 (%) can be set.

5.10 Behaviour in case of reset of KNX bus

This parameter enables the possibility of defining a certain behaviour of the Gateway on Dali groups and devices, in the event of a current reset on the KNX Bus.



The "Specific level" is used to configure the brightness level to be reached after KNX bus reset. In the "Specific level" parameter, a value from 0 to 100 (%) can be set.

5.11 General communication objects

Some communication objects in this section are always visible, making it possible to send Broadcast and Gateway status messages.

5.11.1 Broadcast object #1 Set on/off

This object is used to switch on all lights connected to the Gateway. A delay may be visible between the switching off of the first and the last light. If no Dali driver is in special mode, switching is done simultaneously via DALI broadcast telegrams.

The Broadcast function always switches to 0 or 100%.

1	Generale	Imposta on/off	1 bit	C	-	W	-	-	1-bit, switch	Basso

This is a 1-bit communication Object.

5.11.2 Broadcast object #1 set %level

This object is used to set all connected lights to a certain % value. A delay between switching off the first and last light can be visible. If no Dali driver is in special mode, switching takes place simultaneously via DALI broadcast telegrams.

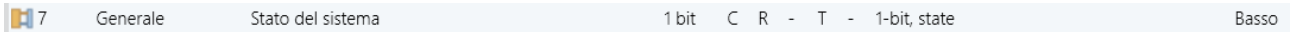
2	Generale	Imposta livello %	1 byte	C	-	W	-	-	8-bit unsigned value, percentage (0..100%)	Basso

This is a 1-byte communication Object.

5.11.3 System status signalling object

This Communication Object, when associated with a group address, allows the status of the Gateway to be monitored via the ETS bus monitor.

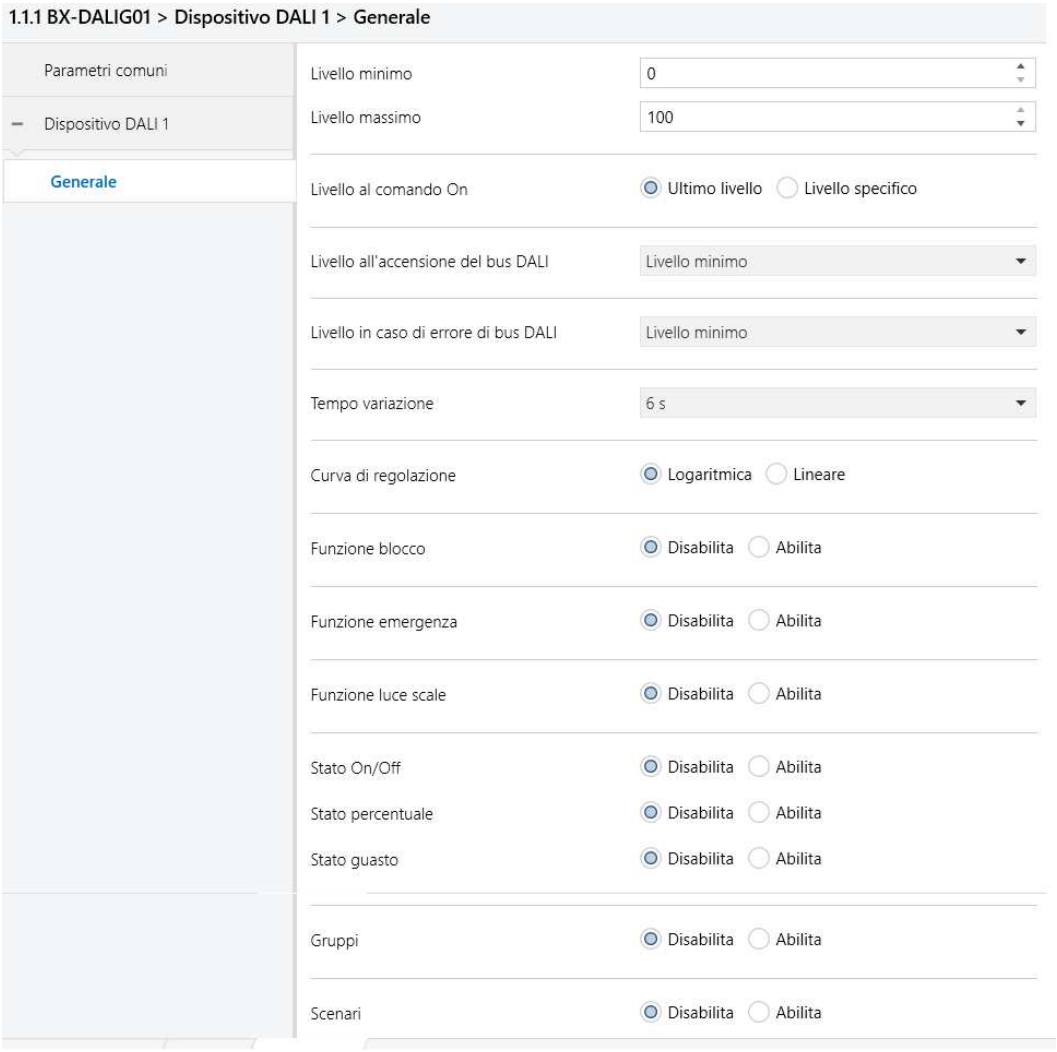
Active	=	1	=>	Gateway running: enumeration, post installation, download Dali bus
Inactive	=	0	=>	Gateway “free” not running: enumeration, post installation, download Dali bus



This is a 1-bit communication Object.

6 Dali Device Parameters xx

To set the parameters of the DALI devices/Dali Drivers, the desired Dali driver must be selected.



The number of Dali Drivers must be defined within the Common Parameters

6.1 DALI device xx - General

6.1.1 Lowest level

Within this parameter, the minimum and maximum % switching criteria can be set.

This parameter is used to establish the switch-off brightness value.

6.1.2 Highest level

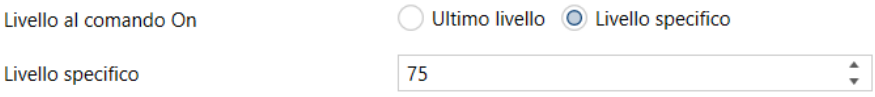
Within this parameter, the minimum and maximum % switching criteria can be set.

This parameter is used to establish the switch-on brightness value.

6.1.3 On command level

On receipt of the ON value (1), the Gateway brings the Dali Driver x to the % value before it was switched off.

By enabling the "**Specific level**" parameter, a % fixed value can be set at switch-on.



This value can be from 0 to 10 (%).

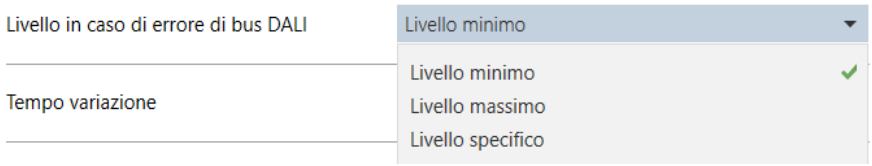
6.1.4 Dali bus switch-on level

With this parameter it is possible to configure the level that the Dali Drivers must reach after switching on their main power supply.

The 'Specific level' allows configuring the brightness level to be reached after the Dali bus is switched on.
It is possible to set a value from 0 to 100 (%).
The last level allows, when the Gateway is turned on, setting the Dali Driver to the value before it was turned off.

6.1.5 Level in case of Dali Bus error

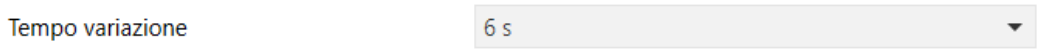
With this parameter it is possible to configure the level that the Dali Drivers must reach in the event of an error on the Dali Bus: more precisely, in the event of a wire break, short circuit or other similar malfunctioning conditions.



The 'Specific level' allows configuring the brightness level to be reached following a Dali bus error. A value from 0 to 100 (%) can be set.

6.1.6 Variation time

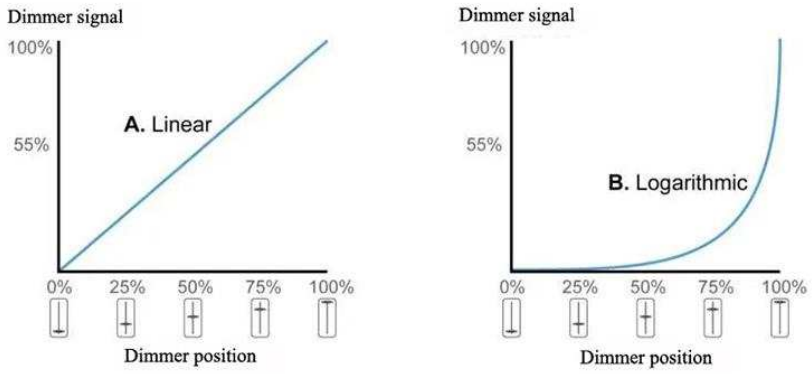
With this parameter, it is possible to configure the time it takes for the Dali Driver to adjust the brightness from the current level to the desired level. Whatever the start and end level, the time will always be the same.



6.1.7 Adjustment curve

With this parameter it is possible to configure a Dali Device Type 6 that contains specific commands for lighting appliances with LED light sources.

In particular, support is provided for changing the dimming curve from logarithmic (default) to linear in the case of user-replaceable lighting appliances with different wattages.



In the DALI protocol a logarithmic dimming curve is used by default. This is because our eye does not perceive intensity variation in a linear fashion, as conventional lamps have a great deal of similarity to this type of logarithmic control.

6.1.8 Block function

When this function is enabled, a dedicated sub-menu appears

This function allows the Dali Driver to be blocked in a certain condition following the receipt of the communication Object that activates the block function; until it is deactivated, any command received on all other incoming communication objects will not be executed.
The block function is therefore the function with the highest priority.
The available communication objects are as follows

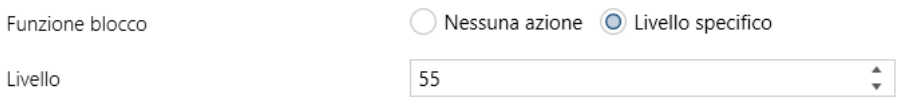
202	Dispositivo 1	Imposta blocco	1 bit	C	-	W	-	-	1-bit, enable	Basso
208	Dispositivo 1	Stato blocco	1 bit	C	R	-	T	-	1-bit, state	Basso

The Communication Object "Block Status" will also be available for transmission of the active/inactive status information.

Block activation value: Two activation modes can be selected to determine at which logical value received via the Communication Object the function will be activated

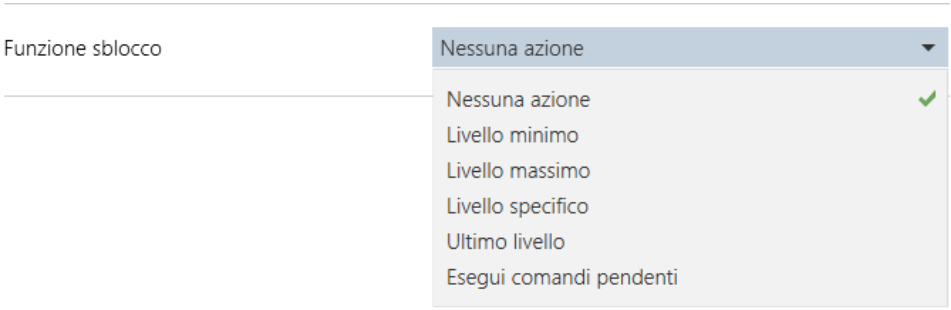
When the Knx bus is written on the object #202, the Dali Driver will not receive any other commands and will remain frozen in the position defined in the Block Function parameter. When it is unblocked, it will be possible to establish the status of the channel from Unblock Function parameter.

Block function: this parameter sets the status of the Dali driver at the time of the received block command.
_No action, current status is maintained. If the block command is sent while the control ramp is in progress, the control ramp will end regularly until the required value is reached. Only after the end of the current command will no further commands be executed.
_Specific level: sets the status of the channel when the block function is activated.



Allows configuring the brightness level to be reached following the Block command.
A value from 0 to 100 (%) can be set.

Unblock function: this parameter allows the status of the Dali driver to be set at the moment of the received block command.



_Lowest level, will be set to the value defined within the general parameters
_Highest level, will be set to the value defined within the general parameters
_Specific level, the brightness level to be reached following the Unblock command will be set. A value from 0 to 100 (%) can be set (%). In this case, the level of the Dali Driver dimming value is automatically changed to the set value.
_Last level, will be set to the last power on value and brightness value the channel is at by any command, before powering off.
_Execute pending commands, will be set to the value of the last command received as if the command execution had started at the instant it was actually received. In essence, the command is executed in the background and is applied to the output at the time the block is deactivated. If no telegram is received during the block activation period, when the block is deactivated the channel returns to the conditions that existed before its activation.

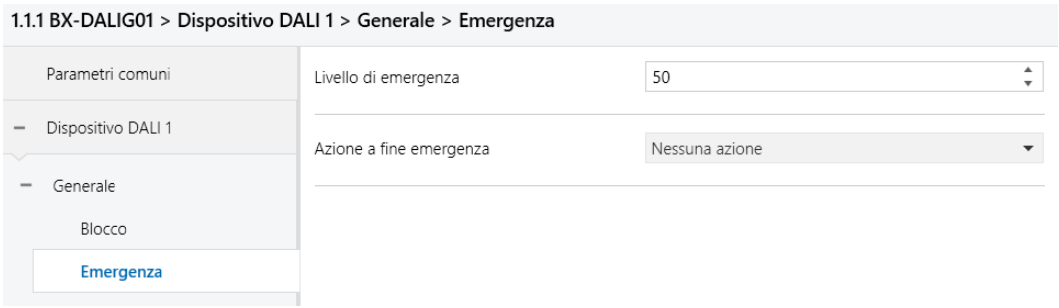
6.1.9 Priority of block Function

If there is an adjustment in progress at the time of the block command, behaviour will be different depending on the "Block function" parameter set and indicated above.

Disable	=>	block function disabled and not activated
No action	=>	the adjustment under way is terminated at the originally commanded level
Specific level	=>	the adjustment under way is interrupted and is activated towards the level specified by the “Specific level” parameter

6.1.10 Emergency function

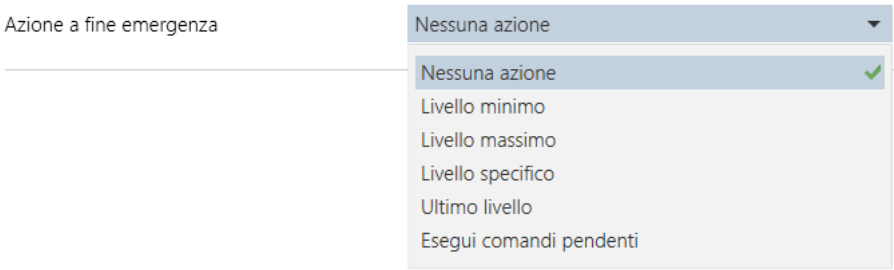
When this function is enabled, a dedicated sub-menu appears



With this parameter the emergency function can be enabled; in this case the Dali Driver will be called by the Broadcast message of the general commands. Below is the available communication Object

Within the "Emergency level" field, it is possible to configure the level of brightness that will be set upon activation
A value from 0-100 (%) can be set.

End of emergency action: This parameter sets the status of the Dali driver at the end of the emergency status.

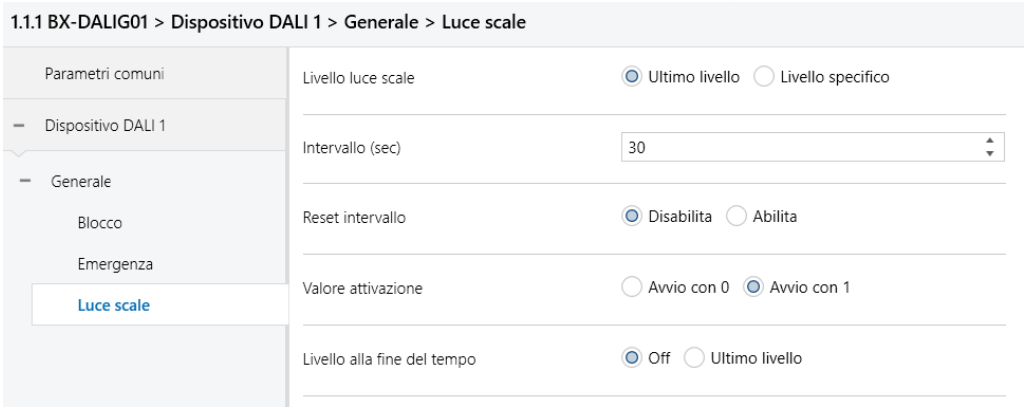


_Lowest level, will be set to the value defined within the general parameters
_Highest level, will be set to the value defined within the general parameters
_Specific level, the brightness level to be reached following the Unblock command will be set. A value from 0 to 100 (%) can be set (%). In this case, the level of the Dali Driver dimming value is automatically changed to the set value.
_Last level, will be set to the last power on value and brightness value the channel is at by any command, before powering off.

_Execute pending commands, will be set to the value of the last command received as if the command execution had started at the instant it was actually received. In essence, the command is executed in the background and is applied to the output at the time the block is deactivated. If no telegram is received during the block activation period, when the block is deactivated the channel returns to the conditions prior to its activation.

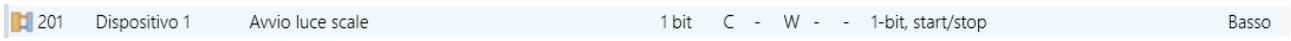
6.1.11 Stair lights function

When this function is enabled, a dedicated sub-menu appears



Activating this parameter will make the communication objects visible and configure the staircase light function for individual Dali Drivers. It can also be called up by the Broadcast message of the general commands.

The staircase light function can be activated via the individual Communication Object. Below is the available communication Object



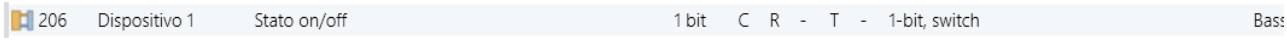
When activated, various settings can be selected:
_Staircase light level, by setting last level the current % level is maintained/recalled for the duration of the time interval with scale in seconds. It is possible to set a specific level

the brightness level to be reached following the Unblock command will be set. A value from 0 to 100 (%) can be set. In this case, the level of the Dali Driver dimming value is automatically changed to the set value.
_Interval (sec), allows defining the number of hours, minutes, seconds of duration of the staircase light activation time. The value is expressed in seconds

_Interval reset, if the mode is enabled on the arrival of a further command on the Communication Object "Start staircase light" will reset the timer, lengthening the start-up time by a factor and restarting it at the set time.
_ Activation value, with this parameter it is possible to select two activation modes that determine at which logical value, received via the Communication Object, the function will be activated.
_Level at end of time, there are two settings that can be set. When set to Off, at the end of the time interval, the Dali driver will set to the 0%/Off value. When set to Last level, at the end of the time interval, the Dali driver will set to the last % value received before the stair light command.

6.1.12 On/off status

With this parameter, the On/Off status object can be enabled, the device will signal the ON/OFF status information.



This is a 1-bit communication Object.

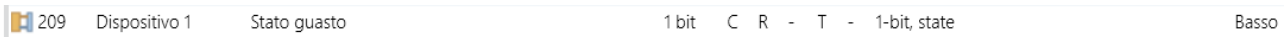
6.1.13 Percentage status

With this parameter the "Level Status" object can be enabled; the device will signal status information brightness value in %.

This is a 1-byte communication Object.

6.1.14 Fault status

With this parameter the "Fault Status" object can be enabled and the device will signal the information with error Active/Inactive status of the Dali Driver.

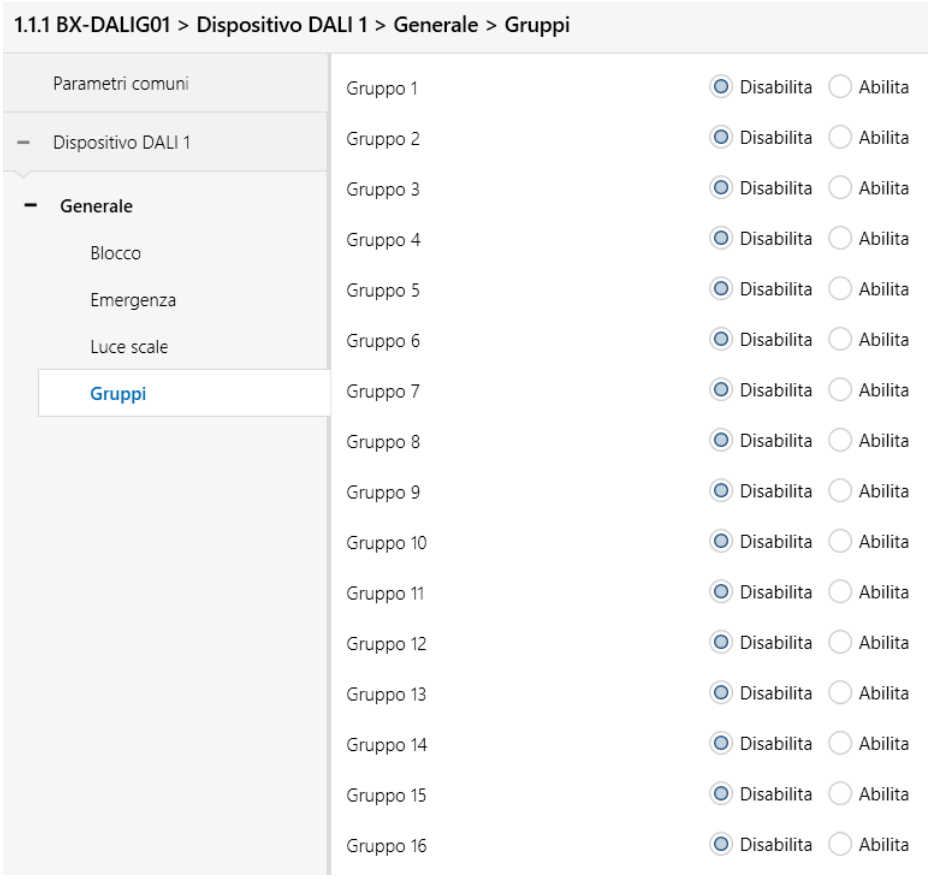


This is a 1-bit communication Object.

6.1.15 Groups

This parameter can be used to enable the area within the parameters of each individual Dali device for association with Dali groups.

Within the Groups area, it is possible to assign the 16 groups for all possible 64 Dali Drivers, once identified on the system. The special feature of the Gateway is that it allows the assignment of a Dali Driver to different Groups.



6.1.16 Scenarios

With this parameter the scenario dedicated to the individual Dali Driver can be enabled for a total of 16 scenarios.

In the Scenarios area it is possible to assign the 16 scenarios for the selected Dali driver. The Gateway only allows scenario assignment on the individual Dali Driver.

The scenarios function allows a certain status to be replicated that has been pre-set in the Level area or previously stored by enabling the Save function. On receipt of the scenario execution command on the Communication Object dedicated to it, the desired scenario will be called up.

205	Dispositivo 1	Scenario	1 byte	C	-	W	-	-	scene control, scene control	Basso

This is a 1-byte communication Object.

6.2 Communication objects dedicated to the Dali Drivers

The objects available for each individual Dali Driver are displayed in the "Dali Device" menu.
There are 10 Communication Objects of various values available. These are available for the 64 devices connected to the Dali Gateway. The objects can be set for the actual number of Dali Drivers recognised during Dali Bus Acquisition. The connected lamps can therefore be controlled either individually or in groups dedicated to them.
The available objects are as follows

200	Dispositivo 1	Imposta on/off	1 bit	C	-	W	-	-	1-bit, switch	Basso
201	Dispositivo 1	Avvio luce scale	1 bit	C	-	W	-	-	1-bit, start/stop	Basso
202	Dispositivo 1	Imposta blocco	1 bit	C	-	W	-	-	1-bit, enable	Basso
203	Dispositivo 1	Regola livello	4 bit	C	-	W	-	-	3-bit controlled, dimming control	Basso
204	Dispositivo 1	Imposta livello %	1 byte	C	-	W	-	-	8-bit unsigned value, percentage (0..100%)	Basso
205	Dispositivo 1	Scenario	1 byte	C	-	W	-	-	scene control, scene control	Basso
206	Dispositivo 1	Stato on/off	1 bit	C	R	-	T	-	1-bit, switch	Basso
207	Dispositivo 1	Stato livello %	1 byte	C	R	-	T	-	8-bit unsigned value, percentage (0..100%)	Basso
208	Dispositivo 1	Stato blocco	1 bit	C	R	-	T	-	1-bit, state	Basso
209	Dispositivo 1	Stato guasto	1 bit	C	R	-	T	-	1-bit, state	Basso

The above-indicated Communication Objects are shown below.

6.2.1 Device x_ Set on/off

This object is used to command a Dali driver; this command will not be executed in the event of the Dali driver being in a particular mode (See function priority). This 1-bit Communication Object receives ON/OFF commands.

6.2.2 Device x_ Set % level

This object is used to set the brightness value to the Dali driver at a specific % value. This command will not be executed in the event of the Dali driver being in a particular mode (See function priority). This 1-byte Communication Object receives the value commands from 0-100%.

6.2.3 Device x_ Level adjustment

This object is used to dim a Dali driver. This command will not be executed in the event of the Dali driver being in a particular mode (See function priority). The standard coding of the command allows both the differentiation of the dimming direction (increase or decrease) and the value of the dimming step itself. This 4-bit Communication Object receives the increase/decrease commands.

6.3 Communication Objects dedicated to the Groups

The objects available for each individual group are activated in the "Common Parameters" menu.

There are 3 communication objects of various values available. These are available for the 16 Groups. The objects will be enabled for the total of 16 available Groups. Those identified in the properties of the individual Dali Driver can be used, leaving the group not involved in the function unused.

100	Gruppo 1	Imposta on/off	1 bit	C	-	W	-	-	1-bit, switch	Basso
101	Gruppo 1	Regola livello	4 bit	C	-	W	-	-	3-bit controlled, dimming control	Basso
102	Gruppo 1	Imposta livello %	1 byte	C	-	W	-	-	8-bit unsigned value, percentage (0..100%)	Basso

The Communication Objects not indicated above are indicated below.

6.3.1 Group x Set on/off

This object is used to command a group x of Dali drivers. This command will not be executed in the event of the Dali driver being in a particular mode (See function priority). This 1-bit Communication Object receives ON/OFF commands

6.3.2 Group x_ Level adjustment

This object is used to dim a group x of Dali drivers. This command will not be executed in the event of the Dali driver being in a particular mode (See function priority). The standard coding of the command allows both the differentiation of the dimming direction (increase or decrease) and the value of the dimming step itself. This 4-bit Communication Object receives the increase/decrease commands.

6.3.3 Group x_ Set % level

This object is used to set the brightness value of a group x of Dali drivers to a specific % value. This command will not be executed in the event of the Dali driver being in a particular mode (See function priority). This 1-byte Communication Object receives value commands from 0-100%.

Note:

Due to the structure of this Dali Gateway, many of the Communication Objects on the Gateway are individual and therefore freely usable by the programmer. This is done in order not to make the configuration redundant.

Priority of functions

All “normal” commands from group objects have the same priority; i.e. the last to arrive wins.
In summary, one interrupts the other and activates its specific action.

For the parameters of:
block, emergency, Dali bus error, KNX bus drop/reset.
These conditions have priority over normal commands sent by Communication Objects. Those below come in the following order:
- KNX bus failure has the highest priority as without KNX, no further commands can be given.
- Emergency condition
- Block