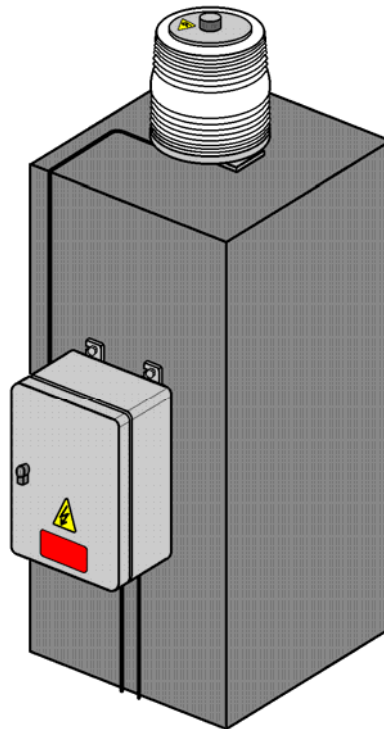


INSTALLATION DOCUMENTATION
for F30

DOC 2802.E



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1 Introduction

The documentation lists the different steps to follow in order to successfully install the F30 Heliport Beacon.

Note : The standard F30 is delivered with a standard cable of 5 m to make connection between the power supply box and the Flashing head. For longer distance please contact us.

You will find in this document two main paragraphs:

"General Information and Requirements": This chapter gives general description and use of the fitting covered by this document.

"Installation of F30": This chapter describes how to install the F30.

1.1 Use restriction notice and warranty

1.1.1 Use of the Document

This installation documentation is the property of

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This documentation or any parts of this documentation may not be reproduced, stored in a retrieval system or transmitted in any form or by any means (mechanical, photocopying, recording, electronic,...) without THORN's prior consent.

1.1.2 Warranty

THORN Airfield Lighting guarantees that the performance of the inset lights described in this document, when sold by THORN Airfield Lighting or its licensed representatives, meets the requirements of ICAO Annex 14 volume 2.

Any defect in design, material or workmanship, which may occur during proper and normal use over a period covered by the warranty stipulate in the contract, will be replaced by THORN Airfield Lighting free of charge, ex works.

Operational failure or damage resulting from lamp burnt out, improper installation is not considered a result of proper use and is beyond the scope of the warranty.

The above constitutes the limits of THORN Airfield Lighting 's liabilities concerning the equipment covered by this document.

1.2 Safety instructions

WARNING: Prior to the commencement of work all electrical services MUST be isolated from the supply and connected to earth. Full details of the work involved must be given to the Authorise Person responsible for the electrical engineering services with regard to the duration of the work, etc.. . It is a prerequisite of this type of installation that the work should be carried out by trained and experienced personnel.

1.3 Reference documents

This paper refers to following documents:

- THORN Commercial Documentation General Brochure Doc 1001.E,
- THORN F30 Commercial Documentation Doc1802.E,
- Last Edition of ICAO Annex 14,

2 General information and requirements

2.1 Delivery of the fittings

Each F30 is supplied ready for installation, with three cables : One cable for power supply and one cable for connection between flashing head and power supply box.

- a) One 5 m cable equipped with two plugs to connect flashing head on power supply box.
- b) One 2 m cable (3 wires) with only one plug to connect the power supply on the power supply box.
- c) One 5 m shielded cable (3 wires) with only one plug to connect the remote control on the power supply box.

Each unit is individually packed in a durable cardboard box, labelled with its reference name and code. On request one set of documents (= commercial brochure, installation, maintenance manual and spare parts list) is delivered the fittings.

2.2 Description of the F30

ICAO recommend the installation of an Heliport Beacon on heliport where long range visual guidance is considered necessary and not provided by other visual means or where heliport identification is difficult due to surrounding lights.

The THORN F30 Heliport Beacon is compliant with ICAO requirements.

For ICAO an Heliport Beacon must continuously emit the signal shows **Fig A**.

The Brilliancy level of the F30 heliport beacon can be remote controlled or automatically using a Photocell Box (Optional).

Three Brilliancy levels are available : 100 %, 10 % and 3 %.

The remote control voltage = + 24 Vdc is supplied by the F30.

For the Photocell Box, the ambient light threshold for each brilliancy level are the following :

- 100 % = Ambient light over 500 lux
- 10 % = Ambient light between 250 lux and 500 lux
- 3 % = Ambient light under 250 lux

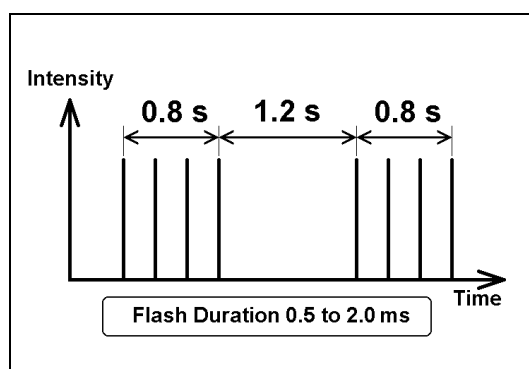
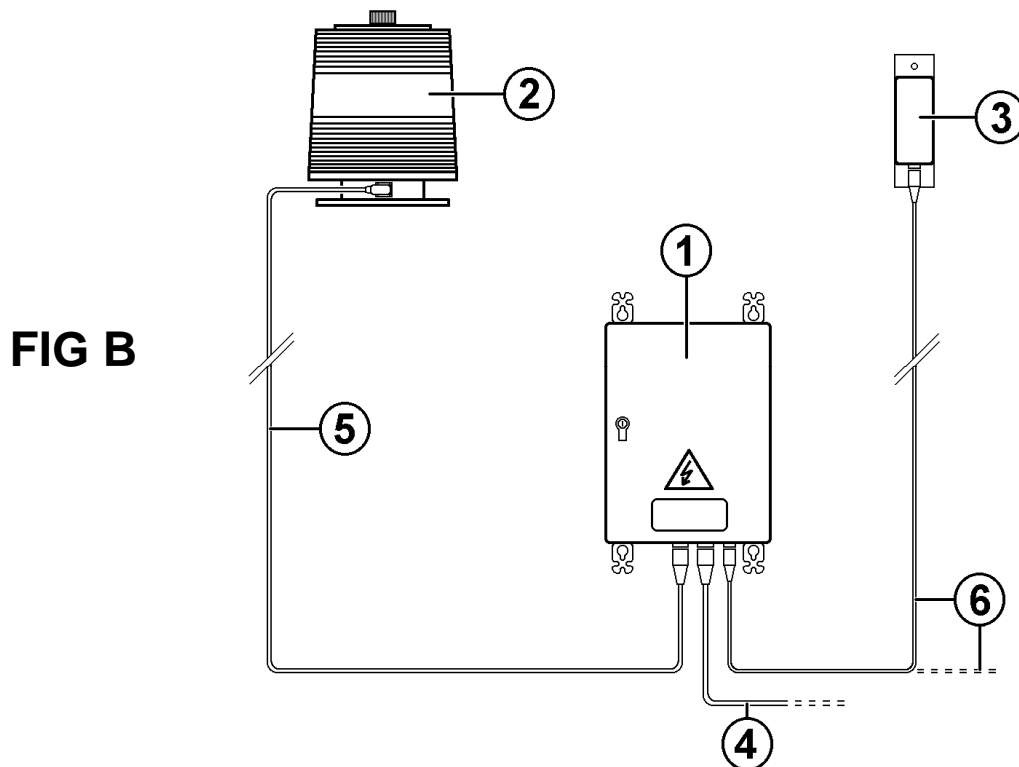


FIG A

2.3 Design of the F30

The F30 is composed of : (see **Fig B**) :

- 1) One Power Supply Box (IP55)
- 2) One Flashing Head (IP55)
- 3) One Photocell Box (option)
- 4) One Power Supply Cable
 - One 2 m cable is supplied with the equipment
- 5) One special cable for Power Supply Box / Flashing Head Connection
 - One 5 m cable is supplied with the equipment. For longer length, please contact Thorn.
- 6) One cable for remote control connection by a photo-cell or by a control desk
 - One 5 m cable is supplied with the equipment.



2.3.1 Flashing Head

The Flashing Head of the F30 contains :

- 1) An "Aluminium Stand" composed of :
 - A flash lamp connecting base.
 - A connection plug.
 - A optical block fixation system.
- 2) A safety switch off device (switch off the Fitting when this one is open).
- 3) An upper cover in Aluminium.
- 4) A "White metachrylate omni-directional Fresnel refractor lens".
- 5) A "Lamp Block" composed of :
 - A ceramic base with connection pins.
 - A Xenon discharge tube and its trigger.
 - A "Brystal" Aluminium parabolic mirror.
- 6) An aluminium heat radiator.

2.3.2 Power Supply Box

The Power Supply Box Contains :

- 1) A chopped high voltage Converter.
- 2) A safety and trigger circuit
- 3) A remote controlled brightness level selection circuit.
- 4) A Power switching circuit with filter and lightning arrestor.
- 5) A set of Power capacitors.
- 6) A peak absorber inductance.
- 7) Water-tight connecting plugs.
- 8) A safety switch off device (switch off the box when the door is open).

2.3.3 Photocell Box (Option)

The Photocell Box Contains :

- 1) A Water-tight Aluminium box.
- 2) A "Ampli and comparator" PCB.
- 3) A Silicium Photocell.
- 4) A special connecting cable.

3 Installation of the F30

3.1 Mechanical Installation

In order to help you to install the two components of the F30 on their support, find here after all information concerning their dimensions, weights and fixings

Dimensions and Weight

Power supply box : Height = 400 mm, Width = 300 mm, Depth = 150 mm, Weight = 12 Kg

Flashing head : Diameter = 265 mm, Height = 310 mm, Weight = 7 Kg

Photocell box : Height = 160 mm, Width = 70 mm, Depth = 40 mm, Weight = 0.3 Kg

Fixing

Power supply box : Can be vertically mounted using the 4 fixings hooks mounted on the back of the box (see **Fig1**).

Distance (height) = 450 mm, Distance (Width) = 255 mm

Flashing head : To be mounted using the holes of the bottom plate (see **Fig 2**)

Distance = 195 mm, Diameter of the holes = 10 mm

Photocell box : To be fixed on a flange using the 2 holes of the Fixing Plate (see **Fig 3**)

Distance = 220 mm, Diameter of the holes = 4 mm

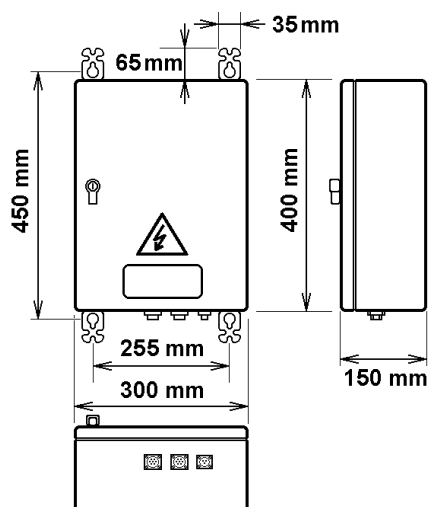


FIG 1

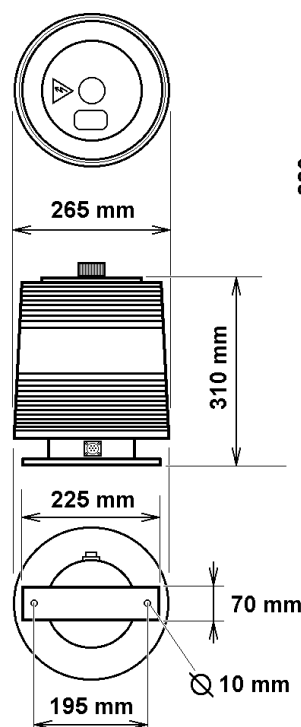


FIG 2

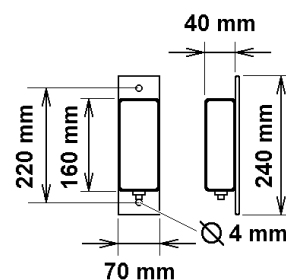


FIG 3

3.2 Electrical Connections

Electrical connections are easy to make using the cables delivered with the F30.

3.2.1 Connection of the flashing head

- 1) Switch Off the main 230 Vac supply voltage dedicated to the F30.
- 2) Make connection between the Flashing Head and the Power Supply Box plugging the dedicated special cable. This 5 m long cable is delivered equipped with its two connectors

3.2.2 Connection of Power supply on Power supply box

- 1) Connect the main 230 Vac supply voltage (Phase, Neutral and Earth) at the end of the dedicated special cable . This cable is delivered equipped with one connector for connection on Power Supply Box.
- 2) Plug the main supply cable on the F30.

3.2.3 Connection of brilliancy level remote control

- 1) Connect the cable coming from brilliancy remote control device (control desk or optical cell) on at the end of dedicated special cable . This cable is delivered equipped with one connector for connection on Power Supply Box.

Wires	Function
Shield	Connect the end to the earth of remote control device
White Wire	Common + 24 Vdc (= F30 Output)
Blue Wire	Command 10 % (= F30 Input)
Yellow Wire	Command 100 % (= F30 Input)

- 2) Plug the control cable on F30.

Now the F30 is ready for commissioning.

4 Commissioning of the F30

- 1) Switch On the main power supply of the F30.
- 2) The F30 normally start to flash as shown on **Fig A** with the Low level brilliancy (= 3%).

Note 1 : If the F30 is not able to flash, please see the “Maintenance Document” DOC 3802.E.

- 3) Command the Medium level brilliancy (= 10%) and verify the effect on the intensity of the flashes of the flashing head.

- 4) Command the High level brilliancy (= 100%) and verify the effect on the intensity of the flashes of the flashing head.

Note 2 : If your are not able to drive one or the two brilliancy Level, please see the “Maintenance Document” DOC 3802.E.

COMMENTS

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