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WEINZIERL 5230 KNX IO 511 Switch Actuator Instruction Manual

**5230 KNX IO 511 Switch Actuator
Instruction Manual**

Operation and installation manual
KNX IO 410 (4I)
**(Art. # 5230)**
Binary input with 4 channels

Contents

Application area

The KNX IO 410 (4I) is a compact binary input with 4 channels to control lights, shutter etc.
The inputs can be connected to conventional switches with an external voltage of 12 to 230 V.
Two push buttons and three LEDs allow a local operation and a visualization of the device state.
In addition to the input channels the device includes 16 independent functions for logic or timer control.

Installation and Connection

The KNX IO 410 (4I) is designed for installation on a DIN rail (35mm) with a width of 1 unit (18 mm). An installation-friendly design with pluggable screw terminals helps to reduce the cost of commissioning. It features the following controls and displays:
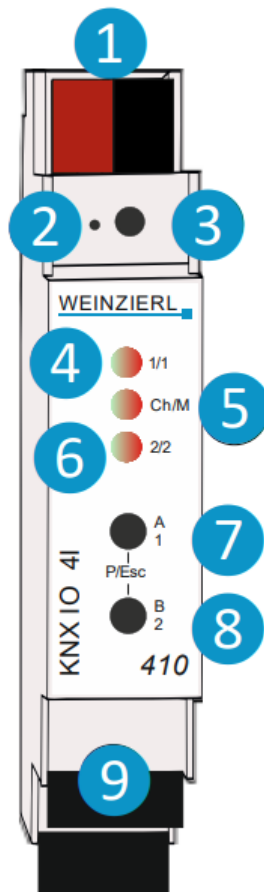
1. KNX bus connector
2. Programming LED
3. Button f. programming mode
4. 1/1 LED (multicolor)
5. Ch/M LED (multicolor)
6. 2/2 LED (multicolor)
7. Button A1
8. Button B2
9. Pluggable screw terminals

This device is powered by the KNX bus. An external power supply is not necessary
The device is not working without bus power.

A. KNX Programming mode
The KNX programming mode is activated/deactivated either by pressing the flushed KNX programming button ❸ or by simultaneously pressing the buttons ❼ and ❽. When the programming mode is active, the programming LED ❷ and LED Ch/M ❺ light red.

Manual operation and status display

The LED Ch/M ❺ lights up or flashes if the device is successfully powered by the KNX bus By pressing button A1 ❼ long, the manual operation mode will be entered for channel pair A (Ch A In1/In2). This is indicated by cyclic single flashing of LED Ch/M ❺ in orange. By pressing button B2 ❽ long, the manual operation mode will be entered for channel pair B (Ch B In1/In2). This is indicated by cyclic double flashing of LED Ch/M ❺ in orange. If manual operation of a channel pair is activated, the bus telegrams of In1 and In2 can be triggered by button A1 ❼ and B2 ❽, if input channel is configured by ETS. LED 1/1 ❹ and LED 2/2 ❻ are used to indicate state of selected channel pair while manual operation. They light green when the button A1❼ or B2❽ is pressed. Summary of the

states of LED Ch/M ❺:

LED Status	Meaning
LED lights green	Device is working in standard operation mode.
LED lights red	Programming mode is active.
LED flashes 1x orange	Programming mode is not active. Manual operation is active: Switching first channel pair (Ch A In1/In2)
LED flashes 2x orange	Programming mode is not active. Manual operation is active: Switching first channel pair (Ch B In1/In2)
LED blinks red	Programming mode is not active. Manual operation is not active. The device is not properly loaded e.g. after an interrupted download .
LED blinks green	The device is currently loaded by the ETS.

Reset to factory device settings

It is possible to reset the device to its factory settings:

- Disconnect the KNX Bus connector ❶ from device
- Press the KNX programming button ❸ and keep it pressed down
- Reconnect the KNX Bus connector ❶ of device
- Keep the KNX programming button ❸ pressed for at least another 6 seconds
- A short flashing of all LEDs (❷❹❺❻) visualizes the successful reset of the device to factory default settings.

Wiring scheme
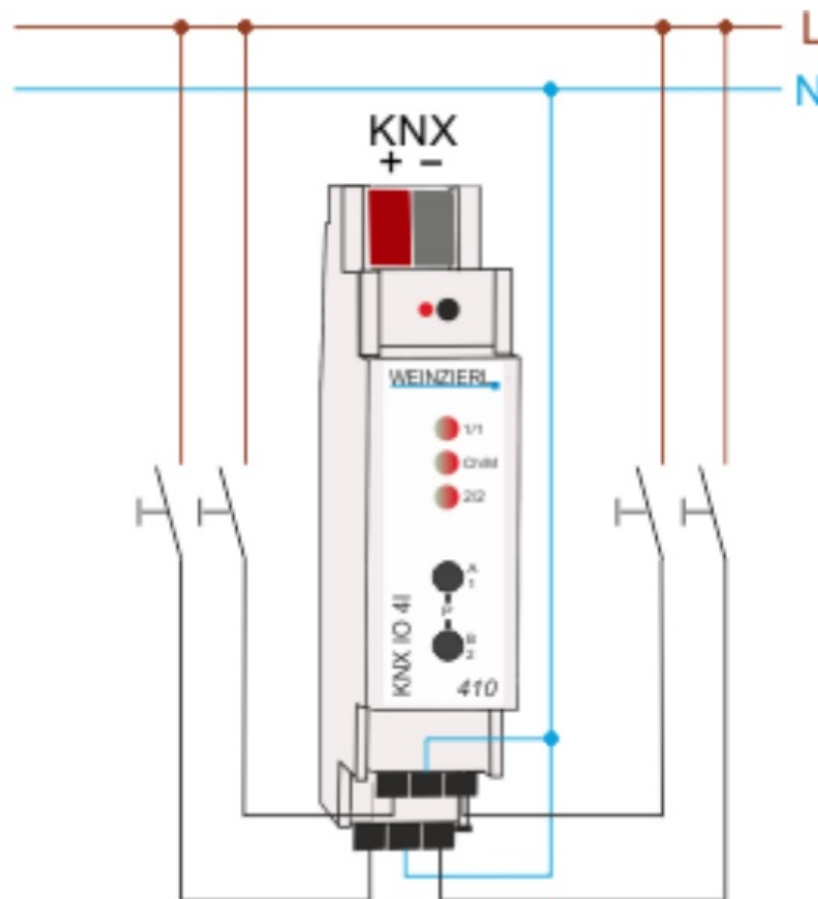
B. Pluggable screw terminals

The assignment of the Pluggable screw terminals ❾ is as follows: Upper row first channel pair A, left Input 1, right Input 2, in the middle Common. Lower row second channel pair B, left Input 1, right Input 2, in the middle Common:

Ch A In 1	Ch A Cm	Ch A In 2
Ch B In 1	Ch B Cm	Ch B In 2

It is allowed to connect on the top connector compared to the bottom connector a different phase or voltage.

ETS database

The ETS database (for ETS 4.2 ETS and 5) can be downloaded from the product website of the KNX IO 410 (4I) (**www.weinzierl.de**) or from the ETS online catalogue. The following pages and parametersare visible in the ETS.

C. Description

The first page shows general information about the device.

D. General settings

Device name (30 Characters)
An arbitrary name can be assigned for the KNX IO 410 (4I). The device name should be meaningful, e.g. „Living Room". This helps the clarity of the ETS project.

Send delay after bus power return
A send delay of telegrams after the return of the bus voltage can be set via this parameter. In this case, telegrams from the device are sent to the KNX bus in a delayed manner by the set time.
This results in a reduction of the bus load at a bus power return.
Other functions such as receiving telegrams or query of the inputs are not affected by this parameter.

Prog. mode on device front
In addition to the normal programming button ❸ the device allows activating the programming mode on the device front without opening the switchboard cover. The programming mode can be activated and deactivated via pressing simultaneously both buttons ❼ and ❽.
This feature can be enabled and disabled via the parameter "Prog. mode on device front". The recessed programming button ❸ (next to the Programming LED ❷) is always enabled and not influenced by this parameter.

Manual operation on device
This parameter is used to configure the manual operation on the device. The manual operation mode can be disabled or activated (with or without time limitation). The time limit defines the duration until the automatic return from the manual operation mode back into the normal operating mode.

The device is in normal operating mode when the manual control is not active. In the manual operating mode, received switching telegrams are ignored. When the manual operation mode is terminated (after expiry of the time limit or manually by pressing both buttons ❼ and ❽), the next telegram is sent on state change of the inputs.

The following options are selectable :

- Disabled

- Enabled with time limit 1 min

- Enabled with time limit 10 min

- Enabled with time limit 30 min

- Enabled without time limit

Heartbeat
Cyclic sending of values to the KNX-Bus, to indicate that the device is operational. For the Cycle time values between 1 min and 24h are selectable.

Group Object	Type KNX	Size	Direction
GO 1 Heartbeat – Trigger	1.001	1 Bit	To KNX

Furthermore, the parameters Heartbeat and Cycle time are used as configuration for cyclic sending, in case that switching is configured as state query. For a more detailed description regarding state query please take a look at "Input A1:
Switching – State query".

Long button press after
The time for detection of a long button press can be set herethis time is valid for all input channels.

LED visualization top/bottom
Here the operating mode of the LEDs ❹ and ❺ in normal operation can be set, it is selectable:
– Disabled
LED is disabled always.
– Channel A1

– Channel A2
– Channel B1
– Channel B2
LED indicates the state of the connected contact at the selected input ❾.
– Via group object
LED is operated only via group object.

E. Input A1: General

Name (30 Characters)
An arbitrary name can be assigned for the channel. However, this should be clear and meaningful, this makes it easier to work with the associated group objects, because the given name is displayed there as a label. If no name is assigned, the group objects are named "Input …".with the channel number, which is also used in this manual. The 1st channel will be described below, the functioning of the other 3 channels is according to the 1st.

Function
This parameter defines the functionality of the connected contact.
The following options are selectable:
– Disabled
– Switching
– Dimming
– Shutter
– Send value
– Scene
– Impulse counter

A more detailed description of the functions can be found in the individual function descriptions.
F. Function „Switching, Dimming, Shutter, Send value, Scene"

Description	
General settings	
Logic / Timer	
— Channel A: Input 1	
Input A1: General	
Input A1: Switching	
Input A1: Lock function	
+ Channel A: Input 2	
+ Channel B: Input 1	
+ Channel B: Input 2	

Polarity of object   ● Lock active on 1   ○ Lock active on 0

Behavior of output a on start   No reaction ▼

Behavior of output a at end   No reaction ▼

If an input function of a channel is selected, the following parameters are displayed:

Type
The mode of operation of the contact connected to the input channel can be configured here:
– Normally open contact
– Normally closed contact

Lock function
With this parameter the lock function can be enabled. If this functionality is activated, the associated group objects as well as the parameter page "Input A1: Lock function" are displayed for further configuration. If the lock has been activated via the group object, no telegrams are triggered by state changes of the connected contact.

Group Object	Type KNX	Size	Direction
GO 16 Input A1: Lock – Activate	1.001	1 Bit	From KNX

G. Input A1: Lock function

Description	Name	Input A1
General settings	Function	Switching ▼
Logic / Timer	Type	○ Normally open contact ○ Normally closed contact
— Channel A: Input 1	Lock function	◉ Disabled ○ Enabled
Input A1: General		
Input A1: Switching		
+ Channel A: Input 2		
+ Channel B: Input 1		
+ Channel B: Input 2		

Polarity of object
This parameter defines, if the lock should be activated by receiving a 1 or by receiving a 0. The following options are selectable:
– Lock active on 1
– Lock active on 0

Behavior of (…) on start
The telegram can be configured here, which is sent when the lock is activated.

Behavior of (…) at end
The telegram can be configured here, which is sent when the lock is deactivated.

H. Function „Impulse counter"

Description	Name	Input A1
General settings	Function	Impulse counter ▼
Logic / Timer	Input signal	◉ Direct current ○ Alternate current
	The signal shall not exceed 100 ticks per second	
— Channel A: Input 1	Count on	◉ Rising edges ○ Falling edges
Input A1: General	Scaled counter (e.g. [kWh])	◉ Disabled ○ Enabled
+ Channel A: Input 2	Rate of change (e.g. [kW], [m/s], [km/h])	◉ Disabled ○ Enabled
+ Channel B: Input 1		
+ Channel B: Input 2		

If the impulse counter function is selected, further parameters are displayed in the general settings of the input channel. Here, the general settings of the impulse counter are made, a scaled counter and/or counter of the rate of change must also be selected.

Input signal
Here it can be selected whether DC or alternating voltage is applied to the binary input.

Count on
This parameter can be used to determine whether the value of the counter is increased at the rising or falling edge at the input

Scaled counter (e.g. [kWh])
Here, the scaled counter can be activated, the parameter page "Scaled counter" is displayed when activated.

Rate of change (e.g. [kW], [m/s], [km/h])
The counter for a rate of change can be activated here. If activated, the "Rate of change" parameter page is displayed.

I. Input A1: Switching

If the switching function is selected, up to 2 binary switching telegrams can be sent via the following objects:

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Output a – Switch	1.001	1 Bit	To KNX
GO 12 Input A1: Output b – Switch	1.001	1 Bit	To KNX

Output b is only visible when activated by parameter.

User control
The parameter "User control" determines whether telegrams are sent when the input is changed (e.g. key switches) or when the input is operated short/long (e.g. switching/dimming switches).

Function of (…) on press / short press
Function of (…) on release / long press
It is selectable for each object, which telegram is sent on opening/closing the contact or on short/long button press.

– No reaction
– Switch on
– Switch off
– Toggle

Output b
Here you can show/hide the parameters and the object for output b.

J. Input A1: Switching – State query
The state query function is used, for example, to monitor window contacts.
The state query mode is recognized automatically by the firmware, if the following parameter setting is configured:
User control: Press / Release
Function of (…) on press: Switch on
Function of (…) on release: Switch off or inverted:
User control: Press / Release
Function of (…) on press: Switch off
Function of (…) on release: Switch on

If a state query is configured, the value on the object is kept up to date. The value corresponding to the current state is read. If the lock is active, the object value corresponds to the last state before the lock or to the configured value on lock.
Cyclic sending of this actual value is possible. Via activating the parameter Heartbeat on page General settings the object value of the state query is sent cyclically on the KNX bus (see Heartbeat), but not if the lock is activated. The cycle time is also used from the corresponding parameter of the heartbeat.

K. Input A1: Dimming

On selection of function Dimming following objects are visible:

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Dimming on/off – Switch	1.001	1 Bit	To KNX
GO 12 Input A1: Dimming relative – Brighter/Darker	3.007	4 Bit	To KNX

Dimming function

The dimming function parameter determines whether only one switching / dimming direction or 1-button control is to be used:

– On / Dim brighter
– Off / Dim darker
– Toggle direction

If the input detects a short button press, a switching telegram is sent via object 11. On long button press, a relative dimming is sent over the entire dimming range to object 12. When releasing after long button press, a dimming-stop telegram is sent via object 12.

The time for detection of a long button press can be set in the general parameters and is valid for all channels.

Input A1: Shutter

On selection of Shutter function following objects are visible:

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Drive start – Up/Down	1.008	1 Bit	To KNX
GO 12 Input A1: Drive stop – Step/Stop	1.007	1 Bit	To KNX

Shutter function

The "Shutter function" parameter determines whether only one shutter direction or 1-button control is to be used:
– Up / Step-Stop
– Down / Step-Stop
– Toggle direction

User control

The parameter "User control" determines the sending of telegrams on short and long button press:
– Long = Drive / Short = Step/Stop Long button press: Drive command via object 11. Short button press: Stop/step command via object 12
– Short = Drive / Short = Step/Stop Alternately drive command via object 11 und stop/step command via object 12 on short button press, long button press is not evaluated
– Pressed = Drive / Release = Stop On button press drive command via object 11, on releasing the button stop/step command via object 12
The time for detection of a long button press can be set in the general parameters and is valid for all channels.

L. Input A1: Send value

-.-.- KNX IO 410 (4I) > Channel A: Input 1 > Input A1: Shutter

Description	Shutter function	Up / Step-Stop ▼
General settings	User control	Long = Drive / Short = Step-Stop ▼
Logic / Timer		
– Channel A: Input 1		
Input A1: General		
Input A1: Shutter		
Input A1: Lock function		
+ Channel A: Input 2		
+ Channel B: Input 1		
+ Channel B: Input 2		

If function Send value is selected, the following telegrams can be sent at button press:
– 1 byte – Percent value

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Send percent value (1 byte) – Set value	5.001	1 Byte	To KNX

– 1 byte – Integer value

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Send integer value (1 byte) – Set value	5.010	1 Byte	To KNX

– 2 byte – Integer value

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Send integer value (2 byte) – Set value	7.001	2 Byte	To KNX

– 2 byte – Float value

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Send float value (2 byte) – Set value	9.001	2 Byte	To KNX

– 3 byte – RGB value

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Send RGB color value (3 byte) – Set value	232.600	3 Byte	To KNX

– 14 byte – ASCII string

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Send ASCII string (14 byte) – Set value	16.000	14 Byte	To KNX

– Shutter

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Send blind position – Set position	5.001	1 Byte	To KNX
GO 12 Input A1: Send slat position – Set position	5.001	1 Byte	To KNX

A field for entering the values to be sent is displayed, as well as the objects appropriate to the selected type.
If the shutter is selected as the value to be sent, height is sent on button press, lamella is sent on releasing the button, if the respective value is used.

M. Input A1: Scene

Description	
General settings	
Logic / Timer	
— Channel A: Input 1	
Input A1: General	
Input A1: Scene	
+ Channel A: Input 2	
+ Channel B: Input 1	
+ Channel B: Input 2	

Scene position 1	Disabled ▼
Scene position 2	Disabled ▼
Scene position 3	Disabled ▼
Scene position 4	Disabled ▼
Scene position 5	Disabled ▼
Scene position 6	Disabled ▼
Scene position 7	Disabled ▼
Scene position 8	Disabled ▼
Reset scene position	30 s ▼
Condition on long button press	Save last scene ▼
Condition on very long button press	Save last scene ▼

On selection of Scene function the following object is visible:

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Scene – Activ./Lrn.	18.001	1 Byte	To KNX

Scene position 1 – 8
For each position, scene 1 – 64 can be activated.
If only one scene position is activated, it is sent on short button press.
If several scene positions are used, the activated positions are switched through with each short button press.

Reset scene position
The behavior for selection and transmission of the scene positions can be determined via the parameter "Resetscene position":

– Never
Starting with the first scene position, the next scene position of the list is sent with each short button press, after the last scene position has been sent, the list starts again from the beginning.

– After execution
Beginning with the first scene position, each short button press switches the scene position by one position within the execution delay, at the end of the execution delay, the current scene position is sent

– 5 Sec. – 10 Min.
On each button press the configured delay time is started.
Starting with the first scene position, the next scene position of the list is sent with each short button press, after the last scene position has been sent, the list starts again from the beginning. After the delay time has expired, the list starts again at the first scene position on the next short button press.
When the lock function is used, the scene position is always reset when unlocking.

Condition on long/very long button press

It is also possible to select how a long and very long button press is to be treated:

– No reaction

– Save last scene

A telegram for "save scene" with the last sent scene is triggered.

– Send scene

The scene configured in the appearing parameter is sent.

– Reset position

This function is used to override the behavior as set in the "Reset scene position" parameter.

The duration of time for detecting a very long button press is twice the time for detecting a long button press, as it is parameterized in the general settings.

N. Input A1: Scaled counter

This counter can be used to count values on input impulses, where an integer value or a floating-point value can be selected as a counter variable. With this function, e.g. Electrical energy can be counted directly and sent to the bus via an object.

Scaling factor (Value per pulse)

Here, a floating-point value is to be entered. It determines the value by which the counter value is increased per pulse.

Datapoint type

The datapoint type of output object of the counter variable can be selected here:

– Integer (32 Bit) – DPT 13

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Counter – Value	13.013	4 Byte	To KNX

– Float (16 Bit) – DPT 9

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Counter – Value	9.024	2 Byte	To KNX

– Float (32 Bit) – DPT 14

Group Object	Type KNX	Size	Direction
GO 11 Input A1: Counter – Value	14.056	4 Byte	To KNX

Send condition
This parameter can be used to determine how the current counter value is to be sent:

– On read
No independent sending of the counter value by the device. To read the counter value, the read-flag of the group object has to be set.

– On change
An additional parameter is displayed to select the minimal delta from the last sent value for sending a new counter value.

– Cyclically
An additional parameter is displayed to configure the sending frequency of the counter variable.

– On change and cyclically
Both sending conditions are active.
If the counter is locked by the object, also cyclic sending is stopped.

Monitoring limit value

When limit monitoring is activated, the following object is displayed:

Group Object	Type KNX	Size	Direction
GO 12 Input A1: Counter threshold – State	1.002	1 Bit	To KNX

When limit monitoring is activated, the following parameters are displayed:

Limit value
Here you can edit the checked limit value. The datapoint type is the same as the counter value.

Behavior on reaching limit value (object)
Here it is possible to determine whether a 0 or a 1 is sent via the object "Counter threshold – State" when the limit value is reached.

Behavior on reaching limit value (counter)
In addition to the limit value itself, it is possible to determine the behavior of the counter when the limit value is reached:

– Counter continue

Counter value continues increasing on ever pulse
– Counter reset and continue
Counter value is reset to 0 and continues increasing on ever pulse
– Counter stop
Counter value stays on limit value and must be reset by object

Send on device restart
It can be determined with this parameter whether the counter value should be sent when the device is restarted.
Reset via object
If this function is activated, the following object appears:

Group Object	Type KNX	Size	Direction
GO 15 Input A1: Reset – Trigger	1.017	1 Bit	From KNX

When a telegram is received via this object, the current count values are reset to 0.

Reset after ETS download
If this parameter is activated, the counter values are reset to 0 after device reset (e.g. after ETS download), otherwise they are retained.

Lock function
The lock function can be activated or deactivated here. If this functionality is activated, the following group object appears, as well as the parameter page "Lock function" for detailed configuration.

Group Object	Type KNX	Size	Direction
GO 16 Input A1: Lock – Activate	1.001	1 Bit	From KNX

If the lock has been activated via the group object, state changes at the input do not cause an increase of the counter variable.

O. Input A1: Lock function

Polarity of object
This parameter can be used to determine how the lock is to be activated, either by receiving a 1 or a 0. The corresponding telegram disables the lock again.

Behavior on start of lock
With this parameter the behavior of the counter can be configured when the lock is activated:
– Counter stop
– Counter stop and reset

Behavior on end of lock
With this parameter the behavior of the counter can be configured when the lock is deactivated:
– Counter continue
– Counter reset and continue

P. Input A1: Rate of change

This counter is used to connect devices to the bus where the rate of change is critical within a time interval, e.g. an anemometer.

Scaling factor (Value per delta in base time span)
A floating-point value is to be entered here. It determines the value by which the counter value is increased on every pulse

Time base
Here the time base of the rate of change can be specified:

– Pulses per second (e.g. [m/s], [km/h])
Value from parameter Scaling factor is multiplied by 1
– Pulses per hour (e.g. [kW])
Value from parameter Scaling factor is multiplied by 3600

Measurement time span
The measurement time span determines how quickly the counter can react to changes. Therefore, a short sample rate should be selected for fast processes (e.g. anemometer). The rate of change is calculated using the 3 parameters mentioned above: The device saves several meter readings per measurement interval, scales it with the scaling factor * time base and divides it by the measuring interval.

Datapoint type
The datapoint type of output object of the counter variable can be selected here:

– Floating point (16 Bit) – DPT 9

Group Object	Type KNX	Size	Direction
GO 13 Input A1: Rate of change – Value	9.024	2 Byte	To KNX

– Floating point (32 Bit) – DPT 14

Group Object	Type KNX	Size	Direction
GO 13 Input A1: Rate of change – Value	14.056	4 Byte	To KNX

Send condition
This parameter can be used to determine how the current counter value is to be sent:

– On read
No independent sending of the counter value by the device. To read the counter value, the read-flag of the group object has to be set.
– On change
An additional parameter is displayed to select the minimal delta from the last sent value for sending a new counter value.
– Cyclically
An additional parameter is displayed to configure the sending frequency of the counter variable.
– On change and cyclically
Both sending conditions are active.

Monitoring limit value
When limit monitoring is activated, the following object is displayed:

Group Object	Type KNX	Size	Direction
GO 14 Input A1: Rate threshold – State	1.002	1 Bit	To KNX

When limit monitoring is activated, the following parameters are displayed:

Limit value
Here you can edit the checked limit value. The datapoint type is the same as rate of change value.
Behavior on exceeding limit value
In addition to the limit value itself, it is possible to determine whether the counter should transmit 0 or 1 via the object if the limit value is exceeded.
Behavior on going below limit value
Here it is possible to determine whether the counter should transmit 0 or 1 via the object if the counter variable

goes under limit value.

Example: Electricity meter with S0 interface
From the data sheet of the electricity meter it can be seen that the device delivers 500 pulses per kWh. A device with constant power of 1kW is connected to this current meter for one hour.
The scaled counter measures the energy consumed:

Scaling factor: 1 / 500 = 0.002 -> Output in kWh
The counter for the rate of change measures the current power:
Scaling factor:
– Output in kW: 1/500 = 0.002
– Output in W: 1/500 * 1000 = 2
Time base: Pulses per hour Measurement time span: 300 s

Example: Anemometer
From the data sheet of the electricity meter it can be seen that the device delivers 4 pulses/s at a wind speed of 1 m/s.
The counter for the rate of change measures the wind speed:
Scaling factor:
– Output in m/s: 1/4 = 0.25
– Output in km/h: 1/4 * 3.6 = 0.9
Time base: Pulses per second
Measurement time span: 10 s

Q. Logic / Timer

Function 1 – 16
These channels contain additional functions such as timing and logic. All these 16 additional functions are

identical.

The following options are selectable:
– Disabled
– Timer
– Logic

Function type (Disabled)
If the function type is set to "Disabled", no timer or logic specific parameters and group objects are available.
Function type (Timer)
The timer-specific parameters and group objects are available.
Function type (Logic)
The logic-specific parameters and group objects are available.

Note: These additional logic and timer functions can be linked to one another by means of the associated group objects. This also allows to create complex structures. For this purpose, the output of a function is set to the same group address as the input of the next function.

R. Function 1 – 16 (Timer)

-.-.- KNX IO 410 (4I) > Function 1 > Fcn 1: Logic	
Description	Function name Fcn 1
General settings	Gate type AND gate ▼
Logic / Timer	
+ Binary input A1	
+ Binary input A2	
+ Binary input B1	
+ Binary input B2	
− Function 1	
Fcn 1: Logic	

Function name (10 Characters)
The function name can be chosen freely. The name is visible in the group object entry in the ETS software. This makes it easier to work with the associated group objects, because the given name is displayed there as a label.

Timer type (Switch-on delay)
A timer that switches ON after duration defined in 'Delay time [s]' parameter.
The output value can be inverted by parameter 'Output' (Not inverted / Inverted).
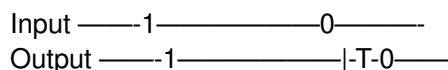
Input ——-1——————0———-
Output ——-|-T-1————0———-

Group Object	Type KNX	Size	Direction
Timer – Switch-on delayed – Input	1.002	1 Bit	From KNX
Timer – Switch-on delayed – Output	1.002	1 Bit	To KNX

Timer type (Switch-off delay)
A timer that switches OFF after duration defined in 'Delay time [s]' parameter.
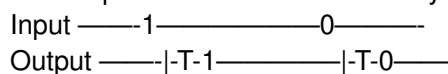The output value can be inverted by parameter 'Output'. (Not inverted / Inverted)

Input ——-1——————0———-
Output ——-1——————|-T-0——

Group Object	Type KNX	Size	Direction
Timer – Switch-off delayed – Input	1.002	1 Bit	From KNX
Timer – Switch-off delayed – Output	1.002	1 Bit	To KNX

Timer type (Switch-on and -off delay)
A timer that switches ON and OFF after duration defined in 'Delay time [s]' parameter.
The output value can be inverted by parameter 'Output'. (Not inverted / Inverted)
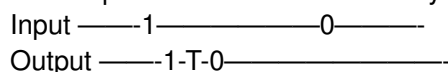Input ——-1——————0———-
Output ——-|-T-1————|-T-0——

Group Object	Type KNX	Size	Direction
Timer – Switch-on/off delayed – Input	1.002	1 Bit	From KNX
Timer – Switch-on/off delayed – Output	1.002	1 Bit	To KNX

Timer type (Impulse (Staircase))
Timer with impulse that – after being switched ON – automatically switches OFF after a defined duration defined in
'Delay time [s]' parameter.
The output value can be inverted by parameter 'Output'. (Not inverted / Inverted)
Input ——-1——————0———-
Output ——-1-T-0————————-

Group Object	Type KNX	Size	Direction
Timer – Switch-impulse (staircase) – Input	1.002	1 Bit	From KNX
Timer – Switch-impulse (staircase) – Output	1.002	1 Bit	To KNX

Each timer can be stopped by sending the opposite value to its input group object.
For example: An already started switch on timer can be stopped by sending OFF (0) to its input group object.

S. Function 1 – 16 (Logic)

Function name	Fcn 1
Timer type	Switch-on delay ▼
Delay time [s]	60 ▲▼
Output	◉ Not inverted ○ Inverted

Navigation sidebar:
- Description
- **General settings**
- Logic / Timer
- + Binary input A1
- + Binary input A2
- + Binary input B1
- + Binary input B2
- − Function 1
  - Fcn 1: Timer

Group Object	Type KNX	Size	Direction
Logic – Gate input A – Input	1.002	1 Bit	From KNX
Logic – Gate input B – Input	1.002	1 Bit	From KNX
Logic – Gate output – Output	1.002	1 Bit	To KNX

Function name (10 Characters)
The function name can be chosen freely. The name is visible in the group object entry in the ETS software. This makes it easier to work with the associated group objects, because the given name is displayed there as a label.
Gate type (AND gate)
The output is triggered on (1), if both inputs are switched on (1).
Gate type (OR gate)
The output is triggered on (1), if one or both inputs are switched on (1).
Gate type (XOR gate)
The output is triggered on (1), if the two inputs are not equal.
Gate type (NAND gate)
The output is triggered on (1), if one or both inputs are switched off (0).
Gate type (NOR gate)
The output is triggered on (1), if both inputs are switched off (0).
Gate type (XNOR gate)
The output is triggered on (1), if both inputs are equal.
Gate type (INVERTER)
Input on (1) is converted into output off (0). Input off (0) is con-verted into output on (1).

Group Object	Type KNX	Size	Direction
Logic – Gate input – Input	1.002	1 Bit	From KNX
Logic – Gate output – Output	1.002	1 Bit	To KNX

⚠️ **WARNING**

- The device must be mounted and commissioned by an authorized electrician.
- The prevailing safety rules must be heeded.
- The device must not be opened.
- For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.
- The device is a permanently connected equipment: A readily accessible disconnect device shall be incorporated external to the equipment.
- The installation requires a 16 A fuse for external overcurrent protection.
- The power rating is indicated on the side of the product.

ETS4/5 Database
www.weinzierl.de/en/products/410/ets4
Datasheet
www.weinzierl.de/en/products/410/datasheet
CE Declaration
www.weinzierl.de/en/products/410/ce-declaration
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2022/02/02
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Documents / Resources

WEINZIERL 5230 KNX IO 511 Switch Actuator [pdf] Instruction Manual
5230, KNX IO 511 Switch Actuator, Switch Actuator, KNX IO 511, Actuator

References

- → **Weinzierl Engineering GmbH**
- → **Weinzierl Engineering GmbH**
- → **weinzierl.de/en/products/410/ce-declaration**
- → **weinzierl.de/en/products/410/datasheet**
- → **weinzierl.de/en/products/410/ets4**