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Description:

This is a guideline how to connect the digitalSTROM installation (referred to as dSS) in your home to the Bang & Olufsen Beolink Gateway (referred to as BLGW).

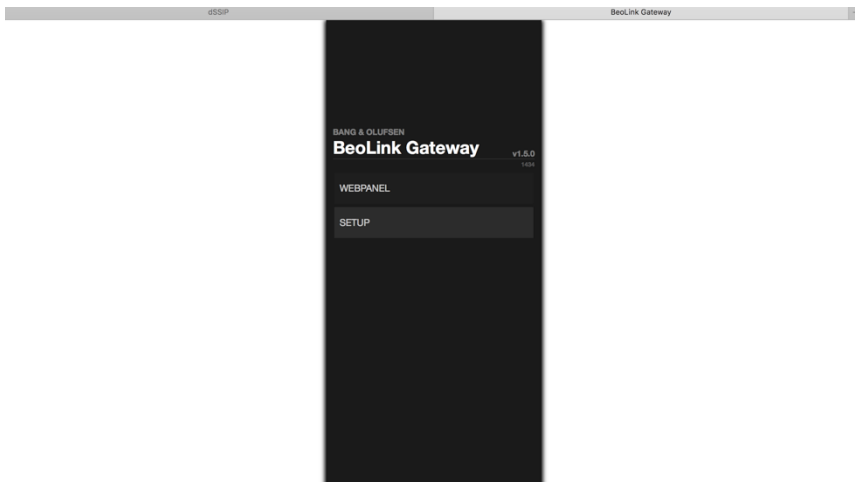
Disclaimer:

Since the driver for this connection in the BLGW was built by a third party and approved by B&O it is supported by B&O, digitalSTROM AG does not give any warranty or other assurance as to the content of the data, information and other material in this document, the accuracy, completeness and the compliance with local laws. All Material is provided on an “as is” and “as available” basis without warranties of any kind, expressed or implied.

First steps:

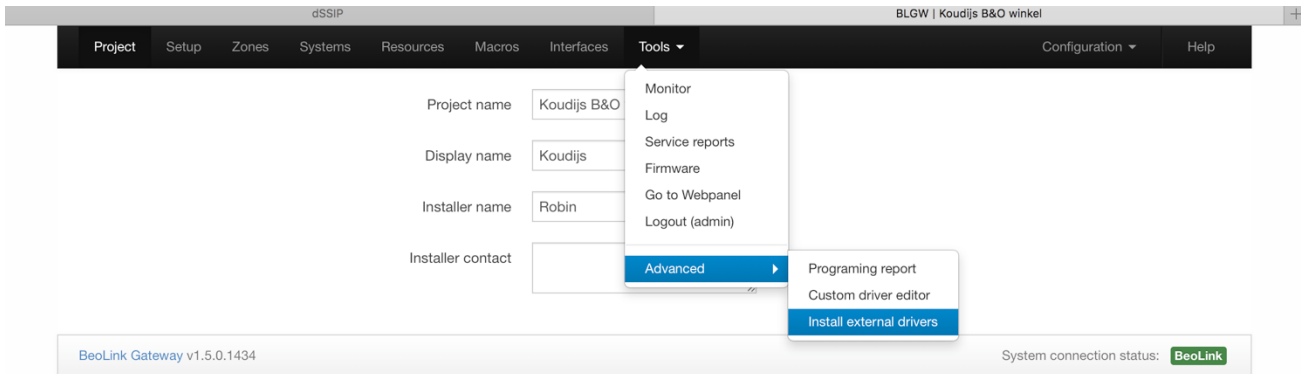
-Make sure both the dSS (digitalSTROM server) and BLGW are connected to your network, preferably with fixed IP addresses.

-With a webbrowser login to the BLGW, default login and password “admin” (always change this !) and select **SETUP**



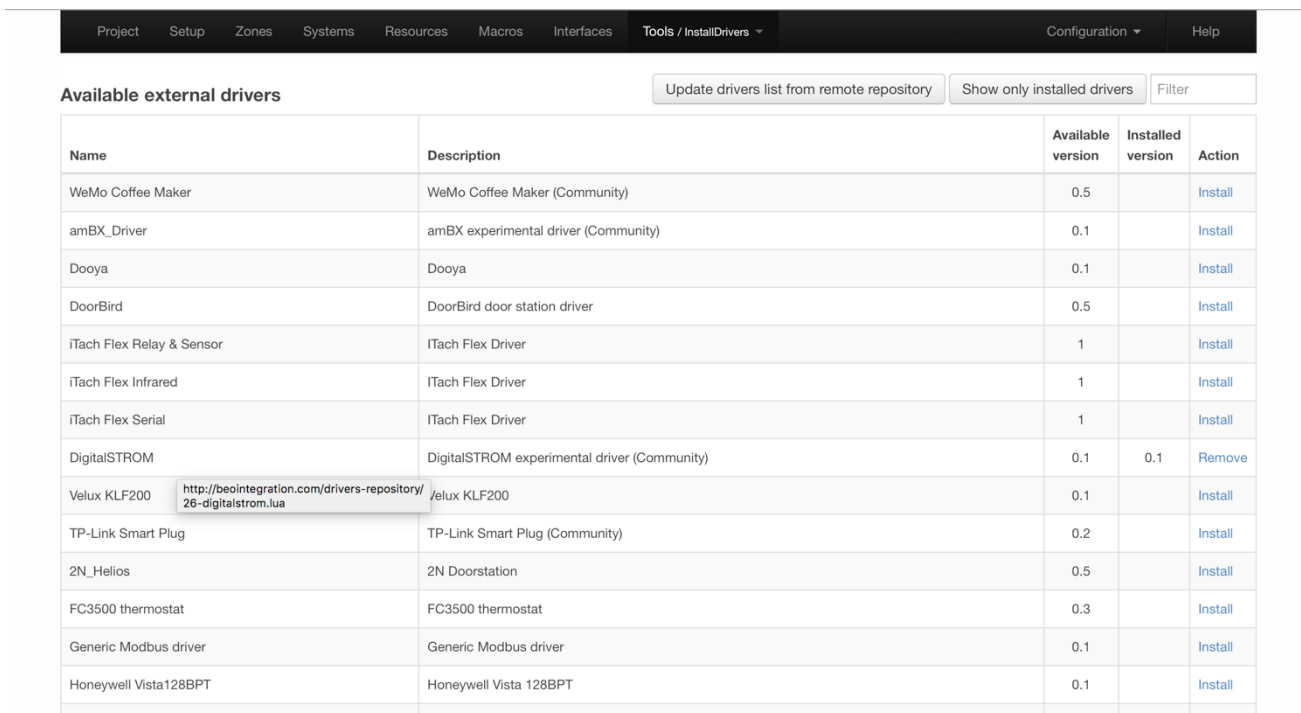
After login (and changing the default admin password) check at the **Tools** section, **Firmware** for the latest BLGW firmware and upgrade if possible.

Next go to the **Tools** section, **Advanced**, **Install external driver**.



The screenshot shows the digitalSTROM web interface. The top navigation bar includes 'Project', 'Setup', 'Zones', 'Systems', 'Resources', 'Macros', 'Interfaces', 'Tools', 'Configuration', and 'Help'. The 'Tools' menu is open, showing options: 'Monitor', 'Log', 'Service reports', 'Firmware', 'Go to Webpanel', 'Logout (admin)', 'Advanced', 'Programming report', 'Custom driver editor', and 'Install external drivers'. The 'Advanced' option is highlighted, and its sub-menu is also open, showing 'Programming report', 'Custom driver editor', and 'Install external drivers'. The 'Install external drivers' option is highlighted in blue. The page title is 'dSSIP' and the user is logged in as 'BLGW | Koudijs B&O winkel'. The footer shows 'BeoLink Gateway v1.5.0.1434' and 'System connection status: BeoLink'.

Select DigitalSTROM from the list and click **Install**, if you don't have the driver in your list you need to upgrade the firmware in your BLGW.



The screenshot shows the 'Available external drivers' section of the digitalSTROM web interface. The top navigation bar includes 'Project', 'Setup', 'Zones', 'Systems', 'Resources', 'Macros', 'Interfaces', 'Tools / InstallDrivers', 'Configuration', and 'Help'. The 'Available external drivers' section has a table with columns: 'Name', 'Description', 'Available version', 'Installed version', and 'Action'. The table lists various drivers, including 'WeMo Coffee Maker', 'amBX_Driver', 'Dooya', 'DoorBird', 'iTach Flex Relay & Sensor', 'iTach Flex Infrared', 'iTach Flex Serial', 'DigitalSTROM', 'Velux KLF200', 'TP-Link Smart Plug', '2N_Helios', 'FC3500 thermostat', 'Generic Modbus driver', and 'Honeywell Vista128BPT'. The 'DigitalSTROM' driver is highlighted, and its 'Action' is 'Remove'. The 'Velux KLF200' driver has a link to 'http://beointegration.com/drivers-repository/26-digitalstrom.lua' in its description. The 'Available version' column shows the version of the driver available for installation, and the 'Installed version' column shows the version currently installed on the system.

Name	Description	Available version	Installed version	Action
WeMo Coffee Maker	WeMo Coffee Maker (Community)	0.5		Install
amBX_Driver	amBX experimental driver (Community)	0.1		Install
Dooya	Dooya	0.1		Install
DoorBird	DoorBird door station driver	0.5		Install
iTach Flex Relay & Sensor	iTach Flex Driver	1		Install
iTach Flex Infrared	iTach Flex Driver	1		Install
iTach Flex Serial	iTach Flex Driver	1		Install
DigitalSTROM	DigitalSTROM experimental driver (Community)	0.1	0.1	Remove
Velux KLF200	http://beointegration.com/drivers-repository/26-digitalstrom.lua /elux KLF200	0.1		Install
TP-Link Smart Plug	TP-Link Smart Plug (Community)	0.2		Install
2N_Helios	2N Doorstation	0.5		Install
FC3500 thermostat	FC3500 thermostat	0.3		Install
Generic Modbus driver	Generic Modbus driver	0.1		Install
Honeywell Vista128BPT	Honeywell Vista 128BPT	0.1		Install



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Next go to the **systems** section, at **New zone** click **--Choose system--** and select DigitalSTROM, click **Add system**.

Project Setup Zones **Systems** Resources Macros Interfaces Tools Configuration Help

Systems

Filter

- Main / Beoplay A9
- Main / Beoplay M5
- Main / Beosound 1
- Main / Winkel demo
- BeoLink**
- Virtual Resources
- New area / New zone
- Choose system --

Install more systems drivers...

Add system

No systems defined in this zone

Winkel demo / BeoLink

Go to system help Delete

Driver name: BeoLink
Origin: included on BeoLink Gateway firmware

Settings

Name: BeoLink

Zone: Main/Winkel demo

BeoSound 5

BeoSound5 host

BeoLink Gateway v1.5.3.230

System connection status: **BeoLink**

Project Setup Zones **Systems** Resources Macros Interfaces Tools Configuration Help

Systems

Filter

- Main / Beoplay A9
- Main / Beoplay M5
- Main / Beosound 1
- Main / Winkel demo
- BeoLink
- Virtual Resources
- New area / New zone
- DigitalSTROM [external]**

Install more systems drivers...

Add system

No systems defined in this zone

Winkel demo / BeoLink

Go to system help Delete

Driver name: BeoLink
Origin: included on BeoLink Gateway firmware

Settings

Name: BeoLink

Zone: Main/Winkel demo

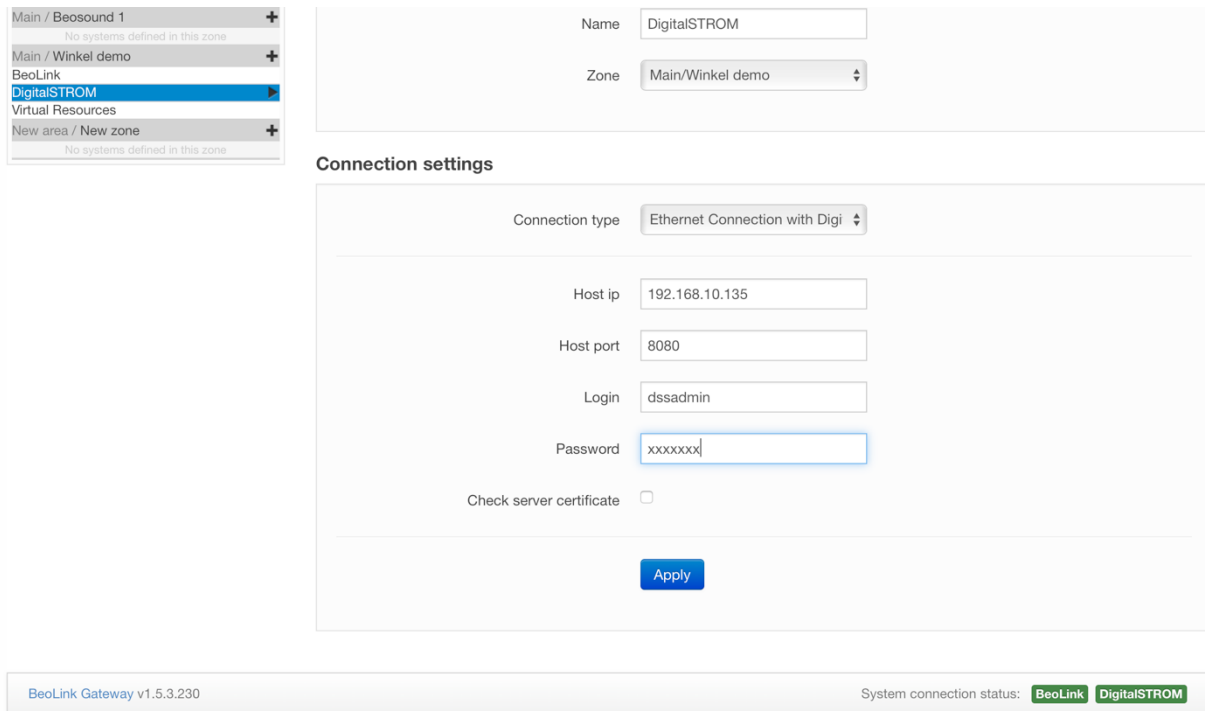
BeoSound 5

BeoSound5 host

BeoLink Gateway v1.5.3.230

System connection status: **BeoLink**

Now the following screen appears where you enter the IP address and login details of your dSS, make sure you uncheck the “Check server certificate” box:



The screenshot shows a web interface for configuring a connection. On the left is a sidebar menu with items: Main / Beosound 1, Main / Winkel demo, BeoLink, DigitalSTROM (highlighted), Virtual Resources, and New area / New zone. The main content area has a form with the following fields:

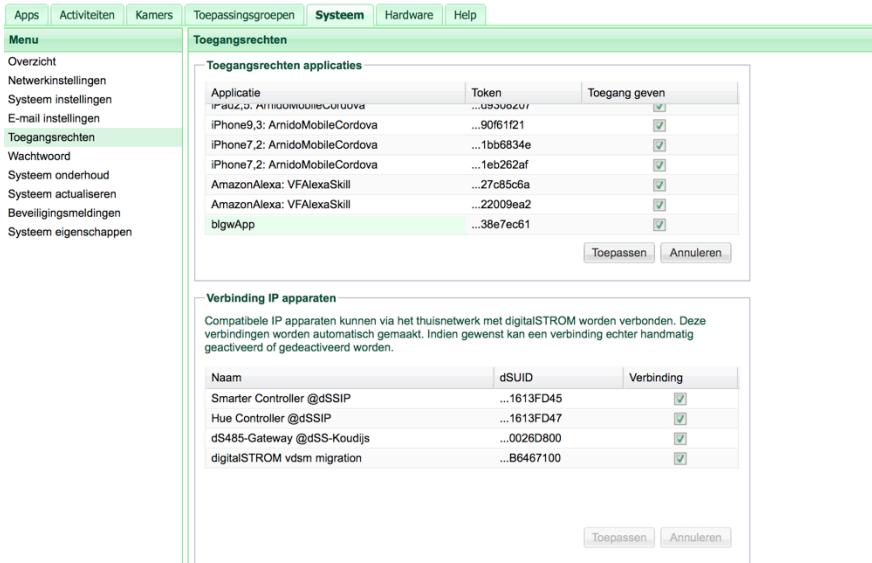
- Name: DigitalSTROM
- Zone: Main/Winkel demo
- Section: Connection settings
- Connection type: Ethernet Connection with Digi
- Host ip: 192.168.10.135
- Host port: 8080
- Login: dssadmin
- Password: xxxxxxxx
- Check server certificate:
- Apply button

At the bottom of the interface, the status bar shows "BeoLink Gateway v1.5.3.230" on the left and "System connection status: BeoLink DigitalSTROM" on the right, with both "BeoLink" and "DigitalSTROM" indicators in green boxes.

Now the BLGW is connected to your dSS, in the right lower part of your screen you see the “System connection status” with both Beolink and DigitalSTROM marked green, the connection is successful. When these boxes are not green, the connection could not be established, check your IP and login details again.

In the digitalSTROM configurator at the System / access rights section you will see the BLGW listed as blgwApp when the connection was established successful.

digitalSTROM configurator



Toegangsrechten applicaties

Applicatie	Token	Toegang geven
iPhone9,3: ArmodoMobileCordova	...90f61f21	<input checked="" type="checkbox"/>
iPhone7,2: ArmodoMobileCordova	...1bb6834e	<input checked="" type="checkbox"/>
iPhone7,2: ArmodoMobileCordova	...1eb262af	<input checked="" type="checkbox"/>
AmazonAlexa: VFAlexaSkill	...27c85c6a	<input checked="" type="checkbox"/>
AmazonAlexa: VFAlexaSkill	...2209ea2	<input checked="" type="checkbox"/>
blgwApp	...38e7ec61	<input checked="" type="checkbox"/>

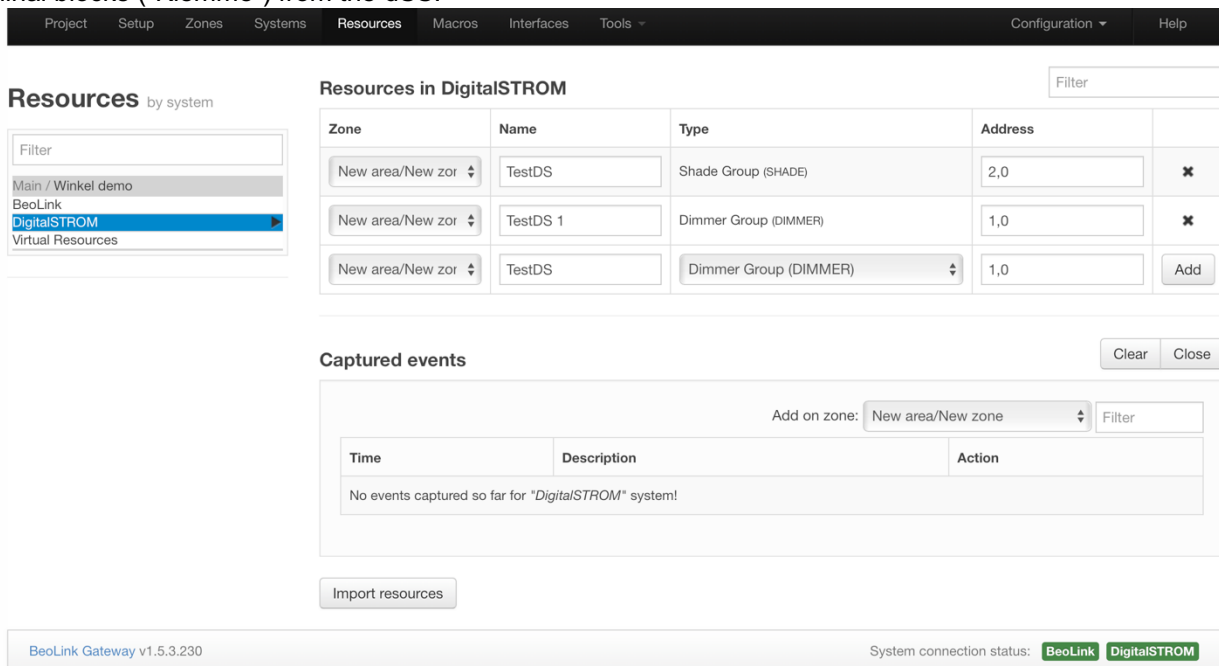
Verbinding IP apparaten

Compatibele IP apparaten kunnen via het thuisnetwerk met digitalSTROM worden verbonden. Deze verbindingen worden automatisch gemaakt. Indien gewenst kan een verbinding echter handmatig geactiveerd of gedeactiveerd worden.

Naam	dSUID	Verbinding
Smarter Controller @dSSIP	...1613FD45	<input checked="" type="checkbox"/>
Hue Controller @dSSIP	...1613FD47	<input checked="" type="checkbox"/>
dS485-Gateway @dSS-Koudijs	...0026D800	<input checked="" type="checkbox"/>
digitalSTROM vdsM migration	...B6467100	<input checked="" type="checkbox"/>

Next back to the setup of the BLGW.

Go to the **Resources** section and click **Import resources**, now the BLGW requests a list of all digitalSTROM terminal blocks ("Klemme") from the dSS.



Resources in DigitalSTROM

Zone	Name	Type	Address	
New area/New zor	TestDS	Shade Group (SHADE)	2,0	✘
New area/New zor	TestDS 1	Dimmer Group (DIMMER)	1,0	✘
New area/New zor	TestDS	Dimmer Group (DIMMER)	1,0	Add

Captured events

Add on zone: New area/New zone

Time	Description	Action
No events captured so far for "DigitalSTROM" system!		

Import resources

BeoLink Gateway v1.5.3.230 System connection status: BeoLink DigitalSTROM



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Click on **Add** for every device you want to be controlled by the BLGW, some devices are listed twice, Type **with State** or **with No State**.

Our urgent advice is to use the No State version as much as possible, the dS system is a decentral system, frequent state requests for devices can cause too much communication on the system and might cause the system to become unresponsive/unstable.

Add on zone:

Import resources

Add loaded resources:

Add on zone:

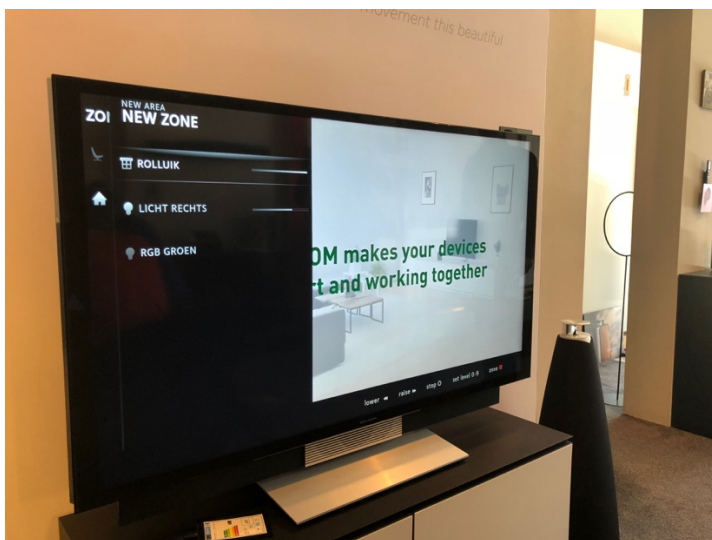
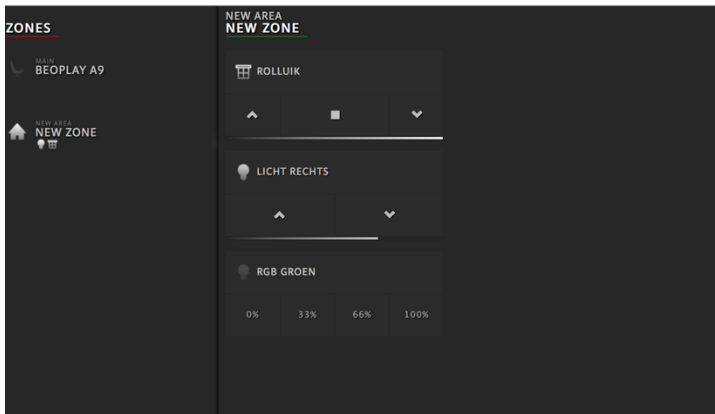
Name in project	Address	Type	Description	Action
RGB groen	302ed89f43f00f00000a72f1	Dimmer with State		Add
RGB groen	302ed89f43f00f00000a72f1	Dimmer with No State		Add
RGB rood	302ed89f43f00f00000a72f0	Dimmer with State		Add
RGB rood	302ed89f43f00f00000a72f0	Dimmer with No State		Add
Kolk lamp	302ed89f43f005c0000d470a	Dimmer with State		Add
Kolk lamp	302ed89f43f005c0000d470a	Dimmer with No State		Add
vacant	302ed89f43f00f00000a72f3	Dimmer with State		Add
vacant	302ed89f43f00f00000a72f3	Dimmer with No State		Add
RGB blauw	302ed89f43f00f00000a72f2	Dimmer with State		Add
RGB blauw	302ed89f43f00f00000a72f2	Dimmer with No State		Add
Rolluik rechts	303505d7f8001680000ca998	Shade with State		Add



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When you have selected the devices, you want to control from the BLGW they appear in the Beolink App and overlay on the B&O TV's.





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“Technical info from the driver developer”:

This driver supports communication with DigitalSTROM system, allowing to control Lights, Light Groups, Shades, Shade Groups and fire global independent scenes.

The available resource types are:

Dimmer with State : Dimmer/Switch with state of GroupID 1 of DigitalSTROM devices.

Dimmer with No State : Dimmer/Switch without state of GroupID 1 of DigitalSTROM devices.

Dimmer Group : Dimmer/Switch Group without state.

Shade with State : Blinds/Shades outside of GroupID 2 or Blinds/Curtains inside of GroupID 12 with state of DigitalSTROM devices.

Shade with No State : Blind/Shade outside of GroupID 2 or Blind/Curtain inside of GroupID 12 without state of DigitalSTROM devices.

Shade Group : Blinds/Shades outside group or Blinds/Curtains inside group without state of DigitalSTROM devices.

Apartment Global Scenes : Fire Global Independent Scenes.

Resource Address

Resource address for each resource type is shown below:

Dimmer with (No) State | Shade with (No) State : Equal to dsID (Internal DigitalSTROM identification number for each device). Eg: 3504175fe000000000182f6.

Dimmer Group : Equal to 1,, where ZoneID refers to the internal DigitalSTROM identification number for each zone. ZoneID = 0 (address = 1,0) refers to whole zones defined on the DigitalSTROM system.

Shade Group : Equal to [2 | 12],, where GroupID = 2 refers to Blinds/Shades outside and GroupID = 12 refers to Blinds/Curtains inside. ZoneID refers to the internal DigitalSTROM identification number for each zone. ZoneID = 0 (address = 2,0 or 12,0) refers to whole zones defined on the DigitalSTROM system.

Apartment Global Scenes : Not apply. Leave address empty.

Commands, Events and States

Dimmer with (No) State | Dimmer Group :

SET : Sets brightness of light in percentage value.



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_SET_BRIGHTNESS : Sets Brightness of light.

_FIRE_SCENE : Fire DigitalSTROM scene on device

INC : Increase output value.

DEC : Decrease output value.

MAX : Set maximum output value.

MIN : Set minimum output value.

STOP : Stop output value transition.

AUTO_OFF : Fade off.

PRESET_0 : Sets output value to 0.

PRESET_1 : Sets output value to 100.

PRESET_2 : Sets output value to 75.

PRESET_3 : Sets output value to 50.

PRESET_4 : Sets output value to 25.

Shade with (No) State | Shade Group :

SET : Sets height of shade in percentage value.

_SET_HEIGHT : Sets height of shade. (Not available for Shade Group)

_SET_BLADES_ANGLE : Sets blades angle of shade (only for jalousie type). (Not available for Shade Group)

RAISE : Shade starts raising. Executes DigitalSTROM MAX scene.

LOWER : Shade starts lowering. Executes DigitalSTROM MIN scene.

STOP : Stops shade transition. Executes DigitalSTROM STOP scene.

PRESET : Set Digital Strom PRESET number between [0-4]

NUM = 0 : Sets output value to 0.

NUM = 1 : Sets output value to 65535.

NUM = 2 : Sets output value to 65535.

NUM = 3 : Sets output value to 32768.

NUM = 4 : Sets output value to 16384.



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_FIRE_SCENE : Fire DigitalSTROM scene on device

INC : Increase output value.

DEC : Decrease output value.

Apartment Global Scenes :

_FIRE_SCENE : Fire DigitalSTROM Global Independent Scene of Structure

ABSENT : Sets structure in Absent mode.

PRESENT : Sets structure in Present mode.

SLEEPING : Sets structure to night operation.

WAKEUP : Sets structure to daytime operation.

DOOR_BELL : Fire DoorBell structure.

PANIC : Sets structure in Emergency state.

FIRE : Sets structure in Fire Alarm state.

ALARM_1 : Fire user defined Alarm 1.

ALARM_2 : Fire user defined Alarm 2.

ALARM_3 : Fire user defined Alarm 3.

ALARM_4 : Fire user defined Alarm 4.

_UNDO_SCENE : Undo Global Independent Scene of Structure

PANIC

FIRE

ALARM_1

ALARM_2

ALARM_3

ALARM_4

Important notes regarding status update latency and end user experience



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Resources with state require a constant polling to get the resource state. Due to DigitalSTROM limitations, it's only possible to ask for one device output every 60 seconds per circuit (referred to the electrical installation of one fuse box). Because of this, the latency on the status update could be big and will increase with the number of defined resources with status on the BeoLink Gateway. So, it's recommended to use as less as possible resources with state. Regarding end user experience, it's recommended to use predefined DigitalSTROM scenes to change output values on devices (instead command SET) and use device groups when is necessary to change states of more than one device.