

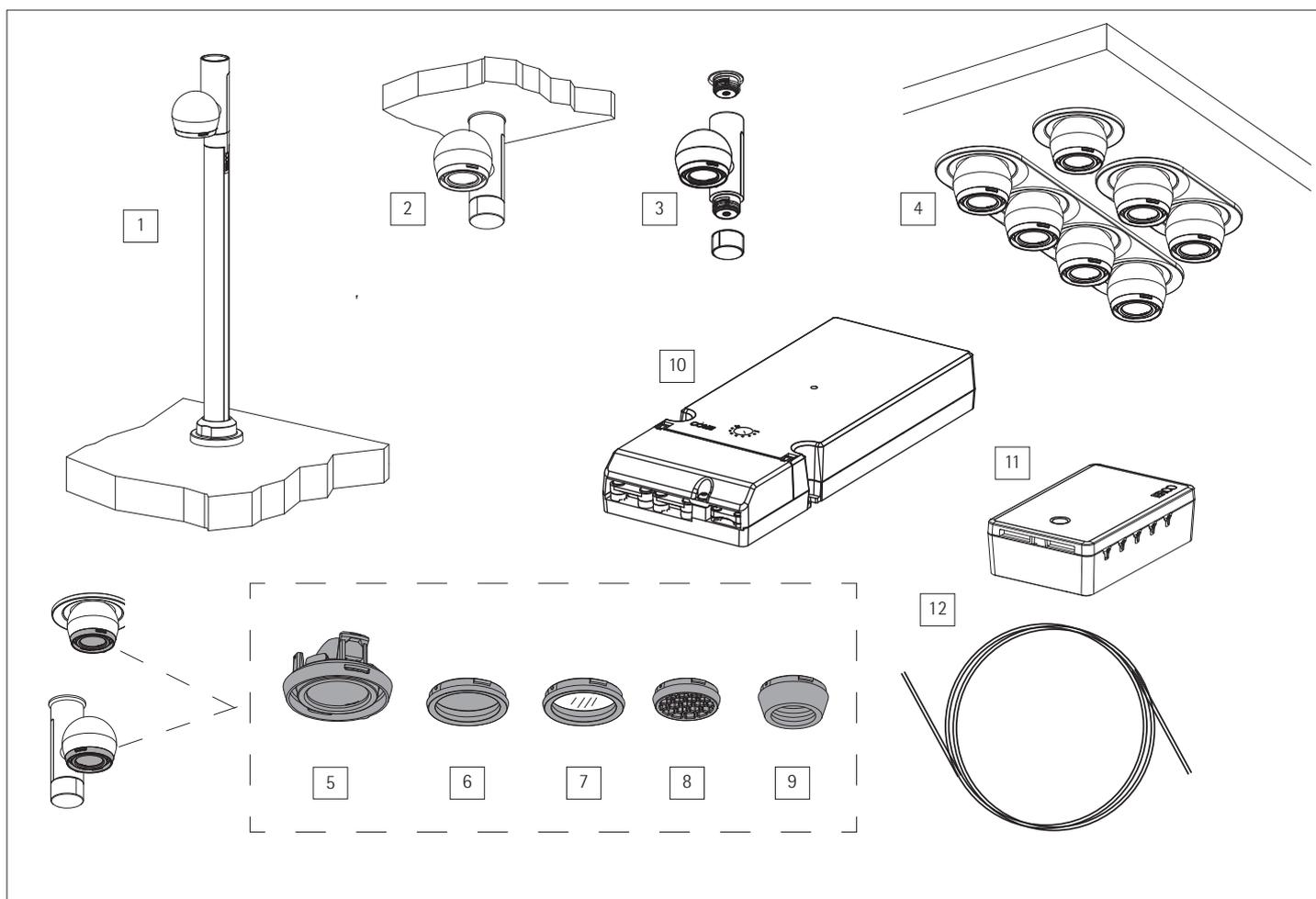
Planning aid Axis showcase lighting



A handout for showcase builders, lighting designers
and museum technology staff

System overview

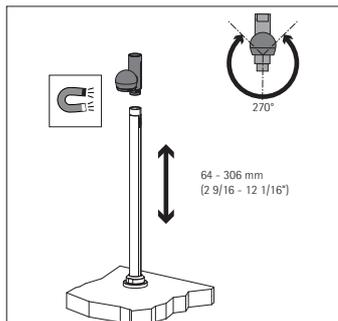
Axis is a comprehensive system for effective and efficient lighting of objects in a showcase. Even with small distances between luminaire and object, the requirements to conservation are met. Sophisticated accessories allow easy adaptation to changing requirements. The following overview shows the components of the Axis system.



- 1 Stem-mounted luminaire
- 2 Ceiling mounted luminaire
- 3 Extension light head for stem-mounted and surface-mounted luminaires
- 4 Semi-recessed luminaire with 1-fold, 2-fold, 4-fold frame (accessories)
- 5 Lens unit
- 6 ND / Blue light filter

- 7 Sculpture lens / Softening lens
- 8 Honeycomb louver (including Softening lens)
- 9 Snoot
- 10 Control gear
- 11 Distributor
- 12 32ft (10.0m) cable extension

Axis luminaires



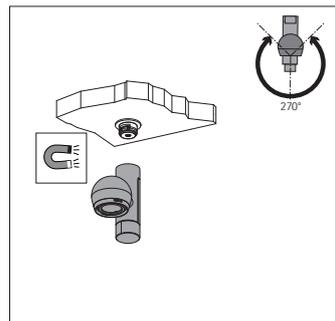
Stem luminaire

The stem-mounted luminaire consists of the stem and at least one light head. The luminaire is suitable for floor or ceiling mounting in a showcase. The stem is height-adjustable. The light head is attached by magnets at the end of the stem and at the light head. You can mount the light head in one direction only because of the polarity of the magnets.

The light head has a swivel angle of 270° directed towards the mounting plane and can be rotated 360°. The luminaire can be extended with one extension light head for ceiling mounting and with up to 2 extension light heads for floor mounting.

The light head that comes with the luminaire is a termination light head. The light head itself cannot itself accommodate any other light heads or be attached to the surface-mounted luminaire.

Note:

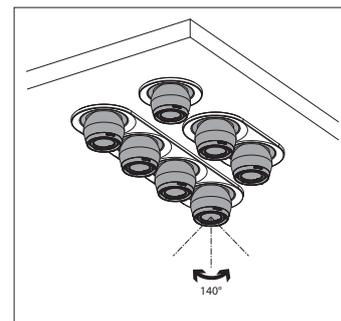


Surface-mounted luminaire

The surface-mounted luminaire consists of a fitting and the light head. The luminaire is suitable for floor or ceiling mounting in a showcase. The light head is attached by magnets at the end of the stem and at the light head. You can mount the light head in one direction only because of the polarity of the magnets.

The light head can be rotated 360° and has a swivel angle of 270° directed against the mounting plane. The luminaire can be extended with one extension light head for ceiling mounting and with up to 2 extension light heads for floor mounting.

The light head that comes with the luminaire is a termination light head. The light head itself cannot accommodate any other light heads or be attached to the stem-mounted luminaire.



Semi-recessed luminaire

For the semi-recessed luminaire, a 1-fold, 2-fold or 4-fold mounting frame must be ordered in addition to the light head(s). The light heads are identical in terms of lighting technology to those of the stem-mounted or surface-mounted luminaires. The light heads can be rotated max. 360°; the swivel angle is 70° to each side.

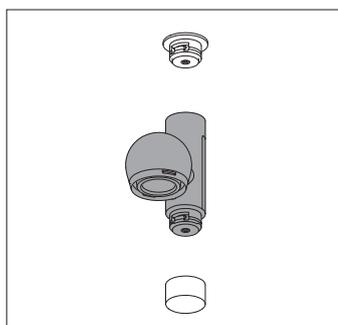
The luminaires can be mounted in the ceiling of a showcase or on the floor, with fastening via the spring clips on the mounting frame. The luminaire must not be covered with insulating materials.

Tips:

Please note that a maximum of 12 light heads may be connected to one control gear. For example, a stem-mounted luminaire with two extension light heads uses a total of three light heads. The heat input of a light head is approx. 0.6W. Please note that Axis is only approved for use in cabinets or showcases.

Tip:

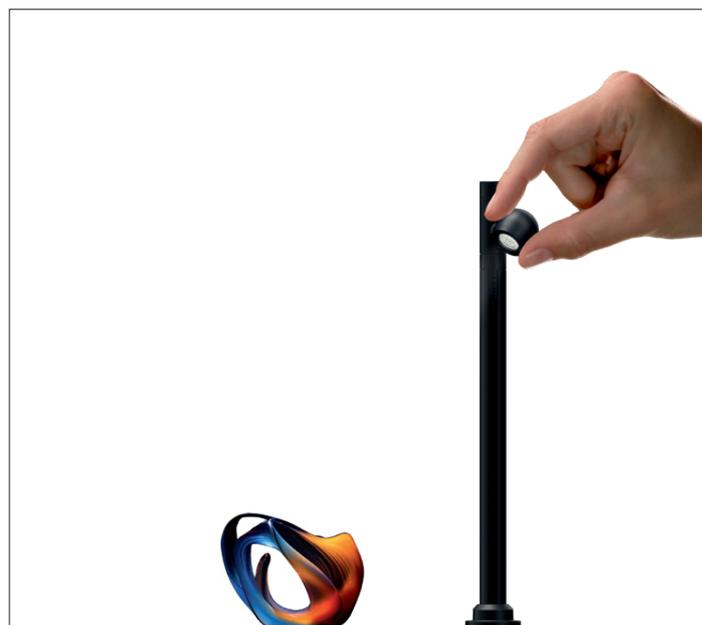
An extension lighting head is suitable for both stem-mounted and surface-mounted luminaires.



Extension light head

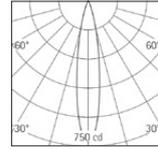
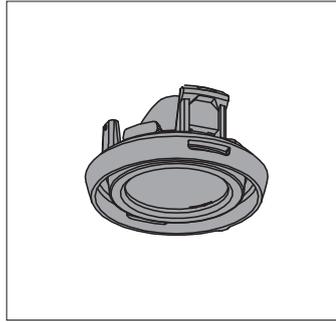
You can supplement your stem-mounted luminaire or surface-mounted luminaire with the extension light head. For ceiling mounting, one extension light head is allowed. For floor mounted luminaires, you may use two extension light heads between the supplied light head and the stem or fitting.

If it is necessary to use the extension luminaire as a terminating luminaire, it is imperative to use an end cap to close the circuit of the Axis luminaires. When ordering, please note that the caps for use on the stem-mounted luminaire and the surface-mounted light are different!

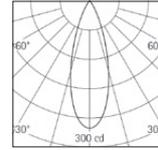


Components

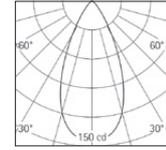
Axis accessories Lens units



Spot (17°)



Flood (32°)



Wide flood (45°)

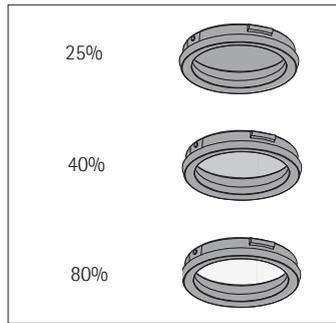
Lens units

Lens units can be changed without tools; the light distributions spot, flood and wide flood are available. The lens units are identical for all Axis luminaires and light heads.

Tip:

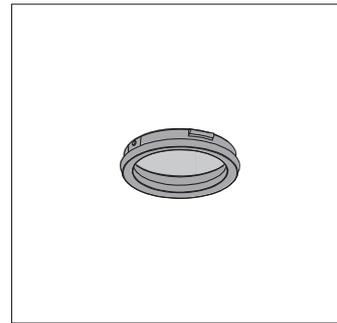
Filters and lenses are attached to the lens unit with the supplied adapter ring. Instead of the adapter ring, you may also use the snoot or the honeycomb louver.

You can push the ERCO filter foils out of the adapter ring and replace them with your own foils. These foils must have a diameter of 11/16" (17mm), the material thickness should be between 0.001" (0.03mm) and 0.010" (0.25mm).



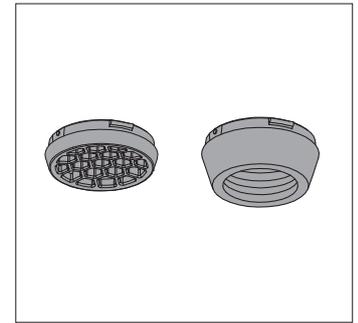
ND Filter

ND Filter (Neutral Density): With 3 different ND filters (25%, 40%, 80%) the light intensity of individual light heads can be reduced, which reduces the illuminance on the exhibit while leaving the spectrum unchanged.



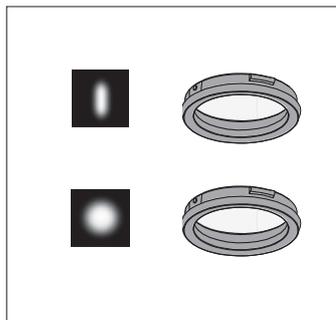
Blue Light Filter

The filter effect starts in the blue range at approx. 440nm. Short-wave radiation <380nm is entirely removed. Particularly sensitive objects are thus excellently protected.



Honeycomb louver, Snoot

The honeycomb louver or snoot is available for increased glare control. Always use the honeycomb louver with the softening lens provided.

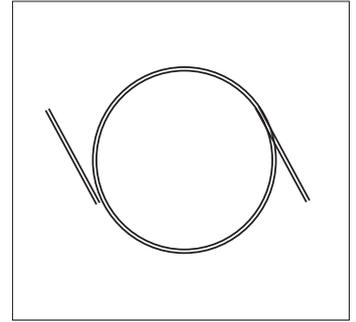
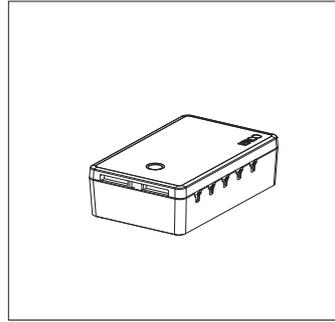
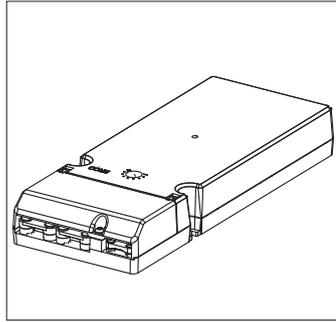


Lenses

The sculpture lens brings the light cone into an oval shape with an aspect ratio of approx. 1:3. The softening lens softens hard contours of the light cone.

Components

Axis accessories Electrical



Tips:

Only use ERCO Axis control gear. It is hot-plug capable and prevents damage to the luminaire or control gear. Please note that Axis is only approved for use in cabinets or showcases.

Control gear

The Axis luminaires are connected exclusively to the Axis control gear. The control gear can supply up to 12 luminaires with constant current. A switchable version with a potentiometer on the housing and a version with Casambi Bluetooth are available as control options. Please note that all luminaires are always dimmed simultaneously!

The luminaires/light heads must be connected in series. The optional Axis distributor reduces the wiring effort. If you use the distributor, the wire cross-section of the connecting cable between the control gear and the distributor must not be larger than 22AWG (0.35mm²).

The control gear is designed for through-wiring on the primary side, which reduces the installation effort if, for example, several showcases are controlled via one supply line. Only use a maximum of one operating device per circuit. If you use more than one control gear in larger systems, the circuits must be galvanically isolated.

Distributor

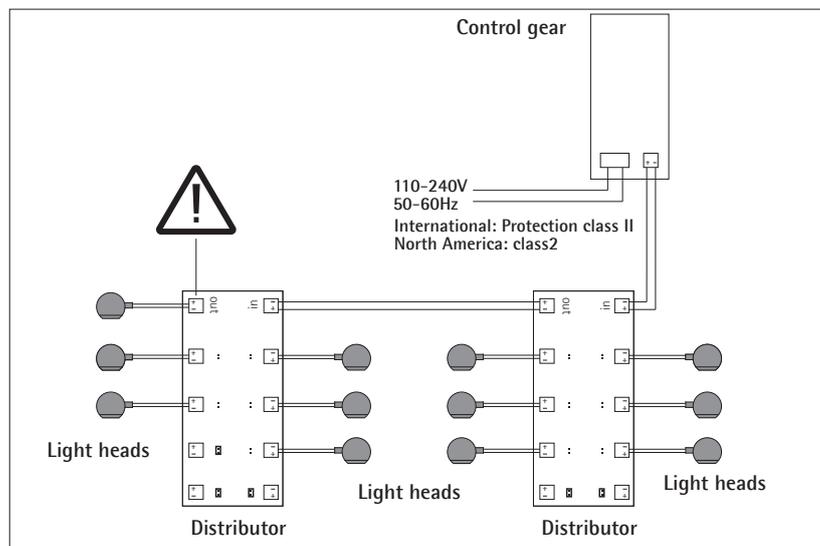
The Axis distributor facilitates wiring. You may conveniently connect up to 9 luminaires/light heads and additional distributors. Attention! A maximum of 12 light heads with a cable of 22AWG (0.35mm²) may be connected to all distributors connected to one control gear. Due to the necessary series connection of the luminaires, all connections are bridged except for the out terminal when delivered. When connecting a luminaire, remove the jumper and place it in the storage in the distribution board.

The out terminal must always be occupied, either with a luminaire or another distributor.

A distributor may only be connected to one operating device!

Connection cable

If the connecting cables of the luminaires are not sufficient, an additional extension cable of 32ft (10.0m) length is available as an accessory. This extends the connecting cables of the luminaires; also use the cable to connect the control gear and the distribution board. Attention! This cable is not suitable for mains connection, use it only on the output side of the control gear!

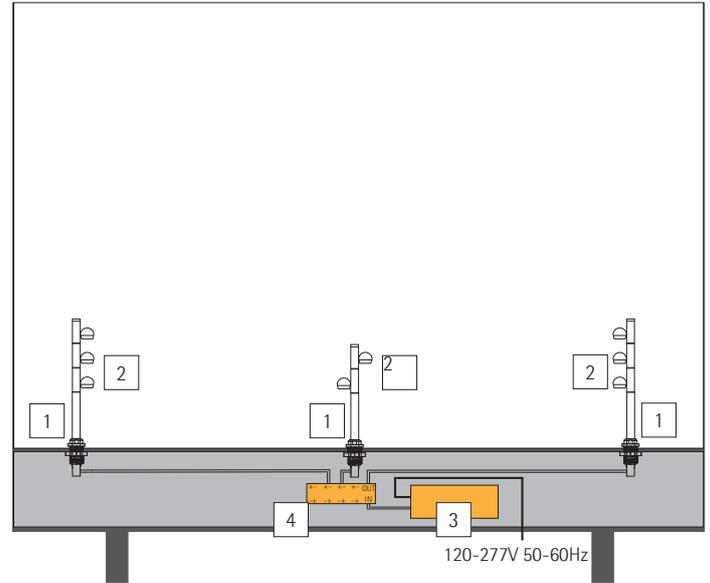


Sample installations

Stem luminaires

In frameless glass showcases or table-top showcases, stem-mounted luminaires are suitable for illuminating exhibits from above. Each Axis stem-mounted luminaire can be extended with up to two light heads for this purpose.

As a rule, the space under the showcase can be used to install the control gear and distributor. To reduce the heat input from the lighting, it is advisable not to mount the control gear in the showcase or directly on the showcase floor. Adequate ventilation is necessary for enclosed areas. No heat is generated in the manifold - so heat input does not have to be taken into account for the distributor.



Material requirements

For this sample installation with a total of eight light heads you need:

Number	Quantity	Description
1	3	stem-mounted luminaire (one light head per luminaire included)
2	5	extension light head
3	1	ERCO Axis control gear
4	1	ERCO Axis distributor

Sample installations

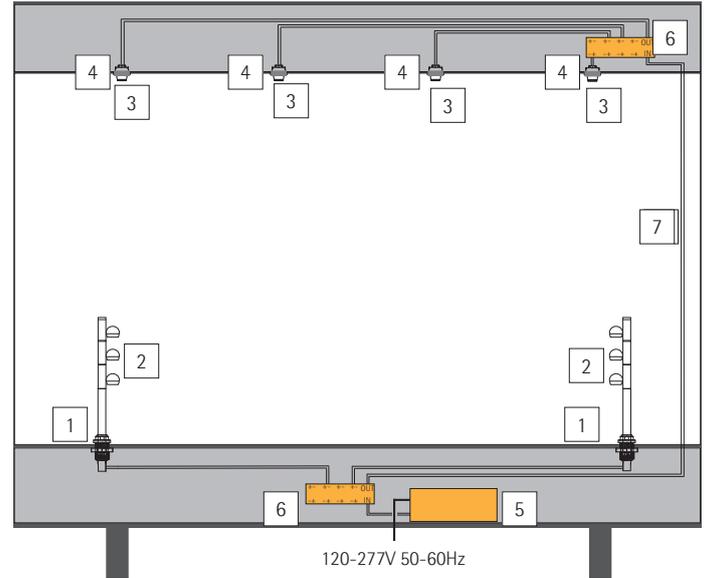
Stem-mounted luminaires and semi-recessed luminaires

The sample showcase has a space at the top and bottom that can be used for installation.

The upper room is connected via a 2-wire line and another distributor.

The electrical connection is made in the lower compartment of the showcase. You may also mount the control gear elsewhere.

Because of the heat input, it is not recommended to install the control gear in the showcase or directly on the showcase floor. Adequate ventilation is necessary for enclosed areas. No heat is generated in the manifold - so heat input does not have to be taken into account for the distributor.



Material requirements

For this sample installation with a total of 10 light heads you will need:

Number	Quantity	Description
1	2	stem-mounted luminaire (one light head per luminaire included)
2	4	extension light head
3	4	semi-recessed luminaire
4	4	mounting frame
5	1	ERCO Axis control gear
6	2	ERCO Axis distributor
7	1	32ft (10.0m) wire extension

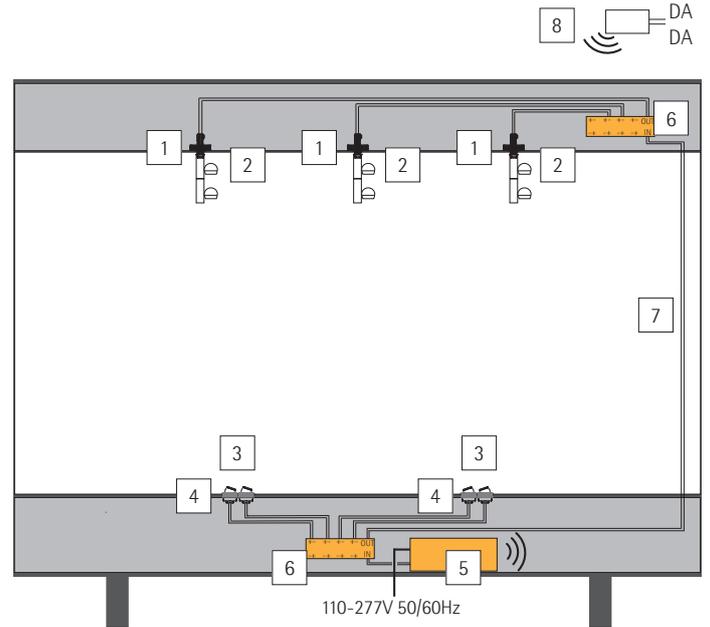
Sample installations

Surface-mounted and semi-recessed luminaires

The showcase has an installation space in the upper and lower areas.

The upper installation space is accessed via a 2-conductor cable and another distributor and accommodates the 3 surface-mounted luminaires. Control is via an on-site DALI system, the control signals are transmitted to the control gear via the ERCO DALI-Casambi gateway.

To reduce heat input, it is recommended not to fix the operating unit in the showcase or directly on the showcase floor. Adequate ventilation is necessary for enclosed areas. No heat is generated in the manifold - so heat input does not have to be taken into account for the distributor.



Material requirements

For this installation you will need:

Number	Quantity	Description
1	3	surface-mounted luminaire (1 light head per luminaire included in delivery)
2	3	extension light head
3	4	semi-recessed luminaire
4	2	2-fold frame
5	1	ERCO Axis control gear with Casambi Bluetooth
6	2	ERCO Axis distributor
7	1	32ft (10.0m) wire extension
8	1	ERCO DALI-Casambi Gateway

	Stem luminaire	Surface-mounted luminaire	Extension light head	Semi-recessed luminaire
Light distribution	Spot, Flood, Wide flood	Spot, Flood, Wide flood	Spot, Flood, Wide flood	Spot, Flood, Wide flood
Installation	Floor mounting, ceiling mounting	Ceiling mounting, floor mounting	on stem-mounted or surface-mounted luminaire	Ceiling mounting, floor mounting
Wire length	11 13/16" (1.0m)	11 13/16" (1.0m)	-	11 13/16" (1.0m)
Light control	via control gear (accessories) Switchable with potentiometer Casambi Bluetooth	via control gear (accessories) Switchable with potentiometer Casambi Bluetooth	via luminaire	via control gear (accessories) Switchable with potentiometer Casambi Bluetooth
Installed height	2 1/2"-12 3/64" + 1 27/32" (64-306mm + 47mm) (light head)	11 13/16" (47mm)	11 13/16" (47mm)	11 13/16" (17mm)
Recess depth	min. 2 11/64" (55mm)	11 13/16" (46mm)	-	11 13/16" (28mm)
Mounting hole	11 13/16" (25mm)	11 13/16" (12mm)	-	11 13/16" (35mm)
Material thickness floor / ceiling	3/64"-1" (1-25mm)	3/64"-1" (1-25mm)		3/64"-1" (1-25mm)
Necessary accessories	Control gear (max. 12 light heads)	Control gear (max. 12 light heads)	-	- Control gear - 1/2/4-fold frame
Accessories	- Distributor - Lens units, sculpture lens, softening lens - ND filter, Blue light filter - Snoot, honeycomb louver - 32ft (10.0m) wire extension	- Distributor - Lens units, sculpture lens, softening lens - ND filter, Blue light filter - Snoot, honeycomb louver - 32ft (10.0m) wire extension	- Lens units, sculpture lens, softening lens - ND filter, Blue light filter - Snoot, honeycomb louver - Top/bottom end cap (only if the extension light head is used as an end light head)	- Distributor - Lens units, sculpture lens, softening lens - ND filter, Blue light filter - Snoot, honeycomb louver - 32ft (10.0m) wire extension

	Control gear	Distributor	Wire extension
Connections	Primary: AC 120-277V, 50-60Hz; max. 0.15A Secondary: 350mA, SELV LED max. 15W (max. 12 Axis light heads)	In: Axis control gear (SKII) Out: 9 Axis light heads (or 1 Axis distributor and 8 light heads)	Only approved for connection between luminaire and distributor or control gear. Not suitable for mains voltage!
Safety class	II	III	
Connection cross-section	Primary max. XX (2.5mm ²) Secondary max. XX (1.5mm ²)	XX-XX (0.2-0.35 mm ²) d 5/32" (4mm)	2 x XX (0.35mm ²)
Light control	Potentiometer Casambi Bluetooth		
Dimensions (L x W x H)	10-3/4" x 2-1/4" x 1-1/2" (273 x 104 x 38mm)	3-7/8" x 2-1/4" x 1" (90 x 56 x 26mm)	32ft (10.0m)