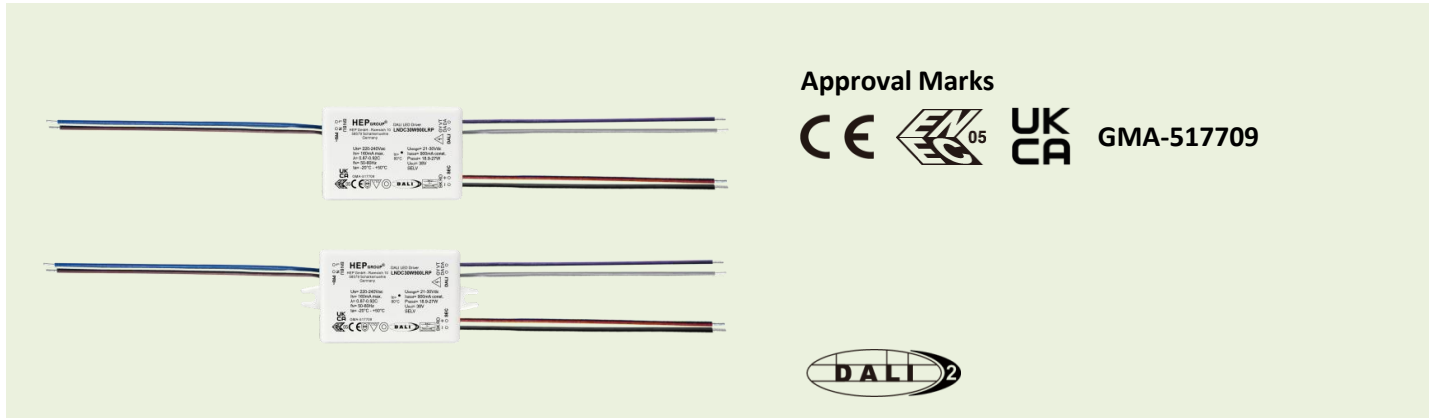




Electrical Specification for **LNDC30WxxxLRP**

DALI-2 LED Driver



| Item                         | Value                           | Remark                  |
|------------------------------|---------------------------------|-------------------------|
| Nominal voltage              | 220–240V                        |                         |
| Nominal frequency            | 50–60Hz                         |                         |
| AC voltage range             | 198–264V                        |                         |
| DC voltage range (start)     | NA                              |                         |
| DC voltage range (operation) | NA                              |                         |
| Nominal current              |                                 |                         |
| LNDC30W400LRP                | 130mA                           |                         |
| LNDC30W450LRP                | 145mA                           |                         |
| LNDC30W500LRP                | 160mA                           |                         |
| LNDC30W550LRP                | 140mA                           |                         |
| LNDC30W600LRP                | 150mA                           |                         |
| LNDC30W700LRP                | 175mA                           |                         |
| LNDC30W800LRP                | 145mA                           |                         |
| LNDC30W900LRP                | 160mA                           |                         |
| LNDC30W1000LRP               | 180mA                           |                         |
| Input                        | Total Harmonic Distortion (THD) | < 25% Full load @230VAC |
|                              | Power factor                    | Full load @230VAC       |
|                              | LNDC30W400LRP                   | 0.85-0.92C              |
|                              | LNDC30W450/800LRP               | 0.86-0.93C              |
|                              | LNDC30W500LRP                   | 0.87-0.94C              |
|                              | LNDC30W550LRP                   | 0.91-0.93C              |
|                              | LNDC30W600LRP                   | 0.87-0.93C              |
|                              | LNDC30W700/1000LRP              | 0.86-0.94C              |
|                              | LNDC30W900LRP                   | 0.87-0.92C              |
|                              | Displacement factor             | Full load @230VAC       |
|                              | LNDC30W400LRP                   | 0.85-0.92C              |
|                              | LNDC30W450/800LRP               | 0.86-0.93C              |
|                              | LNDC30W500LRP                   | 0.87-0.94C              |
|                              | LNDC30W550LRP                   | 0.91-0.93C              |
|                              | LNDC30W600LRP                   | 0.87-0.93C              |
|                              | LNDC30W700/1000LRP              | 0.86-0.94C              |
|                              | LNDC30W900LRP                   | 0.87-0.92C              |
| Efficiency                   | 85% (Typ.)                      | Full load @230VAC       |

| Item               |                                  | Value                                              | Remark                                    |
|--------------------|----------------------------------|----------------------------------------------------|-------------------------------------------|
| Input              | No-load power                    | NA                                                 |                                           |
|                    | Stand-by power                   | <0.5W                                              |                                           |
|                    | Protection class                 | NA                                                 |                                           |
|                    | Inrush current                   | 5.5 A / 35 $\mu$ s                                 |                                           |
|                    | Max.units per circuit breaker    | Type B , 10A MCB                                   | 22                                        |
|                    |                                  | Type B , 16A MCB                                   | 36                                        |
|                    |                                  | Type C , 10A MCB                                   | 28                                        |
|                    |                                  | Type C , 16A MCB                                   | 44                                        |
|                    | Earth leakage current            | NA                                                 |                                           |
|                    | Nominal voltage range            |                                                    |                                           |
| Output             | LNDC30W400/450/500LRP            | 36-54Vdc                                           |                                           |
|                    | LNDC30W550/600/700LRP            | 30-42Vdc                                           |                                           |
|                    | LNDC30W800/900/1000LRP           | 21-30Vdc                                           |                                           |
|                    | Maximum voltage                  |                                                    |                                           |
|                    | LNDC30W400/450/500LRP            | 63Vdc                                              |                                           |
|                    | LNDC30W550/600/700LRP            | 50Vdc                                              |                                           |
|                    | LNDC30W800/900/1000LRP           | 38Vdc                                              |                                           |
|                    | Nominal current range            |                                                    |                                           |
|                    | LNDC30W400LRP                    | 400mA                                              |                                           |
|                    | LNDC30W450LRP                    | 450mA                                              |                                           |
|                    | LNDC30W500LRP                    | 500mA                                              |                                           |
|                    | LNDC30W550LRP                    | 550mA                                              |                                           |
|                    | LNDC30W600LRP                    | 600mA                                              |                                           |
|                    | LNDC30W700LRP                    | 700mA                                              |                                           |
|                    | LNDC30W800LRP                    | 800mA                                              |                                           |
|                    | LNDC30W900LRP                    | 900mA                                              |                                           |
|                    | LNDC30W1000LRP                   | 1000mA                                             |                                           |
|                    | Current accuracy                 | $\pm$ 5%                                           | Full load @230VAC                         |
|                    | Typical output LF current ripple | $\pm$ 5%                                           | Low Frequency< 120Hz<br>Full load @230VAC |
|                    | Starting time                    | < 0.5 S                                            | Full load @230VAC                         |
|                    | Nominal power range              |                                                    |                                           |
|                    | LNDC30W400LRP                    | 14.4-21.6W                                         |                                           |
|                    | LNDC30W450LRP                    | 16.2-24.3W                                         |                                           |
|                    | LNDC30W500LRP                    | 18.0-27.0W                                         |                                           |
|                    | LNDC30W550LRP                    | 16.5-23.1W                                         |                                           |
|                    | LNDC30W600LRP                    | 18.0-25.2W                                         |                                           |
|                    | LNDC30W700LRP                    | 21.0-29.4W                                         |                                           |
|                    | LNDC30W800LRP                    | 16.8-24.0W                                         |                                           |
|                    | LNDC30W900LRP                    | 18.9-27.0W                                         |                                           |
|                    | LNDC30W1000LRP                   | 21.0-30.0W                                         |                                           |
|                    | Maximum power                    | 30W                                                |                                           |
| Dimming            | Dimming control                  | DALI/Touch Dim                                     |                                           |
|                    | Dimming technique                | Amplitude                                          |                                           |
|                    | PWM frequency                    | NA                                                 |                                           |
|                    | Dimming range                    | 5-100%                                             |                                           |
|                    | Lowest dimming current           | 3-5%                                               |                                           |
| Galvanic isolation |                                  | Basic insulated to PRI and double insulated to SEC |                                           |

|                          |                                          |                                                         |                                                                                                                    |
|--------------------------|------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Environment              | Ambient temperature range t <sub>a</sub> | -20°C - +50°C                                           |                                                                                                                    |
|                          | Maximum case temperature t <sub>c</sub>  |                                                         |                                                                                                                    |
|                          | LNDC30W400/450/500LRP                    | 75°C                                                    |                                                                                                                    |
|                          | LNDC30W550/600/700LRP                    | 80°C                                                    |                                                                                                                    |
|                          | LNDC30W800/900/1000LRP                   | 80°C                                                    |                                                                                                                    |
|                          | Max. case temp. in fault condition       | 110°C                                                   | When operating under fault conditions, the temperature of the enclosure at any location should not exceed 110 °C.  |
|                          | Storage temperature range                | -40°C - +85°C                                           |                                                                                                                    |
|                          | Relative humidity                        | 10% - 95%                                               |                                                                                                                    |
|                          | Surge transient protection               | 1 kV                                                    | L/N                                                                                                                |
|                          | Environmental rating                     | Indoor                                                  |                                                                                                                    |
|                          | IP rating                                | IP20                                                    |                                                                                                                    |
|                          | Mains switching cycles                   | > 100,000                                               |                                                                                                                    |
|                          | Expected lifetime                        |                                                         |                                                                                                                    |
|                          | Packing                                  | LNDC30W400/450/500LRP                                   | > 50,000 h, t <sub>c</sub> 75 °C @ t <sub>a</sub> 50 °C<br>> 100000 h, t <sub>c</sub> 65 °C @ t <sub>a</sub> 40 °C |
| LNDC30W550/600/700LRP    |                                          | > 50,000 h, t <sub>c</sub> 80 °C @ t <sub>a</sub> 50 °C | 0.2 % / 1,000 h failure rate                                                                                       |
| LNDC30W800/900/1000LRP   |                                          | > 100000 h, t <sub>c</sub> 70 °C @ t <sub>a</sub> 40 °C | 0.1 % / 1,000 h failure rate                                                                                       |
| Gross weight/Carton      |                                          | 12.9 kg                                                 |                                                                                                                    |
| Net weight/Carton        |                                          | 11.9 kg                                                 |                                                                                                                    |
| Pcs/Carton               |                                          | 56 PCS                                                  |                                                                                                                    |
| Dimension/Carton         |                                          | 490(L)*270(W)*225(H)mm                                  |                                                                                                                    |
| Protections              |                                          |                                                         |                                                                                                                    |
| Short-circuit Protection |                                          | Auto recovery                                           |                                                                                                                    |
| Open-circuit Protection  |                                          | Auto recovery                                           |                                                                                                                    |
| Overload Protection      |                                          | Auto recovery                                           |                                                                                                                    |
| Conformity & Standards   |                                          |                                                         |                                                                                                                    |
| Safety standard:         |                                          | EN 61347-1, EN 61347-2-13, EN 62493                     |                                                                                                                    |
| Performance:             |                                          | EN 62384                                                |                                                                                                                    |
| SAA standard:            |                                          | AS/NZS 61347.1, AS/NZS IEC 61347.2.13                   |                                                                                                                    |
| CCC standard:            |                                          | GB17625.1,GB/T17743,GB19510.1,GB19510.14                |                                                                                                                    |
| EMC standard:            |                                          | EN 55015, EN 61000-3-2, EN 61000-3-3, EN 61547          |                                                                                                                    |
| DALI protocol standard:  |                                          | EN 62386-101, EN 62386-102, EN 62386-207                |                                                                                                                    |
| Cable information        |                                          |                                                         |                                                                                                                    |
| PRI                      | Connection                               | L                                                       | N                                                                                                                  |
|                          | Color                                    | Brown                                                   | Blue                                                                                                               |
|                          | Wire type                                | 7022                                                    | 7022                                                                                                               |
|                          | Wire diameter                            | AWG18                                                   | AWG18                                                                                                              |
|                          | Wire length                              | 128mm                                                   | 128mm                                                                                                              |
|                          | Stripping                                | 6mm                                                     | 6mm                                                                                                                |
|                          | Tolerance                                | ±5mm                                                    | ±5mm                                                                                                               |
|                          |                                          |                                                         |                                                                                                                    |
| Sec                      | Connection                               | +                                                       | -                                                                                                                  |
|                          | Color                                    | Red                                                     | Black                                                                                                              |
|                          | Wire type                                | 3385                                                    | 3385                                                                                                               |
|                          | Wire diameter                            | AWG20                                                   | AWG20                                                                                                              |
|                          | Wire length                              | 149mm                                                   | 149mm                                                                                                              |
|                          | Stripping                                | 10mm                                                    | 10mm                                                                                                               |
|                          | Tolerance                                | ±5mm                                                    | ±5mm                                                                                                               |

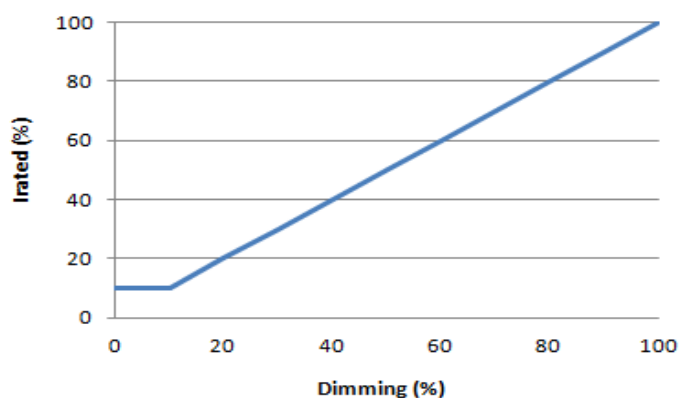
|                       |            |        |       |
|-----------------------|------------|--------|-------|
| <b>DALI/Touch Dim</b> | Connection | DA     | DA    |
| Color                 |            | Purple | Gray  |
| Wire type             |            | 7022   | 7022  |
| Wire diameter         |            | AWG20  | AWG20 |
| Wire length           |            | 135mm  | 135mm |
| Stripping             |            | 10mm   | 10mm  |
| Tolerance             |            | ±5mm   | ±5mm  |

\*Subject to change without notice, HEP guarantees all products perform functionally well\*

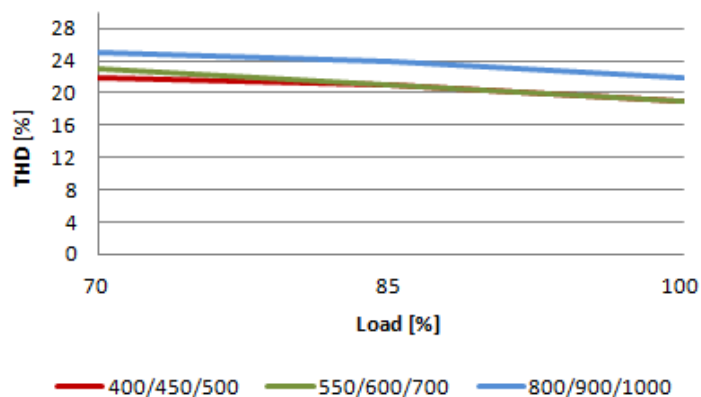
\* If not mentioned, all the test conditions are based on full load at 230VAC input (for 220-240 VAC input).

## Electrical Values

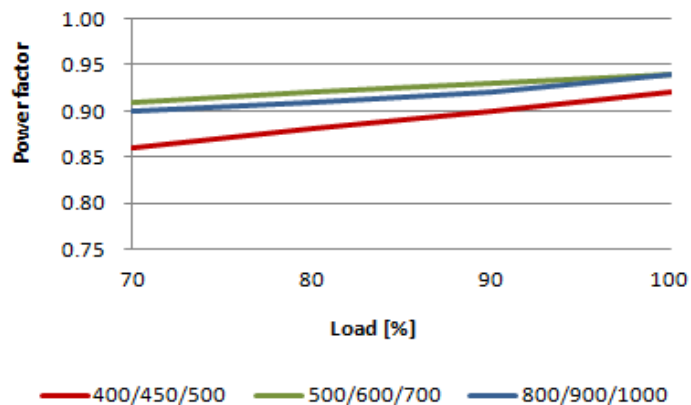
**Dimming Curve**



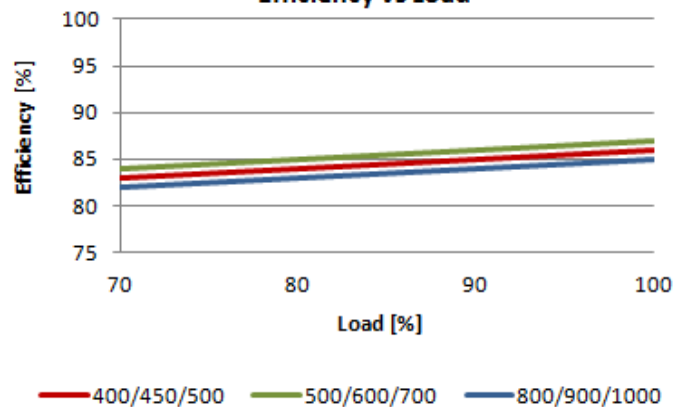
**THD vs Load**



**Power factor vs Load**

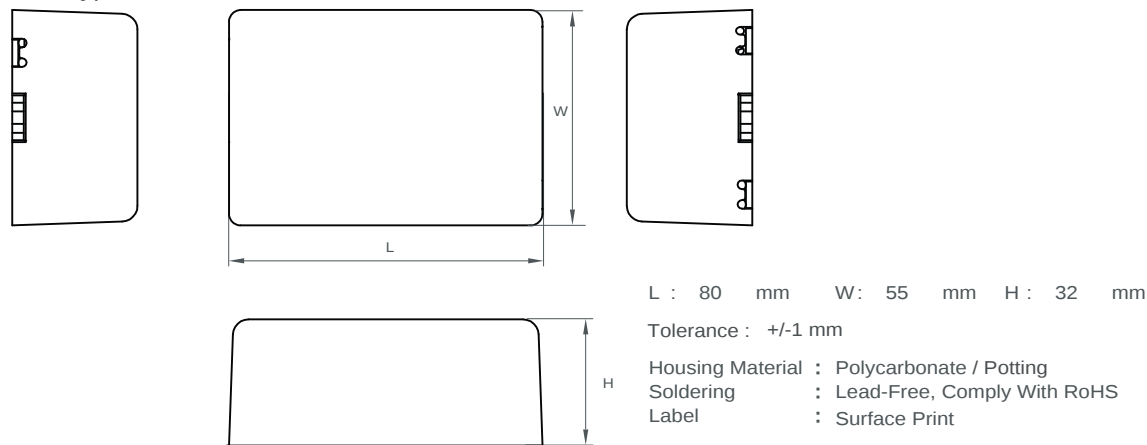


**Efficiency vs Load**

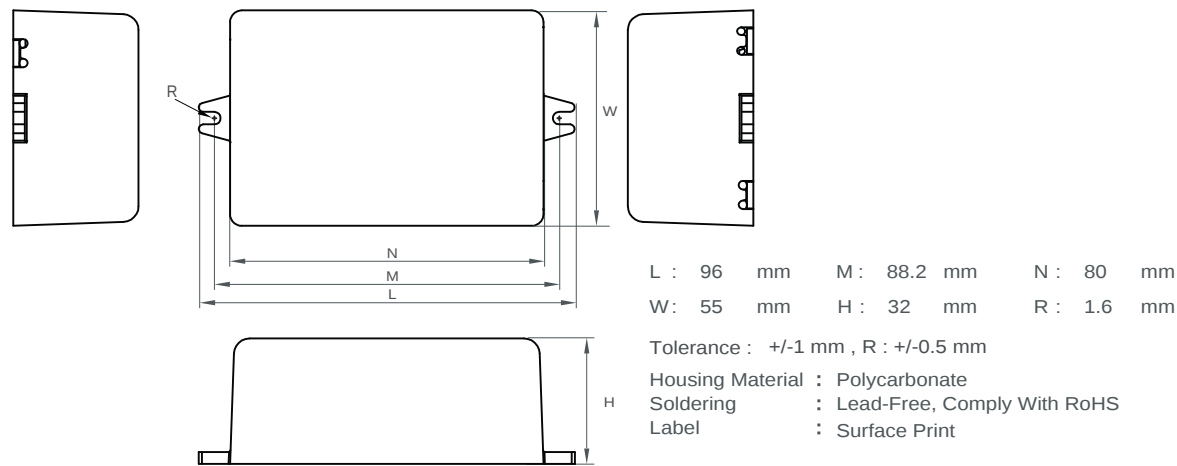


Physical  
Parameter

Clear type



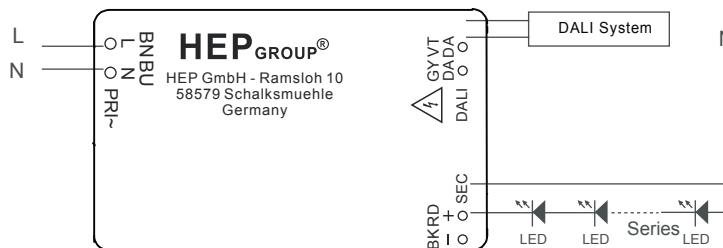
Screw clip type



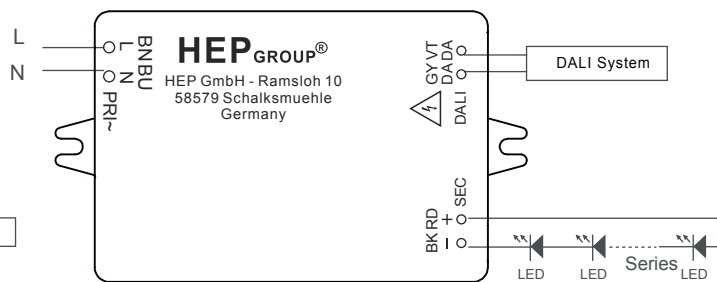
## Wiring Diagram

## DAI system

Clear type

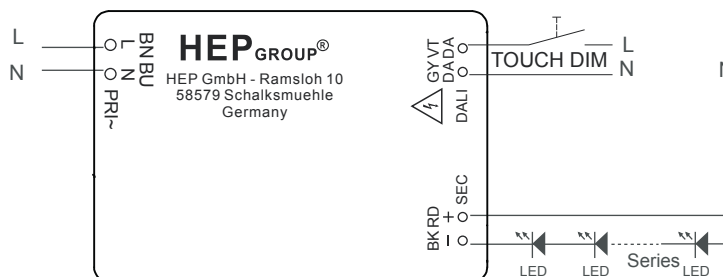


### Screw clip type

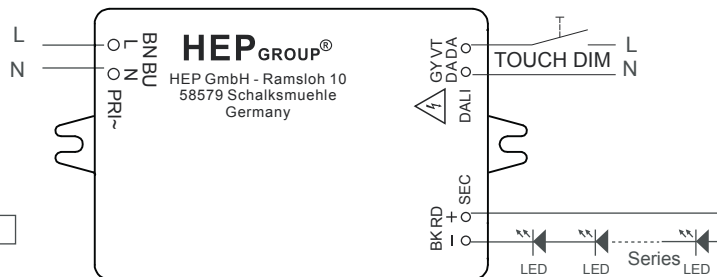


## TOUCH DIM

Clear type



### Screw clip type



\* Touch Dim

Short push (<0.6sec.)      Push to turn ON-OFF

Long push (>0.6sec.)      Dimming up or down

## Synchronization of Touch DIM

If a large number of driver with Touch Dim is operated in a system

there is a chance that an driver will operate out of synchronization with the others(= different dimming level setting or different switching state).

Synchronism can be restored as follows:

- |                    |                                                                                                                                                           |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.Step: Long push  | all the lamps are switched on                                                                                                                             |
| 2.Step: Short push | all the lamps are switched off                                                                                                                            |
| 3.Step: Long push  | all the lamps are switched on the minimum dimming setting of the drivers and continuously fade up to the desired dimming level, then release push bottom. |

Max. lead length : 20 M

Max. parallel units : 15 pcs