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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.

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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:

PCT

Technical data:

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

EN61000-6-1 EN61000-6-3

Certificate



	Туре	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
	Ю	Clamp, 1.5mm2
Operating elements	LED	1 - Activity
Enclosure:	Material: Color: Dimensions:	Polyamide Gray 36(W)x91(H)x56(L) mm
Usage temperature: Storage temperature: Weight: Warranty: Relative Humidity:	0C +45C -15C +55C 50g 2 years 1095 % without condensati	on



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.

Connection diagrams 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

General		General	
Channel 1 - Mode Channel 2 - Mode Channel 3 - Mode Channel 3 - Mode Channel 5 - Mode Channel 6 - Mode Channel 6 - Mode Channel 7 - Mode Channel 8 - Mode	Start-up delay (seconds) Heartbeat send interval	0 10 seconds	

- 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

General Channel 1 - Mode	1	- Output - Open drain
Channel 1 - Mode - Output - Open drain - Output - On timer - Output - Off timer Channel 2 - Mode Channel 3 - Mode Channel 4 - Mode Channel 5 - Mode Channel 6 - Mode Channel 7 - Mode Channel 8 - Mode	Output mode Status object mode Start-up value On timer Off timer Additional object	Normally open (0 - off, 1 - on) Normal 0 Enabled Enabled Logical OR
		Cancel Default Info Help

- 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
 - \circ Logical OR one of object or logical object should be 1 for action to perform
 - \circ 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

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

• Logical AND – initial value [0 / 1 / Lat known value]

- *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.

General Shawaal 1 - Mada		- Output - On timer	
Channel 1 - Mode Output - Open drain Output - Off timer Channel 2 - Mode Channel 3 - Mode Channel 3 - Mode Channel 5 - Mode Channel 6 - Mode Channel 7 - Mode Channel 8 - Mode	Delay time Delay multiplier Reaction to off telegram	130 ms x1 Ignore	

- > 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

eneral		- Input - Binary edge detect (on/off)
hannel 1 - Mode Input - Binary edge detect (on/off)	Pieina edae	Teada value
hannel 2 - Mode hannel 3 - Mode		
hannel 4 - Mode	Falling edge	Toggle value
hannel 5 - Mode		
hannel 6 - Mode		
hannel 7 - Mode		
hannel 8 - Mode		

- 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

General		- Input - Binar	y short/long press	
- Input - Binary short/long press Channel 2 - Mode Channel 3 - Mode	Short press		Toggle value	•
Channel 4 - Mode Channel 5 - Mode Channel 6 - Mode	Long press delay		250 milliseconds	•••••••••••••••••••••••••••••••••••••••
Channel 7 - Mode Channel 8 - Mode				

- > 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

eneral hannel 1 - Mode	- Input - Bi	nary impulse counter	
Input - Binary impulse counter hannel 2 - Mode	Counter pulse edge	Rising edge	
hannel 3 - Mode hannel 4 - Mode hannel 5 - Mode	Counter direction	Up	
hannel 5 - Mode hannel 6 - Mode hannel 7 - Mode	Number of pulses per counter increment	1	
hannel 8 - Mode	Counter step per each pulse	1	E
	Send telegram on counter update	Enabled	
	Pereodical send interval	10 seconds	

- 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

1.1.12 Hybrid Binary/Analogue v	3 8-in/out		X
General Channel 1. Made	- Int	out - Step dimmer	
-Input - Step dimmer	Dimmer step	16	
Channel 3 - Mode Channel 3 - Mode	Dimmer ON preset (0 - use previous)	0	
Channel 5 - Mode Channel 6 - Mode			land
Channel 7 - Mode Channel 8 - Mode			
	ОК	Cancel Default Info) <u>H</u> elp

- 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)

eneral nannel 1 - Mode	- Input - Analo	ogue voltage sensor (0-30V)	
nput - Analogue voltage sensor (0- nannel 2 - Mode	30V) Object type	Analogue voltage sensor	-
nannel 3 - Mode nannel 4 - Mode	Analogue object type	Scale (0-100% / 1 Byte)	
nannel 5 - Mode nannel 6 - Mode	Minimum voltage	1	
nannel 7 - Mode nannel 8 - Mode	Maximum voltage	10	
	Send mode	Value change	
	Value change threshold (0.1V step)	5	2

- 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:

eneral hannal 1 - Mode	- Input - Analogue voltage sensor (0-30V)			
nannei 1 - Mode Input - Analogue voltage sensor (0-30V) hannel 2 - Mode	Object type	Binary voltage sensor		
hannel 3 - Mode hannel 4 - Mode	Low/high threshold	5		
hannel 5 - Mode hannel 6 - Mode	Hysteresis (0.1V step)	10		
hannel / - Mode hannel 8 - Mode	Output value	Low = 0; High = 1		

- 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.

1.1.12 Hybrid Binary/Analogue v3 8-in/d	Щ Ц Ч Ч ч	Output 1	open urani (on/
U: Output 1 - Open drain (op/off)	1 40	Input 1	Binary
	⊒‡ 8	Output 1	Status
Et O. Input 1 - Smary	□216	Output 1	Logical OR
	□216	Input 1	Lock
 O: Input 1 - Step dimmer O: Input 1 - Impulse counter value O: Input 1 - Binary short/long press O: Input 1 - Binary edge detect (on/o O: Input 1 - Status O: 8: Output 1 - Status O: 16: Output 1 - Logical OR I6: Input 1 - Lock 	1	Heartbeat	Status

> 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