



Edgar

Ethernet or Wi-Fi converter
to RS232/RS485

PoE or externally powered

With power output to supply an external
device



Edgar

Datasheet

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DESCRIPTION

Ethernet or Wi-Fi to serial line RS232 or RS485.

Edgar is powered from the Ethernet cable using PoE 802.11af standard or from an external power supply. Output power terminal available to power an external device. PoE is used to power Edgar as well as the external device.

Edgar Wi-Fi can also be powered through an external power supply. A power output terminal is also available to power an external device.

Power output can be turned on and off using the WEB interface or an HTTP GET command.

TCP server, TCP client or UDP modes can be used. Apart from the usual communication modes, Edgar can also send and receive packets to and from the serial line using HTTP GET. This way you can get data packet to the serial line from WEB server as an HTTP request and vice versa. Data received on the serial line can be sent to a remote WEB server – from a bar code reader for example.

Edgar comes in a rugged metal enclosure with optional DIN rail holder.

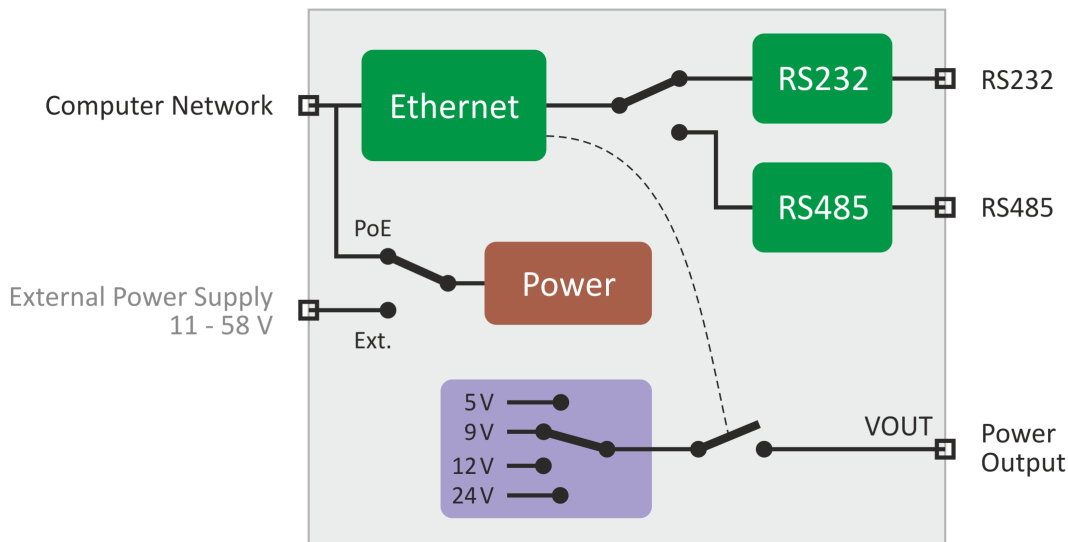


fig. 1 – block diagram

Application

- Connecting devices communicating via serial line to Ethernet or Wi-Fi.
- Communicating with remote devices using Internet.
- Easy Ethernet enabling for current devices.
- Cable management improvements – connects to Ethernet and power using a single cable.

Features

- Converts serial line to Ethernet or Wi-Fi
- Powered from PoE (802.3af) or an external power supply (11 – 58 V)

- Power output for powering an external device - 5, 9, 12 or 24 V – it can be turned on or off via HTTP GET command
- Power input is galvanically isolated from other parts of the device
- Easy configuration using WEB interface
- TCP, UDP and HTTP GET protocols
- User selectable interface RS232 or RS485
- Used signals RS232: RxD, TxD, RTS, CTS, GND
- Used signals RS485: RxD+, RxD-
- Indications for power, data transfers, connections and network activity

CONNECTIONS

Power

EDGAR ETH: The converter can be powered using the following options:

- 1) From PoE switch or injector using IEEE 802.3af (“active PoE”).
- 2) Using “passive PoE” with voltage ranging from 44 to 57 V DC.
- 3) An external power supply 11 – 58 V DC. Connector on the side of the device labeled PWR. Plus pole is inside.

EDGAR WiFi: An external power supply 11 – 58 V DC. Connector on the side of the device labeled PWR. Plus pole is inside.

Ethernet

Ethernet interface 10/100 Mbps is connected using a standard RJ45 connector. Connect it using a patch cable to an Ethernet switch.

If you want to use PoE for powering the device, your Switch has to be capable of powering a device according to PoE IEEE802.3af standard.

Wi-Fi

EDGAR WiFi: To connect to the Wi-Fi network SMA RP antenna connector is used with any 2.4GHz antenna. (Small omnidirectional antenna is included.)

RS232

Converter can only use one communication line at a time!

Line type is selected on the side of the device using **SW4**. Leave this switch open to communicate on RS232.¹

Serial line is connected according to RS232 specifications. Individual signals connections of RS232 interface are in the following picture. As indicated, pins 1, 6 and 9 are not connected.

¹ Switch state is only read during the power up of the device or a reset. Changes made during the normal operation will not affect the communication line type.

Using jumpers J1 and J2 (inside the converter) you can power your device as if connected to the VOUT power terminal.

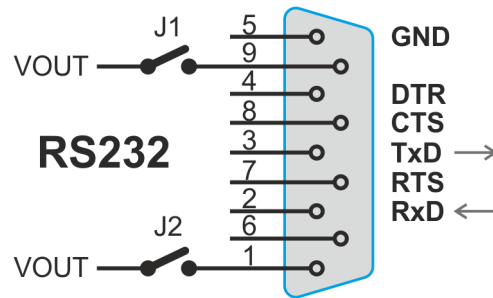


fig. 2 – RS232 pin connections

RS485

Converter can only use one communication line at a time!

Line type is selected on the side of the device using **SW4**. Leave this switch open to communicate on RS232.²

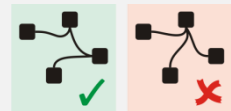
RS485 line connects to the RxTx+ and RxTx- terminals³.

Line termination can be connected using **SW1** switch. (Line termination should be connected on both ends of the line).

Biasing resistors can be connected using **SW2** and **SW3** switches. (These resistors should only be connected on a single point in line.)

Some basic recommendations for connecting RS485 line (bus):

- We recommend using common TP cable used for computer network and using one twisted pair as RS485 communication cables
- All devices should be connected from one to another and not in a star topology (see picture on the right). Maximum length of such line should be 1,2 km
- Use termination at each end of the line (use Termination jumper if available).
- Shielding, if available, connect to the ground on one side of the line only!



² Switch state is only read during the power up of the device or a reset. Changes made during the normal operation will not affect the communication line type.

³ Some manufacturers label RxTx+ as A and RxTx- as B.

Power output VOUT

Power output is mostly used in situations where the Edgar is powered from PoE. VOUT power output can power the connected device as well.

Power output is DC and the voltage is determined by the switches on the side of the unit. Power output can be controlled via the WEB interface (see page 13) or using an HTTP GET command in three steps: Off, Low power, High power. Maximum output currents are shown in the table below:

SW5	SW6	Output Voltage	Maximum current Low Power	Maximum current High Power *
OFF	ON	5 V	380 mA	630 mA
ON	ON	9 V	200 mA	350 mA
OFF	OFF	12 V	145 mA	260 mA
ON	OFF	24 V	70 mA	130 mA

High Power / Low Power option has a significant impact on the idle power consumption of the converter. We recommend only using the necessary maximum current based on the actual power consumption.

* To use the High Power mode while using an external power supply, the power supply voltage must be at least 15V DC.

CONFIGURATION

Setting the IP Address of Ethernet version

- 1) Now you need to set the IP address of your device. The default address is 192.168.1.254 and subnet mask is 255.255.255.0. If your network range is outside these settings, set your network compatible address and subnet mask using [Ethernet configurator](#).

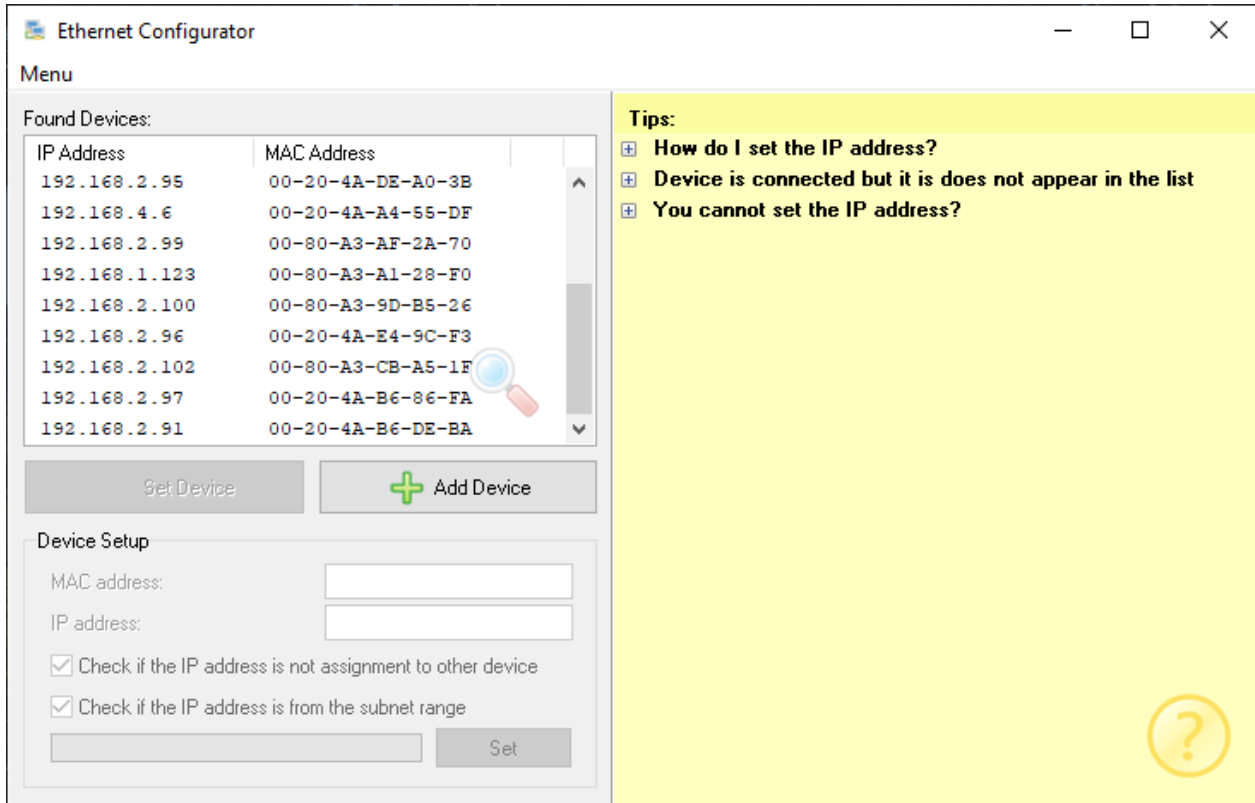


fig. 3 – Ethernet Configurator

- 2) Once the IP address is correctly set, you can connect to your device using a WEB browser on its IP address like this: `http://192.168.1.254/` (an example is shown with the default IP address)
- 3) After setting the IP address, there is no need for any other setup for the basic function – Ethernet → serial line⁴ converter.

⁴ Default serial parameters regardless of the selected line type are: speed: 9600 Bd, data bits: 8, parity: none, stop bits: 1, data port 10001, mode TCP.

Setting up the Wi-Fi version

New converter:

- 1) After a power-up the converter works in an Access Point mode (AP) with network name (SSID) *EDGAR WiFi AP* with no security. This mode is indicated as a blue light on the *LINK* indicator.
- 2) Connect to this AP using a mobile device or your computer and access <http://192.168.1.254/> address from your WEB browser. You can also use **edgar.com** address.
- 3) Open the WEB interface (described below) and set up the parameters to your needs. This AP mode is only meant for simple settings, once you have this done, alter the network parameters to the highest level of security your hardware supports.

If the IP address is unknown or you are unable to connect to the AP:

- 1) Press the RESET button placed under the antenna connector.
- 2) Now the blue indicator LINK will start flashing meaning the converter is temporarily in the AP mode with network name (SSID) *EDGAR WiFi AP* with no security. This mode will be terminated after next reboot of the device.
- 3) Connect to this AP using a mobile device or your computer and access <http://192.168.1.254/> address from your WEB browser. You can also use **edgar.com** address.
- 4) Open the WEB interface (described below) and set up the parameters to your needs. This AP mode is only meant for simple settings, once you have this done, alter the network parameters to the highest level of security your hardware supports.

If the IP address is known:

- 1) Connect to this AP using a mobile device or your computer and access your IP address in the following format from your WEB browser: <http://192.168.1.254/>

Web interface

All other configuration is made using the in-built WEB interface. Basic network parameters can also be configured using Telnet. **Web interface** can be accessed on the device's IP address (Default IP address is 192.168.1.254.)

Web interface is secured using a simple user name and password.

Configuration is divided into sections based on the setting type. It is available in Czech and English.

EDGAR
from papouch.com

- Network
- Serial port
- Security
- Other

Upgrade Save Default Reload Logout

Settings

Type:	EDGAR WiFi	Technical support:	en.papouch.com
Firmware version:	1.0/12	Phone number:	+420 267 314 268
MAC:	00-20-4A-B5-8D-F1	Signal strength:	123 dBm
Browser:	Firefox 106		

Network

DHCP

Device's IP address: 192.168.1.45

Netmask: 255.255.255.0

Gateway IP address: 0.0.0.0

DNS server's IP address: 0.0.0.0

WEB port: 88

Communication mode: TCP Client

Connection Parameters

Local port: 10001

Remote IP address: 192.168.1.56

Remote port: 10005

Advanced settings

Disconnect timeout: 5

WiFi

WiFi mode: Client

SSID: warehouse

Channel: 5

Authentication method: WEP (shared)

Pre-shared Key: Keep original password

Re-enter key:

Serial port

Selected port: RS485

Speed: 1200 Bd

Communication mode: 8 data bits, odd parity, 1 stop bit

Flow control: Xon/Xoff

Time-out: 1 sec

After a given byte: 0D

Security

Administrator's password: Keep original password

Confirm Administrator's password:

Current Administrator's password:

Other settings

Name of the device: MyConverter

Language: English

Power output mode (VOUT): High output power

fig. 4 – Edgar configuration

Network section

This section contains network parameters settings.

Network

DHCP	<input checked="" type="checkbox"/>
Device's IP address	<input type="text" value="192.168.1.45"/>
Netmask	<input type="text" value="255.255.255.0"/>
Gateway IP address	<input type="text" value="0.0.0.0"/>
DNS server's IP address	<input type="text" value="0.0.0.0"/>
WEB port	<input type="text" value="88"/>
Communication mode	<input type="text" value="TCP Client"/>

Connection Parameters

Local port	<input type="text" value="10001"/>
Remote IP address	<input type="text" value="192.168.1.56"/>
Remote port	<input type="text" value="10005"/>

Advanced settings

Disconnect timeout	<input type="text" value="5"/>
--------------------	--------------------------------

WiFi

WiFi mode	<input type="text" value="Client"/>
SSID	<input type="text" value="warehouse"/> <input type="button" value="Scan"/>
Channel	<input type="text" value="5"/>
Authentication method	<input type="text" value="WEP (shared)"/>
Pre-shared Key	<input type="text" value="Keep original password"/>
Re-enter key	<input type="text"/>

fig. 5 – network settings

If the DHCP option is checked, *IP address*, *Subnet mask*, *Gateway* and *DNS server* will be set to zeros. When the page is reloaded, it will show the actual settings from DHCP server.

If the converter is to communicate with a device outside its network, *Gateway* address must be filled in. *DNS server* address can also be required.

Available **communication modes** are: TCP Server, TCP Client, UDP or HTTP GET:

- **TCP Server:** The device awaits an incoming connection on its *IP address* and *local port*.
- **TCP Client:** The device actively connects to a *Remote IP address* and *Remote port*.
- **UDP:** The device expects UPD packets on its *Local port*.
- **HTTP GET:** Data received on the serial line are automatically sent as an HTTP GET request to a server set in *HTTP GET* section. Data received via HTTP GET are sent back to the serial line. HTTP GET can also turn on and off the VOUT power output.

MTU Size (Maximum Transmission Unit) is a parameter determining the maximum length of the IP datagram (in bytes). Usually this is set to 1400 bytes.⁵

Keep-alive interval is a time in seconds determining how often (in seconds) the TCP keep-alive packet should be sent to maintain the connection.⁵

Wi-Fi

(This section is only available on the Wi-Fi version of Edgar.)

Main option is the *Wi-Fi mode*. Available options are *Client* (converter connects to an existing Wi-Fi network) or *Access point* (converter creates a Wi-Fi network you can connect).

Scan button is only available in Client mode. When pressed it scans the local Wi-Fi networks and shows a list. By clicking on one you will fill its SSID and encryption parameters to the available fields and you can connect to it after adding the password.

Channel option is only available in *Access point* mode and determines the channel number Edgar connects to.

Password fields only work as a means of entering the password. Once the password is saved, only “Keep the original password” text is shown. If you don’t need to change the password, don’t fill in the field at all. (The saved password can’t be extracted from the device.)

Serial port section

Serial port parameters are available here.

Serial port	
Selected port	RS485
Speed	57600 Bd ▼
Communication mode	8 data bits, even parity, 2 stop bi ▼
Flow control	Xon/Xoff ▼
Packeting method	
Time-out	1 sec ▼
After a given byte	0D

fig. 6 – serial port settings

Selected line type text shows the current state of the **SW4** switch. You can choose from RS232 (SW4 off) or RS485 (SW4 on).¹ This item cannot be selected via the WEB interface.

Speed is user selectable from following options: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 a 230400 Bd

Following *Communication* parameters are available:

- 8 data bits, bez parity, 1 stop bit
- 8 data bits, even parity, 1 stop bit
- 8 data bits, odd parity, 1 stop bit

⁵ Please consult your network manager whether you need another MTU size.

- 8 data bits, bez parity, 2 stop bits
- 8 data bits, even parity, 2 stop bits
- 8 data bits, odd parity, 2 stop bits
- 7 data bits, bez parity, 1 stop bit ⁶
- 7 data bits, even parity, 1 stop bit ⁶
- 7 data bits, odd parity, 1 stop bit ⁶
- 7 data bits, bez parity, 2 stop bits ⁶
- 7 data bits, even parity, 2 stop bits ⁶
- 7 data bits, odd parity, 2 stop bits ⁶

Packing modes

None, one or two packing modes can be activated at once:

Timeout: When a set interval elapses after receiving the last byte from the serial line, a packet will be made and sent to the Ethernet.⁷ Following options are available:

- Off ⁸
- 100 ms
- 500 ms
- 1 sec
- 2 sec
- 5 sec

Ending byte: One character in hexadecimal format can be entered here. This character then indicates the end of a packet and the converter will send the packet upon its reception.⁷ Enter zeros (00), to turn this function off ⁸.

HTTP GET section

This section is only available if the HTTP GET option is selected in Network > Communication mode!

Sending data: This function allows for data from the serial line to be sent to a remote server as an HTTP GET request. Data to the serial line can be sent directly in the response to the HTTP GET request.

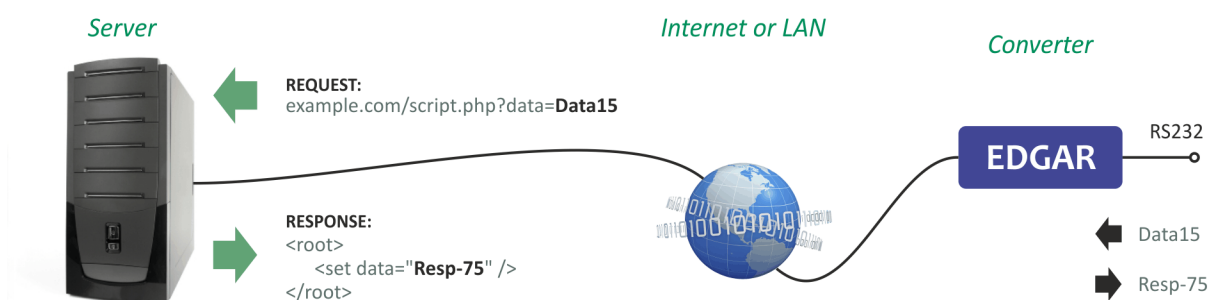


fig. 7 – Edgar has sent an HTTP GET request to a server and in response received data that is to be sent to the serial line

⁶ This option is only available with the Ethernet version (not with the EDGAR WiFi).

⁷ Maximum length can be 509 bytes. When a message longer than 509 bytes is received, the converter will pack the first 509 bytes regardless of the packing settings.

⁸ If the packing is turned off completely, data will be packed progressively depending on the buffer.

Receiving data: Data can be sent from a remote server to the serial line using an HTTP GET.

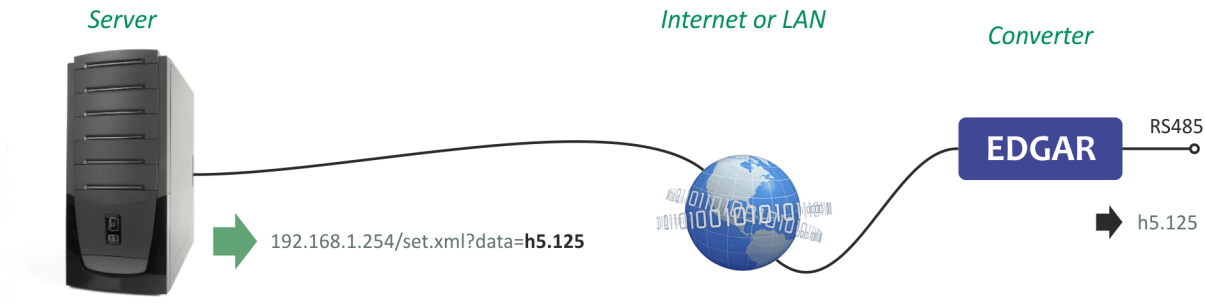


fig. 8 - Edgar has received an HTTP GET from server containing data to be sent to the serial line

Up to 100 bytes of data can be sent to the server using HTTP GET. (The following data will be sent in another HTTP GET. The same restriction applies in the other direction as well.

HTTP GET can also be used to control the VOUT power output. Output can be set exactly as it can in the Other section: Off (0), Low power (1), High power (2). Number from 0 to 2 is to be sent to the *set.xml* script in the *out* attribute. Example of setting the output to Low Power is following (Default IP address is used):

```
192.168.1.254/set.xml?out=1
```

HTTP GET

Example of sending data via script	<code>set.xml?data=Test set.xml?hex=0a78e3</code>
Example of VOUT output setting script	<code>set.xml?out=1</code>
WEB server's address	<input type="text" value="papouch.com"/>
TLS encryption	<input checked="" type="checkbox"/>
WEB Port	<input type="text" value="80"/>
Folder containing scripts	<input type="text" value="scripts/"/>
Server script name	<input type="text" value="get.php"/>
GUID	<input type="text" value="BFLMPSVZ"/>
Encryption Key	<input type="text" value="Not set"/>
Retype Key	<input type="text"/>
<input type="button" value="Send test HTTP GET"/>	

fig. 9 - HTTP GET settings

WEB server address: Enter address of the WEB server containing scripts for receiving data from your converter. URL address should be in format `www.server.com` (maximum length is 30 characters) or IP address in format: `192.168.1.254`. If you are sending HTTP GET requests in another network, *Gateway* and *DNS* parameters must be set in *Network* section.

TLS encryption: Enables SSL encryption for the communication with the server. (This option is only available in the Wi-Fi version!)

Scripts server directory: Enter local path to the directory containing the scripts. For example, if the complete path to the script is `http://www.server.com/scripts/myscript.php`, enter only: `scripts/` Maximum length is 30 characters.

Script name: Enter the script name. If, for example the complete script address is `http://www.server.com/scripts/myscript.php`, enter only: `myscript.php`. Maximum length is 12 characters.

GUID: String up to 40 characters that can identify your device. String can contain letters, numbers and a hyphen. If you enter the string, it will be added as a GUID parameter at the end of the HTTP GET.

Encryption key: If you want to encrypt the HTTP GET contents, enter exactly 16 character string. Allowed characters are: a-z, A-Z or 0-9. HTTP GET is encrypted using 128bit AES (Rijndael), CFB method. If the string is not entered, HTTP GET will not be encrypted.

HTTP GET format:

Example of an HTTP GET containing serial data:

(& characters deleted for better legibility.)

```
script.php?mac=0080A397E9A0 type=EDGAR_ETH guid=123456789
description=WATCH data=616263646566
```

Encrypted HTTP GET example:

```
script.php?encrypted_data=6DBC43226EEA99B2C47A9AE0C5A8F070253DEE7BB2
ECEA43632670B7F6B0957AF0CCFB5B0FF50876B605D9D09F1345DFD31E75C6CBDCF1
D64074E15B530C67BF425534948B8A0D40FD861A86EF37F5848FE26F32B084EC1EE3
09C711E24776717EB5
```

Following parameters are sent in the HTTP GET:

mac.....MAC address of your device.

type.....Product type.

guid.....User defined unique string.

descriptionLabels HTTP GET sent either as a limit exceeding event (WATCH) or testing HTTP GET sent after clicking the test button on the WEB interface (TEST).

data.....Data from the serial line converted to ASCII representation of a hexadecimal number. If the string *abcdef* comes to the serial line, *616263646566* will be in the *data attribute*. This parameter is only present in the HTTP GET during the WATCH.

encrypted_data Parameter contains all data as represented in the regular HTTP GET, only encrypted with each byte converted to a two-character hexadecimal representation. It is 16 bytes of initialization vector followed by encrypted data as specified in the body of standard get.⁹

HTTP GET response

If you want to send data to the serial line as a response to the HTTP GET, the server should send a response in XML format. The response must contain data attribute which should contain data in hexadecimal format. The following example shows string 0123 sent to the serial line::

```
<root>
```

⁹ We have examples of get processing for Node.js and PHP in this article on the web (Czech section of website with comments in English): papouch.com/desifrovani-aes-v-http-getu-z-papaga-p3719/

```
<set data="30313233" />
</root>
```

If the answer is to an encrypted HTTP GET, the response must also be encrypted and in the following format (the total length must not exceed 600 characters):

```
<root>
  <set
    encrypted_data="39fe0f643a2c1092e6f7bc5de725bd8bf2d4a8c916ccb4089faa3c
6b7bb7b7dabd4229ad803f76d05ee7b91d5bb0a2628e937cff4435a604034f1c3497569
5294f86826ad5a81bc8364ba73d389ca19fe7a929bc8160b00d3e6edcaca485dc200afc
b42ca8c8f700e437d2f00c45964a5fa2872ab6a9e96e6c19d368549f92a1da372669b89
654d8c2127d7079b3288f0bbb8f239379de0230ab17f0d7652147470cd8b80047363f89
cea6e6799d4b58f59f168f0b15fe7ede12664ebc02637822ab70053da6778b1f42b6ee1
01f9c3ac39b35ebf4155dc01318964e7cabe"/>
</root>
```

Sending data using HTTP GET

Using HTTP GET it is possible to send data to the serial line. To receive the HTTP GET use *set.xml* script. This script only receives unencrypted messages. The script recognizes these commands from these examples:

- **Sending ASCII characters strings**

```
set.xml?data=VCeskychBudejovicichByChtelZitKazdy
```

Data parameter is an ASCII string of 100 characters at most.

- **Sending binary data string**

```
set.xml?hex=aabbccdde
```

Hex parameter is a binary data string in hexadecimal format. Given the data from the example above, five bytes will be sent to the serial line (aa = 170, bb = 187, cc = 204, dd = 221, ee = 238). Hex parameter can only contain up to 200 characters 0-9, a-f or A-F.

HTTP GET sent to the converter can only contain one of these attributes – either *data* or *hex*.

Response to the sent HTTP GET is an XML in this format:

```
<root>
  <result status="1" />
</root>
```

If the *status* attribute has a value of 0, it means that the command was not properly executed because it contains errors or an unexpected value.

Security section

Here the password for the WEB interface can be set.

Security

Administrator's password	<input type="text" value="Keep original password"/>
Confirm Administrator's password	<input type="text"/>
Current Administrator's password	<input type="text"/>

fig. 10 – security settings

When a text Keep original..., it means this section will be left intact without changes during the saving of these settings. (The entered password will not be shown for security reasons.) Passwords can be changed by filling any of the fields at any time.

Others section

This is where the WEB interface language, device name and power output parameters are set.

Other settings

Name of the device	<input type="text" value="U Papoucha"/>
Language	<input type="text" value="English"/> ▼
Power output mode (VOUT)	<input checked="" type="radio"/> <input type="text" value="Low output power"/> ▼

fig. 11 – other settings

Power output mode (VOUT) is meant to control the VOUT power output.

The output can be set to three steps: *Off*, *Lower output power*, *High output power*.¹⁰ The power output voltage is set separately by DIP switches on the side of the device (see page 7).

Colored indicator next to the power output mode field will be greyed out when the power output is off, green when it is on, and red if the power output is overloaded or shorted.

¹⁰ Maximum output currents for each voltage are described on a table on page 6.

CONFIGURATION USING TELNET

Telnet configuration is only available with the Ethernet version.

Connection

IP address is not known

It is recommended that the IP address should be set using the [Ethernet Configurator software](#).

- 1) Open the window of the cmd command. (In the Windows OS select Start/Run, enter `cmd` in the provided line and click Enter.)
- 2) Make the following entries into the ARP table:
 - a. Type `arp -d` and confirm by Enter. This will delete the current ARP table.
 - b. Use the following command to assign 192.168.1.254 to the module MAC address:


```
arp -s [new_ip_address] [MAC_address_of_device]
```

example: `arp -s 192.168.1.254 00-20-4a-80-65-6e`
- 3) Now open Telnet. (Type in `telnet` and click Enter.¹¹)
- 4) Enter `open [new_ip_address] 1` and confirm.
- 5) After a while, the terminal will display an error message saying that connection failed. However, this step is necessary for the module to enter the IP address into its ARP table.
- 6) Connect to the IP address of the module. (Type in `open [IP address in dotted format] 9999` and click Enter.)
- 7) So far you have only entered the configuration mode of the module. The IP address has not yet been set. It must be set in the menu Server Configuration > IP Address. If you close the configuration mode without saving the settings and IP address configuration, the whole procedure must be repeated!
- 8) If the entered IP address is valid, the device displays an introductory text ending with:

Press Enter for Setup Mode

Press Enter within 3 seconds, otherwise the configuration mode will close.
- 9) The device will display a preview of its settings.
- 10) The preview ends with a paragraph called "Change setup:" which lists the groups of parameters that can be configured. Network parameters can be changed in the "Server" section where you can set a new network address and other parameters.

¹¹ In OS Windows Vista or higher, the client for Telnet is not a standard part of the system. Install it using the following procedure:

- a) Open the "Control Panels/Programs and Features" menu.
- b) On the left, click "Enable or disable features of Windows system" (this option requires the administrator to log in).
- c) The "Features of Windows system" window displays. Here tick the "Telnet service Client" field and click Ok. The client for Telnet will be installed.

IP address is known

- 1) In OS Windows choose Start/Run, enter `telnet` in the provided line and press Enter. ¹¹
- 2) Connect to the IP address of the module. (Type in `open [IP address in dotted format] 9999` and press Enter.)
- 3) If the entered IP address is valid, the device displays an introductory text ending with:


```
Press Enter for Setup Mode
```

 Press Enter within 3 seconds, otherwise the configuration mode will close.
- 4) The device will display a preview of its settings.
- 5) The preview ends with a paragraph called "Change setup:" which lists the groups of parameters that can be configured. Network parameters can be changed in the "Server" section.

Telnet main menu

Individual items can be chosen using the numbers written next to them. Choose the required number and press Enter.

The menu structure is as follows:

```
Change Setup:
  0 Server
    ...
  7 Defaults
  8 Exit without save
  9 Save and exit           Your choice ?
```

Server

Basic Ethernet settings.

This section contains the following parameters:

```
IP Address : (192) . (168) . (001) . (122)
Set Gateway IP Address (N) ?
Netmask: Number of Bits for Host Part (0=default) (16)
Change telnet config password (N) ?
```

IP Address

(IP address)

IP address of the module. The digits must be entered one by one and separated by Enter.

Default value: 192.168.1.254

Set Gateway IP Address

(set the IP address of the gateway)

Gateway IP addr

(IP address of the gateway)

In "Set Gateway IP Address" enter "Y" to change the IP address. The system then prompts you to change the Gateway IP address. The digits must be entered one by one and separated by Enter.

Netmask*(network mask)*

Here you specify the number of bits of the IP address that make up the network part.

The Netmask is set as a number of bits determining the range of available IP addresses of the local network. If, for example, value 2 is entered, the structure of the Netmask is 255.255.255.252. The entered value specifies the number of bits from the right. The maximum is 32.

Default value: 8

Example:

The mask 255.255.255.0 (binary form: 11111111 11111111 11111111 00000000) = number 8.

The mask 255.255.255.252 (binary form: 11111111 11111111 11111111 11111100) = number 2.

Change telnet config password*(Set the password for Telnet)***Enter new Password***(Enter the password for Telnet)*

This parameter is used to set a new password which is required prior to any configuration via Telnet or via WEB interface (admin password).

For item "Change telnet config password", enter "Y" to change the password. The system then prompts you to change the password.

Factory Defaults

By pressing number 7 the device restores the default settings.

The default setting means that all parameters will return to their initial factory settings. The IP address remains unchanged; the web interface port is set to 80.

Exit without save

To close the configuration mode without saving the changed parameters.

Save and exit

This option saves the changes. If any parameter has been changed, the device is restarted. The restart takes several tens of seconds.

INDICATORS

Four indicators are on the device:¹²

1. **ON** indicator is lit once the power is connected (Either PoE or an external).
2. **COM** indicator is lit when a communication on the serial line is in progress.
3. **LINK** indicator is lit in the TCP/UDP mode once the connection is established. In the HTTP GET mode the indicator flashes when a packet is sent to a remote server.
4. **VOUT** indicator is lit when the power output is enabled.

¹² Since serial number 1068/1027 the indicator colours have changed.

DEVICE RESET

Ethernet version:

Using the following instructions, you can reset the device to its factory settings. Unlike the reset performed within the Telnet settings (see page 20), this reset also sets the IP address to its default: 192.168.1.254.

- 1) Disconnect the power (or the Ethernet cable) from the device.
- 2) Press and hold the button located in a small opening below the Ethernet connector.
- 3) Reconnect the power and hold the button for at least 10 seconds until a yellow indicator on the Ethernet connector flashes 4 times.
- 4) Release the button.

WiFi version:

Enter the configuration AP mode by pressing the RESET button under the antenna connector. In this mode any changes can be made.

TECHNICAL PARAMETERS

Electronics

External power supply.....	11 to 58 V DC (with polarity reversal protection)
Min. voltage - VOUT High power	15 V
Converter power consumption	typ. 1 W
Consumption VOUT - Low Power	max. 5 W
Consumption VOUT - High Power	max. 8 W

Power	I _{IN} VOUT High power	I _{IN} VOUT Low power	I _{IN} VOUT off
12 V	-	100 mA	92 mA
24 V	78 mA	48 mA	45 mA
48 V	40 mA	25 mA	24 mA

tab. 1 – Typical current draws from the power supply

Power connector	barrel type 3.8 × 1.3 mm; + pole inside
Operation temperatures	-20 to +70 °C
Dimensions (w/o connectors).....	83 × 56 × 23.4 mm
Enclosure material	0.8 mm sheet metal
IP coverage.....	IP 30

Power output (VOUT)

Output voltage.....	5, 9, 12 or 24 V (user selectable)
Overload and shortage protection	present
Max. Low Power mode load.....	> 1.6 W (see page. 7)
Max. High Power mode load	> 3 W (see page. 7)

RS232

Signals used	TxD, RxD, RTS, CTS, GND
Communication speed	300 Bd to 230.4 kBd
Data bits.....	7, 8
Parity.....	even, odd, no parity
Stop bits.....	1, 2

RS485

Signals	RxTx+, RxTx-
Overvoltage protection	transil diode 6.5 V
Communication speed	300 Bd to 230.4 kBd
Data bits.....	7, 8

Parityeven, odd, no parity

Stop bits.....1, 2

Ethernet Interface

Type.....TBase 10/100 Ethernet

ConnectorRJ45

PoE power (“active PoE”)according to the IEEE 802.3af standard

Power supply for „passive PoE“44 – 57 V

Wi-Fi

SpecificationsIEEE 802.11 b/g/n

Frequency.....2.4 GHz

Antenna connectorSMA RP

Other parameters

HTTP GET encryption128 bit AES; Rijndael; CFB method

Weight150 g

Default network parameters

IP address192.168.1.254

Subnet mask.....255.255.255.0 (8 bits; C mask)

Gateway IP address0.0.0.0

Available options

35 mm DIN rail mount.....optional accessory (sold separately)

Please do not hesitate to contact us in case you have any special requirements for Edgar converter parameters or functions.

Papouch s.r.o.

Data transmission in industry, line and protocol conversions, RS232/485/422/USB/Ethernet/GPRS/WiFi, measurement modules, intelligent temperature sensors, I/O modules, and custom-made electronic applications.

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