User guide: Simple inbuilt Switch-Control of Tunable White

THE SIMPLEST CONTROL OF TUNABLE WHITE IN A SINGLE LUMINAIRE

The traditional "retrievable switch" solutions provides features such as switching the light ON/OFF or dimming the light intensity UP/DOWN. Helvar's iC drivers are on top of this capable of tuning the colour temperature with one single Switch-Control, such as a simple rocker switch.

Switch-Control operates by connecting the mains voltage to the DALI input terminals. Therefore please ensure that all the components connected in this line are mains rated and protected according to all applicable safety requirements. The support of DALI operation is disabled for the time of Switch-Control operation and re-enabled with a mains reset.

> Note 1: Switch-Control in LL60/2-E-DA-iC and LL35/2-E-DA-iC drivers is only allowed to be used in Class I luminaires

Connection and loading of Switch-Control

It is allowed to connect 50 drivers per switch. Ensure all drivers and other loads are connected to the same mains phase.
The maximum wire length from the switch to the driver is 25 m. The wire length can be extended to 200 m by connecting a capacitor (1 μF, 275 V) across the Switch-Control input.

Switch-Control for dimming the intensity light

Switch-Control active less than 50 ms	**No operation.** This is a protection against short interruptions and disturbances in the control cables.
Switch-Control active 100-350 ms	**Short press (ON/OFF function);** toggle operation between ON and OFF, At switch ON the light returns to the previous level before OFF;
Switch-Control active for longer than 450 ms	**Press and hold (Fade UP/DOWN);** after switch ON the first dimming direction is always to dim down; if you press and hold from OFF the light goes to min level and starts fading up; the direction is always changed when Switch-Control is released.

The Switch-Control fade is using DALI commands UP and DOWN with a fixed fade rate of 5 sec from min level to max level.

Switch-Control for the control of Colour Temperature

The control of Colour temperature is initiated with a press and hold of the light level up to the maximum, holding it at maximum level. After a holding period of 6 seconds on full intensity the driver starts to change the colour temperature of the white light, first direction being upwards. Having reached the maximum level the colour temperature starts dimming downwards, changing between max and min until the Switch-Control is released. The new colour temperature is set at the value of releasing the Switch-Control. Next time the Switch-Control is activated the colour temperature stays at set level and intensity can normally be dimmed again.

Below an example of the colour temperature control with an illustration in Table 1

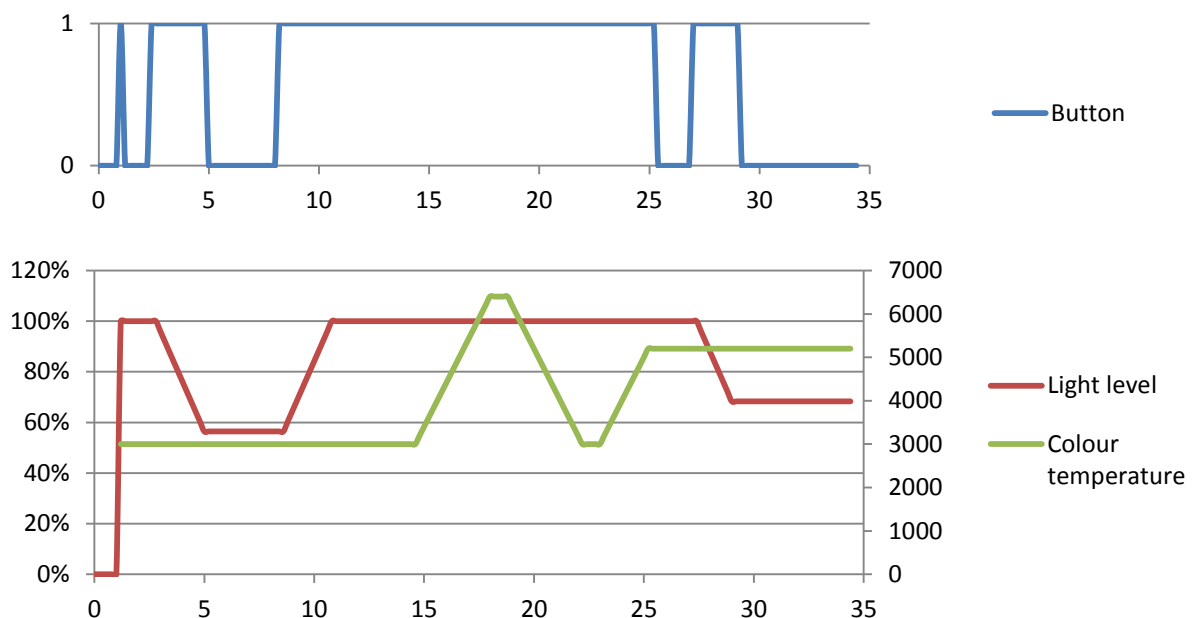| Switch-Control actions	Effect on light
1 Short press	Switches the light on
1 Press and hold	Fades the light down
2nd Press and hold	Fades the light up to max level. Holding will start to change the colour temperature. Releasing will set the colour temperature.
3rd Press and hold	Fades down the light intensity with a new colour temperature value

Table 1: Setting of the colour temperature with simple Switch-Control (X-axis shows time in sec)

Reset of Switch-Control

The intensity and/or CCT values of the various drivers might go out of sequence with time due to differences in the cable-inductances of individual luminaires. In this case switching the mains OFF and ON will perform a reset of both light intensity and colour temperature to the default factory setting providing "power on to last level " is deactivated.