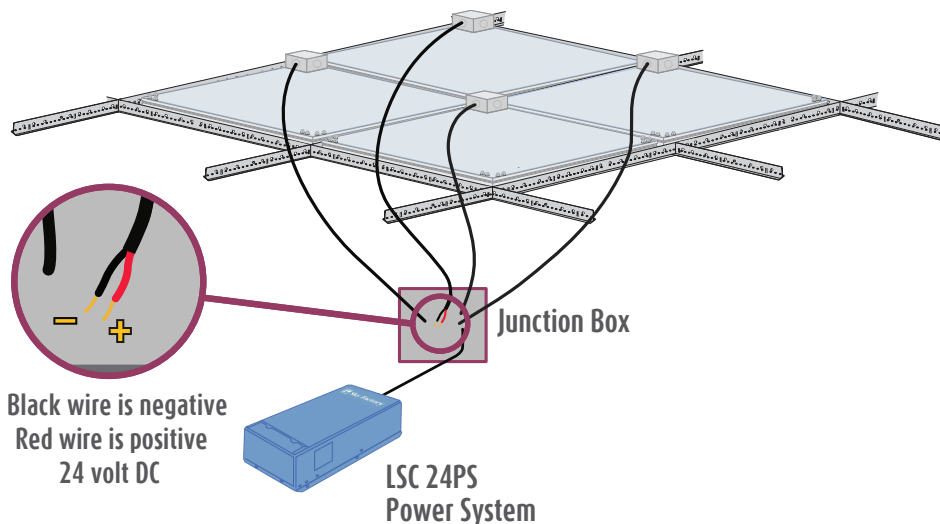




Standard w/ EcoSlim Electrical Instructions (TSF)



Installation Packet Includes:

Standard w/ EcoSlim Electrical Instructions (TSF)

ES22 Series Power System Fusing and Maximum Number of Fixtures per Power System

ES24 Series Power System Fusing and Maximum Number of Fixtures per Power System

Maximum Number of EcoSlim Fixtures per Branch Circuit: ES22 & ES24

Custom SkyCeiling wiring diagram (where applicable)

EcoPlus and EcoSlim Drawings and Charts (TSF)

Wiring Diagrams EL000979, EL000980, EL000981, EL000982

Dimming Multiple Power Systems EL000364

Dimmer Assembly EL000195

Sky Factory LSC 24PS Power System: Electrical Panel and Dimensions

Wire Sizing Chart

For technical support at any time during the installation, please call us **toll free at 866-759-3228**.

We want your installation to go as smoothly as possible. Thank you for choosing The Sky Factory.

Standard w/ EcoSlim electrical requirements:

ES22 Series: ES22 (2' x 2'), ES22M (60cm x 60cm), ES22G (62.5cm x 62.5cm)

ES24 Series: ES24 (2' x 4'), ES24M (60cm x 120cm), ES24G (62.5cm x 125cm)

NOTE: For custom sizes, see Custom SkyCeiling wiring diagram (where applicable)

All EcoSlim fixtures are 24V DC only.

EcoSlim fixtures must be mounted in dry locations only.

EcoSlim fixtures must be powered by provided UL, CSA and CE Compliant TSF 24PS Power System

Sky Factory TSF 24PS Power System:

Input: 90-264V, 47 - 63 Hz

Output: 24V DC

Maximum Watts (useable) per power system: 1000 w/ dimmer, 1080 w/o dimmer

Maximum of four branch circuits per power system:

250 Watts per branch maximum w/ dimmer

270 Watts per branch maximum w/o dimmer

Fully enclosed with NEMA 1 rating

Removeable front cover for easy wiring

Powder coated 18 gauge (0.0478 inch) steel enclosure; color – Blue (RAL 5015)

For electrical panel detail and mounting dimensions, see

“EcoPlus and EcoSlim Drawings and Charts (TSF)”

AC input terminal block accepts wire size 10-18 AWG

Branch circuit terminal block accepts wire sizes 10-22 AWG

Power system must have 12” clearance for air flow. Wall mount recommended.

Power system must be mounted in dry locations.

Power system is specified for Sky Factory EcoSlim and EcoPlus fixtures only.

Dimmer control:

AC On/Off and Variable DC Output with one control

One control can operate multiple power systems

Control assembly mounts in standard single wide switch box.

Standard w/ EcoSlim electrical requirements (cont'd):

For maximum number of fixtures per power system, see pages 8-9

For maximum number of fixtures per branch circuit, see page 10

For installations with one or more custom sizes, see Custom SkyCeiling wiring diagram attached

Single dimmer control can operate multiple power systems. See

“EcoPlus and EcoSlim Drawings and Charts (TSF)”

RF filter, if used, is not provided by the Sky Factory.

One filter per power system if wired appropriately.

See Step 3 and “EcoPlus and EcoSlim Drawings and Charts (TSF)”

CAUTION: If one filter is used, branch circuits on output side of filter must be individually fused to avoid excessive current within any single branch.

For EcoSlim with LSC 24PS Power System wiring diagrams, see

“EcoPlus and EcoSlim Drawings and Charts (TSF)”

Electrical work must be performed by a qualified electrician who is familiar with DC lighting systems and must conform to all local and national codes.

Non-Dimmable Certification:

LSC 24PS Power System when used with

ES22 Series, ES24 Series, ES26 Series, ES33 Series, ES34 Series, ES36 Series, ES44 Series,

EP22 Series, EP24 Series, EP26 Series, EP33 Series, EP34 Series, EP36 Series, EP44 Series fixtures

UL, CSA and CE certified by Intertek Group plc

Dimmable Certification:

Dimmable LSC 24PS Power System when used with

ES22 Series, ES24 Series, ES26 Series, ES33 Series, ES34 Series, ES36 Series, ES44 Series,

EP22 Series, EP24 Series, EP26 Series, EP33 Series, EP34 Series, EP36 Series, EP44 Series fixtures

UL, CSA and CE certified by Intertek Group plc

Step 1: Wiring the EcoSlim fixtures to the power system

See also “EcoPlus and EcoSlim Drawings and Charts (TSF)” and Custom SkyCeiling wiring diagram (where applicable)

EcoSlim Lighting System - ES22 and ES24				
TSF Model No.	Dimensions: WxLxH	Weight	System Wattage (Max)	Input Current @ 24 Volts DC
ES22	23.75 x 23.75 x 3.72 (inches)	10.5 lb	24	1.0 A
ES24	23.75 x 47.75 x 3.72 (inches)	19.7 lb	36	1.5 A
ES22M	59.4 x 59.4 x 9.45 (cm)	4.76 kg	24	1.0 A
ES24M	59.4 x 119.4 x 9.45 (cm)	8.94 kg	36	1.5 A
ES22G	61.9 x 61.9 x 9.45 (cm)	4.76 kg	24	1.0 A
ES24G	61.9 x 124.4 x 9.45 (cm)	8.94 kg	36	1.5 A

NOTE: For custom sizes, see also Custom SkyCeiling wiring diagram



Notice: The LED fixtures are 24V DC ONLY.
AC voltage connected directly to the fixtures
will destroy the lighting system.

Fixtures are wired together in single or multiple branch circuits. Fixtures in each branch may be arranged in rows or clusters, depending on the installation.

A junction box with 1/2" trade size knock-outs is attached on top corner of each fixture.

- Power leads inside fixture junction box are polarized, red (+) to (+) and black (-) to (-).
- Wire size 18 AWG stranded.

Step 1 continued

For maximum number of fixtures per power system, see page 8-9

For maximum number of fixtures per branch circuit, see pages 10

For installations with one or more custom sizes, see Custom SkyCeiling wiring diagram

Wire from fixture to power system branch circuit is polarized, (+) to (+) and (-) to (-).

- Wire and additional junction boxes from the fixtures to the power system supplied by others.
- Voltage drop will occur over long distances. For appropriate lengths and gauges, see Wire Sizing Chart in “EcoPlus and EcoSlim Drawings and Charts (TSF)”

Each power system has up to four branch circuits:

- In Non-Dimmable SkyCeilings, each branch is 270 Watts Maximum, see EL000979 and EL000981
- In Dimmable Systems, each branch is 250 Watts Maximum, see EL000980 and EL000982

Branch circuit terminal block on power system accepts wire sizes 10-16 AWG.



Notice: CHECK THE POLARITY BEFORE TURNING ON POWER. MAKE SURE:

Red wires on the fixtures go to the “+” terminals of the power system

Black wires on the fixtures go to the “-” terminals of the power system

IF THE SYSTEM IS WIRED BACKWARD, IT WILL DESTROY THE LED’S!

Step 2: Wiring the power system

(For wiring the power system using an RF filter, see also Step 3)

Power system enclosure must have a minimum 12" (30.5cm) clearance for adequate air flow for proper cooling and the screens must be inspected regularly for dust accumulation.

Connect AC line voltage to appropriate terminals on power system – “**L**” (**Line**), “**N**” (**Neutral**) and “**G**” (**Ground**). AC terminal block on power system accepts wire sizes 10-18 AWG.

External fuse in AC line is required. When using multiple power systems, each power system must have a dedicated, fused AC circuit:



Notice: AC LINE FUSE MUST BE LESS THAN OR EQUAL TO INTERNAL POWER SYSTEM FUSE.
FOR POWER SYSTEM FUSING, SEE PAGES 8-9

For Dimming Systems Only:

Connect dimmer to primary power system with 16-22 AWG low voltage wire.
(See drawing EL000195 for dimmer assembly details.)

- Dimmer **BRT**(Bright) to Power System **BRIGHT**
- Dimmer **COM**(Common) to Power System **WIPER**
- Dimmer **DIM**(Dimmer) to Power System **DIM**
- See EL000980 and EL000982
- For operating multiple power systems on a single dimmer, see “multiple power systems” below

Install the dimmer switch in a standard wall box. Wiring and box for the dimmer switch provided by others.

When operating multiple power systems with one dimmer:

- Run three wires from dimmer to primary power system as detailed above.
- Run two wires from primary power system to additional power systems: **DIM** to **DIM** and **WIPER** to **WIPER**.
- See EL000364

Step 3: Wiring the power system in MRI applications or applications requiring an RF filter

Power system must be located outside of shielded room in MRI applications.

IN MRI APPLICATIONS, AN RF FILTER IS REQUIRED AND WILL BE SUPPLIED BY OTHERS.



Notice: IF ONLY ONE FILTER IS USED, BRANCH CIRCUITS ON OUTPUT SIDE MUST BE INDIVIDUALLY FUSED TO AVOID EXCESSIVE CURRENT IN EVENT OF A FAILURE WITHIN ANY SINGLE BRANCH. SEE BELOW

To use one filter per power system with more than one branch

Inside the RF filter and on the Input side:

- Connect all positive, or "+", legs of the branch circuits from the power system to one leg of the RF filter.
- Connect all negative, or "-", legs of the branch circuits from the power system to the other leg of the RF filter.

Inside the RF filter and on the Output side:

- Connect the positive, or "+", leg of each branch circuit from the SkyCeiling to a 10 amp in-line fuse and then connect them to the leg of the RF filter which corresponds to the positive input.
- Connect the negative, or "-", leg of each branch circuit from the SkyCeiling to the leg of the RF filter which corresponds to the negative input.

See drawings EL000981 and EL000982

Step 4: Checking the Polarity



Notice: CHECK THE POLARITY BEFORE TURNING ON POWER. MAKE SURE:

Red wires on the fixtures go to the "+" terminals of the power system

Black wires on the fixtures go to the "-" terminals of the power system

IF THE SYSTEM IS WIRED BACKWARD, IT WILL DESTROY THE LED'S!

EcoSlim ES22 Series (Non-Dimming & No RF Filter) Power System Fusing and Maximum Number of Fixtures per Power System					
Size Watts	AC In	Cert	Internal AC Fuse	Branch Circuits	Max Fixtures
200	85-264	UL CE	F5A/L250V 5X20 GLASS GFE	A	7
320	88-264	UL CE	F6.3A/L250V 5X20 GLASS GFE	A	11
480	85-264	UL CE	F10A/L250V 5X20 GLASS GFE	A,B	17
750	90-264	UL CE	F15A/L250V 5X20 CERAMIC GBM	A,B,C	26
1500	90-264	UL CE	F25A/H250V 6.3X32 CERAMIC ABP	A,B,C,D	44

EcoSlim ES22 Series (Dimming & No RF Filter/Non-Dimming & RF Filter/Dimming & RF Filter) Power System Fusing and Maximum Number of Fixtures per Power System					
Size Watts	AC In	Cert	Internal AC Fuse	Branch Circuits	Max Fixtures
200	85-264	UL CE	F5A/L250V 5X20 GLASS GFE	A	7
320	88-264	UL CE	F6.3A/L250V 5X20 GLASS GFE	A,B	11
480	85-264	UL CE	F10A/L250V 5X20 GLASS GFE	A,B	17
750	90-264	UL CE	F15A/L250V 5X20 CERAMIC GBM	A,B,C	26
1500	90-264	UL CE	F25A/H250V 6.3X32 CERAMIC ABP	A,B,C,D	36

EcoSlim ES24 Series (Non-Dimming & No RF Filter) Power System Fusing and Maximum Number of Fixtures per Power System					
Size Watts	AC In	Cert	Internal AC Fuse	Branch Circuits	Max Fixtures
200	85-264	UL CE	F5A/L250V 5X20 GLASS GFE	A	4
320	88-264	UL CE	F6.3A/L250V 5X20 GLASS GFE	A	7
480	85-264	UL CE	F10A/L250V 5X20 GLASS GFE	A,B	11
750	90-264	UL CE	F15A/L250V 5X20 CERAMIC GBM	A,B,C	18
1500	90-264	UL CE	F25A/H250V 6.3X32 CERAMIC ABP	A,B,C,D	28

EcoSlim ES24 Series (Dimming & No RF Filter/Non-Dimming & RF Filter/Dimming & RF Filter) Power System Fusing and Maximum Number of Fixtures per Power System					
Size Watts	AC In	Cert	Internal AC Fuse	Branch Circuits	Max Fixtures
200	85-264	UL CE	F5A/L250V 5X20 GLASS GFE	A	4
320	88-264	UL CE	F6.3A/L250V 5X20 GLASS GFE	A,B	7
480	85-264	UL CE	F10A/L250V 5X20 GLASS GFE	A,B	11
750	90-264	UL CE	F15A/L250V 5X20 CERAMIC GBM	A,B,C	18
1500	90-264	UL CE	F25A/H250V 6.3X32 CERAMIC ABP	A,B,C,D	24

Maximum Number of EcoSlim Fixtures per Branch Circuit

ES22 Series = ES22 (2' x 2'), ES22M (60cm x 60cm), ES22G (62.5cm x 62.5cm)

ES24 Series = ES24 (2' x 4'), ES24M (60cm x 120cm), ES24G (62.5cm x 125cm)

Number of Branch Circuits	Type of Fixture (Without RF Filter)			
	ES22 Series Non-Dimmable	ES22 Series Dimmable	ES24 Series Non-Dimmable	ES24 Series Dimmable
1	11	9	7	6
2	22	18	14	12
3	33	28	21	18
4	44	36	28	24
Number of Branch Circuits	Type of Fixture (With RF Filter)			
	ES22 Series Non-Dimmable	ES22 Series Dimmable	ES24 Series Non-Dimmable	ES24 Series Dimmable
1	9	9	6	6
2	18	18	12	12
3	28	28	18	18
4	36	36	24	24