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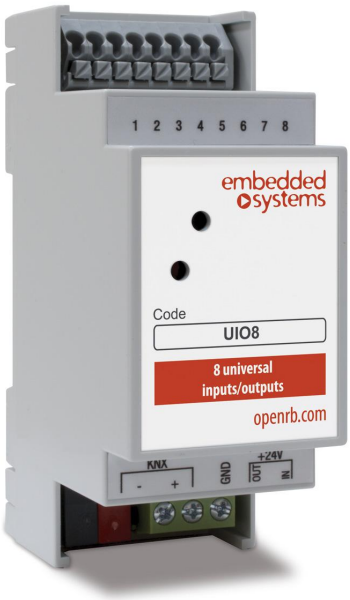
Universal input/output controller



Universal 8 channel input/output device is the only product on the market with possibility to switch each channel from input to output therefore making the device extremely flexible. It makes life for installers and system designers more accurate and headache-free.

ENG - Data sheet
Issue date 10.10.2013

Application

Lighting, load control, security
Each of 8 ports can be used as:

- Analog input 0-30V
- Binary input 0/30 V
- Impulse counter
- Short/long press key
- Step dimmer
- Open collector output e.g. for external relay module connection

Types of product

Universal 8 channel IO module	UIO82M

Standards and norms compliance

EMC:	EN61000-6-1 EN61000-6-3
PCT	Certificate

Technical data:

Power supply:	29V DC from KNX/EIB bus	
Power consummation:	0.25W	
Interface:	KNX/EIB	1
	Input/output channels	8
Inputs	Count	up to 8

	Type	Analog input 0-30V Binary input 0/30 V Impulse counter Short/long press key Step dimmer
Outputs	Count Type Maximal current on output	up to 8 Digital 380mA
Connections:	KNX/EIB	Bus Connection Terminal 0.8mm2
	IO	Clamp, 1.5mm2
Operating elements	LED	1 - Activity
Enclosure:	Material: Color: Dimensions:	Polyamide Gray 36(W)x91(H)x56(L) mm
Usage temperature:	0C ... +45C	
Storage temperature:	-15C ... +55C	
Weight:	50g	
Warranty:	2 years	
Relative Humidity:	10...95 % without condensation	

Caution
Security advice

The installation and assembly of electrical equipment may only be performed by skilled electrician. The devices must not be used in any relation with equipment that supports, directly or indirectly, human health or life or with application that can result danger of people, animals or real value

Mounting advice

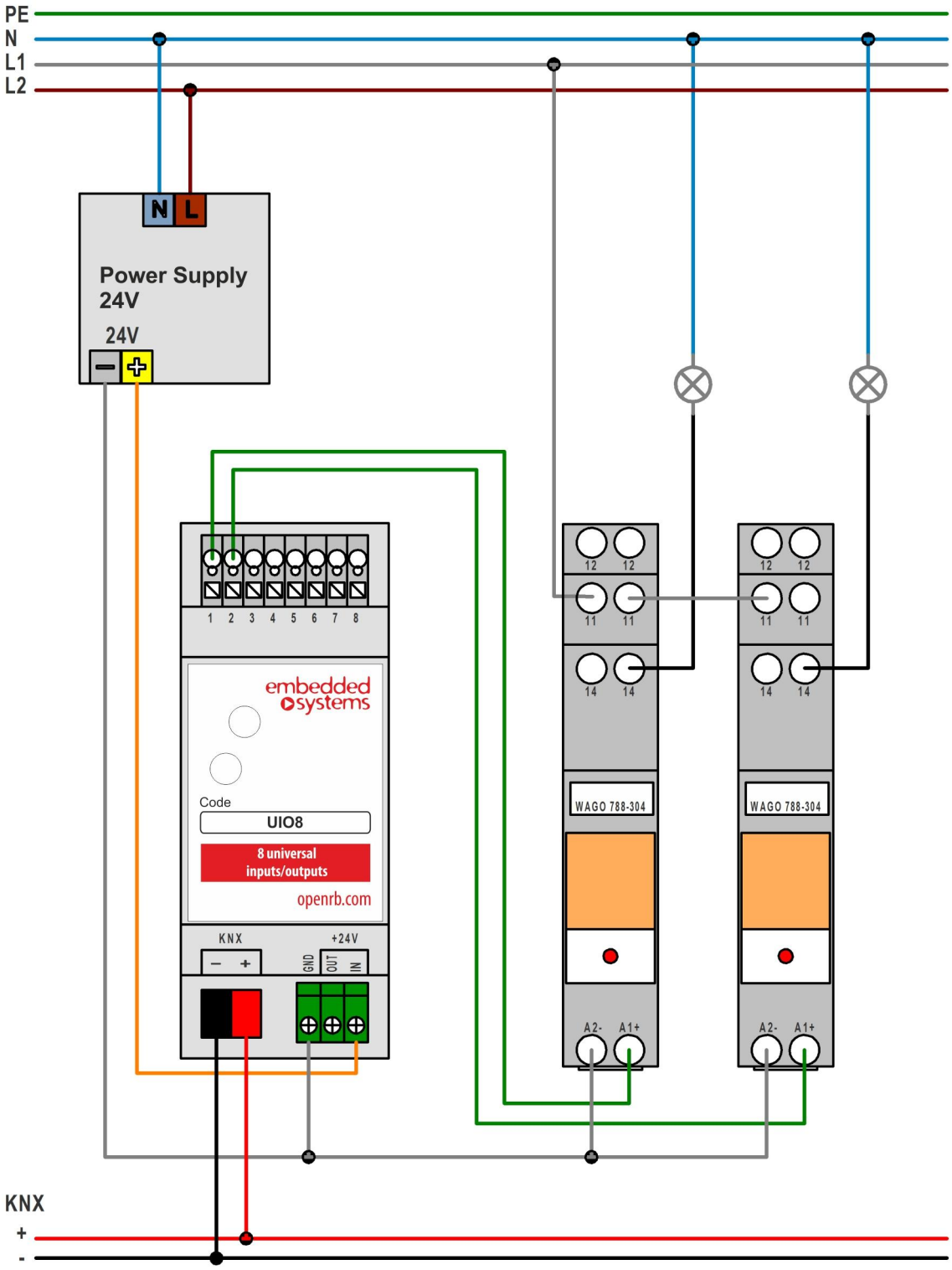
The devices are supplied in operational status. The cables connections included can be clamped to the housing if required.

Electrical connection

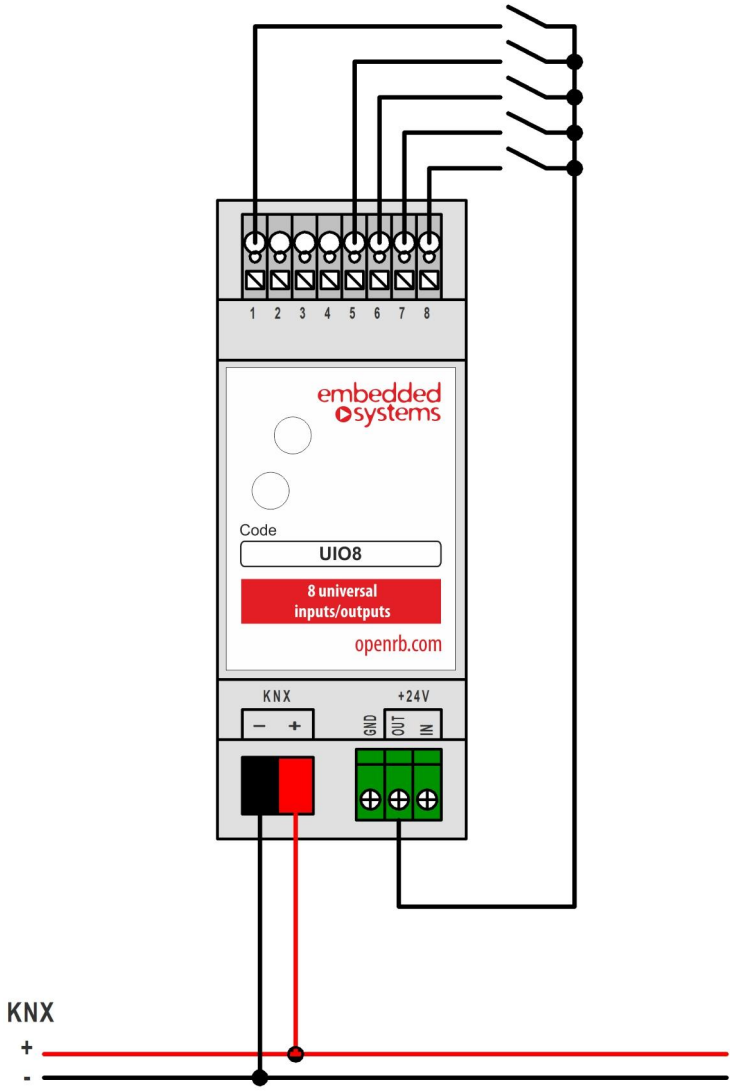
The devices are constructed for the operation of protective low voltage (SELV). Grounding of device is not needed. When switching the power supply on or off, power surges must be avoided.

1. Connection diagrams

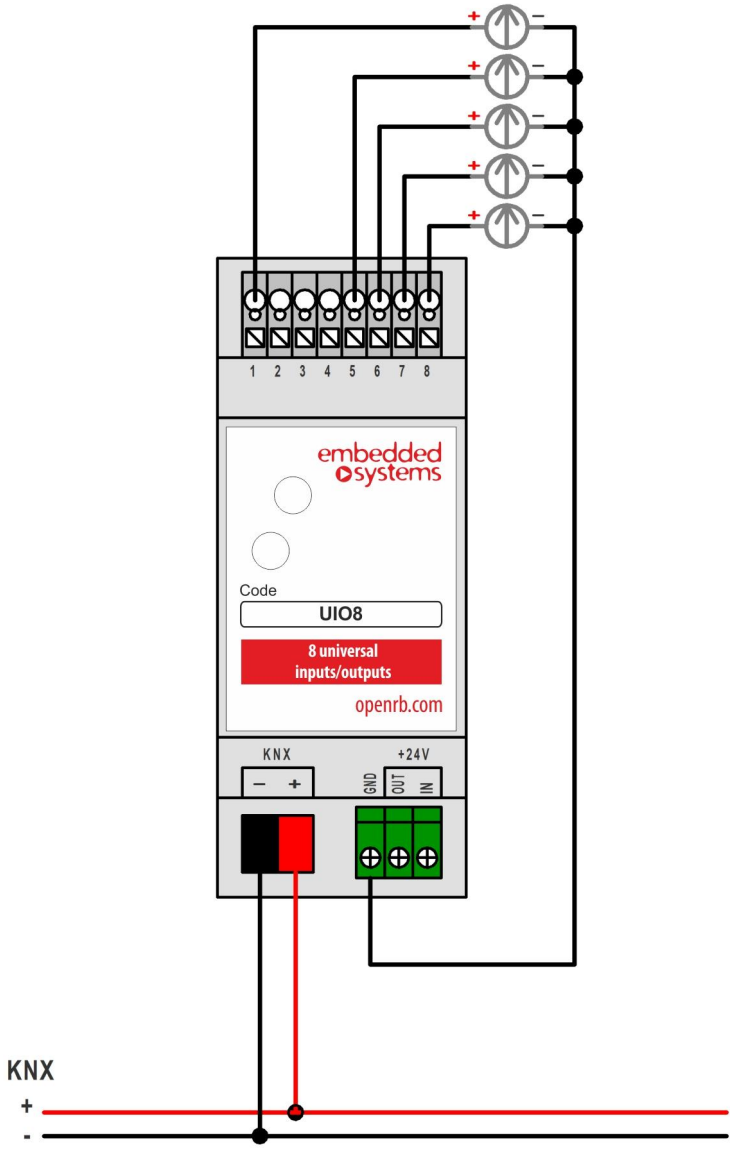
1.1. External relays



1.2. Binary push-button



1.3. Voltage sensor



2. **Default settings**

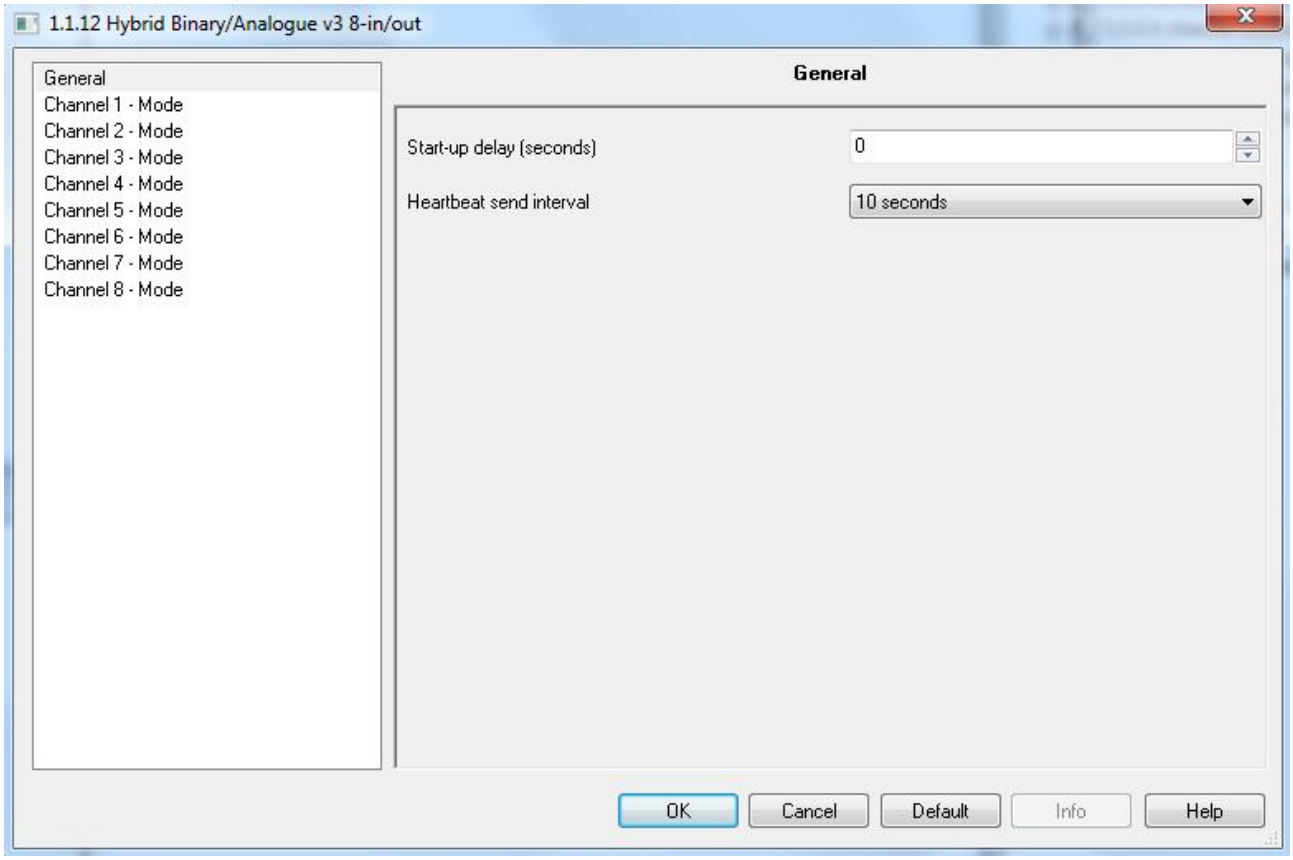
To reset the device to default settings, press and hold programming button for more than 10 seconds. Programming LED will blink several times after releasing the programming button. The device will restart automatically after the reset is complete.

3. **Default state of the device**

Factory-new devices have the physical address 1.1.255, no group addresses.

4. ETS configuration

4.1. General settings

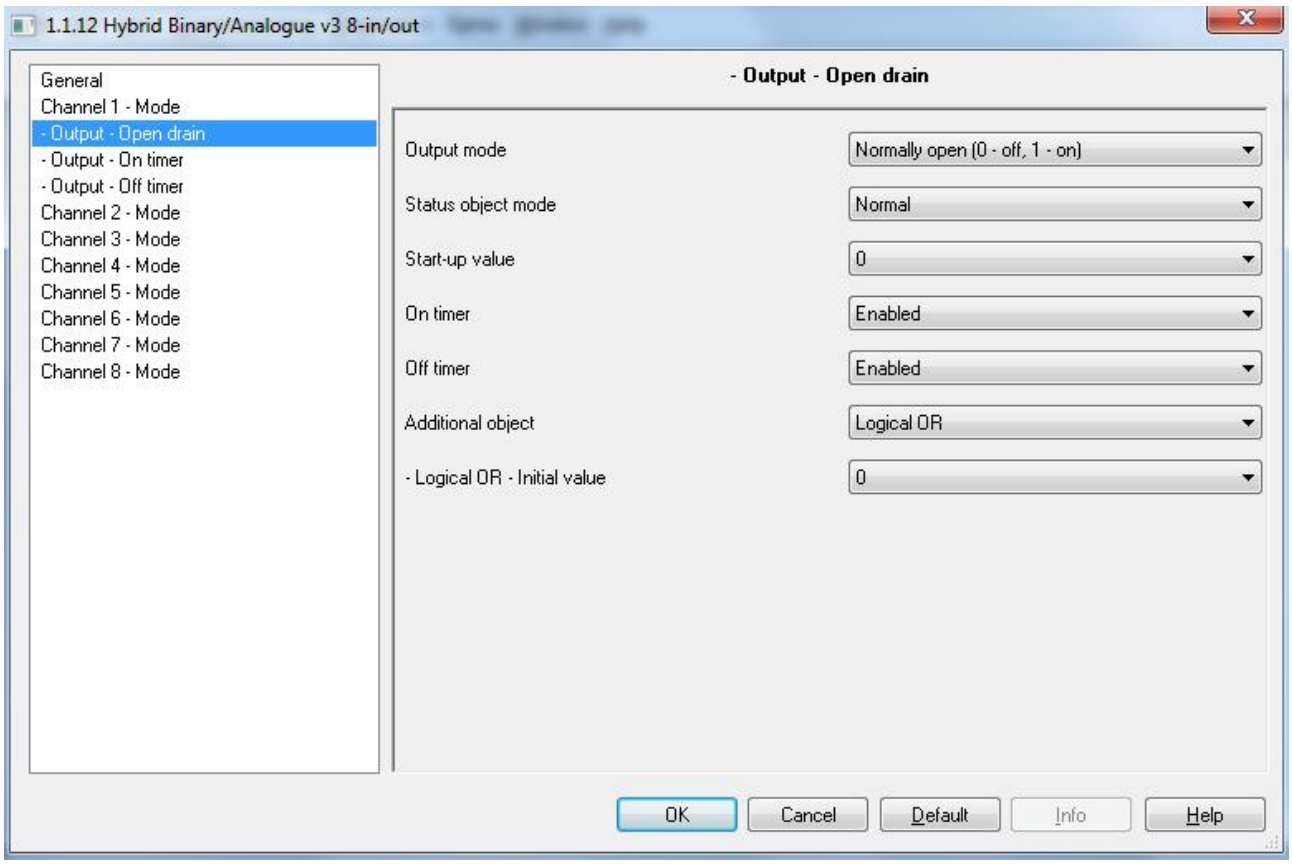


- ***Start-up delay (second)*** – delay on device boot up
- ***Heartbeat send interval [Disabled .. 10minutes]*** – time interval after which the device sends the telegram informing that it is alive

4.2. Channel settings

Output – Open drain / Binary
Input – Binary edge detect
Input – Binary short/long press
Input – Binary impulse counter
Input – Step dimmer
Input – Analogue voltage sensor (0–30 V)

4.2.1. Output – Open drain / Binary



- ***Output mode [Normally open / Normally close]*** – default output mode – normally open (0 – off, 1 - on), normally close (0 – on, 1 - off)
- ***Status object mode [Normal / Inverted]*** – mode of the status object
- ***Start-up value [0 / 1 / last known value]*** – start-up value for the object
- ***On-timer [Disabled / Enabled]*** – defines if the on timer is enabled
- ***Off-timer [Disabled / Enabled]*** – defines if the off timer is enabled
- ***Additional object*** – additional logic object for the output

    - *Logical OR* – one of object or logical object should be 1 for action to perform
    - *Logical OR* – initial value [0 / 1 / Lat known value]

Object A	*Object B*	*Result*
0	0	0
1	0	1
0	1	1
1	1	1

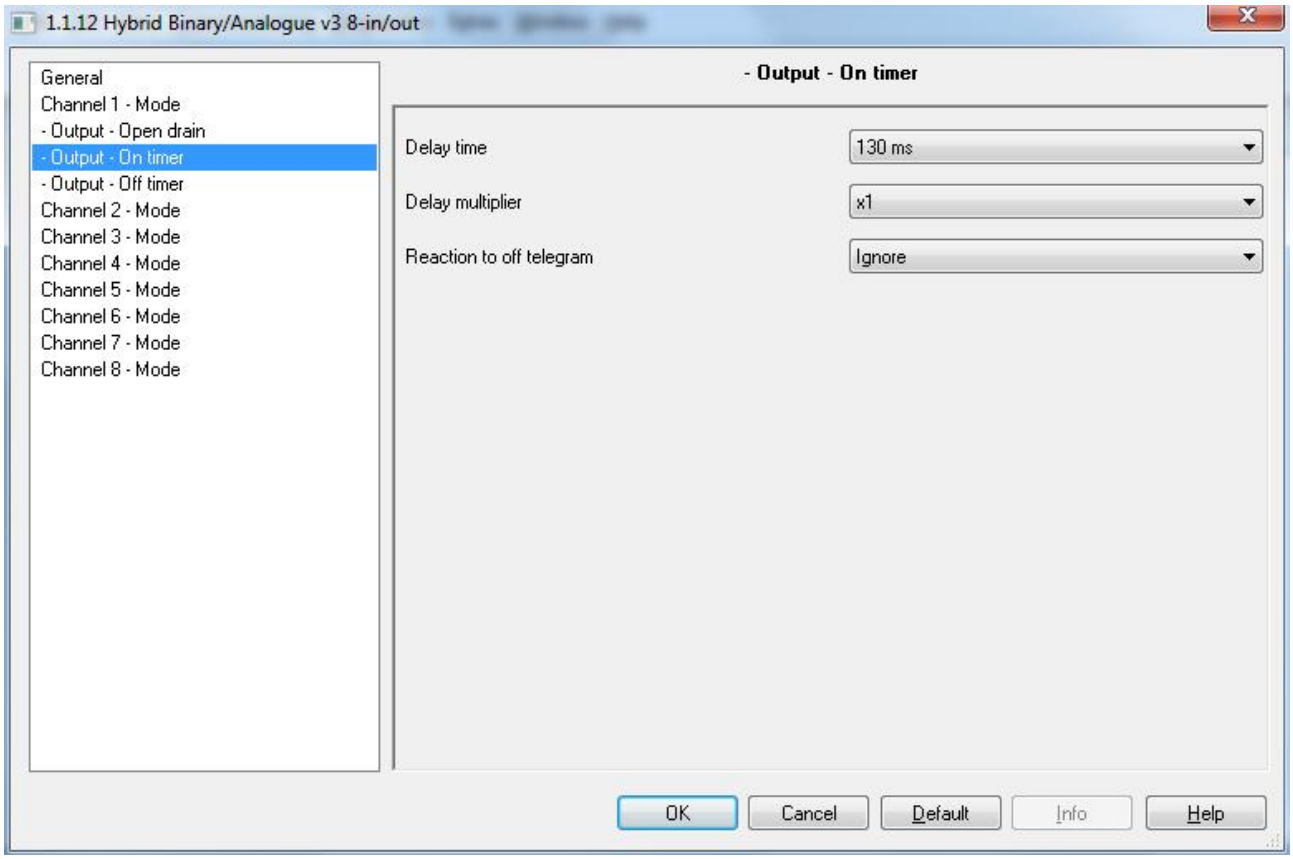
- *Logical AND* – both object and logical object should be equal for action to perform
- *Logical AND* – initial value [0 / 1 / Lat known value]

Object A	*Object B*	*Result*
0	0	0
1	0	0
0	1	0
1	1	1

- *Fault detection* – status object for fault detection (e.g. when there is no current flowing from open drain while it's status is OPEN)
- *Fault detection* – object mode [Normal (0 –no error, 1 – error) / Inverted (0 –error, 1 – no error)]

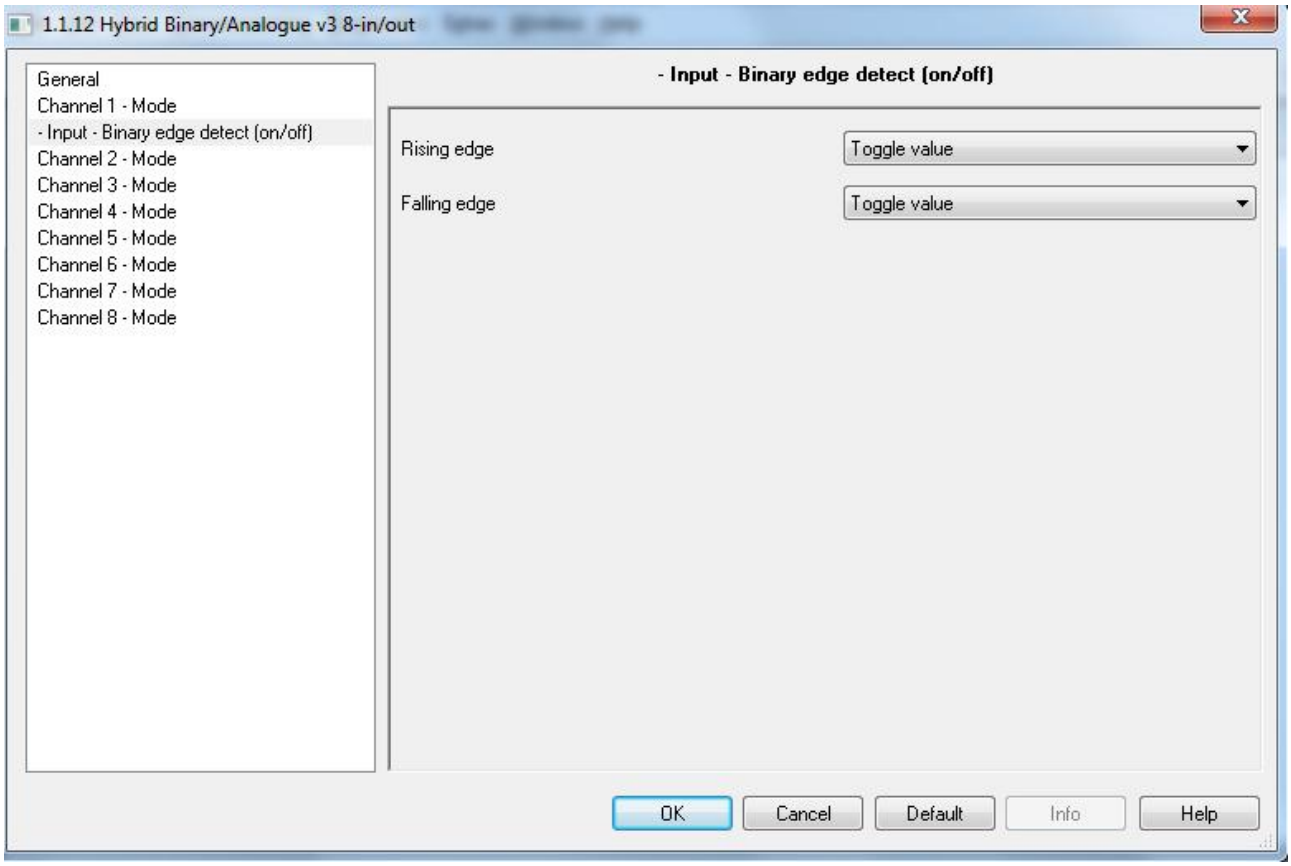
Output → On / Off Timer

In case On or Off timer is enabled in Output configuration, appropriate submenu appears.



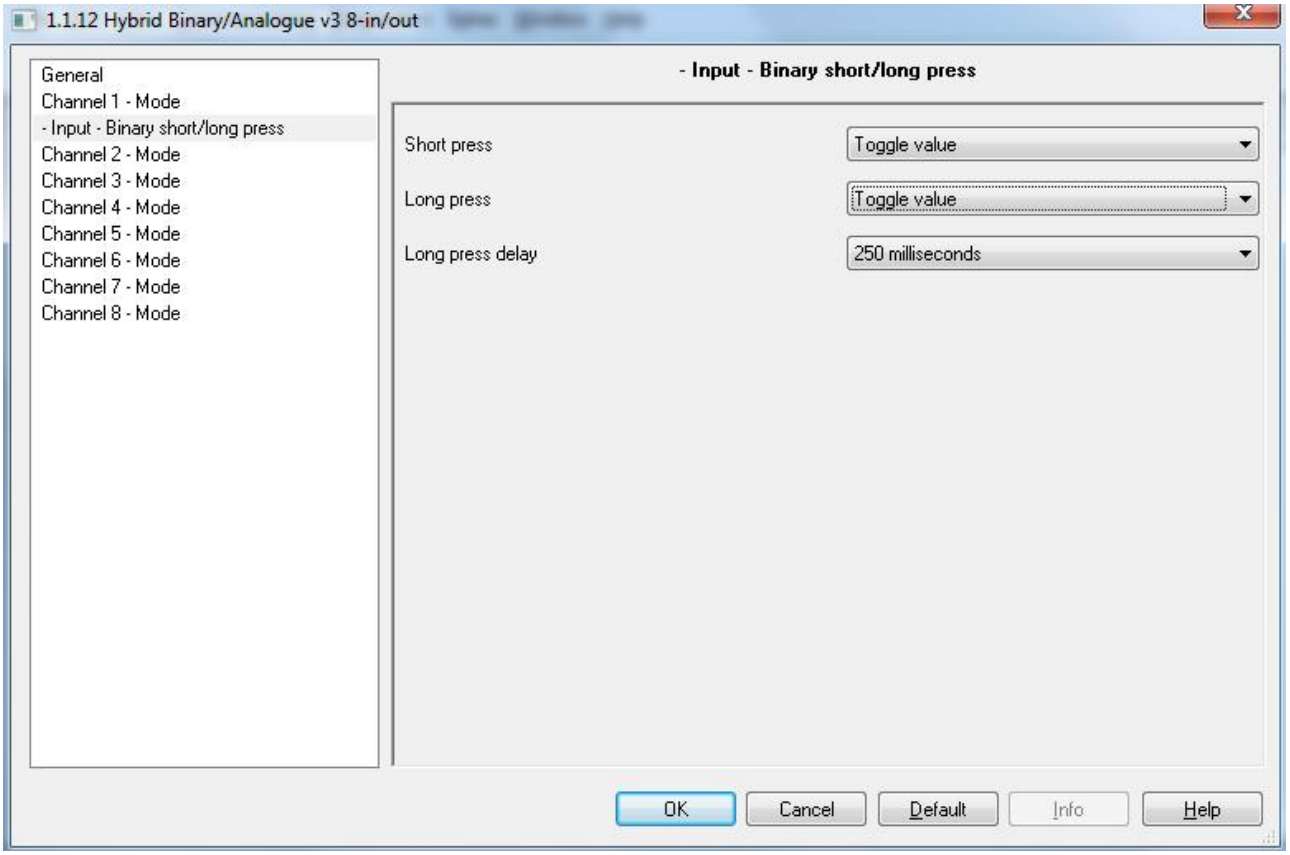
- ***Delay time [130 ms.. 10 m]*** – delay time for changing the status of the object
- ***Delay multiplier [x1 .. x10]*** – e.g. if delay is set to 10 min and multiplier x5, the delay will be 50 min
- ***Reaction to off/on telegram [Ignore / Set object to on state]*** – action to perform on on/off telegram

4.2.2. Input – Binary edge detect



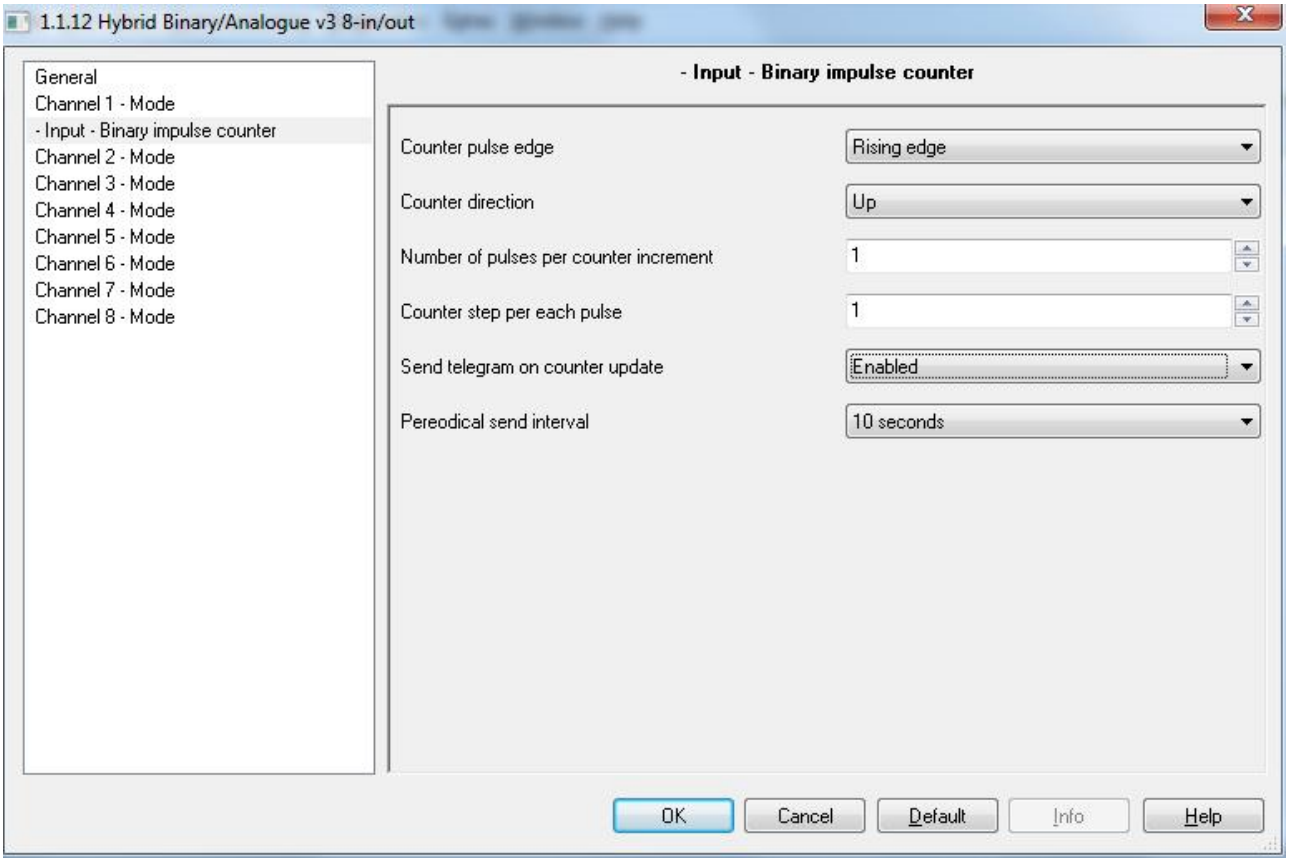
- ***Rising edge [Do nothing / Send 0 / Send 1 / Toggle value]*** – action to perform on rising edge
- ***Falling edge [Do nothing / Send 0 / Send 1 / Toggle value]*** – action to perform on falling edge

4.2.3. Input – Binary short/long press



- ***Short press [Send 0 / Send 1, Toggle value]*** – Action on short press
- ***Long press [Send 0 / Send 1, Toggle value]*** – Action on long press
- ***Long press delay [250 ms .. 10 s]*** **–** delay interval to detect long press

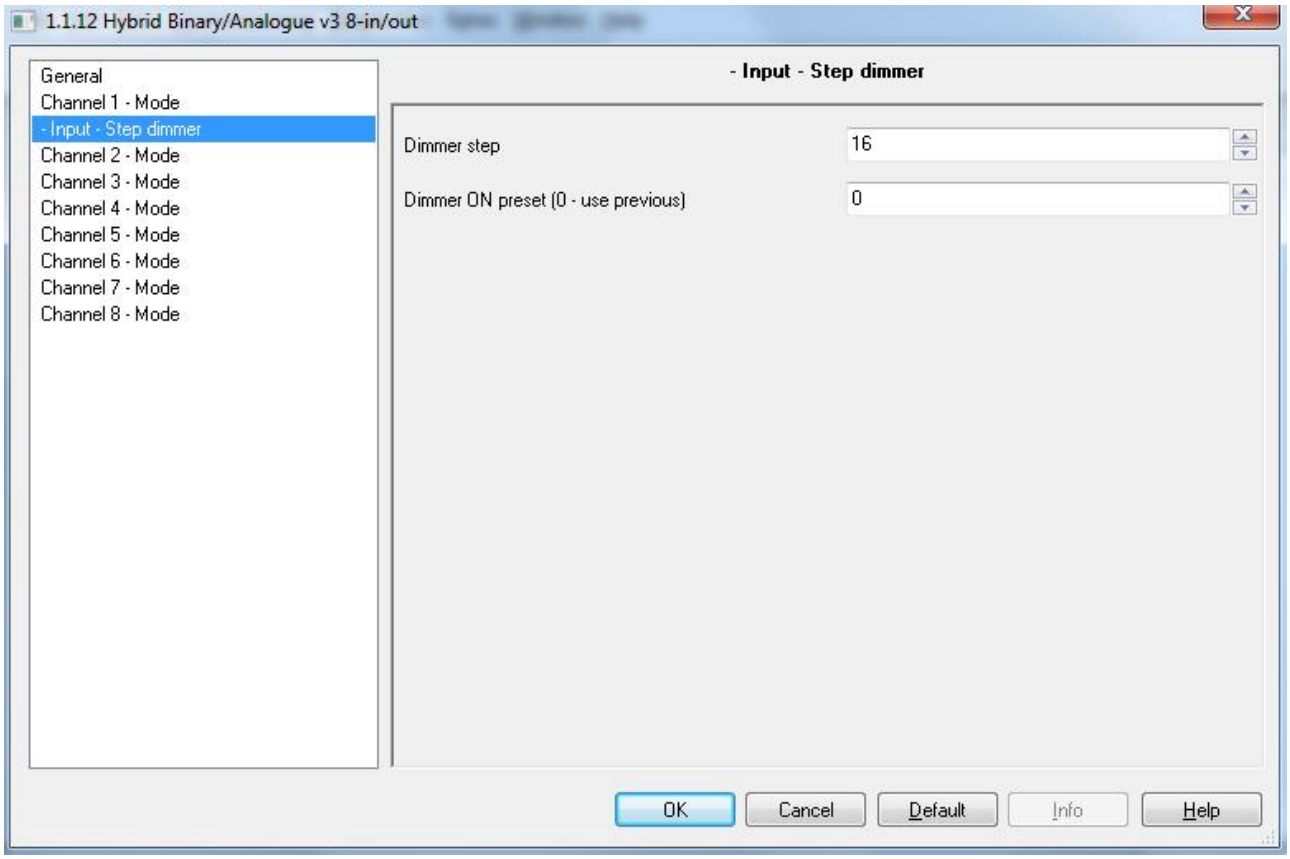
4.2.4. Input – Binary impulse counter



- ***Counter pulse edge [Rising edge / Falling edge / Both]*** - which part of the impulse to count
- ***Counter direction [Up / Down]*** – direction of the counter
- ***Number of pulses per counter increment [1..100]*** – number of pulses for counter increase by 1 (e.g. 10 pulses informs about 1 liter of water → increase counter by 1)
- ***Counter step per each pulse [1..100]*** – counter step for each pulse (e.g. 1 pulse means 10 liters of water → increase counter by 10)
- ***Send telegram on counter update [Disabled / Enabled]*** – send telegram into the bus on each counter update
- ***Periodical send interval [10 s .. 10 min]*** – time interval after which to send the reading of pulses to the bus

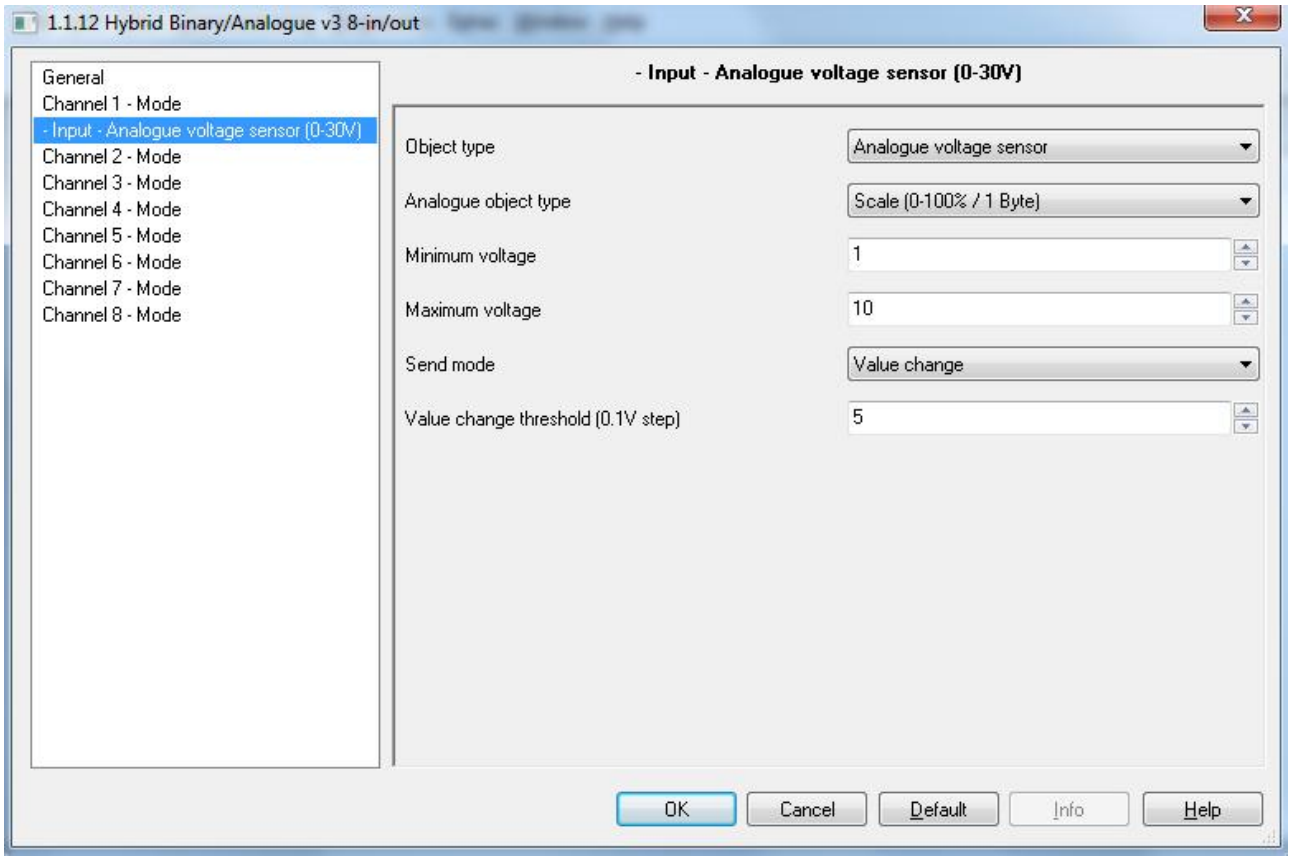
Input – Analogue voltage sensor (0–30 V)
Input – Analogue voltage sensor (0–30 V)
Input – Analogue voltage sensor (0–30 V)

4.2.5. Input – Step dimmer



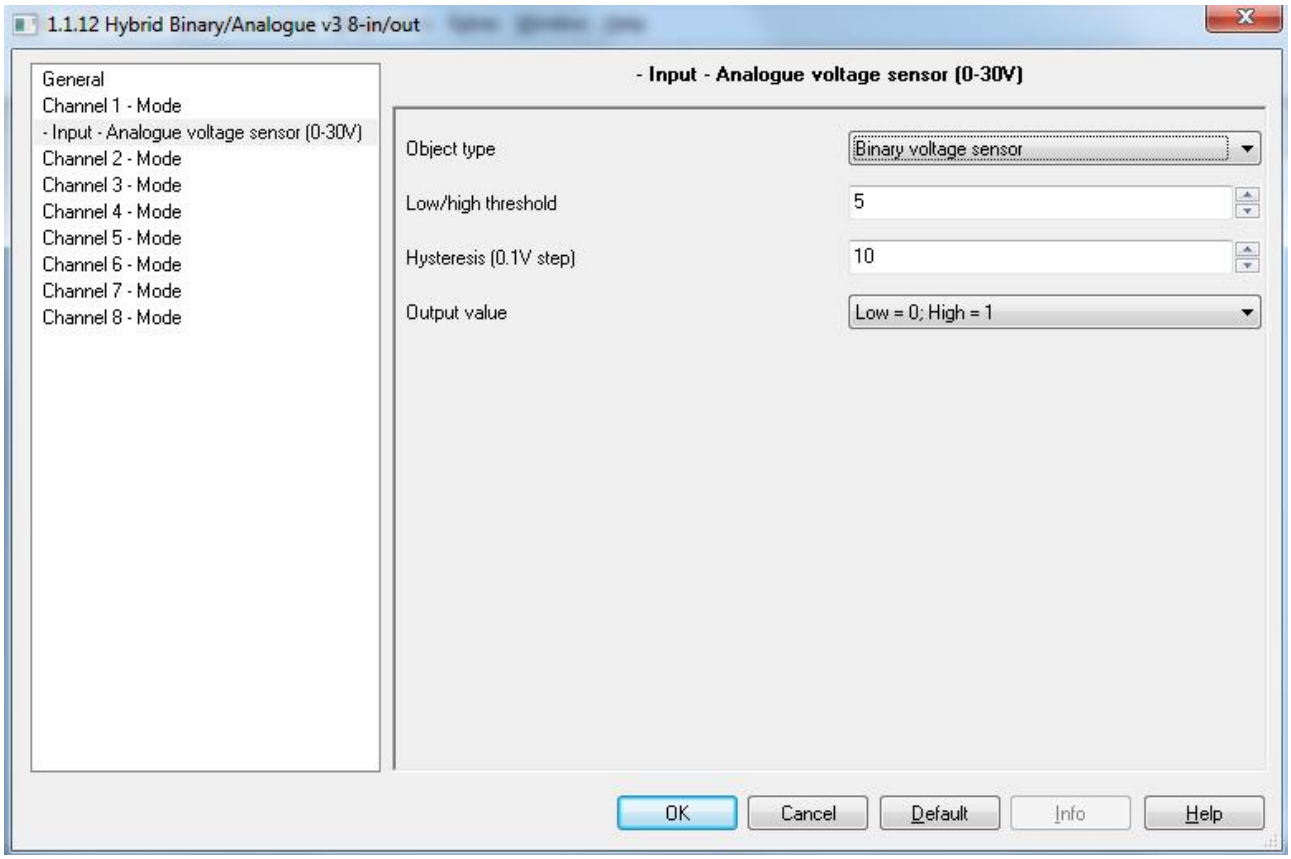
- ***Dimmer step [1..127]*** – value on which the brightness will be changed on each step
- ***Dimmer ON preset (0 – use previous) [0..255]*** – preset when dimmer is switched ON

4.2.6. Input – Analogue voltage sensor (0-30V)



- **Object type [Analog voltage sensor /Binary voltage sensor]** – type of input voltage. In case of *Analog voltage sensor*, the following parameters appear:
    - *Analog object type [Scale (0-100%/1 Byte / Voltage (2 Byte)]* – mode of the status object
    - *Minimum voltage* – minimum voltage value
    - *Maximum voltage* – maximum voltage value
    - *Send mode (Value change / Timer)* – when to send the telegram into the bus
    - *Value change threshold (0.1V step) (1..100)* – determine when the value is changed

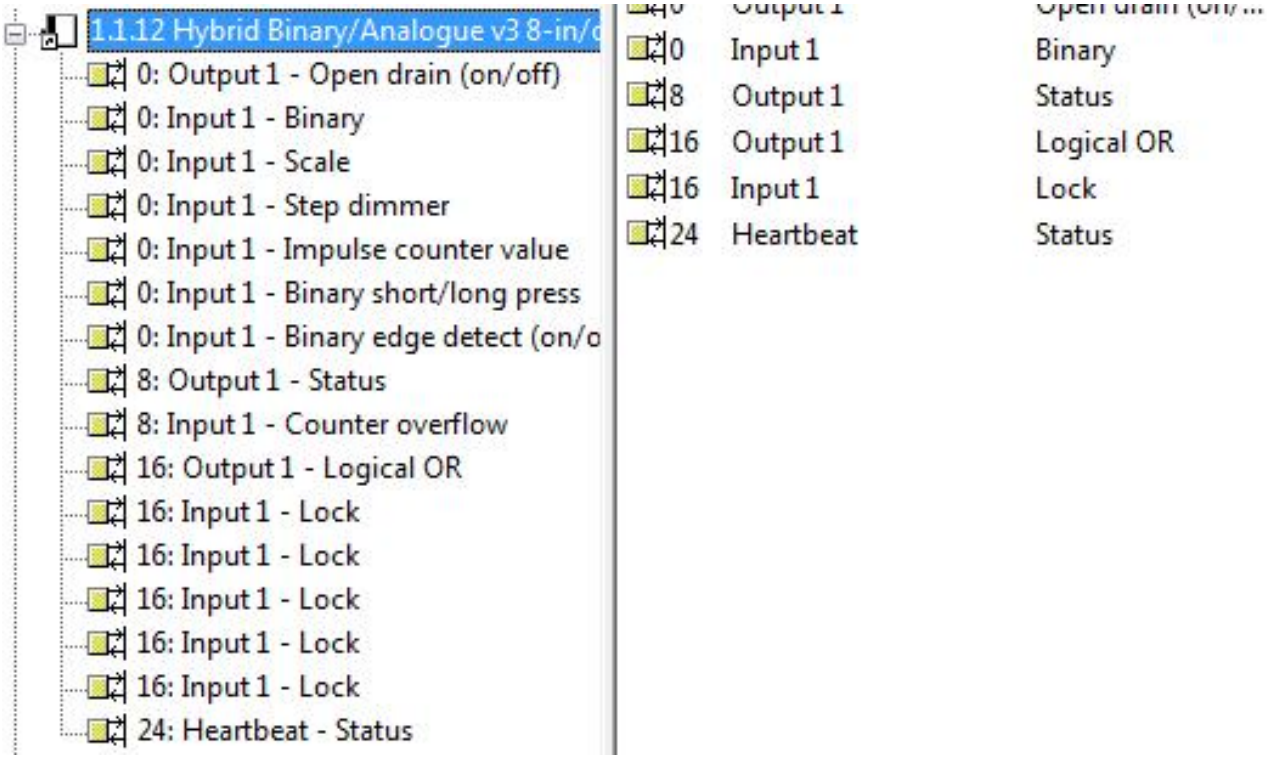
- In case of Binary *voltage sensor*, the following parameters appear:



  - ***Low/high threshold (1..30)*** **–** threshold level below which the value is determined as Low, and above it is High
  - ***Hysteresis (2..30)*** **–** level of hysteresis during which value keeps unchanged
  - ***Output value (Low=0; High=1 / Low=1; High=0)*** **–** output value in the bus

4.3. Lock object

For each of the ports you can lock the object.



- ***Input 1 – Lock [1 bit]*** – sending 1 disables 1 channel, sending 0 enables it again
- ***Input 8 – Lock [1 bit]*** - sending 1 disables 8 channel, sending 0 enables it again