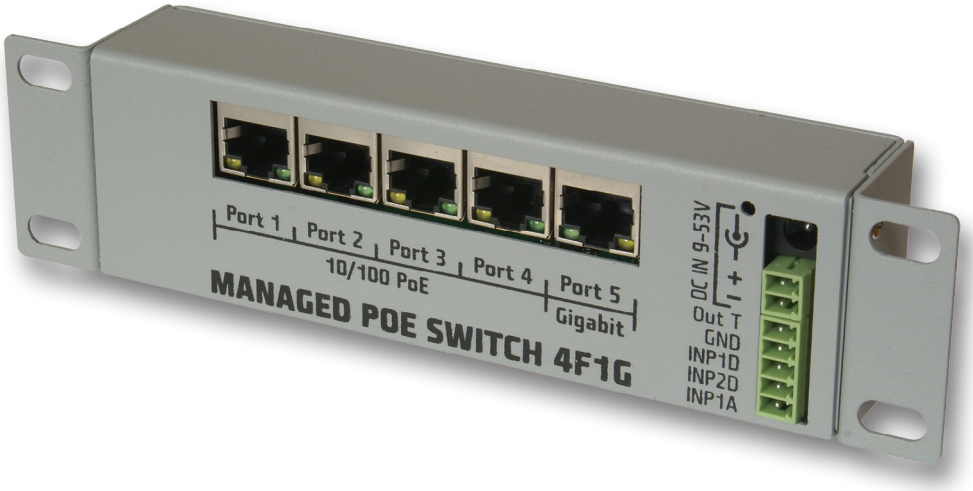
4F1G Switch
4 ports 10/100Mb PoE + 1 port 1Gb

HW:2.1 SW:1.08



Manual

4F1G Switch

Managed PoE switch is unique device designed as combination of management switch, PoE injector and in/out controller.

In opposite to typical PoE switches this one don't has fixed voltage output. This parameter depend on voltage of connected supply. Thanks it switch is very universal and what is very important power supply uninterruptible is very easy to implementation. Just need to connect buffered uninterruptible power supply with battery (also in offer in our shop).

This solution allow for much higher possible output current, limited to 2A per port. It is important for momentary spikes of current, often occurring during start up. However should be remember that high current can damage RJ45 connectors quick - they are not designed for this applications. All supply parameters can be monitored online, also ICMP packets returns is monitored by watchdog, if ping don't reply, output can be reseted.

Switch characterised by unique design - it is only 31mm deep and 1U high. So could be installed in typical 10" rack as well as in very flat, small cabinets for example on corridors.

Other useful feature are 2 logical inputs for monitoring switch surrounds (for ex cabinet doors) and one voltage output (up to 1A) to remote power different devices.

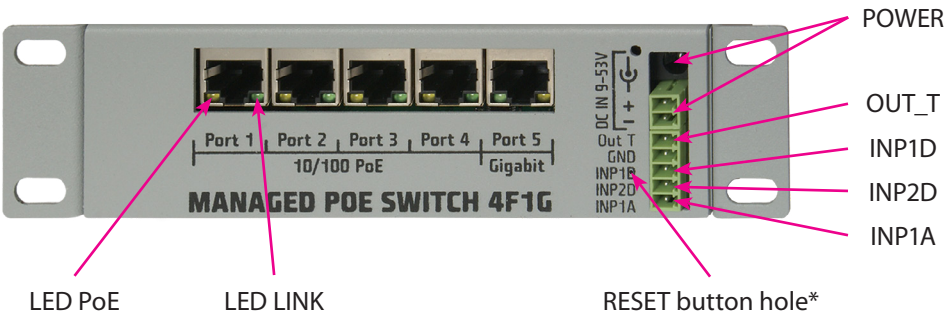
MAIN FEATURES:

- management by WWW or SNMP v2. *(all SNMP features available after upgrade)*
- firmware upgrade remotely by TFTP
- read data in real time without refresh the page
- ON/OFF power to four passive PoE ports directly from a web page or SNMP
- Watchdog IP on all ports (email notification, trap, reset of power on PoE)
- 1 analog measure input
- 2 logical inputs
- environment temperature measurement
- voltage measurement: resolution, accuracy ± 0.1 V
- current measurement on each port and consumed by all
- date and time from NTP or manual
- email alert when Watchdog activation
- automatic sending of SNMP TRAP (VCC, temperature, INPD, INPA)
- supported protocols: HTTP, SNMP, SMTP, NTP, ICMP, DNS, DHCP.
- 4 ports 100/10Mbit
- 1 port 1Gbit
- limit power on the PoE port when 2A current is exceeded.
- VLAN support
- optional mounting on DIN rail

TECHNICAL SPECIFICATIONS

- power supply voltage: **9÷53V**
- current consumption at one POE port: **2A** *(recommended for ling life 1A)*
- total power on all ports: **≤ 6A**
- power consumption of the switch: **<1W**
- protection against reverse polarity: YES
- maximal current from transistor output: 1A
- work temperature: –20 do +85 °C
- weight: 0,350kg
- housing high: 1U
- housing sizes without holders: 146 (173 with holders) x 45 x 31 mm

PORTS AND COMPONENTS



POWER – power over plug DC5,5 / 2.1 or terminal block

LED PoE – LED orange, shining denotes activating the power per port PoE

LED LINK – LED green lights means the active link, blinking - data transfer RX / TX

INP1D, INP2D –digital inputs for monitoring, eg. power supply buffer, max input voltage 24V.

OUT_T – voltage output transistor performance 1A. The voltage represents switch power supply voltage.

INP1A – analog input for voltage measurement in the range 0÷3,3V

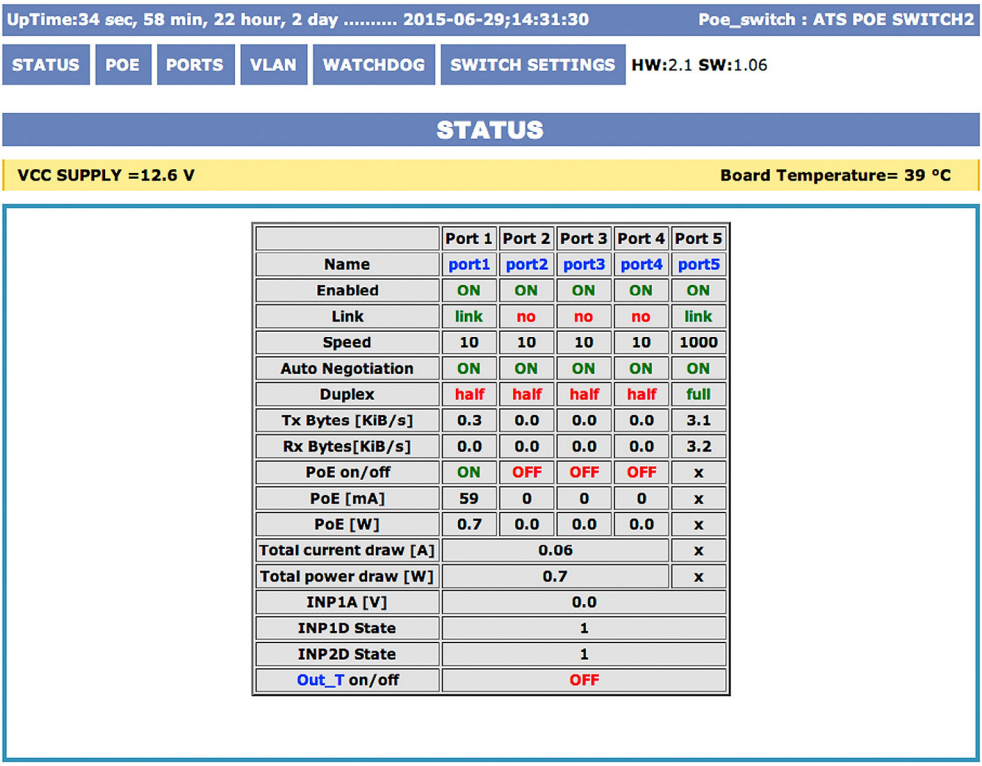
RESET – press button (eg. paper clip), power on and holding the button down for approx. 5 seconds restores the factory settings.

(*) - RESET procedure in older versions of the switch (no hole) is described on page 14.

Default user and password is „admin"
IP adress is 192.168.1.200

Management by WWW.

1. STATUS



	Port 1	Port 2	Port 3	Port 4	Port 5
Name	port1	port2	port3	port4	port5
Enabled	ON	ON	ON	ON	ON
Link	link	no	no	no	link
Speed	10	10	10	10	1000
Auto Negotiation	ON	ON	ON	ON	ON
Duplex	half	half	half	half	full
Tx Bytes [KiB/s]	0.3	0.0	0.0	0.0	3.1
Rx Bytes[KiB/s]	0.0	0.0	0.0	0.0	3.2
PoE on/off	ON	OFF	OFF	OFF	x
PoE [mA]	59	0	0	0	x
PoE [W]	0.7	0.0	0.0	0.0	x
Total current draw [A]	0.06				x
Total power draw [W]	0.7				x
INP1A [V]	0.0				
INP1D State	1				
INP2D State	1				
Out_T on/off	OFF				

In this window is a summary presented the switch current status.

PoE on/off – specifies the state of power supply on PoE port: green ON, a red OFF.

PoE [mA] – shows the current consumption of the device.

PoE [W] – shows the power consumption of the device.

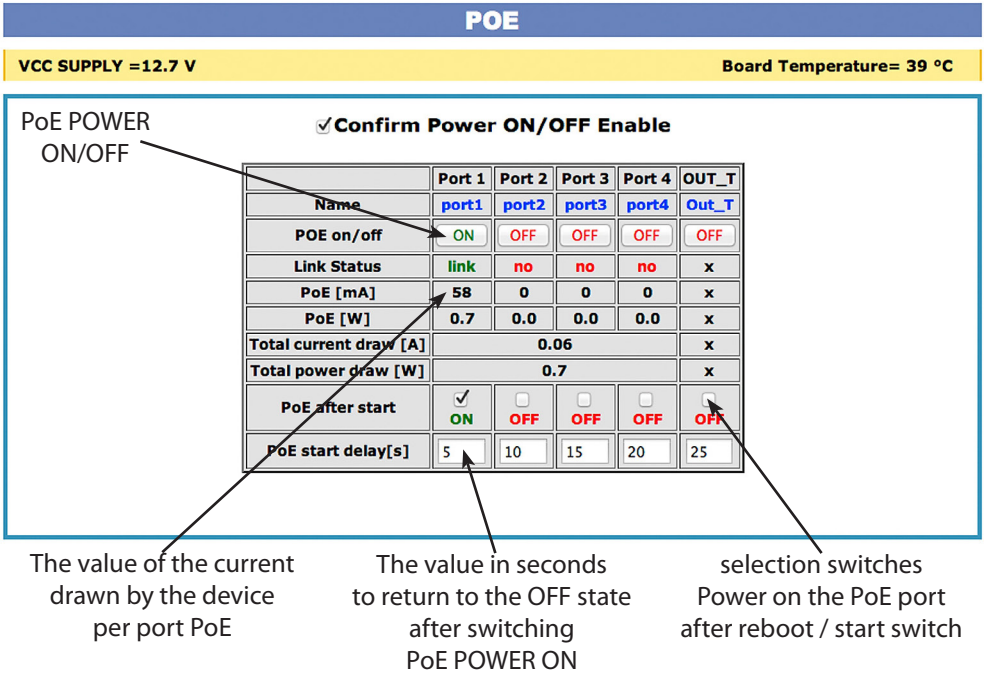
INP1A [V] – shows the voltage at the input INP1A.

INP1D State – shows the status of the input INP1D.

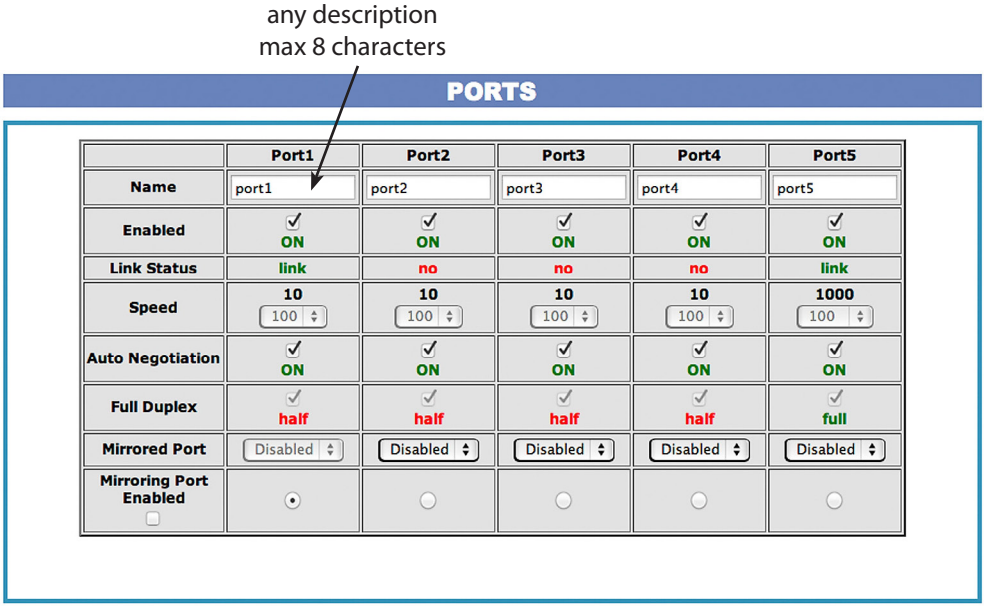
INP2D State – shows the status of the input INP2D.

Out_T on/off – shows the status of output Out_T.

2. POE


POE
VCC SUPPLY =12.7 V
Board Temperature= 39 °C
PoE POWER ON/OFF
Confirm Power ON/OFF Enable
Port 1 Port 2 Port 3 Port 4 OUT_T
Name port1 port2 port3 port4 Out_T
POE on/off ON OFF OFF OFF OFF
Link Status link no no no x
PoE [mA] 58 0 0 0 x
PoE [W] 0.7 0.0 0.0 0.0 x
Total current draw [A] 0.06 x
Total power draw [W] 0.7 x
PoE after start ON OFF OFF OFF OFF
PoE start delay[s] 5 10 15 20 25
The value of the current drawn by the device per port PoE
The value in seconds to return to the OFF state after switching PoE POWER ON
selection switches Power on the PoE port after reboot / start switch

3. PORTS

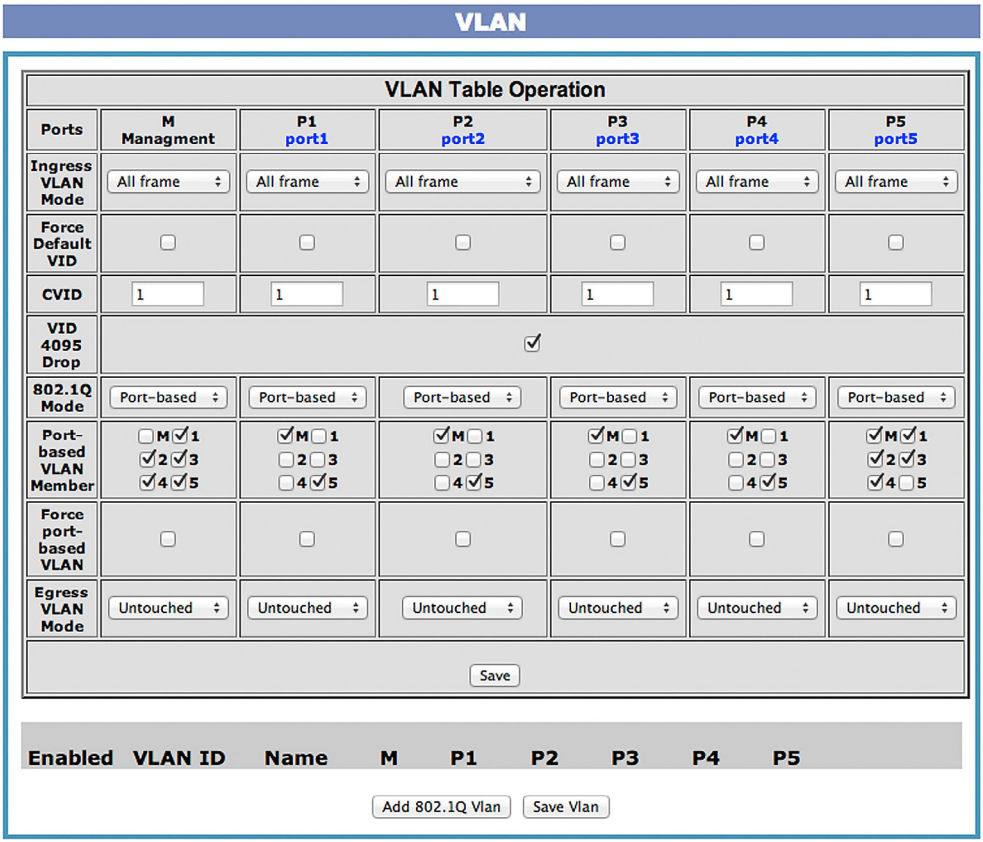

any description max 8 characters
PORTS
Port1 Port2 Port3 Port4 Port5
Name port1 port2 port3 port4 port5
Enabled ON ON ON ON ON
Link Status link no no no link
Speed 10 10 10 10 1000
Auto Negotiation ON ON ON ON ON
Full Duplex half half half half full
Mirrored Port Disabled Disabled Disabled Disabled Disabled
Mirroring Port Enabled

4. VLAN

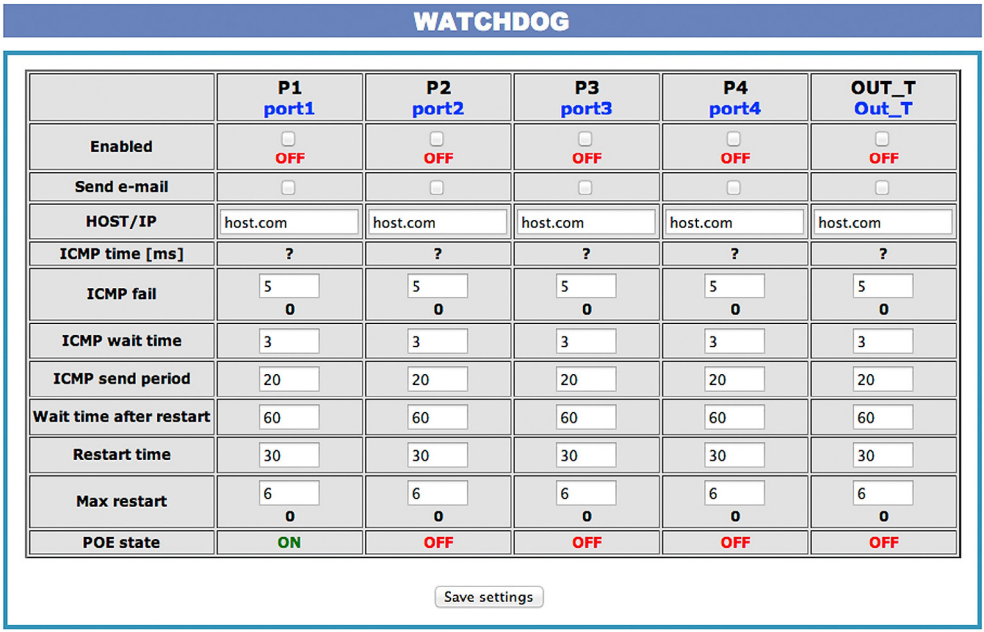
Inclusion of of isolation between ports:

In order to isolate traffic between the ports, so that the traffic was directed only to the individual ports 1÷4, for example, only port Gigabit P5 you can use the **Port based VLAN Member**.

For the example above, only the ports select „**M**" (if we are able to manage the switch from each port) and port „**5**". For the port „**5**" we leave all selections (except **P5**). Then memorize the setting with „**Save**" button.



5. WATCHDOG



WATCHDOG

	P1 port1	P2 port2	P3 port3	P4 port4	OUT_T Out_T
Enabled	OFF	OFF	OFF	OFF	OFF
Send e-mail					
HOST/IP	host.com	host.com	host.com	host.com	host.com
ICMP time [ms]	?	?	?	?	?
ICMP fail	5 0	5 0	5 0	5 0	5 0
ICMP wait time	3	3	3	3	3
ICMP send period	20	20	20	20	20
Wait time after restart	60	60	60	60	60
Restart time	30	30	30	30	30
Max restart	6 0	6 0	6 0	6 0	6 0
POE state	ON	OFF	OFF	OFF	OFF

Save settings

Email send – sends an e-mail when the watchdog **work** (**will restart power supply on a port PoE**). E-mail contains information about the number of the current restart and a maximum permissible number of restarts and time of occurrence.

ICMP time – it shows in milliseconds latency response to an ICMP packet.

ICMP fail – number of unanswered response to a query ICMP, followed by a triggering of the watchdog.

ICMP wait time – response time in seconds.

ICMP send period – the period of time in seconds between successive queries ICMP.

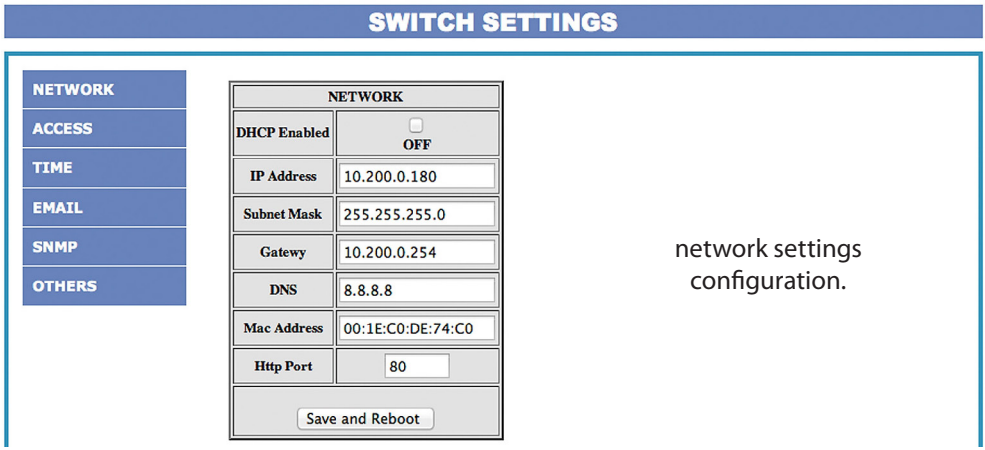
Wait time after restart – the period of time in seconds before sending another query ICMP after activation of the watchdog.

Restart time – the period of time in seconds for how long it will turn off the power at the port PoE after activation of the watchdog.

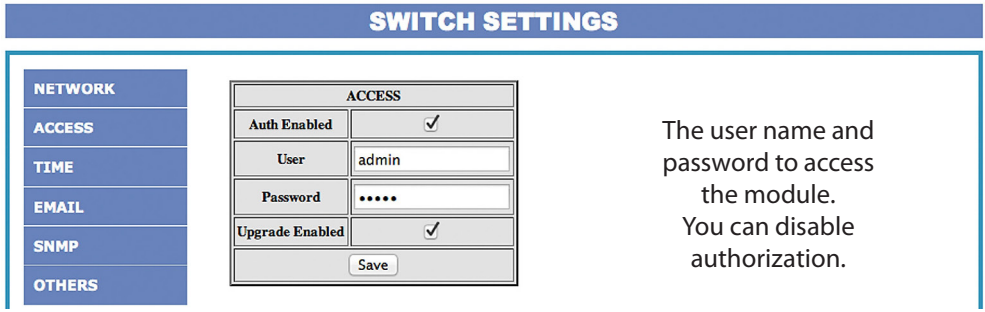
Max restart – maksymalna liczba restartów (zadziałań watchdoga). Gdy ta liczba zostanie osiągniętą watchdog na danym porcie zostanie wyłączony, żeby w nieskończoność nie restartować urządzenia, które i tak nie ma zamiaru poprawnie pracować.

POE state – determines the state of power supply to PoE port: red OFF, green ON.

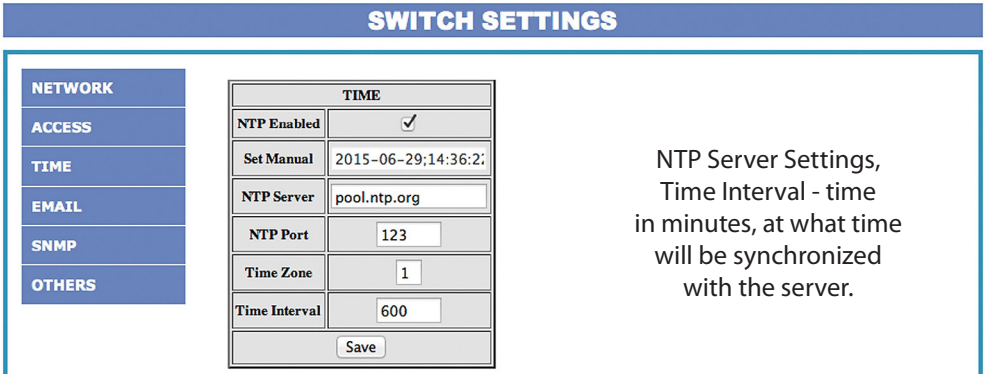
6. SWITCH SETTINGS



network settings configuration.

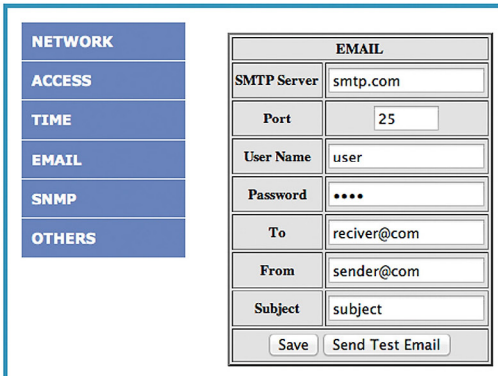


The user name and password to access the module.
You can disable authorization.



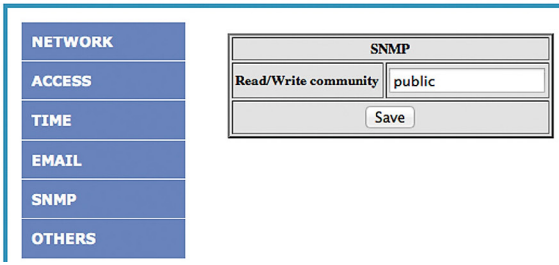
NTP Server Settings, Time Interval - time in minutes, at what time will be synchronized with the server.

SWITCH SETTINGS



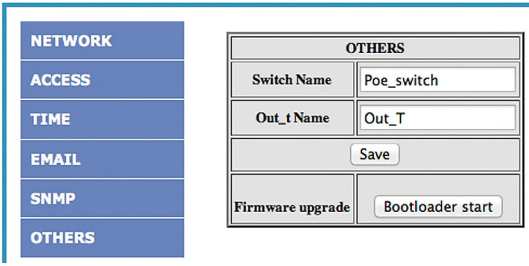
Configure email account to send notifications.

SWITCH SETTINGS



Password for SNMP

SWITCH SETTINGS



Bootloader start
– toggles the switch
in software upgrade mode

Software update

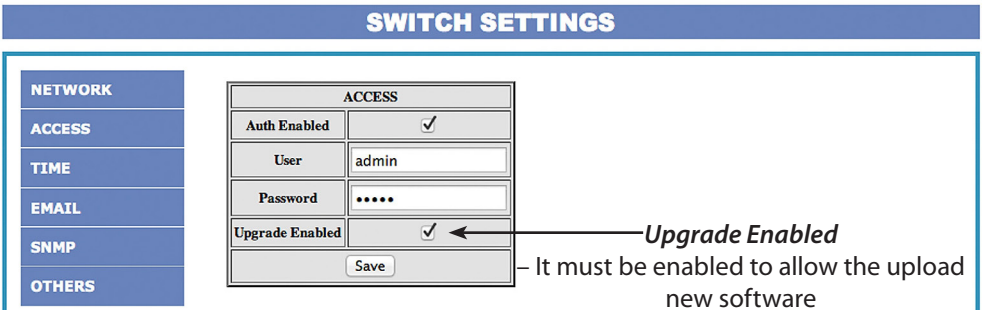
In the event that there is a new version of the software it is possible to load such software for the device.

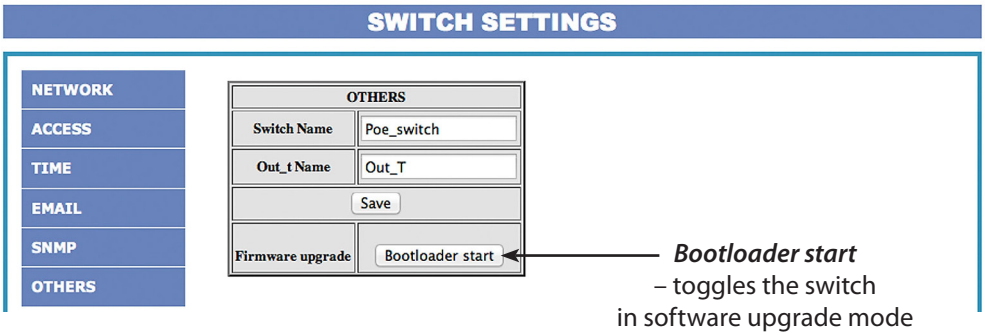
To install the new firmware to the switch should move it in bootloader mode. The easiest way to do it from the menu **Switch Settings/Others**:

1. the „**Upgrade Enabled**" in the **Switch Settings / Access** must be enabled.

2. through the „**Bootloader start**" button.

We have 60 seconds to start uploading via FTP. This will take about 6÷7 seconds and after this time, the switch will reboot automatically. If at uploading was a mistake, bootlaoder mode will automatically restart until the correct upload file.





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.

SNMP OID NUMBERS

A group of voltages, currents, inputs, PoE

iso.3.6.1.4.1.7616.1.1.0 = INTEGER: 125 – *supply voltage, divide the result by 10*
iso.3.6.1.4.1.7616.1.1.1 = INTEGER: 0 – *INP1A, voltage, divide the result by 10*
iso.3.6.1.4.1.7616.1.1.2 = INTEGER: 387 – *temperature, divide the result by 10*
iso.3.6.1.4.1.7616.1.1.3 = INTEGER: 1 – *INP1D*
iso.3.6.1.4.1.7616.1.1.4 = INTEGER: 1 – *INP2D*

iso.3.6.1.4.1.7616.1.2.0 = INTEGER: 1 – *PoE port1 ON/OFF*
iso.3.6.1.4.1.7616.1.2.1 = INTEGER: 1 – *PoE port2 ON/OFF*
iso.3.6.1.4.1.7616.1.2.2 = INTEGER: 1 – *PoE port3 ON/OFF*
iso.3.6.1.4.1.7616.1.2.3 = INTEGER: 1 – *PoE port4 ON/OFF*
iso.3.6.1.4.1.7616.1.2.4 = INTEGER: 0 – *PoE OUT_T ON/OFF*

iso.3.6.1.4.1.7616.1.3.0 = INTEGER: 0 – *PoE port1 current mA*
iso.3.6.1.4.1.7616.1.3.1 = INTEGER: 21 – *PoE port2 current mA*
iso.3.6.1.4.1.7616.1.3.2 = INTEGER: 53 – *PoE port3 current mA*
iso.3.6.1.4.1.7616.1.3.3 = INTEGER: 0 – *PoE port4 current mA*
iso.3.6.1.4.1.7616.1.3.4 = INTEGER: 74 – *PoE the sum of currents from p1 to p4 mA*

iso.3.6.1.4.1.7616.1.4.0 = INTEGER: 0 – *PoE port1 power mW*
iso.3.6.1.4.1.7616.1.4.1 = INTEGER: 262 – *PoE port2 power mW*
iso.3.6.1.4.1.7616.1.4.2 = INTEGER: 662 – *PoE port3 power mW*
iso.3.6.1.4.1.7616.1.4.3 = INTEGER: 0 – *PoE port4 power mW*
iso.3.6.1.4.1.7616.1.4.4 = INTEGER: 925 – *PoE the sum of power from p1 to p4 mW*

Grupa statusu portów

iso.3.6.1.4.1.7616.2.1.0 = INTEGER: 1 – *Port1 On/OFF*
iso.3.6.1.4.1.7616.2.1.1 = INTEGER: 1 – *Port2 On/OFF*
iso.3.6.1.4.1.7616.2.1.2 = INTEGER: 1 – *Port3 On/OFF*
iso.3.6.1.4.1.7616.2.1.3 = INTEGER: 1 – *Port4 On/OFF*
iso.3.6.1.4.1.7616.2.1.4 = INTEGER: 1 – *Port5 On/OFF*

iso.3.6.1.4.1.7616.2.2.0 = INTEGER: 0 – *Port1 link*
iso.3.6.1.4.1.7616.2.2.1 = INTEGER: 1 – *Port2 link*
iso.3.6.1.4.1.7616.2.2.2 = INTEGER: 1 – *Port3 link*
iso.3.6.1.4.1.7616.2.2.3 = INTEGER: 1 – *Port4 link*
iso.3.6.1.4.1.7616.2.2.4 = INTEGER: 1 – *Port5 link*

iso.3.6.1.4.1.7616.2.3.0 = INTEGER: 10 – *Port1 speed*
iso.3.6.1.4.1.7616.2.3.1 = INTEGER: 100 – *Port2 speed*
iso.3.6.1.4.1.7616.2.3.2 = INTEGER: 10 – *Port3 speed*
iso.3.6.1.4.1.7616.2.3.3 = INTEGER: 10 – *Port4 speed*
iso.3.6.1.4.1.7616.2.3.4 = INTEGER: 1000 – *Port5 speed*

iso.3.6.1.4.1.7616.2.4.0 = INTEGER: 0 – *Port1 full/half duplex*
iso.3.6.1.4.1.7616.2.4.1 = INTEGER: 1 – *Port2 full/half duplex*
iso.3.6.1.4.1.7616.2.4.2 = INTEGER: 0 – *Port3 full/half duplex*
iso.3.6.1.4.1.7616.2.4.3 = INTEGER: 1 – *Port4 full/half duplex*
iso.3.6.1.4.1.7616.2.4.4 = INTEGER: 1 – *Port5 full/half duplex*

iso.3.6.1.4.1.7616.2.5.0 = INTEGER: 0 – *Port1 TX rate B/s*
iso.3.6.1.4.1.7616.2.5.1 = INTEGER: 2406 – *Port2 TX rate B/s*
iso.3.6.1.4.1.7616.2.5.2 = INTEGER: 0 – *Port3 TX rate B/s*
iso.3.6.1.4.1.7616.2.5.3 = INTEGER: 349 – *Port4 TX rate B/s*
iso.3.6.1.4.1.7616.2.5.4 = INTEGER: 0 – *Port5 TX rate B/s*

iso.3.6.1.4.1.7616.2.6.0 = INTEGER: 0 – *Port1 RX rate B/s*
iso.3.6.1.4.1.7616.2.6.1 = INTEGER: 2470 – *Port2 RX rate B/s*
iso.3.6.1.4.1.7616.2.6.2 = INTEGER: 0 – *Port3 RX rate B/s*
iso.3.6.1.4.1.7616.2.6.3 = INTEGER: 0 – *Port4 RX rate B/s*
iso.3.6.1.4.1.7616.2.6.4 = INTEGER: 0 – *Port5 RX rate B/s*

Grupa watchdog

iso.3.6.1.4.1.7616.3.1.0 = INTEGER: 0 – *Port1 Watchdog On/OFF*
iso.3.6.1.4.1.7616.3.1.1 = INTEGER: 0 – *Port2 Watchdog On/OFF*
iso.3.6.1.4.1.7616.3.1.2 = INTEGER: 0 – *Port3 Watchdog On/OFF*
iso.3.6.1.4.1.7616.3.1.3 = INTEGER: 0 – *Port4 Watchdog On/OFF*
iso.3.6.1.4.1.7616.3.1.4 = INTEGER: 0 – *OUT_T Watchdog On/OFF*

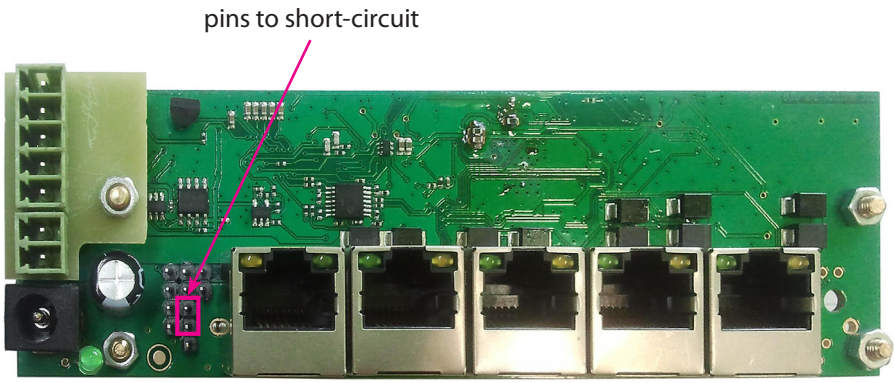
iso.3.6.1.4.1.7616.3.2.0 = INTEGER: 0 – *Port1 Watchdog email On/OFF*
iso.3.6.1.4.1.7616.3.2.1 = INTEGER: 0 – *Port2 Watchdog email On/OFF*
iso.3.6.1.4.1.7616.3.2.2 = INTEGER: 1 – *Port3 Watchdog email On/OFF*
iso.3.6.1.4.1.7616.3.2.3 = INTEGER: 1 – *Port4 Watchdog email On/OFF*
iso.3.6.1.4.1.7616.3.2.4 = INTEGER: 0 – *OUT_T Watchdog email On/OFF*

iso.3.6.1.4.1.7616.3.3.0 = INTEGER: 0 – *Port1 Watchdog ping fail count*
iso.3.6.1.4.1.7616.3.3.1 = INTEGER: 0 – *Port2 Watchdog ping fail count*
iso.3.6.1.4.1.7616.3.3.2 = INTEGER: 0 – *Port3 Watchdog ping fail count*
iso.3.6.1.4.1.7616.3.3.3 = INTEGER: 0 – *Port4 Watchdog ping fail count*
iso.3.6.1.4.1.7616.3.3.4 = INTEGER: 0 – *OUT_T Watchdog ping fail count*

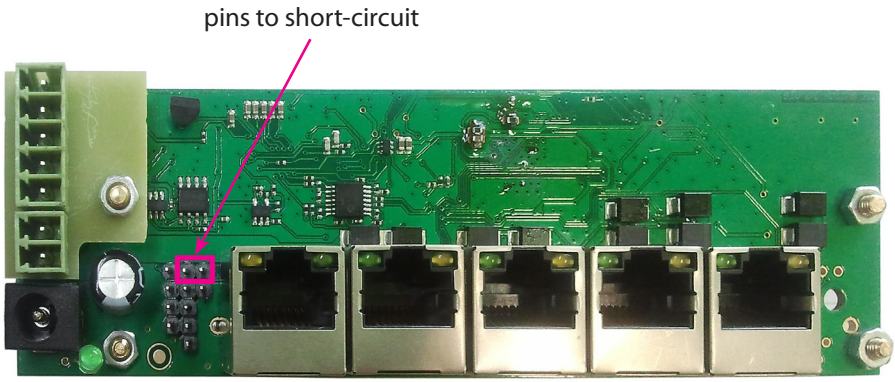
iso.3.6.1.4.1.7616.3.4.0 = INTEGER: 0 – *Port1 Watchdog restrat count*
iso.3.6.1.4.1.7616.3.4.1 = INTEGER: 0 – *Port2 Watchdog restrat count*
iso.3.6.1.4.1.7616.3.4.2 = INTEGER: 0 – *Port3 Watchdog restart count*
iso.3.6.1.4.1.7616.3.4.3 = INTEGER: 0 – *Port4 Watchdog restart count*
iso.3.6.1.4.1.7616.3.4.4 = INTEGER: 0 – *OUT_T Watchdog restart count*

The procedure for restoring the factory settings in older versions of the switch (without the RESET button hole).

1. You should upgrade software to the latest available version. For this purpose, with the power off you have to put the jumper on pins marked in red. After powering the unit enters the service mode and will wait about 60 seconds for the file with the new software version. The file should be sent to the device using TFTP. The device will be available at last set IP address. After a successful file upload, wait about 30 seconds for software installation.



2. After updating the software in order to restore default settings before connecting the power supply, put the jumper on pins marked in red. Then, connect the power and after about 5 seconds, the jumper can be removed. Switch has been restored to factory settings and is available under the default IP address (192.168.1.200).



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