VIMAR

01538
Dimmer KNX 2 OUT 200W LED 120-240 V~

BUILDING AUTOMATION

WELL-CONTACT PLUS

Contents

GENERAL CHARACTERISTICS AND FUNCTIONS

COMMUNICATION OBJECTS

For all the details about the Well-contact Plus system, refer to the installer manual that can be downloaded from the Software ➡ Product Software ➡ Well-contact Plus section of the website: www.vimar.com.

Dimmer for LED 120/240V~

General characteristics and functions

Universal phase cutting dimmer 120-240 V~ 50/60 Hz, 2 outputs for incandescent lamps 40-300 W at 240 V~, 20-150 W at 120 V~, electronic transformers 40-200 VA, CFL lamps 10-200 W, LED lamps 10-200 W, push buttons for local control, KNX standard, protection fuse, installation on DIN rails (60715 TH35), occupies 4 modules size 17.5 mm.


01538

Description

2-output dimmer actuator with push buttons for manual operation. MOSFET microprocessor technology, works in both LE (Leading Edge) and TE (Trailing edge) modes and is equipped with protection fuse. The device receives controls directly from the KNX bus and is able to control the load directly.

IMPORTANT: Lamps controllable from a single output must all be the same. All controllable loads must be declared DIMMABLE by the manufacturer. Check the type of compatible dimming on the lamp packaging: LE (Leading Edge) or TE (Trailing Edge). Where not specified, the lamp works in both modes, at the discretion of the installer; choose the type of dimming that ensures the best lamp operation.

Dimming with leading edge LE phase control
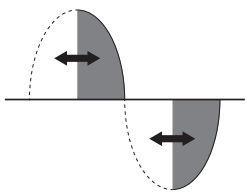
Dimming with trailing edge TE phase control
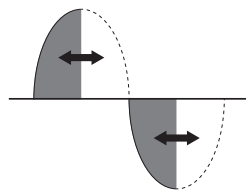
Characteristics
• KNX BUS Rated supply voltage: 29 V
• Mains rated supply voltage: 120-240 V~, 50/60 Hz
• Dissipated power at 120 V: 12 W
• Dissipated power at 240 V: 5 W
• Absorption from TP bus: 15 mA
• Dissipated power: 5.5 W
• Terminals: N neutral, ⌁ load 1, ⌁ load 2, L phase, KNX bus
• Parallelizable ⌁ load 1 and ⌁ load 2 outputs
• High breaking capacity fuse type F5AH250V
• Possible functions of the dimmer:
  - lights on, lights off and light control
  - absolute brightness change
  - actuating/saving scenarios
  - customisable lighting ramps
  - off delay and warning function
  - phase control: LE/TE

• Protection against short-circuit on lighting with flashing-lamp blow-out detector.
• Thermal protection with flashing-lamp blow-out detector.
• Operating temperature -5 °C +45 °C (indoor)
• IP20 protection degree

Controllable controls

• Controllable loads at 120 V~

Controllable loads	LE	TE
☼	20 - 150 W	20 - 150 W
▯	5 - 50 W (max 5 lamps)	5 - 100 W (max 10 lamps)
▯	3 - 50 W (max 10 lamps)	3 - 100 W (max 10 lamps)
⬚⊗	20 - 150 VA (max 3 ▭ type transformers)	20 - 150 VA (max 5 ▭ type transformers)
Power supply units 01874-01875	max 5 power supply units	Not applicable
Lamps 02662	max 5 lamps	Not applicable

• Controllable loads at 240 V~

Controllable loads	LE	TE
☼	40 - 300 W	40 - 300 W
▯	10 - 100 W (max 5 lamps)	10 - 200 W (max 10 lamps)
▯	3 - 100 W (max 10 lamps)	3 - 200 W (max 10 lamps)
⬚⊗	40 - 300 VA (max 3 ▭ type transformers)	40 - 300 VA (max 5 ▭ type transformers)
Power supply units 01874-01875	max 10 power supply units	Not applicable
Lamps 02662	max 10 lamps	Not applicable

Local controls

Pressing the ✋ button enables the use of local buttons. All messages from the bus are ignored.
- Briefly pressing the ✳ button: Lights on control
- Briefly pressing the ✳ button: Lights off control
- Prolonged pressing of the ✳ button: Increase in brightness
- Prolonged pressing of the ✳ button: Decrease in brightness

In normal operation (that is when the commands are sent over the bus) pressing the buttons relating to the outputs is ignored.

LED indications
• All LEDs flashing at the same time: no mains voltage.
• Push button LED on: output configured in the KNX system with ON-OFF status.
• Push button LED flashing: current or thermal protection activated for the respective output.
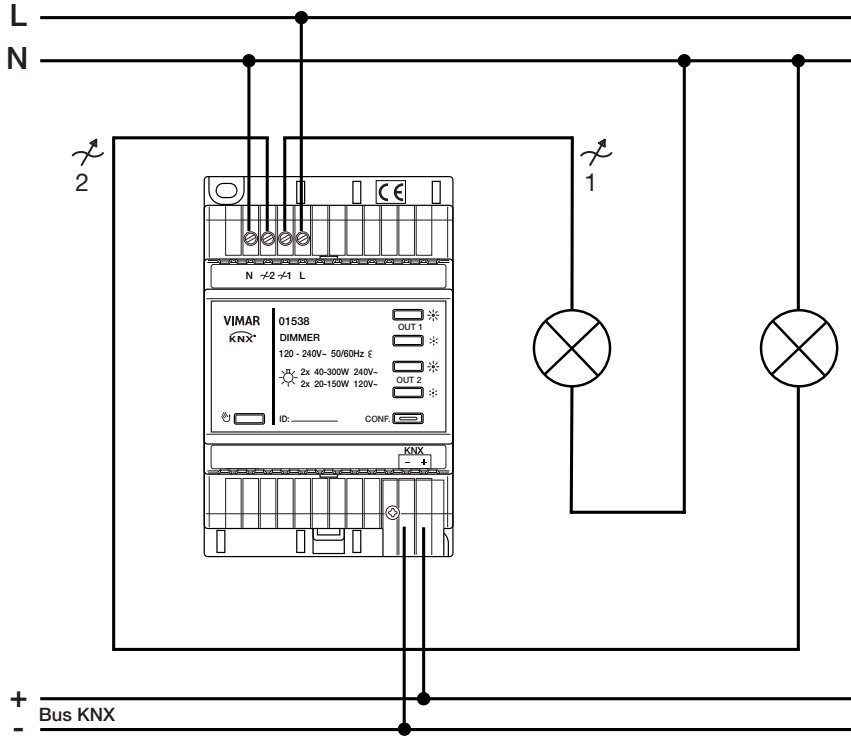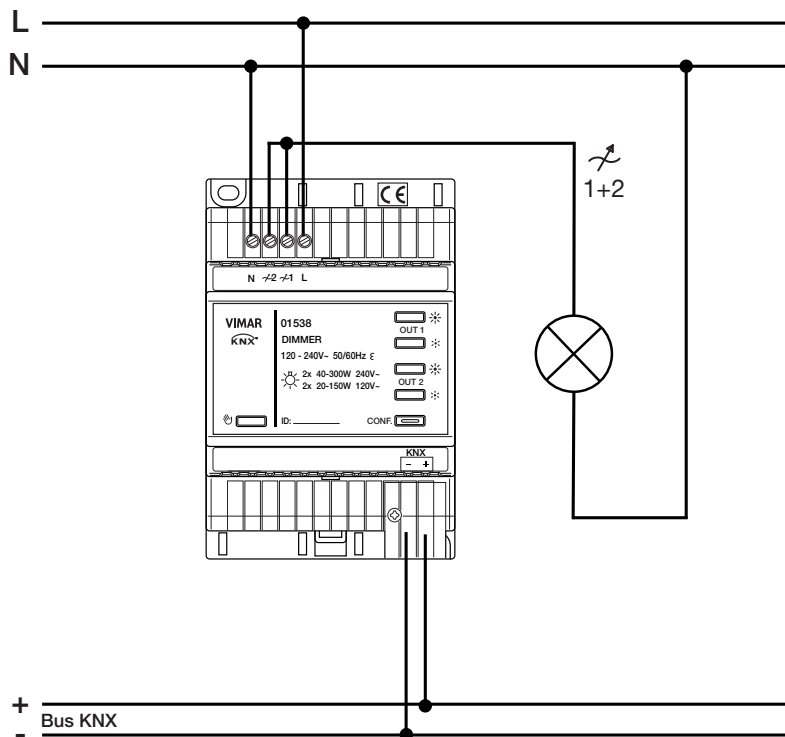• Configuration LED flashing: device not configured.

Dimmer for LED 120/240V~

General characteristics and functions

CONNECTIONS

Connection with separate outputs.

Connection with parallel outputs.

Dimmer for LED 120/240V~

Communication objects and ETS parameters

Output communication objects

Numero *	Nome	Funzione Oggetto	Descrizione	Indirizzo di Gruppo	Lunghezza	C	R	W	T	U	Tipo Dato	Priorità
0	Out A	Switch on/off			1 bit	C	-	W	-	-	switch	Bassa
1	Out A	Relative set value			4 bit	C	-	W	-	-	dimming control	Bassa
2	Out A	Absolute set value			1 byte	C	-	W	-	-	percentage (0..100%)	Bassa
3	Out A	Block			1 bit	C	-	W	-	-	enable	Bassa
7	Out A	State			1 bit	C	R	-	T	-	switch	Bassa
8	Out A	Absolute value			1 byte	C	R	-	T	-	percentage (0..100%)	Bassa
9	Out A	Alarm			1 bit	C	R	-	T	-	alarm	Bassa
11	Out B	Switch on/off			1 bit	C	-	W	-	-	switch	Bassa
12	Out B	Relative set value			4 bit	C	-	W	-	-	dimming control	Bassa
13	Out B	Absolute set value			1 byte	C	-	W	-	-	percentage (0..100%)	Bassa
14	Out B	Block			1 bit	C	-	W	-	-	enable	Bassa
18	Out B	State			1 bit	C	R	-	T	-	switch	Bassa
19	Out B	Absolute value			1 byte	C	R	-	T	-	percentage (0..100%)	Bassa
20	Out B	Alarm			1 bit	C	R	-	T	-	alarm	Bassa
22	General	Main Fault			1 bit	C	R	-	T	-	alarm	Bassa

Example: *Output A*, *Output B* separate.

Channel communication objects, with default settings

Number	Name in ETS	Function in ETS	Description	Length	Flag 1 C	R	W	T	U
0	Out A	On/Off switch	Object used to power-on or power-down of the output (1=On,0=OFF)	1 bit	X		X		
1	Out A	Relative value	Object used for output brightness adjustment. If the output is off, the receipt of a control on this object does not cause any status change.	4 bit	X		X		
2	Out A	Absolute value	Object used to set the absolute value of the output brightness (0%=minimum,100%=maximum). If the output is off, the receipt of a value activates the output.	1 byte	X		X		
3	Out A	Block	Object used to block the status of the output. Use parameters: State at the beginning of the block state — no change State at the end of the block state — no change to set the behaviour at the start or at the end of the block action. During the block, the device does not accept any other controls.	1 bit	X		X		
4	Out A	Forced	Object used to force the status of the output, according to the following values: • Forced ON activation (output = 100%) • Forced ON deactivation • Forced OFF activation (output = off) • Forced OFF deactivation During forcing, the device does not accept any other controls.	2 bit	X		X		
5	Out A	Timed	Object only active if parameter enabled: Output type — ○ Switch ● Staircase The object is used to activate the timed output, the duration is set on parameter: Timed on duration — 120 s The OFF control immediately switches off the load.	1 bit	X		X		
6	Out A	Scenario	Object only active if parameter enabled: Scene — ○ not active ● active The object is used to save or activate a scenario.	1 byte	X		X		
7	Out A	Status	Output status information object.	1 bit	X	X			X
8	Out A	Absolute value	Output adjustment value information object.	1 byte	X	X			X
9	Out A	Alarm	Output alarm status information object. Generic alarm due to overtemperature or overcurrent. The alarm is reset if the cause has been remedied, after a power-down event or performing an off control in manual mode. In the event of an alarm, both outputs switch to off status.	1 bit	X	X			X
10	Out A	**Not used**							

Continued

C = Communication, **R** = Read, **W** = Write, **T** = Transmission, **U** = Enable update

COMMUNICATION OBJECTS

Dimmer for LED 120/240V~

Communication objects and ETS parameters

Continued

Number	Name in ETS	Function in ETS	Description	Length	C	R	W	T	U
					Flag 1				
11	Out B	On/Off switch	Object used to power-on or power-down of the output (1=On,0=OFF).	1 bit	X		X		
12	Out B	Relative value	Object used for output brightness adjustment. If the output is off, the receipt of a control on this object does not cause any status change.	4 bit	X		X		
13	Out B	Absolute value	Object used to set the absolute value of the output brightness (0%=minimum,100%=maximum). If the output is off, the receipt of a value activates the output.	1 byte	X		X		
14	Out B	Block	Object used to block the status of the output. Use parameters: State at the beginning of the block state — no change State at the end of the block state — no change to set the behaviour at the start or at the end of the block action. During the block, the device does not accept any other controls.	1 bit	X		X		
15	Out B	Forced	Object used to force the status of the output, according to the following values: • Forced ON activation (output = 100%) • Forced ON deactivation • Forced OFF activation (output = off) • Forced OFF deactivation During forcing, the device does not accept any other controls.	2 bit	X		X		
16	Out B	Timed	Object only active if parameter enabled: Output type — ○ Switch ◉ Staircase The object is used to activate the timed output, the duration is set on parameter: Timed on duration — 120 s The OFF control immediately switches off the load.	1 bit	X		X		
17	Out B	Scenario	Object only active if parameter enabled: Scene — ○ not active ◉ active The object is used to save or activate a scenario.	1 byte	X		X		
18	Out B	Status	Output status information object.	1 bit	X		X	X	
19	Out B	Absolute value	Output adjustment value information object	1 bit	X		X	X	
20	Out B	Alarm	Output alarm status information object. Generic alarm due to overtemperature or overcurrent. The alarm is reset if the cause has been remedied, after a power-down event or performing an off control in manual mode. In the event of an alarm, both outputs switch to off status.	1 bit	X		X	X	
21	Out B	**Not used**							
22	General	No network	Presence of mains voltage or not information object.	1 bit	X		X	X	

C = Communication, **R** = Read, W = Write, **T** = Transmission, **U** = Enable update

# Dimmer for LED 120/240V~

Communication objects and ETS parameters

Reference ETS parameters

General
You can choose whether to operate the two dimmer outputs jointly or separately and define the quality of telegrams to send to the bus.

A/B parameters - general

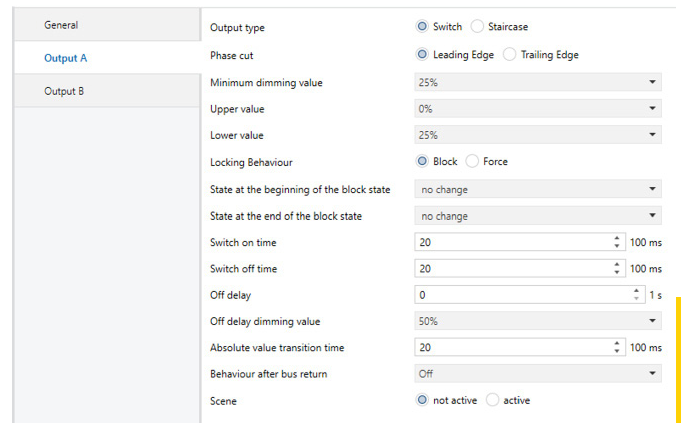| Parameter	Description
Output separation	Sets parameter settings independently for the two outputs and vice-versa
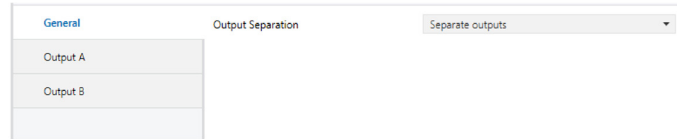
general A/B parameters

A/B parameters - Output
These manage the response statuses for the controls and brightness adjustments, define behaviour for power failures and hardware details for the load to be controlled.

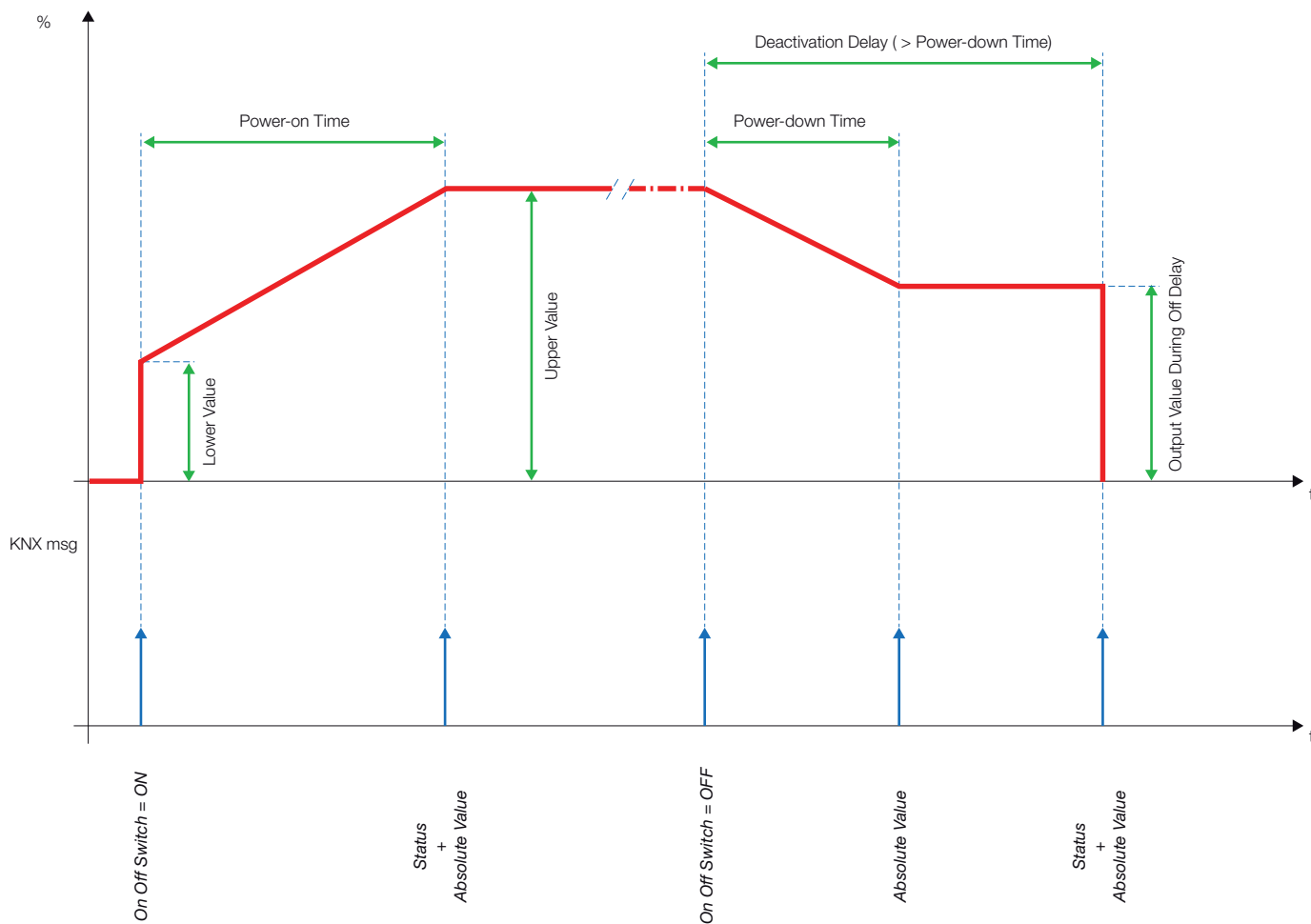| Parameter	Description
Output type	The parameter sets the type of output behaviour. Permissible values [0-1]: • Switching to enable classic operation • Stair lights to enable timed operation
Phase cutting	The parameter defines the phase cutting edge of the control on the output. Permissible values [0-1]: • Leading edge phase cutting • Trailing edge phase cutting
Minimum value	The parameter defines the minimum value during adjustment. Permissible values [0… 100] % The minimum permissible value by the driver is 15%, lower values can be set but they are adapted by the driver during adjustment.
Duration	The parameter defines the duration of the timed/one-position stable behaviour. Permissible values [1… 30000] s Only active if the Output type parameter is Stair Lights
Upper value	The parameter defines the upper value used by the ramp during power-on. Only active at the request of the On Off switch object. Permissible values [0… 100] % Unless specified (=0), the value used is the last value set in the output. Values below the Lower value parameter are permitted in write, but will be set to the Lower value parameter value
Lower value	The parameter defines the lower value used by the ramp. Only active at the request of the On Off switch object. Permissible values [0… 100] %
Behaviour at block	The parameter defines the type of suspension to carry out. Possible values [0… 1]: 0 = block 1 = forced
Status at block start	The parameter defines the behaviour of the output when a block start control is received. Possible values [0… 2]: 0 = off 1 = on 2 = unchanged

Output A/B parameters

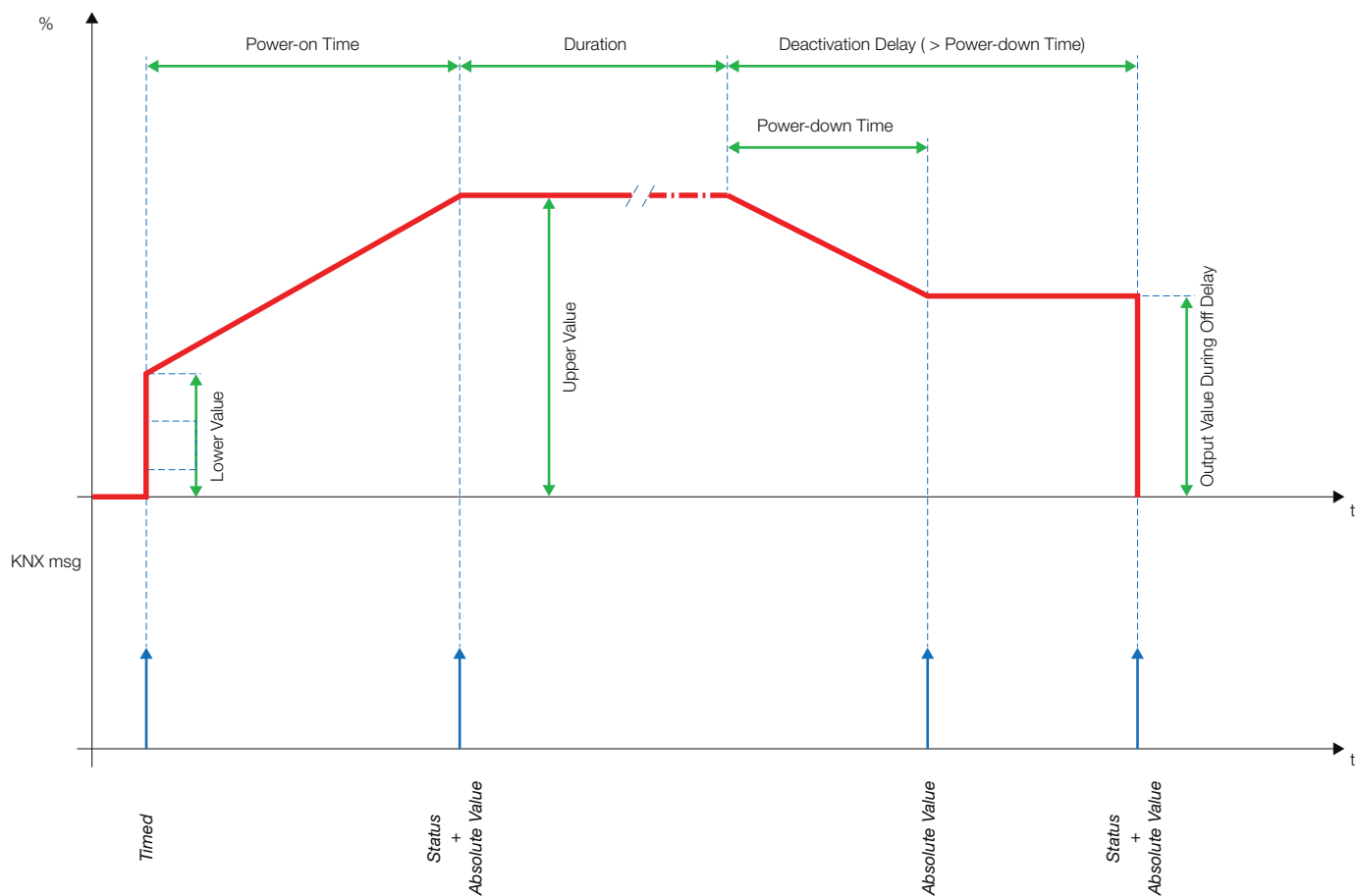Continued

Communication objects and ETS parameters

Continued

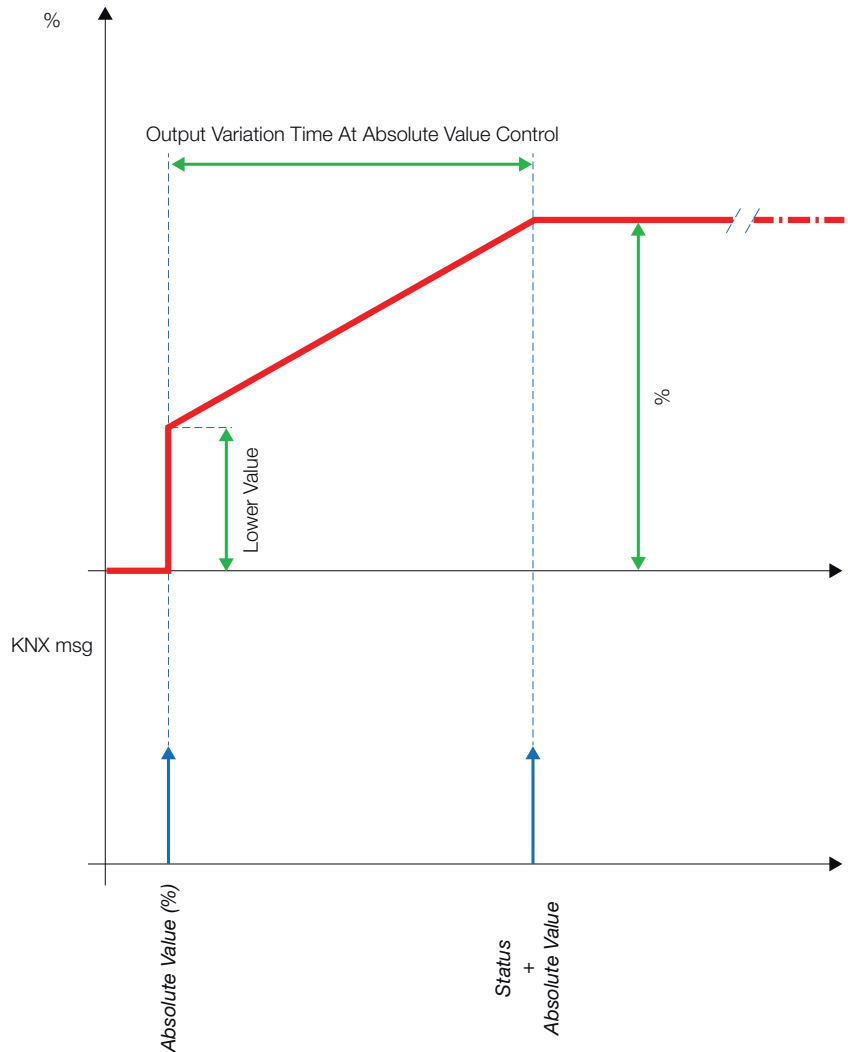| Parameter	Description
Status at block end	The parameter defines the behaviour of the output when a block end control is received. Possible values [0… 3]: 0 = off 1 = on 2 = unchanged 3 = value prior to forcing
Power-on time	The parameter defines the duration of the ramp at power-on from the value of the Lower value parameter to the value of the Upper value parameter. If = 0, the ramp is determined by the Output Variation Time At Absolute Value Control parameter or possibly by the hardware. Permissible values [0… 65535] with time base 100ms 0 = hardware default 1 = 100ms = maximum speed
Power-down time	The parameter defines the duration of the ramp at power-down from the value of the Upper value parameter to the value of the Lower value parameter. If = 0, the ramp is determined by the Output Variation Time At Absolute Value Control parameter or possibly by the hardware. Permissible values [0… 65535] with time base 100ms 0 = hardware default 1 = 100ms = maximum speed
Deactivation delay	The parameter defines the output power-down delay after the OFF control is received. On receipt of the OFF control, the dimmer, where possible, moves to the Output Value During Off Delay parameter value and then switches off after the time set. Permissible values [0… 65535] s 0 = no delay 1 = 1sec
Output Value During Off Delay	The parameter, where enabled (≠0), defines the value to take the output to after the OFF control is received. Permissible values [0… 100] %
Output Variation Time At Absolute Value Control	The parameter defines the transition time from the current value to the value indicated in the message received on the Absolute Value object. The parameter also acts on the adjustment ramp during the dimming control via the Relative Value object. Permissible values [0… 65535] with time base 100ms 0 = maximum speed 1 = 100ms
Behaviour at Bus power-on	The parameter defines the behaviour of the output when the device is powered. Possible values [0-2]: 0 = On 1 = Off 2 = Last value

Communication objects and ETS parameters

On/Off Switch datapoint behaviour
(Two-position stable Mode)

%

Deactivation Delay (> Power-down Time)

Power-on Time

Power-down Time

Upper Value

Lower Value

Output Value During Off Delay

t

KNX msg

On Off Switch = ON

Status + Absolute Value

On Off Switch = OFF

Absolute Value

Status + Absolute Value

t

COMMUNICATION OBJECTS

Communication objects and ETS parameters

Timer controlled datapoint behaviour

Communication objects and ETS parameters

Absolute Value datapoint behaviour

A/B parameters - Scenarios

It is visible if the "Scenario" parameter is enabled at the "Output" item of the selected channel.

Scene ○ not active ● active

For each channel, it allows you to associate up to 8 scenarios and define their adjustment value.

ETS text	Values available [Default value]	Comment
Save scenario	Enable	Enables in the device the possibility of saving, using the "Learn" scenario control, the current status of the output as scenario value.
	Disable	
	[Disable]	
Scenario [1-8] to set	0÷100%	Set the brightness value of the scenario
	[0%]	

A/B parameters - Scenario

Note: The behaviour of the output is tied to the setting of the "Output type" parameter.

CE