# Push dimming

Modular Lighting Instruments

WHAT IS PUSH DIMMING?

- a simple system

- system requires 4 wires instead of 5

- driver is controlled by a pulse signal which is given by pressing a conventional push button

- possibility to integrate a synchronization cable in your system to avoid de-synchronized lights when addressing multiple drivers on one push button

DE-SYNCHRONIZED LIGHTS

WHAT IS IT AND HOW DO YOU NOTICE IT?

- one circuit

- multiple fixtures controlled by multiple drivers

- a controlling error will have occurred through which the LED controls of *each* driver in the circuit will be different

- this will result in different fixture outputs compared to each other as shown on the right
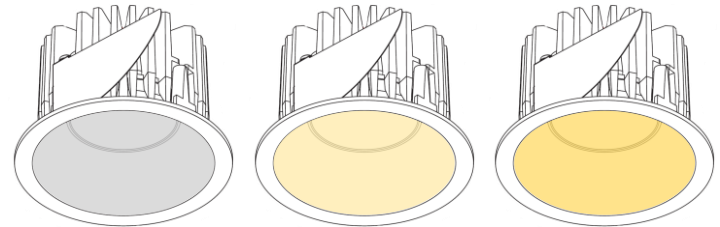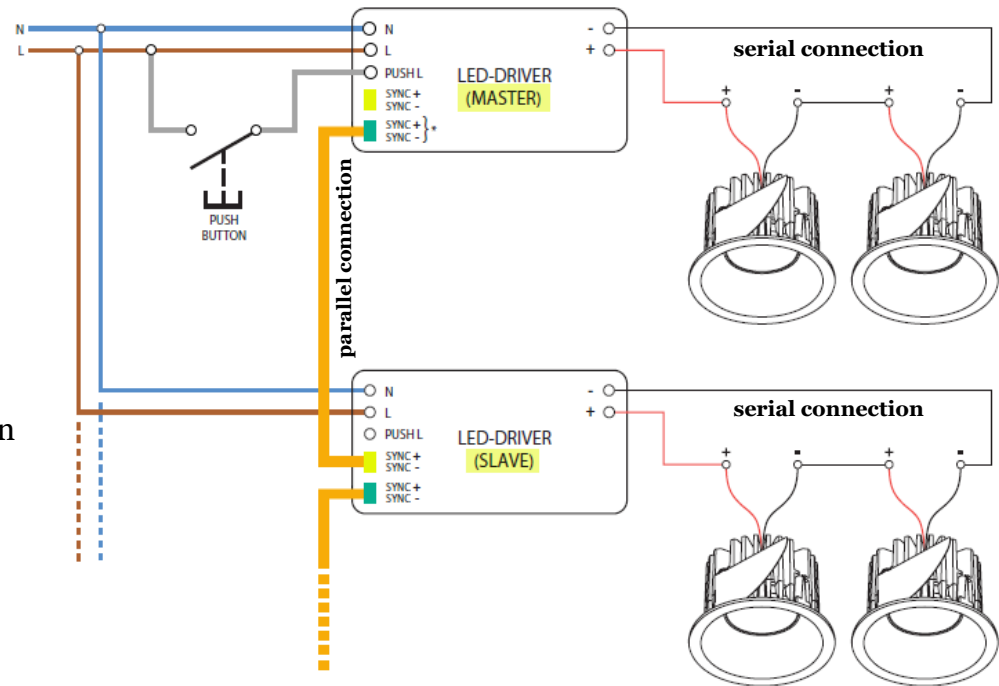
WITHOUT SYNCHRONISATION CABLE:

- maximum of *4 drivers* in 1 circuit

- the push L clip of all the drivers in the circuit are connected *in parallel* to each other.
  - push L wire is *interrupted* by push button

- always respect neutral and line
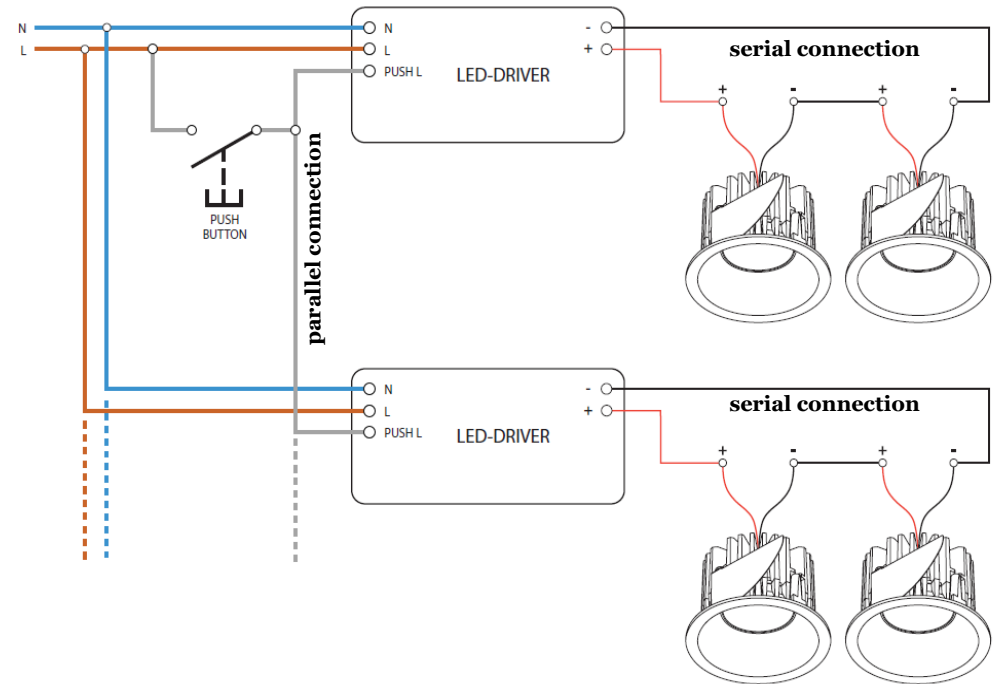
WITH SYNCHRONISATION CABLE:

- maximum of <u>10 drivers</u> in 1 circuit
  - maximum of 9 *slaves* on 1 *master*

- push L wire is *only* connected to the push L clip of the first driver in the circuit, MASTER
  - connection with SLAVE's get's made by synchronisation cable

- the synchronisation cable is connected between 2 drivers by:
  - leaving the MASTER through the OUT clip
  - entering the SLAVE on the IN
- This action is repeated for further connections in the circuit

- always respect neutral and line

SYNCHRONISATION CLIPS:

Each push dim driver contains synchronisation clips were the synchronisation cable get's connected to.

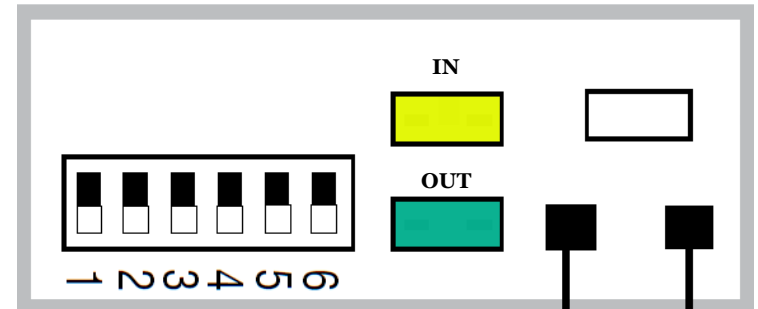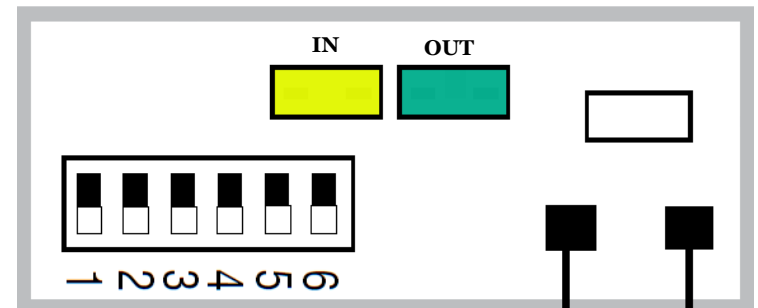However these clips are not always located in the same sequence as shown:

- Primary clip (IN):

- Secondary clip (OUT):

Vertical view:

Horizontal view:

PUSH DIM DRIVER TYPES:

with jumper

- phase cut – push dim drivers

without synchronization clips:

- meant for integration in small circuits (>4 drivers)

- possibility to solve sync. issues through **soft** reset

with synchronization clips

- meant for integration in bigger circuits (<4 drivers)

- possibility to avoid sync. issues by integrating a sync. cable

- option to reset driver controls by performing a hard reset

DRIVER MATRIX:

DRIVER COMMENT FIELD:

When working with our driver matrix spreadsheet available through the document library on my.modular,

(clickable)

you will notice that in the comment section the remark is made if the push dim driver contains sync. clips or not.

- <mark>no sync:</mark>
    - no sunchronisation clips present on the driver
- <mark>o:</mark>
    - driver issued with synchronisation clips

reference	12403830		12405430	
driver ref	1010737		1012902	
	1-10V/PUSH		1-10V/PUSH	
	PWM		PWM	
Dimensions (LxWxH)	111x52x22		103x67x21	
min. cutout hole	54		72	
COMMENT	no sync		0	
Max drivers on MCB 16A type B	50		50	
mA	min	max	min	max
250	-	-	1	2
350	1	2	1	2
500	1	2	1	2
	-	-	-	-

PROBLEM SOLVING:

INSTALLATION WITH PUSH/TRE DRIVER:

The entire installation has been connected correctly, however it does not seem to function.

When working with a *push/trailing edge dimmable driver* you need to remove the jumper before you will be able to **control** your installation through push dim.

*Jumper
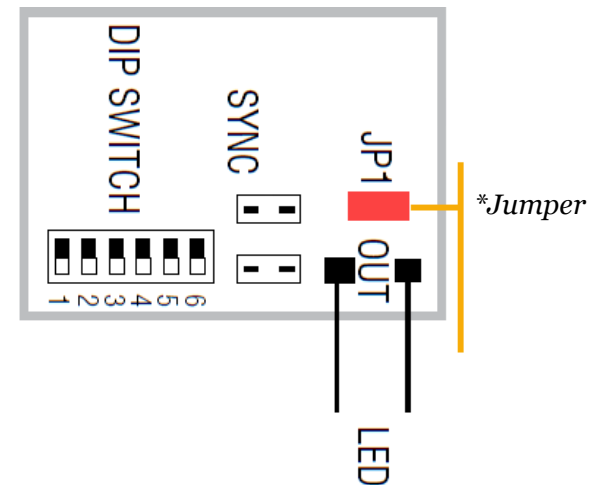
PROBLEM SOLVING:

SOFT RESET:

The dimming controles of one or more drivers will have been disrupted *prior to* or *during* the installation.

This can be solved by performing a soft reset.

power:

5 second push

followed by:

short push (less then 1 second)

result:

System has now been re-synchronised.

*devices will now be switched off*

PROBLEM SOLVING:

HARD RESET:

During first setup:
- Push L clip is connected to each driver
- Synchronisation issues occur
- To solve these issues the synchronisation cable is installed

The system does not function anymore, the driver controles have been disprupted.

To solve the above you can perform a hard reset as shown to the right,

- Short circuiting the present 1-10V or DALI clips for 20 seconds.
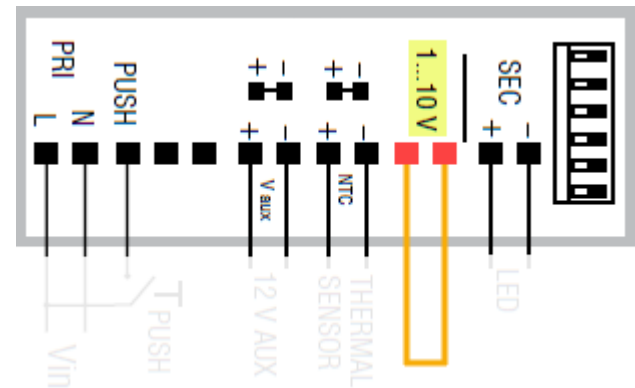
* the short circuiting wiring needs to be removed before testing the installation again.

CONCLUSION:

- By working with a push dim driver that includes synchronization clips you will always have following **advantages** towards push drivers that do not feature these clips:

  - they give you the possibilities to always integrate a sync. cable no matter how many drivers are included in the circuit, through which you reduce the chance of synchronization issues.
  - offers more restore possibilities, as in a *soft* and a *hard* resets.
  - Does not have a maximum of allowed drivers in 1 circuit *based on* synchronization issues