



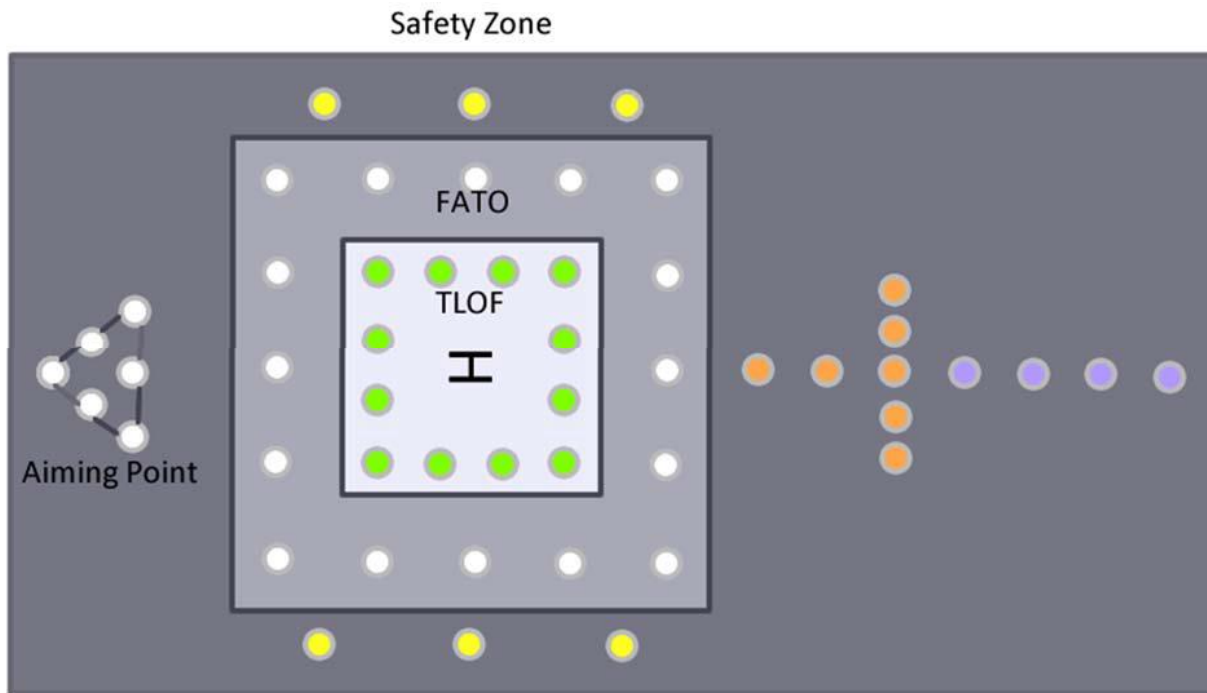
INTRODUCTION

This document has been elaborated to help you to design a helipad lighting system in accordance with international standards. This document will help you to choose, which Electronic Spare Part product will be useful for your proper application.

This guide contains only some examples of helipad layouts currently described in the ICAO Annex 14, Vol II and the ICAO Heliport Manual. National standards and habits are not included. Keep always in mind that our present propositions are solutions among others. Other layouts may be applicable for you proper projects.

Electronic Spare Part Co. is still available to help you to choose products and assistance during the complete realization of your project.

SURFACE LEVEL HELIPORT



	Use	Type	Color	Page
	TLOF (<i>Touchdown and lift-off area</i>)	Inset: -ESP HFT	Green	1
	FATO (<i>Final approach and take-off area</i>) Aiming Point	Inset: -ESP HFT -HIN Elevated: -ESP MKII	White	2
	FLOODLIGHTS	ESP-FloodLed 3800	White	3
	APPROACH LIGHTS (steady)	Inset: -ESP HF Elevated: -ESP MKII C	White	4
	APPROACH LIGHTS (flash sequence)	Elevated: -ESP MKII A	White	5

This kind of Heliport configuration is commonly used for ground heliports.

The approach lighting system is intended to be used where a preferred approach axis is given.

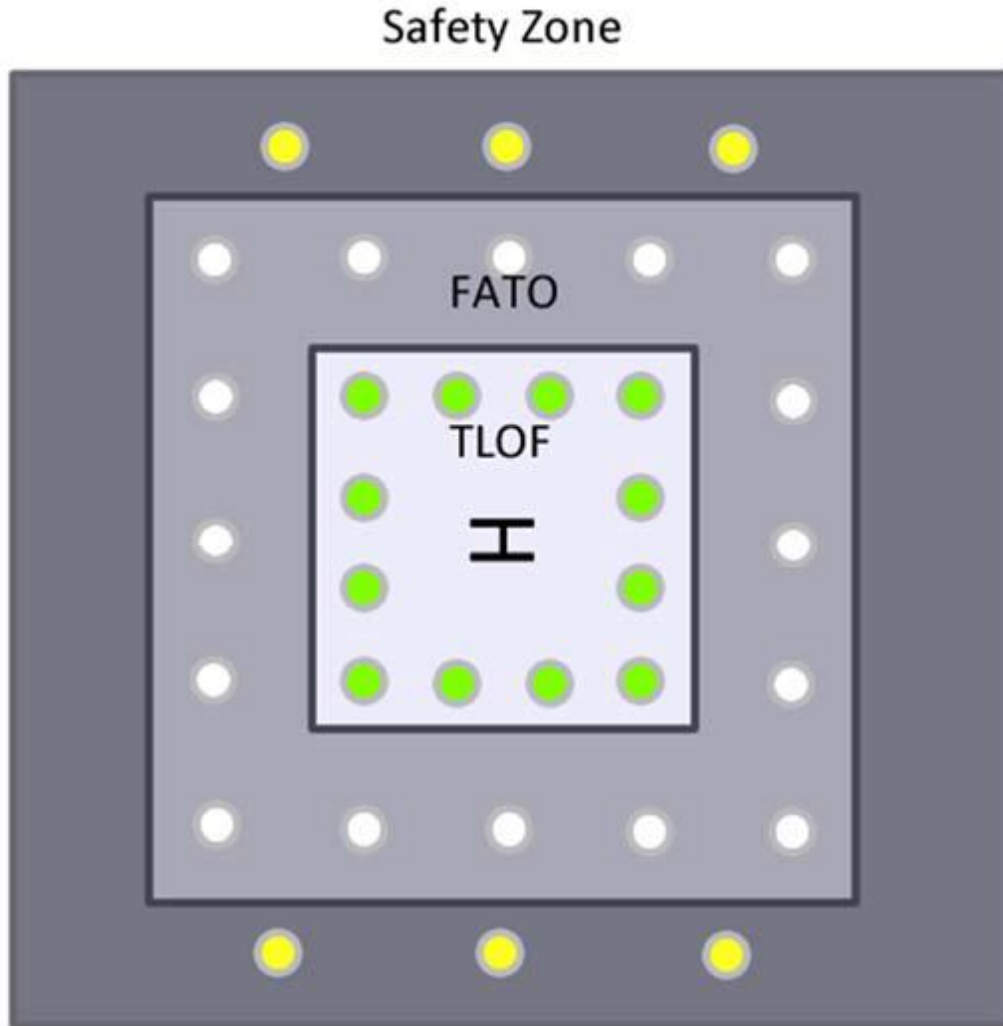
The aiming point lighting is recommended for night use, where an aiming point marking is provided.




This heliport layout is an example of possible equipment regarding to the:



ICAO Annex 14 Vol. II

ELEVATED HELIPAD



	Use	Type	Color	Page
	TLOF (Touchdown and lift-off area)	Inset: -ESP-HFT	Green	1
	FATO (Final approach and take-off area) Aiming Point	Inset: -ESP-HFT Elevated: -ESP MKII B	White	2
	FLOODLIGHTS	ESP-FloodLed 3800	White	3

This kind of heliport configuration is commonly used for elevated heliports.

This heliport layout is an example of possible equipment regarding to the:



ICAO Annex 14 Vol. II

TLOF (Touchdown and lift-off area)

“ A TLOF lighting system shall be provided at a heliport intended for use during night operation.”
 “The TLOF lighting system for a surface-level heliport shall consist of one or more of the following: a) Perimeter Lights and/or b) floodlighting“

Commonly we use inset LED lights to delimit the perimeter of the TLOF. The maximum intervals between the lights must not exceed 5 meters for surface level heliports and 3 meters for elevated heliports. The minimum quantity of lights is 12 units for a square TLOF and 14 units for a circular TLOF.

Maximum distance between lights:

Surface level heliport: maximum 5 meters
 Elevated heliport: maximum 3 meters

Minimum units:

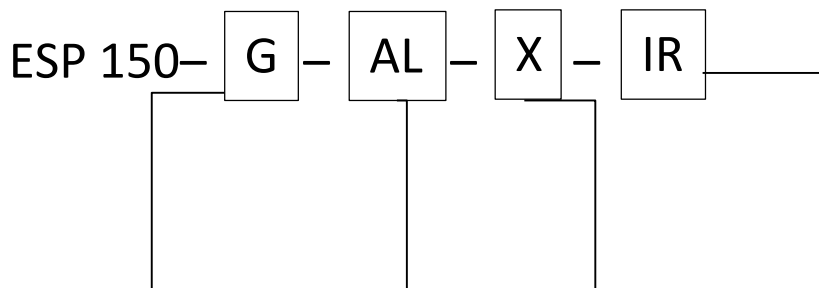
Square or rectangle FATO 12 lights
 Circular or other FATO 14 lights

Common information:

Color of light: Green
 Light source: Omnidirectional LED
 Brightness level: Adjustable: 10%/30%/100%



Ordering code:



Type	Color	Material	Power supply	NVG Enhanced
ESP 150	-G: Green	-AL: Aluminum	-X : iControl (intelligent)	-IR: NVG Enhanced (with Infrared)
	-W: White	-IN: Stainless Steel	-Y: LBR (standard)	-N: NO NVG Enhanced
	-Y : Yellow		-Z: 6.6 A	
	-B: Blue			
	-R: Red			
	-IR: Infrared (only)			

Example: **ESP 150 -G-AL-X-IR** ->ESP, Green, with iControl power supply, with NVG Enhanced

○ FATO (Final approach and take-off area)

Commonly we use inset LED lights to delimit the perimeter of the FATO. The maximum intervals between the lights must not exceed 50 meters for a square or rectangle heliport and 5 meters for a circular or other heliport. The minimum quantity of lights is 12 units for a square FATO and 10 units for a circular TLOF.

Maximum distance between lights:

Square or rectangle FATO maximum 50 meters
 Circular or other FATO maximum 5 meters

Minimum units:

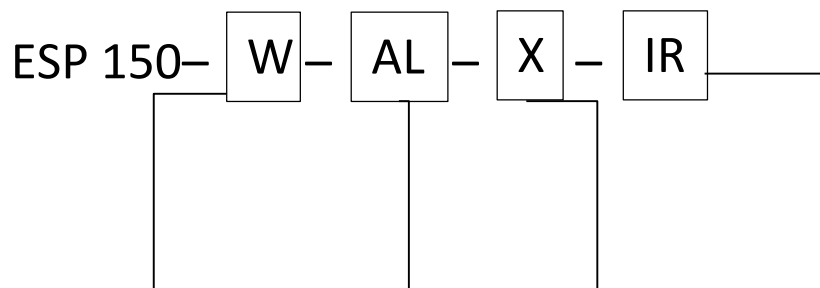
Square or rectangle FATO 12 lights
 Circular or other FATO 10 lights

Common information:

Color of light: **White**
 Light source: Omnidirectional LED
 Brightness level: Adjustable: 10%/30%/100%
 Photometry and color: As ICAO Annex 14, vol II



Ordering code:



Type	Color	Material	Power supply	NVG Enhanced
ESP 150	-G: Green	-AL: Aluminum	-X: iControl (intelligent)	-IR: NVG Enhanced (with Infrared)
	-W: White	-IN: Stainless Steel	-Y: LBR (standard)	-N: NO NVG Enhanced
	-Y: Yellow		-Z: 6.6 A	
	-B: Blue			
	-R: Red			
	-IR: Infrared (only)			

Example: **ESP 150 -G-AL-X-IR** ->ESP, Green, with iControl power supply, with NVG Enhanced

Floodlighting

To guarantee a better “reading” of the terrain we recommend to install Floodlight whenever possible.

Lighting the surface with a FloodLed will help the pilot to obtain the right information about state and quality of surface. It will be easier to detect obstacles or objects present on the surface. This light will help to detect snow, sand, or other possible disagreements for pilots.

Our FloodLed 4400 is especially built to give a good reading of the quality of the terrain. The powerful narrow beam light will bring out details on the surface. The concept of the Flood guarantees the pilot not to be disturbed by the light.

Recommended distance between lights:

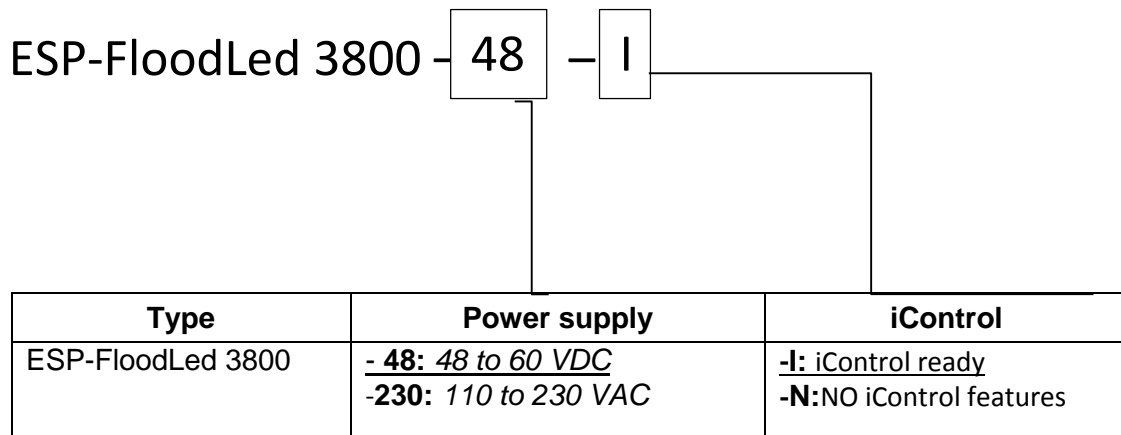
Square or rectangle FATO 5 to 8 meters

Common information:

Color of light: **White**
 Light source: Narrow beam very high power LED
 Brightness level: Adjustable: 10%/30%/100% (with iConnect)



Ordering code:



Example: ESP-FloodLed 3800-48-N ->ESP-FloodLed 3800, 48 to 60 VDC, NO iControl features

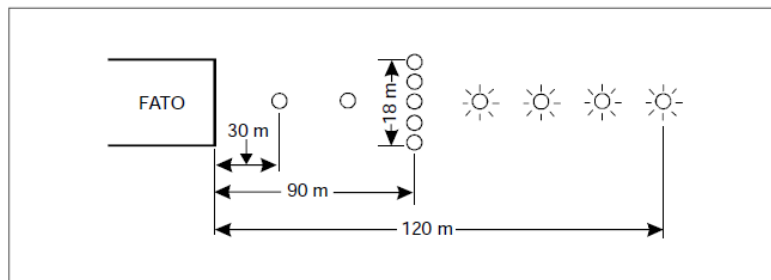
APPROACH LIGHTS

“An approach lighting system should be provided at a heliport where it is desirable and practicable to indicate a preferred approach direction”

“The approach lighting system shall be located in a straight line along the preferred direction of approach.”

“An approach lighting system should consist of a row of three lights spaced uniformly at 3.0m intervals and of a crossbar 180m in length at a distance of 90m from the perimeter of the FATO. The lighting forming the crossbar should be as nearly practicable in a horizontal straight line at right angles to, and bisected by the line of the center line light spaced at 4.5 meters intervals. Where there is need to make the final approach course more conspicuous additional lighting spaced uniformly at 30 meters intervals should be added beyond the crossbar. The lights beyond the crossbar may be steady or sequenced flashing, depending upon the environment.”

“Sequenced flashing lights may be useful where identification of the approach lighting system is difficult due to surrounding lights.”



Common information:

Color of light: **White**

Light source: Omnidirectional LED

Brightness level: Adjustable: 10%/30%/100%

ORDERING CODE:

ESP MKII – G – X – IR



Type	Color	Power supply	NVG Enhanced
ESP MKII	-G Green -W White -Y Yellow -B Blue	-X iControl (intelligent) -Y LBR (standard) -Z 6.6A	-IR NVG Enhanced -N NO NVG Enhanced

Example: **ESP MKII-W-Y-IR** -> ESP MKII, White, with LBR power supply, with NVG Enhanced