IP WatchDog2

Lite / Industrial

Monitor of Ethernet devices with automatic reset function

Shipment contents

Complete package of IP Watchdog2 contains the following items:

- IP WatchDog2 in mechanical design according to ordering no.
- Printed Manual
- Power adaptor
- Ethernet cable

Safety at work

The device complies with the standards in force in the Czech Republic, is operationally tested and is supplied in a serviceable condition. To keep the device in this state, it is necessary to follow the requirements on safety and maintenance of the device.

The device must not be used if:

- It is visibly damaged.
- Is not working properly.
- There are loose parts inside the device
- Been exposed to moisture or water.
- It was repaired by unauthorized persons.
- The power adaptor or its power cord are visibly damaged.

Manufacturer has responsibility of the device only if it is powered by the supplied or recommended power supply.

Default network parameters configuration:

IP address: 192.168.10.20

Network mask 255.255.255.0

Default gateway: 192.168.10.1

IP configuration via DHCP Enabled

User name: Not set

User name: Not set

IP WatchDog2 Lite / Industrial

	IP WatchDog2 Lite	IP WatchDog2 Industrial
Housing	Metal	Plastic
Relay outputs	max. 50V/1A	max 240V/16A
Serial line	NO	YES
External serial modem	NO	YES

IP WatchDog2 Lite

IP WatchDog2 Industrial

Monitored functions and parameters

Incoming Ping	**IP range** – range of IP addresses defined by IP and mask, from which the receiving PING can be accepted. **Timeout delay for reboot** – time interval, in range from 0-1800 s (0 =disabled),that IP WatchDog2 waits for incoming PING before causing RESET.
Outgoing Ping	**Primary target IP** – primary IP address where IP Watchdog2 sends the PING and from which it awaits reply. **Secondary target IP** – secondary IP address where IP WatchDog2 sends the PING and from which it awaits reply, if primary target does not responds. **Quantity of failed ping for reboot** – number of PINGs, that IP WatchDog2 assumes for lost before causing RESET. **Outgoing ping interval** – interval between sent PINGs in range of 0-1800s (0 =disabled).
Incoming HTML page **(WWW client)**	**Server IP** – IP address where IP WatchDog2 requires HTML page from. **Timeout delay for reboot** – time interval, in range from 0-1800 s (0 =disabled), for this time IP WatchDog2 awaits for an request for a HTML page, then RESET is performed. **Reading HTML page period** – interval between demands for WWW pages in range 0-1800 s (0 = disabled).
Outgoing HTML page **(WWW server)**	**Request Page** – address of HTML page offered to monitored device. Provides number for further processing of canal and information about acceptable IP address and IP address client, whose required page. **Device IP** – IP address of WWW monitored client, from which the request for releasing the HTML page is accepted. **Timeout delay for reboot** - interval in range from 0-1800 s (0 = disabled), for this time IP WatchDog2 awaits for an request for a HTML page, then RESET is performed.
Incoming RS232 String **(IP WatchDog2 Industrial only)**	**Incoming string** – string in format ASCII, HEX or DEC awaits on port RS-232 (* represents random sign). **Timeout delay for reboot** – interval v rozsahu 0-1800 s (0 = disabled), for this time IP WatchDog2 awaits for an request for a HTML page, then RESET is performed.

Technical parameters IP WatchDog2 Lite

Ethernet port	
+ Interface	RJ45 (10BASE-T / 100BASE-Tx)
+ Compatibility	Ethernet: Version 2.0/IEEE 802.3
+ Supported protocols	IP: ARP, TCP/IP, NVT, RFC2217, UDP/IP, SNTP
Relay contact ampacity	
DC voltage	max. 30V / 1A
AC voltage	max. 50V / 0,5A
Environment parameters	
+ Operation temperature	-30°C to +85°C
+ Storage temperature	-5 to +75 °C
+ Relative humidity	5 to 95 % (non-condensing)
Mechanical construction	
+ Mechanical construction	Metal, table construction With external wall bracket, DIN rail or Rack
+ Dimensions	100x94x31 / 260g
+ EMC	FCC Part 15, Class B, CE - EN 55022, EN 55024, EN 61000
POWER input	
+ Port	POWER 9-30V DC
+ Type	Main device power input (typically 250 mA) + Power Out
+ Conector	Jack (barrel, inner 2.5 mm outer 6.3 mm), Terminal Block
Power Output	
+ Voltage	Power OUT = Power In
+ Current	Max. Power Adaptor minus 250mA or 1000mA
+ Connector	Terminal Block

Technical parameters IP WatchDog2 Industrial

Ethernet port	
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+ Compatibility	Ethernet: Version 2.0/IEEE 802.3
+ Supported protocols	IP: ARP, TCP/IP, NVT, RFC2217, UDP/IP, SNTP
Serial port 1 - Channel 1	
+ Data bites	8
+ Stop bity	1
+ Parity	None
+ RS-232 interface	RxD,TxD, GND
+ Speed of communication	adjustable in range 50..115200 Bd
Serial port 2 - Channel 2	
+ Data bites	8
+ Stop bity	1
+ Parity	None
+ RS-232 interface	Not full serial port - RxD on pin 8 only!
+ Speed of communication	adjustable in range 50..115200 Bd
Relay contact load	
DC voltage	max. 24V / 16A
AC	max. 240V / 16A
Environment parameters	
+ Operation temperature	-5 to +50 °C
+ Storage temperature	-5 to +75 °C
+ Relative humidity	5 to 95 % (non-condensing)
Mechanical construction	
+ Mechanical construction	Plastic, mountable on wall or DIN rail
+ Dimensions	145x90x40 / 225g
+ EMC	FCC Part 15, Class B, CE - EN 55022, EN 55024, EN 61000
POWER input	
+ Port	POWER 9-30V DC
+ Type	Main device power input (typically 250 mA)
+ Connector	Jack (barrel, inner 2.5 mm outer 6.3 mm), Terminal Block

Connectors of the IP WatchDog2 Lite

Individual connectors and control elements as well as connection of the relays is shown on the picture below:

LED

- **Power (Green)** - lights, if connected and the device is working
- **Status (Yellow)** - blinks when signal is accepted from the monitored device, blinking quickly when being upgraded
- **Alarm (Red)** - lights, if some of device is unavailable and IP WatchDog2 is performing reset
- **Channel1/Channel2** - lights when channel is switched (reset or manual switch)

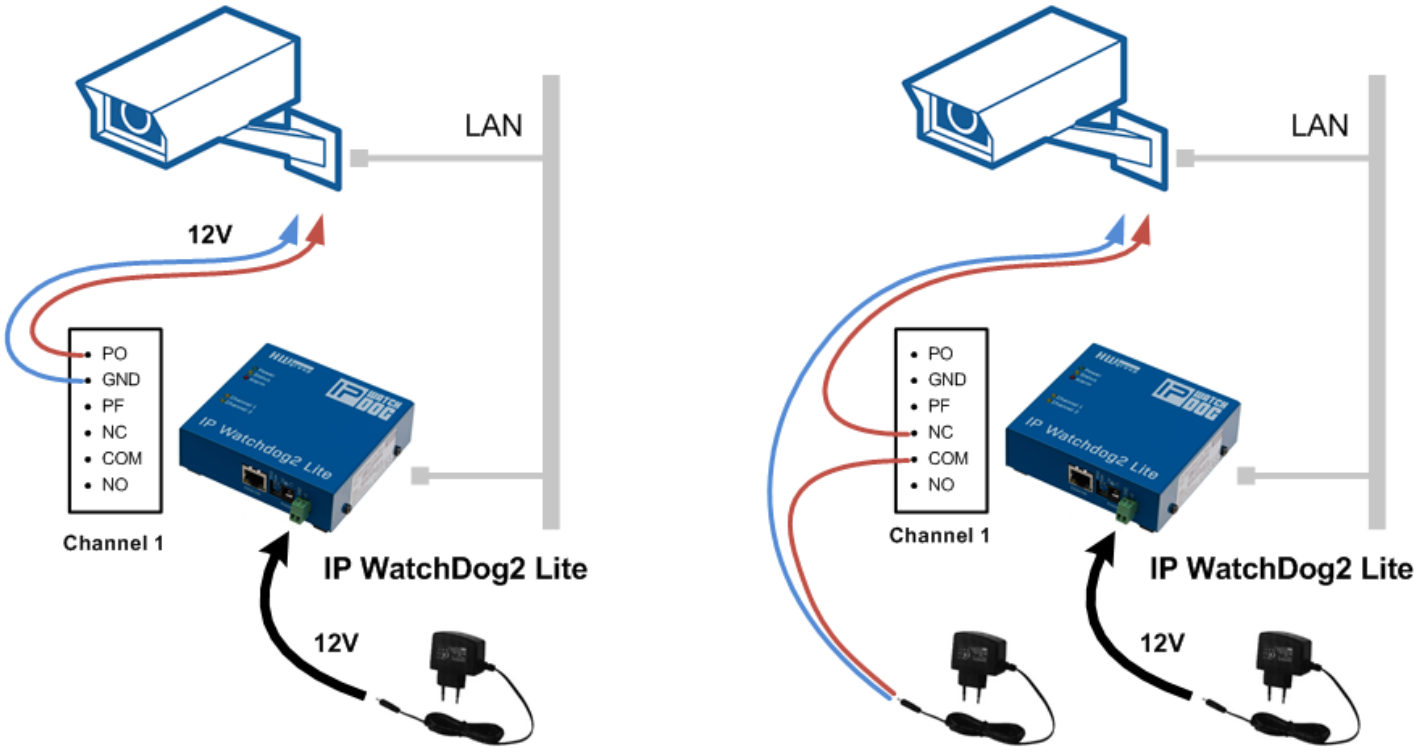
DIP switches

- **Setup** - is used to reset the device to the default configuration, if switched when the power supply is
- **Safe** - for manufacturer purposes only

Outputs Channel1 / Channel2

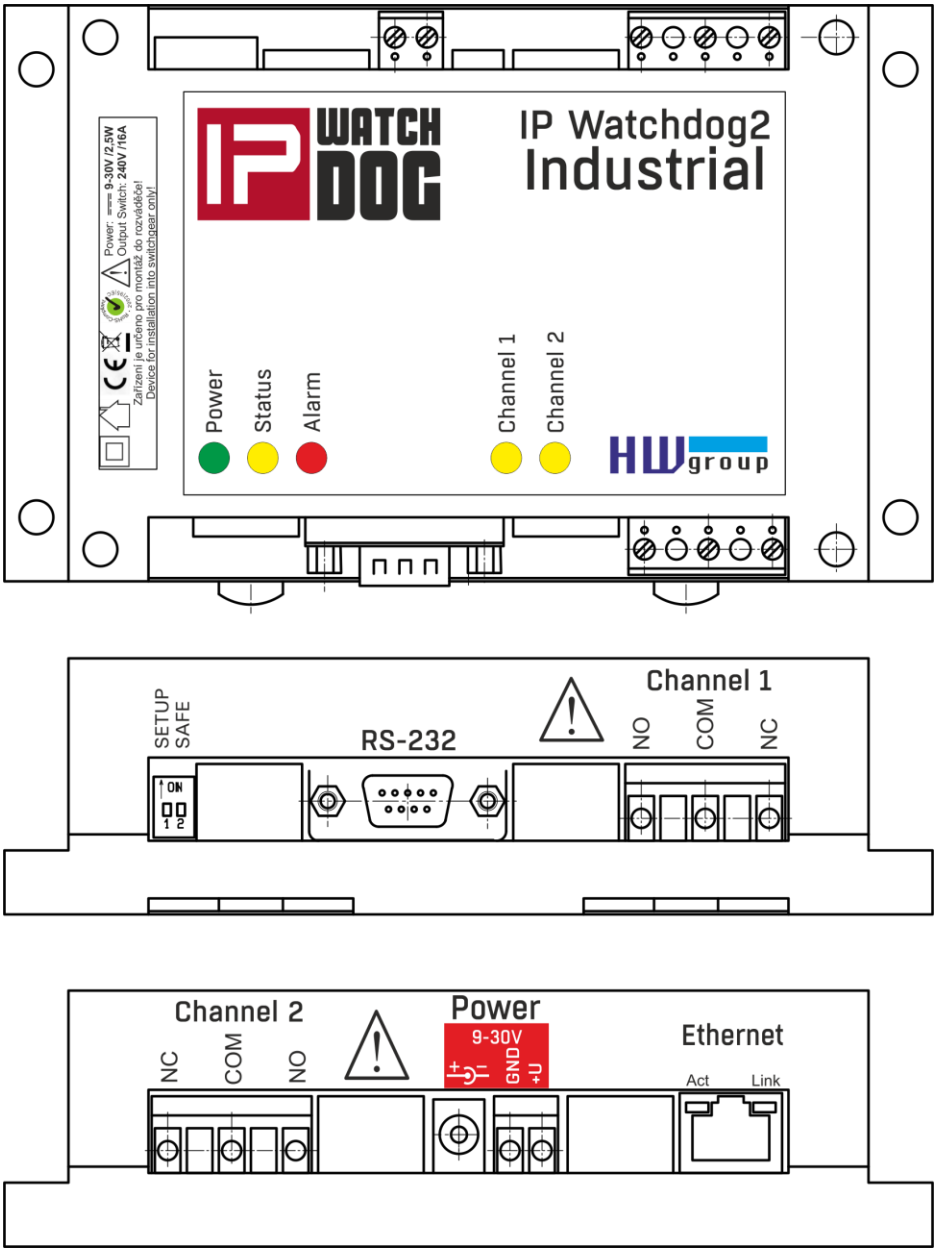
Terminal board description		
Pin	**Power**	**Function description**
PO	*Power On*	In the idle state this pin contains power supply of the IP Watchdog2 - axis of the power connector.
PF	*Power OFF*	In Reset mode this pin contains power supply of the IP Watchdog2 - axis of the power connector.
GND	*Ground*	Negative pole of the supply voltage. Is connected directly to GND.
NC	*Normally Close*	In Idle state this pin is connected with the appropriate COM pin
NO	*Normally Open*	In Reset state this pin is connected with the appropriate COM pin
COM	*Common*	Common pin - in case of switching contacts connected to relay housing

PF / PO Powered outputs usage



Connectors of the IP WatchDog2 Industrial

Individual connectors and control elements as well as connection of the relays is shown on the picture below:



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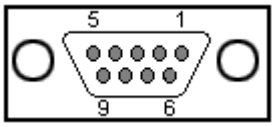
Serial - DB9M



Connector DB9M (RS-232)				
	Channel1	Channel2		
1	DCD		IN	Unused
2	**RxD**		IN	Receive Data
3	**TxD**		OUT	Transmit Data
4	DTR		OUT	Unused
5	**GND**		---	System Ground
6	DSR		IN	Unused
7*	**RTS**		OUT	Clear to Send, (Receive Data)
8		RxD	IN	Request to Send
9	RI		IN	Unused

First steps

In this chapter you will learn how to connect the IP WatchDog2 easily to your PC or company network, setting it up and putting it into service.

Device connection

The following procedure is recommended for quick setup of the device. Detailed description of all parameters and commands can be found in chapter called *"Parameters description".*

Cable connection

- Set switches from DIP1 and DIP2 into OFF position.
- Connect IP WatchDog2 to the Ethernet 10/100 Mbit network.
- Connect the supplied power adaptor to power grid and plug the connector of the power adaptor into power connector of the IP relay. *The Power* LED indicator should light up.

If the Ethernet connection is OK, the LINK indicator should light up.

Primary configuration of Ethernet parameters

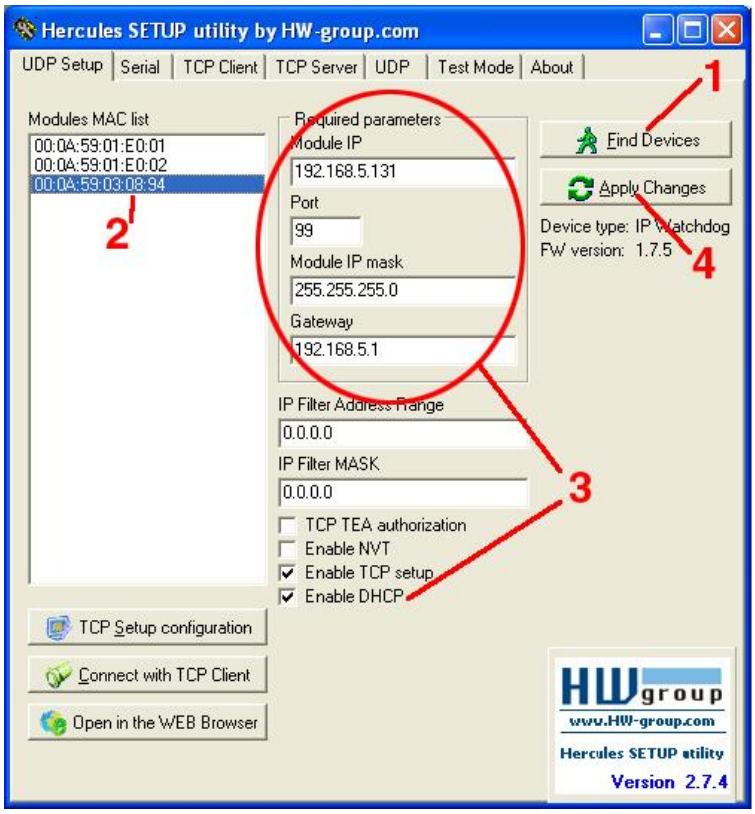
The primary configuration of the *IP WatchDog2* (IP address, network mask and gateway) can be done via UDP Setup - *IP WatchDog2* must be found on local part of ethernet network.

UDP Setup - Searching the device using UDP setup

- Launch the program „*HerculesSetup.exe,*“ which can be found in root directory on supplied CD. The latest version of the program can be also downloaded for free from our web pages www.HWgroup.cz .

- In the *UDP Setup*“, tab, press the „*Find modules*“, (step 1 see picture). The device's MAC address should appear in the left column.

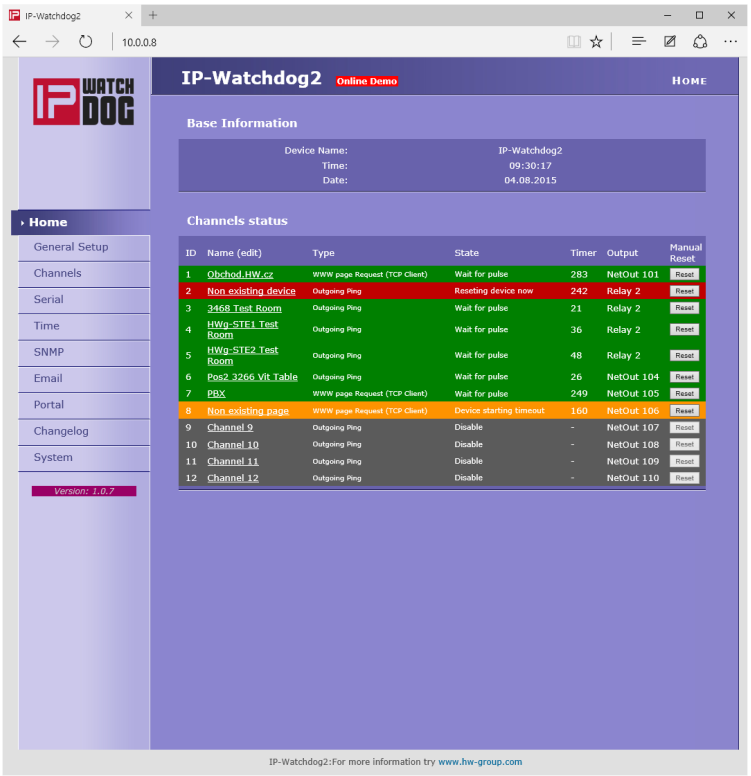
- Click on MAC adress (step 2). In the field „*Required parameters*“, the configured device parameters should appear.



Note: *If you wish to change these basic parameters (it is necessary to set at least IP address, port, mas and gateway), enter desire parameters into proper fields (3) and press the „Set module“ (step 4)* When entering IP address and Gateway manually, it is also necessary to **disable assigning DHCP** by the server (**clear Enable DHCP field**)

Enter the IP address of the device into your WWW browser The Main Page of www interface will appear.

Detailed information on configuration methods over www interface can be found in the chapter called **Device configuration via WWW**.

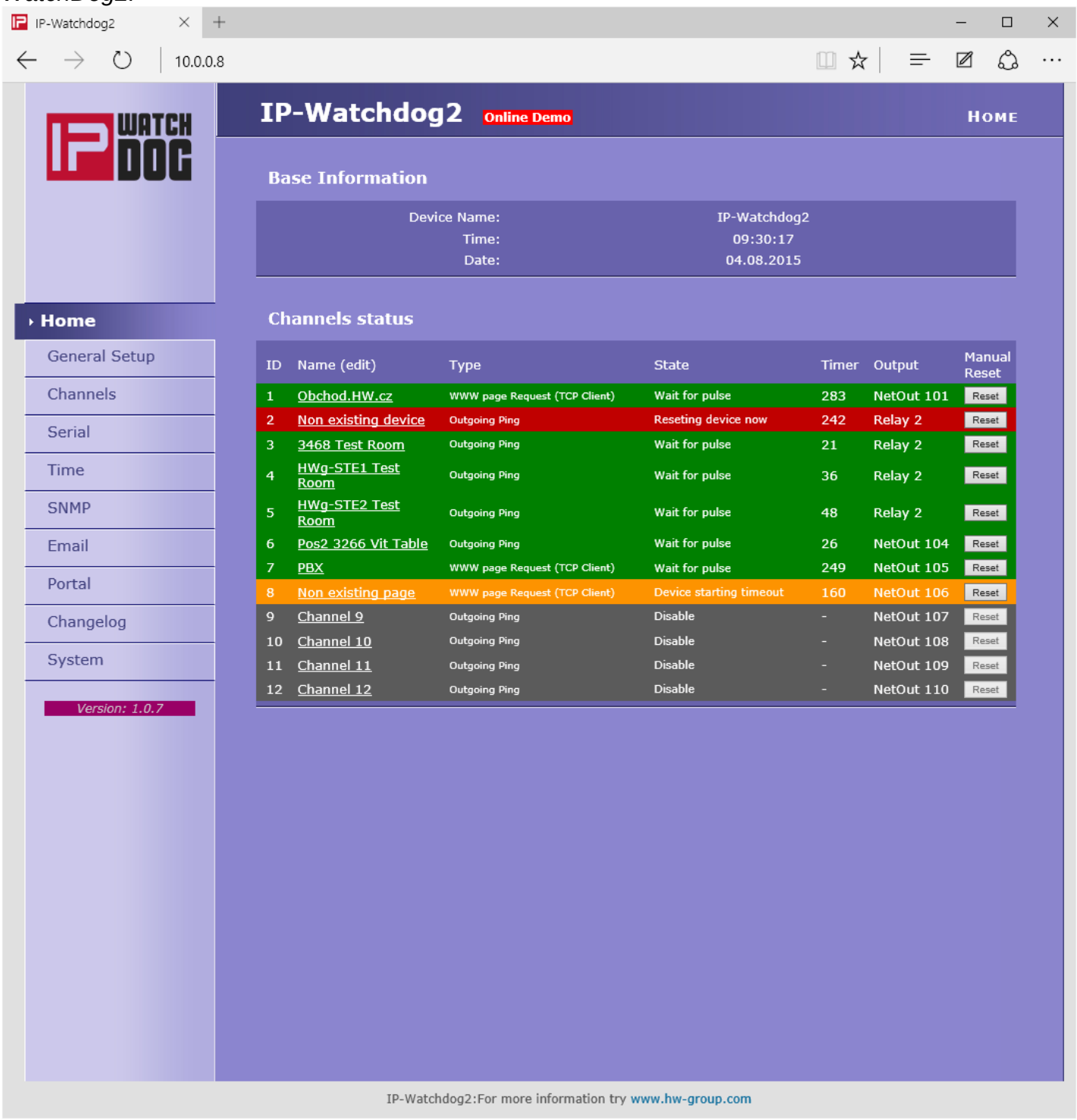


Device configuration via WWW

IP WatchDog2 contains a WWW interface allowing easy and detailed attendance of the device activity. The interface consists of four HTML pages which can be called by entering IP address of the device from your web browser.

IP WatchDog2 Main Page

After entering *WatchDog2* IP address to the web browser you will get a main page showing the basic parameters of *WatchDog2* channels and statistics for the last 20 operations of each channel. In the upper part of the screen you can see links for advanced properties configuration of the *IP WatchDog2:*



Section Basic Information

- *Device name* – User name of the device. Can be modified in the tab *General Setup*
- *Time* **–** Machine time of the device – configuration can be changed in the tab *Time*. The valid time is usually taken from the Internet
- Date - Machine date of the device – configuration can be changed in the tab *Time*. The date is usually taken from the Internet

Section Channel Status

- *Name* – name of the monitored device (see *Channels*).
- *Type* – actual assigned function to the channel (see *Channels*):
  - ***Incoming Ping*** - IP WatchDog2 waits for ICMP command - PING Request from the defined address or range of addresses defined by IP and mask.
  - ***Outgoing Ping*** - IP WatchDog2 sends the ICMP command PING Request to the defined primary IP addresses and awaits response. If not received, the same command is sent to the secondary IP.
  - **Outgoing HTML page** - IP WatchDog2 waits for download HTML page from WWW server which is situated on defined IP address.
  - **Incoming HTML page** - IP WatchDog2 waits requesting own WWW page from monitored device defined with IP address.
  - **Incoming RS232 String** - IP WatchDog2 monitor dates on appropriate port RS-232 and awaits requested string.
- *State* – information about actual state of channel:
  - **Disable** (grey) – channel is deactivated. Allows manual operation of the relay through Channels
  - **Wait for Living pulse** (orange) - channel waits for arrival of the booting (first) pulse.
  - **Wait for pulse** (green) – channel waits for arrival refreshing pulse.
  - **Device Idle** (orange) – channel was reset. Awaiting first refreshing pulse.
  - **Reseting device now** (red) - channel being reseted.
  - **Device starting timeout** (orange) – waiting for the end of mandatory period after reset channel
  - **Manual Reset** (red) – channel was annulled manually
  - **Config change** (green) – the process of changing the channel configuration
- *Timer* – Depends on the state of the channel – viz upper part – and determines how long the state will end.
- *Output* – Depended Output
- *Reset* – button for manual Reset.

General Setup

Section Base

- *Device Name* – the name of the device (IP-WatchDog2) - allows to distinguish individual IP WatchDog2 in network.
  The device name can have a maximum of 16 characters.
- *WWW Info Text* – text of the footer WWW pages – suitable for contact information for example the data centre manager.

Section Network

- *DHCP* – enable setting of an IP address with DHCP server, if available – switch on or off DHCP, depends on user and administrator needs.
- *IP Address* – IP address of IP WatchDog2 – assigned by the administrator of the network.
- *Network Mask* – mask of network – assigned by the administrator of the network.
- *Gateway* - IP address of default gateway - assigned by the administrator of the network.
- *DNS Primary* / *DNS Secondary* – IP address of DNS server – assigned by the administrator of the network.
- *HTTP Port* - number of port, where the built in WWW server is listening - change the number to have more IP WatchDog2 devices accessible from an external network via the router. Ask your network administrator about any changes. The default port is 80.

Security section: Device Admin

- *Username* / *Password* - username and password for security access to IP WatchDog2.

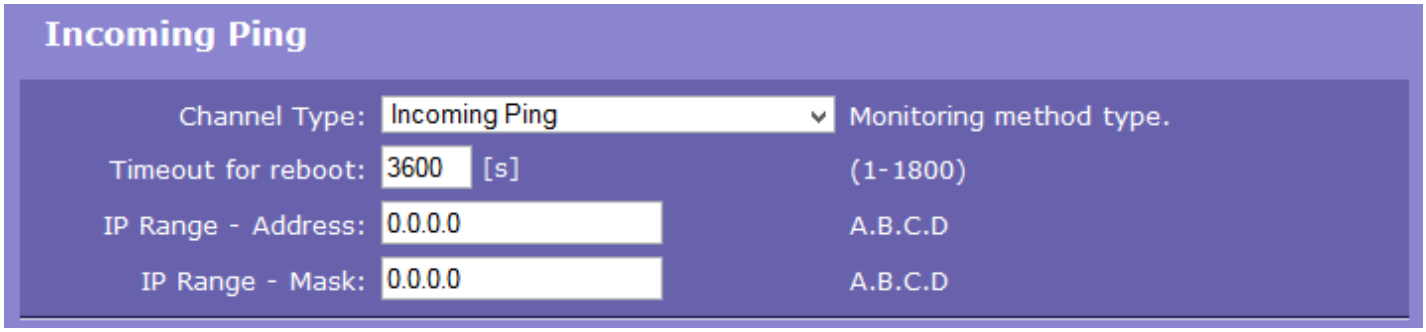
Channels

HTML pages *Channels* provides complete management of the monitoring channels.

Section Basic Setup

- *Channel enabled/disabled* - switch the channel on / off
- *Channel name* – name of the device. Makes configuring channels and solving the issues with monitored devices easier. Name can contain up to 20 symbols.

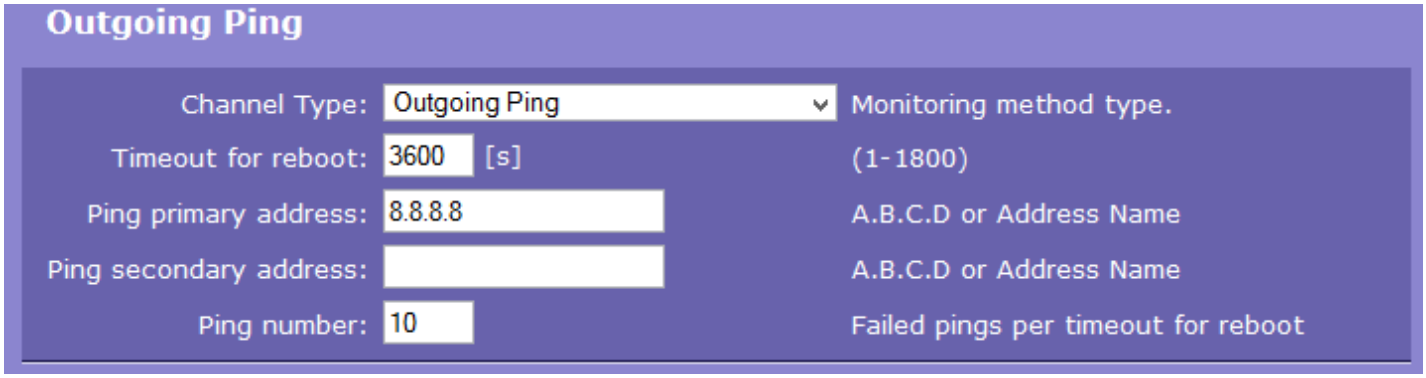
Section Incoming Ping (displayed depending on the Channel Type)



- **Timeout for reboot** – time interval that *IP WatchDog*2 waits for incoming PING before causing RESET.

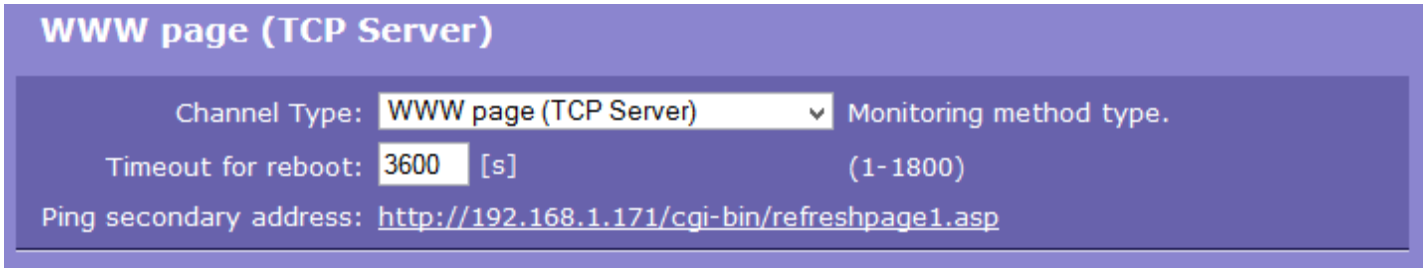
- **IP range** - range of IP addresses defined by IP and mask, from which the receiving PING can be accepted.

Reset by Ping – Outgoing Ping (displayed depending on the Channel Type)



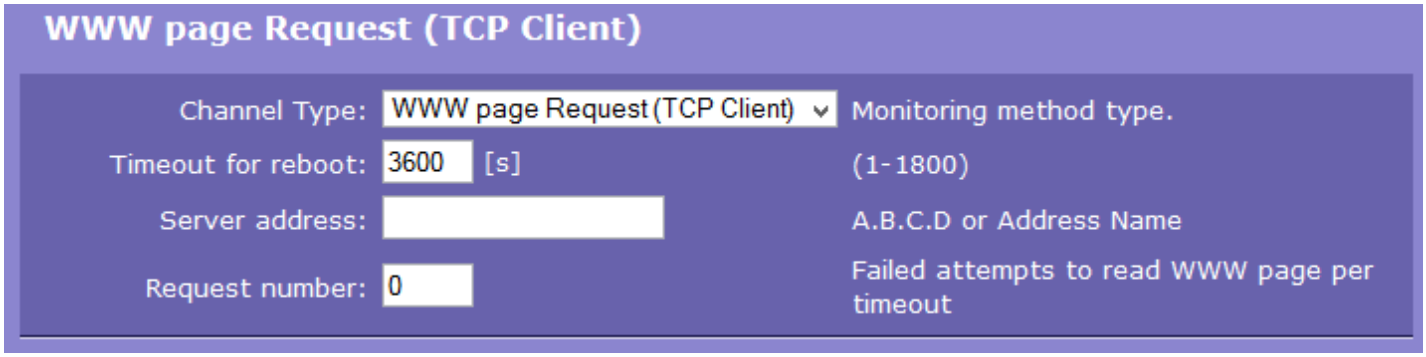
- **Timeout for reboot** – interval for sending requested PINGs.
- **Ping primary address** – primary address of the target device. The IP address and domain name can be specified.
- **Ping secondary address** – secondary address of the target device. The IP address and domain name can be specified. If only one device is monitored (or one address, the secondary address is left blank.
- **Ping Number** – number of sent PINGs in interval *Timeout for reboot*. At least one must have an answer or state *Reset* will follow.

Monitoring by HTML page – HTML page (TCP Server)



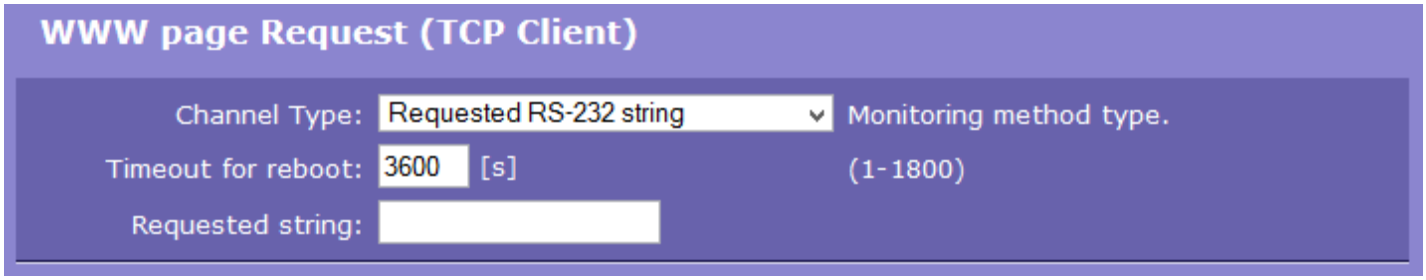
- **Timeout for reboot** – time interval that *IP WatchDog*2 waits for incoming PING before causing RESET.
- **Request Page** – WWW page http address that must be requested from the IP WatchDog2 by the remote device, or Reset will follow.

Monitoring by HTML page – WWW page Request (TCP Client)



- **Timeout for reboot** – time interval that *IP WatchDog*2 waits for incoming PING before causing RESET. This parameter should be chosen with regards to the speed of the transmission line and server load.
- **Server address** - address of the target page (URL), which will be requested.
- **Request Number** – number of requests sent during the interval *Timeout for reboot.* At least one answer must come otherwise the *Reset* state will follow.

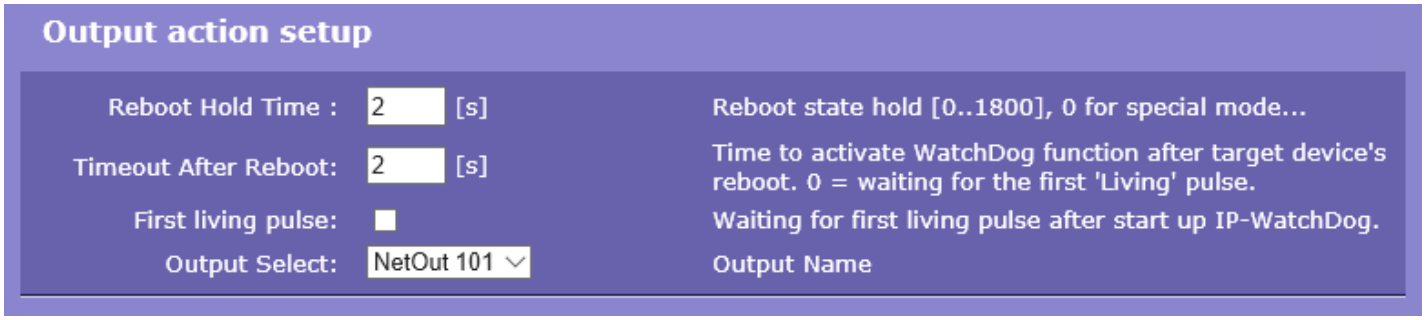
Monitoring by RS-232 String



- **Timeout for reboot** – time interval that *IP WatchDog*2 waits for incoming PING before causing RESET.
- **Requested string** - sets the monitored. HEX, DEC or ASCII format is available. Combining HEX, DEC and ASCII characters can be achieved using prefixes:
  - **$** - For HEX characters (example : $4F$4B$0D$0A or $4f$4b$0d$0a);
  - # - Escaped DEC characters – 3numbers (#079#075#013#010);
  - <string> - for ASCII characters.

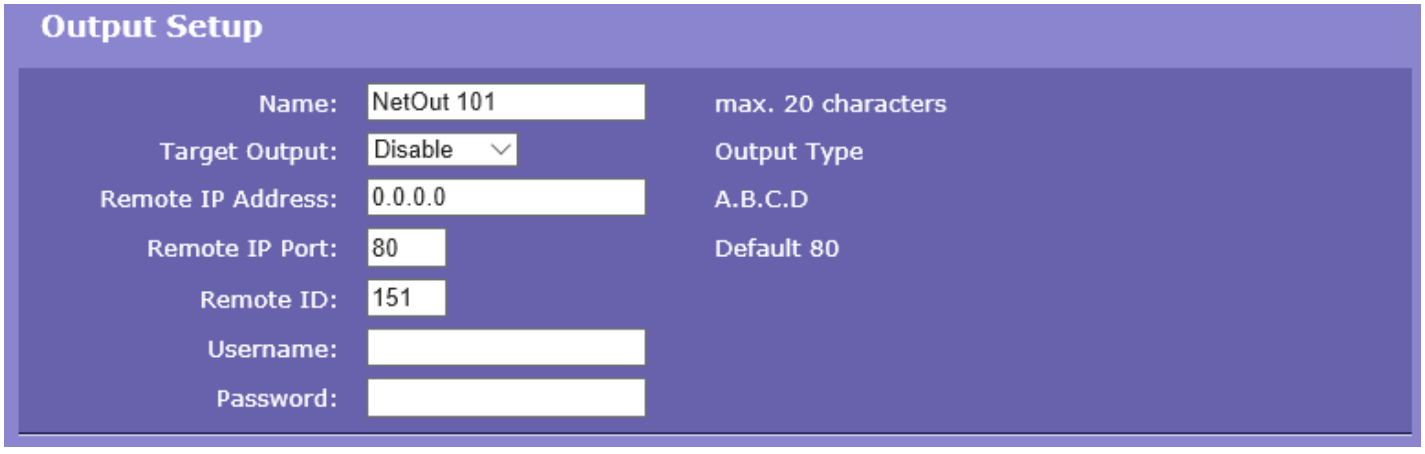
Note: Characters can also be represented byt ***?*** for any single character and * for any number of characters - for example if **IP-WTD** is set, *IP_WTD **$**10**$**13 is accepted.

Section Output action Setup



- *Reboot Hold Time* – Reset length. Allows you to set the time when the channel (relay), is in reset status (manual and automatic) Interval can be in the range of 0-1800 seconds.
  If ***Reboot Hold Time* = 0**, then the Reset state lasts until the next refreshing impulse. This mode is designed to activate the backup device or identify the error state using other signalization means. Find more in the *Reboot Hold Time* - ***Application tips*** chapter.
- *Timeout After Reboot* – time interval that *IP WatchDog2* waits before causing other Reset after the previous one (or after first launch of the device), if monitored data are not received. The interval can be from in range of 0-1800 seconds. The "0" value causes device to wait for first incoming data from the monitored device.
- *First living pulse* – waiting for the arrival of the first data from the monitored device, and then the Time for reboot countdown starts (see below).
- *Output Select* – selects the output (relay) which will reset the monitored device. There is a list of available physical (*Relay1 or Relay2*) and virtual outputs (*NetOut1xx*). Virtual outputs are set to **Output Setup** section.
- *Send e-mail when reboot (in future)* – send e-mail in case of the device reset.
- *Send SMS when reboot (in future)* - send SMS in case of the device reset.
- *Beeper Enable (in future)* – activate sound signalization in case of reset the device reset. If checked, you will hear 3x short beeps at the time of switching the output.
- *During Beeper on Reset (in future)* - The sound signalization during the device reset

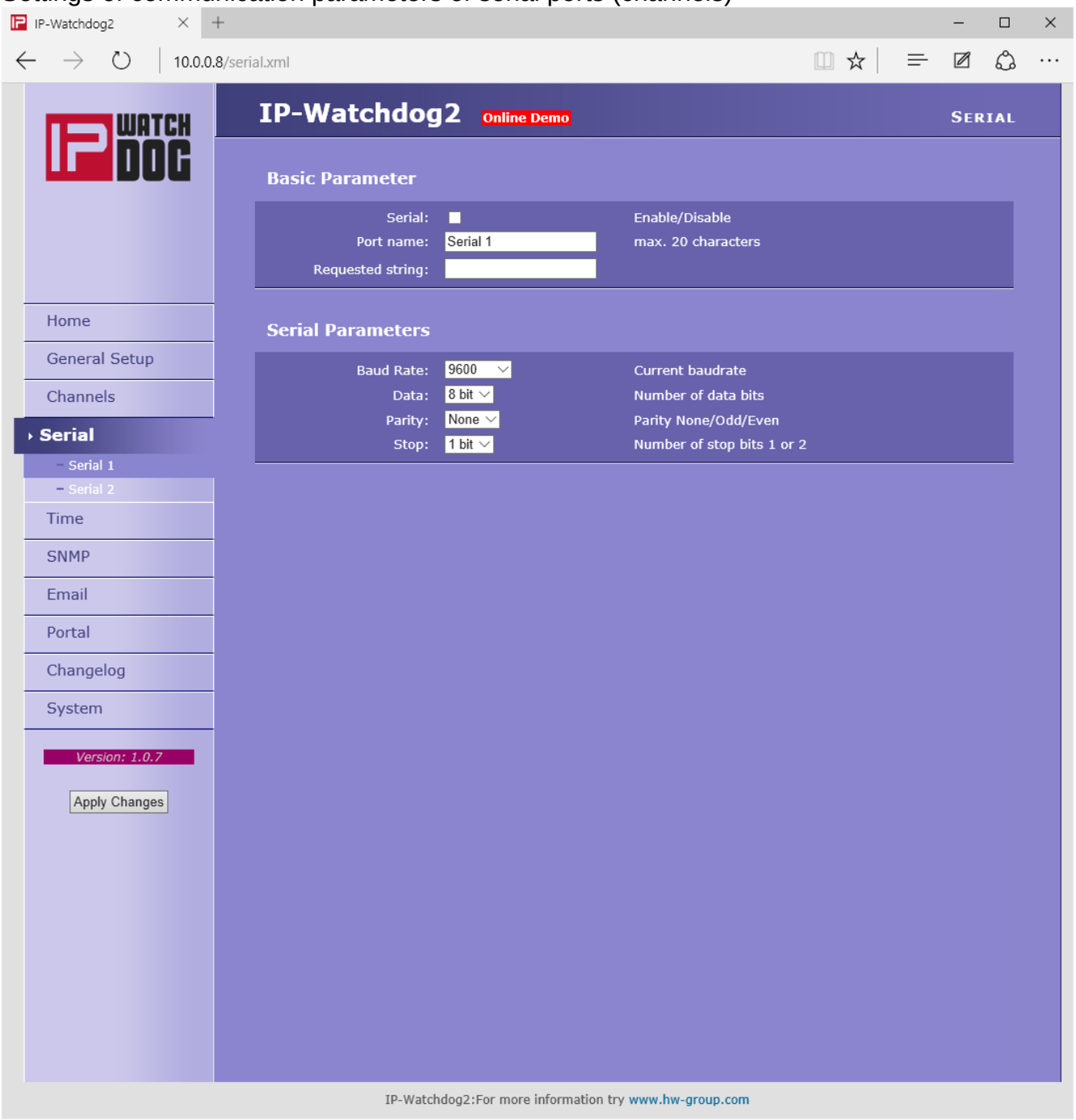
Section Output Setup (*Virtual outputs only*)



- *Name* – name of Outputs
- *Target Outputs* – type of remote Device
- *Remote IP Address* – address of the remote device
- *Remote IP Port* – HTTP port remote device`s
- *Remote ID* – ID of remote Outputs .
- *Username* – if the remote device is protected by a username and password
- *Password* – if the remote device is protected by a username and password

Serial

Settings of communication parameters of serial ports (channels)



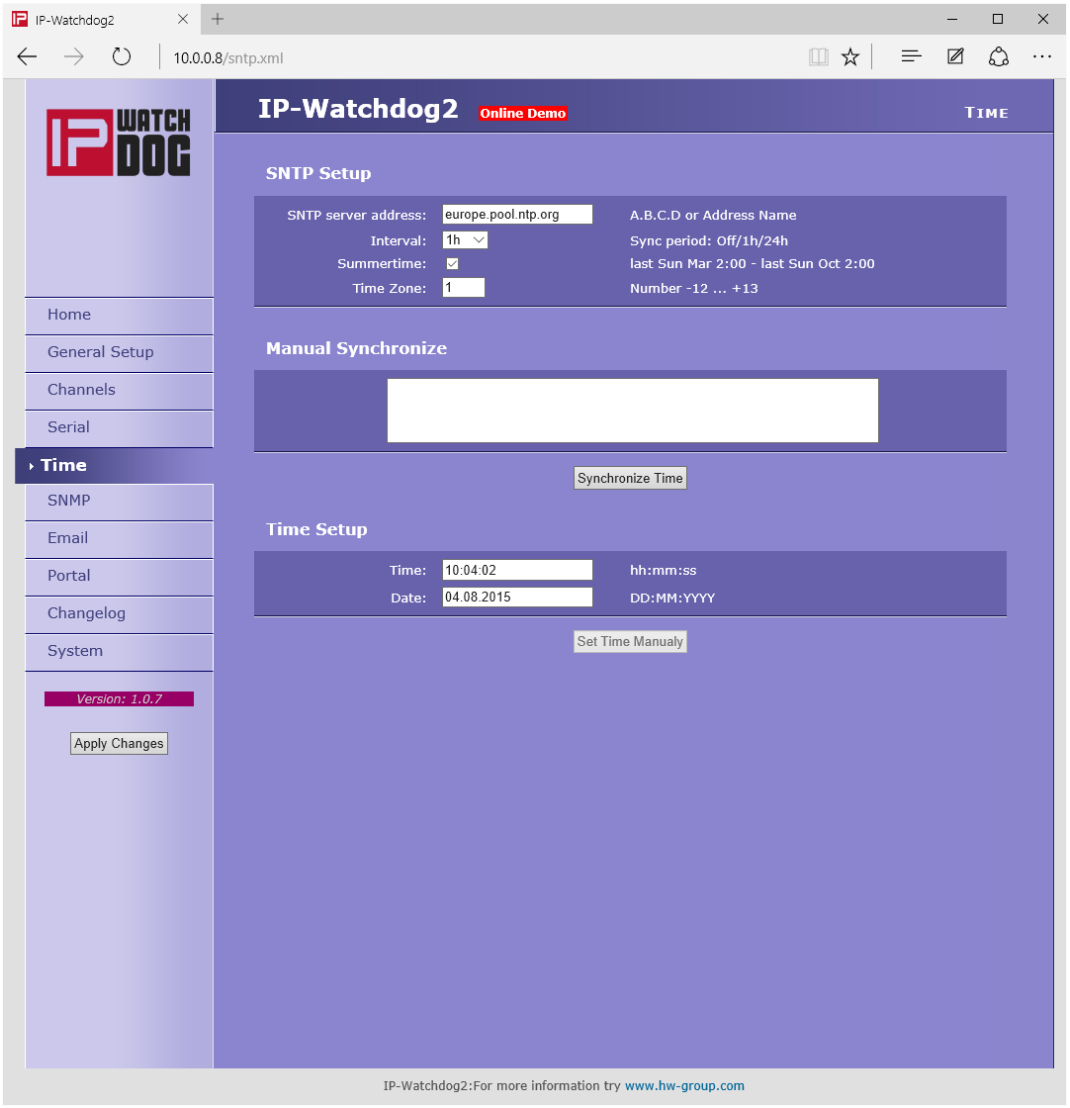
Basic Parameter

- *Serial* - Enable or disable port
- *Port name* - name of the port. Makes configuring channels and solving the issues with monitored devices easier. Name can contain up to 20 symbols.
- *Requested string* - Searched string in the data flow. Finding the required string it is deemed to constitute proper operation of the monitored equipment

Serial Parameters

- *Baud Rate* - Current baudrate
- *Data* - Number of data bits
- *Parity* - Parity None/Odd/Even
- *Stop* - Number of stop bits 1 or 2

Time



Section SNTP Setup

- *SNTP Server* – IP address or domain address of server for time synchronization
- *Interval* – interval of time synchronization with the server.
- *Summertime* - enable automatic switching between summer and winter time (DST) - used to set the correct system time.
- *Time Zone* – setting the time zone location IP WatchDog2 - used to set the correct system time.

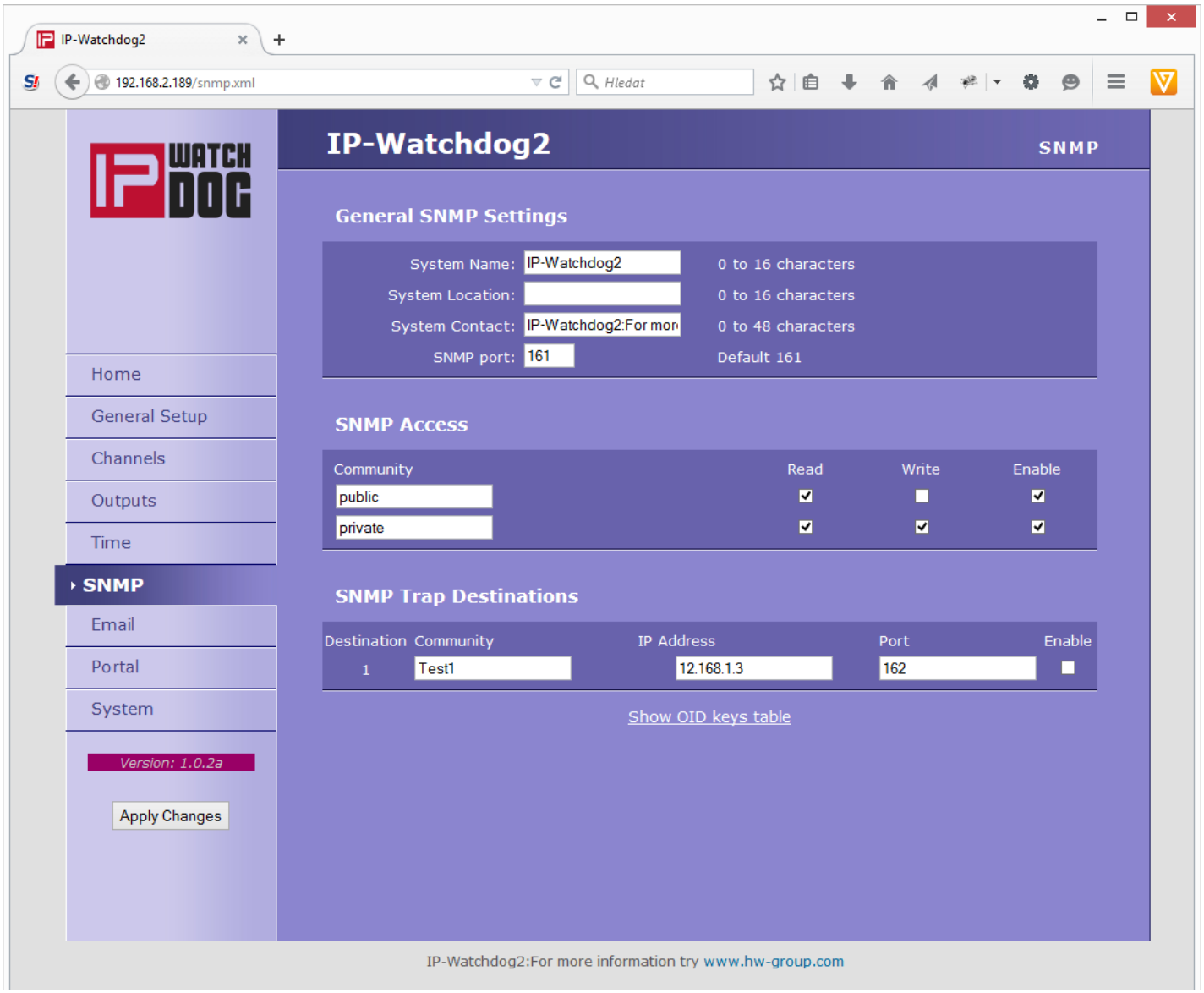
Manual synchronize

- Debug Window
- *Synchronize Time* is used to perform an immediate synchronization with the time server. Can also be used to test the settings.

Section Time Setup

Session Time Setup allows you to fill the current date and time manually when you can not use synchronization with the time server. After the loss of power this information may be lost.

SNMP



General SNMP Settings

- *System Name* – The device name coincides with the name of the device
- *Systém Location* – system location, such as "IT room, floor 2".
- *System Contact* – Contact the system administrator, for example, e-mail address
- *SNMP port* – Port settings for communication within the SNMP **[161]**.

SNMP Access

Defines the permissions and name groups of users can work with the Poseidon.

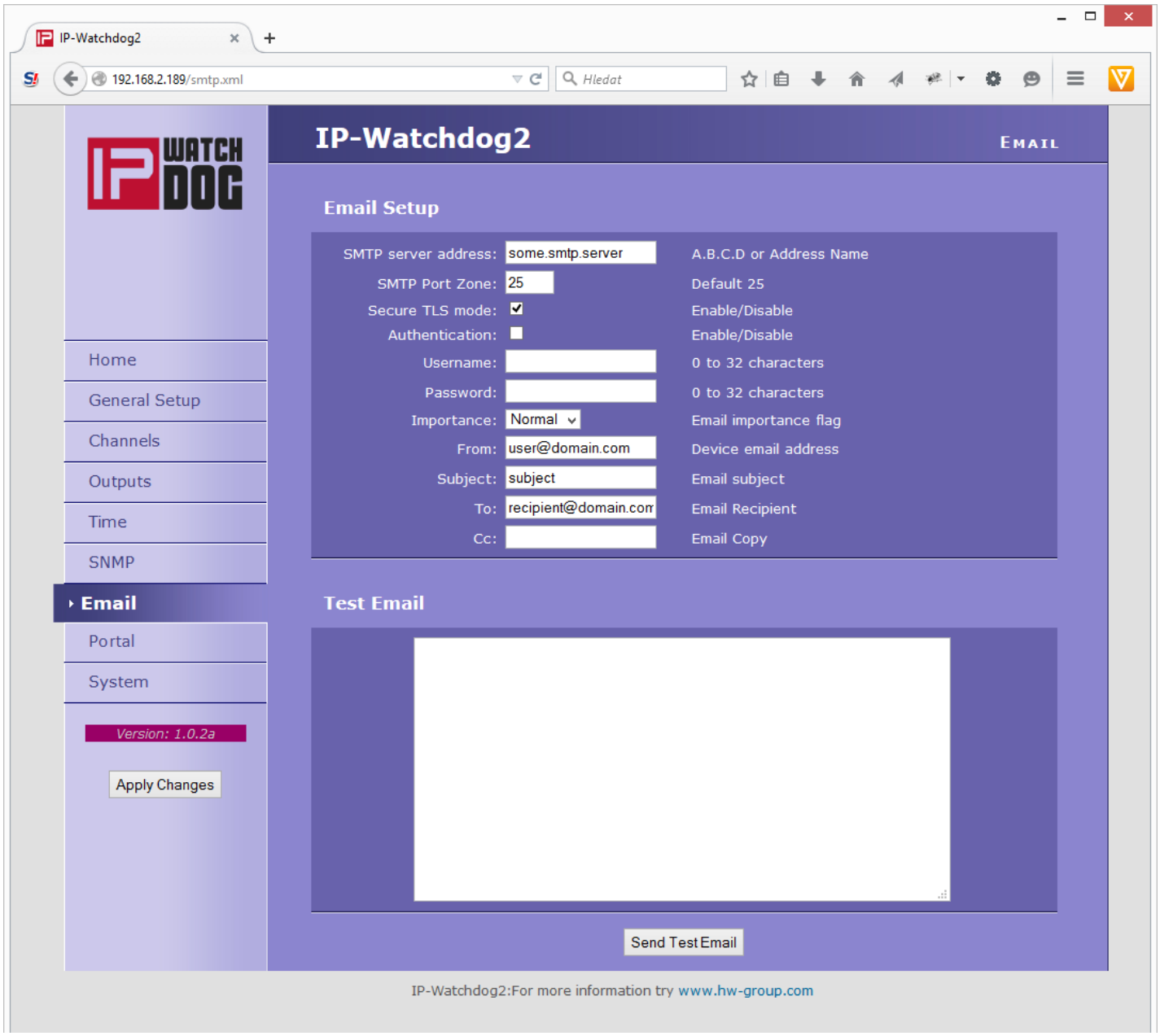
- *Community* – Text the name of the group that are assigned rights (default **Public** and **Private**)
- *Read* – add permission to the community to read variables over SNMP
- *Write* – add permission to the community writing values to variables over SNMP
- *Enable* – enable or disable the group

SNMP Trap Destination

Defines the destination for sending SNMP traps.

- *Community* – Text the name of the group SNMP Trap
- *IP address* –Destination address which will be sent SNMP traps.
- *Port* – The destination port to which traps will be sent.
- *Enable* – Enables transmission of SNMP traps to this destination.

E-mail



Email Setup Section

- *SMTP Server* – IP address or domain address of the SMTP server.
- *SMTP Port* – port number on which listens e-mail server - default 25.
- *Secure TLS mode - check if SMTP server requires a secure communications using SSL / TLS.*
- Authentication - enabled authentication- check if the SMTP server requires authentication.
- *Username* – user name for authentication to SMTP server. Unless Authentication check box is selected, the content of this field is irrelevant.
- *Password* – authorization password for the SMTP server. Unless Authentication check box is selected, the content of this field is irrelevant.
- *Importance* – sets the priority e-mail messages. Important for filtering and further processing alarm messages.

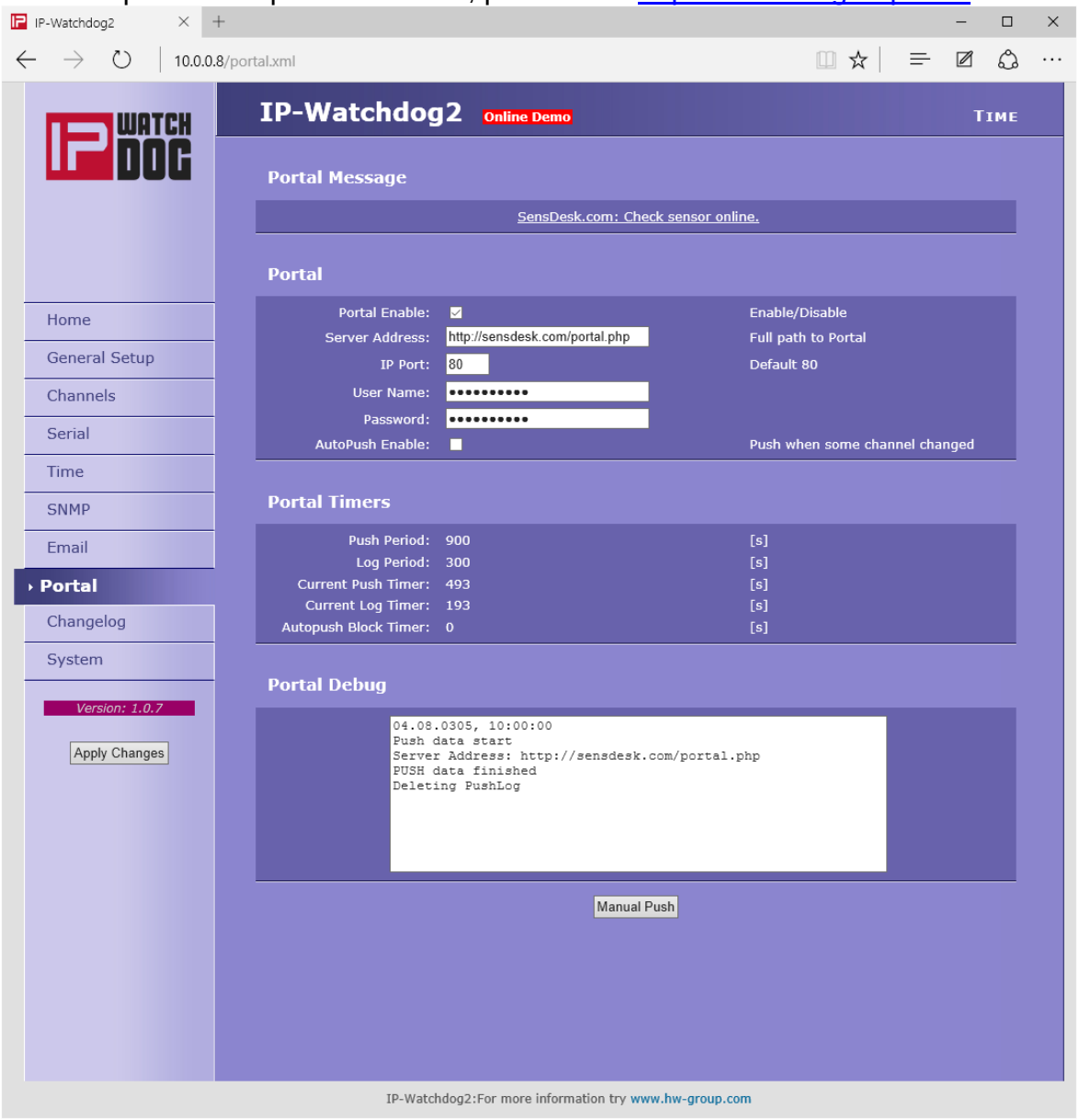
- *FROM* – from - e-mail address of the sender, ie units IP WatchDog2. Address may be required from SMTP servers and can be used to identify the units IP WatchDog2, possibly for filtering and processing of alarm messages.
- *Subject* - the subject of e-mail - the contents of the field can be used to identify the units IP WatchDog2, possibly for filtering and processing of alarm messages.
- *TO* – To - The e-mail address to be sent alarm e-mail.
- *CC* – copy - e-mail address to be sent a copy of alarm e-mail.

Check for sending Email

1) Correct IP address for **IP Gateway**
2) **DNS server** in the network settings
3) **SMTP server** and its port
4) Turning on **authentication** and correct **name** and **password**
5) Off **Spam filter** in mail box

Portal

This page is used to set parameters for sending data to a remote HWg-PUSH portal. For more information about protocol or portal solutions, please visit http://www.hw-group.com



Portal Message Section

The message from the portal, contains links to graphs etc. It depends on the type of website.

Section Portal

- **Portal** – Enable or disable this feature
- **Push Period** – Period of sending data to a remote server. The period is adjusted retrospectively from the portal
- **Server address** – the full URL of the remote server
- **IP Port** – Port on which the portal listens
- **Username** – User name for assigning IP WatchDog2 to user. Receive from the portal administrator.

- **Password** – Password for assigning IP WatchDog2 to user. Receive from the portal administrator

Portal Timers

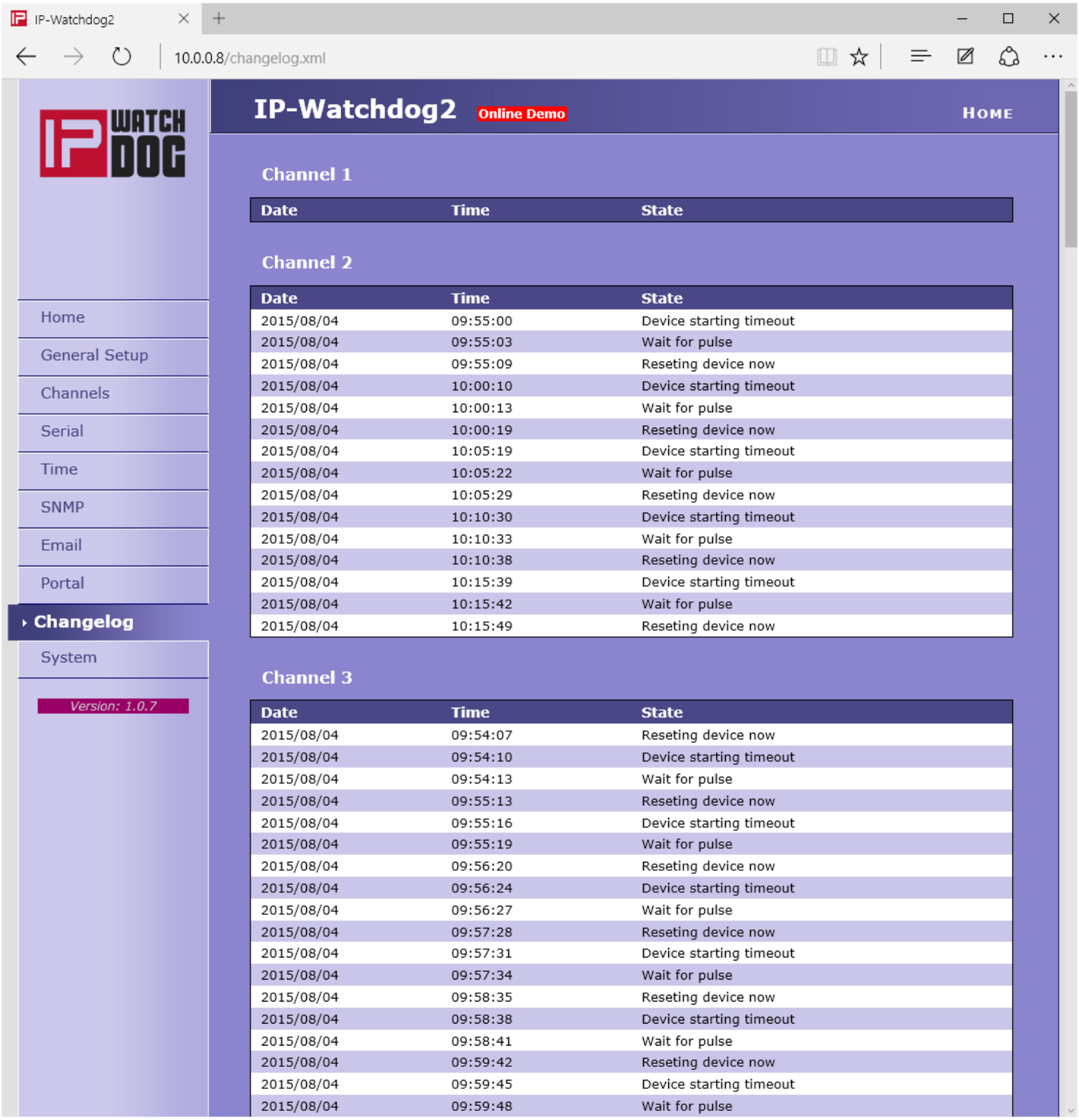
For debugging purposes only

- *Push Period* - The period for sending data to a remote portal. A period determined by the portal and can not be changed by the user.
- *Log Period* - The period of storage of data for portal into a cache. A period determined by the portal and can not be changed by the user.
- *Current Push Timer* - The timer indicates for how long the data will be sent to a portal
- *Current Log Timer* – The timer indicates for how long the data will be stored for portal into a cache.
- *Autopush Block Timer* - Event counter for Autopush. In the case of exceeding the allowed number of events per cycle of Push, the AutoPush feature will be blocked.

Portal Debug

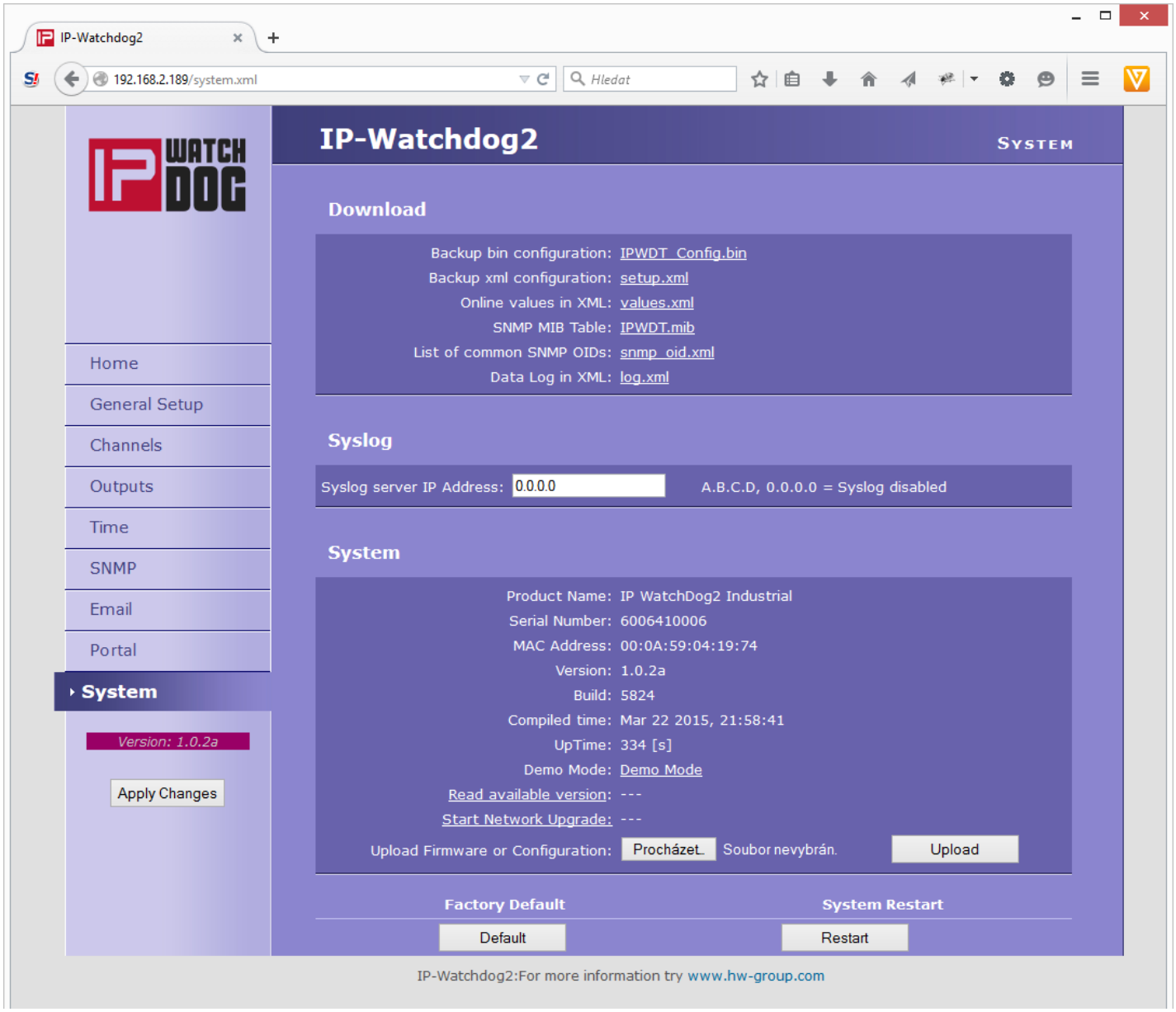
- *Debug window* of sending data to the portal
- *Manual Push* - button for immediate shipment of the data to a portal

Changelog


IP-Watchdog2
10.0.0.8/changelog.xml
IP-Watchdog2
Online Demo
HOME
Home
General Setup
Channels
Serial
Time
SNMP
Email
Portal
Changelog
System
Version: 1.0.7
Channel 1
Date Time State
Channel 2
Date Time State
2015/08/04 09:55:00 Device starting timeout
2015/08/04 09:55:03 Wait for pulse
2015/08/04 09:55:09 Reseting device now
2015/08/04 10:00:10 Device starting timeout
2015/08/04 10:00:13 Wait for pulse
2015/08/04 10:00:19 Reseting device now
2015/08/04 10:05:19 Device starting timeout
2015/08/04 10:05:22 Wait for pulse
2015/08/04 10:05:29 Reseting device now
2015/08/04 10:10:30 Device starting timeout
2015/08/04 10:10:33 Wait for pulse
2015/08/04 10:10:38 Reseting device now
2015/08/04 10:15:39 Device starting timeout
2015/08/04 10:15:42 Wait for pulse
2015/08/04 10:15:49 Reseting device now
Channel 3
Date Time State
2015/08/04 09:54:07 Reseting device now
2015/08/04 09:54:10 Device starting timeout
2015/08/04 09:54:13 Wait for pulse
2015/08/04 09:55:13 Reseting device now
2015/08/04 09:55:16 Device starting timeout
2015/08/04 09:55:19 Wait for pulse
2015/08/04 09:56:20 Reseting device now
2015/08/04 09:56:24 Device starting timeout
2015/08/04 09:56:27 Wait for pulse
2015/08/04 09:57:28 Reseting device now
2015/08/04 09:57:31 Device starting timeout
2015/08/04 09:57:34 Wait for pulse
2015/08/04 09:58:35 Reseting device now
2015/08/04 09:58:38 Device starting timeout
2015/08/04 09:58:41 Wait for pulse
2015/08/04 09:59:42 Reseting device now
2015/08/04 09:59:45 Device starting timeout
2015/08/04 09:59:48 Wait for pulse

System

System tab grant users access to the most important system information such as operating time or firmware version, and operations such as restart IP WatchDog2 or upgrade firmware.



Download

- *Backup bin configuration* – backup of configuration in format BIN - click on the link to save the current configuration of IP WatchDog2 after its final setting in case it needs restoration.
- *Backup XML configuration* – backup configuration in XML format - click on the link to save the current configuration of IP WatchDog2 after its final setting in case it needs restoration.
- *SNMP MIB Table* – SNMP MIB file - address of MIB file containing the definition of SNMP variables.
- *List of common SNMP OIDs* – an overview of the most important OID MIB table.
- *Data Log in XML* – List of recent events in XML

Syslog

- *Syslog server IP Address* – Address of Syslog server

System Section

- *Version* – firmware version. Used for diagnostic purposes in case of problem solving.
- *Compile time* – Time compilation firmware. Used for diagnostic purposes in case of problem solving.
- *Build* – compilation. Used for diagnostic purposes in case of problem solving.
- *UpTime* – running time of the device since the last start or reboot. Used for diagnostic purposes in case of problem solving.
- *Demo mode* - activated demo mode prevents any change in the configuration of your equipment.
  In this mode, visitors can freely browse and view all pages of the web interface, but changing values, they are not allowed. Thus setting the device can be placed on the public internet without the risk of changes in its configuration.
- *Upload Firmware or Configuration* – allows download into the device a newer firmware or configuration file. Restoring configuration may fail if it is too much difference in firmware versions.

Factory Default Section

Restores the factory settings. Default IP address is 192.168.10.20 and the user name and password are not defined.

System Restart Section

Reboot the device.

Application tips

Reboot Hold Time

Besides the classic reset of the monitored device and its following release IP WatchDog2 still a possibility of permanent Reset state in case the monitored device does not respond to the demands of IP WatchDog2 or does not send periodically refresh impulses. This mode is activated by setting the parameter *Reboot Hold Time* to 0. If in this case state is performed RESET, the channel (or its output) in this state until the monitored device reports itself again, or if no channel is deactivated.

The function is designed for cases where IP WatchDog2 does not reset directly monitored device or when one of the channels used to activate the backup device or other alarm system.

Note: *If the value Reboot Hold Time = 0, the IP WatchDog2 in a special mode Reset function and especially Manual Reset behave somewhat differently than described on the previous pages, because the Reset state can not be ended by itself. This is especially true when using Manual Reset button with deactivated channel when there is no standard way how to reverse Reset state and the only way is to activate the channel and initialize the refresh impulse.*

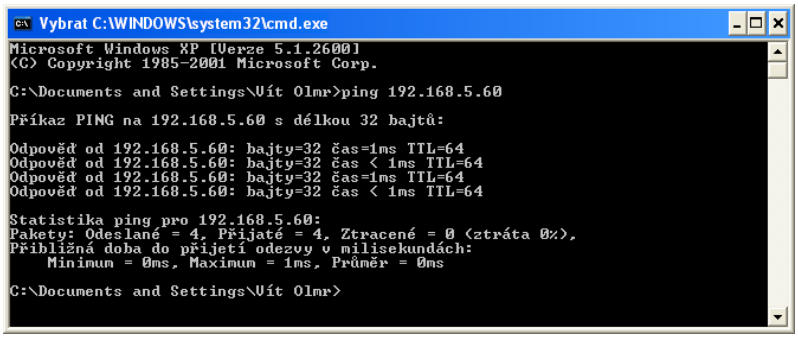
Testing and operation hints for Windows and Linux

Test functions Incoming Ping

Test command functions Incoming Ping for Windows

Application of the ICMP PING function in Windows is very simple, but can be little tricky. Ping testing can be managed via the Start menu, select Run, Windows command line cmd and press OK. Application opens a command prompt (in older versions of MS Windows MS-DOS window). Write inside

`Ping ip_address_of_watchdog`, for example **`ping 192.168.5.60`**



The result will be roughly the following statement:

If you want to send the PING permanently, enter the command with the -t:

`Ping 192.168.5.60 –t`

```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Vít Olmr>ping 192.168.5.60

Command PING on 192.168.5.60 with length 32 bytes:

Answer from 192.168.5.60: bytes=32 time=1ms TTL=64
Answer from 192.168.5.60: bytes=32 time < 1ms TTL=64
Answer from 192.168.5.60: bytes=32 time=1ms TTL=64
Answer from 192.168.5.60: bytes=32 time < 1ms TTL=64

Statistics for ping 192.168.5.60:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate time of the adoption of the response in
milliseconds:
```

Command line can also be launched using the standard windows shortcuts, which can be found at the following positions:

- **Windows 98:** Start | Programs | MS-DOS Prompt
- **Windows NT:** Start | Programs | Command Prompt
- **Windows ME:** Start | Programs | Accessories | MS-DOS Prompt
- **Windows and above:** Start | Programs | Accessories | Command Prompt
- **Windows 8:** Start | CMD

There can be some issues with command PING in Windows in case you are using firewall, or you have got Windows XP with service pack SP2, which contains simple firewall itself. If the PING does not work, on *IP WatchDog* or from it, please check that the firewall configuration does not block ICMP commands *echo reply* and *echorequest* (if it does, unblock them) or use other method (like WWW page). Some servers themselves block the PING commands to prevent overloading and “pinging to death” (so called Ping of Death attack).

Test command for Incoming Ping under Linux/Unix

Using PING command under Unix and Linux OS is as simple as in the case of Windows, maybe even easier because you don't have to run the command line.Just enter the following into the console:

```
Ping 192.168.5.60
```

Operational command of the function Incoming Ping under Windows

Windows provide a free service for Windows Server 2000/2003 and Windows 2000/XP, that can be downloaded from

http://www.hw-group.com/download/IPWDT_Setup_1.0.zip

allowing sending ping to the defined address in regular intervals. The form of services is applied to allow running it automatically even on server systems without a need of logging in. After Unpacking and installation it is necessary to modify a configuration file IPWDT.ini, that can be located at ***C:\Program Files\HW group\IPWD Tools*****.**

It contains following:

Interval is measured in seconds, Debug parameter defines whether the communication will be logged in the directory **C:\Program Files\HW group\IPWD Tools** (max. file size is 5MB).

An icon for ***IP WatchDog Tools Control*** created in Control panel allows activation and deactivation of the services

```
[PING]
IP=192.168.1.9
INTERVAL=10
DEBUG=2
```

Operational command for Incoming Ping under Linux/Unix

In Unix systems it is used so called demon cron, that executes commands according to the crontab, that is a simple text document that contains data in a tab in following format:

```
 1      2      3      4      5           6              7
*/1     *      *      *      *      user's_account    command
```

Where:

1. minute
2. hour
3. day of a month
4. month
5. day of a week (0 - Sunday, 1 - Monday... 6 - Saturday)
6. user's account
7. path to the program or command that should be executed

This tab can be edited easily using a command crontab –e, that opens the specific document. The created entry can look like this:

```
*/1     *      *      *      *      root    ping 192.168.5.60
```

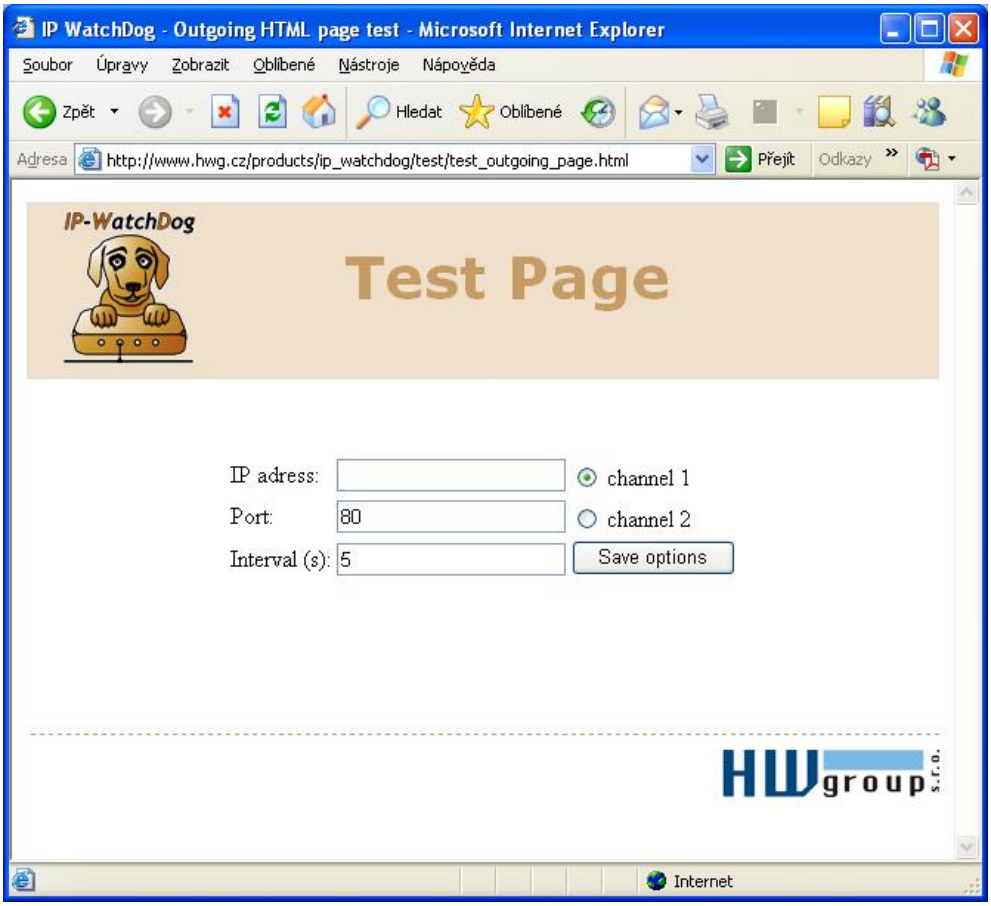
This command will execute the ping every minute.

Test of Outgoing HTML Page function

Testing of Outgoing HTML Page function

For initial testing of this feature is available in the on-line form, which can be found on this address http://www.hwg.cz/products/ip_watchdog/test/test_outgoing_page.html

just type an IP address of the IP WatchDog, port, resp. IP WatchDog2 always port 80, but in the absence of public IP address can be used address translation (NAT – network address translation). Then enter your public IP and port number configured in the NAT.



Test command for Outgoing HTML Page under Linux/Unix

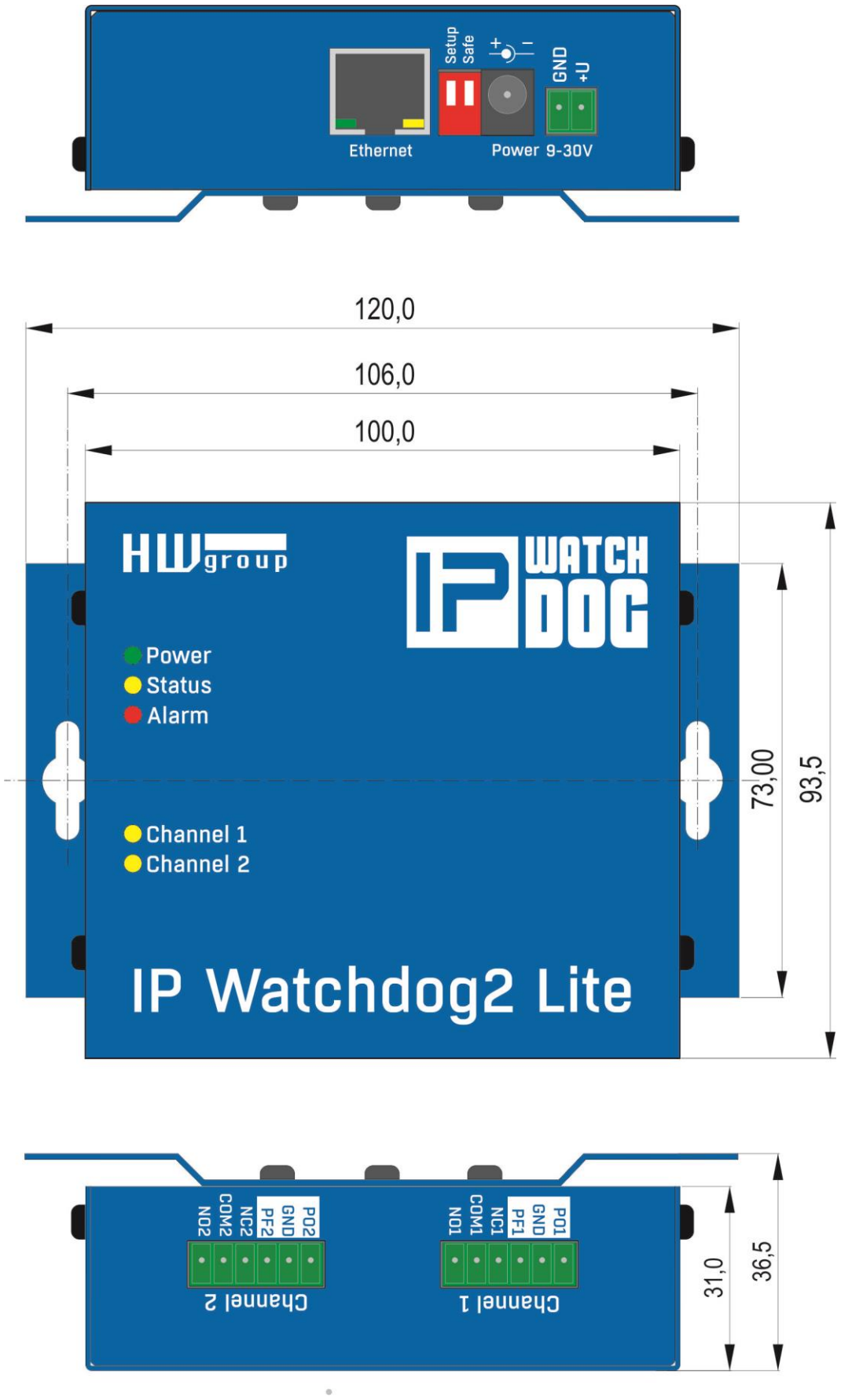
Unlike Windows, the Unix systems again popular cron, while the command position we will use function **wget** - wget http://192.168.0.1/index.html
for example:

```
*/1     *       *       *       *       root    wget http://192.168.0.1/index.html
```

This command will start the ping every minute.

Mechanical dimensions of IP WatchDog2 Lite

The device is in metal box with option to mount on wall or DIN rail.



Mechanical dimensions IP WatchDog2 Industrial

The device is in solid box with option to mount on wall or DIN rail.