This document contains information on using the eBookingonline.net windows application for controlling lighting and or heating. This application is supported on Windows 10 and Windows 11 that is installed on a PC on your local site.

Warning

Please consult a qualified Electrician for your region and building type. This document does not detail electrical specifications as these will be specific to your building and local electrical compliance laws and standards. This document details the communication of the system and not the electrical switching of the system. eBookingonline.net cannot be held responsible for any electrical faults resulting in any loss.

About

Controlling lighting or any other electrical system is performed using electrical relays (switches) that are controlled by a central or distributed controller. A small windows-based application, supplied by eBookingOnline.net, interfaces the eBookingOnline.net database containing your online bookings with these controllers sending the appropriate messages to either switch on or switch off the relays / switches.

The following diagram illustrates this basic concept.



Prerequisites

To communicate with the EBO database API Credentials will need to be created. This allows communication from your club computer hosting the EBO application directly with the EBO API to retrieve courts and bookings for lighting an heating. The API credentials are generated through the main page of the Admin Panel using the API Credentials button towards the bottom of the page and is detailed in the Administration Guide.

You will also need a Windows based computer to run the application. This computer must use the external IP Address supplied as part of the Remote Database Access request. It is recommended that this be the same computer used by members at your club, for example a Kiosk based system. The PC should not be configured to shut down or enter any sleep mode as the application runs in real-time it needs to be running constantly. Power plans that shutdown monitors or hard disks are fine. Currently the following versions of Windows are supported:

- Windows 10
- Windows 11

How does it Work?

Using your unique remote database username and password booking details for the next 24 hours are downloaded from the online system to the local application, the process is then repeated every 3 minutes. This allows the application to have an up to date image of the online bookings and in the event of local Internet failure a snapshot of bookings for the next 24 hours, this enables the local switching of lighting and is known as 'offline' mode. Any bookings made whilst the application is working in 'offline' mode will not available to the application and as such court lighting will not be switched. Once Internet connectivity is restored the application will resume as normal.

The application maps individual courts with addresses in the controllers and checks for bookings every minute. If the court is booked then the application sends an 'ON' message for that court, if not then it sends an 'OFF' message. The controllers are then responsible for switching the associated relay, which in turn switches the electrical circuit for the lights / heating.

The status of the court lights and all upcoming bookings can be viewed using the application but they cannot be switched on or off manually. It is recommended that your electrician installs a bypass system so that lights can be manually turned on and off, e.g. for maintenance.

What Controllers can be used?

There are four types of controllers that eBookingOnline.net support. The preferred model for new installations is the Yotta Control 1869 or SeaMAX 150e. Please note that the USR devices are still listed for existing clients but in general are no longer available. The latest software has been written using a standard known as MODBUS TCP, so in theory any Modbus TCP compatible controller should work but at the time of writing only the BEM105 and Yotta 1860/1869 has been tested by eBookingonline.net.

- 1. Yotta Control 1860 / 1869 The Yotta controllers provide 4 relays and 8 relays respectively. They support the Modbus TCP standard using an inbuilt Ethernet (100 Mbps) port. The unit will require an external power supply or can be powered by the micro USB port. Essentially it is an IP enabled device connecting to your local network through wired Ethernet to electrical circuits. In this configuration the application sends ON/OFF messages directly to the controllers over the Ethernet. Typically, the controllers would be located near to the distribution panel for the electrical wiring system. Please note that the device has a total limit of 10 amps @ 240vac, it is advised when using this model for multiple lighting circuits to use external relays that are rated at the appropriate level. In this way the Yotta controller is switching an external relay, which in turn switches the lighting circuit.
- 2. Waveshare Modbus POE ETH Relay The Waveshare Ethernet Relay is one of the preferred solutions for controlling lighting. It controls up to eight circuits and connects through an inbuilt RJ45 Ethernet port. If more than eight circuits are required, then multiple controllers can be used. It also supports being powered through the Ethernet cable (POE) Essentially it is an IP enabled device connecting to your local network through wired Ethernet to electrical circuits. In this configuration the application sends ON/OFF messages directly to the controllers over the Ethernet. Typically, in this configuration the controllers would be located near to the distribution panel for the electrical wiring system. Please note that the device has a total limit of 10 amps @ 240vac, it is advised when using this model for multiple lighting circuits to use external relays that are rated at the appropriate level. In this way the controller is switching an external relay, which in turn switches the lighting circuit.
- 3. SeaLevel 150e The SeaLevel controllers provide 4 relays, this device has been successfully installed by a client using generic ModBus TCP, this device is available in the EU but has not been fully tested by eBookingOnline. These devices support the Modbus TCP standard using an inbuilt Ethernet (100 Mbps) port. The unit will require an external power supply or can be powered by the micro USB port. Essentially it is an IP enabled device connecting to your local network through wired Ethernet to electrical circuits. In this configuration the application sends ON/OFF messages directly to the controllers over the Ethernet. Typically, the controllers would be located near to the distribution panel for the electrical wiring system. Please note that the device has a total limit of 5 amps @ 240vac, it is advised when using this model for multiple lighting circuits to use external relays that are rated at the appropriate level. In this way the SeaLevel controller is switching an external relay, which in turn switches the lighting circuit.
- 4. BEM105 Modbus Edition (end of life) The BEM105 from Brick Electric is one of the preferred solutions for controlling lighting. It controls up to four circuits and connects through an inbuilt RJ45 Ethernet port. If more than four circuits are required then multiple controllers can be used.

Essentially it is an IP enabled device connecting to your local network through wired Ethernet to electrical circuits. In this configuration the application sends ON/OFF messages directly to the controllers over the Ethernet. Typically, in this configuration the controllers would be located near to the distribution panel for the electrical wiring system. Please note that the device has a total limit of 10 amps @ 240vac, it is advised when using this model for multiple lighting circuits to use external relays that are rated at the appropriate level. In this way the BEM controller is switching an external relay, which in turn switches the lighting circuit.

- 5. USR-IO808 EWR Ethernet Controllers (end of life) The USR IO808 has many controls and inputs, including 8 relays which the EBO application can control the lighting for up to 8 courts. Essentially it is an IP enabled device connecting to your local network either through WIFI or wired Ethernet. In this configuration the application sends ON/OFF messages directly to the controllers over the Wi-Fi or Ethernet. Typically, in this configuration the controllers would be located near to the distribution panel for the electrical wiring system. Please note that the 8-channel device has a total limit of 10 amps @ 240vac, it is advised when using this model for multiple lighting circuits to use external relays that are rated at the appropriate level. In this way the USR controller is switching an external relay, which in turn switches the lighting circuit.
- 6. USR-WIFI-IO-83 Ethernet Controllers (end of life) These are older USR devices are IP enabled devices and can be controlled either via Wi-Fi or wired Ethernet depending on model. Typically, these devices combine the controller and relay into one unit. As such there is no additional hardware required for the computer hosting the EBO application. In this configuration the application sends ON/OFF messages directly to the controllers over the Wi-Fi or Ethernet. Typically, in this configuration the controllers would be located near to the distribution panel for the electrical wiring system. Please note that the 8-channel device has a total limit of 10 amps @ 240vac, it is advised when using this model for multiple lighting circuits to use external relays that are rated at the appropriate level. In this way the USR controller is switching an external relay, which in turn switches the lighting circuit.

Configuration of the Courts

Before installing any software configure each court with the correct lighting / heating address in the Admin Panel. It is this IP address that makes the association with each court to the controller. The IP Address you enter is the IP address that you assign to the controller, along with the channel number of the associated relay. For USR-WIFI-IO-83 devices also enter the administration password; this is not used by later USR devices. To enable lights for each court, check the *enable lighting controls* check box.

Dashboard Vlew key analytics & statistics	Manage Courts					
	Please complete the form below to com	figure or update each court and	click save.			
Main Edit Club details & Manage Admins	Court Name	Court 1				
Sports Manage available	Sport	Tennis 💌				
sports	Peak Court Cost (£)	0.00	Off Peak Court Cost (£)	0.00		
Courts Manage the courts available to each sport	Peak Guest Fee (£)	10.00	Off Peak Guest Fee (£)	10.00		
Special Events Manage the special	Peak Coaching Fee (£)	12.00	Off Peak Coaching Fee (£)	12.00		
event types	Use Lighting Controls					
Group Events Manage Group Events	Lighting Controls	_				
Manage Database Create membership types, fields & Import / Export features	Lighting cost (£)	2.00				
Manufactor	WiFi Lighting IP Address	192.168.0.52				
Manage Member account details & payments	WiFi Lighting Password	admin				
Sponsorship Create or Edit your sponsor's details	WiFi Lighting Channel	1	•	Disable Night		
Reports View Booking Statistics & graphical reports	Light Offset (min)	10 Sunset Offse	t (min) 30 Night Use On	y ✔ Lights selection ✔		

The lighting cost is optional, if supplied this will be used in addition to any other court costs to calculate the total cost of the booking.

There are a few configurable parameters that can be used when to enable the lights, varying the time against the booking time.

Light Offset This is the time in minutes that the lights will be switched on *before* the time of the booking. This may be useful for outdoor lighting when the lights need to warm up first, or for staggering lighting start up times to reduce power surges.

Night Only Check this box if lights are only to be used after sunset, typically this is required for outdoor lighting. This requires the longitude and latitude of your location to be configured in the global system configuration. Having these co-ordinates, the system is able to calculate the local sunset time and will offer the option for members at booking time to select whether or not to use the lights. Bookings that have an end time later than local sunset will be given this option. For special events the lights will be selected by default.

Disable Night Lights Selection By default members will be offered lights when they make a booking, this is dependent on the sunset offset. Checking this box disables this feature, meaning members will have the lights selected automatically for them and charged accordingly

Sunset Offset This option is used in conjunction with night only. The default behaviour for night only is to allow the use of lights after sunset. This offset allows the selection of lights to be adjusted in minutes before sunset. The following is an example to explain this further.

Local Sunset time 19:23 Light Offset is 8 minutes

Sunset Offset is 30 mins

Each court is configured for 30 min slots on the hour and half hour

Court Booking Time	Time Lights will be allowed	Lights Offered	Lights switched on at
18:00 - 18:30	19:23 – 30 mins = 18:53	×	
18:30 - 19:00	19:23 – 30 mins = 18:53	\checkmark	18:30 - 8 = 18:22
19:00 - 19:30	19:23 – 30 mins = 18:53	\checkmark	19:00 - 8 = 18:52

Yotta Controller Installation

Each Yotta controller requires a static IP address, this can either be manually configured or allocated statically by a DHCP server. The address given to the controller needs to be unique and not be part of the local DHCP scope. For the purposes of this example the address of 192.168.0.51 will be used with a subnet mask of 255.255.255.0. You will need to determine the best IP Address to use by referencing your existing network configurations, typically the broadband router.

A suitable power supply of 10-30V dc will also need to be connected to each device.

- 1. Install the **Yotta Utility** and **Yotta USB Driver** under the REMOTE CONTROL section from <u>http://www.yottacontrol.com/download.html</u>
- 2. Connect a suitable DC power source to the controller as defined in the Yotta documentation at http://www.yottacontrol.com/download/10X_DM_E.pdf
- 3. Connect a micro USB cable from the Yotta Controller to the PC with the Yotta Utility and USB Driver software installed.
- 4. Set the switch on the back of the Yotta controller from NORM to INIT
- 5. Run the Yotta Utility from the PC

DO NOT RUN THE YOTTA UTILITY AND THE EBO APPLICATION AT THE SAME TIME

- EVEN FROM DIFFERENT DEVICES

6. The Yotta Utility will list a number of COM ports. Select the COM port the PC has assigned to the Yotta Controller Driver (COM8 in the example below) and click on the Binoculars (Find Icon)

🙀 Yotta Utility		
File Tools Language Help		
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Ports Modbus Image: COMB Image: RTU Image: COMB Image: RTU Image: RTU ASCI Image: RTU Image: RTU Image: RTU Image: RTU <t< td=""><td>Baud Rate (bps)</td><td></td></t<>	Baud Rate (bps)	

7. If successful, the Yotta Utility will list the discovered controllers under the COM port listing Yotta Utility

File Tools Language He	elp	
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Ports - S ² COM1 - S ² COM8 - B ² (*)1869 Ethernet - B ² 192.168.227.1 - B ² 192.168.111.1 - B ² 192.168.0.50	Modbus ☑ RTU ASCII Station ID (0~255) Fro (Hex : 00) To 10 (Hex : 0A) Settings Image:	Baud Rate (bps) ☐ 1200 ☐ 38400 ☐ 2400 ☐ 57600 ☐ 4800 ☑ 115200 ☑ 9600 ☐ 230400 ☐ 14400 ☐ 460800 ☐ 19200 ☐ 921600 ☐ 28800

- 8. Click on this Controller ICON to configure the controller.
- 9. Click on the Ethernet Settings tab and set the following parameters:
 - a. Device 1
 - b. Protocol Modbus TCP/IP

c. IP address – enter the static IP address, mask and gateway you have assigned from your network. The gateway is optional and only required on a routed network.

🎡 Yotta Utility								-		×
File Tools L	anguage H	lelp								
目的的	<i>»</i>	0								
Ports COM1 CM CM	1869 58.227.1 58.111.1 58.0.50	1869 Modbus Statio Hex Baud 90 Parity: N Data Bit: 8 Stop Bit: 1 Protocol: M Firmware C S/N 0042-001E Digital Output 00024 00023	00 Dec 0	57-2	System Setting Description Verified Protoco Mod O DHCP	Ethernet Settings A 18x-Series 88888888 Jbus TCP/IP 192_168_0_5_5 51 255_255_255_0 192_168_1_1_1 Digital Output (Hex) 0x00	lias Devic MAC 00-42 Auto 2 Port Local 2 Restore	:e 1 -00-1B-5 600 302 Update	0-09] sec e	
		D0 7 D0 6	U U U D05 D04 D03	3 DO 2	Щ Щ D01 D00	0x00				

- 10. Click on Update when complete
- 11. The Yotta Device is now configured. Place the switch on the back to **NORM**, disconnect the USB cable and connect the Yotta Controller to your network using an Ethernet cable.
- 12. The Yotta Utility will show your COM port as disconnected. Restart the Yotta Utility.
- To reconnect to the Yotta Controller over the Network select your Local area Network under the Ethernet section, change the Remote Server IP address to the IP address of your controller and click FIND icon (Binoculars)

🎡 Yotta Utility	
File Tools Language He	p
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Ports COM1 COM1 Ethernet - 금: 192.168.227.1 - 금: 192.168.111.1 - 금: 192.168 0.50	Connection Modbus ✓ Station ID (0~255) Fro Fro (Hex : 00) To 10 (Hex : 0A) Remote Server IP Address IP2 Local Port 502 Remote Port 2000 Connect 3000 ms

14. If successful the Controller will be listed under the Network. Click on this ICON to control the controller. Please note that you cannot change configuration settings in this mode. These can only be changed via the COM port.

👙 Yo	otta Utility			
File	Tools	Language	Help	
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	Ports CO Etherne 금 192 고급 192 고급 192	M1 21.68.227.1 2.168.111.1 2.168.0.50 (0)1869		Connection Modbus TCP/IP ✓ Modbus ✓ RTU ASCII Station ID (0~255) Fro 0 (Hex : 00) To 10 (Hex : 0A) Remote Server IP Address 192.168. 0 51 Local Port 502 Remote Port 2000 Connect 3000 ms Response Timeout 250 ms

15. You can use this Utility to turn on / off the Digital Outputs (relays) by clicking on the ICON as shown below.

🎡 Yotta Utility			—
File Tools Language	Help		
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 Ports COM1 ■ Ethernet - 금 192.168.227.1 - 금 192.168.111.1 - 금 192.168.0.50 - 금 (0)1869 	1869 Modbus Statio Hex 00 Dec 0 Baud Parity : Data Bit : Stop Bit : Protocol : Modbus TCP/IP Firmware C5.88 S/N 0042-001B-5009-4B52-3357-2	System Settings Ethernet Settings A Comm. Fail Safe D0 3 D0 2 D0 1 D0 0 D0 7 D0 6 D0 5 D0 4 Timeout 0 msec Restore Upda	Power-up Output
	Digital Output 00024 00023 00022 00021 00020 0001 007 006 005 004 003 002	9 00018 00017 Do 1 Do 0 Digital Output (Hex) 0x03	

16. Exit the utility once complete.

DO NOT RUN THE YOTTA UTILITY AND THE EBO APPLICATION AT THE SAME TIME – EVEN FROM DIFFERENT DEVICES

WaveShare POE ETH Replay Installation

Each WaveShare controller requires a static IP address, this can either be manually configured or allocated statically by a DHCP server. The address given to the controller needs to be unique and not be part of the local DHCP scope. For the purposes of this example the address of 192.168.0.51 will be used with a subnet mask of 255.255.255.0. You will need to determine the best IP Address to use by referencing your existing network configurations, typically the broadband router.

To configure the WaveShare controller you will need to use the Vir.com software available here:

https://files.waveshare.com/upload/4/42/VirCom_en.rar

- 1. Install the vir.com software on a windows computer on the same network (IP subnet) as the WaveShare controller.
- 2. Ensure that the controller has been allocated a DHCP address.
- 3. From the vir.com software select DEVICE and then AUTOSEARCH, your controller should be displayed.



- 4. Select your controller and click EDIT DEVICE
- 5. Ensure that the following are set:
 - a. IP mode to static if using a statically configured address or DHCP if using a static IP address controlled through your router using DHCP
 - b. IP address of the Controller if using Static mode

- c. Port 502
- d. Work Mode TCP Server
- e. Net Mask set to your networks subnet mask if using a static address
- f. Gateway set to your networks router if using a static address
- g. DNS server set to a valid DNS server such as your local router, or Google (8.8.8.8 or 8.8.4.4)
- h. Transfer Protocol Modbus_TCP Protocol
- i. ALL OTHER SETTINGS default

Device Settings			IF733AC SP73.1	×
Device Info	Network		Advanced Settings	
Virtual Serial Not Use	IP Mode	Static	DNS Server IP	8.8.4.4
Dev Туре	IP Address	192 . 168 . 0 . 51	Dest. Mode	Dynamic 🗾
Dev Name 000000001	Port	502	Transfer Protocol	Modbus_TCP Protocol
Dev ID 2871515E141D	Work Mode	TCP Server	Keep Alive Time	60 (s)
Firmware Ver V1.486	Net Mask	255 . 255 . 255 . 0	Reconnet Time	12 (s)
	Gateway	192 . 168 . 0 . 1	Http Port	80
Function of the device	Dest. IP/Domain	192.168.1.3 Local IP	UDP Group IP	230 . 90 . 76 . 1
Vveb Download	Dest. Port	4196	Register Pkt:	🗖 ASCII
DNS System	Carial	1	Restart for no data	a every 300 Sec.
REAL_COM Protocol	Serial		Enable send para	meter every 5 Min
Modbus TCP To RTU	Baud Rate	115200 💌		
🗹 Serial Commnad	Data Bits	8 🔻	More Adv	aced Settings
☑ DHCP Support	Parity	None		
Storage Extend	Stop Bits	1	- Framing Rule Max Frame Length	1300 (Byte)
Multi-TCP Connection	Flow Control	None	Max Interval(Smaller	will better) 3 (Ms)
Get Default Save As Default Load De	efault	Modify Key Firmware/Conf	ic Restart Dev N	Nodify Setting Cancel

- 6. Click on MODIFY SETTING
- 7. Ensure the PC that will run the EBO Lighting Software can "ping" your controller i.e. frome the command prompt type >ping *controller ipaddres*

For further information please consult the WIKI full documentation at https://www.waveshare.com/wiki/Modbus_POE_ETH_Relay

To continue the installation of PC controller software please go to the section **Installing the EBO** Package to Manage the Controller

BEM105 Installation

Each BEM105 controller requires a static IP address, this can either be manually configured or allocated statically by a DHCP server. The address given to the controller needs to be unique and not be part of the local DHCP scope. For the purposes of this example the address of 192.168.0.78 will be used with a subnet mask of 255.255.255.0. You will need to determine the best IP Address to use by referencing your existing network configurations, typically the broadband router.

A suitable power supply of 7-36V dc will also need to be connected to each controller, or you can also use standard PoE via the Ethernet cable.

The BEM105 devices have an initial IP Address of 192.168.1.105 with a subnet mask of 255.255.255.0. To configure each device you will need to connect a PC to the same network as the BEM controller, for example setting the PC to IP address 192.168.1.106 subnet mask 255.255.255.0. You should be able to ping 192.168.1.105 from the PC to be able to continue.

The BEM105 is configured through a web browser by issuing commands to it. The first command is to set the IP address to your preferred value for your network. These parameters have no effect until they are saved and the device reboots:

- 1. Set IP address using the web browser url http://192.168.1.105/ipaddr=192.168.0.78
- 2. Set Subnet Mask using the web browser url http://192.168.1.105/netmask=255.255.255.0
- 3. You can optionally set the default gateway but in most cases this is not needed as the controller will sit on the same network as the controlling PC.
- 4. Save the configuration using the url http://192.168.1.105/save=1
- 5. Reboot the device using the url http://192.168.1.105/reboot=1

Once connected to your live network you should be able to ping the device on its new IP address.

To test switching on/off circuits you can use the following commands again through a web browser.

Switch on channel 1 - http://device_ip/k01=1

Switch off channel 1 - http://device_ip/k01=0

We also recommend setting a password for the device for security purposes, they are 6 characters in length:

Enable password protection - http://device_ip/pwenable=1

Change the default password of 123456 to abcdef - http://192.168.1.105/ pw=123456&newpw=abcdef

For further information please consult the BEM105 full documentation at https://brickelectric.com

To continue the installation of PC controller software please go to the section **Installing the EBO** Package to Manage the Controller

USR-IO808-EWR Relay installation

The USR-IO808 EWR wifi controller requires a static IP address, this can either be manually configured or allocated statically by a DHCP server. The address given to the controller needs to be unique and not be part of the local DHCP scope. For the purposes of this example the address of 192.168.0.78 will be used with a subnet mask of 255.255.255.0. You will need to determine the best IP Address to use by referencing your existing network configurations, typically the broadband router.

The USR devices are initially configured through a Web GUI. When first powered on the controller will act as a Wifi Access Port with a SSID of USR-WIFIO-83. The first task is to connect a PC or tablet to this wireless network and reconfigure the USR device with the correct IP address and mode of STA.

- 1. Power on the USR device and connect a wireless device to the wifi network SSID **IO808-EWR**, the default password is **www.usr.cn**
- 2. Once connected point the device's browser to http://192.168.10.1. The default username and password are both **admin** (lowercase).
- 3. The opening page for Working Mode Selection should be displayed. Select **STA Mode** and click on Apply but do not restart the system

Mode Selection	Working Mode Configuration
AP Interface Setting	
STA Interface Setting	You may configure the Uart-WIFI module wifi mode.
Application Setting	O AP Mode: Access Point
<u>Ethernet Setting</u>	STA Mode: Station Mode
	Apply Cancel

4. From the left hand menu select STA Interface Settings. Set the AP's SSID to your local WIFI network along with the security type and pass phrase. In the WAN connection drop dropdown

5050

select STATIC (fixed IP) and complete the form with the IP address assigned for your USR controller Click on Apply but do not restart the system

Mode Selection	STA Interface	STA Interface Setting				
AP Interface Setting						
STA Interface Setting	You could configure STA in	terface parameters.				
	STA Interface Parameters					
Application Setting	AP's SSID	home				
Ethernet Setting	Security Mode	WPA2PSK V				
	Encryption Type	AES V				
<u>Device Management</u>	Pass Phrase	dillar 1971an				
		Apply Cancel				
	WAN Connec	STATIC(fixed IP) V				
	Static Mode					
	IP Address	192. 168. 0. 78				
	Subnet Mask	255. 255. 255. 0				
	Default Gateway	192. 168. 0. 1				
	DNS					

5. From the left hand menu select Device Management. It is strongly recommended to change the Admin default password. Once complete Click on the restart button to affect changes.

➡ <u>Mode Selection</u>
AP Interface Setting
STA Interface Setting
Application Setting
Ethernet Setting
Device Management

WIFI Module Management

1.0.9

You may configure administrator account and password, load default setting or update firmware.

Account	admin
Deserveral	
Passworu	
	Apply Cancel
Restart Module	
Restart Module	Restart
Restore Default	
Restore Default Button	Restore Default
	······································
Update Firmware	
Location:	Browse

You can use the USR installation package to control and test the USR controller. This is available from www.usriot.com , the version at the time of this document is V1.1.00



Once unzipped and installed on a PC running on the same network, the following screen will be displayed. Click on the **By TCP** icon highlight below, and then click on **Search Dev**:

eBookingOnline.net TechNote

USR-IO808-EWR V1.1.0	_			
O H	😇 🎯 .			•
Select Type By TCP	By UART Open Serial	Query Params FW Update	USR Cloud Languag	e
Dev 17	Search Number of devi	ces: 0 Switc	h To Param Set Hide Lo	g
Device Information				
Device Name:		MCU Software Version:		
MCU Hardware Version:			Refresh off	
D0-1 D0-2	off off D0-3 D0-4	off off D0-5 D0-6	off off D0-7 D0-8	
DI-1 DI-2	 DI-3 DI-4 	DI-5 DI-6	 DI-7 DI-8 	
	2 4 6 8 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		200 - + 200 150 + 150 100 + 100 0 + 00	
a the second sec		0 - 0 -00	0 0 -50 - 60 -100 - 110	

If successful communication is established between the PC and the Controller then there should be a green message with the IP address of the USR controller in the Log pane.

USR-IO808-EWR	t V1.1.0							-
Select Type	ву ТСР	By UART Qu	Lery Params	USR Cloud	ABG -			
Dev	¥	Şearch Dev 👻	Number of device	s: 1	Switch 1	o Param Set	Hide Log	LOG >[Hint][16:16:58:784]
Device Information								Local IP:
Device Name:			1	MCU Software Ve	rsion:			192.108.111.1 192.168.227.1
MCU Hardware Versi	ion:					Refresh	off	192.168.0.100
off D0-1	off DO-2	off DO-3	off	off	off D0-6	off D0-7	off	$\label{eq:response} \begin{split} & [Tx \rightarrow] [192, 168, 111, 1140899 \rightarrow 255, 255, 255, 255, 255, 408999] \\ & [161, 161, 563, 792] [Aec] \\ & NET - IO \\ & Tx \rightarrow] [192, 168, 227, 1140899 \rightarrow 255, 255, 255, 255, 408999] \\ & [161, 161, 587, 596] [Aec] \\ & NET - IO \\ & VTx \rightarrow J 102, 168, 0, 100, 40900, and 55, 355, 355, 355, 408000] \\ \hline \\ & NTx \rightarrow J 102, 168, 0, 100, 40900, and 55, 355, 355, 355, 408000] \\ \end{split}$
@ DI-1	Ø DI-2	DI-3	@ DI-4	DI-5	DI-6	DI-7	DI-8	(1x - 1/152, 100, 100, 100, 100, 100, 100, 100, 10
14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6 / 6 / 2 / 2 / 2 / 2 / 10	2,4.0	×8 ×210		20 200 50 150 00 100	200 - 20 150 - 15 100 - 10		NE - 1-U - 2Fix < {112: 1.68.227.1:48899 < 192.168.227.1:48899[16:1.6:53:80 [Ac] NET - IO - 2Fix < {112: 1.68.0.100:48899 < 192.168.0.100:48899[16:1.6:53:80 [Ac] NET - IO - 2Fix < {122.168.0.100:48899 < 192.168.0.100:48899[16:1.6:58:81] - 2Fix < {123.168.0.100:48899 < 192.168.0.78:48899[16:1.6:58:81] - 2Fix < {123.168.0.100:48899 < 192.168.0.100:48899[16:1.6:58:81] - 2Fix < {123.168.0.100:48899 < 192.168.0.100:4899[16:1.6:58:81] - 2Fix < {123.168.0.100:48899[16:1.6:58:81] - 2Fix < {123.168.0.100:4899[16:1.6:58:81] - 2Fix < {123.168.0.100:489[16:1.6:58:81] - 2Fix < {123.168.0.100:480[16:1.6:58:81] - 2Fix < {123.168.0.100:4
	12_18 /18_ /20	4	() <mark>16</mark> (20)		80 60 0 50 90 50 00 100	50 50 0 0 -80		192.168.0.78,D8B04CFDB418,USR-NET-IO,17
								Send Parity And Send () Clear

Next click on the **Dev** drop down and select the USR controller. You can now turn on or off any of the replays using the graphical interface.

* USR-IO808-EWR V1.1.0							- 2
Select Type	By UART Que	EQ ery Params	USR Cloud	ABC -			
Dev 192.168.0.78 -	Search Dev 👻 N	umber of device	s: 1	Switch 1	To Param Set	Hide Log	LOG NET TO
Device Information							>[Tx ->][192.168.227.1:48899 -> 255.255.255.255:48899]
Device Name:			VCI I Software Ve	reion:			[16:16:58:796][Asc] NET-TO
MCI Hardware Version:			neo sonnare ve		Defrech	off	>[Tx ->][192.168.0.100:48899 -> 255.255.255.255:48899]
Heo Hardware Version.					Renear		NET-IO
							>[Rx <-][192.168.111.1:48899 <- 192.168.111.1:48899] [16:16:58:803][Asc]
off		off	off	off	off	off	NET-IO
on	on						>[Kx <-][192.168.227.1:48899 <- 192.168.227.1:48899] [16:16:58:806][Asc]
D0-1 D0-3	D0.3	DO 4	00-5	D0-6	D0-7	DO-8	NET-IO >Rx <-1[192 168 0 100:48899 <- 192 168 0 100:48899]
001 002	00-3	00-4	00 5	000	007	000	[16:16:58:809][Asc]
	۲	۲	۲	۲	۲	۲	>[Rx <-][192.168.0.100:48899 <- 192.168.0.78:48899]
DI-1 DI-2	DI-3	DI-4	DI-5	DI-6	DI-7	DI-8	[16:16:58:812][Asc] 192 168 0 78 D8B04CEDB418 USR-NET-TO 17
							>[Hint][16:19:43:516]
		_		0 - p 200	200		已连接:192.168.0.78
2, 3, 1, 8, 10	2, 3, 1, 1						>[1x ->][16:20:21:459] 11 05 00 02 FF 00 2F 6A
					150		>[Rx <-][16:20:21:644]
	J			10 100	100		>[Tx ->][16:20:21:648]
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4 8 12 16	4 8 12			00	° 1		
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To continue the installation of PC controller software please go to the section **Installing the EBO Package to Manage the Controller**

Installing the EBO Package to Manage the Controller

Once the Yotta, WaveShare, SeaLevel, BEM105 or USR system has been verified by testing it using the Controller's Web Page the EBO package can be installed; leave the controller connected for the installation of the EBO application. Ensure that the courts have been configured with the correct IP address information for your controllers, failure to do so may cause errors and the application to run slowly trying to find devices that are not connected. Unzip the contents of the package supplied by EBO and double-click on the **setup.exe** icon or the MSI file. The password to unzip the package is EBO.

When prompted 'Are you sure you want to install this application?' click on **Install** to continue. Note that if the Controller is not connected or cannot be found a message box will appear indicating this, if this is the case click on yes to confirm, the application can still be installed but will not work until the Controller is online.

Please note that if you are using the EBO Lighting APP version below 4.4.0 you will require a Global (Internet) static IP address which is associated with a remote database access account, you can obtain this from the Admin Panel. If you are using version 4.4.0 or above then the API is used, API credentials are also obtained from the Admin Panel. Please not that when using the API (version 4.4.0 or above) a Global Static IP address is no longer required.

A Short cut to the EBO application will be installed on the DESKTOP. Click this to run the Lighting application in the background. Open the system tray in the bottom right-hand corner and a small EB icon will be present, right-click this selecting **options**, the following dialogue box will appear.

🖳 Options				-	>
Host	ebookingonline.net				
Database ID	your club id				
Username	your username	j			
Password	your password				
TCP Port	502	Unit ID	1		
Base Address	16				
	☐ Turn Lights ON only if book ☐ Turn Lights ON only if Atter	ing is Paid Idance is confirm	ed		
	Test Connection]			
	Save Cancel				

In the host field fill in ebookingonline.net

- For the Database ID enter your club ID e.g. 44
- For the Username and Password enter your remote Database access credentials or if using version 4.4.0 or above your API credentials.
- Set the options that you require, for Yotta, WaveShare, SeaLevel and BEM controllers the default TCP port of 502 is required.
- The SeaLevel, WaveSHARE & BEM operate on a Base Address of 0, whilst the Yotta uses a base address of 16
- The unit ID is the device ID of the controller. This is set, typically to 1 for the Yotta, Waveshare and BEM and is fixed for SeaLevel devices at 247.

Once complete click on the SAVE button, then re-open the OPTIONS page and click on the TEST CONNECTION; this will test these credentials and your connection to the EBO database. Once successful click **Save** to continue. The application will be minimized back to the system tray.

Please not that on initial set up the EBO application may need to be restarted if the connection is failing. A restart will normally fix any initial connection issues.

Open the application once more from the system tray, selecting the **open** option. The application has two windows, the top window showing the configured courts from the database along with their IP Address and a second window showing any upcoming bookings for the next 24 hours. The use of the refresh buttons can be used at any time to refresh these windows. Please note that each lighting circuit takes approximately 5 seconds to poll, so a Controller with 8 channels can take up to 40 seconds to respond. If the status of the application is 'Offline' then access to the Database cannot be established, in such a case select tools and options from the menu to check and test connection parameters.

The application is now set up and the Controller relays will be switched in and out based on whether a court has been booked.

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File Tools					
eBooking	g Online Light	ing Managem	ent Control (TCI	^o Modbus)	
Lighting / He	eating Status				
Court	Туре	Duration	IP Addr/Channel	Status	λI
Court 3	Heating	2400	192.168.0.51:7	Off	$\mathbf{\tilde{O}}$ -
Court 3	Lights	2400	192.168.0.51:6	Off	
Court 4	Lights	2400	192.168.0.51:4	Off	
Court 1	Lights	3600	192.168.0.51:5	On	
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Uppermine P	leekinge			Refresh	
Opcoming B	ookings				
Court				Time 🔺	
Court 1				30/01/2024 14:00:00	
Court 3				30/01/2024 19:00:00	
Court 3			30/01/2024 19:40:00		
Court 3			30/01/2024 20:20:00	Controller Module	
Court 3				30/01/2024 21:00:00 💌	version 4.3.4
Current Time 14:	33			Refresh	
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Closing the application will not exit the application, it will be minimised to the System Tray. To close the application right-click on the systray icon and select EXIT. This will quit the application completely.