INSTRUCTION MANUAL FOR 45W HEX DRIVE
MODEL NO.: HED1045 + SAM8 / SAM11

LED CURRENT SELECTION
The current can be easily configured by choosing the correct combination of the DIP switches (see table below):

<table>
<thead>
<tr>
<th>mA</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1400mA</td>
<td>●●●●●</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1200mA</td>
<td>●●●●●</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1050mA</td>
<td>●●●●●</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>900mA</td>
<td>●●●●●</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>700mA</td>
<td>●●●●●</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500mA</td>
<td>●●●●●</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

HIGHLIGHTS
- Standby power < 0.5W
- Flicker-free dimming from 100%~30%
- In compliance with DALI 2 standard.
- DALI and switch-Dim can be used at the same time.
- Automatic output reduction 80%--60%--40%--20% against overheat
- Failure DALI feedback

HF Sensor Antenna (with rotary switch for fast grouping)
Model: SAM11
Detection range (DxH): 12 x 6m

HF Sensor Antenna
Model: SAM8
Detection range (DxH): 12 x 6m

additional cap for standalone installation
Switch-dim

2.1 Functions for driver only (without sensor head)

Switch-dim

- On/off control: short push (<0.4s) on the switch.
- Note: Short push should be at least 0.12s, and the time interval between two pushes should be longer than 0.12s also.
- Stepless dimming: long push (>0.9s) on the switch.
- For fine tuning of light level: with every alternate long push, the light level goes to the opposite direction.
- Built-in permanent memory: light returns to the previous dimming level when switched off and on again, even after power failure.

Synchronization

Up to 64 drivers can be connected to the same switch, thanks to the programme. This means there is no need for any additional synchrony wire in large installation, where many drivers should be controlled by one switch.

Please follow the step below to achieve synchronization function if more than one driver is connected to the same push button:

- Do a long push for more than 15s, then the system is synchronized and all lights in the group dim down to 50%.

Permanent Memory

This driver has built-in permanent memory against power failure, which means the light always starts up at the previous level when it was switched off last time.

Manual Override

DALI and switch-Dim. can be connected at the same time, to enable manual override function for end-users to switch on/off or adjust the dimming level by the push-switch. This feature makes the product more user-friendly, and could provide more options for some extra-ordinary demands.

- Short push (<0.4s): on/off control.
- Long push (>0.9s): dim up/down the dimming level.
- If customers do not want to have this manual override function, just leave the “switch” terminal alone, and not connected to any wire.
- This manual override is only valid before the next DALI command, meaning the latest action, either from DALI, switch-Dim, stays in control.

SECTION 1 INSTALLATION AND WIRING

Switch-Dim Wiring Diagram

1-10V Wiring Diagram

DALI + Switch-Dim Wiring Diagram

Warning: Please make sure the correct current is selected before starting the driver!

SECTION 2 FUNCTION

RF Grouping via Rotary Switch (for SAM11)

15 channels are available for fast grouping via rotary switch on the RF sensor antenna, simply selecting the same channel on each unit, the grouping is automatically completed.

Noted: channel “0” is not for fast grouping, and sensors can only be grouped by remote control.

Use a screwdriver to point the arrow to the same channel on each RF sensor antenna.
2.2 Functions for sensor only (with sensor head)

Daylight Monitoring Function
Hytronik specially designed this function in software for deep energy-saving purpose. A built-in daylight sensor is designed to provide “smart photocell” function. This function can only be activated when stand-by period is set to “∞”. In this mode the lamp will automatically illuminate at the dim level setting when the natural light goes below the threshold setting. The fixture will also switch off as the natural light returns.

Manual Override
This sensor reserves the access of manual override function for end-user to switch on/off, or adjust the brightness by push-switch, which makes the product more user-friendly and offers more options to fit for some extra-ordinary demands:

* Short push (<1s): on/off function;
  On → off: the light turns off immediately and can not be lighten for a certain time (equals to hold-time preset) even movement is detected.
  After this period, the sensor goes to sensor mode.
  Off → on: the light turns on and goes to sensor mode, no matter if ambient Lux level exceeds the daylight threshold or not.
* Long push (>1s): dim up/down the hold-time brightness between 10% and 100%.

Note: if end-user do not want this manual override function, just leave the “push” terminal alone and don’t connect it to any wire.

SECTION 3 REMOTE CONTROL

Permanent ON/OFF [button ①]
Press button ① to select permanent on or permanent off mode, sensor is disabled.

* Press buttons ② ③ ④ to resume automatic operation.

Auto Mode [button ⑤]
Press button ⑤ to initiate automatic mode. The sensor starts working and all settings remain as before the light was switched on/off.

RESET [button ⑥]
Press button ⑥, all settings go back to default settings:
Detection range: 100%;  Hold-time: 1min;  Stand-by period: 5min;
Stand-by dimming level: 20%;  Daylight sensor: Lux disable;  Rx 100%

Power output [button ⑦]
Press buttons ⑦, the output shifts between 80% and 100%, for energy saving purpose.

Brightness on RF signal [button ⑧]
Press button ⑧, the light(s) on slave is 100% on upon receiving RF ON signal; Press “Rx STBY%” button, the light(s) goes to pre-set stand-by dimming level directly.

Test 2s function [button ⑨]
Press button ⑨, the sensor goes into test mode (hold-time is 2s). The stand-by period and daylight sensor settings are disabled in test mode.

* Press button ⑩⑪⑫ to exit from this mode and the sensor settings are changed accordingly.

Ambient daylight threshold [button ⑥]
Press button ⑥, the latest surrounding lux value overwrites previous lux value learned, and is set as the daylight threshold.

Lux disable [button ⑩]
Press button ⑩, the built-in daylight lux sensor is disabled, the light will always operate upon detection, regardless of ambient light level.

Detection range [zone ⑦]
Press buttons in zone ⑦ to set detection range at 10% /50% /100%.

Note: the buzzer beeps one time when RC receives signal successfully
### SECTION 4 SPECIFICATION

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains voltage</td>
<td>220~240VAC 50/60Hz</td>
</tr>
<tr>
<td>Mains current</td>
<td>0.22 ~ 0.2A</td>
</tr>
<tr>
<td>Max. output power/current/voltage</td>
<td>28W / 500mA / 12 ~ 56V 45W / 1050mA / 12 ~ 42V 40W / 700mA / 12 ~ 56V 40W / 1200mA / 12 ~ 34V 45W / 900mA / 12 ~ 50V 40W / 1400mA / 12 ~ 28V</td>
</tr>
<tr>
<td>Output voltage (U-out max.)</td>
<td>75V</td>
</tr>
<tr>
<td>Power factor</td>
<td>≥0.95</td>
</tr>
<tr>
<td>Operation temperature</td>
<td>Ta: -20~+45°C  Tc:+85°C</td>
</tr>
<tr>
<td>Max. Efficiency</td>
<td>87%</td>
</tr>
<tr>
<td>Dimming interface</td>
<td>DALI, Switch-Dim., 1-10V</td>
</tr>
<tr>
<td>Dimming range</td>
<td>1<del>30% PWM dimming; 30</del>100% analogue dimming.</td>
</tr>
<tr>
<td>Stand-by power consumption</td>
<td>&lt;0.5W</td>
</tr>
<tr>
<td>Abnormal protection</td>
<td>Output short-circuit protection with auto-reset</td>
</tr>
<tr>
<td>Over-heat protection</td>
<td>Over-heat protection with auto-reset</td>
</tr>
<tr>
<td>EMC standard</td>
<td>EN55015, EN61547, EN61000-3-2/3</td>
</tr>
<tr>
<td>Safety standard</td>
<td>EN61347-1, EN61347-2-13, EN60598-1</td>
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<tr>
<td>DALI standard</td>
<td>IEC62386-101,102,207</td>
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<tr>
<td>Dielectric strength</td>
<td>Input → output : 3750VAC</td>
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<td>IP grade</td>
<td>IP20</td>
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