



LED Downlight

# DL Série



# Introduction

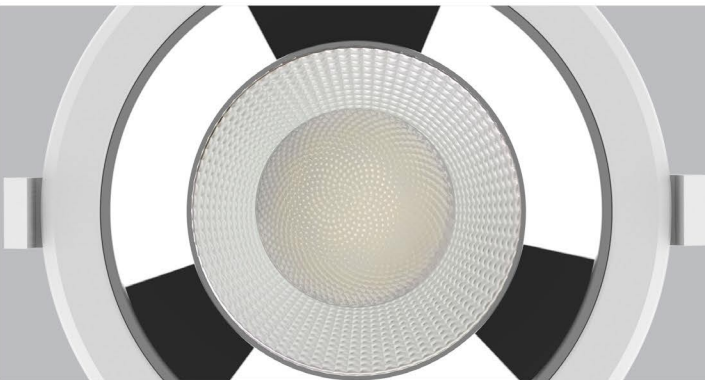
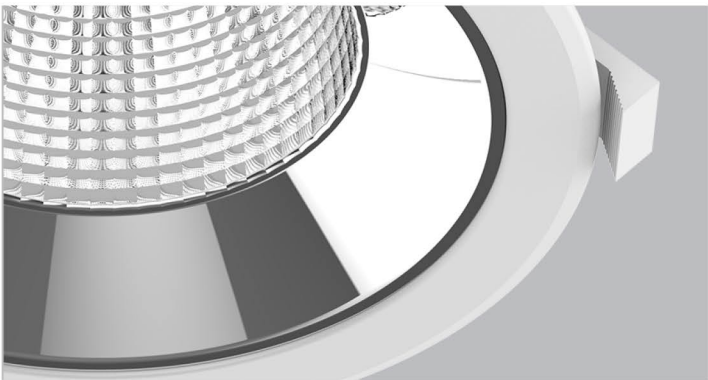
This downlight is an anti-glare UGR<19 design. It's adopted high lumen SMD light source, the scale PC shade and reflector make a uniform light output. Al1060 aluminum housing provides a great thermal management, interchangeable CCT can meet more market demand.

# Features

- Anti-glare design, 5/6/8 inch with UGR<19.
- High lumen efficiency 100lm/W.
- IP54 in front cover.
- Interchangeable CCT(3000K+4000K+5700K)with slide switch.
- Complete size options:3/4/5/6/8inch.
- Finished color: White RAL9016.
- External flicker free driver.
- Dimmable way: Triac, DALI, 0-10V.

# Application Areas

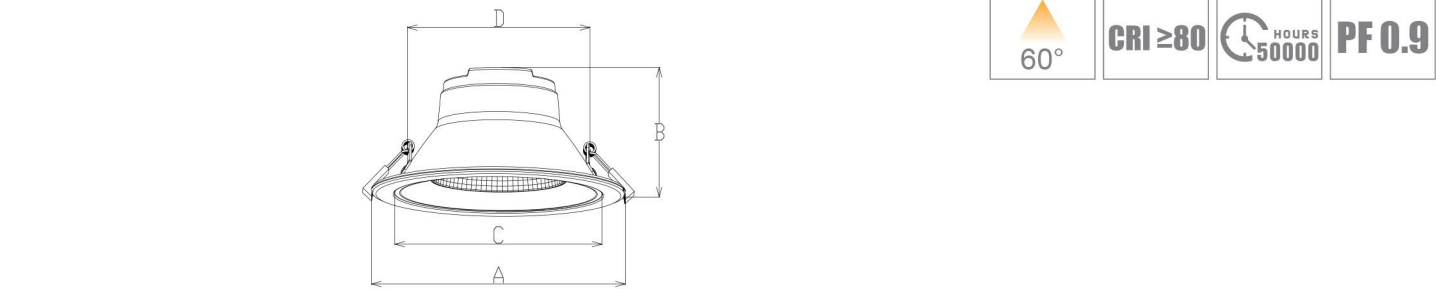
It is designed for general lighting applications in office, supermarket, shop, school, hotel, etc. It is also widely used for public areas, such as stairway, lobby, reception, corridors etc.





Technical Data Sheet (1)

| Code No.                       |         |       | DL90-10-A                                                      | DL90-13-A | DL120-13-A | DL120-18-A | DL140-13-A | DL140-18-A | DL140-25-A |
|--------------------------------|---------|-------|----------------------------------------------------------------|-----------|------------|------------|------------|------------|------------|
| Dimension(mm)                  |         |       | Ø115*67mm                                                      |           | Ø145*73mm  |            | Ø170*86mm  |            |            |
| Cutout (mm)                    |         |       | Ø90-95mm                                                       |           | Ø120-130mm |            | Ø140-150mm |            |            |
| Watt(W)                        |         |       | 10W                                                            | 13W       | 13W        | 18W        | 13W        | 18W        | 25W        |
| Rated Input Voltage(V)         |         |       | AC230V                                                         |           |            |            |            |            |            |
| Input Voltage(V)               |         |       | AC220-240V                                                     |           |            |            |            |            |            |
| LED Module Input               |         |       | DC33-38V                                                       |           |            |            |            |            |            |
| Light Source                   |         |       | SMD2835                                                        |           |            |            |            |            |            |
| SDCM                           |         |       | <6                                                             |           |            |            |            |            |            |
| CCT(K)                         |         |       | 1-CCT: 3000K/4000K/5000K/5700K    3-CCT: 3000K + 4000K + 5700K |           |            |            |            |            |            |
| CCT Selection DIP Switch       |         |       | Yes                                                            |           |            |            |            |            |            |
| Luminous Flux (lm) ±5%         | Non-DIM | 1-CCT | 780-950                                                        | 950-1200  | 950-1200   | 1350-1500  | 1230-1350  | 1650-1850  | 2350-2650  |
|                                | DIM     |       | 750-850                                                        | 900-1100  | 900-1100   | 1300-1450  | 1150-1250  | 1600-1800  | 2300-2550  |
|                                | Non-DIM | 3-CCT | 780-950                                                        | 950-1200  | 950-1200   | 1350-1500  | 1230-1350  | 1650-1850  | 2350-2650  |
|                                | DIM     |       | 750-850                                                        | 900-1100  | 900-1100   | 1300-1450  | 1100-1250  | 1600-1800  | 2300-2550  |
| CRI                            |         |       | ≥80                                                            |           |            |            |            |            |            |
| Beam Angle (°)                 |         |       | 60°                                                            |           |            |            |            |            |            |
| UGR                            |         |       | UGR<21                                                         |           |            |            | UGR<19     |            |            |
| LED Driver                     |         |       | Built-out                                                      |           |            |            |            |            |            |
| Dimming Option                 |         |       | Triac/DALI/0-10V/NO                                            |           |            |            |            |            |            |
| Sensor                         |         |       | -                                                              |           |            |            |            |            |            |
| Emergency Kits                 |         |       | -                                                              |           |            |            |            |            |            |
| Electrical Class               |         |       | Class II                                                       |           |            |            |            |            |            |
| Ingress Protection (IP Rating) |         |       | IP54(Below Ceiling) IP20(Inside Ceiling)                       |           |            |            |            |            |            |
| Impact Resistance (IK Rating)  |         |       | -                                                              |           |            |            |            |            |            |
| Product Finishing(Base)        |         |       | White RAL 9016                                                 |           |            |            |            |            |            |
| Materials of Optics            |         |       | PC                                                             |           |            |            |            |            |            |
| Materials of Housing           |         |       | PC/Aluminum                                                    |           |            |            |            |            |            |
| Lifetime (hr)                  |         |       | 50,000h                                                        |           |            |            |            |            |            |
| Glow wire test (°C )           |         |       | 750°C                                                          |           |            |            |            |            |            |
| Operating Temp. (°C )          |         |       | -20°C ~45°C                                                    |           |            |            |            |            |            |
| Storage Temp. (°C )            |         |       | -20°C ~65°C                                                    |           |            |            |            |            |            |
| Installation                   |         |       | Recessed                                                       |           |            |            |            |            |            |



Measurement

| Code | Dimension(mm) |     |     |     | Size(mm) | Product Weight (Kg) |        | Package weight (Kg) |         | Carton Size(cm) | Qty/CTN | 20GP (pcs) | 40HQ (pcs) |
|------|---------------|-----|-----|-----|----------|---------------------|--------|---------------------|---------|-----------------|---------|------------|------------|
|      | A             | B   | C   | D   |          | N.W/PC              | G.W/PC | N.W/CTN             | G.W/CTN |                 |         |            |            |
| 3"   | 115           | 67  | 88  | 88  | 115*67   | 0.21                | 0.28   | 8.4                 | 9.3     | 44* 30* 42      | 30PCS   | 14550      | 34920      |
| 4"   | 145           | 73  | 118 | 117 | 145*73   | 0.26                | 0.36   | 8.6                 | 9.55    | 50* 34* 36      | 24PCS   | 10224      | 24864      |
| 5"   | 170           | 86  | 138 | 137 | 170*86   | 0.31                | 0.43   | 10.3                | 11.5    | 59* 40* 40.5    | 24PCS   | 6240       | 14976      |
| 6"   | 190           | 90  | 155 | 154 | 190*90   | 0.36                | 0.51   | 6.12                | 7.1     | 44* 44* 32.5    | 12PCS   | 5460       | 12480      |
| 8"   | 235           | 100 | 199 | 198 | 235*100  | 0.52                | 0.7    | 8.4                 | 9.7     | 52* 52* 36      | 12PCS   | 3168       | 7392       |

Technical Data Sheet (2)

| Code No.                       |         |       | DL160-18-A                                                     | DL160-25-A | DL160-30-A | DL200-18-A | DL200-25-A | DL200-35-A |
|--------------------------------|---------|-------|----------------------------------------------------------------|------------|------------|------------|------------|------------|
| Dimension(mm)                  |         |       | Ø190*90mm                                                      |            |            | Ø235*100mm |            |            |
| Cutout (mm)                    |         |       | Ø160-170mm                                                     |            |            | Ø200-210mm |            |            |
| Watt(W)                        |         |       | 18W                                                            | 25W        | 30W        | 18W        | 25W        | 35W        |
| Rated Input Voltage(V)         |         |       | AC230V                                                         |            |            |            |            |            |
| Input Voltage(V)               |         |       | AC220-240V                                                     |            |            |            |            |            |
| LED Module Input               |         |       | DC33-38V                                                       |            |            |            |            |            |
| Light Source                   |         |       | SMD2835                                                        |            |            |            |            |            |
| SDCM                           |         |       | <6                                                             |            |            |            |            |            |
| CCT(K)                         |         |       | 1-CCT: 3000K/4000K/5000K/5700K    3-CCT: 3000K + 4000K + 5700K |            |            |            |            |            |
| CCT Selection DIP Switch       |         |       | YES                                                            |            |            |            |            |            |
| Luminous Flux (lm) ±5%         | Non-DIM | 1-CCT | 1650-1850                                                      | 2350-2650  | 2700-3150  | 1650-1850  | 2350-2650  | 3200-3600  |
|                                | DIM     |       | 1600-1800                                                      | 2300-2550  | 2700-3000  | 1600-1800  | 2300-2550  | 3100-3500  |
|                                | Non-DIM | 3-CCT | 1650-1850                                                      | 2350-2650  | 2700-3150  | 1650-1850  | 2350-2650  | 3200-3600  |
|                                | DIM     |       | 1600-1800                                                      | 2300-2550  | 2700-3000  | 1600-1800  | 2300-2550  | 3100-3500  |
| CRI                            |         |       | ≥80                                                            |            |            |            |            |            |
| Beam Angle (°)                 |         |       | 60°                                                            |            |            |            |            |            |
| UGR                            |         |       | UGR<19                                                         |            |            |            |            |            |
| LED Driver                     |         |       | Built-out                                                      |            |            |            |            |            |
| Dimming Option                 |         |       | Triac/DALI/0-10V/NO                                            |            |            |            |            |            |
| Sensor                         |         |       | -                                                              |            |            |            |            |            |
| Emergency Kits                 |         |       | -                                                              |            |            |            |            |            |
| Electrical Class               |         |       | Class II                                                       |            |            |            |            |            |
| Ingress Protection (IP Rating) |         |       | IP54(Below Ceiling) IP20(Inside Ceiling)                       |            |            |            |            |            |
| Impact Resistance (IK Rating)  |         |       | -                                                              |            |            |            |            |            |
| Product Finishing(Base)        |         |       | White RAL 9016                                                 |            |            |            |            |            |
| Materials of Optics            |         |       | PC                                                             |            |            |            |            |            |
| Materials of Housing           |         |       | PC/Aluminum                                                    |            |            |            |            |            |
| Lifetime (hr)                  |         |       | 50,000h                                                        |            |            |            |            |            |
| Glow wire test (°C )           |         |       | 750°C                                                          |            |            |            |            |            |
| Operating Temp. (°C )          |         |       | -20°C ~45°C                                                    |            |            |            |            |            |
| Storage Temp. (°C )            |         |       | -20°C ~65°C                                                    |            |            |            |            |            |
| Installation                   |         |       | Recessed                                                       |            |            |            |            |            |

Driver Datasheet (Non-dimmable )

| Total load wattage |                             | 10W                                                                                           | 13W    | 18W    | 25W    | 30W    | 35w   |
|--------------------|-----------------------------|-----------------------------------------------------------------------------------------------|--------|--------|--------|--------|-------|
| Output             | Output Voltage range        | DC30-40V                                                                                      |        |        |        |        |       |
|                    | Rated output current        | 250mA                                                                                         | 350mA  | 500mA  | 650mA  | 800mA  | 950mA |
|                    | Line Regulation             | ± 5%                                                                                          |        |        |        |        |       |
|                    | Setup, Rise Time            | 0.5S                                                                                          |        |        |        |        |       |
|                    | Flickering Index            | <3%(NO RISK)                                                                                  |        |        |        |        |       |
| Input              | Input Voltage               | AC220-240V                                                                                    |        |        |        |        |       |
|                    | Rated Input Voltage(V)      | AC230V                                                                                        |        |        |        |        |       |
|                    | Frequency                   | 50/60HZ                                                                                       |        |        |        |        |       |
|                    | Input Current               | 0.06A                                                                                         | 0.08A  | 0.12A  | 0.15A  | 0.16A  | ≤0.2A |
|                    | Rated Input Current         | ≤0.05A                                                                                        | ≤0.07A | ≤0.11A | ≤0.14A | ≤0.17A | 0.18A |
|                    | Power Factor                | 0.9                                                                                           |        |        |        |        |       |
|                    | THD                         | <20% @230V                                                                                    |        |        |        |        |       |
|                    | Efficiency                  | 86%                                                                                           | 86%    | 88%    | 88%    | 88%    | 88%   |
|                    | No load wattage             | ≤1W                                                                                           |        |        | ≤1.25W | ≤1.25W | ≤0.5W |
| Protection         | Short circuit protection    | Pass                                                                                          |        |        |        |        |       |
|                    | Over voltage protection     | Pass                                                                                          |        |        |        |        |       |
|                    | Over temperature protection | Pass                                                                                          |        |        |        |        |       |
| Safety &EMC        | Withstand voltage           | I/P-O/P:3.75KVac, <5mA 60S;                                                                   |        |        |        |        |       |
|                    | Isolation Resistance        | I/P-O/P: 500VDC, ≥100M Ω                                                                      |        |        |        |        |       |
|                    | Surge                       | IEC/EN61000-4-5( P<25W; L-N:500V, L/N-PG:1KV);<br>IEC/EN61000-4-5 (P≥25w L-N:1KV, L/N-PG:2KV) |        |        |        |        |       |
|                    | EMC Emission                | EN55015, EN61000-3-2                                                                          |        |        |        |        |       |
|                    | EMC Immunity                | EN61000-4-2,3,4,5,6,8,11; EN61547                                                             |        |        |        |        |       |

Driver Datasheet (Triac Dimmable)

| Total load wattage |                             | 10W                                                                                           | 13W    | 18W   | 25W   | 30W   | 35W   |
|--------------------|-----------------------------|-----------------------------------------------------------------------------------------------|--------|-------|-------|-------|-------|
| Output             | Output Voltage range        | DC30-40V                                                                                      |        |       |       |       |       |
|                    | Rated output current        | 250mA                                                                                         | 300mA  | 450mA | 650mA | 750mA | 850mA |
|                    | Line Regulation             | ± 5%                                                                                          |        |       |       |       |       |
|                    | Setup, Rise Time            | < 1S                                                                                          |        |       |       |       |       |
|                    | Flickering Index            | <5%(LOW RISK)                                                                                 |        |       |       |       |       |
| Input              | Input Voltage               | AC200-240V                                                                                    |        |       |       |       |       |
|                    | Rated Input Voltage(V)      | AC230V                                                                                        |        |       |       |       |       |
|                    | Frequency                   | 50Hz                                                                                          |        |       |       |       |       |
|                    | Input Current               | ≤0.06A                                                                                        | ≤0.07A | 0.1A  | 0.14A | 0.17A | 0.2A  |
|                    | Rated Input Current         | 0.05A                                                                                         | 0.06A  | 0.09A | 0.13A | 0.15A | 0.17A |
|                    | Power Factor                | 0.9                                                                                           |        |       |       |       |       |
|                    | THD                         | <20% @230V                                                                                    |        |       |       |       |       |
|                    | Efficiency                  | 80%                                                                                           | 80%    | 83%   | 83%   | 84%   | 84%   |
|                    | No load wattage             | ≤1W                                                                                           |        |       | ≤5%   |       |       |
| Protection         | Short circuit protection    | Pass                                                                                          |        |       |       |       |       |
|                    | Over voltage protection     | Pass                                                                                          |        |       |       |       |       |
|                    | Over temperature protection | Pass                                                                                          |        |       |       |       |       |
| Safety &EMC        | Withstand voltage           | I/P-O/P:3.75KVac, <5mA 60S;                                                                   |        |       |       |       |       |
|                    | Isolation Resistance        | I/P-O/P: 500VDC, ≥100M Ω                                                                      |        |       |       |       |       |
|                    | Surge                       | IEC/EN61000-4-5( P<25W; L-N:500V, L/N-PG:1KV);<br>IEC/EN61000-4-5 (P≥25w L-N:1KV, L/N-PG:2KV) |        |       |       |       |       |
|                    | EMC Emission                | EN55015, EN61000-3-2                                                                          |        |       |       |       |       |
|                    | EMC Immunity                | EN61000-4-2,3,4,5,6,8,11; EN61547                                                             |        |       |       |       |       |

Installation Procedure

WARNING⚡

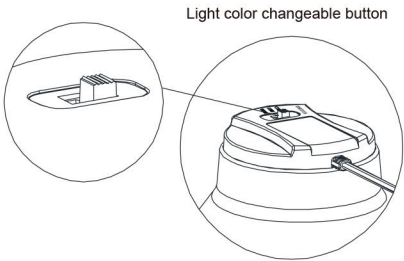
- 1.Switch off before installation / maintenance.  
2.Switch on only after complete installation and examination of the circuit.  
3.Professional electrician for installation and maintenance only.



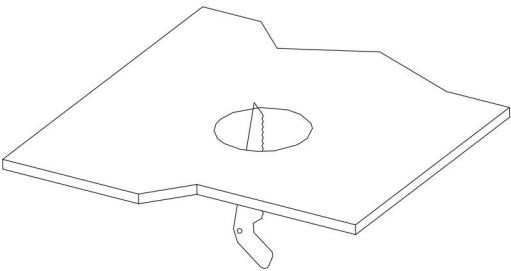
Turn Off power supply before starting any installation. Read instructions & check you have all the tools & accessories to complete the installation correctly.

■ Recessed

Step 1

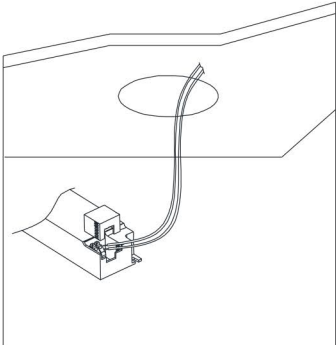


For the products with light color changeable button, please select the light color (CW/NW/WW) before installation.



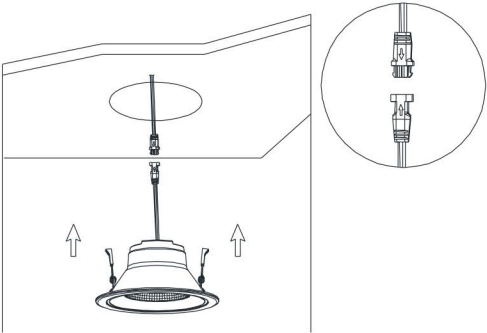
Open a hole according to the cutout size of led downlight.

Step 2



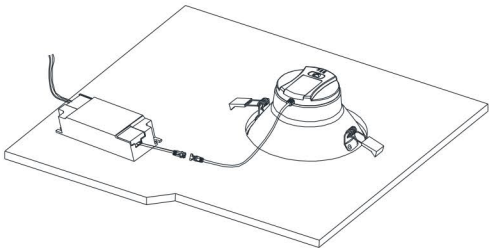
Use screw-driver to open the driver terminal cover on the back of downlight, feed the main AC wire L. N. in terminal block respectively, then fix the cover back.

Step 3



Hold back the spring clip then push the downlight into the hole.

Step 4



Make sure the downlight fixed tightly in ceiling, turn on the power (Fig 1).