User manual LanTickPro

inveo

PE-1-0, PE-0-1, PE-1-1, PE-2-2, PE-0-4, PE-4-4, PE-8-0, PE-0-8, PE-0-16, PE-16-0



Dear Customer!

Thank you very much for choosing our product. At the same time, please read this manual carefully before using it, as it indicates the most appropriate ways to handle this appliance, taking into account basic safety and maintenance principles. Please also retain the manual for future reference.

Remember!

The manufacturer will not be held liable for any damage caused by improper use of the device or improper handling, nor for any malfunctions of the controller resulting from improper operation.

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1 Introductory information

Before working with the controller, read the User Manual and follow the instructions contained therein!

Description of symbols used in this manual:

🝳 Warning	This symbol indicates that it is necessary to read a specific section of the User Manual that contains important information and warnings. Ignoring these warnings may lead to injury or damage to the device.
_	

Tin	Important instructions and information.
	Observing the texts marked with this sign will facilitate operation.

The screenshots shown in this manual may differ from their actual appearance. Due to the continuous development of the module software, some functions may differ from those described in the manual. The manufacturer is not responsible for any undesired effects resulting from software differences.

2 Guarantee and liability of the manufacturer

Warning Warning The manufacturer provides a two-year warranty for the device and a post-warranty service for a period of 10 years from the date the device was placed on the market. The warranty covers all defects in materials and workmanship.

The manufacturer undertakes to comply with the guarantee agreement if the following conditions are met:

- all repairs, modifications, extensions and calibrations of the appliance are carried out by the manufacturer or an authorised service centre,
- the mains power supply system complies with the applicable standards,
- the appliance is operated in accordance with the instructions given in this manual,
- the appliance is used in accordance with its intended use.

The manufacturer shall not be held liable for any consequences resulting from incorrect installation, improper use of the device, non-compliance with the operating instructions or repairs carried out by persons not authorised to do so.

🐫 Warning

There are no user-serviceable parts inside the appliance.

3 Safety in use

The module was constructed using modern electronic components in line with the latest trends in world electronics. Particular emphasis was placed on ensuring optimum operational safety and control reliability. The unit has a housing made of high-quality plastic.

3.1 Storage, operating and transport conditions

The device should be stored in closed rooms where the atmosphere is free of vapours and corrosive agents and:

- an ambient temperature of -35°C to +65°C,
- humidity between 25% and 90% (no condensation allowed)
- an atmospheric pressure of 700 to 1060hPa.

The unit is designed to operate under the following conditions:

- ambient temperature of -30°C to +60°C,
- humidity between 30% and 75% (no condensation allowed),
- atmospheric pressure of 700 to 1060hPa.

Recommended transport conditions:

- ambient temperature of -40°C to +85°C,
- humidity between 5% and 95% (no condensation allowed),
- atmospheric pressure 700 to 1060hPa.

3.2 Installation and use

The controller should be operated as described in the following section.

3.3 Disposal and decommissioning

In the event that it becomes necessary to dispose of the device (e.g. at the end of its useful life), contact the manufacturer or the manufacturer's representative, who is obliged to respond appropriately, i.e. to collect the device from the user. The user may also contact companies dealing with the disposal and/or decommissioning of electrical or computer equipment. Under no circumstances should the appliance be placed with other waste.

4 Purpose of the device

Lantick devices have been designed for versatile control of electrical circuits. The LanTickPro functions not only as a module for controlling independent outputs, using relays or High-Side Power Switches, but also as a digital input module to handle potential-free or voltage inputs. In addition, the inputs can operate in pulse count mode, increasing the flexibility of their application.

Communication and status monitoring take place via LAN, allowing remote control and information reading. There are several different types of Lantick devices, each offering different combinations of supported inputs and outputs. The numbering in the Lantick device names provides information on the number of supported outputs and inputs, making it easy to select the right model for specific needs and applications.

5 Unit design

5.1 Lantick PE-0-1, PE-1-0

Technical data:

Power supply	r supply Passive PoE 10-24VDC via PoE adapter		
Power consumption	max 1,5W		
Output	(Lantick PE-1-0): Output type: relay, Maximum operating voltage: 30V DC, Maximum relay load current: 1A, NO (normally open) output, Switch on time: 1ms, Switch-off time: 5ms, Operating mode: bistable, astable, monostable (single trigger),		
Input	Resolution of on/off time: 100ms. (Lantick PE-0-1):		
	Input type: NO (application of voltage results in damage to the module), NO Maximum counter value: 4 294 967 296 Maximum input frequency: 1000 Hz		
Communication	Ethernet 1x10Mbps, RJ45		

Dimensions:

All dimensions are in millimetres.



General view:



General features:

General features				
Version	Number of outputs	Output type	Number of inputs	Input type
PE-1-0	1	relay NO	0	NONE
PE-0-1	0	NONE	1	NO relay

Signalling:

The module is equipped with a number of LEDs to indicate:

MODULE PE-1-0, PE-0-1		
Name	Description	
POWER	module power supply	
OUTPUT/INPUT	input or output status	



Inputs:

The diagrams of the binary inputs are shown in the figure below.



The diagram corresponds to a NO NO input.

5.2 Lantick PE-1-1

Specifications:

Power supply	10-24VDC (3.5mm screw connector) or PoE802.3af 48VDC
Power consumption	max 1,5W – 2W
Output	Output type: Relay, Maximum operating voltage: 30V DC, Maximum relay load current: 1A, NO (normally open) output, Switch on time: 1ms, Switch-off time: 5ms, Operating mode: bistable, astable, monostable (single trigger), Resolution of on/off time: 100ms, Output circuit screw connector.
Input	Input type: NO (applying voltage will damage the module), NO Maximum counter value: 4 294 967 296 Maximum input frequency: 1000 Hz
Communication	Ethernet 1x10Mbps, RJ45

Dimensions:

All dimensions are in millimetres.



General view:



General features:

General features					
Version	Number of outputs	Output type	Number of inputs	Input type	
PE-1-1	1	relay NO	1	NO	

Signalling:

The module is equipped with a display that indicates the status of the input and output channels.

- When the output channel is inactive, the display shows the symbol "o," and when it is active, the symbol "O."
- Similarly, the input channel is indicated by the symbol "i" when inactive, and by the symbol "I" when active.

This system of symbols allows for easy and quick monitoring of the current status of each channel.

Inputs:

The diagrams of the binary inputs are shown in the figure below.



The diagram corresponds to a NO input.

5.3 Lantick PE-2-2, PE-0-4 Technical data:

Power supply	10-24 VDC (3.5mm screw connector) or passive PoE 10-24VDC		
Power consumption	1.5 - 3W (depends on the number of outputs connected)		
Output	(Lantick PE-2-2)		
	Output type: Relay, NO and NC		
	Maximum operating voltage: 250V AC,		
	Maximum relay load current: 4A,		
	Activation time: 1ms,		
	Switch-off time: 5ms,		
	Operating mode: bistable, astable, monostable (single trigger), roller		
	shutter,		
	Resolution of on/off time: 100ms,		
	Output circuit screw connector.		
Input	(Lantick PE-2-2, Lantick PE-0-4)		
	Input type: optocoupler (potential-free, pre-polarised) or voltage		
	input		
	Input voltage: 10-24V		
	Maximum counter value: 4 294 967 296		
	Maximum input frequency: 1000 Hz		
Communication	Ethernet 1x10Mbps, RJ45		

General features					
Version	Number of outputs	Output type	Number of inputs	Input type	
PE-2-2	2	NO/NC relay outputs	2	NO (potential free) or voltage 10-24VDC NO	
PE-0-4	0	-	4	NO (potential free) or voltage 10-24VDC NO	

Wymiary:

All dimensions are in millimetres.



General view:



Signalling:

The module is equipped with a number of LEDs to indicate:



Name	Description
POWER	power supply to the module
Status 1	possibility of assigning input or output status (if available)
Status 2	possibility to assign an input or output status (if available)
LINK	signalling an active LAN connection
ACK	signalling an active LAN connection

Inputs:

The diagrams of the binary inputs are shown in the figure below. The upper diagram corresponds to a fully opto-isolated input. The lower one corresponds to a short-circuit input version. Input type is set during production. It is possible to set different configurations for the two inputs.



The input in voltage mode is designed for an input voltage of 10-24V.

Power connector side

Lead number			Description	
PE-2-2	PE-0-4	Name	Description	
1	-	Transit 2	Binary input 2	
2	-	Input 2		
3	-	Transit 1	Binary input 1	
4	-	Input I		
5-7	9	Reset Reset Button		
8	10	Power Power Input 10-24VDC		
9	11	Power	Power Input 10-24VDC	

Input / output channel connectors side

Module Lantick PE-2-2			
Pin-out number	Pinout name	Description	
1	СОМ	Common pinout relay 1	
2	NO	NO lead of relay 1	
3	NC	NC output of relay 1	
4	СОМ	Common relay 2 output	
5	NO	NO output of relay 2	
6	NC	NC output of relay 2	

Module Lantick PE-0-4			
Pin-out number	Pinout name	Description	
1		Pipany input 1	
2	INT		
3		Rinany input 2	
4	1112	Binary input 2	
5		Rinary input 3	
6	CNI		
7		Pipany input 4	
8	1114		

5.4 Lantick PE-4-4, PE-0-8, PE-8-0 Technical data:

Power supply:

On PE-4-4, PE-0-8, and PE-8-0 modules there is a choice of power supply:

- **by a 10-24VDC** power supply connected to the screw connector (**Pwr select switch set up**),
- via LAN Passive PoE connection, using the blue and brown pair (Pwr select switch set down).

Warning When connecting a 12-24 VDC power supply and setting the Pwr select swith to the down position at the same time the module is connected to a switch, damage to the switch may occur (as there will be voltage on the blue and brown pairs coming from the screw connector).	ch , if n-
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Power supply	10-24 VDC (3.5mm screw connector) or passive PoE 10-24VDC		
Power consumption	1.5 - 4.2W (depends on the number of switched outputs)		
Output	Output type: Relay, NO		
	Maximum operating voltage: 250V AC,		
	Maximum relay load current: 2A,		
	Switch on time: 1ms,		
	Switch-off time: 5ms,		
	Operation mode: bistable, astable, monostable (single trigger),		
	roller shutter		
	Resolution of on/off time: 100ms,		
	Screw connection of output circuits		
Input	Input type: optocoupler, voltage input		
	Input voltage: 10-24V		
	Maximum counter value: 4 294 967 296		
	Maximum input frequency: 1000 Hz		
Communication	Ethernet 1x10Mbps, RJ45		

Dimensions:

All dimensions are given in millimetres.



General view:





General features:

General features				
Version	Number of outputs	Output type	Number of inputs	Input type
PE-4-4	4	Relay NO	4	Voltage optoisolated NO
PE-8-0	8	Relay NO	0	NONE
PE-0-8	0	NONE	8	Voltage optoisolated NO

Signalling:

The module is equipped with a number of LEDs to indicate:

MODULE PE-4-4			
Name	Description		
POWER	module power supply		
LINK	indication of active LAN connection		
ACT	signalling of active LAN connection		
OUTPUTS 1	status of the relay output number 1		
OUTPUTS 2	status of the relay output number 2		
OUTPUTS 3	status of the relay output number 3		
OUTPUTS 4	status of the relay output number 4		
INPUTS 5	input status number 5		
INPUTS 6	input status number 6		
INPUTS 7	input status number 7		
INPUTS 8	input status number 8		
SAFE	modbus RTU communication loss (option)		
REMOTE	sygnalizacja połączenia 1 do 1 lub do serwera dashboard		
DHCP	DHCP mode active		
NORM	module in normal operation mode		
BOOT	module in BOOTLOADER mode		

MODULE PE-8-0			
Name	Description		
POWER	module power supply		
LINK	indication of active LAN connection		
ACT	signalling of active LAN connection		
OUTPUTS 1	status of the relay output number 1		
OUTPUTS 2	status of the relay output number 2		
OUTPUTS 3	status of the relay output number 3		
OUTPUTS 4	status of the relay output number 4		
OUTPUTS 5	status of the relay output number 5		
OUTPUTS 6	status of the relay output number 6		
OUTPUTS 7	status of the relay output number 7		
OUTPUTS 8	status of the relay output number 8		
SAFE	modbus RTU communication loss (option)		
REMOTE	sygnalizacja połączenia 1 do 1 lub do serwera dashboard		
DHCP	DHCP mode active		
NORM	module in normal operation mode		
воот	module in BOOTLOADER mode		

	MODULE PE-0-8
Name	Description
POWER	module power supply
LINK	indication of active LAN connection
ACT	signalling of active LAN connection
INPUTS 1	input status number 1
INPUTS 2	input status number 2
INPUTS 3	input status number 3
INPUTS 4	input status number 4
INPUTS 5	input status number 5
INPUTS 6	input status number 6
INPUTS 7	input status number 7
INPUTS 8	input status number 8
SAFE	modbus RTU communication loss (option)
REMOTE	sygnalizacja połączenia 1 do 1 lub do serwera dashboard
DHCP	DHCP mode active
NORM	module in normal operation mode
BOOT	module in BOOTLOADER mode

Inputs:

The diagrams of the binary inputs are shown in the figure below.



The schematic corresponds to a fully opto-isolated input (PE-4-4, PE-0-8). The input is suitable for an input voltage of 10-24V.

Outputs

The schematic of the relay output sections numbered 1-4 and 5-8 is shown in the figure below. The COM contact is a common output for the four relays.



Inputs

The schematic of the input sections numbered 1-4 and 5-8 is shown in the figure below. The COM contact is common to the four inputs.



Power connector side of the module PE-4-4, PE-8-0, PE-0-8

Lead number	Lead name	Description
1	Power	Power supply input 10-24VDC
2	Power	Power supply input 10-24VDC
3,4	Pwr select	Power supply selection*
5	Reset	Button to switch to bootloader mode (only available in emergency mode).
8	LAN	LAN socket
16	RS485 - GND	Optional RS485 communication interface
17	RS485 -A	Optional RS485 communication interface
18	RS485 -B	Optional RS485 communication interface

Output connectors page in PE-4-4 module		
Pinout number	Pinout name	Description
1	COM A	Common relay output 1-4
2	A1	NO output of relay 1
3	A2	NO output of relay 2
4	A3	NO output of relay 3
5	A4	NO output of relay 4
6	COM B	Common output of inputs 5-8
7	B5	Input 5
8	B6	Input 6
9	B7	Input 7
10	B8	Input 8

Strona złącz wyjściowych w modu<u>le PE-8-0</u>

Pinout number	Pinout name	Description
1	COM A	Common relay output 1-4
2	A1	NO output of relay 1
3	A2	NO output of relay 2
4	A3	NO output of relay 3
5	A4	NO output of relay 4
6	СОМ В	Common relay output 5-8
7	B5	NO output of relay 5
8	B6	NO output of relay 6
9	B7	NO output of relay 7
10	B8	Relay NO-out 8

Strona złącz wyjściowych w module PE-0-8

Pinout number	Pinout name	Description
1	COM A	Common relay output 1-4
2	A1	Input 1
3	A2	Input 2
4	A3	Input 3
5	A4	Input 4
6	СОМ В	Common inputs 5 - 8
7	B5	Input 5
8	B6	Input 6
9	B7	Input 7
10	B8	Input 8

5.5 Lantick PE-0-16 Technical data:

Power supply	 Three optional power supply types are available: 1. 10-24VDC via 3.5mm disconnect connector 2. 802.3af PoE via LAN port 1 3. passive PoE 10-24VDC via LAN port 2
Power consumption	1-2W
Input	Input type: isolated galvanic NO, pre-polarised NO/NO voltage Input voltage: 10-24V
Communication	Ethernet 1x10Mbps, RJ45 Built-in switch for connection of further LAN devices (e.g. Lantick)

Dimensions:

All dimensions are in millimetres.



General view:



General features:

	General features					
Version	ion Number of Output type Number of inputs Input type			Input type		
PE-0-16	0	NONE	16	Voltage/closed NO		

Signalling:

The module is equipped with a number of LEDs to indicate:



Module PE-0-16				
Name	Description			
POWER	module power supply			
LINK	indication of active LAN connection			
ACT	indication of active LAN connection			
INPUTS 1	input status number 1			
INPUTS X	state of input number x for x=2-16			
SAFE	modbus rtu communication loss (option)			
REMOTE	signalling of a 1-to-1 connection or to a dashboard server			
DHCP	active DHCP mode			
NORM	module in normal operation mode			
BOOT	module in BOOTLOADER mode			

Power connector side of the PE-0-16 module

Lead name	Description
Power	Power input 10-24VDC
LAN 1	LAN socket - Power supply PoE 802.3af
LAN 2	LAN socket - Passive PoE power supply
RESET	Button to switch to bootloader mode (only available in emergency mode).

Output connectors side of PE-0-16 module

Lead name	Description
COM A	Common output of inputs 1-8
I1	Input 1
IX	Input X for X=2:8
COM A	Common leadout of inputs 1-8
COM B	Common leadout of inputs 9-16
19	Input 9
IX	Input X for X=10:16
COM B	Common output of inputs 9-16

Examples of input connection



5.6 Lantick PE-16-0 Technical data:

Power supply	Three optional power supply types are available:			
	1. 10-24VDC via 3.5mm disconnect connector			
	2. 802.3af PoE via LAN port 1			
	3. passive PoE 10-24VDC via LAN port 2			
Power consumption	1-2W			
Output	Output type: Transistor,			
	Operating voltage 5-28VDC,			
	Maximum operating current: 1.7A per channel.			
Communication	Ethernet 1x10Mbps, RJ45			
	Built-in switch for connection of further LAN devices (e.g. Lantick)			

Dimensions:

All dimensions are in millimetres.



General view:



General features:

	Cechy ogólne						
Version	ion Number of Output type Number of Input		Input type				
PE-16-0	16	transistor	0	NONE			

Signalling:

The module is equipped with a number of LEDs to indicate:



Module PE-16-0				
Name	Description			
POWER	module power supply			
LINK	indication of active LAN connection			
ACT	indication of active LAN connection			
Q1	state of output number 1			
Qx	state of the output number x for x=2-16			
SAFE	loss of modbus rtu communication (option)			
REMOTE	signalling of a 1-to-1 connection or to a dashboard server			
DHCP	active DHCP mode			
NORM	module in normal operation mode			
BOOT	module in BOOTLOADER mode			

Power connector side of the PE-16-0 module

Lead name	Description
Power	Power input 10-24VDC
LAN 1	LAN socket - Power supply PoE 802.3af
LAN 2	LAN socket - Passive PoE power supply
RESET	Button to switch to bootloader mode (only available in emergency mode).

Output connectors side of the PE-16-0 module

Lead name	Description
COM A	Common outputs 1-8
Q1	Output 1
QX	Output X for X=2:8
COM A	Common output of the outputs 1-8
СОМ В	Common output of the outputs 9-16
Q9	Output 9
QX	Output X for X=10:16
СОМ В	Common output of the outputs 9-16

Warning The outputs of the Lantick PE-16-0 must be connected in such a way that the GND of the power supply, the Lantick and the connected device is common.

Examples of output connections:







6 Configuring the unit

On first start-up, it is necessary to configure the device. This can be done in 2 ways. The simplest method is to use the Discoverer programme from Inveo..

6.1 Changing the IP address of the device via the Discoverer program

After launching the Discoverer programme and searching for a suitable device, select the interface and press the Change IP button.

Interface:	Broadcast	~	Dis	cover Devic	ces				
IP Address	Host Name	MAC Address	Model	HV	SV	DHCP	Remote Config	BootLoader	Module Name
192.168.22.42	LANTICKPRO	E8-EB-1B-48-74-81	Lantick-2-2	1.3	4.18	DHCP	ON	OFF	
							🔍 Chan	ge Network Se	ettings — 🗆
							MAC:		E8-EB-1B-48-74-81
							IP		192.168.22.42
							MASK		255.255.255.0
							GATEWA	Y	192.168.22.1
c							DNS1		213.5.255.2
ilter by device r	name:						DNS2		213.5.255.254
Only NEW Devices				Host nam	ie	LANTICKPRO			
en a dia	alog box o	opens, you c	an set th	e app	ropr	iate 1	P Enable D	HCP	
lress, m	nask, gate	way, DNS1/	DNS2,		•		Eachie D		

and you can also change the host name.

The device will be configured when the Change button is

pressed. If Remote Config is disabled (enabled by default), it is necessary to configure the device by changing the subnet of the computer (section 6.2).

To enable the remote configuration option, go to Administration \rightarrow Services tab and select Enable Remote Network Config.

	Home	
	Мар	
	Channel	
	Network	
	SNMP	
	Administration	
	Comm2Other	
Enable Remote Network Config		Enable Remote Network Config by Inveo Discover Software

Then click Save to save the settings.

Change

Cancel

6.2 Changing the subnet of the computer to be configured

When configuring the device bypassing the Discoverer application, you must first change the subnet address of the computer connected to the same network.

To do this, go to the network configuration of the computer:

- Press Win + R, type ncpa.cpl and press Enter,

OR

- Start \rightarrow Control Panel \rightarrow Network and Internet \rightarrow Network and Sharing Centre \rightarrow Change network adapter settings.

Select the network connection, press the right mouse button and click Properties. After selecting this option, the configuration screen will appear:

🖟 Właściwości: Połączenie lokalne			
Sieć Udostępnianie			
Połącz, używając:			
Realtek PCIe GBE Family Controller			
Konfiguruj			
To połączenie wykorzystuje następujące składniki:			
🗹 📮 Harmonogram pakietów QoS 🔹 🔺			
🗹 📇 Udostępnianie plików i drukarek w sieciach Microsoft N			
GEIP PROFINET DCP			
Protokół internetowy w wersji 6 (TCP/IPv6)			
Protokół internetowy w wersji 4 (TCP/IPv4)			
Sterownik We/Wy mapowania z odnajdywaniem topok			
Lesponder odnajdywania topologii waistwy rącza			
Zainstaluj <u>O</u> dinstaluj Właś <u>c</u> iwości			
Opis			
Protokół kontroli transmisji/Protokół internetowy (TCP/IP).			
Domyślny protokół dla sieci rozległych, umożliwiający komunikacje połaczonych sieci różnych typów			
Kontanikację porączenijań alconoznych (jpow.			
OK Anuluj			

Then select the setting "Internet Protocol (TCP/IP)" and enter the following parameters:

Właściwości: Protokół internetowy w wersji 4 (TCP/IPv4)			
Ogólne			
Przy odpowiedniej konfiguracji sieci możesz automatycznie uzyskać niezbędne ustawienia protokołu IP. W przeciwnym wypadku musisz uzyskać ustawienia protokołu IP od administratora sieci.			
🔘 Uzyskaj adres IP aut <u>o</u> matycznie			
O Użyj następującego adresu IP:			
<u>A</u> dres IP:	192.168.111.1		
Maska podsieci:	255.255.255.0		
<u>B</u> rama domyślna:	· · ·		
 Uzyskaj adres serwera DNS automatycznie 			
Użyj następujących ad <u>r</u> esów serwerów DNS:			
Preferowany serwer DNS:			
Alternatywny serwer DNS:	· · ·		
Sprawdź przy zakończeniu poprawność Zaawansowane			
OK Anuluj			

After accepting the settings with the OK button, start a web browser and enter the address: 192.168.111.15. (Default user and password: admin/admin00).

In the Network tab it is possible to change the LAN parameters.

inveo 🣚			www.inveo.com.pl
 Model: LantickPro-4- Firmware: 3.18 	4 • IP: 192.168.11 • MAC: D8:80:34	1.81 • Name: 9:5D:0B:05	
Home Map Channel Network	Network Config This page allows the conf	uration iguration of the device's	network settings.
SNMP	IP Configuration		
Administration	Name	Value	Description
Commized for	Host Name	LANTICKPRO	015 characters
	DHCP		Enable DHCP Client
	IP Address	192.168.111.81	A.B.C.D
	IP Mask	255.255.255.0	A.B.C.D
	Gateway	0.0.0.0	A.B.C.D
	DNS1	0.0.0.0	A.B.C.D
	DNS2	0.0.0.0	A.B.C.D
	Destination IP	0.0.0	Address of other device to communicate (1 to 1 TCP connection)
	Destination Port	0	Port to communicate
	Reset to default		To reset the device type in this field 'reset'
			Save

To configure the network, the fields are:

- **Host Name** the name of the NetBios,
- **DHCP** enabling the DHCP client, checking this field forces the use of the address assigned by the DHCP server,
- **IP Address** module's IP address,
- IP Mask subnet mask,
- Gateway network gateway,
- DNS1, DNS2 addresses of DNS servers,
- **Destination IP** IP address of the module to which input or output states are to be transferred in the case of one-to-one communication
- Destination Port the port on which the remote device is listening,
- **Reset to default** reset to factory settings. To reset the module to factory settings, enter the word 'reset' in the blank field and confirm with the Save button.

The changes made should be confirmed with the Save button.

7 Module functions

7.1 Unit status

The device status is available via the web page (factory default 192.168.111.15). After correctly logging into the module, the main page shows the basic parameters.

Model: LantickPro-4-4	IP: 192.168.111.80	• Name:
Firmware: 3.18	MAC: D8:80:39:5C:9F:55	

- **Model** device type (e.g. LantickPro-4-4)
- **Firmware**: Version of the software installed on the module
- **IP**: the module's IP address
- **MAC**: physical address of the module
- Name: name of the module given by the user

Table OUTPUTS

Outputs			
Name	On/Off	Coil State	
CH 1	٢	۲	
CH 2	٢		

- **Name**: name of the channel given by the user (default: CH1, CH2...),
- **On/Off**: enables the output to be switched on or off by clicking on the selected icon. The colour of the icon indicates the status of the output: red output off, green output on,
- **Coil State**: state of the relay on/off. This state may be different from the On/Off column, e.g. in astable mode, where the channel is switched on (On/Off is signalled in green) while the relay (Coil State) is alternately switched on and off according to the Time On and Time Off settings.

INPUTS table

Inputs			
Name	In State	Counter	Action
CH 5	۲	0	-RESET-
СН 6	۲	0	-RESET-

- **Name**: user assigned channel name (default: CH1, CH2...)
- In State: current state of the input circuit (red colour inactive input, green colour active input)
- **Counter**: counting input state (applies to inputs, counting output state is described below)
- Action: Reset of the counter. Clicking on "Reset" resets the corresponding counter to zero

The status of the device can also	be found by re-	ferring to:
http:// <i>IP_urządzenia</i> /stat.php or	http://IP_urząc	<u>dzenia/status.xml</u>

<pre>cresponse></pre>
<prod_name>Lantick-8-0</prod_name>
<user_name></user_name>
<out>0000000000000000</out>
<on>000000000000000</on>
<in>000000000000000</in>
<counter1>166</counter1>
<counter2>7</counter2>
<counter3>22</counter3>
<counter4>2</counter4>
<counter5>3</counter5>
<counter6>3</counter6>
<counter7>2</counter7>
<counter8>2</counter8>
<counter9>0</counter9>
<counter10>0</counter10>
<counter11>22</counter11>
<counter12>0</counter12>
<counter13>2</counter13>
<counter14>0</counter14>
<counter15>0</counter15>
<counter16>1</counter16>
<insim></insim>

The above XML file informs between the following tags about:

- <prod_name> the name of the product,
- <out> the status of all outputs,
- <on> the switching on of the output (in astable mode it is possible to define cyclic switching on and off of the output: in the <out> tag the state of one output alternates, while in the <on> tag the information about the switching on of the output is signalled as "1"),
- <in> state of inputs,
- <counter[x]> the state of a counting input (applies to both inputs and outputs).

To reset the output status counters, send the command: nrIP/stat.php?cnt=x,y, where: x - output number

y - value

Resetting the input status counter can be carried out from the browser by pressing RESET or by sending the command nrIP/stat.php?cnt=x,y where: x- number of counter input y- value

For Lantick modules having inputs and outputs, the input numbers start with: PE-2-2 x=3,4PE-4-4 x=5,6,7,8More HTTP GET commands in chapter <u>8.11 HTTP GET</u>.

7.2 Visualisation

The device makes it possible to present the states of inputs and outputs on a background selected by the user, so that it is possible to control the outputs and control the inputs on a graphically rendered building.



To use the visualisation, select the Enable Graphic Mode Config option under the Administration tab and confirm the selection with the Save button.

Enable Graphic Mode Config		Enable coordinate graphics points config.
----------------------------	--	--

Saving the settings will allow you to change the background graphics and the positioning of the entrance and exit icons. Switch to graphic mode using the Map tab.

Background

To change the background graphics, use the settings available on the Maps tab. Click the Browse button to select an image file from your computer disk. The device accepts files in JPG format. Once a suitable graphic has been selected, it is necessary to upload the file to the device memory via the Upload JPG option. When uploading the file, the cursor will be in the form of an hourglass. Once the image has been loaded, refresh the contents of the browser (F5 key).
Image&Coordinate Setup			
File:			
Przeglądaj Nie wybrano pliku.			
Upload JPG			
Picture Mode:			
1 Picture 👻			
Save			

Once you have selected a suitable background, you can change the positioning of the input and output icons. Move the cursor to the desired icon, press and hold the left mouse button and move the icon to the desired coordinates. Confirm the changes with the Save button.

Clicking on the symbol for a particular output changes its status. The background colour under the name of the output shows the state of the relay contact (green - closed, red - open).

Picture Mode

The device allows the graphic background to be changed depending on the state of the selected channel. In order for the change of the graphic background to work correctly, it is necessary to create one file divided into 2 images placed one below the other. The Lantick displays the top or bottom half of the image depending on the state of the channel.

The channel can be selected using the Picture Mode field at the bottom of the MAP tab page:

- 1 Picture single picture (displayed whole),
- 2 Pictures Select by Channel X selection of two picture mode switched by input or output X.

The Picture Mode setting can be used to represent the roller shutter operation. If the output is switched off, a fragment of the picture showing a closed roller shutter is displayed, and when the output is switched on, the picture is changed to a fragment showing an open roller shutter.

🝳 Warning

After making changes, uncheck Enable Graphic Mode Config in the Administration menu and confirm the selection with Save.

7.3 Configuration of output channels

The device allows you to change the names of the output channels and set their operating mode. All these settings can be found in the **CHANNEL** tab.

Channel 1 - CH 1			
Name	Value	Description	
Name	CH 1	015 characters	
Output mode	Bistable ~	Output mode	
Time On	30	x 0.1s (ie. 15 means 1,5 second)	
Time Off	30	x 0.1s (ie. 15 means 1,5 second)	
Power on state	On v		
Invert out		Invert output state (NO->NC)	
Save			

Description:

•

- **Name** The user can assign a name for the output channel (up to 15 characters)
 - **Output mode** Selection of the operating mode for the selected output channel:
 - **Disable** Disable the channel, no activity,
 - **Bistable** Bistable mode, the relay remains in one state (on or off),
 - **Astable** Cyclic (astable) mode, relay switches on and off at preset intervals (**Time On** and **Time Off**),
 - **Time based** Single-trigger mode, the output activates after a preset time (**Time Off**) and remains active for a specified time (**Time On**),
 - **Shutter** Roller shutter control mode, combines two relays into a group, preventing both relays from activating simultaneously,
 - **Comm Monitor** Test mode for monitoring the operation of the output
- **Power on state** Determine the state of the output channel when the device is restarted:
 - **Off** Output channel off,
 - **On** Output channel on,
 - **Last state** The output channel assumes the state it had before the power was switched off.
- Invert out Invert the output state changing normally open (NO) to normally closed (NC).

Explanation of the different modes (**Output mode**) of the output channel:

- **Bistable**: the relay switches between two stable states on or off.
- Astable: the channel operates cyclically, the relay alternates on and off according to preset times (Time On and Time Off).
- **Time Based**: The output operates according to the following rules:
 - When **Time On > 0** and **Time Off > 0**, the output will start after the **Time Off** time and remain active for the **Time On** time.
 - When **Time On > 0** and **Time Off = 0**, the output will start for the **Time On** time and then switch off.
 - When **Time On = 0** and **Time Off > 0**, the output will start after the **Time Off** time.

• **Shutter**: This mode combines two relays into a group to allow safe control of roller shutters, preventing both relays from activating at the same time. Two output channels are used to control one roller shutter.

Channel 1&2 - Roleta pokój			
Name	Value	Description	
Name	Roleta pokój	015 characters	
Output mode	Shutter -	Output mode	
Full move Time	20	x 0.1s (ie. 15 means 1,5 second)	
Half move Time	20	x 0.1s (ie. 15 means 1,5 second)	
		Save	

- **Full move time**: Time required to fully open or close the roller shutter.
- **Half move time**: Time required to half open or close the roller shutter.
- **Disable**: The channel is disabled, no protocol control activity.

After making changes, click **Save**.

7.4 Configuration of input channels

The input channels allow their own names to be assigned and their status to be configured for transmission to an external module.

Channel 5 - CH 5			
Name	Value	Description	
Name	CH 5	015 characters	
Destination channel	Dest:Off V	Select destintation channel in 1 to 1 TCP connection	
C2O HoldOn time	30	Comm2Other: Time for enable HoldX commands. x0.1s (default 50)	
C2O Repetition	30	Comm2Other: Repeat frame time [s]. To disable write 0.	
Counter input filter	Off v	Input transient filter.	
Invert in		Invert input state (NO->NC)	
Save			

Description:

- Name Name of the input channel (maximum 15 characters),
- **Destination channel** The channel number of the remote device to be activated. The state of the output channel will be exactly mapped to the input channel,
- **C2O HoldOn time** Time after which the 'HoldOn' event for the Comm2Other service will be triggered see <u>8.4.5 Configuration of triggers input channels</u>,
- **C2O Repetition** Frequency at which the module will repeat sending the last triggered frame on the Comm2Other service. For example, a 'HoldOn' frame will be cycled until a 'HoldOff' frame arrives, which will then take over the cycled sending,
- Counter input filter An input signal filter that can be used to eliminate interference,
- **Invert in** Invert the state of the input channel, changing its configuration from NO (normally open) to NC (normally closed).

Changes should be confirmed with the **Save** button.

Input simulation mode

To test the operation of the control system, you can use the input simulation mode. To activate this mode, type the following address in your browser:

http://nr_ip/stat.php?insim=1

In simulation mode, it is possible to activate inputs by clicking on the icon of the relevant input. The input will remain active as long as you hold down the left mouse button on the icon.

To deactivate simulation mode, type the following address into your browser:

http://nr_ip/stat.php?insim=0

Inputs ! SIMULATE !				
Name	In State	Counter	Action	
CH 1	۲	11	-RESET-	
CH 2	۲	6	-RESET-	
СН 3		2	-RESET-	

7.5 Configuring the SNMP server

The module is equipped with an SNMP v2c server. The function can be activated in the tab **Administration** \rightarrow **Services** \rightarrow **Enable SNMP**.

The SNMP protocol makes it possible to download and set the status of outputs and to download the status of inputs and counters.

The MIB file describing the structure is available for downloading on the tab SNMP **Download MIB file**.

inveo 🣚			www.inveo.com.pl
 Model: LantickPro-4- Firmware: 3.18 	4 • IP: 192.168.11 • MAC: D8:80:39	11.81 • Name: 9:5D:0B:05	
Home Map Channel Network	SNMP Configuration for SNMP a	ition gent	
SNMP	Community settings		
Administration	Name	Value	Description
Commitzocher	Read Community	public	015 characters
	Write Community	private	015 characters
			Save
	Download MIB file		

To use the SNMP protocol, the MIB file must be saved by right-clicking on the Download MIB file link. Then select the Save link as option.

Then use a suitable program such as MIB Browser (http://ireasoning.com/download.shtml). Once the program has started, you need to load the downloaded MIB file.

🕤 iReasoning MIB Browser				
File	Edit C)perations	Tools	
	Load MIE	Bs	Ctrl+L	
	UnLoad I	MIBs	3	
	MIB Mod	lules		
	Open Ses	sion		
	Save Sess	sion		
	Exit			

The next step is to enter the IP address of the device (in this case Lantick) and select the appropriate operation. The OID field can be left blank so that the program displays all the elements in the table.

A table with example elements is shown below.

channelNumber.1	1	Integer	192.168.11
channelNumber.2	2	Integer	192.168.11
channelNumber.3	3	Integer	192.168.11
channelNumber.4	4	Integer	192.168.11
channelNumber.5	5	Integer	192.168.11
channelNumber.6	6	Integer	192.168.11
channelNumber.7	7	Integer	192.168.11
channelOn.0	Off (0)	Integer	192.168.11
channelOn. 1	Off (0)	Integer	192.168.11
channelOn. 2	Off (0)	Integer	192.168.11
channelOn.3	Off (0)	Integer	192.168.11
channelOn.4	Off (0)	Integer	192.168.11
channelOn.5	Off (0)	Integer	192.168.11
channelOn.6	Off (0)	Integer	192.168.11
channelOn.7	Off (0)	Integer	192.168.11
channelOut.0	Off (0)	Integer	192.168.11
channelOut. 1	Off (0)	Integer	192.168.11
channelOut.2	Off (0)	Integer	192.168.11
channelOut.3	Off (0)	Integer	192.168.11
channelOut.4	Off (0)	Integer	192.168.11

The table shows the states of the individual inputs, outputs, counters and the main information about the Lantick module.

To view a specific section from the MIB tree table, double-click on the selected item. On the left side of the program window, the access path is displayed.



The address of each element in the MIB tree is assigned its OID. OID iso.org.dod.internet: .1.3.6.1

The following digits specify the subfolders OID folderu inveo .1.3.6.1.4.1.42814 Lantick .1.3.6.1.4.1.42814.28 control .1.3.6.1.4.1.42814.28.3 channels .1.3.6.1.4.1.42814.28.3.1 Input to individual channels.1.3.6.1.4.1.42814.28.3.1.1

The last digits specify the functions on the selected channel. This means: **1. the switching on/off** of an output is determined by the OID number: .1.3.6.1.4.1.42814.28.3.1.1.2.x, where x is the output number counted from 0

2 Checking the status of the coil

.1.3.6.1.4.1.42814.28.3.1.1.3.x, where x is the output number counted from 0

3 Input status check

.1.3.6.1.4.1.42814.28.3.1.1.4.x, where x is the input number counted from 0

4 Checking the counter input

.1.3.6.1.4.1.42814.28.3.1.1.5.x, where x is the input number counted from 0.

To switch on output 2, it is necessary to configure the advanced settings. To do this, press the Advanced button next to the IP address of the device.

ss: 192.168.111.16	- Advance	ed OID: .1.3.6.1
MIBs	_	
IB Tree iso.org.dod.internet	o Advanced Pro	perties of S
	Address	192.168.111.16
	Port	161
	Read Community	public
	Write Community	private
	SNMP Version	2
	Ok	Cancel

Enter the values from the SNMP tab into the Read Community and Write Community fields.

Read Community	public
Write Community	private

Once this has been done, you can set output 2 to ON. Select the line channelOn.1 (channel 1, as the outputs are numbered from 0) and, by pressing the right mouse button, select Set.

channelOn.1	Off (0)		
channelOn.2	d	Get	Ctrl+G
channelOn.3	c	Get Next	Ctrl+N
channelOn.4	d		
channelOn.5	d	Get Bulk	Ctrl+B
channelOn.6	d	Set	Ctrl+S
channelOn.7	d	Walk b	Ctrl+W
channelOut 0	6	VVDIN	CUITY

The next step is to enter the value 1 in the Value field and confirm with OK.

SNMP SET							
OID .1.3.6.1.4.1.42814.28.3.1.1.2.1							
Data Type	Integer 🔹						
Value	{On(1), Off(0) }						
Ok Cancel							

7.6 Communication protocols and administration

The Administration menu allows the user to configure the services to be enabled/disabled on the device and to change the access password.

Module name

Each module can be given a unique name for identification purposes.

Module name						
Name	Value	Description				
Module name		015 characters				

Changing the password

Aby zmienić hasło należy w polu *Current Password* wpisać aktualne hasło. W polach *New Password* oraz *Re-type Password* należy wpisać nowe hasło i zatwierdzić przyciskiem *Save Config*.

User Password						
Name	Value	Description				
New Password		015 characters				
Re-type Password		015 characters				
Admin Password						
Name	Value	Description				
Current Password		015 characters				
New Password		015 characters				
Re-type password		015 characters				

User Password – change user password (access to Home page only) (Login: user):

- **New Password** new password,
- Re-type Password repeat new password,

Admin Password – change of admin password (access to all settings) (Login: admin):

- Current Password current password,
- New Password new password,
- **Re-type Password** repeat new password.

Setting up services

The device allows you to select which services are to be available. Selecting the check box next to the service name and pressing Save activates the selected service.

Services						
Name	Value	Description				
Enable User Password						
Enable Admin Password						
Enable Program Access		Is needed by TCPrel and 1 to 1 TCP connection.				
Enable MODBUS TCP Server						
Enable SNMP						
Enable Destination Client	V	Allow module to send data to other device (1 to 1 TCP connection)				
Enable Comm2Other Module		Enable Multicast P2P communication				
Enable Inveo Dashboard		Enable control by <u>Inveo</u> <u>Dashboard Website</u> . Click <u>here</u> for additional info.				
Enable TFTP Bootloader		Allow remote upgrade firmware by TFTP. For safety reasons, the option should be disabled.				
Enable Remote Network Config.		Enable Remote Network Config by Inveo Discover Software.				
Enable Graphic Mode Config		Enable coordinate graphics points config.				
Disable LED		LED turns off after 5 minutes of pressing the service key.				

- Enable User Password Enable user password,
- Enable Admin Password the administrator password is enabled,
- Enable Program Access activation of handling by external programs (communication frame is described in chapter Error: Reference source not found),
- Enable MODBUS TCP Server switching on MODBUS TCP server,
- Enable SNMP enable SNMP agent,
- Enable Destination Client service of transferring I/O status to another module (bridge mode),
- Enable Comm2Other Module enabling communication on a multicast address (IP:224.0.23.12 port 3671), described in detail in chapter <u>8.4 Comm2Other – KNX</u> – enabling/disabling this service requires a reboot of the device!
- Enable Inveo Dashboard cloud control service http://dash.inveo.com.pl,
- Enable TFTP Bootloader enable bootloader,
- Enable Remote Network Config enable remote configuration (Discoverer program),
- Enable Graphic Mode Config configure graphic mode from the Map menu,
- **Disable LED** disablees the LEDs on the module- when the reset button is pressed, the LEDs will be on for 5 minutes and then disabled.

Warning

TFTP Bootloader should be switched off during normal operation.

It should only be switched on before the opro-gramme is updated.

8 Control and communication

8.1 Software control

The device has the following control options:

- built-in web,
- KNX/IP protocol,
- Inveo Dashboard access service http://dash.inveo.com.pl,
- SNMP protocol,
- MODBUS TCP protocol,
- HTTP protocol,
- command line program for Windows,
- Linux program,
- Android phone/tablet.

8.2 1-to-1 communication - LAN extender

Modules equipped with input channels can transmit information to devices with output channels to respond to the activation of those inputs. This means that when an input channel is activated, the module automatically communicates with the corresponding device (Lantick) and activates the selected output channel. When the input channel is deactivated, the associated output channel also deactivates. This functionality is useful when it is necessary to replicate the input state on the output.

Configuration

1. Settings on the Input Module

In the Lantick module with inputs, go to the Administration tab and select the Enable Destination Client option. Then, fill in the following fields:

- **Destination IP**: Enter the IP address of the device with output channels.
- **Destination Port**: Enter the port number on which the Lantick is listening (by default, this is port 9761).

Destination IP	192.168.111.16	Address of other device to communicate (1 to 1 TCP connection)	
Destination Port	9761	Port to communicate	

2. Channel Assignment

Go to the Channel tab and select which output should be activated when a specific input channel is triggered.

Channel 1 - CH 1						
Name	Value	Description				
Name	CH 1	015 characters				
Destination channel	Dest:4 T	Select destintation channel in 1 to 1 TCP connection				
		Save				

3. Settings on the Output Module

In the output module, open the Administration tab and select the Enable Program Access option.

This configuration allows for direct and seamless communication between the modules, ensuring an immediate response of the output channels to changes in the input states.

8.3 Communication protocols

Devices can be networked to create advanced control systems. The communication settings of the devices "each with each" can be made in the Comm2Other tab. The modules have tools to facilitate communication between them. The following protocols can be used:

- TCP
- UDP
- KNX
- HTTP GET



I Tip	LanTick having inputs has the possibility to send messages to other de- vices. Messages are set separately for each channel, for different events (short pulse, long active state, etc.).
	Devices with outputs can react to received data and control output states.

8.4 Comm2Other – KNX

The LanTick module is equipped with support for the KNX-IP compatible protocol in Routing mode. This protocol is designed for the control of home automation ('smart homes') and office automation.

The network is built in an "each-to-any" configuration without a dedicated master, although it is possible to add one for more demanding solutions. The failure of one module does not paralyse the operation of the entire installation. Communication between the modules takes place via LAN on UDP multicast broadcast packets.

The configuration and operation is based on the fact that selected consumer devices (e.g. relays connected to lamp circuits, roller shutters) and triggers/actuators (inputs to which e.g. wall switches are connected) are assigned to a common group. Each input channel has an input command and group address. An output channel can have a group entered for the corresponding action (switch on, switch off, change state, switch on with delay, roller shutter) to which it is to respond. When an input sends a stored group address with a command, all receivers that have this group address stored in them react. Each input-output can have several different addresses entered, in addition, inputs can send an address to different events such as button press, hold, button release, as well as send a predefined TCP, UDP and HTTP frame. Outputs can be combined into sections for controlling roller shutters. The system can be expanded with a central unit for building visualisation and remote control.

Overview of all KNX devices

When configuring extended installations, the function available under the View all modules button is useful. This function scans the LAN and detects all Inveo devices that have an active KNX protocol and puts them together in a table sorted into groups.



8.4.1 Frame format converter

Clicking on the Configurator button on the Comm2Other tab takes you to the configuration window for KNX protocol handling. In the upper right corner of the Comm2Other tab you will find the buttons:



- Save data saves the changes made, saving takes about 10 seconds,
- Clear data deletes the current settings,
- **Close** closes the configuration window,
- Toggle Frame Format changes the frame data format, representation in ASCII code or hexadecimal notation,
- 1, 2, 3, 4, 5, 6, 7, 8 navigation buttons take you to the appropriate place (to a given input/output number of a given module),
- Calc calculator allowing to convert time from the decimal system to the hexadecimal system.



Example of Using the Calculator

Using the calculator, we can convert 5 seconds into a hexadecimal format. Since the scale is 0.1 seconds, the value of 5 seconds corresponds to 50 units (50 * 0.1 = 5). As a result, to represent this value in a 2-byte hexadecimal format, you need to enter "\x00\x32" in the frame field.

Input Data Format

The data entered into the frame must be in the format \xAB, where:

• **AB** – The value in hexadecimal format, representing the corresponding KNX command.

This specification ensures that the values are interpreted correctly by the system, enabling effective handling of the KNX protocol.

8.4.2 Output channel control

In the output table, you can use the basic functions (DPT 1.xxxx) or the functions with priority (DPT 2.xxxx).

Channel Out 1 [CH 1] → ReadState: <mark>31/7/255</mark>						
Function	Group 1	Group 2	Group 3	Group 4		
On (DPT 1.001)	1/2/3	0/0/0	0/0/0	0/0/0		
Off (DPT 1)	0/0/0	0/0/0	0/0/0	0/0/0		
Invert (DPT 1.012)	0/0/0	0/0/0	0/0/0	0/0/0		
Time	0/0/0	0/0/0	0/0/0	0/0/0		
On Control (DPT 2.001)	0/0/0	0/0/0	0/0/0	0/0/0		
Off Control (DPT 2)	0/0/0	0/0/0	0/0/0	0/0/0		
Invert Control (DPT 2.012)	0/0/0	0/0/0	0/0/0	0/0/0		
Scene Control (DPT 18.001)	0/0/0	0/0/0	0/0/0	0/0/0		

Using the priority function (DPT 2.xxxx) allows the basic functions to be blocked.

- This is useful, for example, in the event of:
- fire all roller blinds are to be raised and no one is allowed to lower them,
- a light is to be switched on/off and you do not want anyone to switch it on/off.



Function principle with priority

8.4.3 KNX commands

ReadState - address allowing to read the module state (e.g. by an external program) (address takes the values 0-31/0-7/0-255)

On (DPT 1.001) - turning the output on - can take 2 values: x00 - sending such a command will disable the output x01 - sending such a command will switch the output on

Off (DPT 1) - function opposite to On (DPT 1.001). This function is used when switching off a particular device is to cause another device to switch on.

Invert (DPT 1.012) - change of the status of the output to opposite

 \xoo - such a command will not change the state of the output

\x01 - sending such a command will change the status of the output to the opposite one

Time - temporary switching on/off of the output

\x00 - switching off the relay

 $x01 T_{on}MSB T_{on}LSB T_{off}MSB T_{off}LSB$ – switching on the relay for a fixed time after the specified delay. This time is expressed in units equal to 0.1 seconds, written in hexadecimal (hex).

Example:

Switching the relay on for 60 seconds (value 600), after an 8 second delay (value 80):

- dec 600 hex 0x02 0x58

- dec 80 hex 0x00 0x50

Syntax:



📙 Tip

To program the relay switch on without a delay, simply do not enter a value for Toff, e.g.: x01x02x58.

On Control (DPT 2.001) - function to switch on the output with priority - can take 4 values: \x00 - sending such a command will disable the output - works like **On (DPT 1.001)**. \x01 - sending such a command will switch the output on - works as **On (DPT 1.001)**

x02 - sending such a command will disable the output with priority - unlocking the output (clearing the lock flag) is possible after sending x00 or x01.

The output can be switched on by x03 or manually (the lock flag will still be active) x03 - sending such a command will activate the output with priority - unblocking the output (deleting the lock flag) is only possible after sending x00, x01.

Disabling the output can be done via x02 or manually (the lock flag will still be active)

Off Control (DPT 2.001) – function with priority opposite to On Control (DPT 2.001).

Invert (DPT 2.012) - change of state to the opposite with priority, takes 4 values: \x00 - such a command will not cause a state change.

\x01 - sending such a command will cause a change of state to the opposite one

x02 - sending such a command will block the output with priority in its current state (on or off) - unblocking the output (clearing the blocking flag) is possible only after sending x00 or x01.

x03 - sending such a command will change the state to the opposite with priority - unlocking the output (clearing the lock flag) is only possible after sending x00 or x01.

Scene Control (DPT 18.001) - memorises the settings for a given scene, e.g. outputs 1, 3 are to be switched on, 2 is to be switched off and 4 is irrelevant. Memorise outputs 1, 2, 3 on group 1/1/1 (enter group 1/1/1 on the Scene control line).

Command to memorise/read the scene: \xab , where

a:

the value "0" corresponds to the activation of the scene from the device memory, the value "8" corresponds to writing the current scene into the device memory b:

numbers of consecutive scenes, max number of 16 scenes to be stored, take values 0-F. Example:

\x82 - writing scene number 3 \x0A - reading scene number 11

Scene Control is used in the case of frequent settings, e.g. after the end of the working day

the workstations are to be cut off - all outputs switched off, for example, you want to switch on the ceiling light, the wall light and the power supply to the computer in a particular room at 5:55 a.m. - simply use Scene control or the Inveo Cronos timer, which will switch the power on/off by itself at a given time.

Up to 4 different groups can be assigned to each output channel (in the table of columns named Group 1-4). The output channel will respond with the selected command for each of the assigned groups.

8.4.4 KNX commands for channel configuration in roller shutter/gate mode

Step (DPT 1.007) – function increasing/decreasing the roller shutter opening by a step x00 - up

\x01 - down

Up/Down (DPT 1.008) – function opening/closing the roller shutter

x00 – opening the roller shutter (completely) sending the command again will not stop the roller shutter opening

x01 - closing roller shutter (completely) - sending the command again does not stop the roller shutter closing

Stop (DPT 1) – function to stop the roller shutter

\x00 – stop roller shutter

\x01 – stop roller shutter

Up/Down with Stop (DPT 1) – function opening/closing the roller shutter with the possibility of stopping it - if the command is sent once, the roller shutter will start to open/close, sending the command again will stop the roller shutter \x00 – open roller shutter/stop roller shutter

x01 - close roller shutter/stop roller shutter

Gate (DPT 1) – function alternately opening/closing the roller shutter/gate with the

possibility of stopping it. Sending the command again before the end of the process of opening/closing the roller shutter/gate will disable the output, i.e. stop the roller shutter/gate x00 -stop roller shutter/gate

x01 - opening/stopping/gate - if the command is sent again before the shutter/gate opening/closing process is complete, the output will be switched off.

Step Control (DPT 2.007) – Step function (DPT 1.007) with priority. Function that increases/decreases the opening of the roller shutter by a step

x00 – up

\x01 - down

x02 - up with priority (blocking of DPT1.X control)

x03 – down with priority (locking of DPT1.X control)

Unlocking the output (clearing the lock flag) is possible

only after sending x00 or x01.

Up/Down Control (DPT 2.008) – Function Up/Down (DPT 1.008) with priority. Roller shutter open/close function

x00 - open roller shutter (completely), sending the command again will not stop the roller shutter opening.

\x01 - closing roller shutter (completely), sending the command again will not stop the roller shutter closing

\x02 - open roller shutter (completely) with priority (blocking of DPT1.X control)

x03 - close roller shutter (completely) with priority (DPT1.X control blocked)

Unlocking the output (clearing the lock flag) is possible

only after sending x00 or x01.

Stop Control (DPT 2) – stop function (DPT 1) with priority - function that stops the roller shutter

\x00 - stop roller shutter

\x01 - stop roller shutter

\x00 - stop roller shutter with priority (blocking of DPT1.X control)

x01 - stopping roller shutter with priority (locking of DPT1.X control)

Unlocking the output (clearing the lock flag) is only possible after sending x00 or x01.

Up/Down with Stop Ctrl (DPT 2) – Up/Down with Stop (DPT 1) function with priority. Function opening/closing a roller shutter with the possibility of stopping it - if the command is sent once, the roller shutter will start to open/close, sending the command again will stop the

roller shutter

\x00 - open roller shutter/stop roller shutter

x01 - close roller shutter/stop roller shutter

\x02 - open roller shutter/stop roller shutter with priority (blocking of DPT1.X control)

x03 - close roller shutter/stop roller shutter with priority (DPT1.X control blocked)

Unlocking the output (clearing the lock flag) is only possible after sending x00 or x01.

Gate Control (DPT 2) – Gate function (DPT 1) with priority. A function that alternately opens/closes the roller shutter/gate with the possibility of stopping it. Sending the command again before the roller shutter/gate is completed will deactivate the output, i.e. stop the roller shutter/gate

\x00 - stop roller shutter/gate

x01 - opening/stopping/gate - if the command is sent again before the roller shutter/gate opening/closing process is complete, the output will be switched off

\x02 - stop roller shutter/gate with priority (blocking of DPT1.X control)

\x03 - open/stop/close roller shutter/gate with priority (DPT1.X control blocked)

Unlocking the output (clearing the lock flag) is only possible after sending x00 or x01.

Blind Control (DPT 3.008) – open/close/stop roller shutter function

\x00 - stop roller shutter

\x07 - opening roller shutter

\x0F - closing roller shutter

Percentage 0-100% (DPT 5.001) – percentage opening of the roller shutter 0-100%, to keep the roller shutter open to approximately 50 per cent 50 must be 50 stored in hex 50dec-32hex.

xCC - percent roller shutter opening, where CC percent (0-100%) expressed in hex system Value 0-255 (DPT 5.004) - roller shutter opening 0-255: for 0- roller shutter closed, 255-roller shutter fully open. In order to keep the roller shutter open to approx. 70 per cent, calculate 70 per cent of 255 = 178.5 - round down and convert to hexadecimal: 178dec=B2hex.

\xCC – roller shutter opening 0-255 (0-100%), CC expressed in hexadecimal

Scene Control (DPT 18.001) – memorises the settings of a scene.

You memorise the settings of roller shutters 1, 2, 3 on group 1/1/1 (enter group 1/1/1 in the Scene control line).

Command to memorise/read the scene: \xab, where

a:

value "0" corresponds to activating the scene from the device memory value "8" corresponds to writing the current scene to the device memory

b:

numbers of consecutive scenes, max number of 16 scenes to be stored, take values 0-F.

Example:

\x82 - writing scene number 3 \x0A - reading scene number 11

8.4.5 Configuration of triggers - input channels

Table of input channels:

Channel In 8 [CH 8] ? ReadState: 31/7/255						
Function	Protocol	IP	Port	KNX Group	Frame	Try!
On 0	Disable 💌	0.0.0.0	0	0/0/0	н	Try!
Eunction	Protocol	TP	Port	KNX Group	Frama	Tevi
Tunction	FIOLOCOI	IF	Port	Kit Group	Traine	ii y:
Off 0	Disable 💌	0.0.0.0	0	0/0/0		Try!
Function	Protocol	IP	Port	KNX Group	Frame	Try!
Hold On 0	Disable 💌	0.0.0.0	0	0/0/0	, di	Try!
Function	Protocol	IP	Port	KNX Group	Frame	Try!
Hold Off 0	Disable 💌	0.0.0.0	0	0/0/0	н	Try!

ReadState – address to read the state (e.g. via an external program) the address takes the values 0-31/0-7/0-255,

The moment when the frame is sent depends on the assigned function:

- On 0 function detecting a rising edge (will be called when a high state appears at the input),
- Off 0 function detecting a falling edge, but only if the high state at the input lasted for a time shorter than the time specified in the C2O Hold On Time parameter (called when the voltage at the input disappears, when the button is released)
- Hold On 0 function which reacts to a high state at the input if it lasted for the C20 Hold On time defined in the Channel tab – <u>chapter 7.4</u>
- Hold Off 0 function detecting a falling edge, but called only if the high state at the input lasted for at least the time defined in the C2O Hold On Time parameter.



Invocation of the specified function depends on the length of the input pulse. A pulse at the input triggers the event described as On. If the pulse continues and exceeds the time specified in parameter C2O Hold On time - the function described as Hold On is called. If the pulse is interrupted before the time specified in the C2O Hold On time parameter expires - Off is called. If the pulse is interrupted after the time specified in the C2O parameter Hold On time - the Hold Off action is called.

The above functions can send frames cyclically depending on the C2O Repetition time (chapter 7.4). The device can cyclically send the last triggered frame, e.g. a frame from the HoldOn trigger can be sent cyclically (at a preset frequency) until the HoldOff frame (which will then be cyclically sent).

Example:

Lantick 0-8

A monostable wall switch is connected to input 1 (channel 1), where Hold On 0 is assigned to group 1/1/2, Off 0 is assigned to group 1/1/1.

LanTick 8-0

Output No. 3 is defined as a blind in a guest room and output No. 5 as a light. Output No. 3 is assigned group 1/1/2 as the Up/Down Control function causing the roller shutter to open/close alternately.

To output No. 5 was assigned group 1/1/1, as an Invert function causing a change of state to the opposite (light on and off).

This configuration works as follows:

A short click on the switch turns the light on or off in the guest room, and holding the switch for a moment will close/open the roller shutter in that room. **Column Protocol:**

The following settings can be selected: Disable - control disabled TCP - control via TCP connection protocol UDP - control via UDP protocol - multicast KNX - KNX protocol HTTP GET - control via HTTP GET protocol

IP column:

Enter the target IP address of the device in this window.

Port column:

For the HTTP GET standard, enter the value 80. For TCP/UDP, enter the port on which the remote device is listening, standard 9761.

KNX Group column:

Using the KNX protocol, you define the groups that are the link for controlling the outputs.

Frame field:

Enter the commands to be sent in this field.

Try button:

The button is responsible for testing the selected data frame.

8.4.6 KNX addressing

KNX communication is based on the broadcasting of data for specific groups. The output channels respond to the groups defined in the input channels. Groups can be assigned to different outputs.

The group addressing in KNX has the format: a/b/c a: main group 0-31 (standard specifies 0-15) b: intermediate group 0-7 c: subgroup 0-255 e.g: 4/0/8

Example of group assignment:

Room	Control object	Function	
1-kitchen	0-Lighting	0-Main light	
2-lounge	1-Sockets	1-Auxiliary lighting	
3-bedroom	2-Roll blinds 2-North roller shutter		
4-garage	3-Ventilation	3-South roller shutter	

Group formation:

- 1/0/0 controlling the main lighting in the kitchen
- 3/0/0 controlling the main lighting in the boiler room
- 4/2/3 Control of south roller shutter in garage
- 2/2/2 control of north roller shutter in living room

Example of combination of modules:



8.5 Comm2Other – TCP/UDP

In the Comm2Other tab, it is possible to select a TCP or UDP client setting. This means that the device, which is a 'server' with a specific IP address, listens on the selected port and the Lantick module can send a message to it.

Example 1 (TCP):

Suppose there is a Lantick-8-0 (8 outputs), which is the server, and a Lantick-0-8 (8 inputs), which is the client, on the network.

A frame from Lantick-0-8 is to be sent when input 3 is switched on for more than 0.5 seconds, causing output 7 to be switched on at Lantick-8-0.

Lantick-8-0 (server): IP address:192.168.111.16 TCP/UDP port: 9761

Comm2Other Lantick-0-8: Channel 3:

Function	Protocol	IP	Port	KNX Group	Frame
Hold On 0	TCP	192.168.111.16	9761	0/0/0	\$1x/00x/00x/00x/00x/10x/10x/10x/10x/10x/1

Example 2 (UDP): Suppose there is a Lantick-8-0 (8 outputs), which is a server, and a Lantick-0-8 (8 inputs), which is the client.

A frame from Lantick-0-8 is to be sent when input 7 is switched off, if the input has been switched on for less than 0.5 seconds. This will cause output 5 to be switched on at Lantick-8-0.

Lantick-8-0 (server): IP address:192.168.111.16 TCP/UDP port: 9761

Comm2Other Lantick-0-8: Channel 7:

Function	Protocol	IP	Port	KNX Group	Frame
Off 0	UDP 💌	192.168.111.16	9761	0/0/0	\x0F\x01\x01\x01\x00\x00\x00\x00\x06

The frame is stored in hexadecimal: x0Fx01x04x01x01x00x00x00x00x00x00x00x16

A TCP protocol frame has the same form as a UDP protocol frame. The difference is that the TCP protocol has a data transmission control.

The TCP and UDP protocol data frame is described in section 8.5 Comm2Other – TCP/UDP.

8.6 Comm2Other – HTTP GET

By setting the HTTP GET protocol in the Comm2Other tab, other devices with an implemented HTTP protocol can be controlled. This is based on the fact that, depending on the current input status of the device, appropriate HTTP protocol commands are sent to which a module with a defined IP number will respond.

Example (HTTP GET):

Let's assume that the network contains Lantick-8-0 (8 outputs) and Lantick-0-8 (8 inputs).

The network is to operate as follows:

If input No. 2 in Lantick-0-8 is switched on, the corresponding output in Lantick-8-0 is to be switched on, and if input No. 4 is switched on, the state of output No. 4 is to be changed to the opposite.

If input No. 1 in Lantick-0-8 is deactivated, all outputs in Lantick-8-0 are to be deactivated for safety, but output No. 6 is to be activated.

Please note that when using the HTTP protocol, it is sometimes necessary to authenticate by entering a user and password. Note that the login and password can be up to 30 characters long. This data is entered on a new line.

Lantick-8-0 IP address: 192.168.111.16 HTTP port: 80 login: admin password: admin00

Comm2Other Lantick-0-8:

Channel 1:

Function	Protocol	IP	Port	KNX Group	Frame
Hold Off 0	HTTP GET	192.168.111.16	80	0/0/0	/stat.php?set=00100000 admin:admin00

/stat.php?set=00100000 - setting all outputs simultaneously, outputs are numbered in reverse order

admin: admin00 - authentication login:password

Channel 2:

Function	Protocol	IP	Port	KNX Group	Frame
On 0	HTTP GET	192.168.111.16	80	0/0/0	//stat.php?on=3 admin:admin00

/stat.php?on=2 - switching on output 2

admin: admin00 - authentication login:password **Channel 4:**

	Function	Protocol	IP	Port	KNX Group	Frame
	On 0	HTTP GET	192.168.111.16	80	0/0/0	/stat.php?inv=4 admin:admin00

/stat.php?inv=4 - change of state to the opposite of output no. 4
admin: admin00 - authentication login:password

More HTTP GET commands can be found in section 8.11 HTTP GET.

8.7 Control via the cloud

The Inveo dashboard allows the module's outputs to be controlled and the status of the inputs to be read via http://dash.inveo.com.pl.

When the Enable Inveo Dashboard service is activated in the Administration tab, the module sends the current status of the inputs/outputs to the server.

To use the Inveo Dashboard it is necessary to create and activate an account.

After entering the following address in your browser: http://dash.inveo.com.pl. Click on the hyperlink "Create account".

inveo 🣚 📲 🗖
Dashboard Logowanie
Użytkownik
Hasło
🗖 Zapamiętaj
Zaloguj
<u>Załóż konto</u>

In the new window, fill in all the fields and tick the reCAPTCHA box.

inveo 📚	# 🕳
Formularz rejestracyjny	1
Imię:	
Nazwisko:	
Nazwa użytkownika*:	
Hasło*:	
Powtórz hasło*:	
Adres e-mail*:	
Powtórz Adres e-mail*:	
Konto tylko do odczytu	
Nie jestem robotem	
Załóż Wróć do logowania	

Once the form has been filled in correctly, click on "Create". An email with a confirmation link will be sent to the email address provided during registration.

After logging in to your INVEO Dashboard account, add the devices whose status you want to see or control.



After clicking on the "Add device" button, a window will appear for entering the key read from the LanTick module. The key can be found in the Administration tab.

Enable Inveo Dashboard		Enable control by <u>Inveo</u> <u>Dashboard Website</u> . Clic <mark>l <u>here</u> or additional info.</mark>
------------------------	--	---

After clicking on the hyperlink, a window with the necessary data will be displayed.

[X] Close	
Inveo Dashboard allows you to control the device by the site <u>http://dash.inveo.</u>	<u>com.pl</u>
To start using the service, you must create an account on Inveo Dashboard	
• To add a device copy and paste the key PpfjgHl1E1Fjzqud/K93gg==	click to copy) on the dashboard in the 'Add new device' field.
 To remove the device from all users paste code NuuMsLduA3hMpEGf7tCQpQ= users' field. 	= (click to copy) on the dashboard in the 'Remove from all

To add a device, paste the key from the first point. Deleting a device is done by pasting the key from the second point.

8.8 Command Line Control Program for Windows

The module can be controlled from the Windows command line. Syntax:

Windows: TCPRel.exe [Parametry]

Parameter	Description
-out=[1 - 2]	Number of the set output
-in=[3-4]	Number of the set input
	-in=3 for input 1
	-in=4 for input 2
-host=[HOST]	IP address of the module
-port=[PORT]	Port of the module
-on -off	Turns the output on or off
-writecounter=0-4228250625	Sets the counter state
-readcounter	Reads the counter value
-verb	Enables display of additional information
-stat	Displays the current state of input/output

Examples:

Turn on relay number 1, module has IP address 192.168.111.15 and listens on port 9761:

```
TCPRel -out=1 -host=192.168.111.15 -port=9761 -on
```

Reset input counter 1:

```
TCPRel -host=192.168.111.15 -port=9761 -in=1 -writecounter=0
```

Set input counter 1 to a value of 123:

```
TCPRel -host=192.168.111.15 -port=9761 -in=1 -writecounter=123
```

Read input counter 1 state:

```
TCPRel -host=192.168.111.15 -port=9761 -in=1 -readcounter
```

Check state of input number 2:

```
CPRel -host=192.168.111.15 -port=9761 -in=2 -stat
```

8.9 Command Line Control Program for Linux

The module can be controlled from the Linux system console. Syntax:

./TcpRel.exe [Parametry]

Parameter	Description
-o [1 - 2]	Number of the set output:
-i [3-4]	Number of the set input
	-i 3 for input 1
	-i 4 for input 2
-h [HOST]	IP address of the module
-p [PORT]	Port of the module
-s [0,1]	Turns the output on or off
-w 0-4228250625	Sets the counter state
-r	Reads the counter value
-1	Displays the current state of input/output

Examples:

Turn on relay number 1, module has IP address 192.168.111.15 and listens on port 9761:

```
./tcprel -o 1 -h 192.168.111.15 -p 9761 -s 1
```

Reset counter 1:

```
./tcprel -h 192.168.111.15 -p 9761 -i 1 -w 0
```

Set counter 2 to a value of 123:

./tcprel -h 192.168.111.15 -p 9761 <u>-i 4 -w 123</u>

Read counter 1 state:

```
./tcprel -h 192.168.111.15 _-p 9761 -i <u>1</u> -r
```

Check state of input number 2:

```
./tcprel -h 192.168.111.15 -p 9761 -i 2 -l
```

8.10 Modbus TCP

Enabling MODBUS TCP Protocol support is possible in the Administration tab by selecting Enable MODBUS TCP Protocol. The default port is 502.

The device supports the following MODBUS functions:

- 0x01 Read Coils,
- 0x03 Read Holding Register,
- 0x05 Write Single Coil,
- 0x06 Write Single Register,
- 0x0F Write Multiple Coils,
- 0x10 Write Multiple Registers.

MODBUS TCP - Holding Registers

Address	Туре	Name	R/W	Description
1		T1On	R/W	Time to activate output No. 1 (*100ms)
2		T1Off	R/W	Time to deactivate output No. 1 (*100ms)
3		Rel1Mode	R/W	Operating mode of output No. 1:
				1 - Static
				2 - Toggle
				3 - TimeBase
4-5		Counter1	R/W	32-bit value of counter No. 1
6-10			R/W	Same for channel 2
	<u> </u>		R/W	Same for channels 3-15
76-80	ste		R/W	Same for channel 16
4000	gigi	T1On	R/W	Time to activate output No. 1 (*100ms)
4000-4007	Re	T x On	R/W	Time to activate output No. x (*100ms) for $x=1-8$
4008	bu	T1Off	R/W	Time to deactivate output No. 1 (*100ms)
4008-4015	ldi	T x Off	R/W	Time to deactivate output No. x (*100ms) for $x=1-8$
4016	P	Rel1Mode	R/W	Operating mode of output No. 1:
				1 - Static
				2 - Toggle
				3 - TimeBase
4016-4023		Rel x Mode	R/W	Operating mode of output No. x: for $x=1-8$
				1 - Static
				2 - Toggle
				3 - TimeBase
4028-4029		Counter1	R/W	32-bit value of counter No. 1
4028-4043		Counter x	R/W	State of input counter No. x for x=1-8

MODBUS TCP - Coils				
Address	Туре	Name	R/W	Description [output channel/input channel]
1		On1	R/W	Activation of relay 1 / State of input 1
1-16		On x	R/W	Activation of relay x / State of input x for $x=1-16$
17	oil	Out1	R	Coil state of relay 1 / State of input 1
17-32	U U U	Out x	R	Coil state of relay x / State of input x for $x=1-16$
1000	lg	On1	R/W	Activation of relay 1 / State of input 1
1000-1007	Sir	On x	R/W	Activation of relay x / State of input x for $x=1-8$
1008		Out1	R	Coil state of relay 1 / State of input 1
1008-1015		Out x	R	Coil state of relay x / State of input x for x=1-8

8.11 HTTP GET

The LanTick modules can be controlled via the HTTP protocol. This means that depending on the current state of the device, appropriate HTTP protocol commands can be sent, to which the module will react. To read the current state of the module, you can refer to a subpage in a web browser, for example, http://192.168.111.15/stat.php

The module's state is also accessible through the page: http://DeviceIP/status.xml. The status.xml resource is read-only and does not require access password. The status.xml file does not display the device name.

The XML file contains all relevant information:

<response></response>
<prod_name>Lantick-PE-2-2</prod_name>
<user_name></user_name>
<out>00000000000001</out>
<on>00000000000001</on>
<in>000000000000000</in>
<counter1>166</counter1>
<counter2>7</counter2>
<counter3>22</counter3>
<counter4>2</counter4>
<counter5>3</counter5>
<counter6>3</counter6>
<counter7>2</counter7>
<counter8>2</counter8>
<counter9>0</counter9>
<counter10>0</counter10>
<counter11>22</counter11>
<counter12>0</counter12>
<counter13>2</counter13>
<counter14>0</counter14>
<counter15>0</counter15>
<counter16>1</counter16>
<insim></insim>

Section	Description			
<prod_name></prod_name>	Module Type			
Lantick-PE-2-2	In this case, Lantick-PE-2-2.			
<user_name></user_name>	User-defined Module Name			
<out>000000000000001</out>	Current Output State (On/Off)			
	In this case, output OUT1 is active.			
<on>000000000000001</on>	Output State (Activation Mode)			
<in>00000000000000/in></in>	Input State (Active/Inactive)			
<counter1>0</counter1>	Counter Inputs			
<counterx>0</counterx>	for x=1-16			

The LanTickPro module implements a solution designed for controlling blinds. Below are the available HTTP GET commands.

Command	Description
http://nr_ip/stat.php?on=x	Activation of an output.
	x= output number
http://nr_ip/stat.php?off=x	Deactivation of an output.
	x= output number
http://nr_ip/stat.php?inv=x	Changing the state of an output to the opposite.
	x= output number
http://nr_ip/stat.php?set=87654321	Setting all outputs.
	Possible options:
	1 - activation
	0 - deactivation
	n - toggling the state
	no change in state
http://nr_ip/stat.php?cnt=x,y	Setting a counter input.
	x= counter input number
	y- value
	PE-2-2 x=3,4
	PE-4-4 x=5,6,7,8
	PE-0-8 x=1-8
	PE-0-16 x=1-16
http://nr_ip/stat.php?on=x&ton=y&toff=z&astab	Setting an output to astable mode (cyclically turning on and off the output).
	x= output number
	y- activation time
	z- deactivation time
http://nr_ip/stat.php?on=x&bistab	Setting an output to bistable mode.
	x= output number
http://nr_ip/stat.php?on=x&ton=y&toff=z	Setting an output to time-based mode
	(one-time activation with a specified delay).
	x= output number

	v- activation time			
	z- activation delay			
http://nr_ip/stat.php?rollup=x	Raising the blind, where x- blind number			
	PE-2-2 x=1			
	PE-4-4 x=1,2			
	PE-8-0 x=1,2,3,4			
	PE-16-0 x=1,2,3,4,5,6,7,8			
http://nr_ip/stat.php?rolldown=x	Lowering the blind			
	x= blind number as above			
http://nr_ip/stat.php?rollus=x	Raising the blind and stop			
	x= blind number as above			
http://nr_ip/stat.php?rollds=x	Lowering the blind and stop			
	x= blind number as above			
http://nr_ip/stat.php?rollstop=x	Stopping the blind			
	x= blind number as above			

Command	Description
http://nr_ip/stat.php?rollgate=x	Opening the blind - Stop - Closing the blind
	x= blind number as above
http://nr_ip/stat.php?rollpos=x,y	Opening the blind
	x= blind number as above
	y- percentage value of opening
	PE-2-2 x=1
	PE-4-4 x=1,2
	PE-8-0 x=1,2,3,4
	PE-16-0 x=1,2,3,4,5,6,7,8
Applies only to LanTick modules	with digital inputs
http://nr_ip/stat.php?c2o_on=x	Sending a frame defined in the Comm2Other tab (channel numbering from 0)
	For On frame - see section 8.4
	x= channel number
http://nr_ip/stat.php?c2o_off=x	Sending a frame defined in the Comm2Other tab (channel numbering from 0)
	For Off frame - see section 8.4
	x= channel number
http://nr_ip/stat.php?c2o_hon=x	Sending a frame defined in the Comm2Other tab (channel numbering from 0)
	For Hold On frame - see section 8.4
	x= channel number
http://nr_ip/stat.php?c2o_hoff=x	Sending a frame defined in the Comm2Other tab (channel numbering from 0)
	For Hold Off frame - see section 8.4
	x= channel number

Examples of controlling the module using the HTTP protocol:

Activating relay output OUT2: http://192.168.111.15/stat.php?on=2

Changing the state of relay output OUT1 to the opposite: http://192.168.111.15/stat.php?inv=1

Deactivating relay output OUT2: http://192.168.111.15/stat.php?off=2

Activating output 1; negating output 2: http://192.168.111.15/stat.php?set=000000n1

Setting the counter value to 1234 for channel 3: http://192.168.111.15/stat.php?cnt=3,1234

Sending a frame defined in Comm2Other for Hold On for channel 5: http://192.168.111.15/stat.php?c2o_hon=4

8.12 TCP/UDP/IP communication protocol description

Data frame for TCP/UDP port 9761.

nand me	Byte no.	1	2	3	4	5	6	7	8	9	10	11	
Comr	Byte name	SOF	CMD	Chan nel	Data 1	Data 2	Data 3	Data 4	Data 5	Data 6	Data 7	CRC	Returns
t settings	dec	15	1	0-7	Mode [1-3] *	On/O ff [0,1]	TON LSB*	TON MSB*	TOFF LSB*	TOFF MSB*	Stan po włącz. *	CRC	ОК
Outpui	hex	0x0F	0x01	0x00	Mode [1-3] *	0-1	TON LSB	TON MSB	TOFF LSB	TOFF MSB	0-1	CRC	ОК
lload inel am.	dec	15	2	0-7	×	x	x	x	x	×	x	CRC	
Down char para	hex	0x0F	0x02	0-7	x	x	х	х	x	x	×	CRC	
cing nter	dec	15	10	0-7	0-7	8-15	16- 23	24- 31	x	x	×	CRC	
Sett	hex	0x0F	0x0A	0-7	0-7	8-F	10- 17	18- 1F	x	x	x	CRC	
nter ding	dec	15	11	0-7	0-7	8-15	16- 23	24- 31	x	x	x	CRC	
Cou	hex	0x0F	0x0B	0-7	0-7	8-F	10- 17	18- 1F	×	×	×	CRC	
Wr iti ng to	dec	15	20	0	10	0	0	0	0	0	11	CRC	ОК

	hex	0x0F	0x14	0x00	0x0A	0x00	0x00	0x00	0x00	0x00	0x0B	0x38	ОК
inel us load	dec	15	100	х	х	x	х	x	х	х	х	CRC	CH7- CH0**
Chai stai dowr	hex	0x0F	0x64	х	х	х	х	х	х	х	х	CRC	CH7- CH0**
Channel name download	dec	15	101	0-7	х	x	х	x	x	х	x	CRC	String
	hex	0x0F	0x65	0-7	х	х	х	х	х	х	х	CRC	String
Device name down- load	dec	15	200	х	х	x	x	x	x	х	x	CRC	String
	hex	0x0F	0xC8	x	х	x	x	x	x	x	x	CRC	String

* LanTick modules only

** Chx returns 2 bytes:

- 1 output state,
- 2 coil or input status.

Description	Value	Meaning
On/Off	0	Off
	1	On
*Mode	1	Bistable
	2	Astable
	3	1- trigger
CRC	Byte sum	

The module listens on TCP/UDP port 9761 as standard.

Example frames:

Enabling output #1 in static mode

	SOF	CMD	СН	D1	D2	D3	D4	D5	D6	D7	CRC
dec	15	1	0	1	1	0	0	0	0	0	18
hex	0x0F	0x01	0x00	0x01	0x01	0x00	0x00	0x00	0x00	0x00	0x12

Setting the counter on counter input #2 to 100

	SOF	CMD	СН	D1	D2	D3	D4	D5	D6	D7	CRC
dec	15	10	1	100	0	0	0	0	0	0	126
hex	0x0F	0x0A	0x01	0x64	0x00	0x00	0x00	0x00	0x00	0x00	0x7E

8.13 TCP/UDP protocol for software control

LanTick devices can be controlled programmatically via the TCP/UDP protocol using text commands. The module listens on port 9761. All commands available via the HTTP GET 8.11 protocol are supported.

On the device's web page, go to the Administration tab, then select Enable Program Access and confirm with Save.

A string of characters starting with '?' should be sent to port 9761 along with the appropriate command.

Examples:

?set=1110n01n

Activate all outputs simultaneously. Outputs 2, 6, 7 and 8 will be switched on. Outputs 1 and 4 will change their state to the opposite, while outputs 3 and 5 will be switched off.

?on=7

Switching on output no. 7.

?on=4&bistab

Setting output No. 4 to Bistable mode and switching this output on.

?on=2&ton=1200&toff=6000

Setting of output no. 2 to Time Based mode and activation of output no. 2 after the expiry of 10 minutes (6000 * 0.1sec) for a duration of 2 minutes.

?rolldown=1

Lowering of roller shutter number 1.

?rollgate=3

Raising roller shutter #3 - Stopping roller shutter - Lowering roller shutter.

9 Examples

9.1 Direct connection between modules (bridge connection).

Example configuration:

For the module controlling the outputs, we set the IP address: 192.168.111.16.

For the second device, we set the IP address 192.168.111.15 and set: in the NETWORK->Destination IP tab we enter 192.168.111.16 port 9761, under CHANNEL->Channel1 set Dest: 1, under CHANNEL->Channel2 tab set Dest: 2.

When input one is triggered in module 192.168.111.15, the output in module 192.168.111.16 will be triggered and similarly when input two is triggered in module 192.168.111.15, the output in module 192.168.111.16 will be triggered.



9.2 Example of connecting a roller shutter motor to the PE-2-2 module:

In the roller shutter control mode, the PE-2-2 module automatically switches on either one or the other relay which causes the roller shutter to open or close.

In order for the following functions to work correctly, it is necessary to set the time required to fully open/close a roller shutter.

This is the time defined as Full move Time in the Channel tab.

Home This site presents the status of the device channel								
Shutters								
Name	Action		Position					
CH 1	▲ 💿 🔽							
Outputs								
Name	On/Off		Coil State					
СН 3	٢	۲						
CH 4	٢							

10Communication with the module from an external network

If the module is on a different LAN from the computer connecting to it, port forwarding is required.

Depending on the method of communication with the module used, it is necessary to contact the Network Administrator and redirect the ports:

Web-based operation: - TCP/UDP/IP port 80

Operation via KNX/IP protocol: - UDP 224.0.23.12 port: 3671

Operation via PC software or via own application: - TCP/UDP/IP port 9761

Operation via MODBUS TCP protocol: - TCP/IP port 502

Support via SNMP protocol: - UDP port 161
11 Restore factory settings / backup

Restoring the factory settings

To restore the factory settings of the device, hold down the RESET button for 10 seconds. The RESET button is located on the housing of the unit. For models 4-4, 0-8, 8-0, 0-16 and 16-0, the RESET button is located on the top of the unit (key icon):



After performing the above steps, the device will set the following parameters:

- IP address: 192.168.111.15
- IP mask: 255.255.255.0
- User: admin
- Password: admin00

Backup / restore user settings

To save user settings, simply download a file from the Backup tab.

Administration	
Comm20ther	Download
Backup	Click here to download settings file

To restore the saved settings, select the file backup.bin and press the Upload button.

Upload			
Select File:	Przeglądaj Nie wybrano pliku.	Upload	

12Software update

The module is equipped with a programme update facility. The program is supplied as a file with the extension .bin.



Incorrect use of the software update function may damage the module.

In order to perform the software update operation, you must:

- check the Enable TFTP Bootloader option, which can be found on the device page under Administration,
- run the Windows command line (Start->Run, type 'cmd' and confirm with Enter key),
- go to the directory where the .bin file is located,
- enter the command:

tftp -i <address_ip_module> PUT file.bin

where: <address_ip_module> is the IP address of the module, file.bin is the file with the update program.

Programming takes approximately 1 minute. Completion of programming is confirmed by the 'File Transferred' message.

After software update operation it is necessary to disable the option Enable TFTP Bootloader for correct operation of the device.

CE

EC DECLARATION OF CONFORMITY

Manufacturer

Inveo spółka z o.o. Rzemieślnicza 21 43-340 Kozy

Lantick Pro

Product

Model

PE-0-1, PE-1-0, PE-2-2, PE-4-4, PE-0-8, PE-8-0, PE-0-16, PE-16-0

The product is compliance with the requirements of the following European directives:

2014/35/EU	Radio Equipment
2014/30/EU	Electromagnetic Compatibility
2011/65/EU	Restriction of the use of certain hazardous substances in
	electrical and electronic equipment (RoHS II)

The compliance with the requirements of the European Directive was proved by the application of the following harmonized standards:

Safety:	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + AC:2011 + A2:2013
EMC:	EN 55032:2010 Class A EN 55024:2010
RoHS II	EN 50581:2012

The object of the declaration described above is in conformity with Directive 2011/65/EU of the European Parliament ad of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

mgr inż. Sławomir Darmofał



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Travomir Demokor

Kozy, 19.12.2022 r.

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