

# NETIO

Networked power sockets

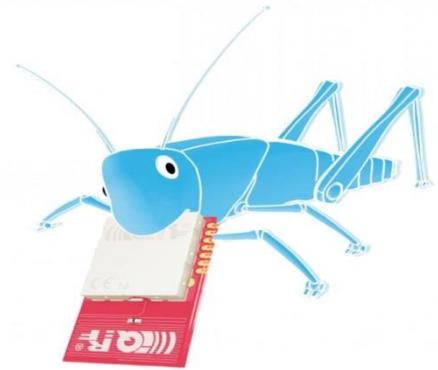
[www.NETIO-products.com](http://www.NETIO-products.com)

# NETIO products overview

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*Smart power sockets controlled over LAN and WiFi*

# Member of IQRF Alliance



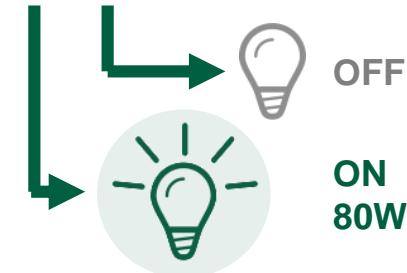
- We are member of IQRF Alliance since October 2016.
- We produce LAN / WiFi / IQRF networked power sockets
- NETIO products a.s. is a pure manufacturer.  
No installations, no projects, no SI (System Integration).
- We would like to offer our easy to integrate IQRF product to other members of the IQRF Alliance.

# Networked power sockets

*Devices to measure energy consumption and switch ON / OFF the power socket over the network.*



**NETIO**  
Networked power sockets



# ABOUT NETIO PRODUCTS A.S.

The NETIO products company is a Czech producer of networked power sockets (can be controlled over LAN & WiFi).

Main focus is professionals & business usage (B2B).

A typical user is a SI (System Integrator), uses **NETIO 4x** (NETIO 4 / 4All / 4C) in various industrial projects.

- Network infrastructure
- IoT / Industry 4.0
- Wind power plants, Digital signage
- Audio / Video multimedia, ..



# Usage case: Audi showroom

The automobile maker Audi company uses NETIO smart sockets to control the Light & Sound effects in their car-show.

Around 80 NETIO smart socket units controls the lights, background music, and so on.

Based on LAN it's possible to pack whole car-show and move it easy to another location (Auto Show Geneva / Fankfurt / Paris / ...)



# Main features

*NETIO are the smartest power sockets you have ever seen..*



M2M API

## 1) M2M API integration

NETIO 4x products support all mainly used **M2M API protocols**.

This product could be connected to **any software or service** on the market.



## 2) EUROPEAN PRODUCT

NETIO 4x smart sockets can be really **secure** from LAN side..

NETIO products is stable **long-term manufacturer from Europe**.



## 3) PROGRAMMABLE

NETIO 4x products can be **programmed by customer in Lua**.

NETIO will introduce plenty of Application Notes (**ANxx**) examples..



# Feature 1: M2M API integration

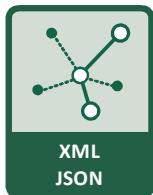
- 1) NETIO 4x currently supports **13 various M2M protocols**.  
SNMP v3, HTTP(s) (xml/soap), MQTT, Modbus/TCP, SIP VoIP, Telnet(ssl), ..
- 2) NETIO is ready to be easily integrated with 3<sup>rd</sup> party software<sup>\*)</sup>.
- 3) 30 manufacturers of LAN/WiFi networked power sockets exist on the market.  
Only 3 of them have published some M2M API protocol.  
Only 1 has SNMPv3 as secure base communication.  
Only NETIO supports 13 protocols now, more under development.
- 4) Being 3<sup>rd</sup> party integration friendly we are unique on the market.
- 5) None of competitors is ready for **IoT** or **Industry 4.0**

<sup>\*)</sup>3<sup>rd</sup> party software = Various software for home automation, audio video, etc..

# M2M API protocols

NETIO 4x products can be used with all popular **M2M API protocols** you can find on the market.

This product can be used with plenty 3<sup>rd</sup> party **software or services**.



# Main features



*NETIO are the smartest power sockets you have ever seen..*



## 1) M2M API integration

NETIO 4x products support all mainly used **M2M API protocols**. This product could be connected to **any software or service** on the market.



## 2) EUROPEAN PRODUCT

NETIO 4x smart sockets can be really **secure** from LAN side..  
NETIO products is stable **long-term manufacturer from Europe**.



## 3) PROGRAMMABLE

NETIO 4x products can be **programmed by customer** in **Lua**.  
NETIO will introduce plenty of Application Notes (**ANxx**) examples..

# Feature 2: EUROPEAN PRODUCT



NETIO products is company from Europe. It means something:

- 1) **We do believe in LAN security.** Security is hidden in 100 details..
- 2) We are follow all certifications for 230V devices.  
It's not your problem at all.
- 3) We are stable / long-term vision company (stable prices & profit)
- 4) Robust product in metal housing.
- 5) Manuals, Support, FW updates, SDK, Application Notes, ..
- 6) Backward compatibility.  
New products generation can be used in one system along with previous generations.



# Main features



*NETIO are the smartest power sockets you have ever seen..*



## 1) M2M API integration

NETIO 4x products support all mainly used **M2M API protocols**.

This product could be connected to **any software or service** on the market.



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## 3) PROGRAMMABLE

NETIO 4x products can be **programmed by customer in Lua**.

NETIO will introduce plenty of Application Notes (**ANxx**) examples..

# Feature 3: PROGRAMMABLE



- 1) User can program and run **his own script in the NETIO 4x device.**  
Power sockets 230V with user definable scripts are unique feature on the market.
- 2) NETIO products is publishing plenty of Application Notes (**ANxx**) examples..
- 3) Average user don't want to program anything. But want to have this possibility!  
ANxx are easy to use. 90% of users will copy-paste **and use it only**..
- 4) Based on ANxx NETIO devices can be easily connected and used with most of the IP based devices on the market. It can be useful for the marketing..
- 5) **Lua** (programming language) is not for dummies, but it's not a rocket science.  
Your kids are using Lua for the Minecraft user add-ons..
- 6) The IT guys are in love with Linux or Rabsberry PI, but hate 230V outputs. NETIO devices are their gateway to control electrical devices.



# USAGE CASES

**NETIO**  
Networked power sockets

# Usage case: Environmental applications

NETIO 4 smart sockets make it easy to implement a “**night**” or “**weekend**” mode.

NETIO are smart power sockets, so it's possible to switch on devices even on the weekend based on fact the central printer is ON for example..

It can be additional lamp, or any other electrical device..



# Usage case: Advertising kiosks / Vending machines



NETIO power sockets with a timer function switch ON or OFF an advertising booth or various vending machines at appropriate times.

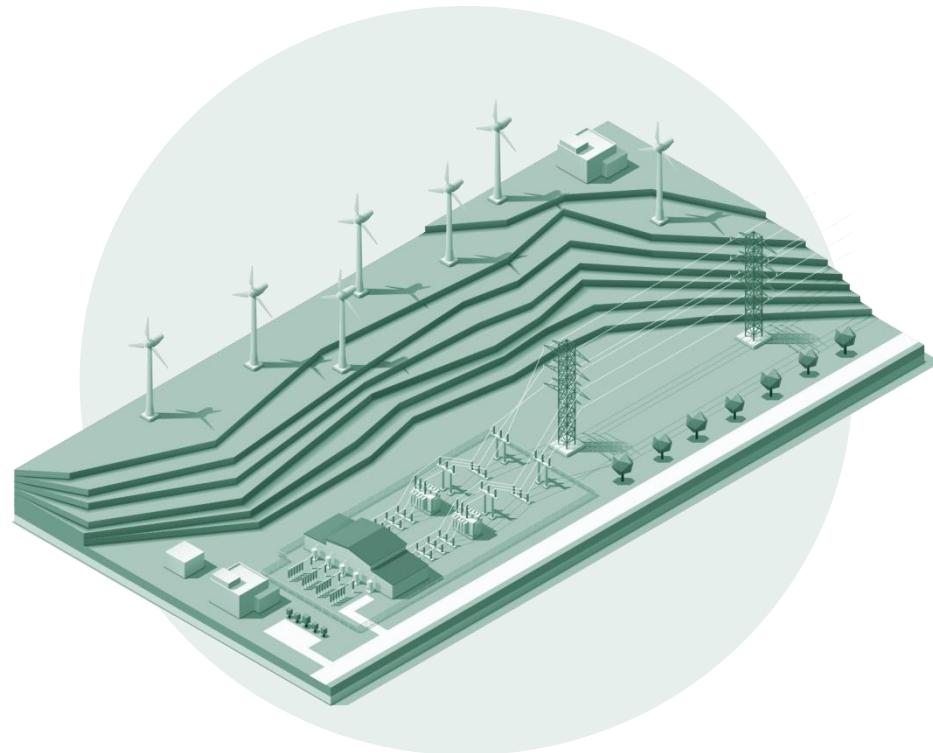
Why to do it?

- To have possibility restart it remotely.
- save electricity (30% time)

# Usage case: Wind power plants – remote restarts

NETIO 4 can control the power for technological devices installed on remote sites.

The Windmill companies are using NETIO networked power sockets to restart or activate some technologies on the wind farms, where is complicated access.



# PRODUCTS

## IQRF

**NETIO**  
Networked power sockets

# NETIO: Coming soon products



	NETIO WiFi Cobra	NETIO Cobra IQRF
<b>Power sockets</b>	1x power plug	1x power plug
<b>Network</b>	WiFi	IQRF
<b>Current measurement</b>	Optionally	Not now
<b>Power plug types</b>	DE, FR, IT, CH	DE, FR, IT, CH
<b>All certifications</b>	✓	✓

# How many power socket types?

*We are in Europe now, how many types of the power sockets do you really need in Europe?*

Plug Type E



Schuko  
Plug Type F



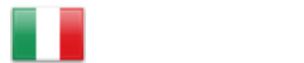
Plug Type G



Plug Type J



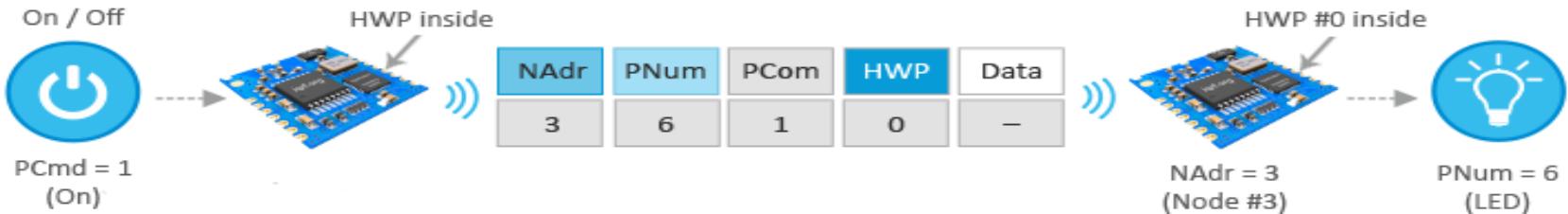
Plug Type L



# NETIO Cobra IQRF



# Vision with IQRF products



My dream is to have simple switch On/Off power socket 230V, which can be easily controlled from **any** other IQRF device.

- Thermostat can simply switch on heating.
- Home control system can switch on additional light.
- CO<sub>2</sub> sensor can simply switch on ventilation.

# **NETIO PRODUCTS**

## **LAN / WiFi**

**NETIO**  
Networked power sockets

# Products overview



	<b>NETIO 4All</b>	<b>NETIO 4</b>	<b>NETIO 4C</b>
<b>Network interface</b>	LAN + WiFi	LAN + WiFi	2x LAN
<b>WiFi Antenna</b>	RSMA external (3dBi)	Fixed (2dBi)	-
<b>Power Input</b>	Europlug (DE + FR)	Europlug (DE + FR)	IEC320 C13
<b>Power Output</b>	4x power socket (DE + FR)	4x power socket (DE + FR)	4x power outlet IEC 320 C14
<b>Energy metering</b>	Yes	-	-
<b>Serial port (RS-232)</b>	-	-	Yes
<b>Bluetooth 4.0 LE</b>	Yes	-	-
<b>M2M API protocols</b>	SNMP, HTTP, HTTPS, MQTT, Modbus/TCP, Telnet (SSL), XML, JSON, CGI, SIP		
<b>Lua scripting</b>	Yes	Yes	Yes
<b>Mobile App</b>	Yes	Yes	Yes

# NETIO 4All



LAN/WiFi networked power sockets  
M2M API protocols support  
LUA scripting language  
Energy metering



LAN  
Ethernet



Wi-Fi



ACCESS  
POINT



POWER  
MEASUREMENT



SERIAL  
RS-232



ACCESS VIA  
INTERNET



SCHEDULER



MOBILE  
APPLICATION



PING  
WATCHDOG



HTTP post  
CGI



Lua  
scripting  
language



ROBUST  
BODY



HTTPS



Modbus/TCP



MQTT



SNMPv3



SIP  
VoIP



XML  
JSON



Telnet (ssl)



E-MAIL  
NOTIFICATION



4x IEC-320  
SOCKET



4x DE SCHUKO  
SOCKET



4x FR (Type E)  
SOCKET

# NETIO 4/4All can be WiFi AP (Access Point)

- WIFI a,b,g,n
- 4 different WIFI modes
  - Cable
  - WiFi Client
  - WiFi Access Point
  - Netio Configuration



Wi-Fi

ACCESS  
POINT

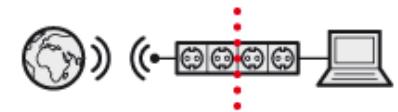
## Cable

Connects to a local network using the ethernet cable  
Turns the Wi-Fi adapter off



## Wi-Fi Client

Connects to a local Wi-Fi network  
Uses the ethernet cable as fallback access to Netio  
Doesn't bridge Wi-Fi to ethernet



## Wi-Fi Access Point

Connects to a local network using the ethernet cable  
Bridges ethernet to Wi-Fi



## Netio Configuration

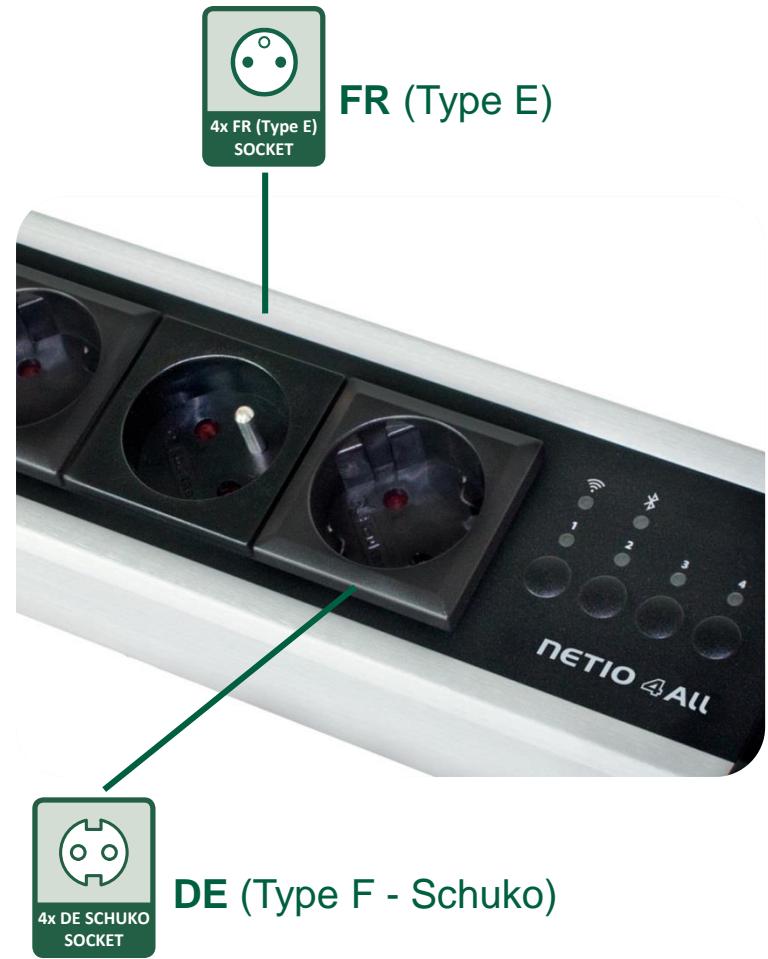
Connects to a local network using the ethernet cable  
Provides Wi-Fi access point  
Doesn't bridge ethernet to Wi-Fi

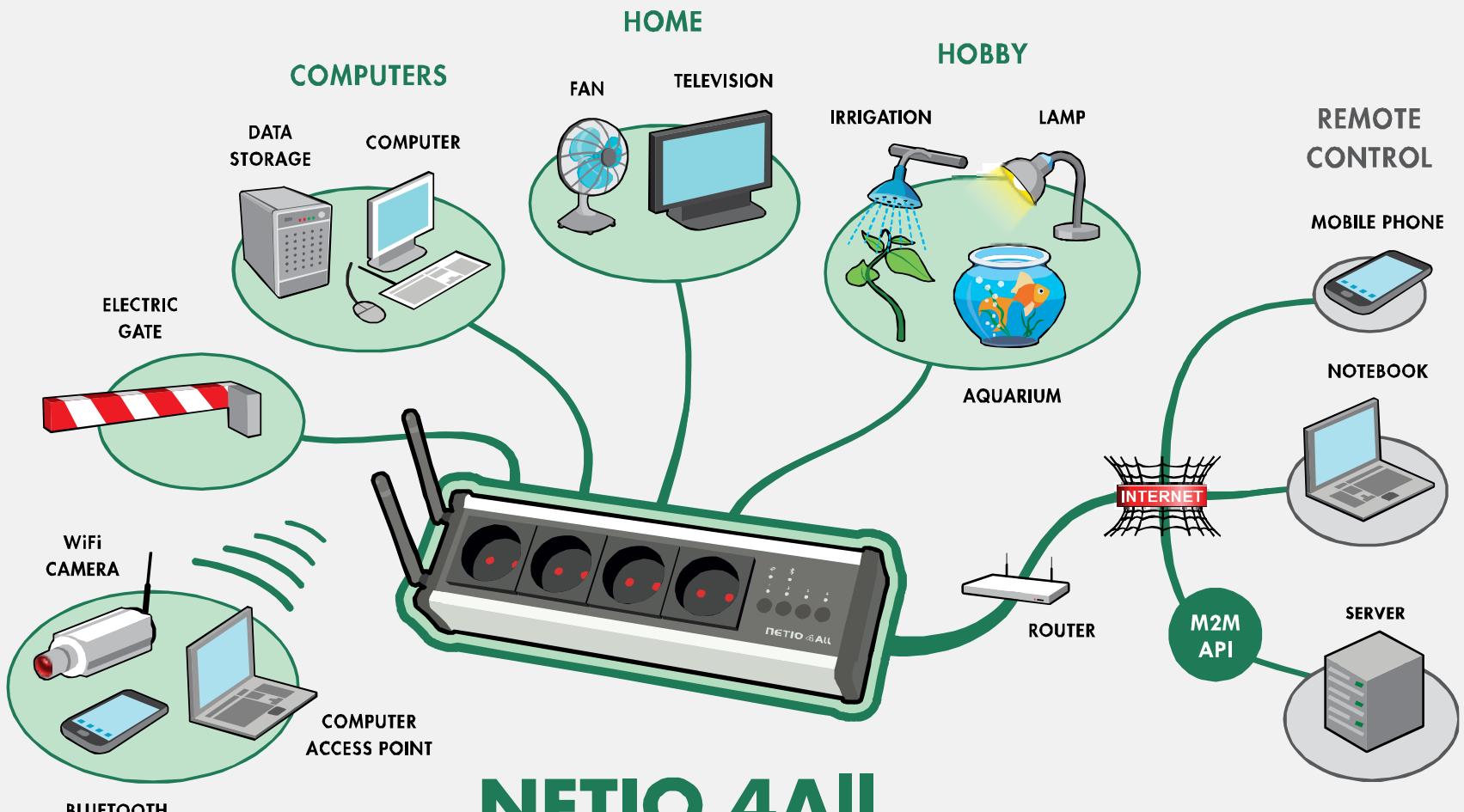


\* NETIO 4All = External antenna -3db with RSMA connector

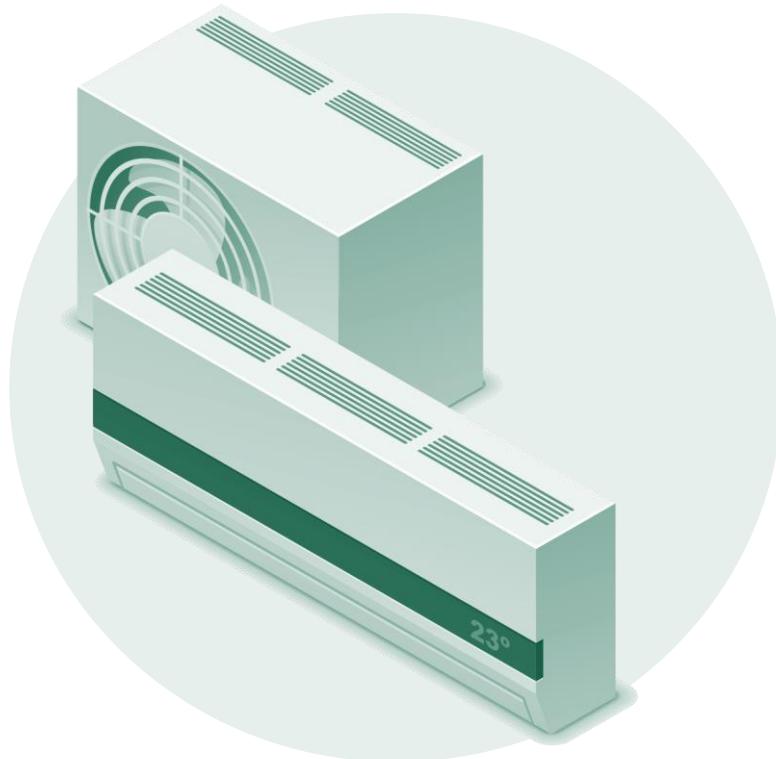
# Power meter on NETIO 4All

- Monitor energy consumption
- Each socket measured independently
- Alert by email if power consumption on the socket is too low (Lua)..
- Switch On/Off if consumption is too high or low (Lua)..





# Usage case: Activate the BackUp A/C (Air Conditioning)



The customer operates a small server room with too low-cost air-conditioning (not designed to 24/7). It sometimes stops working (filter, ...).

The temperature in the room is measured with an IP thermometer (3<sup>rd</sup> party product), and a simple Lua script checks the temperature every 10 seconds.

Whenever the temperature rises to 25°C, a backup air-conditioning unit is switched on to lower the temperature again.

**NETIO ARE THE SMARTEST  
NETWORKED POWER SOCKETS  
YOU HAVE  
EVER SEEN...**



# NETIO 4

PLAN/WiFi networked power sockets 230V  
M2M API protocols support  
LUA scripting language

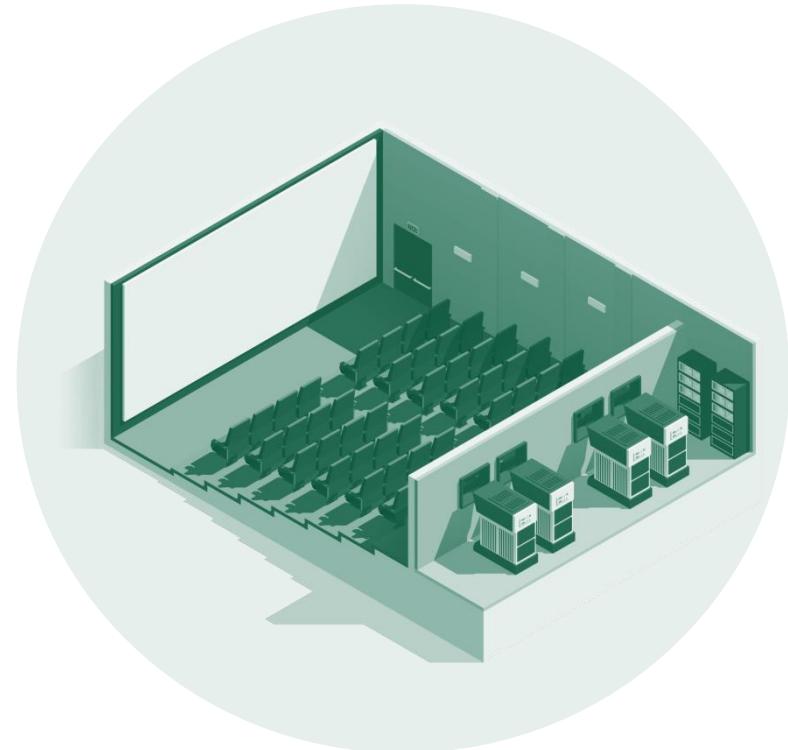


# Usage case: Movie theaters

The audio system in a cinema viewing room of a multiplex consumes electricity even when no film is being shown and no music is playing.

The customer uses NETIO 4 to disconnect individual parts of the audio system. When there is no show, there is no need to power the audio system.

**Approximately 38% of electricity is saved.**



# Scheduler

- Easy to setup calendar functions
- Separated per each power socket
- User's profiles
- Graphical user interface



The screenshot shows the NETIO4 WebControl software interface for managing power outlets. The left sidebar contains links for Outlets, Bluetooth, M2M Interfaces, Users, Schedules, Actions, Settings, and Log. The main area has four power outlet icons labeled output\_1, output\_2, output\_3, and output\_4. The Timer tab is active, showing a weekly schedule for a 'Jan Calendar'. The schedule grid indicates specific times for each day of the week. A 'Save Changes' button is present. At the bottom, it displays 'All outlets: 21 W total'.

# IP Watchdog

- Monitor your network devices
- Restart your router automatically
- Easy to use
- Can be extended in Lua

A screenshot of a web browser window titled "NETIO4 WebControl" with the URL "192.168.12.17/#/outlets/4/watchdog". The page displays four outlet controls labeled output\_1, output\_2, output\_3, and output\_4. Each outlet has a power button icon and a status indicator. To the right of the outlets is a configuration panel for the "Watchdog" tab. The configuration includes:

- IP address: 192.168.12.197
- Ping Interval: 3 seconds
- Ping Timeout: 9 seconds
- Power-on delay: 60 seconds
- After 10 resets:
  - Turn the watchdog off
  - Turn the outlet off
  - Turn both the watchdog and the outlet off
- Send e-mail when device doesn't respond

A green "Save Changes" button is at the bottom right of the configuration panel. At the very bottom of the screen, there are links for "Support" and "User manual".

# NETIO 4C

Networked IEC-320 power outlets 110/230V

M2M API protocols support

LUA scripting language

RS-232 interface



2x Ethernet  
LAN switch



Wi-Fi



ACCESS  
POINT



POWER  
MEASUREMENT



SERIAL  
RS-232



ACCESS VIA  
INTERNET



SCHEDULER



MOBILE  
APPLICATION



PING  
WATCHDOG



HTTP post  
CGI



Lua scripting  
language



ROBUST  
BODY



HTTPS



Modbus/TCP



MQTT



SNMPv3



SIP  
VoIP



XML  
JSON



Telnet (ssl)



E-MAIL  
NOTIFICATION



4x IEC-320  
SOCKET



4x DE SCHUKO  
SOCKET

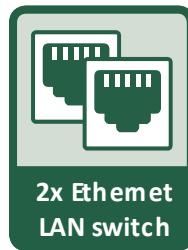


4x FR (Type E)  
SOCKET

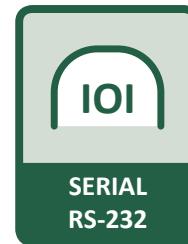


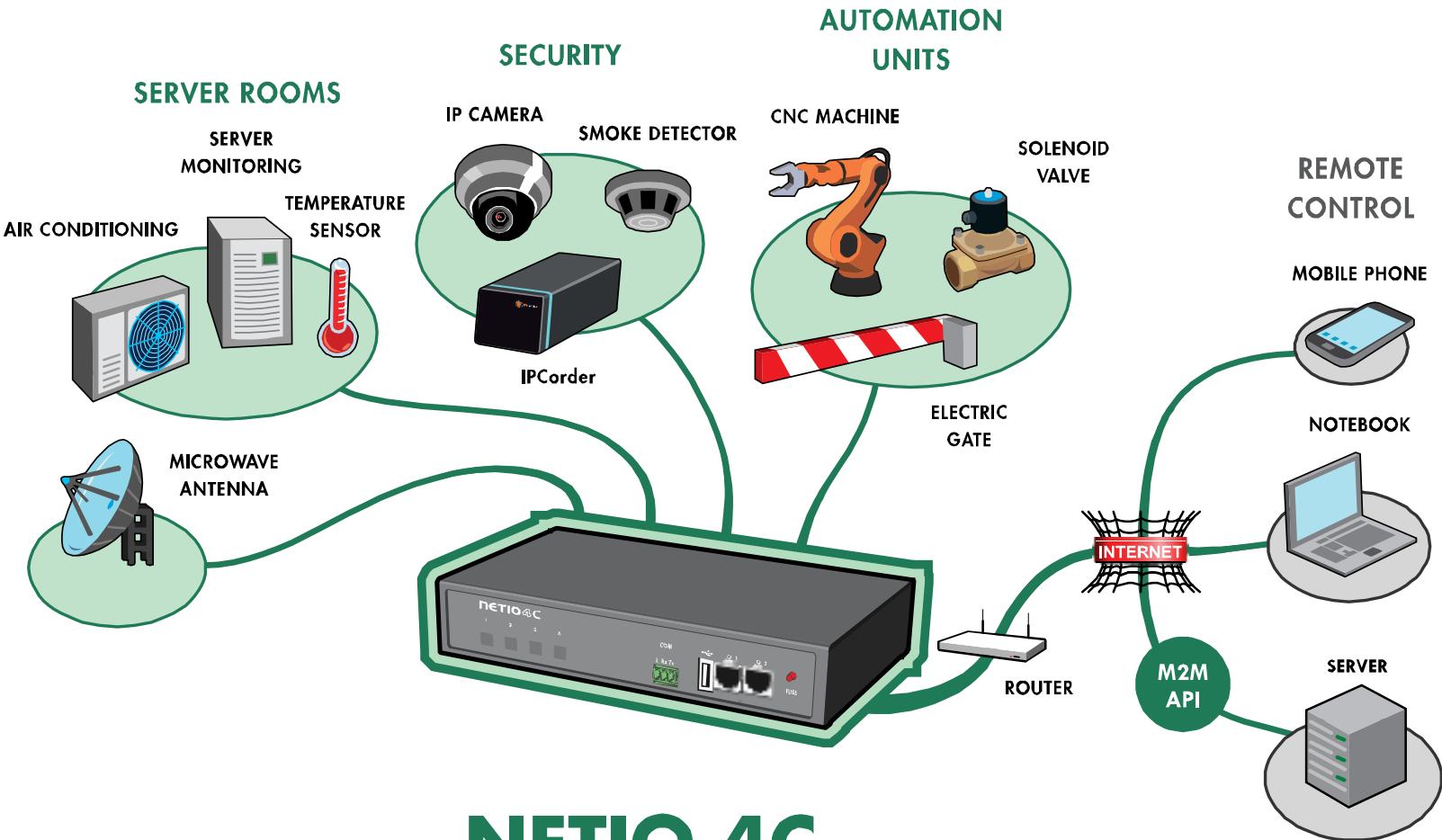
# Ethernet Switch / Serial port RS-232

- Integrated Ethernet switch
- Easy to connect ethernet devices in daisy-chain topology
- Serial port RS-232
- Can be used as a virtual serial port
- Can be controlled by Lua from your scripts (switch ON power socket if something received by serial port)



2x Ethernet  
LAN switch





# NETIO 4C

# NETIO MOBILE App

Switch the lights, home appliances,  
routers ... Using mobile phones.



Free download for **iOS & Android**



# NETIO Lua scripting

Write your own script, that runs in the NETIO 4x power sockets.



- Scripting & timing
- Ping to defined IP
- Read XML from the defined IP
- much more..

```
local state = " "
function turnoff()
    for i=1,4 do
        state = devices.system["output" .. i
        .. "_state"]
        if state == "on" then
            devices.system.SetOut{output=i,
            value=false}
            logf("Vypinam zasuvku c.%d",i)
        else
            devices.system.SetOut{output=i,
            value=true}
            logf("Zapinam zasuvku c.%d",i)
        end
    end
turnoff()
```

# NETIO ANxx Application Notes

Application Notes for NETIO products are easy to use guidelines how to connect NETIO with other products.

- How use with M2M protocols
- Step by step guide how to use with several software applications
- Lua scripts examples
- Customer's FAQ in detailed version

The screenshot shows a web browser displaying a NETIO application note. The title is "AN01: Controlling NETIO 4 sockets using URLs". Below the title, there is a section titled "AN01: Controlling NETIO 4 sockets using URLs" with the tag "LUA scripts". The text explains that NETIO 4 network sockets can be easily switched on and off by accessing a URL in a browser or from the command line. It mentions the M2M API interface using cgi http (https) is very simple. Below this, there is a code snippet:

```
<pre class="brush: php">http://192.168.101.116//event?password=mickeymouse&action=toggle&outlet=1</pre>
```

There is also a section titled "Usage examples" with three bullet points:

- Pressing a button on an IP telephone accesses a URL = turns a socket on or off
- IP camera system accesses a URL to turn on outdoor lighting
- Multimedia system accesses a URL in order to keep an audio system turned on only during playback

Below this, there is a section titled "NETIO 4 configuration" with the following text:

In the Actions section of NETIO 4 web administration, click Create Rule to add a rule (see figure 1) and fill in the following parameters:  
• Enabled checked

On the right side of the page, there is a four-panel cartoon illustrating the use of NETIO sockets. The panels show a person interacting with a device, asking questions like "Hele, zdravky, co se dělají vodáci přes CGI?", "To by mě fakt zajímalo, k čemu to je?", "Cože je to CGI?", "Prosím tě, vypněj ty hřebek a zapni mi tu lampa.", and "Jejda!". The cartoon ends with the text "To bych mohl spinat zásuvky třeba I/O vstupama z IP kamery!" and "NETIO Networked power sockets".

**THANK YOU  
FOR YOUR ATTENTION**

**NETIO**  
Networked power sockets