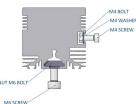


3 Installation

This product has been designed with full consideration of safety. However, incorrect usage of the product may result in fire, electric shock, or other serious damages. Please ensure to follow the conditions below.

ELFB Series Instruction Guide



4 Main Specifications

Power consumption is given for white products. Power consumption for other

Thank you for purchasing a CCS product. To ensure proper use of the product, please read this instruction guide before use and keep it for your reference.

1 Important Information for Equipment Safety

This product has been designed with full consideration of safety. However, incorrect usage of the product may result in fire, electric shock, or other serious damages. Please ensure to follow the conditions below.

Warning					
Do not look directly or with any optical instrument into the light beam	Do not try to fix any damages to the product by yourself				
Avoid any contact with the LED or with the projection lens	Make sure you are using a correct power supply before connecting the device				
IP50 version: Limited dust ingress protection, no protection from liquids	Do not inverse the electrical polarity. Check your connections before turning on the power supply				
IP67 version: Total dust protection, do not immerse the product deeper than 1 meter into water	Do not use user-made cables, only dedicated EL Series cables				
Do not use the device in an environment with oil fumes and steam	Do not touch the light unit and cables with wet hands				
Make sure that the light unit is free of moisture or any liquid. Exposure to water may result in fire or electric shock	Do not drop the light unit or subject it to impact				

Do not use the light in the following situations:

- Under no conditions or in an environment not described in this instruction guide
- In applications involving serious risk to life or property, particularly application demanding a high level of safety.
- Do not use this device outside an environment temperature of 0°C to 50°C with no excessive moisture levels. High humidity and high temperature could damage the device. Just check with the temperature on the datasheet.
- Always observe the following precautions when performing maintenance. Before performing maintenance, always turn off the power. Otherwise, burn injuries or electric shock
 - may occur. Wipe the light unit with a dry cloth. Do not wipe the light unit with a cloth that contains water or volatile agents, such as thinner or benzine, or spray the light units with insecticide. Doing so may result in discoloration or damage.
 - Periodically clean the light unit so that dust does not collect on it.

Cleaning

- When changing the optical configuration of the ELFB Series, please exercise caution. Wearing gloves is strongly recommended.
- When cleaning the optical components, use compressed air if there is any dust. To remove marks on the lens or diffuser plate, please use lens clearing fluids.
- Two drops on a cleaning tissue will suffice. Please use a gentle circular motion when clearing.
- Disconnect the light

2 Confirming Product Information

The following sitcker is attached to the light unit. The sticker indicates the color of the light, model number, power consumption unit, and serial number. Be sure to check the contents before using the light units and handle the sticker with care. If the label is missing or damaged and the contents cannot be checked, please contact your CCS representative.

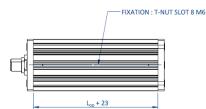


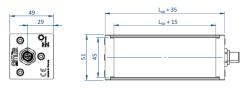
Series	Part Number	Color	Wavelength / Color	Max Power	Connector	Weight
_			temperature	Consumption	Connector	weight
ELFB	ELFB-100SW	White	5500 K ± 500 K			400 g
ELFB	ELFB-100BL	Blue	465 nm			
ELFB	ELFB-100GR	Green	525 nm	5 W	M12	
ELFB	ELFB-100RD	Red	625 nm			
ELFB	ELFB-100IR	Infrared	850 nm			
ELFB	ELFB-200SW	White	5500 K ± 500 K			700 g
ELFB	ELFB-200BL	Blue	465 nm			
ELFB	ELFB-200GR	Green	525 nm	10 W	M12	
ELFB	ELFB-200RD	Red	625 nm			
ELFB	ELFB-200IR	Infrared	850 nm			
ELFB	ELFB-300SW	White	5500 K ± 500 K			
ELFB	ELFB-300BL	Blue	465 nm			1000 g
ELFB	ELFB-300GR	Green	525 nm	15 W	M12	
ELFB	ELFB-300RD	Red	625 nm			
ELFB	ELFB-300IR	Infrared	850 nm			
ELFB	ELFB-400SW	White	5500 K ± 500 K			
ELFB	ELFB-400BL	Blue	465 nm			
ELFB	ELFB-400GR	Green	525 nm	20 W	M12	1300 g
ELFB	ELFB-400RD	Red	625 nm			
ELFB	ELFB-400IR	Infrared	850 nm			
ELFB	ELFB-500SW	White	5500 K ± 500 K			1600 g
ELFB	ELFB-500BL	Blue	465 nm			
ELFB	ELFB-500GR	Green	525 nm	25 W	M12	
ELFB	ELFB-500RD	Red	625 nm			
ELFB	ELFB-500IR	Infrared	850 nm			
ELFB	ELFB-600SW	White	5500 K ± 500 K			
ELFB	ELFB-600BL	Blue	465 nm		M12	1900 g
	ELFB-600GR			30 W		
ELFB		Green	525 nm	50 W		
ELFB	ELFB-600RD	Red	625 nm			
ELFB	ELFB-600IR	Infrared	850 nm			
ELFB	ELFB-700SW	White	5500 K ± 500 K		M12	2200 g
ELFB	ELFB-700BL	Blue	465 nm			
ELFB	ELFB-700GR	Green	525 nm	35 W		
ELFB	ELFB-700RD	Red	625 nm			
ELFB	ELFB-700IR	Infrared	850 nm			
ELFB	ELFB-800SW	White	5500 K ± 500 K		M12	2500 g
ELFB	ELFB-800BL	Blue	465 nm			
ELFB	ELFB-800GR	Green	525 nm	40 W		
ELFB	ELFB-800RD	Red	625 nm			
ELFB	ELFB-800IR	Infrared	850 nm			
ELFB	ELFB-900SW	White	5500 K ± 500 K		M12	2800 g
ELFB	ELFB-900BL	Blue	465 nm			
ELFB	ELFB-900GR	Green	525 nm	45 W		
ELFB	ELFB-900RD	Red	625 nm			
ELFB	ELFB-900IR	Infrared	850 nm			
ELFB	ELFB-1000SW	White	5500 K ± 500 K		M12	3100 g
ELFB	ELFB-1000BL	Blue	465 nm			
ELFB	ELFB-1000GR	Green	525 nm	50 W		
ELFB	ELFB-1000RD	Red	625 nm			
ELFB	ELFB-1000IR	Infrared	850 nm			
ELFB	ELFB-1100SW	White	5500 K ± 500 K			
ELFB	ELFB-1100BL	Blue	465 nm	55 W	M12	3400 g
ELFB	ELFB-1100GR	Green	525 nm			

ELFB	ELFB-1100SW	Red	625 nm	5514		3400g
ELFB	ELFB-1100SW	Infrared	850 nm	55W	M12	
ELFB	ELFB-1200SW	White	5500 K ± 500 K			3400 g
ELFB	ELFB-1200SW	Blue	465 nm		M12	
ELFB	ELFB-1200SW	Green	525 nm	60 W		
ELFB	ELFB-1200SW	Red	625 nm			
ELFB	ELFB-1200SW	Infrared	850 nm			
ELFB	ELFB-1300SW	White	5500 K ± 500 K			
ELFB	ELFB-1300SW	Blue	465 nm]		4000 g
ELFB	ELFB-1300SW	Green	525 nm	65 W	M12	
ELFB	ELFB-1300SW	Red	625 nm]		
ELFB	ELFB-1300SW	Infrared	850 nm			
ELFB	ELFB-1400SW	White	5500 K ± 500 K		M12	4300 g
ELFB	ELFB-1400SW	Blue	465 nm]		
ELFB	ELFB-1400SW	Green	525 nm	70 W		
ELFB	ELFB-1400SW	Red	625 nm]		
ELFB	ELFB-1400SW	Infrared	850 nm			
ELFB	ELFB-1500SW	White	5500 K ± 500 K		M12	4600 g
ELFB	ELFB-1500SW	Blue	465 nm			
ELFB	ELFB-1500SW	Green	525 nm	75 W		
ELFB	ELFB-1500SW	Red	625 nm]		
ELFB	ELFB-1500SW	Infrared	850 nm]		
ELFB	ELFB-1600SW	White	5500 K ± 500 K		M12P	
ELFB	ELFB-1600SW	Blue	465 nm			
ELFB	ELFB-1600SW	Green	525 nm	80 W		4900 g
ELFB	ELFB-1600SW	Red	625 nm			
ELFB	ELFB-1600SW	Infrared	850 nm			

5 Dimensions Diagram (mm)

FIXATION : NUT M4





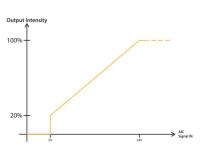
6 Electronical consideration

When using the ELFB Series, please use a 24V DC. Please note that needs AIC contact to be connected when using the ELFB Series.

Contact arrangement

Contact arrangement	Number	Color contact	Designation
	1	Brown	+24V
	2	White	n.a.
	3	Blue	GND
M12 Male connector M12 Power Male connector Connector depends on electrical power consumption	4	Black	AIC: Analog Intensity Control for Dimming Control Consumption depending on the size (between 0.3mA to 10mA) Suggested dimming range: min 5V - max 24V

Dimming control feature



7 Environmental Regulation

EU RoHS Directive

The RoHS Directive is short for the "Restriction of use of certain Hazardous Substances in electrical and electronic equipment." As a directive, it restricts the use of specific hazardous substances for new electrical and electronic equipment marketed in the EU on or after July 1, 2006, and restricts the use of six substances, which are (1) lead, (2) mercury, (3) cadmium, (4) hexavalent chromium, (5) polybrominated biphenyl (PBB), and (6) polybrominated diphenyl ether (PBDE).

*Standards for "RoHS Directive-Compliant Products"

Lead	Mercury	Cadmium	Hexavalent chromium	PBB	PBDE
1000ppm max.	1000ppm max.	1000ppm max.	1000ppm max.	1000ppm max.	1000ppm max.

(Items that are exempted in the RoHS Directive are excluded from these standards.)

Warranty Information

EXCEPT FOR THE EXPRESS WARRANTIES STATED IN THIS DOCUMENT, CCS MAKES NO ADDITIONAL WARRANTIES, EXPRESS, IM-PLIED, OR STATUTORY, AS TO ANY MATTER WHATSOEVER. IN PARTICULAR, ANY AND ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED. EXCEPT AS EXPRESSLY SET FORTH HEREIN, CCS MAKES NO WARRANTIES WITH RESPECT TO THE PRODUCTS.

WARRANTY PERIOD: EL SERIES PRODUCTS HAVE A WARRANTY OF 2 YEARS (ONE YEAR FOR RADIANT QUANTITY) FROM THE DATE THE PRODUCT IS SHIPPED FROM THE MANUFACTURER. EXCEPTIONS ARE UV PRODUCTS (WAVE-LENGTH UNDER 420NM) WHICH HAVE A WARRANTY OF 1 YEAR, AND POLARIZERS WHICH HAVE NO WARRANTY.

CCS Inc. WILL REPAIR OR REPLACE THE PRODUCT FREE OF CHARGE IF IT SHOULD FAIL TO FUNCTION OR IF THE RADIANT QUAN-TITY OF THE PRODUCT SHOULD DROP TO 50% OR LESS OF ITS INITIAL RADIANT QUANTITY WITHIN THE SPECIFIED WARRANTY PERIOD. IF EITHER OF THESE CONDITIONS OCCURS, PLEASE TAKE THE PRODUCT TO YOUR CCS SALES REPRESENTATIVE.

WARRANTY TERMS

- CCS Inc. WILL REPAIR OR REPLACE THE PRODUCT FREE OF CHARGE IF IT SHOULD FAIL TO FUNCTION UNDER USE ON OUR SPECIFIED CONDITION IN ACCORDANCE WITH THE INSTRUCTION GUIDE AND OTHER WRITTEN CAUTIONS DURING THE INDICATED WARRANTY PERIOD OF TWO YEARS. 2
- DURING THE INDICATED WARRANTY PERIOD OF TWO YEARS. CCS Inc. WILL REPAIR OR REPLACE THE PRODUCT FREE OF CHARGE IF ITS RADIANT QUANTITY SHOULD DROP TO 50% OR LESS OF ITS INITIAL RADIANT QUANTITY UNDER USE ON OUR SPECIFIED CONDITION IN ACCORDANCE WITH THE INSTRUCTION GUIDE AND OTHER WRITTEN CAUTIONS DURING THE INDICATED WARRANTY PERIOD OF ONE YEAR. CCS Inc. WILL CHARGE A REPAIR FEE UNDER THE FOLLOWING CONDITIONS: IF THE PRODUCT HAS BEEN SUBJECTED TO MISUSE, UNAUTHORIZED REPAIRS, OR MODIFICATION FROM ITS ORI-CUILD OFCICIENT AS BEEN SUBJECTED TO MISUSE, UNAUTHORIZED REPAIRS, OR MODIFICATION FROM ITS ORI-CUILD OFCICIENT.
- 3. GINAL DESIGN.
- IF THE PRODUCT HAS BEEN DAMAGED FROM IMPACTS DUE TO INAPPROPRIATE HANDLING.
- IF DAMAGE TO THE PRODUCT RESULTS FROM EXTERNAL CAUSES INCLUDING ACCIDENTS. FIRE, POLLUTION, RIOTS IF DAMAGE TO THE PRODUCT RESULTS FROM EXTERNAL CAUSES INCLUDING ACCIDENTS, FIRE, POLITION, RIOTS, COMMUNICATION FAILURES, EARTHQUARES, THUNDERSTORMS, WIND AND FLOOD DAMAGE, OR ANY OTHER ACT OF PROVIDENCE, OR FROM ANY EXTRAORDINARY CONDITIONS SUCH AS ELECTRICAL SURGES, WATER LEAKAGE, CONDENSATION, OR THE USE OF CHEMICALS. IF THE DAMAGE RESULTS FROM CONNECTION TO ANY POWER SUPPLY OR TO ANY EQUIPMENT WHICH CCS Inc.. DOES NOT MANUFACTURE OR DOES NOT SPECIFY FOR USE.
- CCS ASSUMES NO LIABILITY FOR ANY PURCHASER'S SECONDARY DAMAGE (DAMAGE OF EQUIPMENT, LOSS OF OP 4. PORTUNITIES, LOSS OF PROFITS, ETC.) OR ANY OTHER DAMAGE RESULTING FROM A FAILURE OF OUR PRODUCT.

THIS WARRANTY INFORMATION PROVIDES THE SCOPE OF CCS'S PRODUCT WARRANTY WITHIN THE SPECIFIED PERIOD, AND DOES NOT INDICATE OR IMPLY ANY FURTHER GUARANTEE BEYOND THE WARRANTY TERMS.

CONTACT CCS FOR INQUIRIES OR INFORMATION ON REPAIRS TO THE PRODUCT AFTER THE EXPIRATION OF THE WARRANTY.

NOTE: THE RADIANT QUANTITY REFERS TO THE WATTAGE OF PHYSICAL ENERGY RADIATED FROM AN LED. IT REFERS TO THE RADIATION LUMINOSITY OF THE LED MEASURED UNDER CONDITIONS SPECIFIED BY CCS OR THE RADIATION ILLUMINA-TION OF THE LED UNDER SPECIFIED IRRADIATION CONDITIONS. CCS SPECIFIES THE RADIANT QUANTITY FOR EACH LED LIGHT BECAUSE THE MEASUREMENT AND IRRADIATION CONDITIONS VARY FROM THE FORM. THE APPLICATION AND THE IRRADIATION WAVELENGTH.

Contents of this Instruction Guide may be changed without prior notice.

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Instruction Guide and Dimensional Diagrams in PDF or CAD can be downloaded from the CCS website. http://www.el-series.com

Ask any product queries to the following address or to your nearest CCS representative.

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