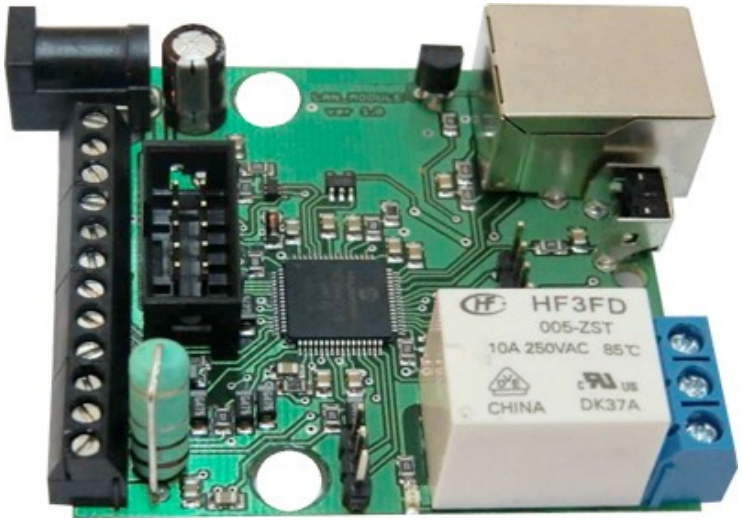
LAN CONTROLLER instruction from 2.30



RESTARTER, MONITOR, WATCHDOG, CONTROLLER

FEATURES:

- WWW or SNMP v2 management.
- firmware upgrade via TFTP
- read data in real time without refresh page
- read all sensors by xml “st0.xml”
- switching output by the command from your browser (IP/outs.cgi?outx=x)
- possibility switch on/off to 5 relay direct from page WWW
- events panel to self-programming by user
- Scheduler (switch on/off output for definite time in week days)
- Watchdog IP to five IP device
- monitoring od additional devices eg. sensors
- measurement: environment temperature, suplly voltage, temperature and curent from conected sensors
- power measurement for DC voltage
- posisibility connection of the additional board with RJ45 ports (4 LAN Input, 4 ye LAN + PoE) or additional board with 4 relays
- Set time manualy or by server NTP
- Posisibility sensors calibration
- steering frequency and duty PWM
- e-mail notification about programmed events
- SNMP TRAP notification about programmed events
- Automatic send SNMP TRAP with state or value inputs
- implement protocols: HTTP, SNMP, SMTP, SNTP, ICMP, DNS, DHCP.
- service temperature sensors: **NTC10K B=3380, KTY-84, PT1000, DS18B20**

Default user and password is „admin”, IP adress is 192.168.1.100

TECHNICAL SPECIFICATIONS

- supply voltage: 8-56V (from 6V- if don't use mesurement current and PT1000)
- power consumption : about 1W
- PoE supply: YES, passive
- Protection from wrong supply polarization: YES
- interface: ethernet 10Mbit/s
- relay: 255VAC 10A
- work temperature: -20 do +85 st. C
- weight 45g (without casing)
- casing type Z-67 (not included)
- dimensions 57x67mm

INPUT/OUTPUT:

- 1 RELAY to switch on/off/ another devices, available contact: NC and NO
- **4** OUTPUT to switch **relays, ports PoE or** another devices**;**
- **1** STEERABLE OUTPUT PWM from 2,6 KHz to **4Mhz;**
- **4** LOGICAL INPUT (2 on terminal block- max 12V, 2 on 5 pin connector-max 5V): to monitoring another devices, eg. bufor supply. collaboration with outputs: OC,NO, NC
- **5 ANALOG INPUT:**

  INP1: temperature measurement witch thermistor NTC 10K B=3380(from -40 to +120 °C) or thermistor KTY-84-130 (from -40 to +300°C), accuracy 1 °C (dependent on NTC)

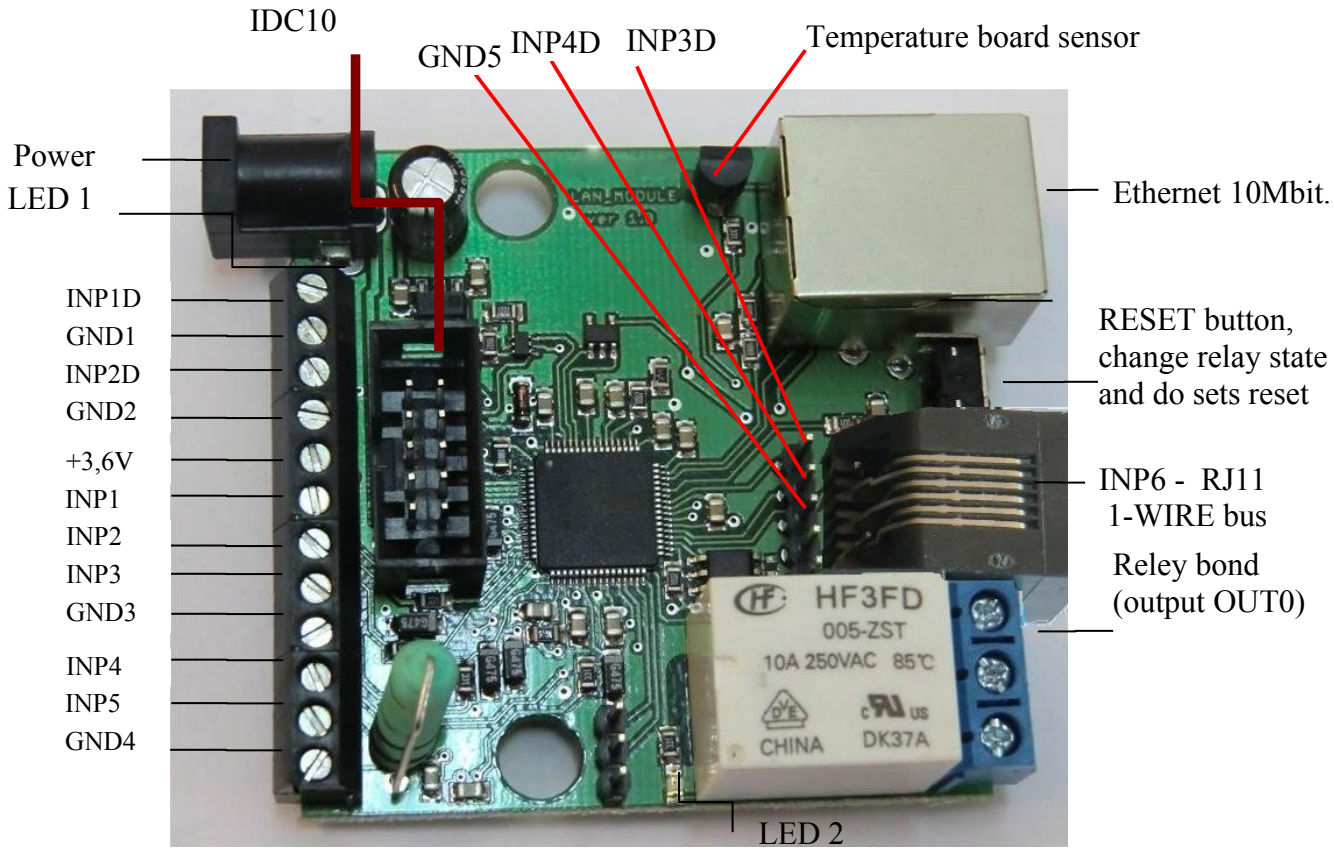
  INP2: thermistor NTC 10K or voltage mesurement to 3,6V, with use additional divider increase range..

  INP3: voltage measurement to 35V, accuracy +- 0,1V;

  INP4: temperature measurement by PT1000 (from -20 to +850 °C) accuracy +- 2°C;

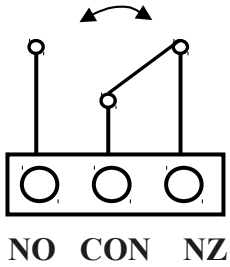
  INP5: measurment DC current to 3A, accuracy +- 10mA;
- **MAGISTRALA 1-WIRE (connector RJ11) –** to DS18B20 sensor, max 4 pcs in soft version 3.xx(without Watchdog) max 6 pcs.

PINS and COMPONENTS DESCRIPTION



PIN/Component	Description
Power	Power suplly 8V-56VDC or via PoE
RELAY bond	To connect external device, detail description below
LED1	Shine LED means Power on board
LED2	Shine LED means relay active
IDC10	To connect additional board , detail description below
INP1D	Logical inpuut 1
GND1	gnd for INP1D and INP2D or general gnd
INP2D	Logical inpuut 2
GND2	general gnd
+3,6V	Supply for sensors NTC-10K and KTY-84 connected to INP1 or INP2
INP1	input for sensor NTC-10K or voltage measurement max (without divider) 3,6V
INP2	input for sensor NTC-10K Or KTY-84-130
INP3	input for voltgae measuerment max 35V
GND3	general gnd
INP4	input for sensor PT1000 or connected the same sensor in solar controller
INP5	Input for current measurement
GND4	Gnd for current measurement Or general if don't measurement current
INP6	Input for DS18B20 sensor (1-wire bus on RJ11 connector)
INP3D	Logical inpuut 3
INP4D	Logical inpuut 4
GND5	gnd for INP4D and INP4D or general gnd

Relay Bond:



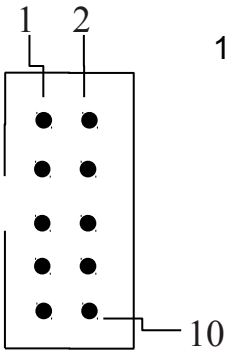
NO – contact normaly open

CON – common contact

NZ – contact normaly 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 and RJ11



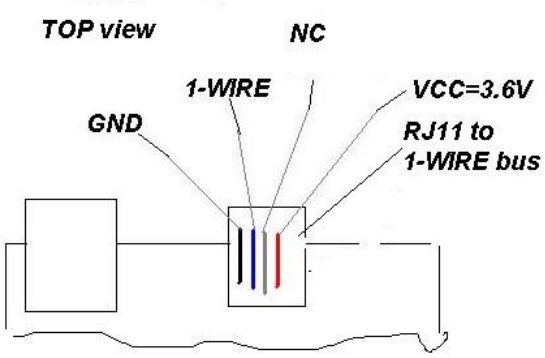
1 – not use 2 –not use

3 – +3,6V 4 –OUT4

5 – GND 6 – OUT3

7 – PWM output 8 – OUT2

9 – VIN, vcc suplly 10 – OUT1



RESET BUTTON

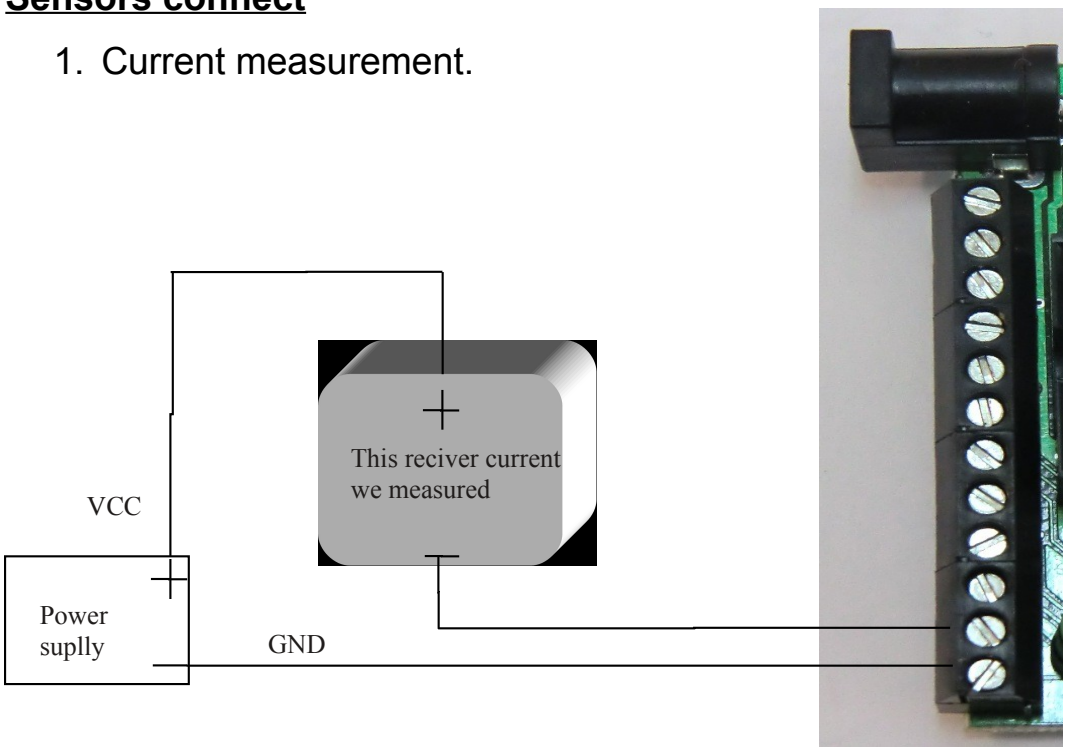
Push about 0,5 second cause change relay state on opposite, push and keep longer about 5 second (if we not logged by WWW on modul) cause modul reset, next if you still keep button about 10 second cause set all settings to default. Set all settings to default confirmation is fast switch relay on/off (klik-klik),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

User and password: admin

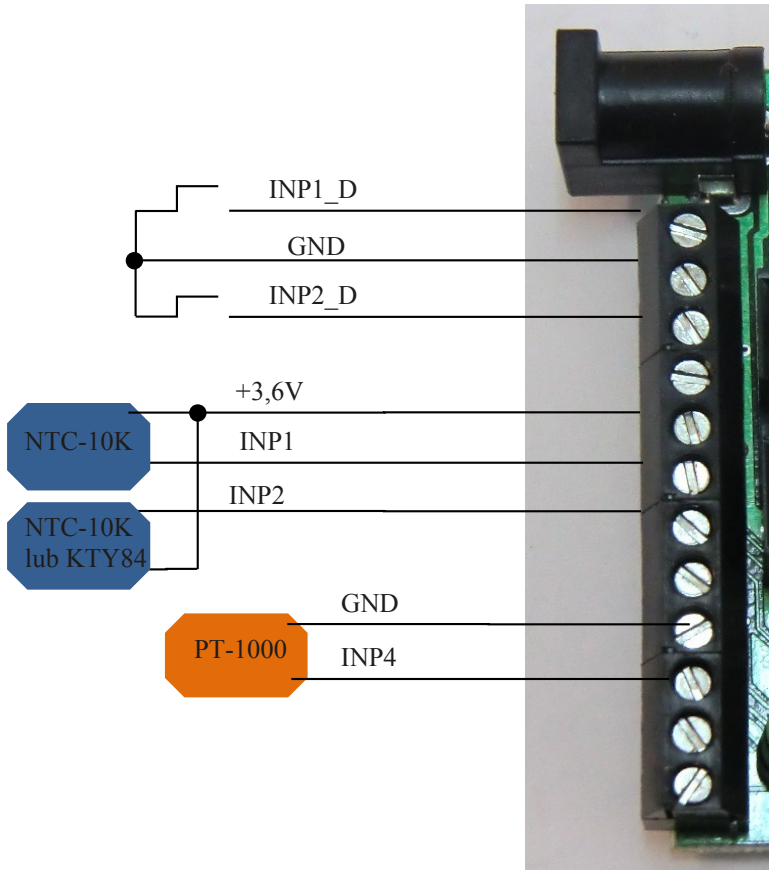
IP: 192.168.1.100

Sensors connect

1. Current measurement.

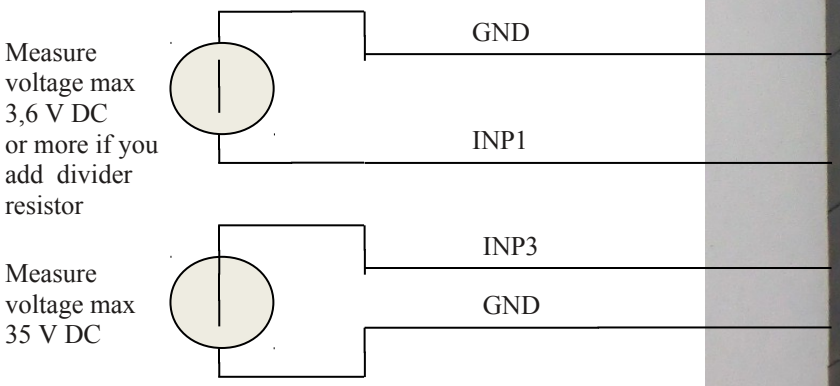


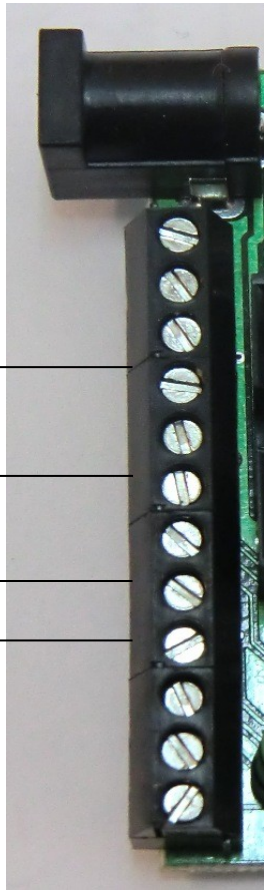
2. Temperature measurement and logical input.



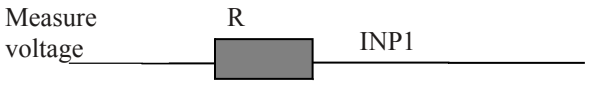
3. Voltage measurement.

INP1 is use to temperature measure or voltage, in control panel you must choice what you want measure





Additional resistor to increase measure range INP1



R = 10K increase range 2 (multiplier 2) that is 3,6V x 2 = 7,2V

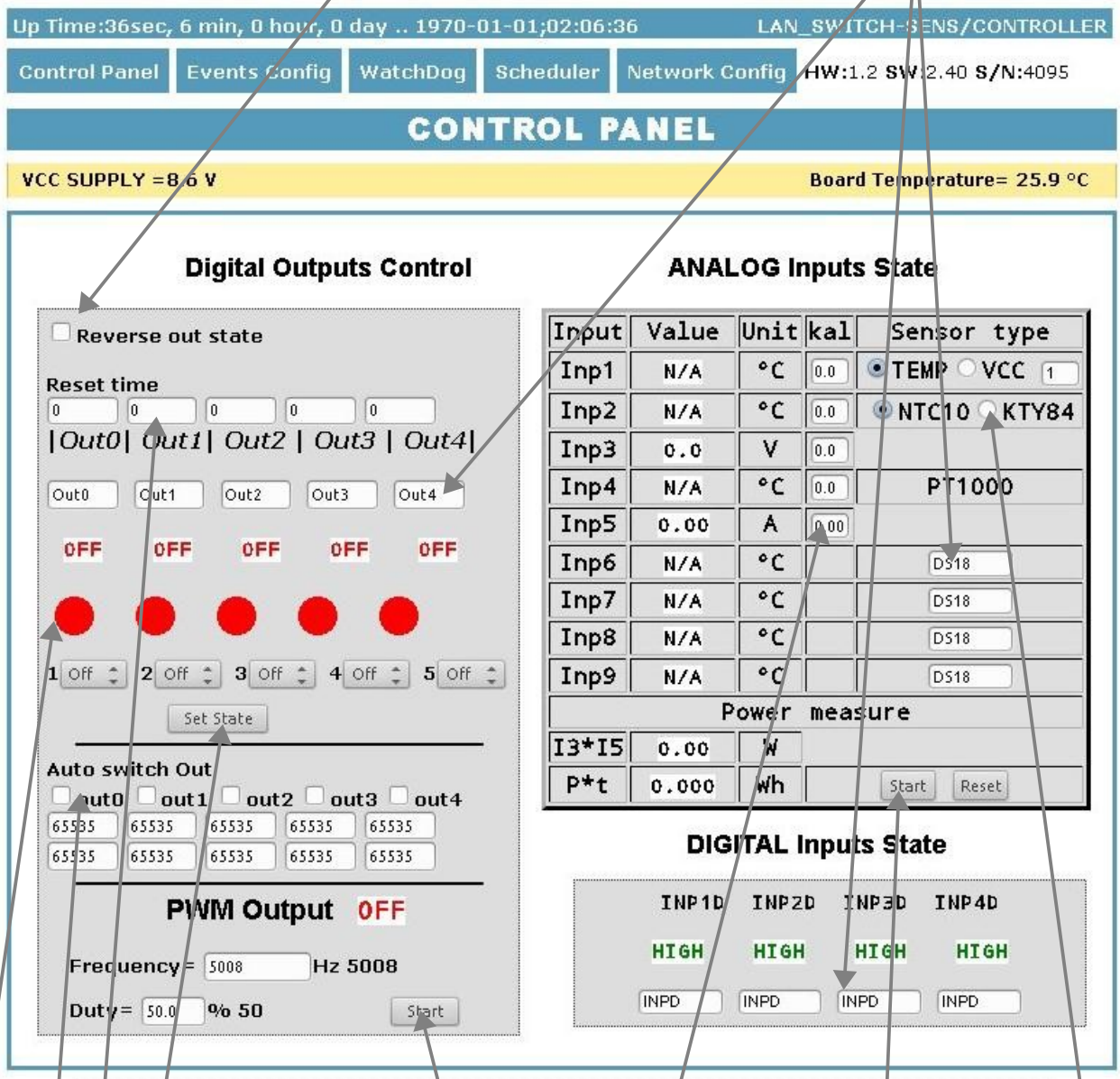
R= 20 K increase range 3 (multiplier 3)

R= 30 K increase range 4 (multiplier 4) etc.

Add resistor must be connected with set proper multiplier in field VCC on control panel page.

Management by WWW.

1.Control Panel

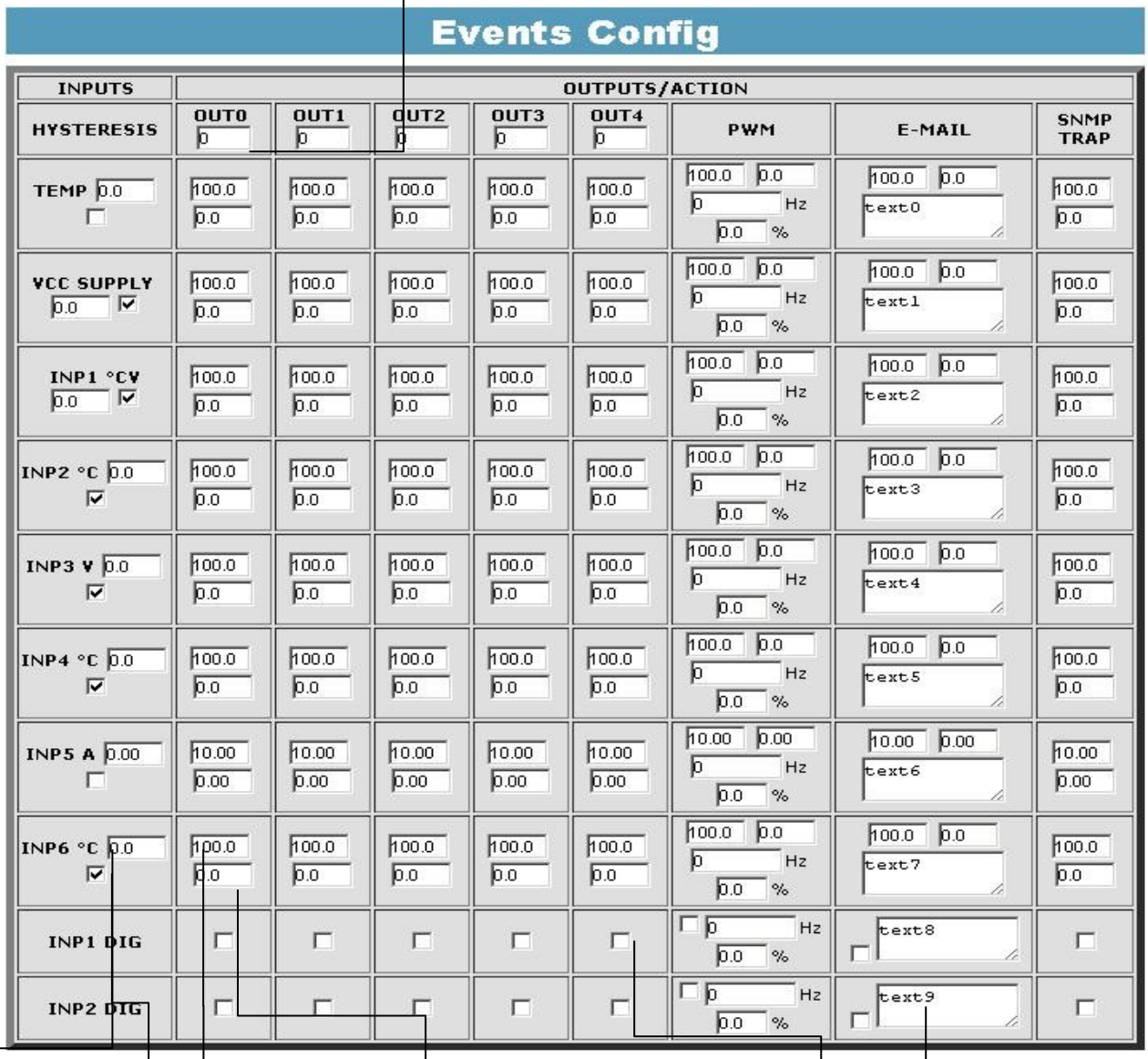


Reset time – for 0 normal outputs work (ON/OFF) , for time > 0 output after push button change state and return to state before after the specified time in seconds (max 65534).

Automatic switching outputs at a specific time (2 windows :1-time switch, 2-break time)

2.Events Config (events panel)

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



Value of hysteresis

ON/OFF input

When signal cross up this value output will be set ON Or generator PWM start or send e_mail or SNMP Trap

When signal cross down this value output will be set ON Or generator PWM start or send e_mail or SNMP Trap Trap

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

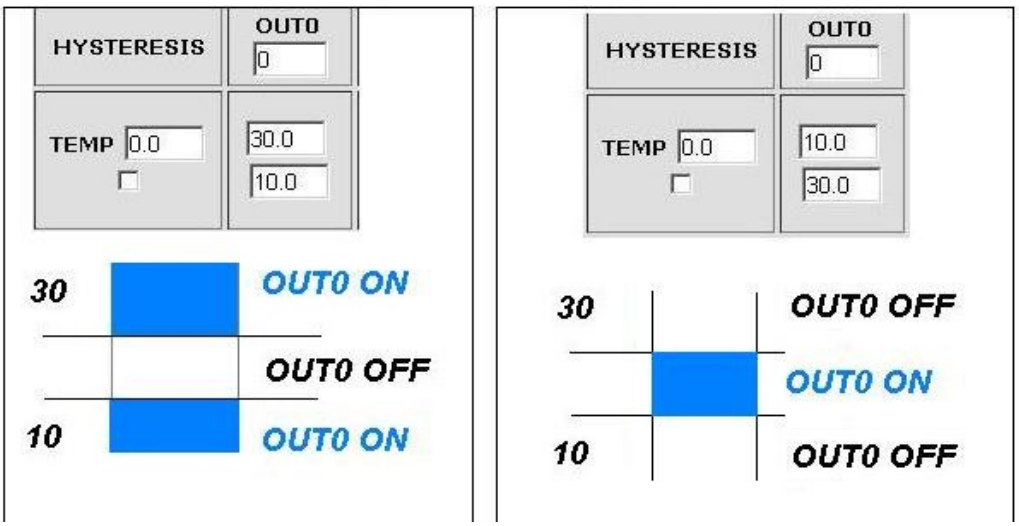
If check, means that is ON

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

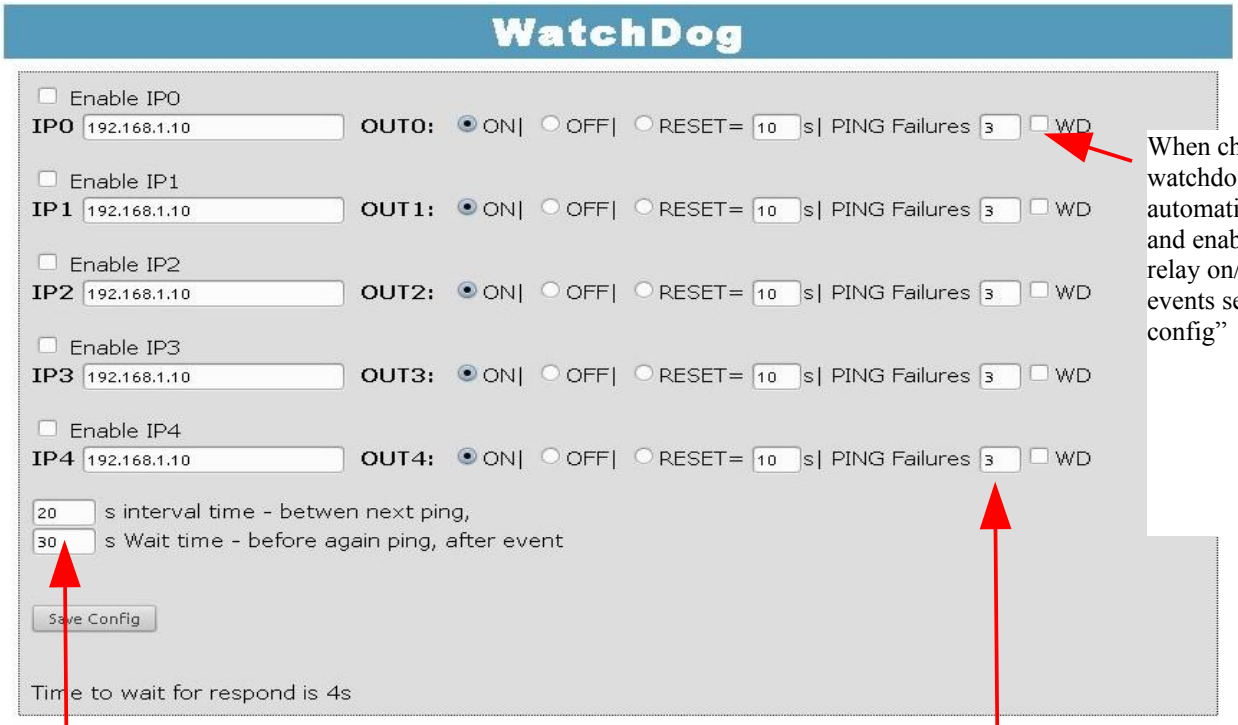
For logical input INP1D and INP2D, e-mail and SNMP Trap notification are send when input level change from 1 to 0 or 0 to 1, additional to email text (at end) will be add value 1 or 0 mark actual input state.

Config events description:

Example:



3.Watchdog



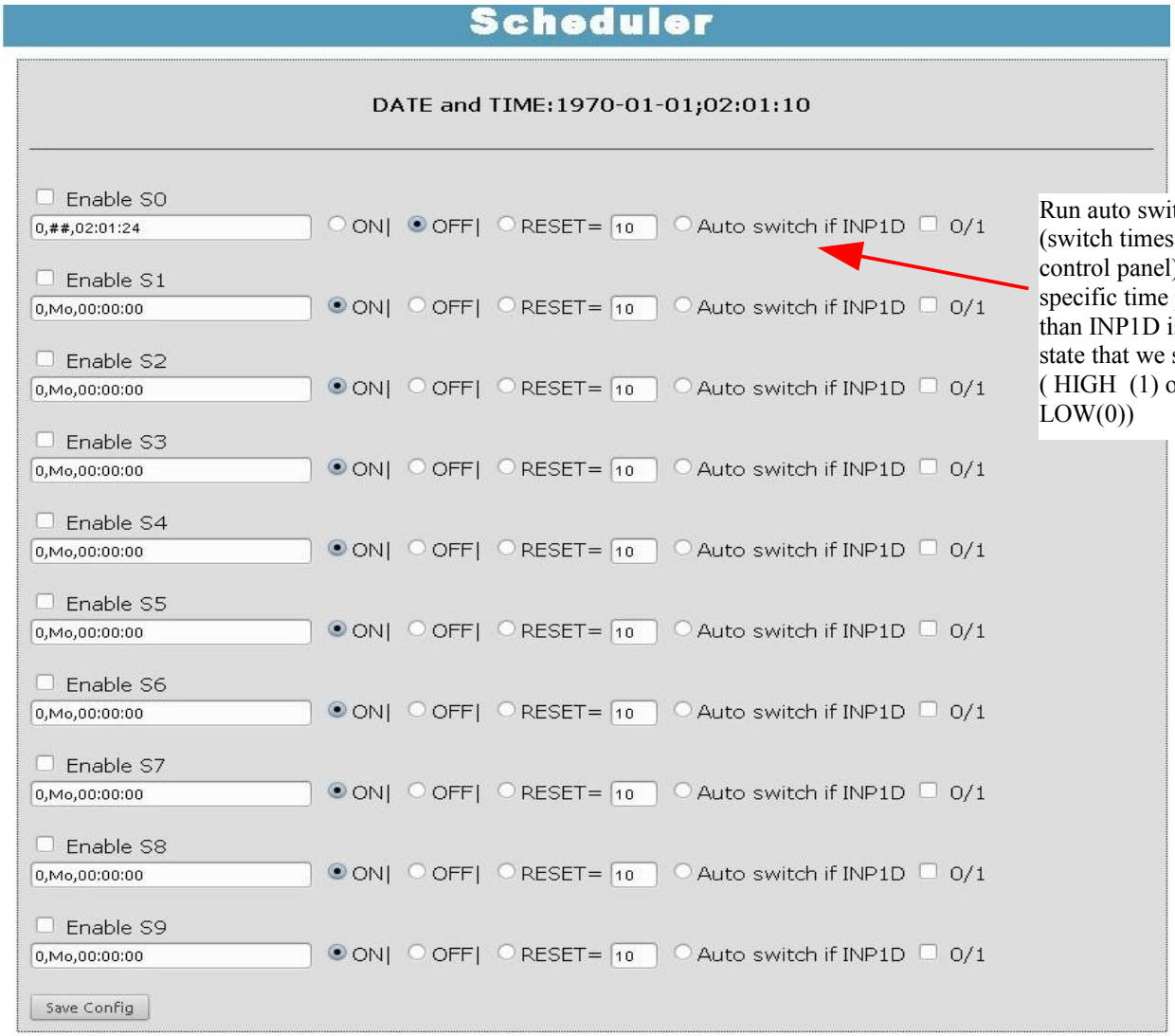
When check, watchdog will be automaticly disabled and enabled when relay on/off by events set in"Events config"

When events occur, next ping to this same IPX will be send after this time (max 65535second)

Amount PING failures, after this one of three events will be happen:
set (ON) output,
set (OFF) output
reset (ON/OFF) output on definite time (max 65535s).

Time to respond is 4 second, after this time one PING failures is counting. In time waiting to respond, another IPX aren't send ping, this may causa stretch time statment that another IPX adress is inaccessible.

4.Scheduler



Run auto switch out (switch times set in control panel) at specific time provided than INP1D is in a state that we set (HIGH (1) or LOW(0))

Week Day

Mo-Monday, Tu- Tuesday, We- Wednesday, Th- Thursday, Fi- Friday, Sa- Saturday, Su-Sunday, ## - all week day

Letter size is important

Format: number output(from 0 to 4),day1,day2,day3,day4,day5,day6, xx:xx:xx(time)

Example:

0,Mo,12:23:00 sets out0 every Monday at 12:23:00

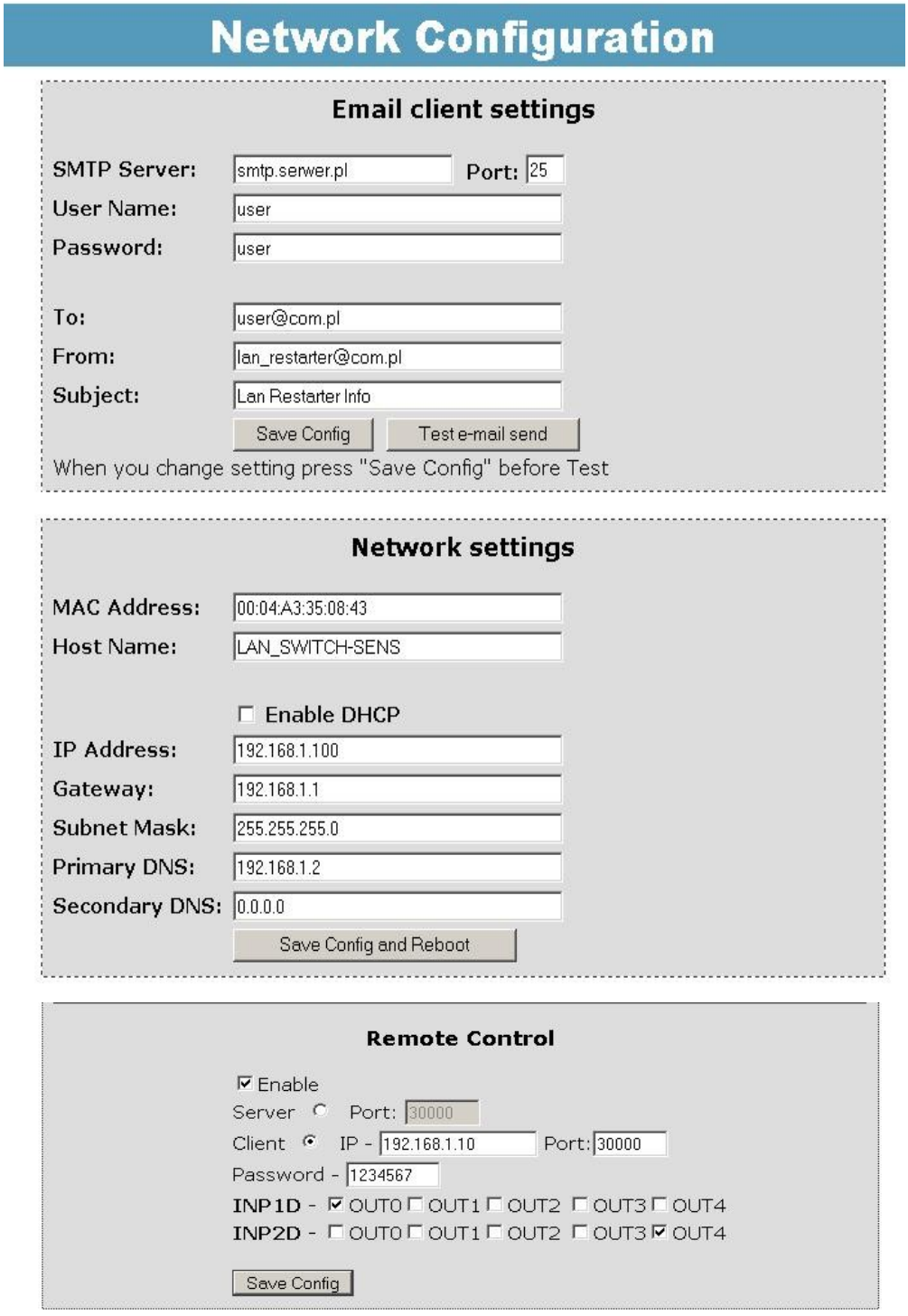
1,Sa;Fi,Mo,23:22:03 sets out1 every Saturday,Friday and Monday at 23:22:03

1,Sa;Fi,Mo,Tu,Su,Th,23:22:03 sets out1 every Saturday, Friday, Monday, Tuesday, Sunday and Thursday at 23:22:03

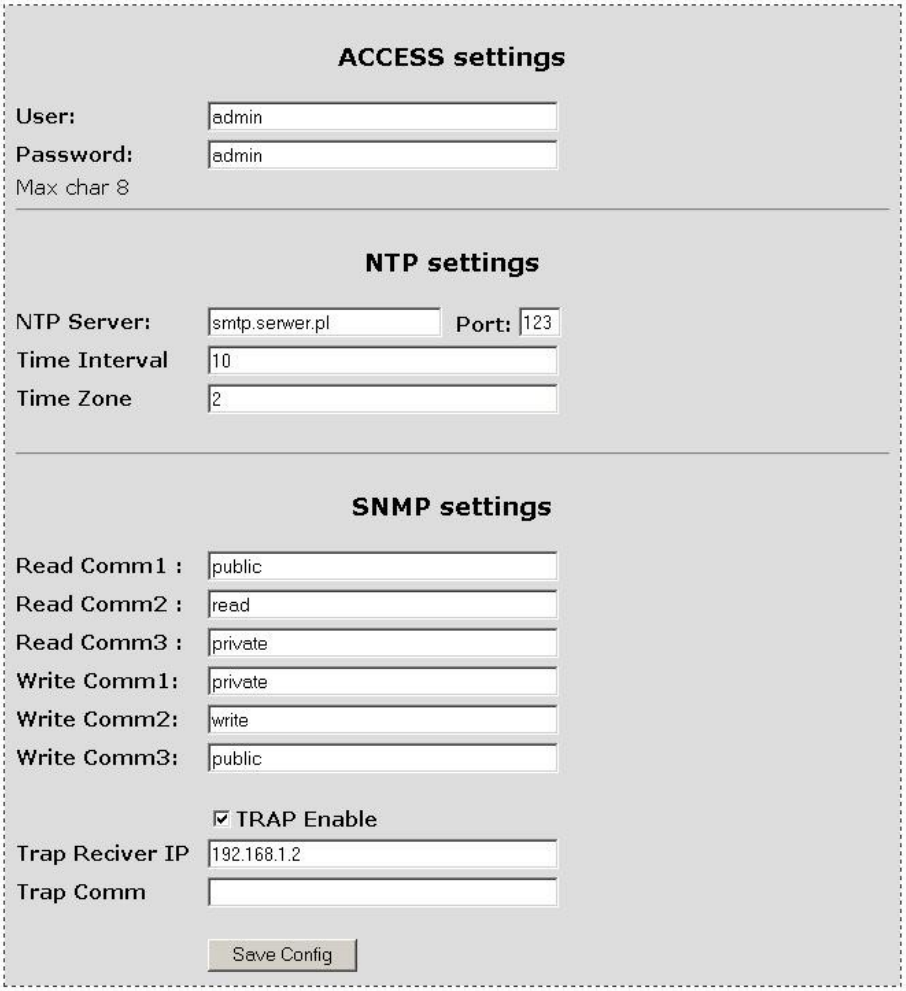
0,##,12:01:30 - sets out0 every week day at 12:01:30

Reset – time in second (max 65535).

Network Configuration.

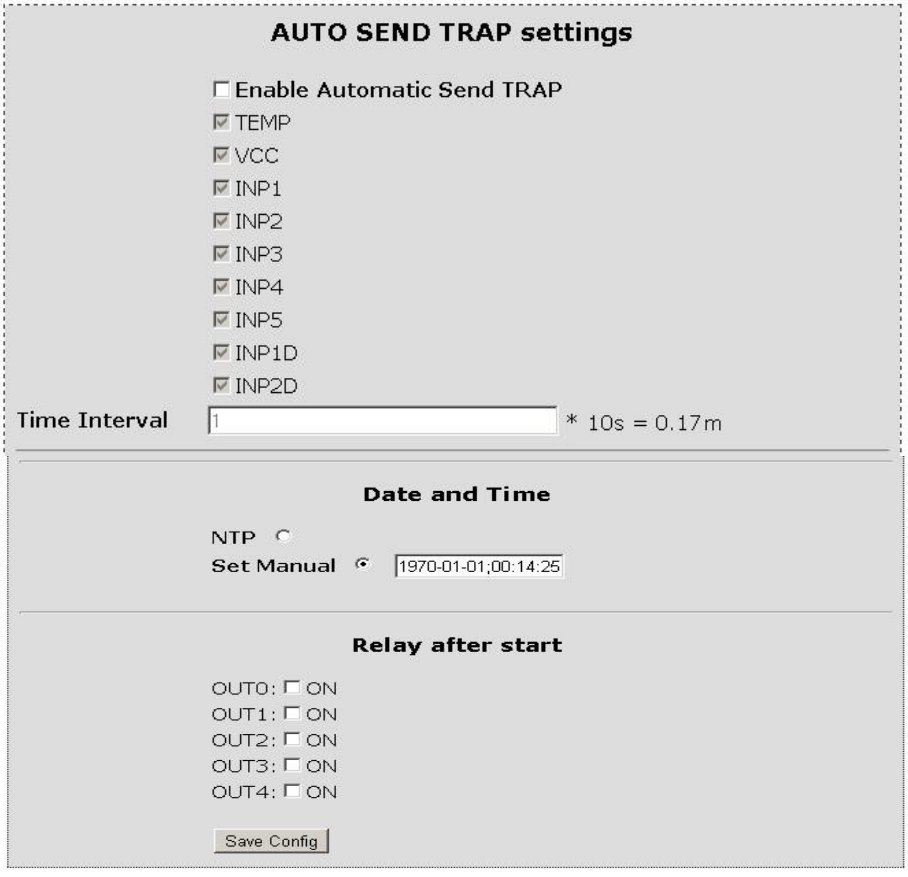


Working as a server (receiving packets and enable / disable the corresponding output) or client (send packets to the server after changing the state of the INP1D or INP2D). LK working as a server can be driven from any number of clients, provided it is set to the same password. Change INP2D INP1D or switches to a low output state selected "ON", the return to the high state output switches to "OFF".



Time Interwal - minuts.

TRAP Enable – enabled send TRAP by SNMP.



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

Relay state after start

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

Watchdog: w.xml

Scheduler: sch.xml

Network Config: board.xml

Up time: s_time.xml with the Timezone

Switching outputs http request

You can switch any outputs without clicking on the buttons in the control panel, making use of the following commands:

IP/outs.cgi?out=xxxxx – Switching outputs to the opposite of the current

IP/outs.cgi?outx=x – ON or OFF the output

when password authentication is enabled, the commands have this form:

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

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

Example:

192.168.1.100/outs.cgi?out=0 – changes the out0 state to the opposite

192.168.1.100/outs.cgi?out=2 – changes the out2 state to the opposite

192.168.1.100/outs.cgi?out=02 – changes the out0 and out2 state to the opposite

192.168.1.100/outs.cgi?out=01234 – changes the out0,1,2,3,4 state to the opposite

192.168.1.100/outs.cgi?out0=0 – out0 ON

192.168.1.100/outs.cgi?out0=1 – out0 OFF

192.168.1.100/outs.cgi?out1=0 – out1 ON

192.168.1.100/outs.cgi?out1=1 – out1 OFF

192.168.1.100/outs.cgi?out4=0 – out4 ON

192.168.1.100/outs.cgi?out4=1 – out4 OFF

Firmware Upgrade.

You my upgrade firmware on two way:

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

Send firmware file by TFTP, you have 5 second (Green LED on RJ45 socket blink) to start send firmware when modul run after reset (you my casus reset by click button „Save config and Reboot” in Network configuration or „Reset” button on board or dedicate software „LAN Controler Tools”). If start transmision not happen that device start work normal. If tftp transmision will start than wait about 90 second to finish upload firmware. After upload device will be reset and start normal.

If you want to upload upgrade file chose „Save config and Reboot” in Network configuration or power OFF and power ON device .

The file must be send in binary mode eg. In Windows XP tftp client

tftp –i 192.168.1.100 put „file_upgrade.bin”.

OID dla SNMP

Soft_version	.1.3.6.1.2.1.1.1.0 READWRITE ASCII_STRING
SYS_OID	.1.3.6.1.2.1.1.2.0 READONLY OID
SYS_UP_TIME	.1.3.6.1.2.1.1.3.0 READONLY TIME_TICKS.
LAN_NAME	.1.3.6.1.2.1.1.5.0 READWRITE ASCII_STRING.
TRAP_RECEIVER_ID	.1.3.6.1.4.1.17095.2.1.1.1.1 READWRITE BYTE.
TRAP_RECEIVER_ENABLED	.1.3.6.1.4.1.17095.2.1.1.2.1 READWRITE BYTE.
TRAP_RECEIVER_IP	.1.3.6.1.4.1.17095.2.1.1.3.1 READWRITE IP_ADDRESS.
TRAP_COMMUNITY	.1.3.6.1.4.1.17095.2.1.1.4.1 READWRITE ASCII_STRING.
OUT0 (5)	.1.3.6.1.4.1.17095.3.1.0 READWRITE BYTE.
OUT1 (6)	.1.3.6.1.4.1.17095.3.2.0 READWRITE BYTE.
OUT2 (7)	.1.3.6.1.4.1.17095.3.3.0 READWRITE BYTE.
OUT3 (8)	.1.3.6.1.4.1.17095.3.4.0 READWRITE BYTE.
OUT4 (9)	.1.3.6.1.4.1.17095.3.5.0 READWRITE BYTE.
TEMP (10)	.1.3.6.1.4.1.17095.3.6.0 READONLY ASCII_STRING.
VCC (11)	.1.3.6.1.4.1.17095.3.7.0 READONLY ASCII_STRING.
INP1 (12)	.1.3.6.1.4.1.17095.3.8.0 READONLY ASCII_STRING.
INP2 (13)	.1.3.6.1.4.1.17095.3.9.0 READONLY ASCII_STRING.
INP3 (14)	.1.3.6.1.4.1.17095.3.10.0 READONLY ASCII_STRING.
INP4 (15)	.1.3.6.1.4.1.17095.3.11.0 READONLY ASCII_STRING.
INP5 (16)	.1.3.6.1.4.1.17095.3.12.0 READONLY ASCII_STRING.
INP6 (17)	.1.3.6.1.4.1.17095.3.13.0 READONLY ASCII_STRING.
INP7 (18)	.1.3.6.1.4.1.17095.3.14.0 READONLY ASCII_STRING.
INP8 (19)	.1.3.6.1.4.1.17095.3.15.0 READONLY ASCII_STRING.
INP9 (20)	.1.3.6.1.4.1.17095.3.16.0 READONLY ASCII_STRING.
I3XI5 (21)	.1.3.6.1.4.1.17095.3.17.0 READONLY ASCII_STRING.
PXT (22)	.1.3.6.1.4.1.17095.3.18.0 READONLY ASCII_STRING.
INP1D (23)	.1.3.6.1.4.1.17095.3.19.0 READONLY BYTE.
INP2D (24)	.1.3.6.1.4.1.17095.3.20.0 READONLY BYTE.
INP3D (25)	.1.3.6.1.4.1.17095.3.21.0 READONLY BYTE.
INP4D (26)	.1.3.6.1.4.1.17095.3.22.0 READONLY BYTE.