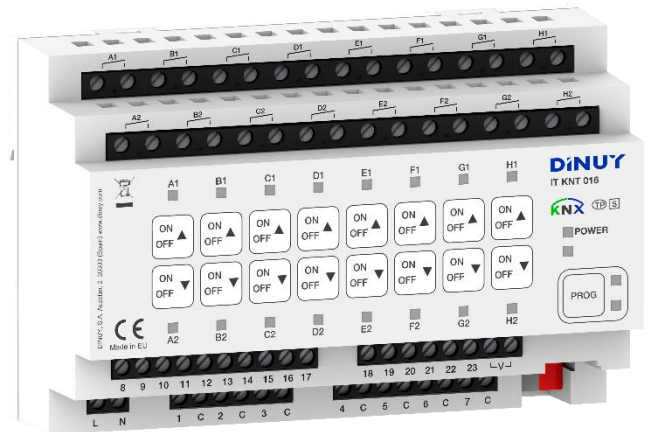
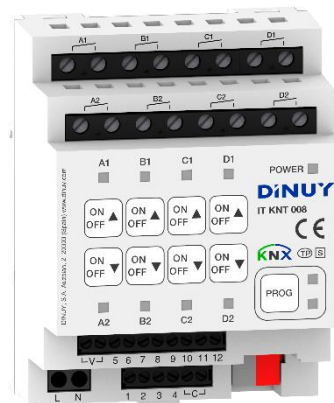




4-/8-/16-CHANNEL KNX MULTIFUNCTIONAL ACTUATORS WITH 12 / 12 / 23 BINARY/ANALOG INPUTS

IT KNT 004**IT KNT 008****IT KNT 016****USER MANUAL**

INTRODUCTION

- KNX Multifunction Actuators that can work as:
 - IT KNT 004: 4-channel Switching Actuator or 2-channel Blinds/Shutters Actuators.
 - IT KNT 008: 8-channel Switching Actuator or 4-channel Blinds/Shutters Actuators.
 - IT KNT 016: 16-channel Switching Actuator or 8-channel Blinds/Shutters Actuators.
- High load capacity, with 16A built-in relays, as well as a zero-crossing-point control, which allows switching very high loads, even capacitive type.
- Incorporate 12 / 12 / 23 Inputs:
 - IT KNT 004: 8-Binary Inputs + 4-Binary/Analog Inputs
 - IT KNT 008: 8-Binary Inputs + 4-Binary/Analog Inputs
 - IT KNT 016: 16-Binary Inputs + 7-Binary/Analog Inputs
- These inputs can be independently parameterized through the ETS Software:
 - Binary Input: allows the connection of a conventional voltage-free binary sensor or switch.
 - Analog Input: allows the connection of a DINUY temperature probe (ST KNT 001 or ST KNT 002).
- Incorporates a front keypad for independent manual control of each output, as well as status indicator LEDs.
- Allows to enable and configure up to 4/4/7 independent Heating and / or Cooling Thermostats.
- It incorporates 8/8/16 Logic Functions, Centralized Control, Scenes, Time Function, etc.
- Possibility of connecting different phases in each output channel.
- Integrated Bus Coupling Unit (BCU).
- DIN-rail mounting, 4 / 4 / 8 modules wide.
- Programming and commissioning via ETS5 or later versions.

- Technical specifications:

Nominal Voltage		230V~ 50Hz
KNX	Voltage range	21 ~ 32V _{DC}
	Consumption	IT KNT 004 / IT KNT 008: < 3mA // IT KNT 016: < 9mA
	Connection type	KNX Bus connector
	Commissioning	ETS5 or later
	KNX Media	TPI
	Configuration Mode	System Mode
Inputs	Number of Inputs	IT KNT 004: 4 Binaries + 8 Binaries/Analog IT KNT 008: 4 Binaries + 8 Binaries/Analog IT KNT 016: 7 Binaries + 16 Binaries/Analog
	Type	Binaries or Analog
	Cable maximum length	Binary Inputs: <200m Binary/Analog Inputs: <10m
	Scanning voltage	20V _{DC}
	Input current	0,5mA
Outputs	Channels	IT KNT 004: 4 Switching or 2 Blinds IT KNT 008: 8 Switching or 4 Blinds IT KNT 016: 16 Switching or 8 Blinds
	Load LED Lamps Incandescence Motors	16A / 250V~ per channel 400W 3000W 700VA
	Isolating Voltage	4KV _{AC} (supply/bus voltage)
	Cable section	≤ 2,5mm ²
	Dimensions	IT KNT 004: 4 DIN units (70mm) IT KNT 008: 4 DIN units (70mm) IT KNT 016: 8 DIN units (140mm)
Working temperature	-5°C ~ +45°C	
Storage temperature	-30°C ~ +70°C	
Protection degree	IP20 (EN60529)	
Directives	Low-voltage 73/23/EEC EMC 204/108/EC	
According to the Standards	KNX Standard 2.0 EN60669-1, 2-1 y 2-3	
Marking	EIB/KNX	

CONFIGURATION

GENERAL Configuration

An initial screen is available where it is possible to configure each channel of the Actuator for the control of 1 Blind or 2 Switching channels:

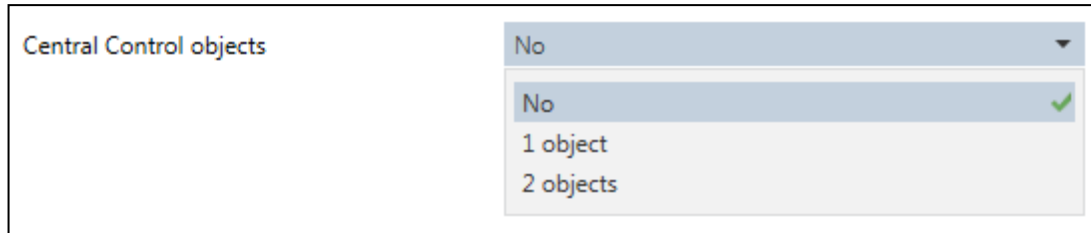
- Actuator Configuration	Transmission and switching delay after recovering bus voltage (2..255sec)	2
Actuator Configuration	Type of Actuator	<input checked="" type="radio"/> 8 output channels <input type="radio"/> 16 output channels
+ OUTPUT A1	ch A operating mode	<input checked="" type="radio"/> 2-ch Switch Actuator <input type="radio"/> 1-ch Blind/Roller Actuator
+ OUTPUT A2	ch B operating mode	<input checked="" type="radio"/> 2-ch Switch Actuator <input type="radio"/> 1-ch Blind/Roller Actuator
+ OUTPUT B1	ch C operating mode	<input checked="" type="radio"/> 2-ch Switch Actuator <input type="radio"/> 1-ch Blind/Roller Actuator
+ OUTPUT B2	ch D operating mode	<input checked="" type="radio"/> 2-ch Switch Actuator <input type="radio"/> 1-ch Blind/Roller Actuator
+ OUTPUT C1	Central Control objects	No
+ OUTPUT C2	Enable Binary/Analog Inputs	<input type="checkbox"/>
+ OUTPUT D1	Enable Binary Inputs	<input type="checkbox"/>
+ OUTPUT D2	Enable Logics	<input checked="" type="checkbox"/>
+ LOGICS	Enable Thermostats	<input type="checkbox"/>
<p>i All repetitive tab parameters can be changed at the same time by selecting multiple tabs with "CTRL + click"</p>		

- **Transmission and switching delay after recovering bus voltage (0..255sec):** Sets the delay time for sending the switching telegram after bus voltage is restored.
- **Type of Actuator:** Allows selecting the Actuator which is going to be parameterized: IT KNT 004 – 4 channels, IT KNT 008 – 8 channels or IT KNT 016 – 16 channels.

Type of Actuator	<input type="radio"/> 4 output channels <input checked="" type="radio"/> 8 output channels <input type="radio"/> 16 output channels
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- **ch A..D operating mode:** Configures each pair of complementary channels as independent switching channels or as a blind channel.

- **Central Control objects:** It allows a centralized control of each channel if it has been enabled.



- **No:** centralized control is not enabled.
 - **1 object:** an object, "[Central] Switch / Move Blind", is enabled for the control of all enabled channels.
 - **2 objects:** Two objects are enabled. One for the control of the enabled switching channels, "[Central] Switch", and the other for the control of the enabled blind channels, "[Central] Move Blind".
-
- **Enable Binary/Analog Inputs:** allows enabling the Binary/Analog Inputs of the Actuator:
 - IT KNT 008: 4 Binary/Analog Inputs.
 - IT KNT 016: 7 Binary/Analog Inputs.For its configuration, see the document: "[Inputs – User Manual](#)"
 - **Enable Binary Inputs:** allows enabling the Binary Inputs of the Actuator:
 - IT KNT 008: 8 Binary Inputs.
 - IT KNT 016: 16 Binary Inputs.For its configuration, see the document: "[Inputs – User Manual](#)"
 - **Enable Logics:** allows enabling the logic functions module:
 - IT KNT 008: 8 Logic Functions.
 - IT KNT 016: 16 Logic Functions.For its configuration, see the document: "[Logics – User Manual](#)"
 - **Enable Thermostats:** allows enabling the Heating or Cooling Thermostat module:
 - IT KNT 008: 4 Thermostats.
 - IT KNT 016: 7 Thermostats.For its configuration, see the document: "[Thermostat – User Manual](#)"

OUTPUTS Configuration

Each channel can be configured for the control of 2 independent loads or 1 single blind:

ch A operating mode	<input checked="" type="radio"/> 2-ch Switch Actuator <input type="radio"/> 1-ch Blind/Roller Actuator
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Switch Channel Configuration

Actuator Configuration	Switch Feedback	No
Actuator Configuration	Object value of Switch Feedback	<input type="radio"/> Closed = 0, Open = 1 <input checked="" type="radio"/> Closed = 1, Open = 0
OUTPUT A1	Reaction after bus failure	Open contact
Configuration	Object "Switch On/Off" after recovering bus voltage	Set object to 0
OUTPUT A2	Output polarity	<input checked="" type="radio"/> Normally Open contact <input type="radio"/> Normally Closed contact
OUTPUT B1	Output Line phase respect to reference	Same Phase as Reference
OUTPUT B2	Enable Time Function	<input type="checkbox"/>
OUTPUT C1	Enable Preset Function	<input type="checkbox"/>
OUTPUT C2	Enable Scenes Function	<input type="checkbox"/>
OUTPUT D1	Enable Logical Function	<input type="checkbox"/>
OUTPUT D2	Enable Forced Function	<input type="checkbox"/>
LOGICS	Enable Threshold Function	<input type="checkbox"/>
	Manual Control disable	<input type="checkbox"/>
	Enable Central Function	<input type="checkbox"/>

- **Switch Feedback:** Enables the object “[Out] Switch Feedback” which reports the On/Off status of the channel.

Switch Feedback	No No ✓ Always Only after change
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- **No:** “[Out] Switch Feedback” object is not available.
- **Always:** “[Out] Switch Feedback” object is always sent, whether or not there is a change in the state of the channel.
- **Only after change:** “[Out] Switch Feedback” object is sent when changes the status of the channel.
- **Object value of Switch Feedback:** Sets the polarity of “[Out] Switch Feedback” object.

Object value of Switch Feedback	<input type="radio"/> Closed = 0, Open = 1 <input checked="" type="radio"/> Closed = 1, Open = 0
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- **Reaction after bus failure:** Determines the behavior of the channel when the bus voltage is restored.

Reaction after bus failure	Open contact
	Open contact ✓
	Close contact
	Contact unchanged

- **Object "Switch On/Off" after recovering bus voltage:** Sets the behavior of the channel, through the "[Out] Switch On/Off" object, after recovering bus voltage.

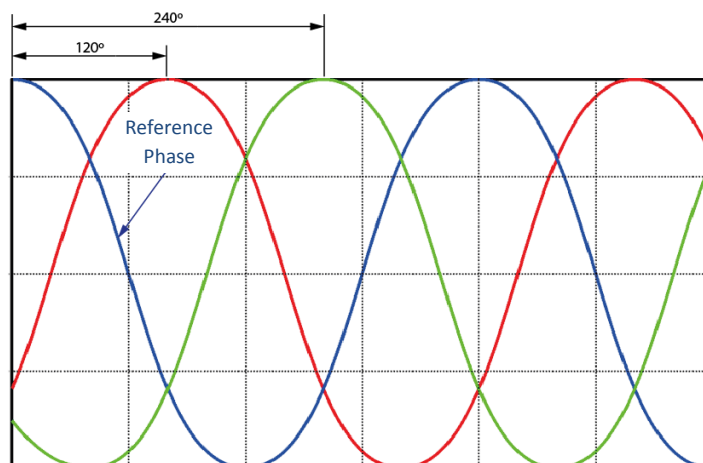
Object "Switch On/Off" after recovering bus voltage	Set object to 0
	Set object to 0 ✓
	Set object to 1
	Not write
	Set object to last state

- **Output polarity:** Determines the polarity of the output channel.

Output polarity	<input checked="" type="radio"/> Normally Open contact
	<input type="radio"/> Normally Closed contact

- **Output Line phase respect to reference:** Allows the "zero-crossing-point" switching control of the relay. This type of control makes it possible to switch high loads without risk of damaging the relay due to the high current peaks of the load at starting. The Reference Phase is that with which the Actuator is supply in L and N.

Output Line phase respect to reference	Same Phase as Reference
	Same Phase as Reference ✓
	120° offset Phase respect Reference
	240° offset Phase respect Reference



- **Enable Time Function:** Enables timing features.

<ul style="list-style-type: none"> - Actuator Configuration Actuator Configuration - OUTPUT A1 Configuration <li style="background-color: #e0e0e0;">Time Function + OUTPUT A2 + OUTPUT B1 + OUTPUT B2 + OUTPUT C1 + OUTPUT C2 + OUTPUT D1 + OUTPUT D2 	<p>Object "Disable Time Function" after recovering bus voltage <input checked="" type="radio"/> 0: Enable Time Function <input type="radio"/> 1: Disable Time Function</p> <p>Time Function Staircase Light Time Switch ▼</p> <p>Staircase light Time Switch timing (sec) <input type="text" value="0"/></p> <p>Timer is retriggerable <input type="checkbox"/></p> <p>Staircase light Time Switch early switch-off 1 = On, 0 = Off ▼</p> <p>Pre-warning before end of time No ▼</p> <p>Staircase time changeable via object <input type="checkbox"/></p>
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- **Object "Disable Time Function" after recovering bus voltage:** defines the value of the object "[Out] Disable Time Function" when bus voltage is restored. The timing functions may return Enabled (0) or Disabled (1).
- **Time Function:** actuator behavior as a timer.

Time Function	<div style="border: 1px solid #ccc; padding: 2px;"> Staircase Light Time Switch ▼ <ul style="list-style-type: none"> <li style="background-color: #e0e0e0; padding: 2px;">Staircase Light Time Switch ✓ <li style="padding: 2px;">Delayed On / Off <li style="padding: 2px;">Flashing </div>
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- **Staircase Light Time Switch:** timing function in which the output is activated through a 1-bit object, "[Out] Time Switch", and deactivated after a set time.

Time Function	Staircase Light Time Switch ▼
Staircase light Time Switch timing (sec)	<input type="text" value="0"/>
Timer is retriggerable	<input type="checkbox"/>
Staircase light Time Switch early switch-off	1 = On, 0 = Off ▼
Pre-warning before end of time	No ▼
Staircase time changeable via object	<input type="checkbox"/>

- **Staircase light Time Switch timing (sec):** between 0 and 65535 seconds.
- **Timer is retriggerable:** allows resetting the set time and start the timing again.
- **Staircase Time Switch early switch-off:**

Staircase light Time Switch early switch-off	1 = On, 0 = Off
	1 = On, 0 = Off ✓
	1 = ON, 0 = no action
	0 or 1 = ON, OFF not possible

- **Pre-warning before end of time:**

Pre-warning before end of time	No
	No ✓
	Via object
	Via quick switching
	Via object and quick switching

- **Pre-warning time (sec):** between 0 and 65535 seconds.
- **Staircase time changeable via object:** enables a 2-byte object, "[Out] Staircase Time (sec)", which allows setting the timing through the bus.

- **Delayed On / Off:** allows to turn on and off with a delay time.

Time Function	Delayed On / Off
On delay time (sec)	1
Off delay time (sec)	1

- **Flashing:** flashing with an On time and Off time.

Time Function	Flashing
Flashing when "Time Switch" object is	<input type="radio"/> Off (0) <input checked="" type="radio"/> On (1)
Flash On time (sec)	5
Flash Off time (sec)	5

- **Enable Preset Function:** enables two 1-bit objects which allow saving, "[Out] Set Preset 1/2", or recover, "[Out] Call Preset 1/2", a previous set action.

Reaction on Preset 1 (telegram 0)	No reaction
Reaction on Preset 2 (telegram 1)	No reaction
Preset can be set via bus	<input type="checkbox"/>

- **Enables Scenes Function:** allows to save and recover up to 5 different Scenes.

Scene 1	Scene 1
Scene 1 Preset value	<input checked="" type="radio"/> Off <input type="radio"/> On
Scene 2	Scene 2
Scene 2 Preset Value	<input checked="" type="radio"/> Off <input type="radio"/> On
Scene 3	Scene 3
Scene 3 Preset Value	<input checked="" type="radio"/> Off <input type="radio"/> On
Scene 4	Scene 4
Scene 4 Preset Value	<input checked="" type="radio"/> Off <input type="radio"/> On
Scene 5	Scene 5
Scene 5 Preset Value	<input checked="" type="radio"/> Off <input type="radio"/> On

- **Enable Logical Function:** allows to enable up to 2 different logical functions. The logic gate can be: AND, OR or XOR.

Logical connection 1 Enable	<input checked="" type="checkbox"/>
Logical connection 1 Function	AND
Logical connection 1 Inverted	<input type="checkbox"/>
Object value "Logical connection 1" after recovering bus voltage	<input type="radio"/> False <input checked="" type="radio"/> True
Logical connection 2 Enable	<input type="checkbox"/>

- **Enable Forced Function:** enables the Forced function. Its priority is higher than the standard telegrams. It is possible to enable a 1-bit or 2-bit object, "[Out] Forced".

Object "Forced" type	<input checked="" type="radio"/> 1-Bit object <input type="radio"/> 2-Bit object
Object "Forced" polarity	<input checked="" type="radio"/> 1: Switch-Off <input type="radio"/> 1: Switch-On
Object "Forced" state after recovering bus voltage	<input checked="" type="radio"/> Not Forced <input type="radio"/> Forced

- **Enable Threshold Function:** a threshold value of 1 or 2 bytes is established, and pre-established actions are carried out based on 2 set values.

Data type of object "Threshold Input"	<input checked="" type="radio"/> 1 Byte (0..255) <input type="radio"/> 2 Bytes (0..65535)
Change Threshold value 1 over the bus	<input type="checkbox"/>
Threshold value 1 (0..255)	255
Threshold value 2 (0..255)	0
Threshold value after recovering bus voltage	0
Threshold values define hysteresis	<input type="checkbox"/>
Object value < Threshold value 1	No reaction
Value 1 ≤ Object value ≤ Value 2	No reaction
Object value > Threshold value 2	No reaction

- **Manual Control disable:** allows enabling/disabling the manual control of the channel from the front keypad of the Actuator.
- **Enable Central Function:** Includes or not the channel in the centralized control. The control object for the channels configured as Switch is "[Central] Switch / Move Blind". Depending on the configuration of the channel, as well as the number of objects enabled for centralized control, the possible actions will be different.

Central Function	<div style="border: 1px solid gray; padding: 5px;"> <div style="background-color: #e0e0e0; padding: 2px;">No reaction</div> <div style="background-color: #e0e0e0; padding: 2px; border: 1px solid gray;">No reaction ✓</div> <div style="padding: 2px;">Any value = On</div> <div style="padding: 2px;">Any value = Off</div> <div style="padding: 2px;">0 = Off; 1 = On</div> <div style="padding: 2px;">0 = On, 1 = Off</div> <div style="padding: 2px;">0 = No reaction, 1 = On</div> <div style="padding: 2px;">0 = Off, 1 = No reaction</div> </div>
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- **No reaction:** the channel will not be included in the centralized control.
- **Any value = On:** any value received on the "[Central] Switch" object will activate the channel.
- **Any value = Off:** any value received on the "[Central] Switch" object will deactivate the channel.
- **0 = Off, 1 = On:** if a 0 is received in the "[Central] Switch" object, the channel will be switched off, while if a 1 is received, the channel will be switched on.
- **0 = On, 1 = Off:** if a 0 is received in the "[Central] Switch" object, the channel will be switched on, while if a 1 is received, the channel will be switched off.
- **0 = No reaction, 1 = On:** if a 0 is received in the "[Central] Switch" object, the channel will do nothing, while if a 1 is received, the channel will be switched on.
- **0 = Off, 1 = No reaction:** if a 0 is received on the "[Central] Switch" object, the channel will be switched off, while if a 1 is received, the channel will not react.

Blind Channel Configuration

<ul style="list-style-type: none"> - Actuator Configuration Actuator Configuration - BLIND / ROLLER A Configuration Advanced + OUTPUT B1 + OUTPUT B2 + OUTPUT C1 + OUTPUT C2 + OUTPUT D1 + OUTPUT D2 	<p>Type of Device: Venetian Blind</p> <p>Behavior after recovering bus voltage: No action</p> <p>Blind Movement time (sec): 1</p> <p>Slats Movement time (x 0,1sec): 20</p> <p>Reaction after bus failure: <input checked="" type="radio"/> Stop <input type="radio"/> No reaction</p> <p>Extra time for Up movement (%): 0</p> <p>Reversion Pause time (msec): 500</p> <p>Step operation possible: <input checked="" type="radio"/> No (only Stop) <input type="radio"/> Yes</p> <p>Output Line phase respect to reference: Same Phase as Reference</p>
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- **Type of Device:** Sets the operating mode of the channel.

Type of Device	<ul style="list-style-type: none"> Venetian Blind Venetian Blind ✓ Roller Shutter/Awning Venting Louver
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- Venetian Blind (blinds or blinds with slats):

Type of Device	Venetian Blind
Behavior after recovering bus voltage	No action
Blind Movement time (sec)	1
Slats Movement time (x 0,1sec)	20
Reaction after bus failure	<input checked="" type="radio"/> Stop <input type="radio"/> No reaction
Extra time for Up movement (%)	0
Reversion Pause time (msec)	500
Step operation possible	<input checked="" type="radio"/> No (only Stop) <input type="radio"/> Yes
Output Line phase respect to reference	Same Phase as Reference

· Roller Shutter/Awning:

Type of Device	Roller Shutter/Awning
Behavior after recovering bus voltage	No action
Roller Movement time (sec)	1
Fabric tensioning time (sec)	0
Reaction after bus failure	<input checked="" type="radio"/> Stop <input type="radio"/> No reaction
Extra time for Up movement (%)	0
Reversion Pause time (msec)	500
Step operation possible	<input checked="" type="radio"/> No (only Stop) <input type="radio"/> Yes
Output Line phase respect to reference	Same Phase as Reference

· Venting Louver:

Type of Device	Venting Louver
Behavior after recovering bus voltage	No action
Louver Movement time (sec)	1
Reaction after bus failure	<input checked="" type="radio"/> Stop <input type="radio"/> No reaction
Extra time for Up movement (%)	0
Reversion Pause time (msec)	500
Step operation possible	<input checked="" type="radio"/> No (only Stop) <input type="radio"/> Yes
Output Line phase respect to reference	Same Phase as Reference

General Parameters

- Regardless of the selected configuration, there are some common parameters by default:

- **Behavior after recovering bus voltage:** action when the KNX bus voltage is restored.

Behavior after recovering bus voltage	<div style="border: 1px solid #ccc; padding: 5px;"> <div style="background-color: #f0f0f0; padding: 2px;">No action</div> <div style="background-color: #e0e0e0; padding: 2px; border: 1px solid #ccc;">No action ✓</div> <div style="padding: 2px;">Up</div> <div style="padding: 2px;">Down</div> <div style="padding: 2px;">Go to position</div> </div>
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- **Louver / Blind / Roller Movement time (sec):** set the movement time from when the louver/blind/roller is fully raised (position = 0%) until it moves completely down (position = 100%), and vice versa. This time can be set between 1 and 3600 seconds.

- **Slats Movement time (only Venetian blind):** establishes the total time of movement of the slats from when they are completely open (position = 0%) until they close completely (position = 100%), and vice versa. This time can be set between 2 and 600 tenths of a second. The number of steps of the slats will be calculated by dividing this time between the duration of the step, established in the general parameters.
- **Fabric tensioning time (only Roller shutter/Awning):** establishes a time of tension of the fabric when the awning is lowered completely (100%) to avoid that the same one is damaged. It is a rising movement.
- **Reaction after bus failure:** shutter behavior after a KNX bus fault detected.

Reaction after bus failure Stop No reaction

- **Extra time for Up movement (%):** time added to the moving-up to complete the movement. Due to the weight of the blind, it may take longer to move up than down.
- **Reversion Pause time (msec):** extra time that the blind is paused when changing the direction of movement.
- **Step operation possible:** sets if the Step action, or only Stop, is allowed through the object "[BL] Stop / Step Up/Down".

Step operation possible No (only Stop) Yes

- **Output Line phase respect to reference:** allows to control the "zero crossing" in the relay switching of the corresponding channel. This type of control makes it possible to switch high loads without damaging the relay contacts due to the high current peaks of the load at the starting. The Reference Phase is that with which the Actuator is supplied in L and N.

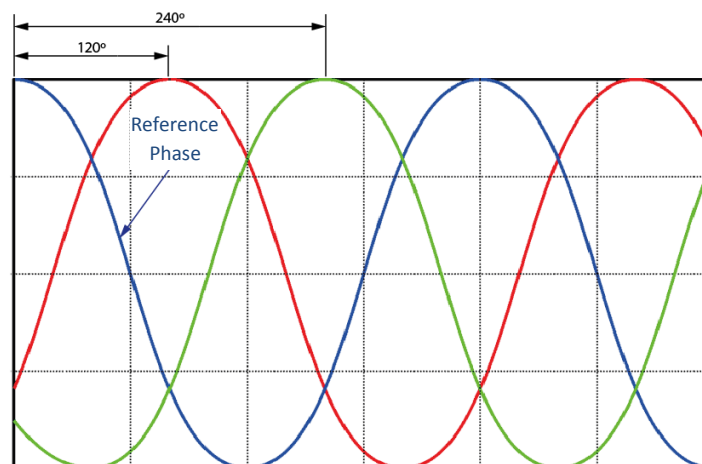
Output Line phase respect to reference

Same Phase as Reference

Same Phase as Reference

120° offset Phase respect Reference

240° offset Phase respect Reference



Advanced Parameters

- Furthermore, in both operating configurations several advanced functions are available:

- Actuator Configuration	Enable object: Roller position Feedback (%) <input type="checkbox"/>
Actuator Configuration	Enable object: Movement Feedback <input type="checkbox"/>
- BLIND / ROLLER A	Enable Weather Alarms <input type="checkbox"/>
Configuration	Enable Sun Protection <input type="checkbox"/>
Advanced	Enable Scenes Function <input type="checkbox"/>
	Enable Forced Function <input type="checkbox"/>
+ OUTPUT B1	Manual Control disable <input type="checkbox"/>
+ OUTPUT B2	Disable relay switching with zero-cross control <input type="checkbox"/>
+ OUTPUT C1	Enable Central Function <input type="checkbox"/>
+ OUTPUT C2	
+ OUTPUT D1	
+ OUTPUT D2	

- **Enable object: Blind/Roller/Louver position Feedback (%):** allows knowing the position of the blind through the I-byte object, "[BL] Blind/Roller/Louver position Feedback". When this object is enabled, it will be necessary to set the period for sending it: "Time to send "Current position" (sec)". This time can be set between 60 and 3600 seconds.

Enable object: Blind position Feedback (%)	<input checked="" type="checkbox"/>
Time to send "Current position" (sec)	60

- **Enable object: Slats position Feedback (%):** allows knowing the position of the slats through the I-byte object, "[BL] Slats position Feedback". When this object is enabled, it will be necessary to set the sending cycle: "Time to send "Slats position" (sec)". This time can be set between 60 and 3600 seconds.

Enable object: Slats position Feedback (%)	<input checked="" type="checkbox"/>
Time to send "Slats position" (sec)	60

- **Enable object: Movement Feedback:** reports the direction of movement of the blind through the I-bit object, "[BL] Movement Feedback".
- **Enable Weather Alarms:** enables Wind, Rain and Frost Alarms. These alarms prevail over all other functions.

- Actuator Configuration	Wind Alarms
Actuator Configuration	Enable object: Wind Alarm 1 <input type="checkbox"/>
- BLIND / ROLLER A	Enable object: Wind Alarm 2 <input type="checkbox"/>
Configuration	Enable object: Wind Alarm 3 <input type="checkbox"/>
Advanced	Enable Wind Alarm Watchdog <input type="checkbox"/>
Alarms	Behavior when starting Wind Alarm <input type="text" value="No action"/>
+ OUTPUT B1	Behavior when finishing Wind Alarm <input type="text" value="No action"/>
+ OUTPUT B2	Rain Alarm
+ OUTPUT C1	Enable object: Rain Alarm <input type="checkbox"/>
+ OUTPUT C2	Frost Alarm
+ OUTPUT D1	Enable object: Frost Alarm <input type="checkbox"/>
+ OUTPUT D2	Alarms priority
	Weather Alarms priority <input type="text" value="Wind > Rain > Frost"/>
	Forced vs Weather Alarm Priority
	<input checked="" type="radio"/> 1 - Forced operation 2 - Weather Alarm
	<input type="radio"/> 1 - Weather Alarm 2 - Forced operation

- **Wind Alarms:** up to 3 wind alarms can be enabled.

Wind Alarms

Enable object: Wind Alarm 1

Enable object: Wind Alarm 2

Enable object: Wind Alarm 3

Enable Wind Alarm Watchdog

Behavior when starting Wind Alarm

Behavior when finishing Wind Alarm

- **Enable object: Wind Alarm 1..2:** allows enabling wind alarm control and its watchdog time.
- **Behavior when starting Wind Alarm:** establishes the behavior of the blind when an alarm situation occurs in one of the 3 objects. The different options are: No action, Up, Down or Stop.
- **Behavior when starting finishing Alarm:** sets the behavior of the blind at the end of the wind alarm. The different options are: No action, Up, Down, Stop or Go to last position.

- **Rain Alarm:** 1 rain alarm can be enabled.

Rain Alarm

Enable object: Rain Alarm

Enable Rain Alarm Watchdog

Behavior when starting Rain Alarm

Behavior when finishing Rain Alarm

- **Enable Rain Alarm Watchdog:** allows enabling rain alarm and its watchdog time.
- **Behavior when starting Rain Alarm:** establishes the behavior of the blind when an alarm situation occurs in one of the 3 objects. The different options are: No action, Up, Down or Stop.
- **Behavior when finishing Rain Alarm:** sets the behavior of the blind at the end of the wind alarm. The different options are: No action, Up, Down, Stop or Go to last position.

- **Frost Alarm:** | frost alarm can be enabled.

Frost Alarm	
Enable object: Frost Alarm	<input checked="" type="checkbox"/>
Enable Frost Alarm Watchdog	<input type="checkbox"/>
Behavior when starting Frost Alarm	No action ▼
Behavior when finishing Frost Alarm	No action ▼

- **Enable Frost Alarm Watchdog:** allows enabling frost alarm and its watchdog time.
- **Behavior when starting Frost Alarm:** establishes the behavior of the blind when an alarm situation occurs in one of the 3 objects. The different options are: No action, Up, Down or Stop.
- **Behavior when finishing Frost Alarm:** sets the behavior of the blind at the end of the wind alarm. The different options are: No action, Up, Down, Stop or Go to last position.

- **Alarms priority:** sets the priority level of the different alarms.

- **Weather Alarms priority:** defines the hierarchy of priorities between the different alarms.

Weather Alarms priority	<div style="border: 1px solid #ccc; padding: 5px;"> <div style="background-color: #e0e0e0; padding: 2px;">Wind > Rain > Frost ▼</div> <div style="background-color: #e0e0e0; padding: 2px;">Wind > Rain > Frost ✓</div> <div style="background-color: #e0e0e0; padding: 2px;">Wind > Frost > Rain</div> <div style="background-color: #e0e0e0; padding: 2px;">Rain > Wind > Frost</div> <div style="background-color: #e0e0e0; padding: 2px;">Rain > Frost > Wind</div> <div style="background-color: #e0e0e0; padding: 2px;">Frost > Rain > Wind</div> <div style="background-color: #e0e0e0; padding: 2px;">Frost > Wind > Rain</div> </div>
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- **Forced vs Weather Alarm Priority:** sets the priority between weather alarms and forced action.

Forced vs Weather Alarm Priority	<input checked="" type="radio"/> 1 - Forced operation 2 - Weather Alarm <input type="radio"/> 1 - Weather Alarm 2 - Forced operation
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- **Enable Sun Protection:** function that allows protection from the sun inside the room.

Type of Protection object	<input checked="" type="radio"/> 1-Bit On/Off object <input type="radio"/> Lux level value object
Sun Protection object polarity	<input checked="" type="radio"/> 1: Sun Protection On <input type="radio"/> 0: Sun Protection On
Delay time to Start Sun Protection (sec)	<input type="text" value="1"/>
Behavior when starting Sun Protection	<input type="text" value="No action"/>
Delay time to Finish Sun Protection (sec)	<input type="text" value="1"/>
Behavior when finishing Sun Protection	<input type="text" value="No action"/>

- **Type of Protection object:** allows setting the protection according to I-bit object or the Lux value received from a brightness sensor.
 - **I-Bit On/Off object:** enables a I-bit input object for the sun protection function, “[BL] Sun Protection Input”. In this case, it is necessary to define:
 - Sun Protection object polarity: 0 or 1, which will trigger the protection.
 - Delay time to Start Sun Protection: 1 ~ 3600 seconds.
 - Behavior when starting Sun Protection: No action, Up, Down, Stop, Call Scene, Go to position or variable via position object (activate the object “[BL] Sun Protection position Input”).
 - Delay time to Finish Sun Protection (sec): 1 ~ 3600 seconds.
 - Behavior when finishing Sun Protection: No action, Up, Down or Go to the last position.
 - **Lux level value object:** enables a 2-byte input object for the sun protection function, “[BL] Lux level Input”. In this case, it is necessary to define:

Type of Protection object	<input type="radio"/> 1-Bit On/Off object <input checked="" type="radio"/> Lux level value object
Lux value to Start Protection	<input type="text" value="1000"/>
Lux value to Finish Protection	<input type="text" value="500"/>
Delay time to Start Sun Protection (sec)	<input type="text" value="1"/>
Behavior when starting Sun Protection	<input type="text" value="Variable via position object"/>
Delay time to Finish Sun Protection (sec)	<input type="text" value="1"/>
Behavior when finishing Sun Protection	<input type="text" value="No action"/>

- Lux value to Start Protection: 1 ~ 3600 Lux.
- Lux value to Finish Protection: 1 ~ 3600 Lux.
- Delay time to Start Sun Protection (sec): 1 ~ 3600 seconds.
- Behavior when starting Sun Protection: No action, Up, Down, Stop, Call Scene, Go to position or Variable via position object (activate the object “[BL] Sun Protection position Input”).
- Delay time to Finish Sun Protection (sec): 1 ~ 3600 seconds.
- Behavior when finishing Sun Protection: No action, Up, Down or Go to previous position.

- **Enable Scenes Function:** allows to preset up to 8 different Scenes. In each Scene the position of the Blind and the position of the Slats must be set.

Scene 1	Scene 1
Scene 1 Position (%)	0
Scene 1 Slats Position (%)	0

- **Forced state after recovering bus voltage:** enables the Forced function. Its priority is higher than standard operating orders and it can be defined, or not, over alarms, in the Alarms window.

Forced state after recovering bus voltage	Not Forced
	Not Forced ✓
	Forced On, Up
	Forced On, Down

- **Manual Control disable:** enable, or not, the manual control of the actuator from the front keypad of the device.
- **Disable relay switching with zero-cross control:** in case of controlling the slats of the blind, it will be necessary to activate this parameter to achieve optimal results in the movement of the same.
- **Enable Central Function:** establishes the behavior of the blind in case of receiving a telegram from the Central Function. The control object for the channels configured as Blind is "[Central] Switch / Move Blind" or "[Central] Move Blind", depending on the number of objects enabled for centralized control (1 or 2).

Central Function	No reaction
	No reaction ✓
	Any value = Up
	Any value = Down
	Any value = Position
	0 = Up, 1 = Down
	1 = Subir, 0 = Bajar
	0 = No reaction, 1 = Down
	0 = Up, 1 = No reaction

- No reaction: the channel does not respond to centralized orders.
- Any value = Up: any value received in the object "[Central] Move Blind" will produce a moving-up of the blind connected to this channel.
- Any value = Down: any value received in the object "[Central] Move Blind" will produce a moving-down of the blind connected to this channel.
- Any value = Position: any value received in the object "[Central] Move Blind" will cause a movement of the blind connected to this channel to the set value.
- 0 = Up, 1 = Down: a 0 received in the object "[Central] Move Blind" will produce a moving-up of the blind connected to this channel, and a 1 will cause a moving-down.
- 1 = Up, 0 = Down: a 1 received in the object "[Central] Move Blind" will produce a moving-up of the blind connected to this channel, and a 0 will cause a moving-down.

- 0 = No reaction, 1 = Down: a 0 received in the object “[Central] Move Blind” will not produce any action on the blind connected to this channel, and a 1 will produce a moving-down.
- 0 = Up, 1 = No reaction: a 1 received in the object “[Central] Move Blind” will not produce any action on the blind connected to this channel, and a 0 will produce a moving-down.

Communication Objects

Central Function Objects

	Number ^	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
	1	[Central] Switch	On/Off	1 bit	C	-	W	-	-	switch	Low
	2	[Central] Move Blind	Up / Down / Position	1 bit	C	-	W	-	-	switch	Low

Number	Name	Function	Description
1	[Central] Switch	On/Off	Central control object for channels configured as Switches or for channels configured as Blind, in case of enabling a single control object
2	[Central] Move Blind	Up / Down / Position	Central control object for channels configured as Blind, if two control objects are enabled

Switch Channel Objects

	Number ^	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
➡	19	[Out B1] Switch Feedback	1 = On, 0 = Off	1 bit	C	-	-	T	-	switch	Low
➡	20	[Out B1] Switch On/Off	1 = On, 0 = Off	1 bit	C	-	W	-	-	switch	Low
➡	21	[Out B1] Permanent ON	1 = On, 0 = Off	1 bit	C	-	W	-	-	switch	Low
➡	22	[Out B1] Disable Time Function	1 = Disable, 0 = Enable	1 bit	C	-	W	-	-	enable	Low
➡	23	[Out B1] Change Threshold 1	1 Byte value	1 byte	C	-	W	-	-	counter pulses (0..255)	Low
➡	24	[Out B1] Threshold Input	1 Byte value	1 byte	C	-	W	-	-	counter pulses (0..255)	Low
➡	25	[Out B1] Forced 1 Bit	1 = Forced, 0 = Not Forced	1 bit	C	-	W	-	-	switch	Low
➡	26	[Out B1] Logical connection 1	1 = True, 0 = False	1 bit	C	-	W	-	-	boolean	Low
➡	27	[Out B1] Logical connection 2	1 = True, 0 = False	1 bit	C	-	W	-	-	boolean	Low
➡	28	[Out B1] Scene	Scene Control	1 byte	C	-	W	-	-	scene control	Low
➡	29	[Out B1] Set Preset 1/2	Telegram 0 --> Set Preset 1, Telegram 1 --> Set Preset 2	1 bit	C	-	W	-	-	switch	Low
➡	30	[Out B1] Call Preset 1/2	Telegram 0 --> Call Preset 1, Telegram 1 --> Call Preset 2	1 bit	C	-	W	-	-	enable	Low
➡	31	[Out B1] Staircase lighting Pre-warning	1 = Pre-warning, 0 = No Pre-warning	1 bit	C	-	-	T	-	switch	Low
➡	32	[Out B1] Staircase Time (sec)	2 Bytes value	2 bytes	C	-	W	-	-	time (s)	Low
➡	33	[Out B1] Time Switch	1 = Timer On	1 bit	C	-	W	-	-	start/stop	Low

Number	Name	Function	Description
19	[Out] Switch Feedback	I = On, 0 = Off	Feedback object of the status of the channel
20	[Out] Switch On/Off	I = On, 0 = Off	Input object to switch the channel
21	[Out] Permanent ON	I = On, 0 = Off	Input object to perform permanent channel switching in the Time Function, ignoring the established timing
22	[Out] Disable Time Function	I = Disable, 0 = Enable	Enable or not the Time Function
23	[Out] Change Threshold I	I Byte value	Input object that allows to change the Threshold I value of the Threshold Function via the Bus

24	[Out] Threshold Input	1 Byte value	Input value that is taken as the set-point of the Threshold function
25	[Out] Forced 1 Bit [Out] Forced 2 Bits	1 = Forced, 0 = Not Forced 2 Bits value	Forced Order, with priority higher than standard operation. In case of selecting a 2-bit type, one of the bits indicates if the Force is active (yes/no) and with the second bit it is indicated if the force is On or Off
26	[Out] Logical connection 1	1 = True, 0 = False	Logical connection 1
27	[Out] Logical connection 2	1 = True, 0 = False	Logical connection 2
28	[Out] Scene	Scene Control	1-Byte object for Scenes management
29	[Out] Set Preset 1/2	Telegram 0 → Set Preset 1 Telegram 1 → Set Preset 2	If this object is at "0", the value of Preset 1 is set, if not, Preset 2
30	[Out] Call Preset 1/2	Telegram 0 → Call Preset 1 Telegram 1 → Call Preset 2	If this object is "0", Preset 1 is set to output, if not, Preset 2
31	[Out] Staircase lighting Pre-warning	1 = Pre-warning, 0 = No Pre-warning	Enable or not the pre-warning before the end of the timing
32	[Out] Staircase Time (sec)	2 Bytes value	It allows setting the timing through the Bus
33	[Out] Time Switch	1 = Timer On	Input object to start the previously set timing function

Blind Channel Objects

	Number ^	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
↔	244	[BL A] Blind Move Up/Down	0 = Up, 1 = Down	1 bit	C	-	W	-	-	up/down	Low
↔	245	[BL A] Blind Stop / Step Up/Down	0 = Step Up, 1 = Step Down	1 bit	C	-	W	-	-	step	Low
↔	246	[BL A] Forced Input	2 Bits control	2 bit	C	-	W	-	-	switch control	Low
↔	247	[BL A] Wind Alarm 1	1 = Alarm, 0 = No Alarm	1 bit	C	-	W	-	-	alarm	Low
↔	248	[BL A] Wind Alarm 2	1 = Alarm, 0 = No Alarm	1 bit	C	-	W	-	-	alarm	Low
↔	249	[BL A] Wind Alarm 3	1 = Alarm, 0 = No Alarm	1 bit	C	-	W	-	-	alarm	Low
↔	250	[BL A] Rain Alarm	1 = Alarm, 0 = No Alarm	1 bit	C	-	W	-	-	alarm	Low
↔	251	[BL A] Frost Alarm	1 = Alarm, 0 = No Alarm	1 bit	C	-	W	-	-	alarm	Low
↔	252	[BL A] Scene Input	Scene Control	1 byte	C	-	W	-	-	scene control	Low
↔	253	[BL A] Movement Feedback	0 = Up, 1 = Down	1 bit	C	-	-	T	-	up/down	Low
↔	254	[BL A] Blind position Input	0% = Open, 100% = Closed	1 byte	C	-	W	-	-	percentage (0..100%)	Low
↔	255	[BL A] Slats position Input	0% = Open, 100% = Closed	1 byte	C	-	W	-	-	percentage (0..100%)	Low
↔	256	[BL A] Blind position Feedback	0% = Open, 100% = Closed	1 byte	C	-	-	T	-	percentage (0..100%)	Low
↔	257	[BL A] Slats position Feedback	0% = Open, 100% = Closed	1 byte	C	-	-	T	-	percentage (0..100%)	Low
↔	258	[BL A] Sun Protection Input	1 = On, 0 = Off	1 bit	C	-	W	-	-	switch	Low
↔	259	[BL A] Sun Protection position Input	0% = Open, 100% = Closed	1 byte	C	-	W	-	-	percentage (0..100%)	Low

Number	Name	Function	Description
244	[BL] Blind Move Up/Down	0 = Up, 1 = Down	A 0 on this object will move-up the blind, whereas a 1 will move-down the blind
245	[BL] Blind Stop / Step Up/Down	0 = Step Up, 0 = Step Down	A 0 on this object will stop the blind or make a step-up (if enabled). A 1 on this object will stop the blind or make a step-down (if enabled)
246	[BL] Forced Input	2 Bits control	Forced order, with priority higher than standard operation. One of the bits indicates if the Force is active (yes/no) and with the second bit it is indicated if the Force is On or Off

247	[BL] Wind Alarm 1	I = Alarm, 0 = No Alarm	Wind alarm input object
248	[BL] Wind Alarm 2	I = Alarm, 0 = No Alarm	Wind alarm input object
249	[BL] Wind Alarm 3	I = Alarm, 0 = No Alarm	Wind alarm input object
250	[BL] Rain Alarm	I = Alarm, 0 = No Alarm	Rain alarm input object
251	[BL] Frost Alarm	I = Alarm, 0 = No Alarm	Frost alarm input object
252	[BL] Scene Input	Scene Control	I-byte object for Scenes control
253	[BL] Movement Feedback	0 = Up, 1 = Down	Information object of the movement of the blind
254	[BL] Blind position Input	0% = Open, 100% = Closed	The blind moves to the received position (%) through this I-byte value
255	[BL] Slats position Input	0% = Open, 100% = Closed	The slats move to the received position (%) through this I-byte value
256	[BL] Blind position Feedback	0% = Open, 100% = Closed	Information object of the position of the blind
257	[BL] Slats position Feedback	0% = Open, 100% = Closed	Information object of the position of the slats
258	[BL] Sun Protection Input	I = On, 0 = Off	Sun Protection input object
259	[BL] Sun Protection position Input	0% = Open, 100% = Closed	Sun Protection position input object