



1-CHANNEL TOUCHLESS KNX PUSH BUTTON

PU KNT PR1 / PU KNT PR2



USER MANUAL

INTRODUCTION

- I-channel glass touchless (contactless) switches which provide full control to the user over the lighting, the blinds and, in turn, the ability to save and recover Scenes, without the need to touch physically any surface.
- White or Black glass with chrome or copper frame.
- The following functionalities are available: Switch, Dimmer, Blind/Shutter control, Scenes control or Fixed / Forced value sending.
- Built-in temperature sensor.
- Two RGB LEDs which behavior can be parameterized via ETS.
- The sensitivity of the proximity sensor can be set via ETS too.
- Buzzer for an audible acknowledgement of user actions.
- Mechanism Universal box mounting.
- Programming and commissioning by ETS5 or later version.

Technical Specifications:

Tensión Alimentación	21 – 32V _{DC}
Consumo	<4mA
Programming	21 – 32V _{DC}
Detection distance	5 – 20cm
Dimensions	90 x 90 x 14mm
Operation temperature	-5°C ~ +45°C
Protection degree	IP20 (EN60529)
According to the Directives	RoHS 2011/65/EU EMC 2014/30/EU
According to the Standards	KNX Standard 2.0 UNE-EN 50491-3:2010 UNE-EN 50491-4-1:2013 UNE-EN 50491-5-2:2010
Marking	EIB/KNX

CONFIGURATION

Device Configuration

General Configuration

There is an initial window with general parameters:

- Device Configuration	Enable sound on detection	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
General Configuration	Sensor Detection distance	Medium length ▼
LED A Configuration		
LED B Configuration		
+ Pushbutton function		
+ Internal Temperature Sensor		

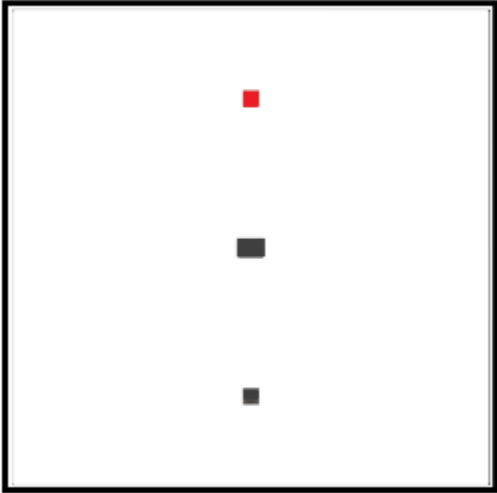
- **Enable sound on detection:** Sounds an audible buzzing each time the user makes an action.

Enable sound on detection	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Sound frequency	75Hz ▼
Sound duration	0.3 sec ▼

- **Sensor Detection distance:** Sets the minimum detection distance from the switch to the hand.

LED A/B Configuration

The push button has two RGB LEDs whose behavior can be configured.



LED control ☐ Via communication object ☒ When detection

LED On time 1 sec

ON State

ON state brightness % 0

ON state Red LED % 0

ON state Green LED % 0

ON state Blue LED % 0

LED Functionality ☒ Permanent ☐ Flashing

OFF State

OFF state brightness % 0

OFF state Red LED % 0

OFF state Green LED % 0

OFF state Blue LED % 0

LED Functionality ☒ Permanent ☐ Flashing

- **LED control:** Sets if the LED behavior is determined by a specific communication object or based on detection/no detection of the hand.
- **LED On time:** In the event of selecting the LED control according to the detection, it sets the time that the LED will be in "ON State".
- **LED ON when...:** In case of selecting the LED control based on a communication object, it sets if the LED will be in "ON State" when a "1" or "0" is received.

LED control	<input checked="" type="radio"/> Via communication object	<input type="radio"/> When detection
LED ON when...	<input type="radio"/> "0"	<input checked="" type="radio"/> "1"

- **Timed ON:** In case of selecting the LED control based on a communication object, allows setting the "ON State" of the LED in a timed way. Once the set time elapses, the LED will go back to the state set as "OFF State". This time will be the multiplication of the "On Time Base" by the "Factor".

LED control	<input checked="" type="radio"/> Via communication object	<input type="radio"/> When detection
LED ON when...	<input type="radio"/> "0"	<input checked="" type="radio"/> "1"
Timed ON	<input checked="" type="checkbox"/>	
On Time base	1 sec	
Factor (Total time = Base x Factor)	1	

- **ON State:** Sets the behavior of the LED when the hand is detected or when it is set by the associated communication object.

ON State	
ON state brightness %	0
ON state Red LED %	0
ON state Green LED %	0
ON state Blue LED %	0
LED Functionality	<input checked="" type="radio"/> Permanent <input type="radio"/> Flashing

- **OFF State:** Sets the behavior of the LED when the hand is not detected or when it is set by the associated communication object.

OFF State	
OFF state brightness %	0
OFF state Red LED %	0
OFF state Green LED %	0
OFF state Blue LED %	0
LED Functionality	<input checked="" type="radio"/> Permanent <input type="radio"/> Flashing

Pushbutton function

Configuration

A second main menu allows configuring the functionality of the proximity sensor:

+ Device Configuration	Function of Channel	Switch
- Pushbutton function	Show "Disable Detection" object	<input type="checkbox"/>
Configuration	Distinction between Short and Long Detection	<input type="checkbox"/>
- Internal Temperature Sensor	Cyclic transmission	No
Configuration	Action on Detection	Toggle
	Action on Detection Released	None
	Transmit State after recovering bus voltage	<input type="checkbox"/>

- **Function of Channel:** Sets the functionality of the Channel.

Function of Channel	<div>Switch</div> <div>Not assigned</div> <div>Switch ✓</div> <div>Dimmer</div> <div>Shutter/Blind</div> <div>Scene Control</div> <div>Fixed/Forced Value</div>
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- **Switch:** Permite realizar encendidos y apagados a través de un actuador de conmutación.

Function of Channel	Switch
Show "Disable Detection" object	<input type="checkbox"/>
Distinction between Short and Long Detection	<input type="checkbox"/>
Cyclic transmission	No
Action on Detection	Toggle
Action on Detection Released	None
Transmit State after recovering bus voltage	<input type="checkbox"/>

- **Show "Disable Detection" object:** Enables an object to control the activation of the detection and, therefore, the channel.
- **Distinction between Short and Long Detection:** Allows to distinguish between short and long hand detection.

Distinction between Short and Long Detection	<input checked="" type="checkbox"/>
Number of objects for Short/Long Detection	<input checked="" type="radio"/> 1 <input type="radio"/> 2
Long Detection after...	1 sec
Long Detection	On
Short Detection	Toggle

- **Number of objects for Short/Long Detection:** Establece si únicamente se dispondrá de 1 objeto de salida o de 2 objetos, uno cuando la detección es corta y otra cuando ésta es larga.
- **Long Detection after...:** Time while the hand must be detected to consider it as long action.
- **Long Detection:** Action to be carried out after a long detection.

Long Detection	<div>On</div> <div>On <input checked="" type="checkbox"/></div> <div>Off</div> <div>Toggle</div> <div>None</div>
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- **Short Detection:** Action to be carried out after a short detection.

Short Detection	<div>Toggle</div> <div>On</div> <div>Off</div> <div>Toggle <input checked="" type="checkbox"/></div> <div>None</div>
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- **Dimmer:** Permite realizar encendidos y apagados a través de un actuador de conmutación.

Function of Channel	Dimmer
Show "Disable Detection" object	<input type="checkbox"/>
Dimming Functionality	<input checked="" type="radio"/> Dimming and Switching <input type="radio"/> Only Dimming
Long Detection after...	1 sec
Short Detection	Toggle
Long Detection	Dimming Up/Down

- **Show "Disable Detection" object:** Enables an object to control the activation of the detection and, therefore, the channel.
- **Dimming Functionality:** Sets if only dimming is allowed or switching and dimming.
- **Long Detection after...:** Time while the hand must be detected to consider it as long action.
- **Short Detection:** Action to be carried out after a short detection.

Short Detection	<div>Toggle</div> <div>On</div> <div>Off</div> <div>Toggle </div> <div>None</div>
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- **Long Detection:** Action to be carried out after a long detection.

Long Detection	<div>Dimming Up/Down</div> <div>Dimming Up/Down </div> <div>Dimming Up</div> <div>Dimming Down</div>
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- **Shutter/Blind:** A Blind or Shutter can be controlled.

Function of Channel	Shutter/Blind
Show "Disable Detection" object	<input type="checkbox"/>
Functional Construction	1 Pushbutton
Shutter Control Functionality	Short=Step, Long=Move
Long Detection after...	1 sec

- **Show “Disable Detection” object:** Enables an object to control the activation of the detection and, therefore, the channel.
- **Functional Construction:** Sets the behavior of the channel, as Push Button or Switch, single or double.

Functional Construction	<div>1 Pushbutton</div> <div>1 Pushbutton ✓</div> <div>1 Switch Move</div> <div>2 Pushbuttons</div> <div>2 Switches Move</div> <div>2 Pushbuttons Step</div> <div>2 Pushbuttons Move</div>
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- Operation as “**1 Pushbutton**”: Sends Move Up/Down or Step telegrams, depending on the length of the detection. This function is useful when a blind must be controlled from a single button.

Functional Construction	1 Pushbutton
Shutter Control Functionality	<div>Short=Step, Long=Move</div> <div>Short=Step, Long=Move ✓</div> <div>Short=Move, Long=Step</div> <div>Up-Stop-Down-Stop</div>

- Operation as “**1 Switch Move**”: Sends Move Up/Down telegrams, but not Step. This function is useful when a blind must be controlled from a single switch.
- Operation as “**2 Pushbuttons**”: Sends Move Up/Down or Step telegrams, depending on the length of the detection. This function is useful when a blind must be controlled from two buttons.

Functional Construction	2 Pushbuttons
Short Detection	<input checked="" type="radio"/> Step Down <input type="radio"/> Step Up
Long Detection	<input checked="" type="radio"/> Move Up <input type="radio"/> Move Down
Long Detection after...	1 sec

- Operation as “**2 Switches Move**”: Sends Move Up/Down telegrams, but not Step. This function is useful when a blind must be controlled from two switches.

Functional Construction	2 Switches Move ▼
Long Detection	<input checked="" type="radio"/> Move Up <input type="radio"/> Move Down

- Operation as “**2 Pushbuttons Step**”: Sends Step Up/Down or Step telegrams, depending on the length of the detection. This function is useful when a blind must be controlled from two buttons.

Functional Construction	2 Pushbuttons Step ▼
Short Detection	<input checked="" type="radio"/> Step Down <input type="radio"/> Step Up

- Operation as “**2 Pushbuttons Move**”: Sends Move Up/Down or Step telegrams, depending on the length of the detection. This function is useful when a blind must be controlled from two buttons.

Functional Construction	2 Pushbuttons Move ▼
Long Detection	<input checked="" type="radio"/> Move Up <input type="radio"/> Move Down

- **Long Detection after...:** Time while the hand must be detected to consider it as long action.

- **Scene Control:** Allows saving and recalling a Scene.

Function of Channel	Scene Control
Show "Disable Detection" object	<input type="checkbox"/>
Type of Scene Control	<input checked="" type="radio"/> 8 Bits Scene <input type="radio"/> 1 Bit Scene
Scene number	1
Short Detection	<input checked="" type="radio"/> Call <input type="radio"/> Ignore
Save Scene	No

- **Show "Disable Detection" object:** Enables an object to control the activation of the detection and, therefore, the channel.
- **Type of Scene Control:** Sets the length of the object "Short Detection: Send Scene": 1 Bit or 8 Bits.
- **Scene number:** Ascribes a Scene number to the input. It can be an 8 Bit (1 to 64) or 1 Bit (1 or 2) Scene.
- **Short Detection:** Assigns a specific function to a short detection: recall a scene or ignore it.
- **Save Scene:** Establishes the action to be carried out to save a Scene and be able to recall it later.

Save Scene	<div> No </div> <div> No ✓ </div> <div>On Long Detection</div> <div>With Object value = 1</div> <div>On Long Detection if Object value = 1</div>
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- **No:** it is not possible saving a Scene.
- **On Long Detection:** the Scene is saved after a long detection.
- **With Object value = 1:** the Scene is saved setting the object "Long Detection: Save Scene" to "1".
- **On Long Detection if Object value = 1:** the Scene is saved after a long detection if the object "Long Detection: Save Scene" is set to "1".
- **Long Detection after...:** Time while the hand must be detected to consider it as long action.

- **Fixed / Forced Value:** This function permits the sending of Fixed or Forced values.

Function of Channel	Fixed/Forced Value
Show "Disable Detection" object	<input type="checkbox"/>
Distinction between Short and Long Detection	<input checked="" type="checkbox"/>
Value type on Short Detection	1 Bit
Bit value	<input checked="" type="radio"/> 0 <input type="radio"/> 1
Value type on Long Detection	1 Bit
Bit value	<input checked="" type="radio"/> 0 <input type="radio"/> 1
Long Detection after...	1 sec

- **Show "Disable Detection" object:** Enables an object to control the activation of the detection and, therefore, the channel.
- **Distinction between Short and Long Detection:** Allows to distinguish between a short and a long detection. In this way, two different actions can be executed depending on the duration of the approaching of the hand. 2 different objects will be available.

Distinction between Short and Long Detection	<input checked="" type="checkbox"/>
Value type on Short Detection	1 Bit
Bit value	<input checked="" type="radio"/> 0 <input type="radio"/> 1
Value type on Long Detection	1 Bit
Bit value	<input checked="" type="radio"/> 0 <input type="radio"/> 1
Long Detection after...	1 sec

- **Value type on Short Detection:** Determines the type of value that will be sent through the object "Short Detection: X value".

Value type on Short Detection	1 Bit
	<div> <div>1 Bit</div> <div>2 Bits</div> <div>1 Byte</div> <div>2 Bytes signed</div> <div>2 Bytes unsigned</div> <div>2 Bytes floating</div> <div>4 Bytes unsigned</div> </div>

- **Value type on Long Detection:** Determines the type of value that will be sent through the object "Long Detection: X value".

Value type on Long Detection	<div>1 Bit</div> <div>1 Bit ✓</div> <div>2 Bits</div> <div>1 Byte</div> <div>2 Bytes signed</div> <div>2 Bytes unsigned</div> <div>2 Bytes floating</div> <div>4 Bytes unsigned</div>
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- **Long Detection after...:** Time while the hand must be detected to consider it as long action.

Internal Temperature Sensor

Configuration

A third main menu allows configuring the functionality of the temperature sensor that incorporates the Switch:

+ Device Configuration	Enable Temperature Sensor	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
+ Pushbutton function	Temperature Sensor calibration value	0 [x 0,1°C]
- Internal Temperature Sensor	"Temperature Sensor" enabled after recovering bus voltage	<input checked="" type="checkbox"/>
Configuration	Base time to send Temperature	1 min
	Factor (Total time = Base x Factor)	1 (0=Disable)
	Temperature variation for sending value	5 x 0,1°C (0=Disable)
	Protection Alarms	No protection

- **Enable Temperature Sensor:** The built-in Temperature Sensor can be enabled or disabled.
- **Temperature Sensor calibration value:** Allows calibrating the temperature sensor in case of deviation.
- **"Temperature Sensor" enabled after recovering bus voltage:** Determines if the temperature functionality will be enabled after bus voltage is restored.
- **Base time to send Temperature:** Time base to set the sending period of the measured temperature.
- **Factor:** Time factor to set the sending period of the measured temperature. If it is set to 0, the periodic sending of the temperature is disabled.
- **Temperature variation for sending value:** Temperature variation that must happen to send the updated value. If set to 0, sending is not enabled.
- **Protection Alarms:** Allows enabling Overheating or / and Overcooling alarm objects. Once the desired alarm or alarms have been selected, it will be necessary to define its activation temperature and, if desired, a hysteresis.

Protection Alarms	Over-Heating and Over-Cooling
Over-Heating Temperature	45 [x 1°C]
Over-Cooling Temperature	-29 [x 1°C]
Hysteresis	0 [x 0,1°C]

COMMUNICATION OBJECTS

Communication Objects – Device Configuration

	Number ^	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
↔	20	LED Button A	0 = Off; 1 = On	1 bit	C	-	W	-	-	switch	Low
↔	21	LED Button B	0 = Off; 1 = On	1 bit	C	-	W	-	-	switch	Low

Number	Name	Function	Description
20	LED Button A	0 = Off, 1 = On	Object that allows linking the LED A to the status of another 1-bit object
21	LED Button B	0 = Off, 1 = On	Object that allows linking the LED B to the status of another 1-bit object

Communication Objects – Pushbutton function

Switch

	Number ^	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
↔	24	[PB] Disable Detection	1 = Disable, 0 = Enable	1 bit	C	-	W	-	-	enable	Low
↔	25	[PB] Short Detection: Switch	1 = On; 0 = Off	1 bit	C	R	-	T	-	switch	Low
↔	26	[PB] Long Detection: Switch	1 = On; 0 = Off	1 bit	C	R	-	T	-	switch	Low

Number	Name	Function	Description
24	[PB] Disable Detection	1 = Deshabilitar; 0 = Habilitar	Input object which enables or disables the channel
25	[PB] Short Detection: Switch	1 = On, 0 = Off	1-Bit output object. If a single object is used for both short and long detection, this will be the common object. If 2 objects are used, this will correspond to the short detection
26	[PB] Long Detection: Switch	1 = On, 0 = Off	1-Bit output object for the long detection

Dimmer

	Number ^	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
➡	24	[PB] Disable Detection	1 = Disable, 0 = Enable	1 bit	C	-	W	-	-	enable	Low
➡	25	[PB] Detection	1 = On; 0 = Off	1 bit	C	R	-	T	-	switch	Low
➡	26	[PB] Long Detection: Dimming	Dimming control	4 bit	C	R	-	T	-	dimming control	Low

Number	Name	Function	Description
24	[PB] Disable Detection	I = Disable; 0 = Enable	Input object which enables or disables the channel
25	[PB] Detection	I = On, 0 = Off	I-Bit output object for short detection
26	[PB] Long Detection: Dimming	Dimming control	4-Bit Dimming output object for long detection

Shutter/Blind

	Number ^	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
➡	24	[PB] Disable Detection	1 = Disable, 0 = Enable	1 bit	C	-	W	-	-	enable	Low
➡	25	[PB] Short Detection: Blind Step/Stop	0 = Step Up / Stop, 1 = Step Down / Stop	1 bit	C	R	-	T	-	step	Low
➡	26	[PB] Long Detection: Move Blind	0 = Up, 1 = Down	1 bit	C	R	-	T	-	up/down	Low

Number	Name	Function	Description
24	[PB] Disable Detection	I = Disable; 0 = Enable	Input object which enables or disables the channel
25	[PB] Short Detection: Blind Step/Stop	0 = Step Up / Stop; I = Step Down / Stop	Step or Stop output object
26	[PB] Long Detection: Move Blind	0 = Up; I = Down	Moving output object

Scene Control

	Number ^	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
➡	24	[PB] Disable Detection	1 = Disable, 0 = Enable	1 bit	C	-	W	-	-	enable	Low
➡	25	[PB] Short Detection: Send Scene	8-bit Scene Control	1 byte	C	R	-	T	-	scene control	Low
➡	26	[PB] Long Detection: Save Scene	0 = No action, 1 = Save Scene	1 bit	C	-	W	-	-	enable	Low

Number	Name	Function	Description
24	[PB] Disable Detection	I = Disable; 0 = Enable	Input object which enables or disables the channel
25	[PB] Short Detection: Send Scene	I - /8-bit Scene Control	Output object for Scene sending. It can be a I-Bit or I-Byte object
26	[PB] Long Detection: Save Scene	0 = No action; I = Save Scene	I-Bit object for saving one Scene

Fixed/Forced Value

	Number ^	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
➡	24	[PB] Disable Detection	1 = Disable, 0 = Enable	1 bit	C	-	W	-	-	enable	Low
➡	25	[PB] Short Detection: 1-Bit value	1-Bit value sending	1 bit	C	R	-	T	-	state	Low
➡	26	[PB] Long Detection: 1-Bit value	1-Bit value sending	1 bit	C	R	-	T	-	state	Low

Number	Name	Function	Description
24	[PB] Disable Detection	I = Disable; 0 = Enable	Input object which enables or disables the channel
25	[PB] Short Detection: X value	X value sending	Output object for sending a value after a short detection
26	[PB] Long Detection: X value	X value sending	Output object for sending a value after a long detection

Communication Objects – Internal Temperature Sensor

	Number ^	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
➡	48	[Temp] Disable Temperature Sensor	1 = Disable; 0 = Enable	1 bit	C	-	W	-	-	enable	Low
➡	49	[Temp] Temperature Value	Temperature Value	2 bytes	C	R	-	T	-	temperature (°C)	Low
➡	50	[Temp] Temperature Sensor Over-Heating	1 = Over-Heating; 0 = No Over-Heating	1 bit	C	R	-	T	-	alarm	Low
➡	51	[Temp] Temperature Sensor Over-Cooling	1 = Over-Cooling; 0 = No Over-Cooling	1 bit	C	R	-	T	-	alarm	Low

Number	Name	Function	Description
48	[Temp] Disable Temperature Sensor	I = Disable; 0 = Enable	1-Bit object to enable or disable the temperature sensor functionality
49	[Temp] Temperature Value	Temperature Value	2-Byte output object of the measured temperature
50	[Temp] Temperature Sensor Over-Heating	I = Over-Heating, 0 = No Over-Heating	Alarm object for over-heating
51	[Temp] Temperature Sensor Over-Cooling	I = Over-Cooling, 0 = No Over-Cooling	Alarm object for over-cooling