

# LAN Controller V2.0

## Firmware version 3.00



# Manual

# LAN Controller

LAN controller is a simple, but innovative device which has long been lacking in the market network solutions. A small board serves as a web server which presents the various sensor readings and allows you to remotely control up to 6 outputs. Additionally Events Config feature allow you to program the appropriate action when sensor readings met certain conditions. ISP can use watchdog function, it check the ping up to 5 network devices, and if no response runs the relays. Useful for many applications can be a Scheduler, that allows the on / off the device at a specified time or for a specified period of time. There is also PWM outputs to control brightness of light or an electric motor speed. For far rom socket installation board could be powered by passive PoE. Few versions of firmware is available today, each is developed and after publication customer could upgrade it by preaped software. In Accessory are presented all sensors and upgrade kits compatible with Lan Controller.

## Examples of applications

### *ISP*

- watchdog function to checking TCP/IP connection and launch outputs if hanging happen
- temperature, supply voltage and person occupancy control in server rooms
- weather condition report on the occasion of IP cameras views

### *Home control*

- home electric stove control (automatically or remote)
- turning on/off home lightening remote, by scheduler or by event, controlling intensity
- turning off TV box if remote is other person hands ;-)
- irrigation control - you don't need visit your garage to modify irrigation time or you can turn sprayer precisely in the moment when your favorite neighbor passes near ;-)

### *Home installations*

- temperature controlling and simple automation in your heating system
- temperature and pressure controlling in solar thermal installations
- measurements of heat pump operation
- monitoring of grid voltage and automatic switching to backup with mail notification
- remote control (by LAN or wirelesslan) understands as forwarding command to one of output of Lan controller from input of other Lan controller

### *Renewable energy*

- measurements of solar cells work
- measurements of wind turbines
- measurements of charging battery
- measurements of power consuming

### *Agriculture*

- Irigation systems
- Animal food processing automatization

# RESTARTER, MONITOR, CONTROLLER

## FEATURES: *(may vary depending on the firmware version):*

- WWW or SNMP v2 management
- firmware upgrade via TFTP
- read data in real time without refreshing page
- possibility switch on/off to 5 relay direct and 1 transistor output up to 1A from page WWW
- events panel to self-programming by user
- Scheduler (switch on/off output for definite time in week days)
- IP watchdog to five IP device
- monitoring additional devices eg. PIR sensors
- environmental temperature and supply voltage on board measurement
- temperature and current measurement from connected sensors
- temperature and humidity measurement by DTH22 sensor
- power measurement for DC voltage
- power measurement from grid by electricity meterer impulse
- possibility to connecting of the additional boards: with 4 switched PoE ports or 4 relays
- set time manually or by server NTP
- possibility sensors calibration
- frequency and duty modified PWM output
- remote control: each output of Lan controller setup as server can be controlled remotely by LAN network from inputs of others Lan controllers
- e-mail notification about programmed events
- SNMP TRAP notification about programmed events
- automatically send state or value inputs to SNMP server
- implemented protocols: HTTP, SNMP, SMTP, SNTP, ICMP, DNS, DHCP.
- supported temperature sensors: PT1000, DS18B20
- support 1wire protocol

We hope that the LAN controller will have new applications not only in the ISP networks, but most of all as a simple home automation, control the status of any type of installation, the measurement of renewable energy sources or as a simple measure of the energy consumption of the various receivers. Therefore, the range of sensors will be expanded to implement such measurements.

## TECHNICAL SPECIFICATIONS

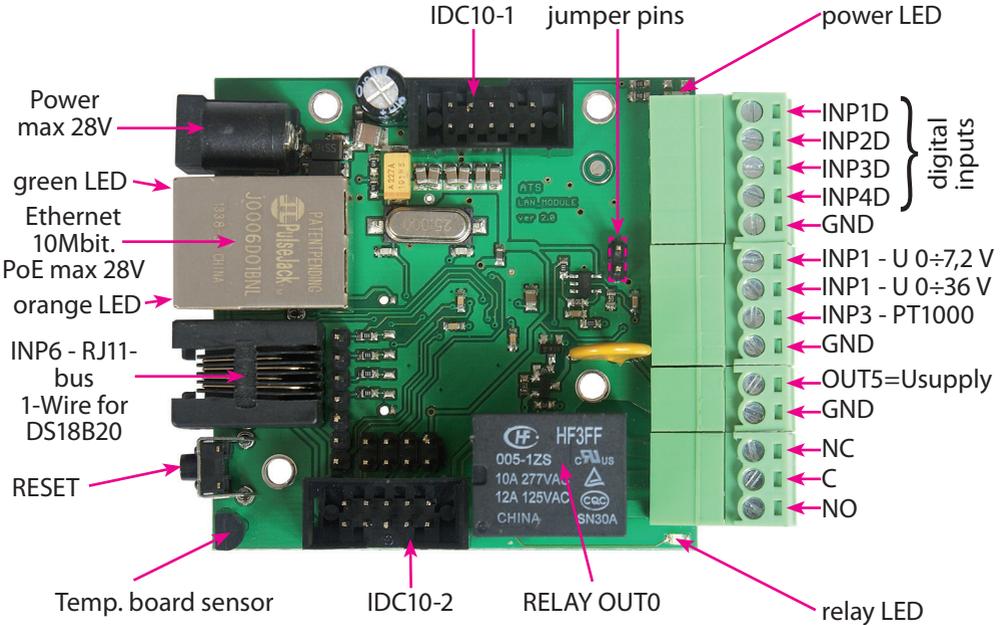
- supply voltage: 8÷28 V DC
- power consumption : about 1W
- PoE supply: YES, passive
- Protection from wrong supply polarization: YES
- interface: ethernet 10Mbit/s
- relay: 255VAC 10A
- operating temperature: –20 do +85 °C
- weight: 50g
- dimensions: 60 x 68 mm (without plugs)

## INPUT/OUTPUT:

- **5 ANALOG INPUTS:**  
temperature, voltage, current (by additional boards) and another physics measurements
- **DIGITAL INPUT for 1WIRE bus (connector RJ11):**  
support for 4 or 6 temperature sensors DS18B20
- **DIGITAL INPUT:**  
support temperature and humidity sensor DHT22
- **4 LOGICAL INPUTS:**  
for monitoring, as a pulse counter from energy meter
- **1 RELAY OUTPUT:**  
(NO, NC, C)
- **1 TRANSISTOR OUTPUT:**  
up to 1A
- **4 OUTPUTS:**  
to switch relays or transistors
- **1 PWM OUTPUT:**  
2,6 KHz do 4 MHz
- **supply voltage and temperature monitoring on board**
- **reverse polarization protection**

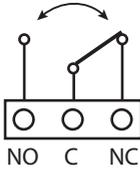
**Default user and password is „admin“, IP adress is 192.168.1.100**

# PINS and COMPONENTS DESCRIPTION



Złącze / Element	Opis
Power	Power supply 8V ÷ 28V DC
power LED	Shine LED means power on board
relay LED	Shine means relay active
green LED	Shine LED means eth link active
orange LED	Shine means data transmitted
IDC10-1	To connect additional relay board
IDC10-2	To connect upper board (future extension)
INP1D	Logical input, pulse counter
INP2÷4D	Logical inputs
INP1	Input for voltage measure 0 ÷ 7.2V (3.6V if jumper on)
INP2	Input for voltage meas. 0 ÷ 36V
INP3	Input for PT1000 sensor for high temp. measure
GND	General ground
OUT5	Transistor output (+), voltage = power supply, max 1A
GND	Ground for transistor output (-)
NC	Relay OUT0, normally closed contact
C	Relay OUT0, common contact
NO	Relay OUT0, normally open contact

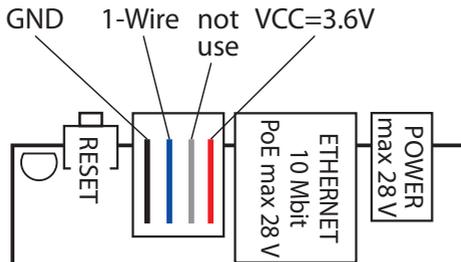
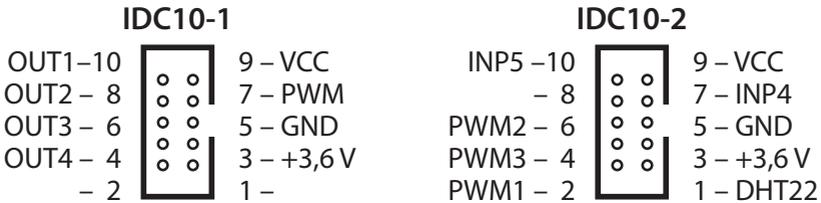
## RELAY BOND:



NO – contact normally open  
 C – common contact  
 NC – contact normally closed

**ATTENTION:** In spite of that relay can switch AC voltage 255 VAC 10A, board fail to comply with safety requirements (lack housing, earthing). Therefore that receiver connect with the assistance safety external relays eg. on DIN bus, controlled by relay on board.

## IDC10-1, IDC10-2 and RJ11 (bus 1-WIRE):



## RESET BUTTON

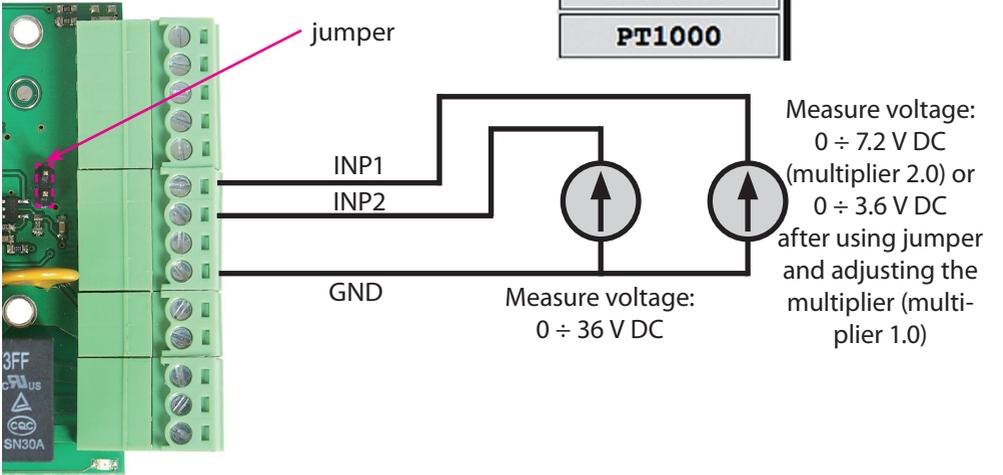
Push about 0,5 second cause change relay state on opposite, push and keep longer about 5 second (if we not logged by WWW on modul) cause modul reset, next if you still keep button about 10 second cause set all settings to default. Set all settings to default confirmation is fast switch relay on/off (klik-klik), don't wrong this with change relay state about 0,5s and switch relay off after restart.

**User and password: admin**

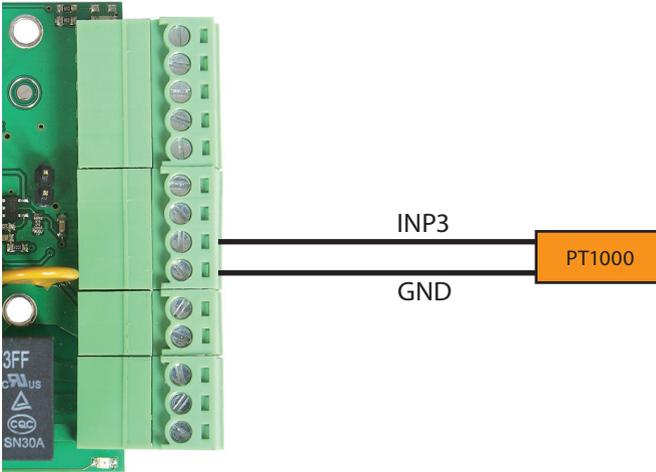
**IP: 192.168.1.100**

# SENSORS CONNECT

## 1. Voltage measurement

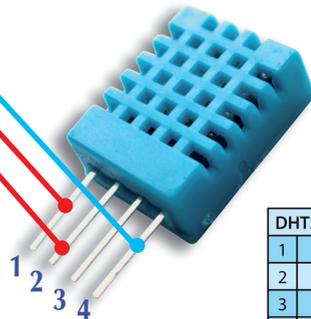
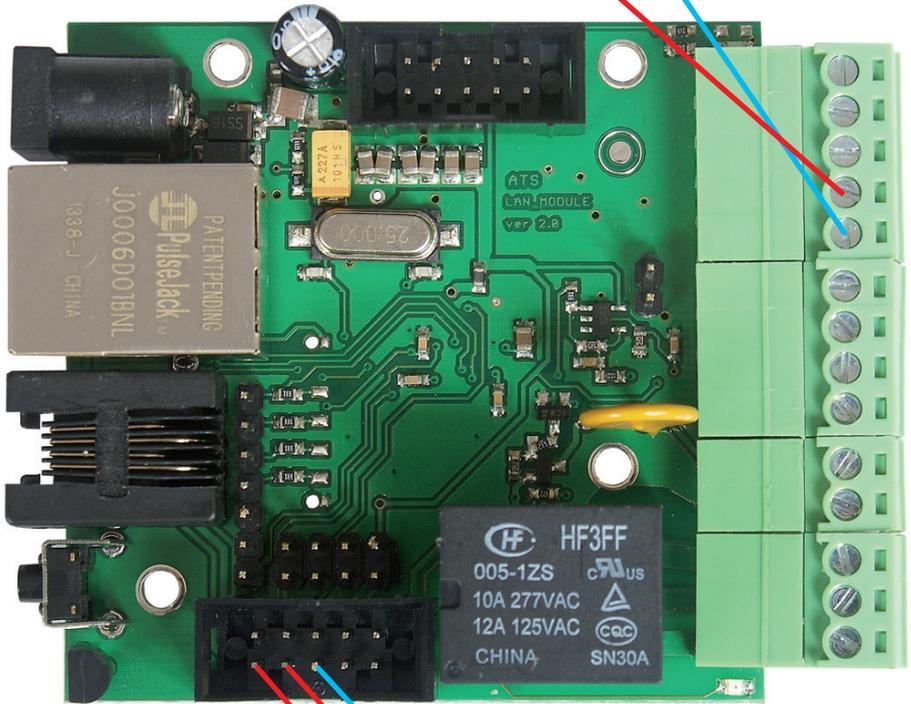


## 2. Temperature measurement



### 3. DHT22 sensor and pulse output from the counter

output terminals  
of the meter pulse energy  
for different counters  
may differ markings



DHT22 pins	
1	VCC
2	DATA
3	NC
4	GND

# Management by WWW.

## 1. Control Panel

Reset time – „0” for normal outputs work (ON/OFF), for time > 0 output change state and return to state before after the specified time in seconds (max 65534).

click cause change relay state on opposite (OUT0 relay on board)

Select the type of sensor connected to the corresponding input

Value of calibration - adds to or subtracts the desired value

Any text description, max 8 chars

The screenshot shows the 'CONTROL PANEL' interface. At the top, it displays system status: 'Up Time: 47sec, 10 min, 0 hour, 0 day .. 2014-02-20; 12:10:47' and 'LAN\_SENSOR\_MONI/CONTROLLER'. Below this are navigation tabs: 'Control Panel', 'Events Config', 'Scheduler', and 'Network Config', along with hardware info 'HW:2.0 SW:3.00'. The main area is divided into three sections:

- Digital Outputs Control:** Features a 'Reverse out state' checkbox, a 'Reset time' field, and six output buttons (Out0 to Out5) with 'OFF' status and red indicator lights. Below are 'Auto switch Out' settings for each output, a 'PWM Output' section (currently OFF) with 'Frequency = 5008 Hz' and 'Duty = 50.0 %', and a 'Start' button.
- ANALOG Inputs State:** A table listing 12 inputs (Inp1 to Inp11) and two digital temperature/humidity inputs (DTH22). Each input shows its value, unit, and sensor type. For example, Inp1 has a value of 0.00 V and a sensor type of 'max 3.6V x 2.0'. Inp3 is 'PR1000', Inp4 is 'ADC', and Inp5 is 'ADC'. DTH22 shows 'temperature' and 'humidity'.
- DIGITAL Inputs State:** Shows four digital inputs (INP1D to INP4D) all in a 'HIGH' state. Below are 'Negation' checkboxes for each input.

Annotations with arrows point to various elements: 'Change outputs state display' points to the output buttons; 'Set State All output simultaneously according to combo box' points to the 'Set State' button; 'automatic socket arming at fixed time (two panes: one - time arming, second - break time)' points to the 'Auto switch Out' section; 'Run PWM generator (when changing frequency or fill does not need to turn off the generator)' points to the 'Start' button; 'Any description of the measured physical quantity, such as kWh, L/min, etc.' points to the 'Sensor type' column in the analog inputs table; 'Negation for digital input for Even Config tripping' points to the 'Negation' checkboxes; 'Divider pulse counter - for example as ours energy meter sends 1000 pulses per 1 kWh is enter 1000, as it sends 1600 pulses enter 1600, etc.' points to the 'Start' and 'Reset' buttons in the power measurement section; and 'Run Power measure from INP3 (voltage) and INP5 (current)' points to the 'Start' and 'Reset' buttons in the power measurement section.

Copyright © ATS group [www.tinycontrol.eu](http://www.tinycontrol.eu)

Any description of the measured physical quantity, such as kWh, L/min, etc.

Negation for digital input for Even Config tripping

Divider pulse counter - for example as ours energy meter sends 1000 pulses per 1 kWh is enter 1000, as it sends 1600 pulses enter 1600, etc.

Run Power measure from INP3 (voltage) and INP5 (current)

## 2. Events Config

Delay of set outputs after occur events, in seconds max 65535

If checked it responds to a change of state, otherwise no reaction (off)

LAN SWITCH/HOME

Control Panel Events Config Scheduler Network Config

### Events Config

INPUTS	OUTPUTS/ACTION									
	HYSTERESIS	OUT0	OUT1	OUT2	OUT3	OUT4	OUT5	PWM	E-MAIL	SNMP TRAP
TEMP 0.0 <input type="checkbox"/>	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0 0 Hz 0.0 %	90.0 -90.0 text	90.0 -90.0
VCC 0.0 <input type="checkbox"/>	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0 0 Hz 0.0 %	90.0 -90.0 text	90.0 -90.0
INP1 0.00 <input type="checkbox"/>	9.00 -9.00	9.00 -9.00	9.00 -9.00	9.00 -9.00	9.00 -9.00	9.00 -9.00	9.00 -9.00	9.00 -9.00 0 Hz 0.0 %	9.00 -9.00 text	9.00 -9.00
INP2 0.00 <input type="checkbox"/>	9.00 -9.00	9.00 -9.00	9.00 -9.00	9.00 -9.00	9.00 -9.00	9.00 -9.00	9.00 -9.00	9.00 -9.00 0 Hz 0.0 %	9.00 -9.00 text	9.00 -9.00
INP3 0.0 <input type="checkbox"/>	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0 0 Hz 0.0 %	90.0 -90.0 text	90.0 -90.0
INP4 0.0 <input type="checkbox"/>	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0 0 Hz 0.0 %	90.0 -90.0 text	90.0 -90.0
INP5 0.0 <input type="checkbox"/>	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0 0 Hz 0.0 %	90.0 -90.0 text	90.0 -90.0
INP6 0.0 <input type="checkbox"/>	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0 0 Hz 0.0 %	90.0 -90.0 text	90.0 -90.0
INP7 0.0 <input type="checkbox"/>	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0 0 Hz 0.0 %	90.0 -90.0 text	90.0 -90.0
INP8 0.0 <input type="checkbox"/>	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0 0 Hz 0.0 %	90.0 -90.0 text	90.0 -90.0
INP9 0.0 <input type="checkbox"/>	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0	90.0 -90.0 0 Hz 0.0 %	90.0 -90.0 text	90.0 -90.0
INP1D <input type="checkbox"/>	<input type="checkbox"/> 255 <input type="checkbox"/> B	<input type="checkbox"/> 0 Hz 0.0 % <input type="checkbox"/> B	<input type="checkbox"/> text	<input type="checkbox"/>						
INP2D <input type="checkbox"/>	<input type="checkbox"/> 255 <input type="checkbox"/> B	<input type="checkbox"/> 0 Hz 0.0 % <input type="checkbox"/> B	<input type="checkbox"/> text	<input type="checkbox"/>						
INP3D <input type="checkbox"/>	<input type="checkbox"/> 255 <input type="checkbox"/> B	<input type="checkbox"/> 0 Hz 0.0 % <input type="checkbox"/> B	<input type="checkbox"/> text	<input type="checkbox"/>						
INP4D <input type="checkbox"/>	<input type="checkbox"/> 255 <input type="checkbox"/> B	<input type="checkbox"/> 0 Hz 0.0 % <input type="checkbox"/> B	<input type="checkbox"/> text	<input type="checkbox"/>						

Save Config

inclusion of an input

The hysteresis value for a given input.

The value of the input beyond the upwards the the socket will be activated, send an e-mail or SNMP Trap

The value of the input, after crossing down that slot will be activated, send an e-mail or SNMP Trap

Save settings (ON/OFF input you don't must save)

Email text that will be send if events occurrence, max amount char is 79. **Chars „=" and „&" are not allowed**

For logical input INP1D ÷ INP4D, e-mail and SNMP Trap notification are send when input level change from 1 to 0 or 0 to 1, additional to email text (at end) will be add value 1 or 0 mark actual input state.

INP9	0.0	<input type="checkbox"/>	90.0	-90.0	<input type="checkbox"/>	90.0	-90.0	<input type="checkbox"/>	90.0	-90.0	<input type="checkbox"/>	90.0	-90.0	<input type="checkbox"/>	90.0	-90.0	<input type="checkbox"/>	0	90.0	-90.0	<input type="checkbox"/>	Hz	0.0	%	text	<input type="checkbox"/>	90.0	-90.0	<input type="checkbox"/>	
INP1D	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	0	90.0	-90.0	Hz	0.0	%	text	<input type="checkbox"/>	<input type="checkbox"/>
INP2D	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	0	90.0	-90.0	Hz	0.0	%	text	<input type="checkbox"/>	<input type="checkbox"/>
INP3D	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	0	90.0	-90.0	Hz	0.0	%	text	<input type="checkbox"/>	<input type="checkbox"/>
INP4D	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	255	<input type="checkbox"/>	B	<input type="checkbox"/>	0	90.0	-90.0	Hz	0.0	%	text	<input type="checkbox"/>	<input type="checkbox"/>

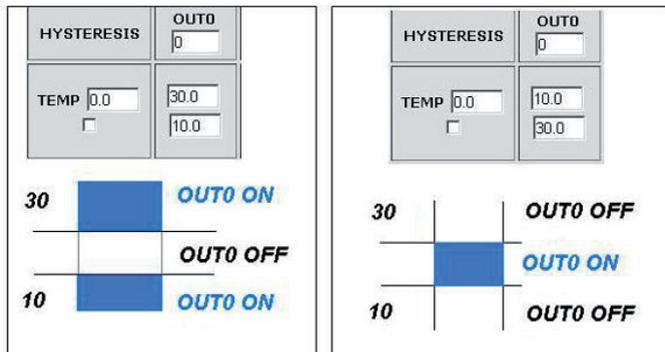
Save Config

Copyright © ATS group [www.tinycontrol.eu](http://www.tinycontrol.eu)

Bistable operation input  
- the first change at INPD  
to turn on output, the  
second amendment to  
disable output

If a value greater than 0,  
is at work bistable output  
is automatically switched  
off after this time,  
max 255 seconds

## Functional Description Event Table



With this change, you can flexibly define thresholds and intervals in which such slot is to be enabled / disabled.

If you have the proper checks the condition of a number of sensors is to force the state OUTX outputs and setting the PWM generator to be that was last registered event.

### 3. Scheduler

LAN SWITCH/HOME

Control Panel
Events Config
Scheduler
Network Config

**Scheduler**

DATE and TIME: 2014-02-20; 12:12:43

---

Enable S0  
  ON |  OFF |  RESET=   Auto switch if INP1D  0/1

Enable S1  
  ON |  OFF |  RESET=   Auto switch if INP1D  0/1

Enable S2  
  ON |  OFF |  RESET=   Auto switch if INP1D  0/1

Enable S3  
  ON |  OFF |  RESET=   Auto switch if INP1D  0/1

Enable S4  
  ON |  OFF |  RESET=   Auto switch if INP1D  0/1

Enable S5  
  ON |  OFF |  RESET=   Auto switch if INP1D  0/1

Enable S6  
  ON |  OFF |  RESET=   Auto switch if INP1D  0/1

Enable S7  
  ON |  OFF |  RESET=   Auto switch if INP1D  0/1

Enable S8  
  ON |  OFF |  RESET=   Auto switch if INP1D  0/1

Enable S9  
  ON |  OFF |  RESET=   Auto switch if INP1D  0/1

Copyright © ATS group [www.tinycontrol.eu](http://www.tinycontrol.eu)

**Format:** number output (from 0 to 4),day1,day2,day3,day4,day5,day6, xx:xx:xx(time)  
**Week Day:** Mo - Monday, Tu- Tuesday, We - Wednesday, Th - Thursday, Fi - Friday, Sa - Saturday, Su - Sunday, ## - all week day. Letter size is important.

**Example:**

- 0,Mo,12:23:00 - sets out0 every Monday at 12:23:00
  - 1,Sa;Fi,Mo,23:22:03 - sets out1 every Saturday, Friday and Monday at 23:22:03
  - 1,Sa;Fi,Mo,Tu,Su,Th,23:22:03 - sets out1 every Saturday, Friday, Monday, Tuesday, Sunday and Thursday at 23:22:03
  - 0,##,12:01:30 - sets out0 every week day at 12:01:30
- The effect of this may be the inclusion of a relay, switched off or reset (turn on and off) for a limited period in seconds. (max 65535).

# 4. Network Configuration

## Network Configuration

### Email client settings

**SMTP Server:**  **Port:**

**User Name:**

**Password:**

**To:**

**From:**

**Subject:**

e-mail client settings parameter. After changing the settings in order to test the customer - should be save your settings - the „Save Config” button.

When you change setting press "Save Config" before Test

### Network settings

**MAC Address:**

**Host Name:**

**Enable DHCP**

**IP Address:**

**Gateway:**

**Subnet Mask:**

**Primary DNS:**

**Secondary DNS:**

**HTTP Port:**  max 65534

**ACCESS settings**

Enable auth

**User:**

**Password:**   
Max char 8

---

**NTP settings**

**NTP Server:**  **Port:**

**Time Interval**

**Time Zone**

---

**SNMP settings**

**Read Comm1 :**

**Read Comm2 :**

**Write Comm1:**

**Write Comm2:**

**TRAP Enable**

**Trap Reciver IP**

**Trap Comm**

The user name and password to access the module.

You can disable authorization.

NTP server settings.

Time Interval - the interval in minutes between synchronizations.

Fields community (password) for SNMP, must be the same in your queries in order to LK replied.

TRAP Enable – enabled send TRAP by SNMP.

**HTTP Client Configuration** - Below is a sample screenshot settings HTTP client to send data to the server <https://www.thingspeak.com>, (you can create an account and test ). To add a content query the value of a specific sensor or I/O , use the „# „ and enter the number (below the list of numbers for I/O ). Said sample server requires a field name = value, you can type on a matter such as field = 12.4, then you will be sent a constant value 12.4 to the server. To send a specific value , enter the sensor field = # xx, where xx - a two-digit number of I/Os. (**NOTE! Record must be double digit**, as we enter „5” to write „05”). How do we want to send data from several sensors that use the #xx several times). Maximum server name is 31 characters, the maximum string RemouteURL is 127 characters. The time window, type frequency in seconds with which data will be sent to the server. In the following example, and for normal queries between „GET” and „/” is a space.

**HTTP client settings**

**Server address**  **Port:**  **time:**

**Remote URL**

**Auto send**

Enable Automatic Send TRAP – enable automatic send TRAP by SNMP (above TRAP Enable must be enable)

Time Interval (max value 10555) – period to send TRAP from given INPUT, accuracy 10 s

Time is set individually or with an NTP server. When set manually each time you reboot the machine need to set the time.

Output status when you turn on or reboot the LAN Controller

### AUTO SEND TRAP settings

Enable Automatic Send TRAP

- TEMP
- VCC
- INP1
- INP2
- INP3
- INP4
- INP5
- INP6
- INP7
- INP8
- INP9
- INP10
- INP11
- DTH22t
- DTH22h
- INP1D
- INP2D
- INP3D
- INP4D

**Time Interval**  \* 10s = 1.00m

---

### Date and Time

**NTP**

**Set Manual**

---

### Relay after start

OUT0:  ON  
OUT1:  ON  
OUT2:  ON  
OUT3:  ON  
OUT4:  ON  
OUT5:  ON

---

### Remote Control

Enable

**Server**

**Client**

**Password** -

**INP1D** -  OUT0  OUT1  OUT2  OUT3  OUT4

**INP2D** -  OUT0  OUT1  OUT2  OUT3  OUT4

**Remote Control** - working as a server (receiving packets and enables / disables the corresponding output) or client (send packets to the server status change to INP1D or INP2D). LK working as a server can be actuated from any number of clients, provided it is set to the same password. Change in INP1D or INP2D low can switch outputs selected in the state of „ON“, return to enter the high state output switches to „OFF“.

## I/O TABLE NUMBERS (soft 3.00)

```
#define OUT0 (5)
#define OUT1 (6)
#define OUT2 (7)
#define OUT3 (8)
#define OUT4 (9)
#define TEMP (10)
#define VCC (11)
#define INP1 (12)
#define INP2 (13)
#define INP3 (14)
#define INP4 (15)
#define INP5 (16)
#define INP6 (17)
#define INP7 (18)
#define INP8 (19)
#define INP9 (20)
#define INP10 (21)
#define INP11 (22)
#define DTH22_1 (23)
#define DTH22_2 (24)
#define I3XI5 (30)
#define PXT (31)
#define PINP3D (32)
#define PINP3D_24H (33)
#define INP1D (41)
#define INP2D (42)
#define INP3D (43)
#define INP4D (44)
```

## Reading XML data

Enter the IP address and the page name eg 192.168.1.100/st0.xml

**The values of the sensors should be divided by 10**

**Control Panel:**

- Dynamic data - st0.xml

- Static data - st2.xml

**Events Config:** s.xml

**Scheduler:** sch.xml

**Network Config:** board.xml

**Working time:** s\_time.xml using the Timezone

## Switching sockets http request

You can arm / switch set out without clicking on the buttons in the control panel, making use of the following commands :

**IP / outs.cgi ? Out = xxxxx** - switches set the output to the opposite of the current

**IP / outs.cgi ? OUTX = x** - disable or enable a specific output

when password authentication is enabled , the command of the following form :

**user : password @ IP / outs.cgi ? out = xxxxx**

**user : password @ IP / outs.cgi ? OUTX = x**

### Examples:

**192.168.1.100/outs.cgi ? Out = 0** - changes the output state to the opposite out0

**192.168.1.100/outs.cgi ? Out = 2** - out2 output changes state to the opposite

**192.168.1.100/outs.cgi ? Out = 02** - changes the output state out0 and out2  
to the opposite

**192.168.1.100/outs.cgi ? Out = 01234** - changes the state of the outputs of out0 to out4  
the opposite

**192.168.1.100/outs.cgi ? Out0 = 0** - turns out out0 ( ON state )

**192.168.1.100/outs.cgi ? Out0 = 1** - turns out out0 ( OFF )

**192.168.1.100/outs.cgi ? Out1 = 0** - turns out out1 ( ON state )

**192.168.1.100/outs.cgi ? Out1 = 1** - turns out out1 ( OFF )

**192.168.1.100/outs.cgi ? Out4 = 0** - turns out out4 ( ON state )

**192.168.1.100/outs.cgi ? Out4 = 1** - turns out out4 ( OFF )

## Managing PWM by HTTP GET:

change frequency **http://192.168.1.100/ind.cgi?pwmf=9777** setup frequency to 9777

change duty **http://192.168.1.100/ind.cgi?pwmd=855** setup duty to 85,5%

turn off/on PWM **http://192.168.1.100/ind.cgi?pwm=0** or 1 on the end.

## NUMBERS OID for SNMP

```

#define SYS_DESCR (99)      // iso.3.6.1.2.1.1.1.0: READONLY ASCII_STRING.
#define SYS_UP_TIME (97)   // iso.3.6.1.2.1.1.3.0: READONLY TIME_TICKS.
#define SYS_NAME (98)     // iso.3.6.1.2.1.1.4.0: READWRITE ASCII_STRING.
#define TRAP_RECEIVER_ID (1) // iso.3.6.1.4.1.17095.2.1.1.1.0: READWRITE BYTE.
#define TRAP_RECEIVER_ENABLED (2) // iso.3.6.1.4.1.17095.2.1.1.2.0: READWRITE BYTE.
#define TRAP_RECEIVER_IP (3) // iso.3.6.1.4.1.17095.2.1.1.3.0: READWRITE IP_ADDRESS.
#define TRAP_COMMUNITY (4) // iso.3.6.1.4.1.17095.2.1.1.4.0: READWRITE ASCII_STRING.
#define OUT0 (5)          // iso.3.6.1.4.1.17095.3.1.0: READWRITE BYTE.
#define OUT1 (6)          // iso.3.6.1.4.1.17095.3.2.0: READWRITE BYTE.
#define OUT2 (7)          // iso.3.6.1.4.1.17095.3.3.0: READWRITE BYTE.
#define OUT3 (8)          // iso.3.6.1.4.1.17095.3.4.0: READWRITE BYTE.
#define OUT4 (9)          // iso.3.6.1.4.1.17095.3.5.0: READWRITE BYTE.
#define ALL (90)          // iso.3.6.1.4.1.17095.3.100.0: READONLY OCTET_STRING.
#define TEMP (10)         // iso.3.6.1.4.1.17095.4.1.0: READONLY ASCII_STRING.
#define VCC (11)           // iso.3.6.1.4.1.17095.4.2.0: READONLY ASCII_STRING.
#define INP1 (12)          // iso.3.6.1.4.1.17095.4.3.0: READONLY ASCII_STRING.
#define INP2 (13)          // iso.3.6.1.4.1.17095.4.4.0: READONLY ASCII_STRING.
#define INP3 (14)          // iso.3.6.1.4.1.17095.4.5.0: READONLY ASCII_STRING.
#define INP4 (15)          // iso.3.6.1.4.1.17095.4.6.0: READONLY ASCII_STRING.
#define INP5 (16)          // iso.3.6.1.4.1.17095.4.7.0: READONLY ASCII_STRING.
#define INP6 (17)          // iso.3.6.1.4.1.17095.5.1.0: READONLY ASCII_STRING.
#define INP7 (18)          // iso.3.6.1.4.1.17095.5.2.0: READONLY ASCII_STRING.
#define INP8 (19)          // iso.3.6.1.4.1.17095.5.3.0: READONLY ASCII_STRING.
#define INP9 (20)          // iso.3.6.1.4.1.17095.5.4.0: READONLY ASCII_STRING.
#define INP10 (21)         // iso.3.6.1.4.1.17095.5.5.0: READONLY ASCII_STRING.
#define INP11 (22)         // iso.3.6.1.4.1.17095.5.6.0: READONLY ASCII_STRING.
#define DTH22_1 (23)       // iso.3.6.1.4.1.17095.6.1.0: READONLY ASCII_STRING.
#define DTH22_2 (24)       // iso.3.6.1.4.1.17095.6.2.0: READONLY ASCII_STRING.
#define I3X15 (30)         // iso.3.6.1.4.1.17095.7.1.0: READONLY ASCII_STRING.
#define PXT (31)           // iso.3.6.1.4.1.17095.7.2.0: READONLY ASCII_STRING.
#define PINP3D (32)        // iso.3.6.1.4.1.17095.7.3.0: READONLY ASCII_STRING.
#define PINP3D_24H (33)    // iso.3.6.1.4.1.17095.7.4.0: READONLY ASCII_STRING.
#define INP1D (41)         // iso.3.6.1.4.1.17095.10.1.0: READONLY BYTE.
#define INP2D (42)         // iso.3.6.1.4.1.17095.10.2.0: READONLY BYTE.
#define INP3D (43)         // iso.3.6.1.4.1.17095.10.3.0: READONLY BYTE.
#define INP4D (44)         // iso.3.6.1.4.1.17095.10.4.0: READONLY BYTE.

```

## Firmware Upgrade

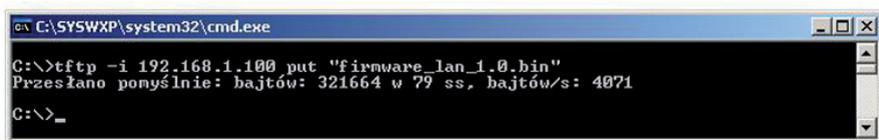
In the event that there is a new version of the software or special version for application, it is possible to load such software to the device. This can be done remotely over the network using TFTP.

You may upgrade firmware on two ways:

1. By dedicated software „LAN Controller Tools” (find controller or put IP and click „Upgrade Firmware”).
2. By any TFTP client, description below.

Send firmware file by TFTP, you have 5 seconds (Green LED on RJ45 socket blink) to start sending firmware when module runs after reset (you may reset by clicking button „Save config and Reboot” in Network configuration or „Reset” button on board or dedicated software „LAN Controller Tools”). If transmission does not happen, the device starts working normally. If TFTP transmission will start, then wait about 90 seconds to finish uploading firmware. After upload, the device will be reset and start normally. If you want to upload an upgrade file, choose „Save config and Reboot” in Network configuration or power OFF and power ON device.

**The file must be sent in binary mode** eg. In Windows XP TFTP client `tftp -i 192.168.1.100 put „file_upgrade.bin”`.

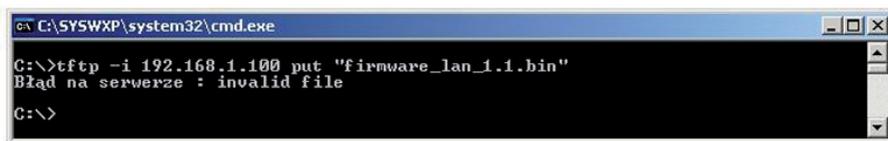


```

C:\SYSWXP\system32\cmd.exe
C:\>tftp -i 192.168.1.100 put "firmware_lan_1.0.bin"
Przesłano pomyślnie: bajtów: 321664 w 79 ss, bajtów/s: 4071
C:\>_
  
```

After successful loading, the device will reboot and will be ready to go.

If you try to send the wrong file, you get an error message „invalid file”



```

C:\SYSWXP\system32\cmd.exe
C:\>tftp -i 192.168.1.100 put "firmware_lan_1.1.bin"
Błąd na serwerze : invalid file
C:\>
  
```

Contents of the instructions is regularly checked and if necessary corrected. If the observations errors or inaccuracies, please contact us. It can not be ruled out that, despite best efforts, however, some discrepancies arose. To get the latest version, please contact us or distributors.

© Konsorcjum ATS Sp.J.

*Copying, duplication, reproduction whole or in part  
without the consent of the owner is prohibited.*

**Konsorcjum ATS Sp.J.**  
ul. Żeromskiego 75, 26–600 Radom, POLAND  
tel./fax +48 48 366 00 30, e-mail: sales@ledon.eu  
www.ledon.pl, www.wirelesslan.pl, www.ats.pl