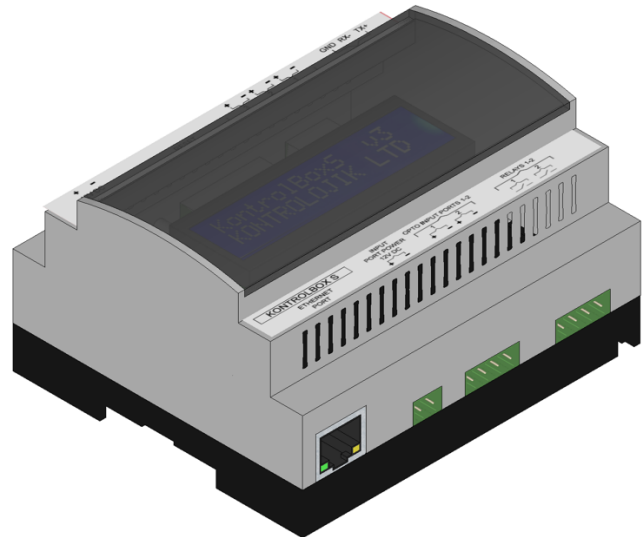# KONTROLBOX S

AUTOMATION CONTROL UNIT

Key Features;

- ➢ Communication with TCP/IP Protocol via Ethernet Port / RJ45 Connector,
- ➢ RS-232 communication (transmit & receive),
- ➢ 3 configurable IR ports,
- ➢ Configurable network – communication settings via web browser,
- ➢ 2 programmable Opto Input ports (+/-) with optocouplers that can receive inputs via external electronic interfaces,
- ➢ 12V Internal Output to use with opto inputs or to feed other Kontrolbox Units,
- ➢ 2 Low-current relay ports,
- ➢ Reset button,
- ➢ Rail-Mountable compact design,
- ➢ All-in-One Smart Box.

Overview;

KontrolBox S is a smart & compact automation control unit for home and professional automation systems with IR, RS-232 and TCP/IP communications. Kontrolbox S is compatible with the industry standards and easily mountable to the rails in electrical panels and rack cabinets.

KontrolBox S is commonly preferred for small applications at homes, offices, hotel rooms, classrooms, boardrooms, smart meeting rooms and auditoriums especially with RelexBox relay extension modules to control projectors, media players, video and audio switchers/matrixes, lights and motorized equipments.

Control unit has 3 types of digital controls; TCP/IP, RS-232 and IR (infrared) which are sufficient to control small type automation systems and communicate with 3rd party digital devices and control centrals.

Besides the digital control protocols; with the internal 2 relays, module is able to manage short circuit for any GPIO controlled devices and with 2 opto inputs, module can trigger any command with analog 12V contact. Opto input ports can be also used with analog switches.

Specifications;

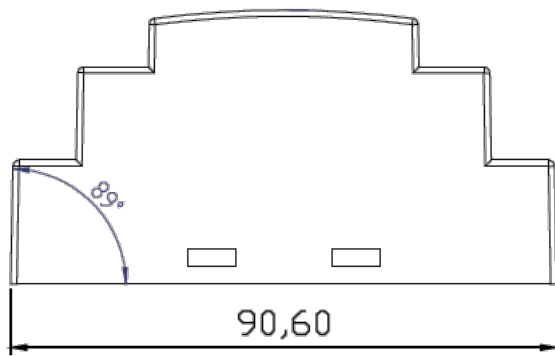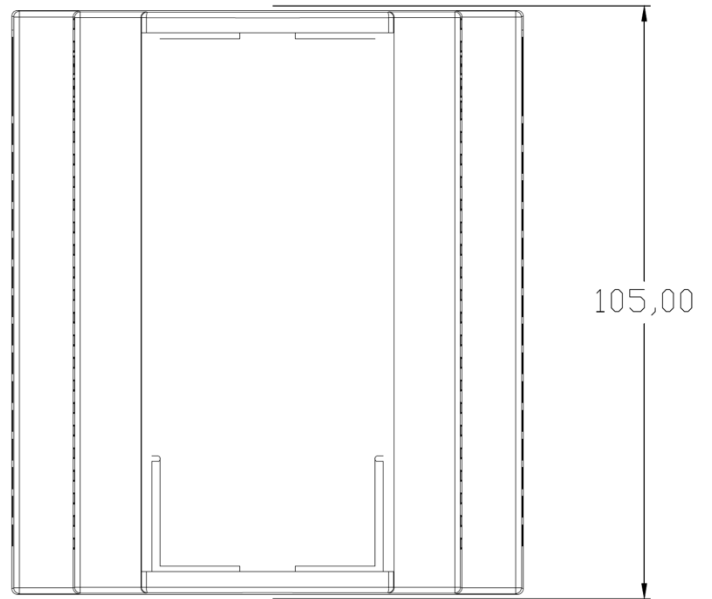| Relay Channel	2
Max. Load per Relay Ch.	½ A – 120V AC 1 A – 24V DC
Load Type for Relay Ch.	Commonly used to trigger another power relay modules or short-circuit 3rd party GPIO devices.
Control	TCP/IP or RS-232 controls. IPAD or Smart Tablet control via TCP/IP with customizable panel software.
Indicator	Module Name, MAC address, Status messages and IP address on 16x2 LED LCD Screen.
Communications	**Ethernet;** 10/100 Mbps, TCP/IP, UDP/IP, DHCP. **RS-232;** For 2-way device control and monitoring via TX and RX port. **IR / Serial;** One Way device control via infrared up to 1.2 Mhz and serial TTL/RS-232 (0-5 Volts).
Connectors	Ethernet Port (RJ-45), 12V DC Power for Opto IN 2 x Opto Input Ports 2 x Low-Current Relays 3 x IR ports, RS-232 Port with TX, RX, GND 12V DC Power Supply Input
Power Requirements	12V DC 3A
Dimensions	H = 6cm W = 10.5cm D = 8.9cm
Mounting	Rail Type mounting.

FIGURE 1 – SECTION I - SIDE
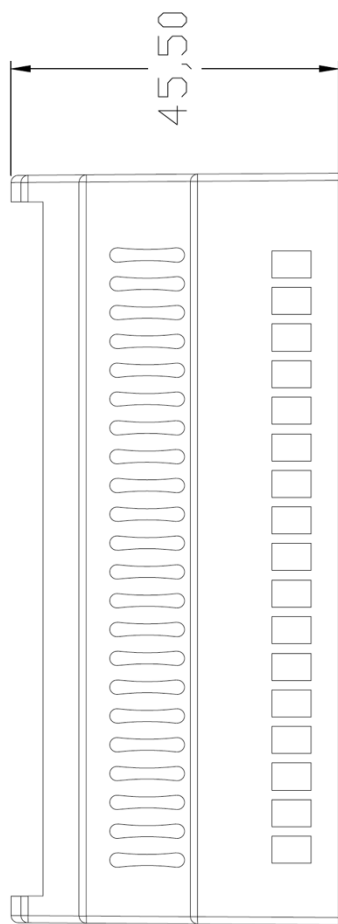

FIGURE 2 – SECTION III - TOP

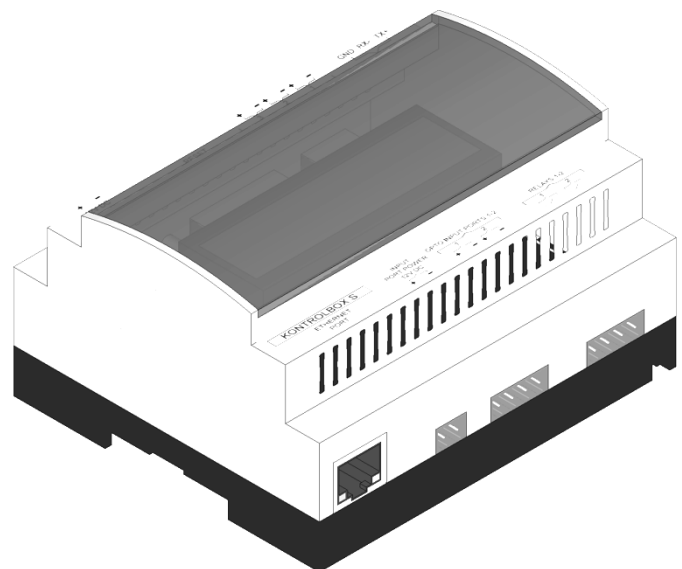FIGURE 3 – BASE – SECTION IV

FIGURE 4 – SECTION II - FRONT
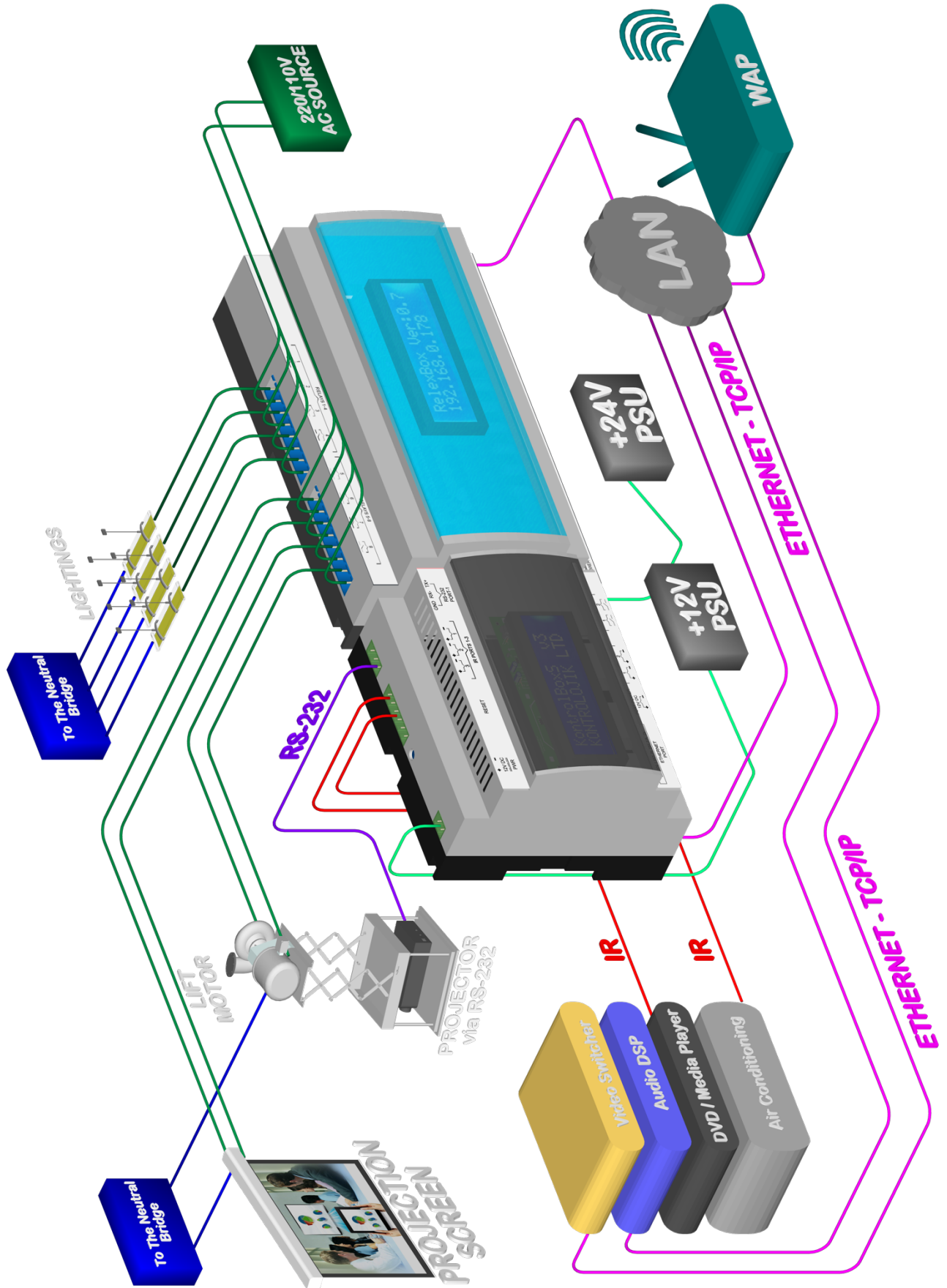

FIGURE 5 - IZOMETRIK

SCOPE OF APPLICATION

KontrolBox S is a compact box which gives you the ability of controlling small automated systems via 3rd party IOS/Android applications.
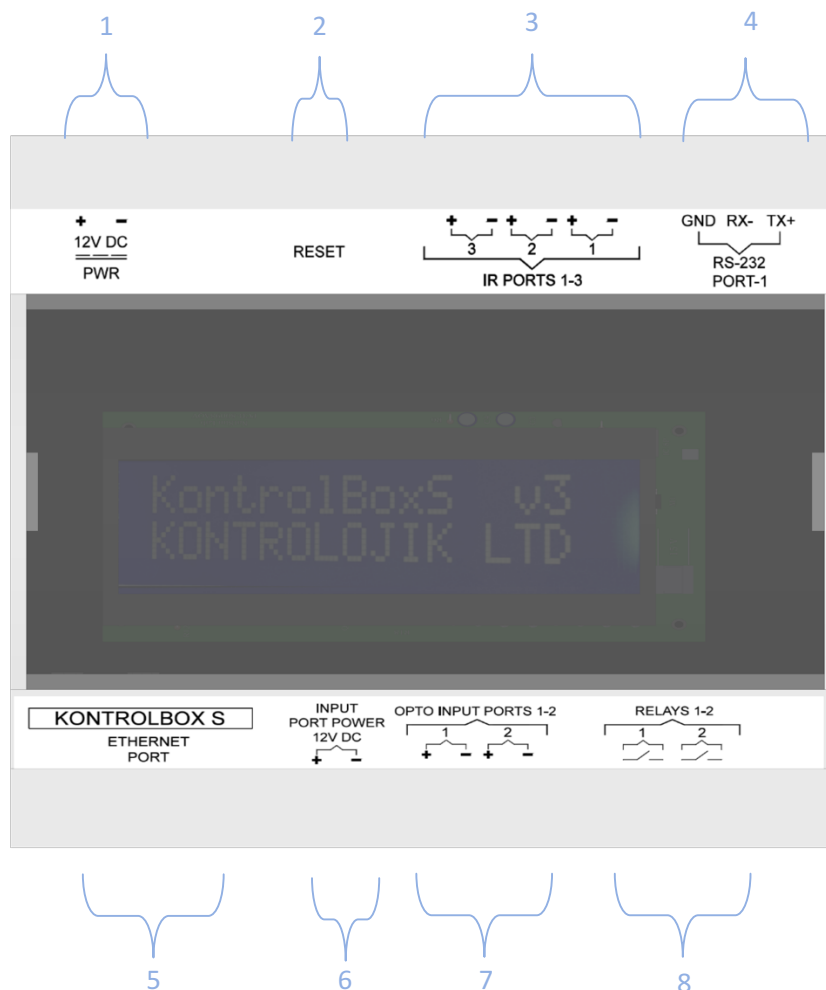
With just one small box, you can control most of the home theater system components or living room electronics. You can also control whole Audio-Visual and lighting systems in a small meeting room with touch panels or over internet via 3rd party IOS/Android applications.

APPLICATION EXAMPLES:

SYSTEM	CONTROL	PROTOCOL
Just one **KontrolBox S**, **Auxiliary Equipment:** Ethernet switcher, wireless access point, IPAD or any other Wi-Fi Smart Tablet, Software	Projector	RS-232 or TCP/IP
	TV / LED-LCD Screen	IR
	DVD / Media Player	IR
	Video Matrix Switcher	RS-232 or TCP/IP or IR
	Audio Processor	RS-232 or TCP/IP or Relay Ports
	Air Conditioning	IR or RS-232
	Alarm and Emergency Systems	Relay Ports and Opto Inputs
One **KontrolBox S** and the required amount of **RelexBox4/8-IP** **Connection:** They will be in the same network. **Auxiliary Equipment:** Ethernet switcher, wireless access point, IPAD or any other Wi-Fi Smart Tablet, Software	Projector	RS-232 or TCP/IP
	Motorized Projection Screen	Power Relays on RelexBox
	TV / LED-LCD Screen	IR
	DVD / Media Player	IR
	Video Matrix Switcher	RS-232 or TCP/IP or IR
	Audio Processor	RS-232 or TCP/IP or Relay Ports
	Lightings and power outlets	Power Relays on RelexBox
	Motorized Curtains	Power Relays on RelexBox
	Air Conditioning	IR or RS-232
	Alarm and Emergency Systems	Relay Ports and Opto Inputs
One **KontrolBox S** and the required amount of **KontrolPower S** **Connection:** Relay Ports on Kbox S to Input Ports on Kpower S **Auxiliary Equipment:** Ethernet switcher, wireless access point, IPAD or any other Wi-Fi Smart Tablet, Software	Projector	RS-232 or TCP/IP
	Motorized Projection Screen	Power Relays on KontrolPower S
	TV / LED-LCD Screen	IR
	DVD / Media Player	IR
	Video Matrix Switcher	RS-232 or TCP/IP or IR
	Audio Processor	RS-232 or TCP/IP
	Lightings or one up/down motor	Power Relays on KontrolPower S
	Air Conditioning	IR or RS-232
	Emergency Systems	Opto Inputs

OPERATION MANUAL


1- **12V DC PWR;** 12V DC Power Supply Input
2- **Reset Button;** Turn the device back to the factory settings and restart
3- **IR Ports 1-3;** Three IR (Infrared) ports.
4- **RS-232 Port-1;** RS-232 with one TX and one RX. Any RS-232 protocol user device can be controlled and receive feedback. RS-232 commands can be found in Control Protocols Section.
5- **Ethernet Port;** Ethernet, LAN or TCP/IP connection with RJ-45 connector. Multiple TCP/IP protocol user devices can be controlled with network switches and the processor can be controlled via wireless smart tablets with the connection of a Wireless Access Point to the LAN. TCP/IP commands can be found at Control Protocols Section.
6- **Input Port Power 12V DC;** Supplies 12V DC power for opto-input ports.
7- **Opto Input Ports 1-2;** Two configurable opto-coupler input ports. Input ports commonly used with the analog pulse (momentary) or toggle switches to call automation scenes (presets) or pre-configured commands.
8- **Relays 1-2;** Low-Current Relays. These relays commonly used to trigger KontrolPower-S (2 Channel Power Relay Module)'s control inputs.

WEB BROWSER INTERFACE

KontrolBox S has a web browser interface which allows you to control and change some network and communication settings. Setting up these settings is quite easy with this user-friendly interface. With any browser, even from your mobile phone, just by writing down the IP address of the device you can reach the home page.

Attention: KontrolBox S and the device that will connect to the processor with browser shall be at the same network. Device can directly connect to the processor with a DATA cable (RJ-45 connector) or they can connect to same network switch or they can even be connected via Wi-Fi with a Wireless Access Point.
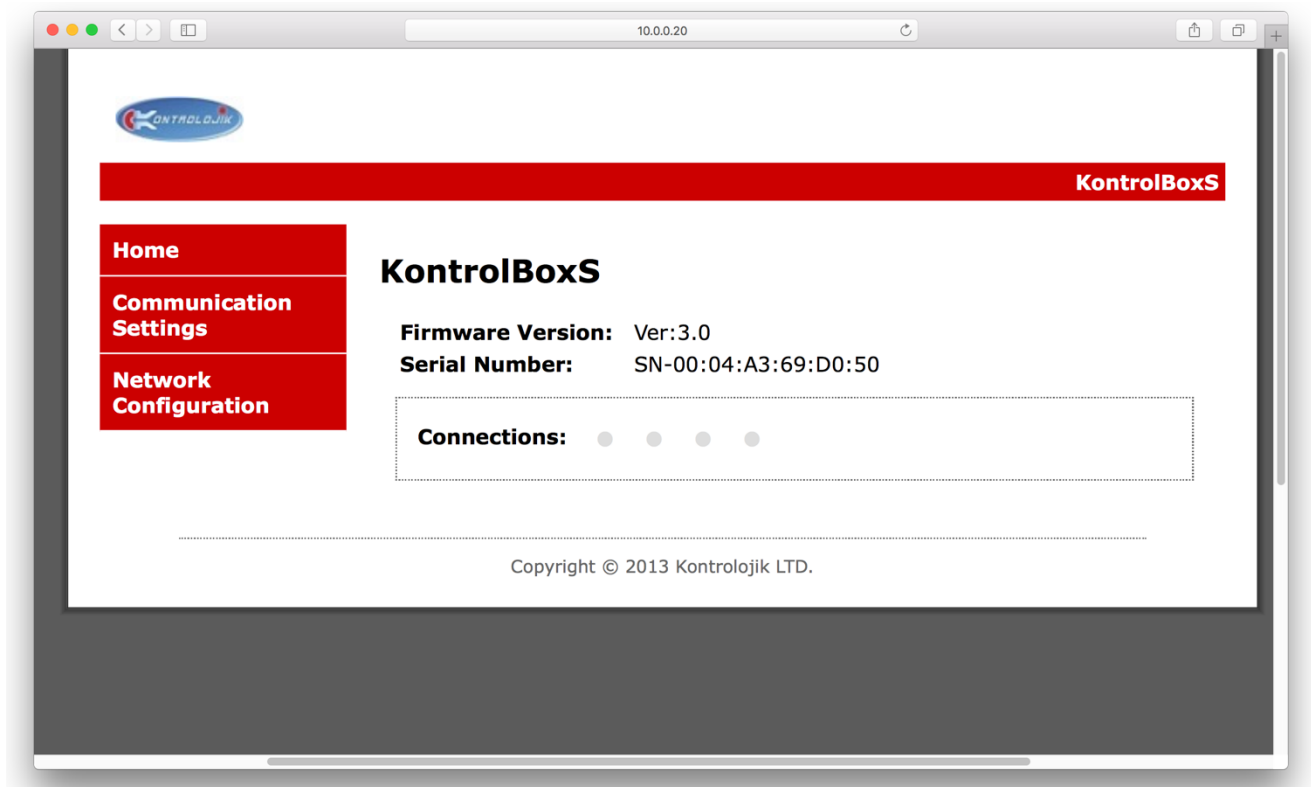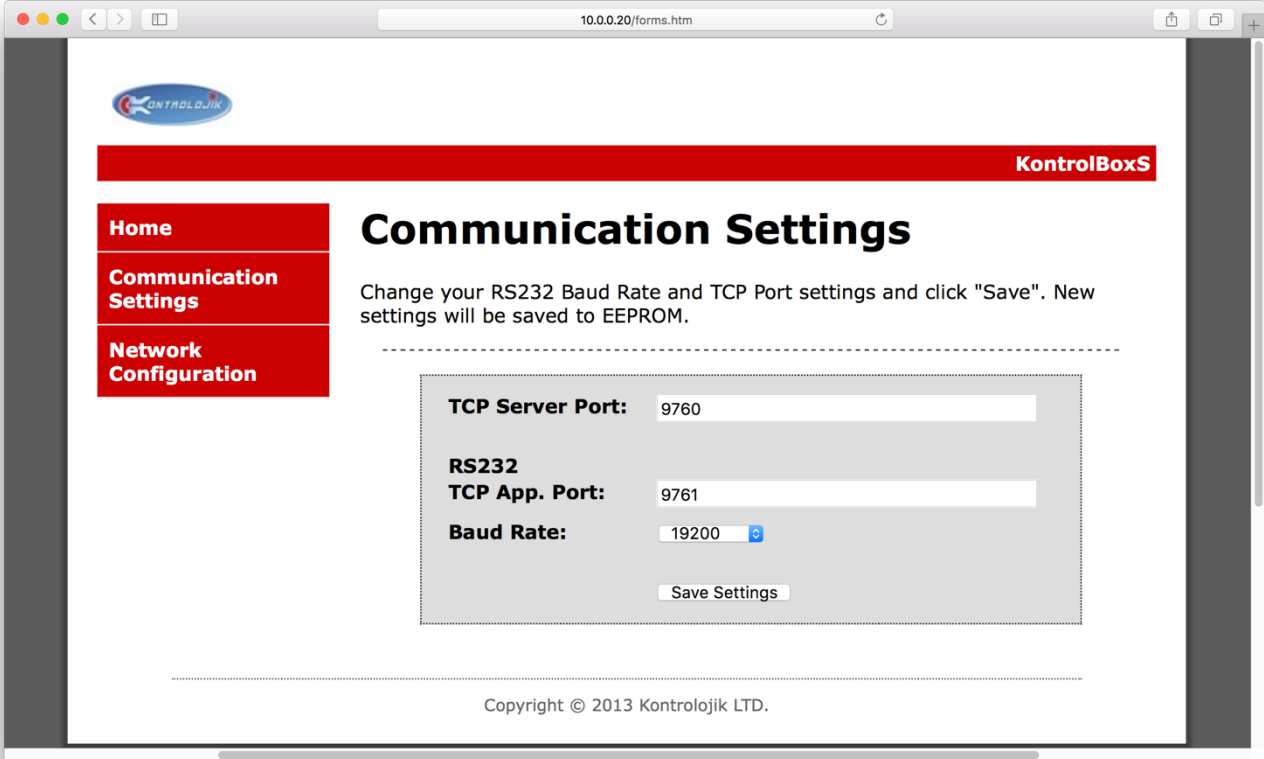
1. **Go to the Interface:**
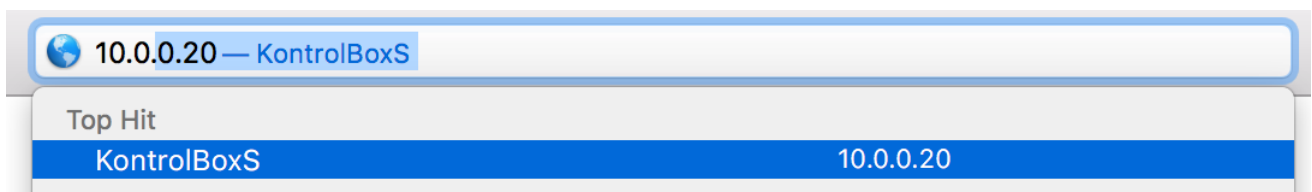
Write down the IP Address on the screen of the processor to the address bar of the browser.

2. **Home Page:**

Home Page is the section where you can find the firmware version and the unique serial number of the product.

3. Communication Settings:

In the Communication Settings Page, you can read and change TCP Server Port, RS-232 TCP App. Port and Baud Rate for serial communication.

4. Network Configuration:

User name and password is required for entering the network configuration page. You can demand the user name and password from your supplier.

After logging in, network configurations can be edited from the related sections.
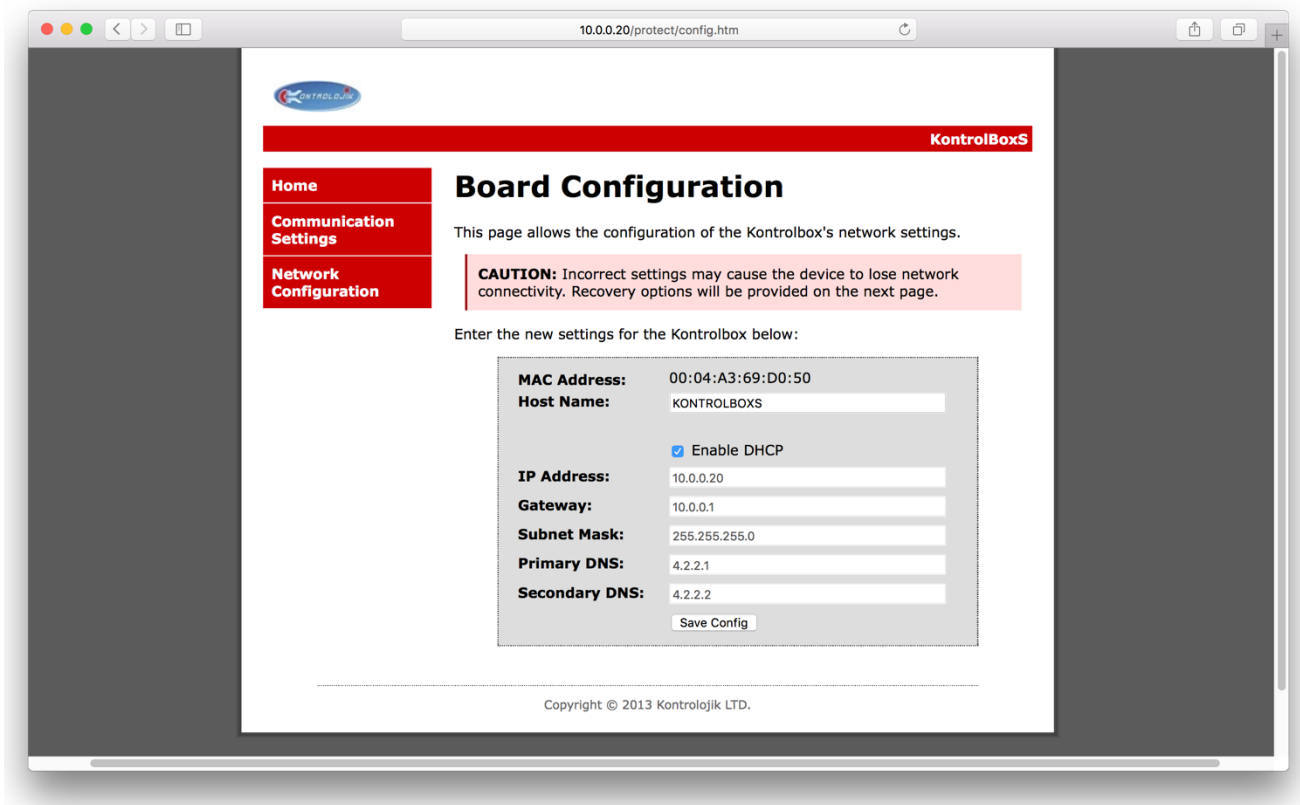
Host name is the name of the processor. This can be edited for the applications which includes more than one KontrolBox S in the same location.

IP address and other network settings can be entered manually or with selection of "Enable DHCP" automatic IP address will be assigned to the processor.

After changing the settings, you shall click to the "Save Config" button and the processor will restart to apply the new settings.

CONTROL PROTOCOLS

COMMANDS								
TCP Port	Command	Parameter Description	Description	Examples	Example Explanation	Feedback	Feedback Examples	Feedback Explanation
IR-RELAY	::CMDRESET		Resets the device.					
IR-RELAY	::CMDRL[port]ON	port 1-12 (10=A,11=B,12=C)	Makes related relay's status: ON.	::CMDRL1ON	Relay 1: ON	##RELAY[port]: 1	##RELAY1: 1	
IR-RELAY	::CMDRL[port]OF	port 1-12 (10=A,11=B,12=C)	Makes related relay's status: OFF.	::CMDRL1OF	Relay 1: OFF	##RELAY[port]: 0	##RELAY1: 0	
IR-RELAY	::CMDRL[port]TG	port 1-12 (10=A,11=B,12=C)	TOGGLEs Related Relays. 1 to 0, 0 to 1.	::CMDRL1TG	Relay 1: TOGGLE	##RELAY[port]:[0-1]	##RELAY1: 1 or ##RELAY1: 0	
IR-RELAY	::CMD??_		Asks Status.			##STATUS[input s],[relays]	##STATUS0 10,1011	input 2=1, Relay 1,2 and 4 = 1
IR-RELAY	::CMDvsn		Asks serial number and the firmware version.			##VERSER[serial no],[version]	##VERSER0 A12224C5 D6E,v1.0	
IR-RELAY	::CMDRI[port]FR	port 1-12 (10=A,11=B,12=C)	Related input and relay works individually.	::CMDRI1FR	Input 1 and Relay 1 are independent from each other.	##INPUT[port] MODE:0	##INPUT1 MODE:0	
IR-RELAY	::CMDRI[port]DR	port 1-12 (10=A,11=B,12=C)	Related input and relay works parallel.	::CMDRI1DR	Input 1 and Relay 1 are parallel.	##INPUT[port] MODE:1	##INPUT1 MODE:1	
IR-RELAY	::CMDRI[port]PL	port 1-12 (10=A,11=B,12=C)	Related input's pulse TOGGLEs related relay.	::CMDRI1PL	Input 1 and relay one are pulse-toggle.	##INPUT[port] MODE:2	##INPUT1 MODE:2	

TCP Port	Command	Parameter Description	Description	Examples	Example Explanation	Feedback	Feedback Examples	Feedback Explanation
IR-RELAY	::CMDIR[port] [Repeat][IR command]	port 1-6, repeat 00-99, command pronto format	Sends IR Pronto command to the related port specified times.	::CMDIR1090000 006C….	Assign following IR command to the IR port 1 for 9 times.			
IR-RELAY	::CMDCLR_E	Clear Eeprom	Factory Settings applies to the Eeprom with restart.					
IR-RELAY	::CMDRTMAC		Reads MAC address from the Eeprom.			[MAC ADDRESS]	FA0034223 344	
IR-RELAY	::CMDRTEPP		Reads Eeprom and sends Eeprom's content.			[Eeprom Content]	…..	
IR-RELAY	::CMDRam_T		Tests RAM and informs the steps in received answers.					
IR-RELAY	::CMDCHECK		Gives the inner structure size.			sNVM:[size], sAPPc:[size], sAPPs:[size]	sNVM:012, sAPPc:064, sAPPs:122	
IR-RELAY	::CMDY[address] [value]	address 1 byte hex value, value ascii 3 byte	Writes 3 bytes of information from an address of Eeprom.	Hercule Example ::CMDY$12abc	Writes a to address $12 (18); b to the 19 and c to the 20.			