

HOUSE OF
DURATECH
innovative pool products

MANUAL
LINK-MINI



DURAL**LINK**

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1. INTRODUCTION

1.1. ABOUT THE LINK-MINI

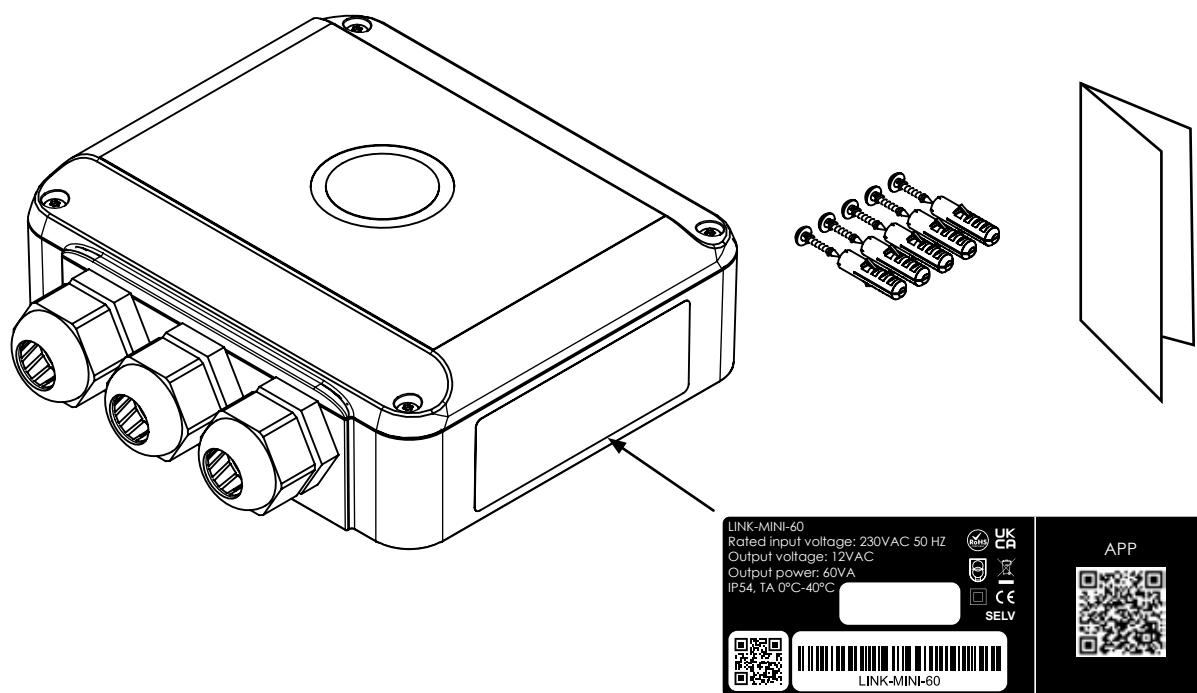
This swimming pool control cabinet is designed for the control of pool lights. During its development, a focus was brought on a clear and installer-friendly layout, with all connection points easily accessible and logically arranged. This simplifies cable installation and reduces the risk of wiring errors.

The control cabinet is suitable for use in combination with our DURAvision lighting. In addition, the cabinet is equipped with an RS485 connection for communication with external systems or DMX.

The control cabinet can be connected to the DURAcoud app. The app can be downloaded via QR-code by scanning the sticker located on the side of the LINK-MINI as shown in the illustration below. This manual describes the operation, connections, and installation requirements of the control cabinet.

1.2. INSIDE THE BOX

1. LINK-MINI unit
2. Screws and Plugs
3. Quick Start Guide



SCAN - DOWNLOAD APP

2. TECHNICAL SPECIFICATIONS

2.1 GENERAL SPECIFICATIONS

SPECIFICATIONS	LINK-MINI	LINK-ONE	LINK-THREE
Type of control DURAvision	ON/OFF & Duranet	ON/OFF & Duranet	ON/OFF & Duranet
DURAcoud App	YES	YES	YES
Bluetooth (BLE)	YES	YES	YES
Wi-Fi (2,4 GHz)	YES	YES	YES
Rated input voltage	230 V _{AC} 50-60 Hz	230 V _{AC} 50-60 Hz	230 V _{AC} 50-60 Hz
Mode1: constant voltage AC			
Output voltage	12 V _{AC} 50 Hz SELV	12 V _{AC} 50 Hz SELV	12 V _{AC} 50 Hz SELV
Output power	max. 60 VA	max. 120 VA	max. 340 VA
Mode 2: constant voltage DC			
Output voltage	Not Applicable	Not Applicable	max. 24 V _{DC}
Output power	Not Applicable	Not Applicable	max. 300 W
Mode 3: constant current DC			
Output voltage	Not Applicable	Not Applicable	max. 24 V _{DC}
Output current	Not Applicable	Not Applicable	max. 15 A
Output power	Not Applicable	Not Applicable	max. 300 W
IP rating	54	54	54
Unit dimensions (L*W*H)	150 x 157 x 51 mm	350 x 245 x 70 mm	350 x 245 x 70 mm
Net weight	1,20 Kg	3,50 Kg	3,50 Kg
Ambient temp. operating	0 °C - 40 °C	0 °C - 40 °C	0 °C - 40 °C
IEC protection class	II	II	II

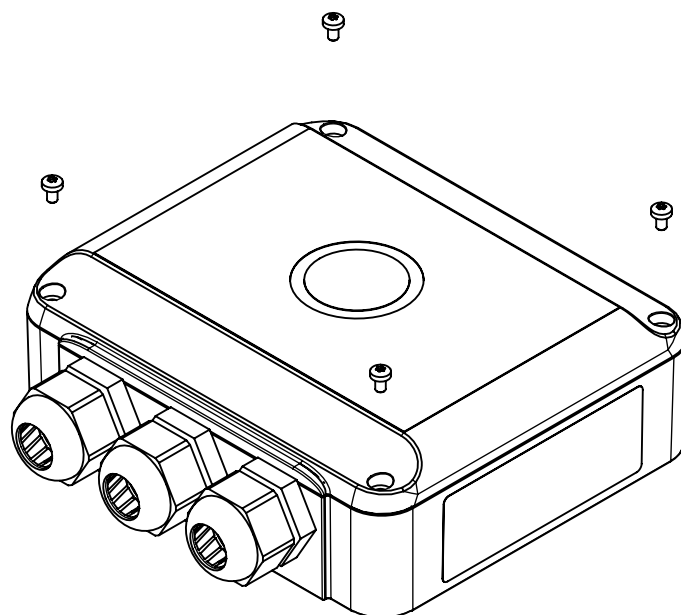
2.2 COMPATIBILITY OF POOL LIGHT PRODUCTS

	DVS	DVM	Adagio Pro	DVA	DVP	Moonlight
LINK-MINI	x	x	x	x	x	x
LINK-ONE	x	x	x	x	x	x
LINK-THREE	x	x	x	x	x	x

3. INSTALLATION

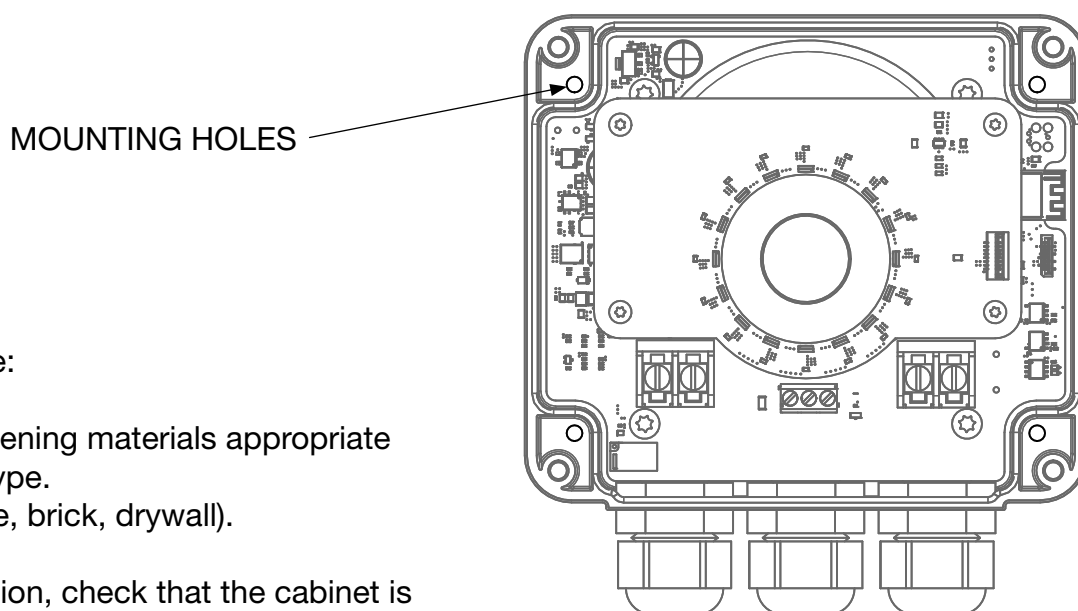
3.1 INSTALLATION OF THE LINK-MINI

Before installing the cables, the LINK-MINI module must be mounted to a wall. Open the LINK-MINI by undoing the four Torx screws that lock the Top Cover into place.



When opened, the four mounting holes will be visible on the inside of the LINK-MINI housing. Place the LINK-MINI against the wall and use a 'Spirit Level' to make sure it is positioned straight. Then, indicate the positions of the holes onto the wall, using a marker.

Drill the holes using a 5,5mm drill and use the delivered plugs and screws to mount the LINK-MINI onto the wall.



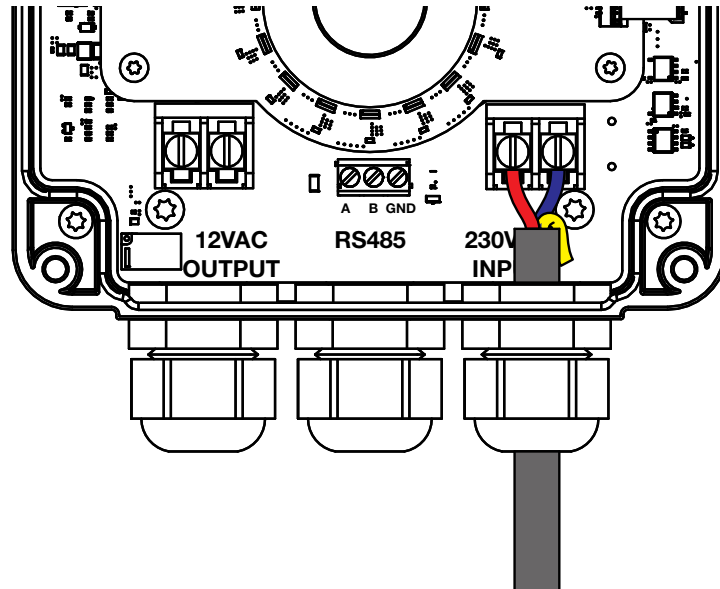
Safety Notice:

Use only fastening materials appropriate for the wall type.
(e.g. concrete, brick, drywall).

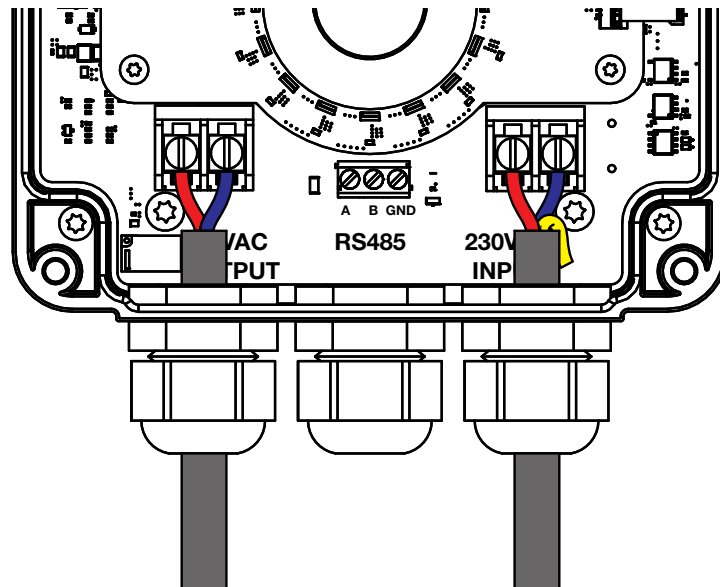
After installation, check that the cabinet is properly locked.

3.2 CABLE INSTALLATION

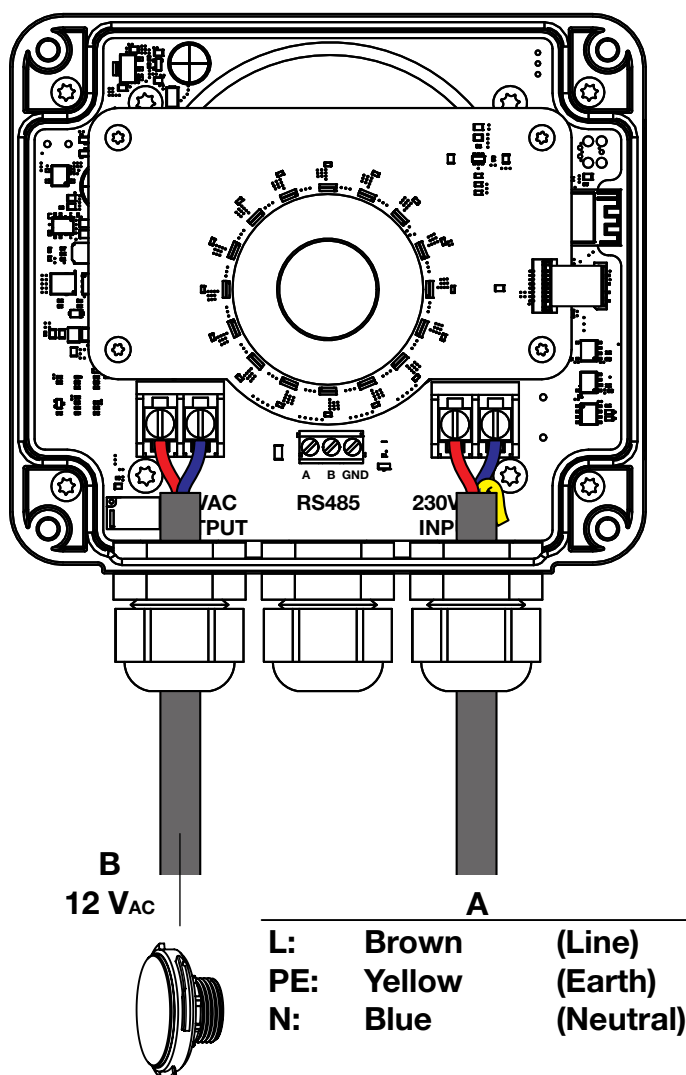
1. Connect a 230 V_{AC} power source to the 230 V_{AC} terminal of the LINK-MINI.
(When installed, tighten the Cable Gland to lock the cable into place.)
Unused cables (GND) can be cut or routed back into the Cable Gland.



2. Connect the pool lights to the 12 V_{AC} connection terminal.



4. Below, the cable and terminal specifications can be found.



CONNECTOR	mm ²	WIRE
RS485	0,20 - 1,00	Solid & Stranded
230 V _{AC} (LE/PE/N)	1,00 - 4,00	Solid & Stranded
12 V _{AC}	1,00 - 4,00	Solid & Stranded

3.3 INSTALLATION OF MULTIPLE LINK-MINI UNITS

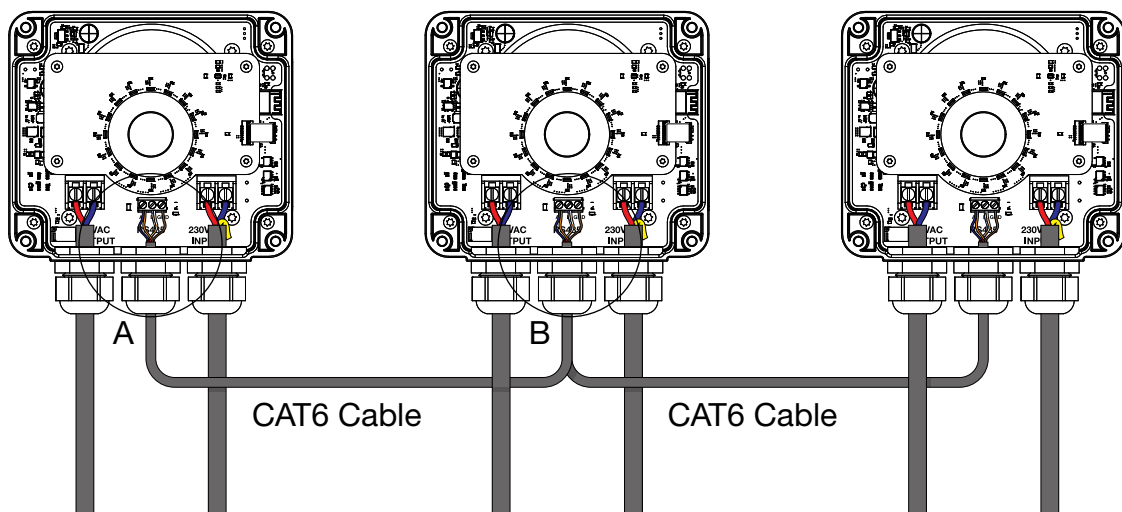
For extended installations (total lamp power > 60 VA), multiple LINK-MINI units can be linked together. This way, a perfect synchronisation of all pool product is still guaranteed.

The LINK-MINI units need to communicate to each other, to ensure all the lamp are in perfect sync. Connect the LINK-MINI units in parallel using the Communication Terminals on the RS485/DMX 'expansion board'.

Cable installation is as follows:

Connect the RS485 terminal of the first LINK-MINI unit to the RS485 terminal of the second LINK-MINI unit. If more than two LINK-MINI modules must be connected, repeat the same proces from the second to the third LINK-MINI.

Use a Shielded CAT6 cable to connect two LINK-MINI units together. Take 2 pairs of the CAT6 cable (Eg. pair 1 = Blue & White/Blue and pair 2 = Orang & White/Orange) and insert the solid colored wires into terminal A and the striped wires into terminal B. From the other 2 pairs, use 1 solid colored wire and insert this into terminal G. The left-over wires can be cut.



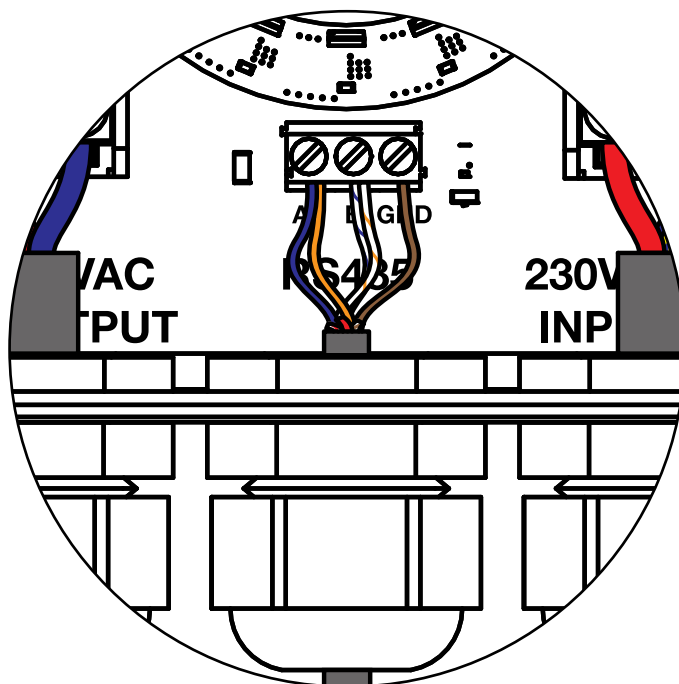
DETAIL A: FIRST LINK-MINI

The Blue en Orange wireS are inserted into terminal A.

The White/Blue and White/Orange wire are inserted into terminal B.

The Brown wire is inserted into terminal G.

All other wires are cut.



DETAIL B: SECOND LINK-MINI

The Blue en Orange wire are inserted into terminal A.

The White/Blue and White/Orange wire are inserted into terminal B.

The Brown wire is inserted into terminal G.

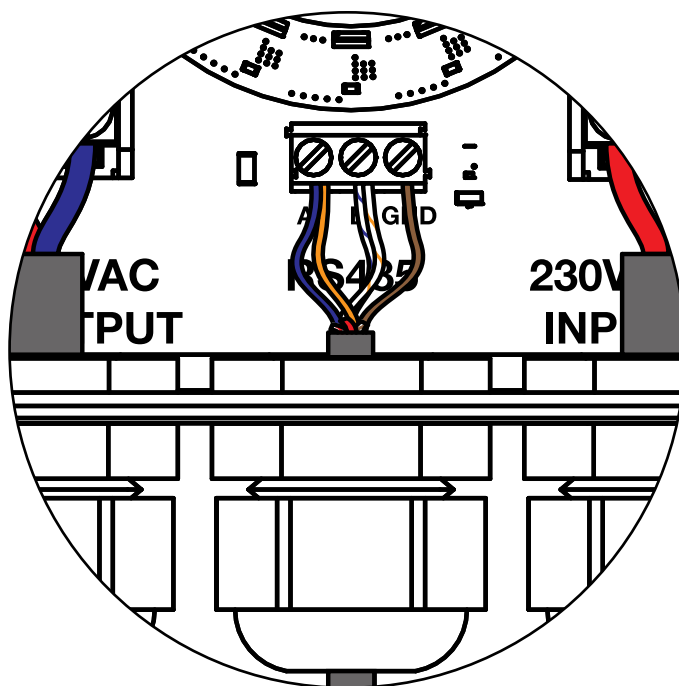
All other wires are cut.

If more then two LINK-MINI units need to be connected. Stack the cables for the third unit in the same way.

2 Blue and 2 Orange wires in terminal A.

2 White/Blue and 2 White/Orange wires in terminal B.

2 Brown wires in terminal G.



4. RS485 COMMAND SET

Function	Command	Remark	Example	Available in ON/OFF mode	Available in PLC mode
Lamps OFF	PL0	All lamps OFF		X	X
Lamps ON	PL1	All lamps ON		X	X
Program UP	PsU	Jump to next program		X	X
Program Down	PsD	Return to previous program			X
Set Program	PSxx	xx is the decimal representation of the program number (01-14)	PS06 = jump to program 6		X
Auto sync procedure	PsS	Executes the autosync procedure		X	X
White 1	PW1	Jump to white 1 (program 12)			X
White 2	PW2	Jump to white 2 (program 13)			X
White 3	PW3	Jump to white 3 (program 14)			X
Set RGB	PCrrrgggbbb	rrr,ggg,bbb are the decimal representation of the RGB value (with leading zero's)	1) PC255128064 = Full output level on Red color, half output level on Green color, 1/4 output level on Blue color		
			2) PC255255255 = All colors at full output level		
		X	3) PC000000000 = All colors OFF		
Set Dim value	PDxxx	Set the OUTPUT value of the lamp in %. (000 - 100)	PD075 = 75% output level (on all LED's)		X
Set DMX start Address	PAxyz	Y = 'e' or 'E'	PA035E = set DMX start address to 35 [35(R), 36(G), 37(B)]		X
Set color in percentage	Pprgbe	Variable size, rgb = ASCII 0-255, e = end character	Pp25050100e = Red 25%, Green 50%, Blue 100%		X
Set color in hex	Pcrgbe	Variable size, rgb = ASCII 0-255, e = end character	Pc64128255e = Red 25%, Green 50%, Blue 100%		X
Color temp	PTxyz	X = ten thousand; y = thousand; z=hundred	PT035 = Set white color temperature to 3500K		X

5. SETTING UP THE LINK-MINI

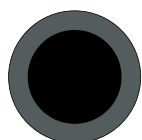
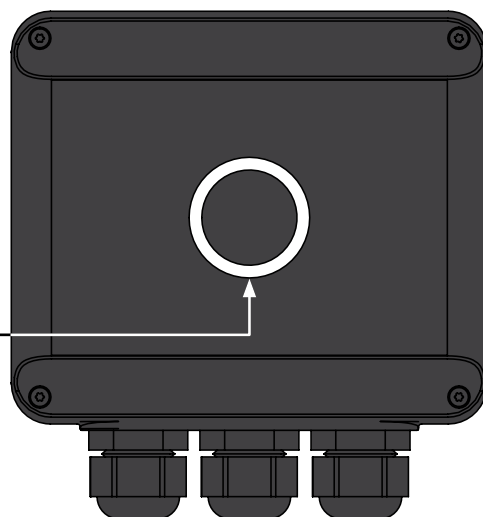
You can control the LINK-MINI in three ways:

1. With the ONE-TOUCH button on the device.
2. With the DURAcoud App (Bluetooth / BLE).
3. With the DURAcoud App via Wi-Fi.

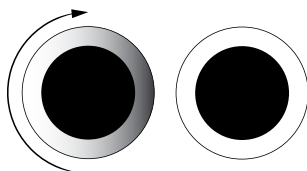
5.1 ONE-TOUCH BUTTON

The ONE-TOUCH button is located in the center of the LED circle and can be used to control the pool lights by tapping.

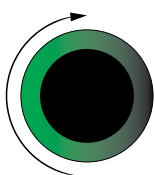
- **Short press:** Turn the lamps ON/OFF (toggle).
- **Long press (> 10 seconds):** Reset the Bluetooth (BLE) connection. Use this if the controller won't connect to the app or if you want to pair it again.



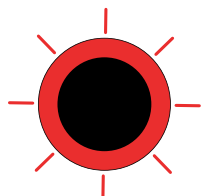
NO POWER



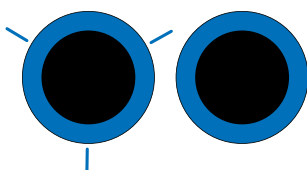
LED WHITE ROTATING: BOOTING
LED WHITE SOLID: OPERATING/POWERED ON



LED GREEN ROTATING: ACTIVE



LED RED BLINKING: ALARM/ERROR



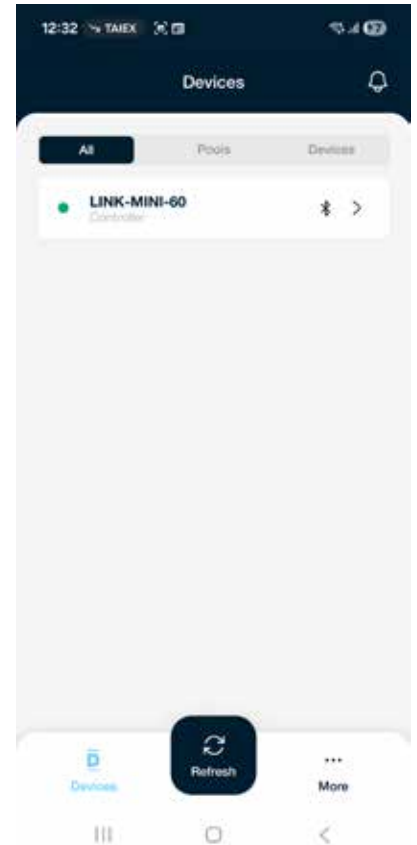
BLUE TRIPLE BLINKING: BLUETOOTH RESET
BLUE SOLID: BLUETOOTH CONNECTED TO APP

5.2 USING THE DURACLOUD APP WITH BLUETOOTH (BLE)

The DURAccloud App lets you set up and control the controller using Bluetooth (BLE).

To connect your LINK-MINI with bluetooth, follow the steps below:

1. Open the DURAccloud App.
2. Go to Devices.
3. Find your controller in the list.
4. Tap your controller to make connection. Once connected, the led circle on the LINK-MINI will be blue.



5.3 USING THE DURACLOUD APP WITH WI-FI

I preferred, the DURAccloud App can also be used over a Wi-Fi connection.

Note:

In order to set up the Wi-Fi connection, the Bluetooth connection must be established first!

To connect your LINK-MINI with Wi-Fi, follow the steps below:

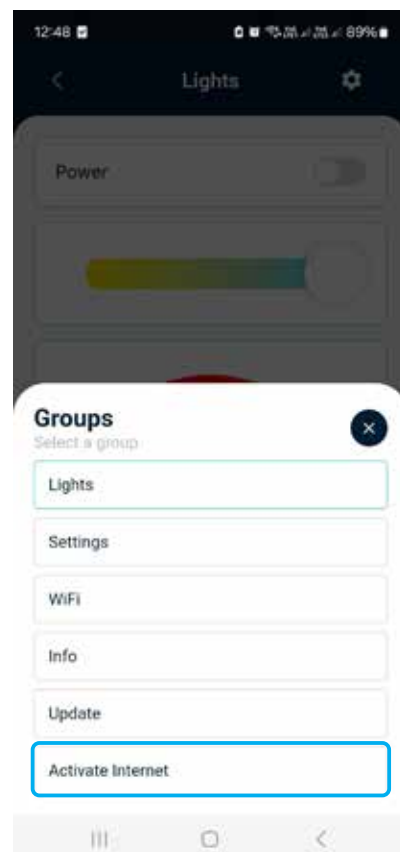
1. Press the settings wheel in the upper right corner.
2. From the drop down menu, select 'Activate Internet'.
3. Select 'New User' to create a new account.
4. After setting up the 'New User' account, select 'Skip'.
5. Press 'Link Device' to add your phone to your home Wi-Fi.

6. Next, press the ONE-TOUCH button (indicating blue) on the LINK-MINI. When pressed, the light should go out. This indicates that your phone is paired to the device using Wi-Fi.
7. Confirm on your phone that you pressed the blue circle on the LINK-MINI.

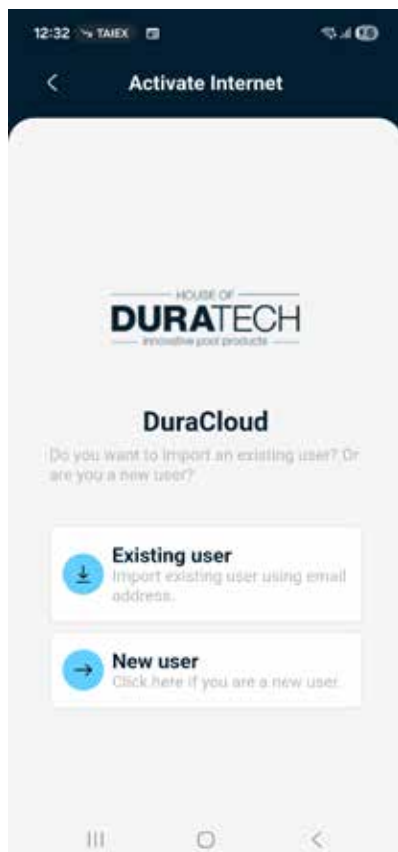
Step 1.



Step 2.



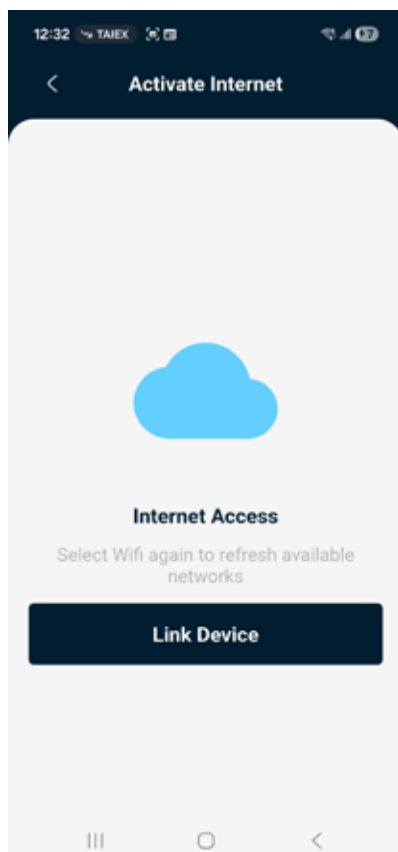
Step 3.



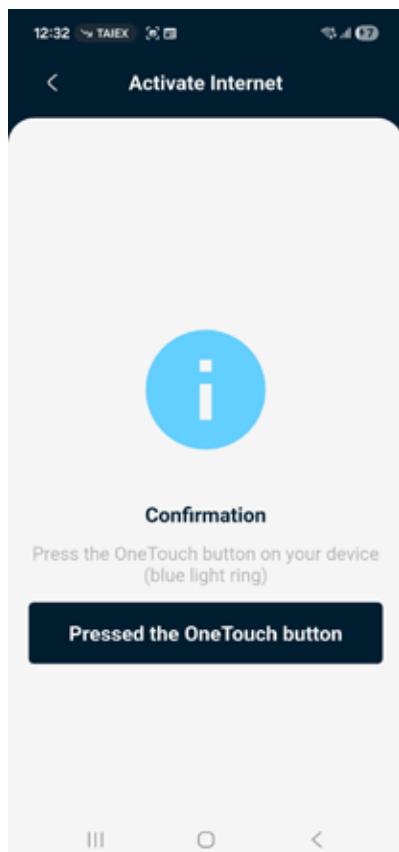
Step 4.



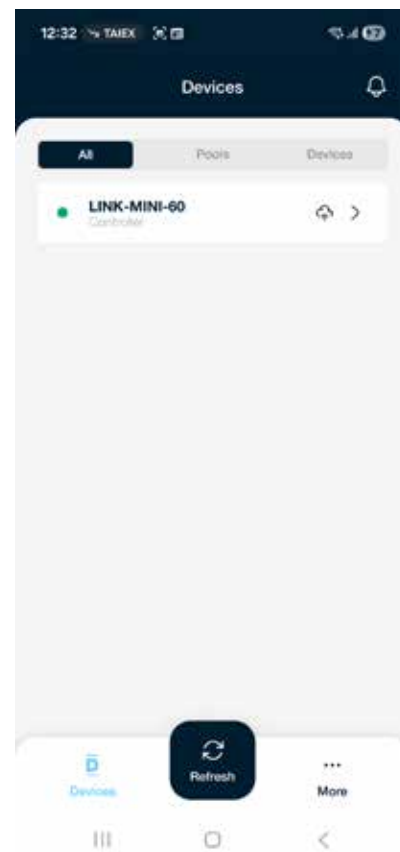
Step 5.



Step 6.



Step 7.

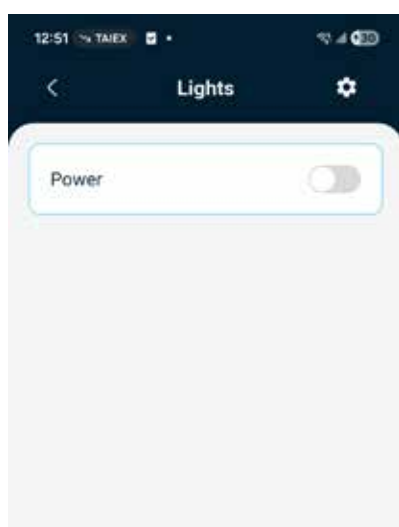


5.4 SETTINGS, CONTROL AND CONFIGURE

Your dashboard depends on the chosen lamp model. (By default set to DVP RGBW lamps)
Open the 'Settings' menu to configure the controller options.

From the dashboard, you are able to control the lamps and see the current status.

On/Off Pool Lights:



RGBW Pool Lights:



6. TROUBLESHOOTING

1. Lamp does not react to color change requests via app.
 - Check if correct lamp model is selected.
(Each DuraVision lamp has different features)
2. Lamps are not synced (each individual lamp shows different color)
 - Check the lamp model.
 - Lamps supporting sync, sync via app.
3. Cannot detect device via bluetooth.
 - Check color of led circle. If blue, device is already connected to another app.
 - Long press the one touch button to reset bluetooth connection.
 - Check if bluetooth is enabled on phone.

7. POOL LIGHT WIRING INSTRUCTIONS

Please refer to the manual of your DURAVISION pool light for detailed information about cable cross section and maximum length.



WARNING



- GB** Cable installation guidelines
- NL** Richtlijnen voor bekabeling
- DE** Anleitung zur Verkabelung
- FR** Instructions de câblage
- IT** Istruzioni di collegamento
- ES** Instrucciones para ajuste del cableado

Please refer to the manual of your DURAVISION® pool light



Manual downloads:
www.duratech.be/downloads

Not following the instructions for cable cross section and transformer VA ratings may result in lamp malfunctioning and may result in having to rewire the installation. The manufacturer's warranty does not apply in this situation.

8. WIRING REMARKS

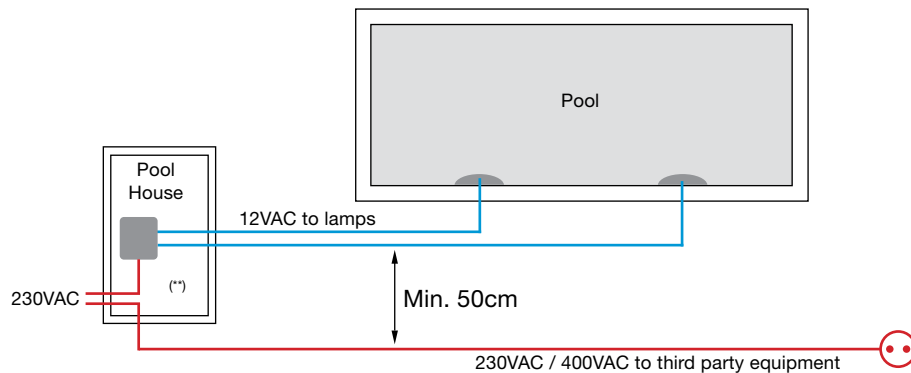
1. Third party equipment such as frequency inverters and electric motors can generate excessive noise on the 230VAC / 400VAC power line. This noise might be injected into the adjacent 12VAC power line and disturb the power line communication towards the DURAVISION lights.

⚠ Keep 230VAC / 400VAC power line cables at least 50cm separated over their full length from the 12VAC power line towards any RGB lights.

⚠ Do not mix 12VAC and 230VAC / 400VAC power line cables into the same cable trays.

2. Floating cores in a multi-core cable are not allowed because it disturbs PLC communication.

⚠ We recommend using 2 CORE cables for all Adagio Pro lights to avoid PLC communication issues.



(**) Do not mix 12VAC and 230VAC / 400VAC power line cables into the same cable trays.

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Pool Light products

- VISION Spectra
- VISION Adagio Pro
- VISION Allegro
- VISION Pro
- VISION Wall Conduits
- VISION Face Plates
- VISION Retrofit solutions
- VISION Moonlight
- VISION Accessories

DURAHEAT

Heat Pump products

- HEAT Dura-Hi
- HEAT Dura+i
- HEAT Dura Pro
- HEAT Dura V
- HEAT Sun Spring
- HEAT Hot Splash
- HEAT Accessories

DURAFLOW

Pool Flow products

- FLOW Inverter
- FLOW Vortex
- FLOW Cartridge Filter

DURACOVER

Cover System products

- COVER Tube
- COVER Motor
- COVER Wall Duct
- COVER Cable Duct
- COVER Hanging System

DURALINK

Control products

- LINK Mini
- LINK One
- LINK Three
- LINK Driver
- LINK Controller
- LINK Cover
- LINK Master
- DURACloud App
- LINK Touch
- LINK Accessories

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