Entry / ECO | Standard / STD | Professional / PRO | ODM & OEM | Intelligent / INT

STD
Specifications

LED Ceiling Light

AL166 Series

UPSHINE®

Introduction

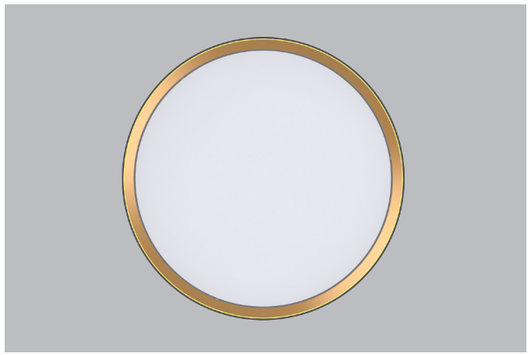
The round, minimalist LED ceiling light is versatile in its use. Due to its simple appearance, it fits into a wide variety of interiors with surface mounted, suspended and recessed installation ways. Aluminum housing(white/black) can be matched with black/white/golden decorative ring, which makes this light look elegant and textured. Opal diffuser(UL94-V2) for general lighting with maximum transmittance and homogeneous lighting.

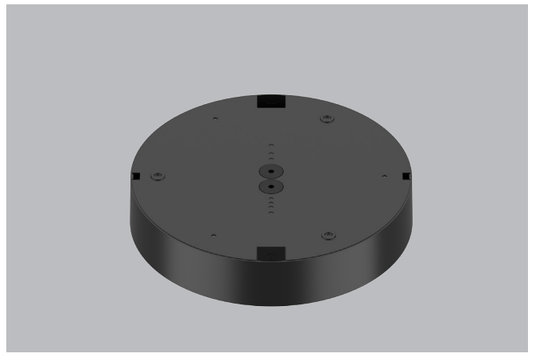
Features

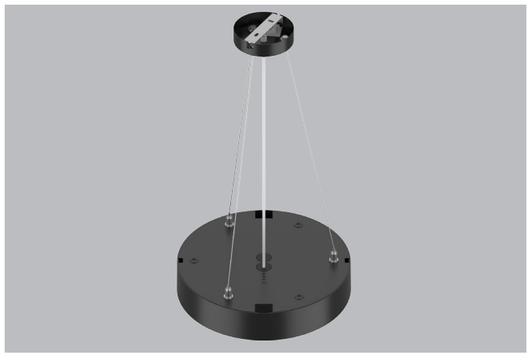
- Multiple appearance option with black/white/golden decorative ring.
- Interchangeable CCT(3000K+4000K+5700K)with slide switch.
- Size: Ø301*58mm, Ø422*58mm.
- IP44 waterproof.
- ADC12 aluminum housing provides a great thermal management.
- Internal flicker free driver.
- Triac dimming and DALI dimming are optional.
- Adjustable sensor

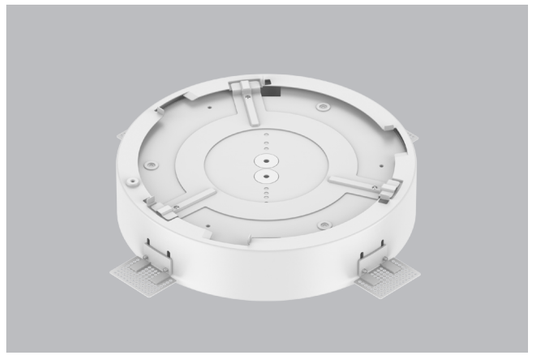
Application Areas

It is designed for general lighting indoor applications: hotel, home, canteen, office, supermarket, shopping mall etc.

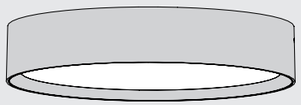








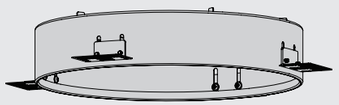
Triac Dimmable | DALI Dimmable | 120° | IP44 | Color changeable (WW NW CW) | Sensor | CRI ≥80 | PF 0.9 | HOURS 50000



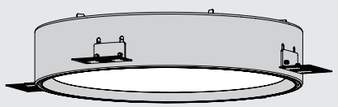
Surface mount

ACC-AL166-WT/BK-0200
ACC-AL166-WT/BK-DA-0200

Pendant



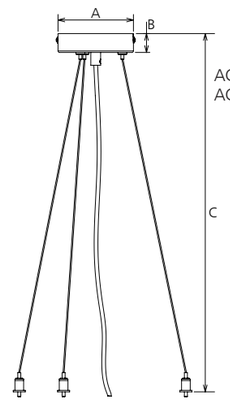
ACC-AL166-12-WT-0300
ACC-AL166-16-WT-0300



Recessed

AL166-12"/16"

ACC-AL166-12-WT-0300
ACC-AL166-16-WT-0300



ACC-AL166-WT/BK-0200
ACC-AL166-WT/BK-DA-0200

Measurement

Code	Dimension(mm)			Size(mm)	Product Weight (Kg)		Package weight (Kg)		Carton Size(cm)	Qty/ CTN	20GP (pcs)	40HQ (pcs)
	A	B	C		N.W/PC	G.W/PC	N.W/CTN	G.W/CTN				
AL166-12-18W	Ø301	58	Ø276	Ø301*58	1.3	1.6	7.8	9.6	44*32.5*33.5	6	3060	7350
AL166-12-24W	Ø301	58	Ø276	Ø301*58	1.3	1.6	7.8	9.6	44*32.5*33.5	6	3060	7350
AL166-16-24W	Ø422	58	Ø396	Ø422*58	2.2	2.6	13.2	15.6	47*46*46	6	1800	3600
AL166-16-30W	Ø422	58	Ø396	Ø422*58	2.2	2.6	13.2	15.6	47*46*46	6	1800	3600
ACC-AL166-12-WT-0300	Ø313	65	-	Ø313*65	1	1.3	6	7.8	52.5*34*34	6	2556	5922
ACC-AL166-16-WT-0300	Ø434	65	-	Ø434*65	1.4	1.8	8.4	10.8	50*45.5*46	6	1650	3450
ACC-AL166-WT/BK-0200 ACC-AL166-WT/BK-DA-0200	Ø100	25	1500	Ø100*1500	0.27	0.31	16.2	19.37	46*34.5*35	60	27360	66360

Technical Data Sheet

Code No.			AL166-12-18W	AL166-12-24W	AL166-16-24W	AL166-16-30W
Dimension(mm)			Ø301*58		Ø422*58	
Cutout (mm)			Ø315*85		Ø435*85	
Watt(W)			18W	24W	24W	30W
Rated Input Voltage(V)			AC220-240V			
Input Voltage(V)			AC198-264V			
LED Module Input			-			
Light Source			SMD			
SDCM			<6			
CCT(K)			1-CCT: 3000K/4000K/5000K/5700K || 3-CCT: 3000K + 4000K + 5700K			
CCT Selection DIP Switch			Yes			
Luminous Flux (lm)±5% (Golden ring)	1-CCT	Non-DIM	1420-1650	1900-2050	2150-2420	2700-2950
		DIM	1380-1600	1780-2000	2100-2350	2600-2840
	3-CCT	Non-DIM	1420-1700	1900-2100	2150-2420	2700-3000
		DIM	1380-1650	1780-2050	2100-2350	2600-2950
Luminous Flux (lm) ±5% (Black ring)	1-CCT	Non-DIM	1350-1550	1800-1950	2050-2300	2600-2800
		DIM	1300-1500	1700-1900	2000-2250	2500-2700
	3-CCT	Non-DIM	1350-1600	1800-2000	2050-2300	2600-2850
		DIM	1300-1550	1700-1950	2000-2250	2500-2800
CRI			≥80			
Beam Angle (°)			120°			
UGR			-			
LED Driver			Driver built-in			
Dimming Option			Triac/DALI			
Sensor			Microwave sensor+Daylight sensor			
Emergency Kits			NO			
Electrical Class			Class II			
Ingress Protection (IP Rating)			IP44(Pendant installation IP20 only)			
Impact Resistance (IK Rating)			IK06			
Product Finishing			Black RAL9005 & Golden PANTONE 7407U			
Materials of Optics			PC			
Materials of Housing			Aluminium(ADC12)+PC			
Lifetime (hr)			50,000H			
Glow wire test (°C)			650°C			
Operating Temp. (°C)			-20°C ~45°C			
Storage Temp. (°C)			-20°C ~60°C			
Installation			Surface mount & Pendant & Recessed			

Technical Data Sheet

Code No.			AL166-12-18W	AL166-12-24W	AL166-16-24W	AL166-16-30W
Dimension(mm)			Ø301*58		Ø422*58	
Cutout (mm)			Ø315*85		Ø435*85	
Watt(W)			18W	24W	24W	30W
Rated Input Voltage(V)			AC220-240V			
Input Voltage(V)			AC198-264V			
LED Module Input			-			
Light Source			SMD			
SDCM			<6			
CCT(K)			1-CCT: 3000K/4000K/5000K/5700K || 3-CCT: 3000K + 4000K + 5700K			
CCT Selection DIP Switch			Yes			
Luminous Flux (lm)±5% (Golden ring)	1-CCT	Non-DIM	1450-1650	2030-2200	2300-2500	2850-3050
		DIM	1420-1600	1980-2160	2250-2450	2750-2950
	3-CCT	Non-DIM	1450-1700	2030-2300	2300-2550	2850-3150
		DIM	1420-1650	1980-2250	2250-2500	2750-3050
Luminous Flux (lm) ±5% (White ring)	1-CCT	Non-DIM	1600-1750	2200-2400	2500-2700	3100-3300
		DIM	1550-1700	2150-2350	2450-2650	3000-3200
	3-CCT	Non-DIM	1600-1800	2200-2500	2500-2750	3100-3400
		DIM	1550-1750	2150-2450	2450-2700	3000-3300
CRI			≥80			
Beam Angle (°)			120°			
UGR			-			
LED Driver			Driver built-in			
Dimming Option			Triac/DALI			
Sensor			Microwave sensor+Daylight sensor			
Emergency Kits			NO			
Electrical Class			Class II			
Ingress Protection (IP Rating)			IP44(Pendant installation IP20 only)			
Impact Resistance (IK Rating)			IK06			
Product Finishing			White RAL9016 & Golden PANTONE 7407U			
Materials of Optics			PC			
Materials of Housing			Aluminium(ADC12)+PC			
Lifetime (hr)			50,000H			
Glow wire test (°C)			650°C			
Operating Temp. (°C)			-20°C ~45°C			
Storage Temp. (°C)			-20°C ~60°C			
Installation			Surface mount & Pendant & Recessed			

Driver Datasheet(Non-dimmable)

Total load wattage		18W	24W	30W
Output	Output Voltage range	DC60-75V		
	Rated output current	230mA	300mA	380mA
	Line Regulation	±5%		
	Setup, Rise Time	≤0.5S		
	Flickering Index	≤3%(NO RISK)		
Input	Rated Input Voltage	AC220-240V		
	Input Voltage	AC198-264V		
	Frequency	50/60Hz		
	Rated Input Current	≤0.09A	≤0.12A	≤0.16A
	Input Current	≤0.10A	≤0.14A	≤0.17A
	Power Factor	0.9		
	THD	-		<20% @230V
	Efficiency	≥88%		≥85%
	No load wattage	≤0.5W	≤0.5W	≤0.5W
Protection	Short circuit protection	PASS		
	Over voltage protection	PASS		
	Over temperature protection	PASS		
Safety &EMC	Withstand voltage	-		
	Isolation Resistance	-		
	Surge	IEC/EN61000-4-5(P<25W; L-N:500V)		IEC/EN61000-4-5 (P≥25W L-N:1KV)
	EMC Emission	EN55015, EN61000-3-2		
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11; EN61547		

Driver Datasheet(Dali-dimmable)

Total load wattage		18W	24W	30W
Output	Output Voltage range	450mA	600mA	750mA
	Rated output current	DC 30-40V		
	Line Regulation	±5%		
	Setup, Rise Time	<1S@230V		
	Flickering Index	<1%(NO RISK)		
Input	Rated Input Voltage	AC220-240V		
	Input Voltage	AC198-264V		
	Frequency	50 / 60 Hz		
	Rated Input Current	≤0.10A	≤0.13A	≤0.16A
	Input Current	≤0.11A	≤0.14A	≤0.17A
	Power Factor	0.9		
	THD	< 20 %@230V		
	Efficiency	≥85%		
	No load wattage	<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, ≥4M Ω		
	Surge	IEC/EN61000-4-5(P<25W; L-N:500V)		IEC/EN61000-4-5 (P≥25w L-N:1KV)
	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		18W	24W	30W
Output	Output Voltage range	DC60-75V		
	Rated output current	230mA	300mA	370mA
	Line Regulation	±5%		
	Setup, Rise Time	≤0.5S		
	Flickering Index	≤3%(NO RISK)		
Input	Rated Input Voltage	AC220-240V		
	Input Voltage	AC198-264V		
	Frequency	50Hz		
	Rated Input Current	≤0.09A	≤0.14A	≤0.17A
	Input Current	≤0.10A	≤0.15A	≤0.19A
	Power Factor	0.9		
	THD	<20% @230V		
	Efficiency	≥84%		
	No load wattage	≤0.5W		
Protection	Short circuit protection	PASS		
	Over voltage protection	PASS		
	Over temperature protection	PASS		
Safety &EMC	Withstand voltage	-		
	Isolation Resistance	-		
	Surge	IEC/EN61000-4-5(P<25W; L-N:500V)		IEC/EN61000-4-5 (P≥25W L-N:1KV)
	EMC Emission	EN55015, EN61000-3-2		
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11; EN61547		

Driver Datasheet(Non-Dimmable for Sensor)

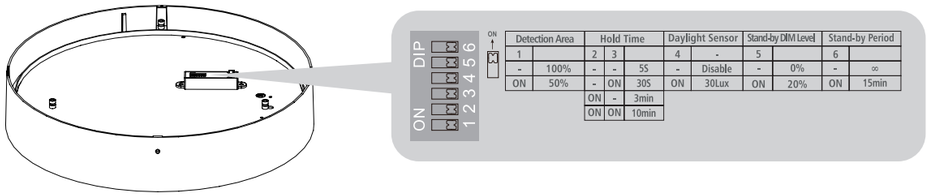
Total load wattage		18W	24W	30W
Output	Rated output current	220mA	305mA	370mA
	Output Voltage range	DC60-75V		
	Line Regulation	±5%		
	Setup Rise Time	<500ms @230V		
	Flickering Index	<3%(LOW RISK)		
	IEC-PST	≤1		
	CIE(SVM)	≤0.4		
Input	Rated Input Voltage	AC220-240V		
	Input Voltage	AC198-264V		
	Frequency	50/60Hz		
	Rated Input Current	≤0.1A	≤0.13A	≤0.16A
	Input Current	≤0.11A	≤0.14A	≤0.17A
	Power Factor	≥0.9		
	THD	-		<20% @230V
	Efficiency	≥84%	≥87%	≥86%
	Inrush current	29.4A/81us		31.2A/310us
	No load wattage	<0.5W@230V		
	Stand-by power consumption	-		
Protection	Short circuit protection	PASS		
	Over voltage protection	PASS		
	Over temperature protection	PASS		
Safety & EMC	Withstand voltage	-		
	Isolation Resistance	-		
	Surge	IEC/EN61000-4-5 (L-N:1KV)		
	EMC Emission	EN55015, EN61000-3-2		
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11; EN61547		

Sensor

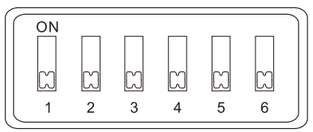
Datasheet (Sensor)

Operating voltage	DC7-12V
Microwave frequency	5.8GHz±75MHz, ISM wave band
Detection angle	140°
Detection Area	4-6M (50%/100%) are adjustable by DIP switch 4-6M (25%/50%/75%/100%) ari adjustable by remote control
Hold time	5S/60S/3min/10min aer adjustableby DIP switch Remote 5S/1min/5min/10min ari adjustable by remote control
Daylight threshold	DIP switch 30lux / disable are adjustable by DIP switch 15lux /50lux /disable ari adjustable by remote control
Stand-by DIM Level	0% / 20% are adjustable by DIP switch 10%/30% ari adjustable by remote control
Stand-by Period	DIP switch 15min / ∞ are adjustable by DIP switch 0S/1min/10min/+∞ ari adjustable by remote control
Dimming Range	Pressing Dim+/Dim- button continuously, the brightness will increase or decrease 5% for each adjustment. ON mode is still available. Dimming range: 30%-100%
Microwave ON/OFF function	Pressing ON/OFF button, the sensor function will be turned off,the lamp will remain ON/OFF and keep same brightness as last setting. The sensor mode can be restored and workable by pressing the 'Detection Area' button.(Other paramerers will be stayed the latest setting)
Installation Height	Recommended Installation Height: Ceiling mounted height 3m.
Minimum mounting distance	Recommended install height should be more than 3m
Operating temperature(℃)	-20℃~60℃

Sensor Setting



Detection Area		Hold Time			Daylight Sensor		Stand-by DIM Level		Stand-by Period	
1		2	3		4	-	5		6	
-	100%	-	-	5S	-	Disable	-	0%	-	∞
ON	50%	-	ON	30S	ON	30Lux	ON	20%	ON	15min
		ON	-	3min						
		ON	ON	10min						



Factory setting

Detection Area	Hold Time	Daylight Sensor	Stand-by DIM Level	Stand-by Period
100%	5S	Disable	0%	∞

Detection Area	
1	
-	100%
ON	50%

Sensor test condition: The test is based on 3m height, the detect distance radius is based on ground, the detect distance can be adjusted through the slide switch.

Sensor test environment and reference: The detective range is measured by human body whose stature is around 1.6-1.7M with medium size and traveling speed is around 1.0-1.5M per second. If the stature, bodily form and traveling speed are changed,then the detective range will be changed accordingly.

Sensor lamp's reaction under open/narrow environment: Test result will be highly influenced by test environment, the more open environment, the closer detect distance, the narrower environment, the longer detect distance. The detector may do self-excitation in a narrow environment.

Sensor Setting based on environmental disturbance: Some environmental disturbances will cause abnormal induction, such as the lamp can not automatically turn off for a long time or the sensor function is invalid, then users can adjust sensor distance to reach the ideal effect. It is recommended to adjust the sensing distance to 50% for the environment where near the heavy equipment, metal sheets and metal pipes, concrete wall (<30cm thickness) etc. Recommend to keep 100% sensor distance in open environment. For environment where near the routers, telecommunications base stations, electrical machinery etc, it is recommended to keep the installation distance of more than 5 meters and adjust to 50% sensor distance.

Hold Time		
2	3	
-	-	5S
-	ON	60S
ON	-	3min
ON	ON	10min

Refers to the time period the lamp remains at 100% illumination after no motion detected.

Notice 1: The hold time can be selected by the slide switch.

The hold time counting should be started after the sensor is powered on and initialized.

Daylight Sensor	
4	
-	disable
ON	30lux

The sensor can be set to only allow the lamp to illuminate below a defined ambient brightness threshold.
When set to Disable mode, the daylight sensor will switch on the lamp when motion is detected regardless of ambient light level.
Notice 1: The light threshold can be selected through the slide switch, it may cause a large deviation in different lamps.

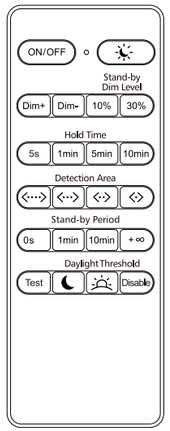
Stand-by Dim Level	
5	
-	0%
ON	20%

This is the dimmed low light output level you would like to have after the hold-time in the absence of people.

Stand-by Period	
6	
-	∞
ON	15min

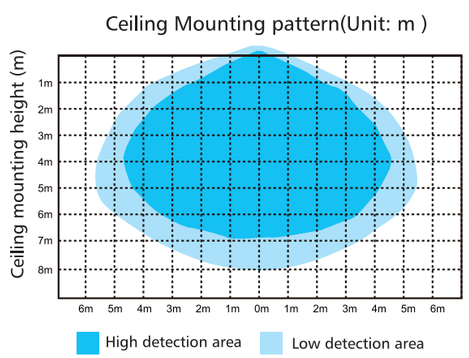
This is the time period you would like to keep at the low light output level before it is completely switched off in the long absence of people.

Sensor Setting



Button	Function	Description
ON/OFF	Normal ON/OFF	1) Pressing ON/OFF button, the sensor function will be turned off, the lamp will remain ON/OFF and keep same brightness as last setting. 2)The sensor mode can be restored and workable by pressing the 'Detection Area' button.(Other paramerers will be stayed the latest setting)
	Night light function	1) Short press , the lamp will keep 10% brightness as a night lamp. Long press 3 seconds to reset sensor mode, the lamp will restore to 100% brightness, all parameters will keep same as DIP setting. 2) In night lamp mode, press Dim+/ Dim-can restore to last setting status and do relevant dim+/ dim-adjustment. 3) The sensor mode can be restored and workable by pressing the 'Detection Area' button.(Other paramerers will be stayed the latest setting)
Dim+	Increasing Brightness	Pressing 'Dim+' button continuously, the brightness will increase 5% for each adjustment. ON mode is still available. Dimming range: 30%-100%
Dim-	Reducing Brightness	Pressing 'Dim-' button continuously, the brightness will increase 5% for each adjustment. ON mode is still available. Dimming range: 30%-100%
Stand-by Dim Level	Low Brightness	10%, 30%
Hold Time	100% Brightness	5S, 1min, 5min, 10min
Detection Area	Detection Area	100% ‹···›, 75% ‹···›, 50% ‹··›, 25% ‹›
Stand-by Period	Stand-by Time	0S, 1min, 10min, +∞
Test	TEST Button	Pressing this button, the light will turn off after 2 seconds.Restore to last sensing setting after power off.
Daylight Threshold	Threshold	15Lux ,50Lux , Disable

Induction Range



Installation Procedure

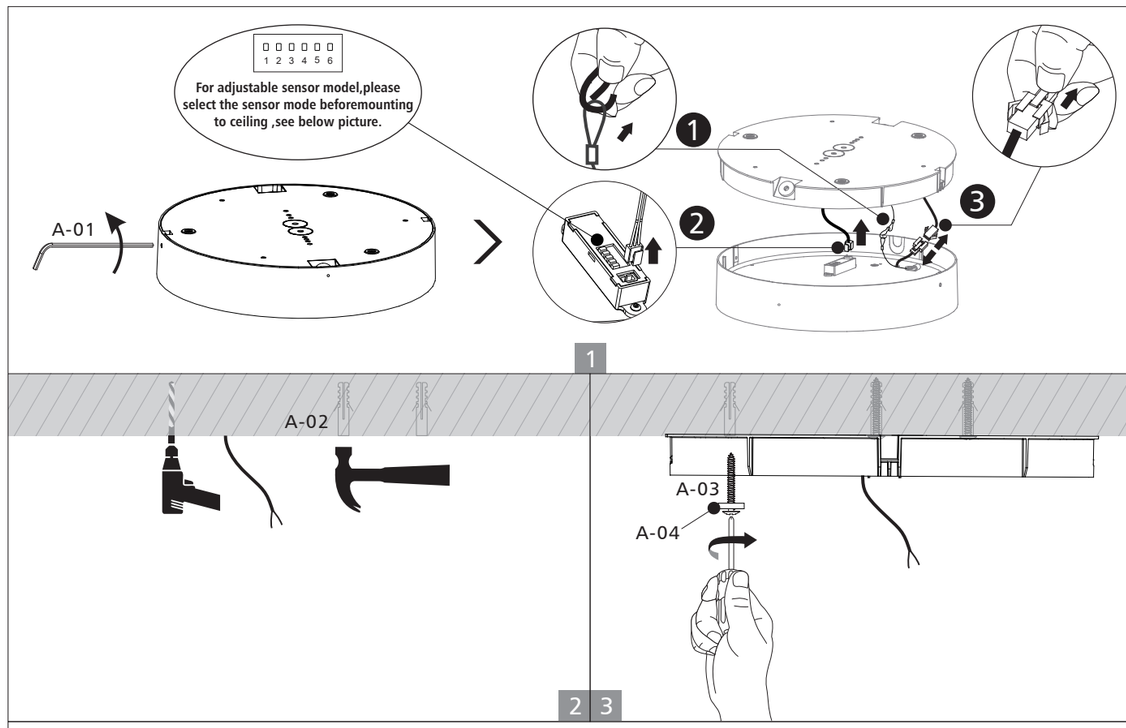
WARNING

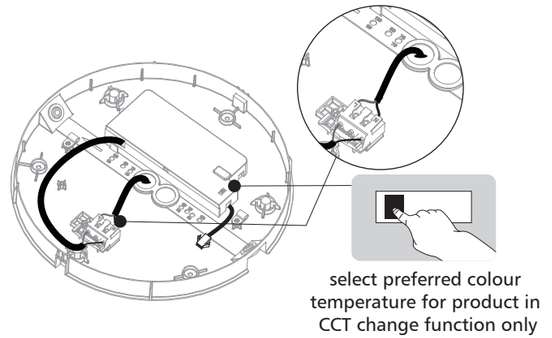
1.Switch off before installation.
2.Switch on only after complete installation and examination of the circuit.
3.Professional electrician for installation and maintenance only.

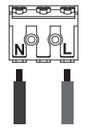
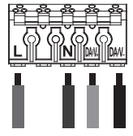
Turn Off Power Supply

Surface mount installation

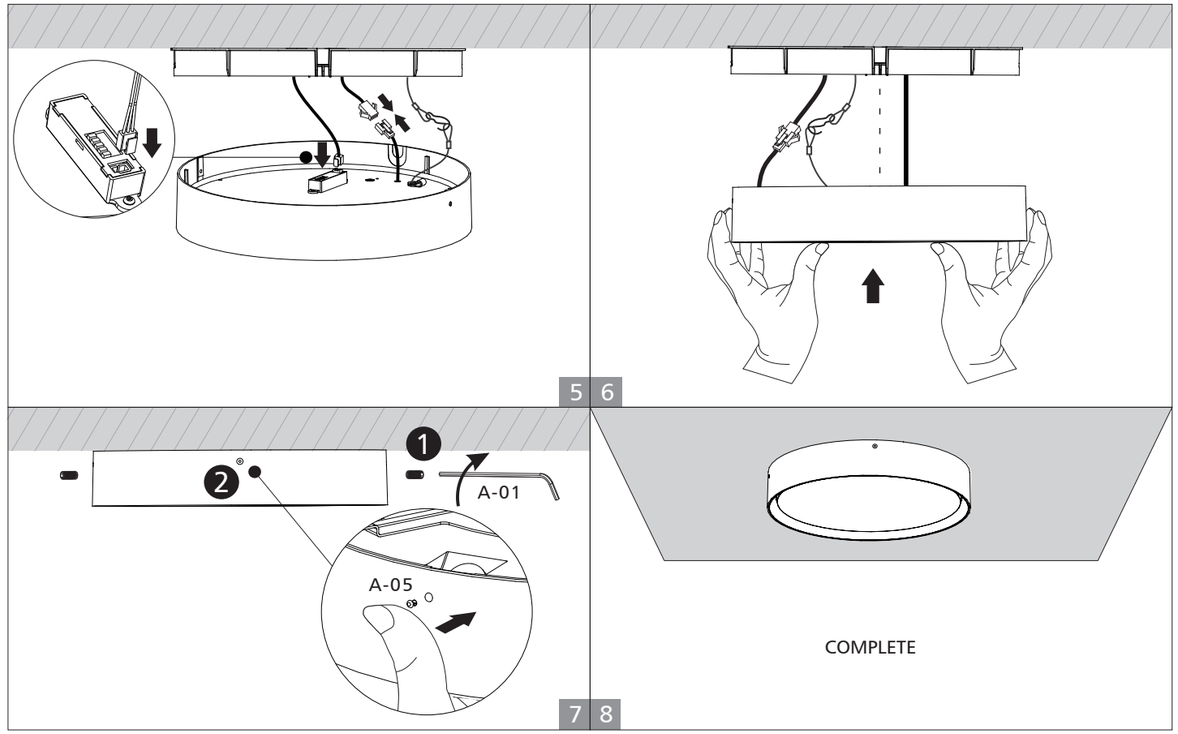
Code	A-01	A-02	A-03	A-04	A-05	A-06
12inch	x1	x3	x3	x3		x2
16inch	x1	x1	x3	x3	x2	x2





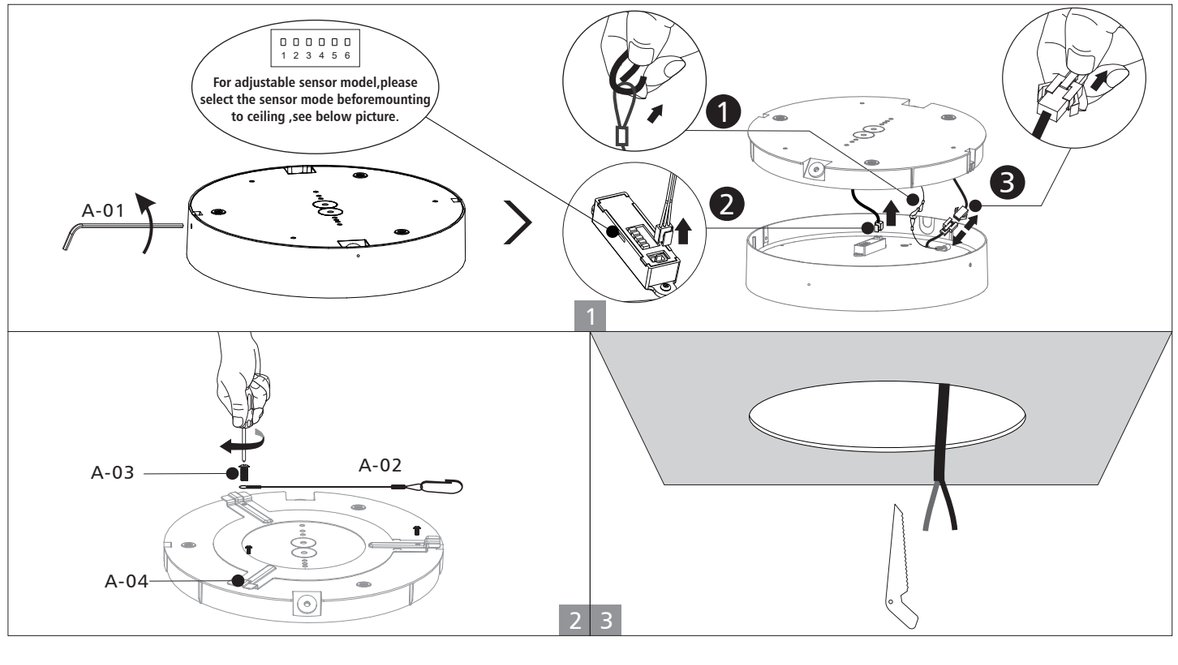
Standard	DALI
	
N=Neutral L=Switched	L=Switched N=Neutral DA/V+=DIM+ DA/V−=DIM−

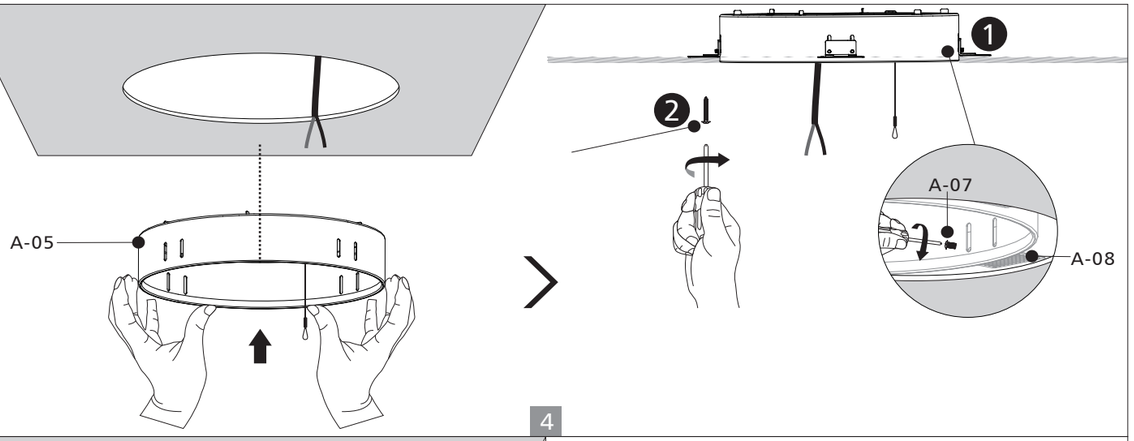
Wire diameter: 0.5-2.5mm²
Wire stripping length: 8-10mm



Recessed installation

Code	A-01	A-02	A-03	A-04	A-05	A-06	A-07	A-08
12inch	x1	x1	x3	x1	x1	x8	x8	x4
16inch	x1	x1	x3	x1	x1	x10	x10	x5





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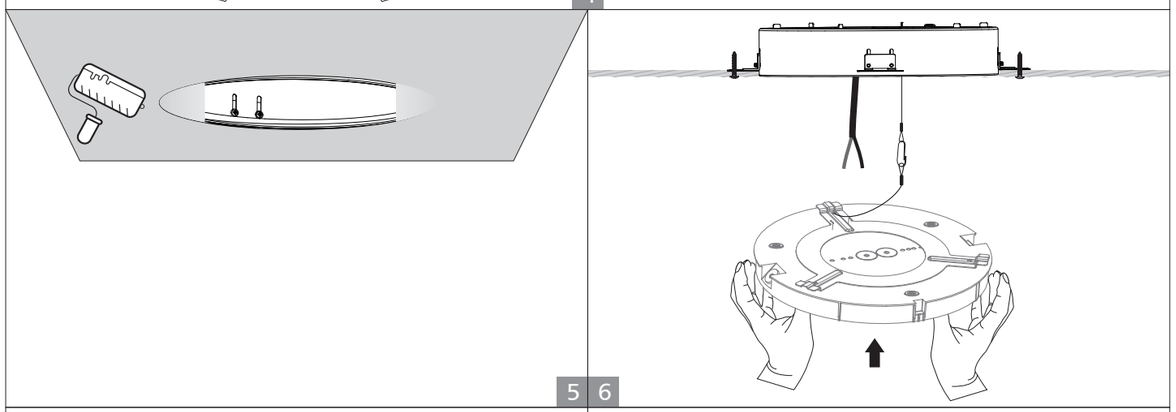
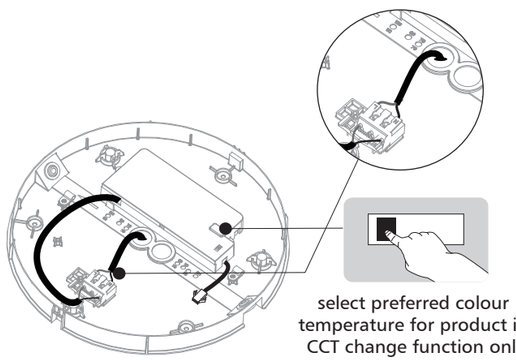
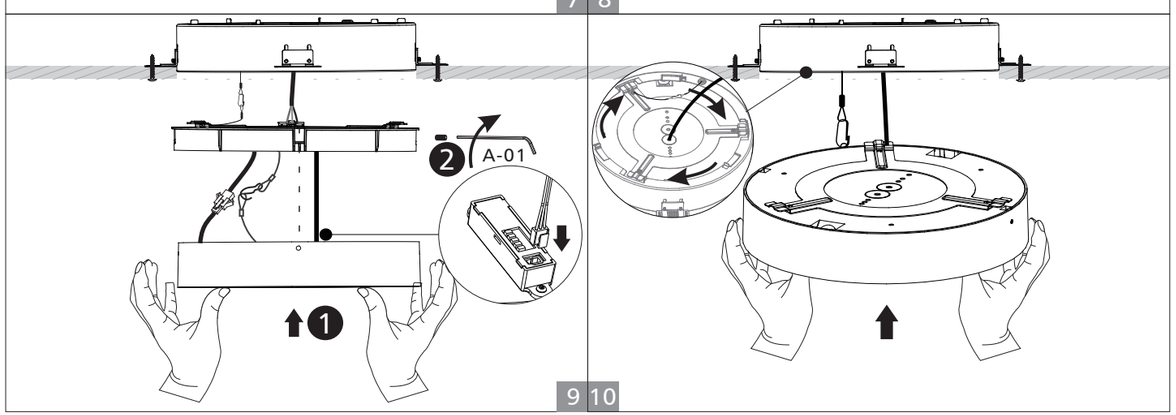


5 6



7 8

Standard	DALI
N=Neutral L=Switched	L=Switched N=Neutral DA/V+=DIM+ DA/V−=DIM−



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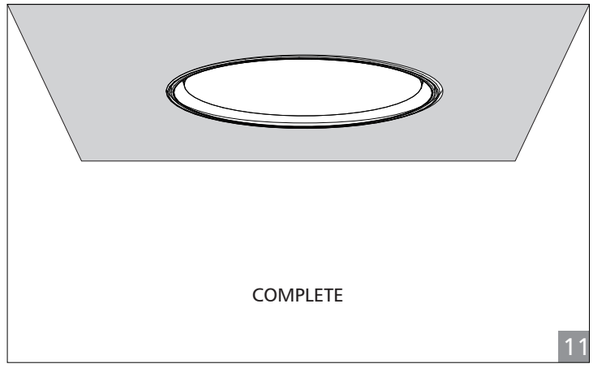
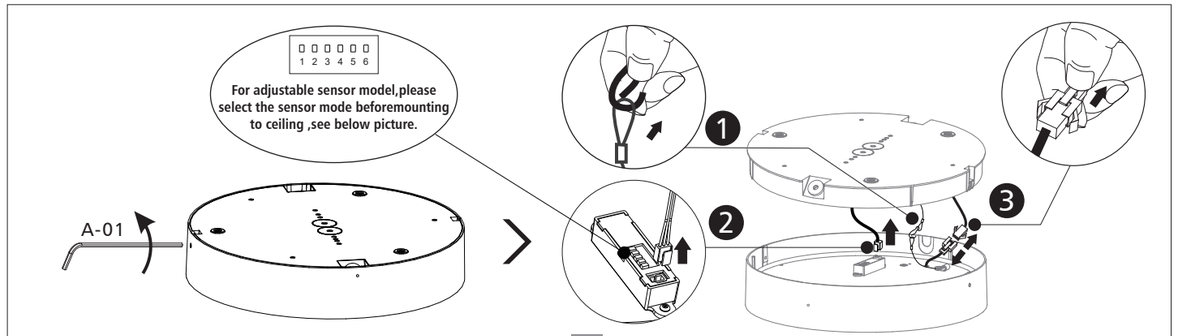


11

pendant installation (With round ceiling plate)

Code	A-01	A-02	A-03	A-04	A-05	A-06	A-07
12inch	x1	x1	x3	x1	x2	x2	
16inch	x1	x1	x3	x1	x2	x2	x2



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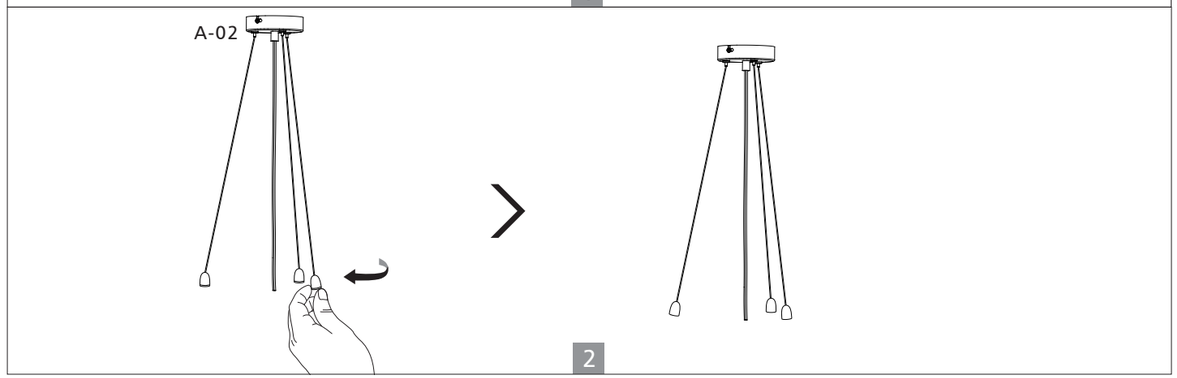

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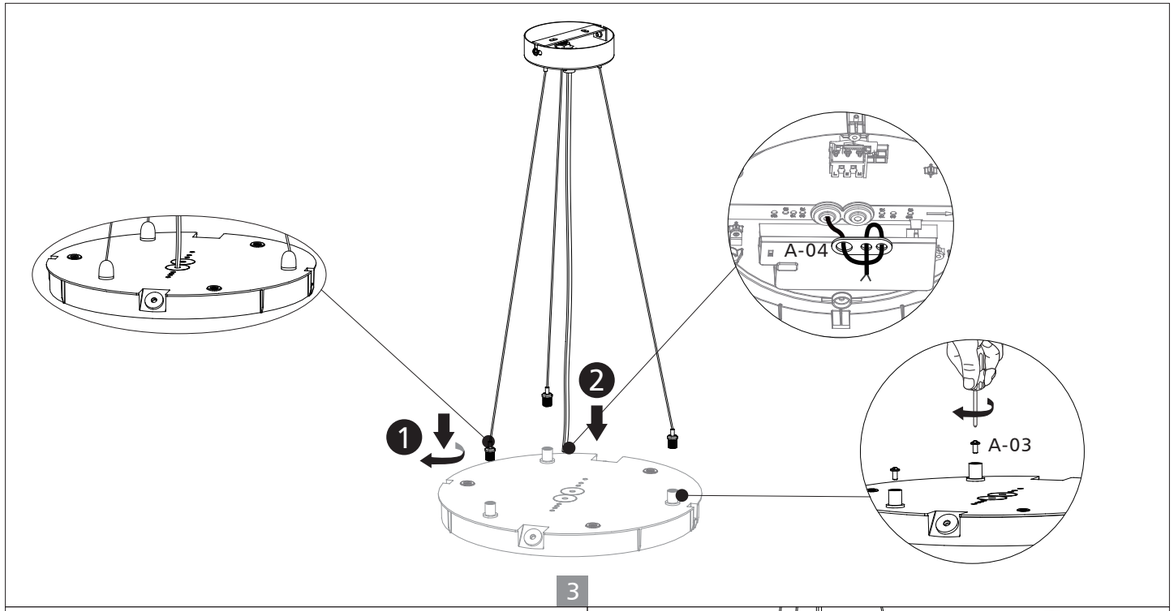

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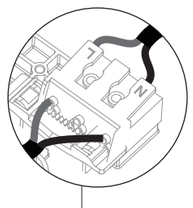
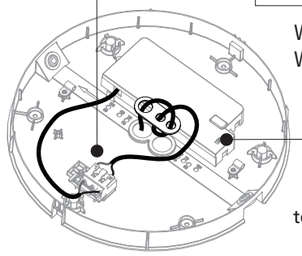


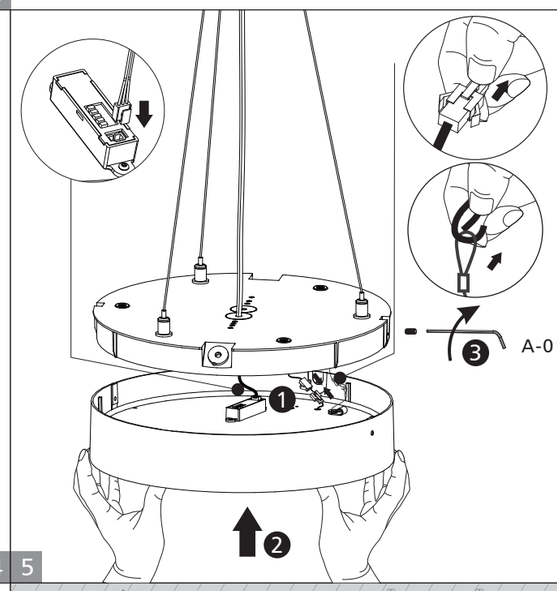
Standard	DALI
N=Neutral L=Switched	L=Switched N=Neutral DA/V+=DIM+ DA/V−=DIM−

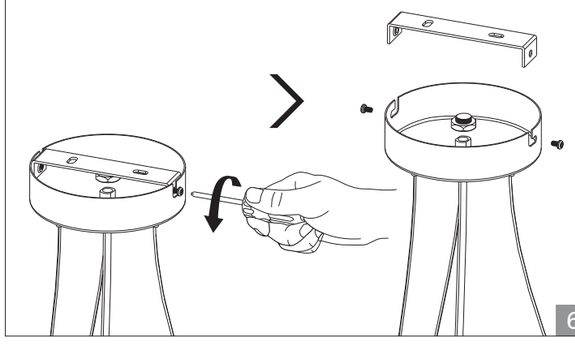
Wire diameter: 0.5-2.5mm²
Wire stripping length: 8-10mm



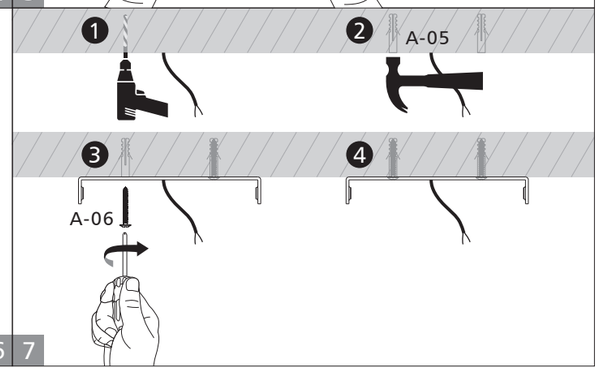
select preferred colour temperature for product in CCT change function only

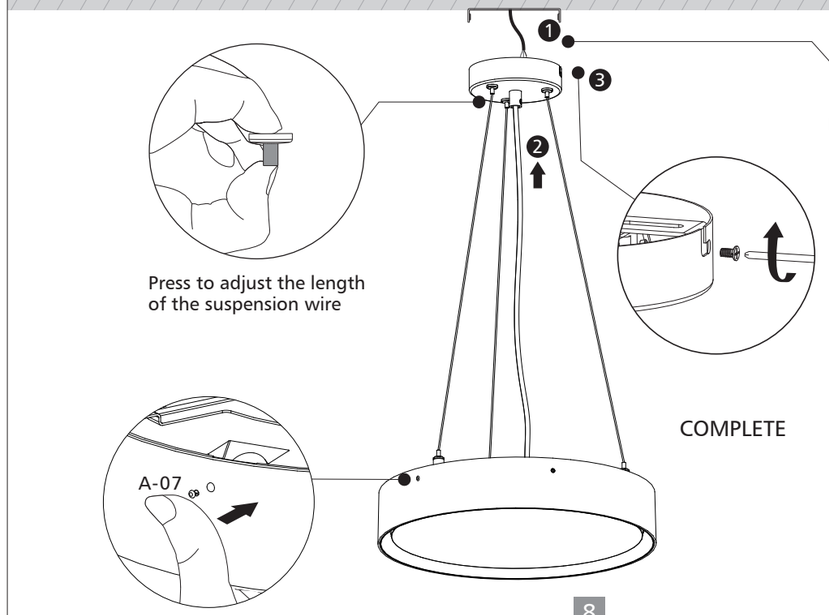
4 5





6 7





Standard	DALI
L=Switched ⏚=Earth N=Neutral	L=Switched N=Neutral ⏚=Earth DA/V+=DIM+ DA/V−=DIM−

Wire diameter: 0.5-2.5mm²
Wire stripping length: 8-10mm

8

ECO Specifications

STD Specifications

PRO Specifications

ODM Specifications

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