

# Airfield Lighting

Manual

## 8" Omnidirectional Medium-Intensity Heliport Inset Light (IN-OMH)

- Boundary Marking of
  - Final Approach and Take Off area (FATO)
  - Touchdown and Lift Off area (TLOF)
- Aiming Point



**Note:** *This page is blank for convenient double-sided printing.*

**MANUAL**  
**8" OMNIDIRECTIONAL MEDIUM-INTENSITY HELIPORT INSET LIGHT**  
**(IN-OMH)**

**CONTENTS**

Section	Description	Page No.
<b>1.</b>	<b>INTRODUCTION .....</b>	<b>3</b>
1.1	SAFETY INSTRUCTIONS .....	3
1.1.1	<b>Product Safety .....</b>	<b>3</b>
1.1.2	<b>Electrical Maintenance .....</b>	<b>3</b>
1.1.3	<b>Mechanical Maintenance .....</b>	<b>4</b>
1.2	DESCRIPTION OF THE FITTING .....	4
1.3	DELIVERY OF THE FITTING .....	4
<b>2.</b>	<b>INSTALLATION.....</b>	<b>5</b>
2.1	PREPARING THE FITTING AND THE BASE .....	5
2.2	CIVIL WORKS.....	6
2.3	INSTALLING THE BASE ..... <b>ERROR! BOOKMARK NOT DEFINED.</b>	
2.4	ELECTRICAL CONNECTIONS .....	7
2.4.1	<b>Power Supply Cable .....</b>	<b>7</b>
2.4.2	<b>Power Supply Circuit Design.....</b>	<b>7</b>
2.4.3	<b>Prepare Electrical Connections.....</b>	<b>8</b>
2.5	MOUNTING/ REMOVING THE FITTING .....	9
<b>3.</b>	<b>MAINTENANCE .....</b>	<b>11</b>
3.5	BASIC MAINTENANCE PROGRAMME .....	11
3.6	WORKSHOP MAINTENANCE .....	12
3.6.1	<b>Replacing a Lamp .....</b>	<b>12</b>
3.6.2	<b>Replacing a Lamp Holder .....</b>	<b>13</b>
3.6.3	<b>Replacing a Filter .....</b>	<b>14</b>
3.6.4	<b>Replacing a Prism and a Gasket .....</b>	<b>15</b>
<b>4.</b>	<b>SUPPORT.....</b>	<b>16</b>
4.1	SAFEGATE GROUP WEBSITE .....	16
4.2	RE-CYCLING .....	16
4.2.1	<b>Local Authority Re-cycling .....</b>	<b>16</b>
4.2.2	<b>Safegate Group Re-cycling.....</b>	<b>16</b>
4.3	SPARE PARTS.....	16

## Documentation

This document includes Airfield Lighting information with a focus on safety, installation and maintenance procedures.

**Note:** *It is very important to read this document before any work is started.*

Original documentation is created in English (U.K.).

Images and texts used in this document are reference examples only and may not exactly depict a customer product.

For more information, see [www.safegate.com](http://www.safegate.com).

## Copyright

© Copyright 2010 by Safegate Group. All rights reserved. This item and the information contained herein are the property of Safegate Group. No part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language in any form or by any means otherwise, without the expressed written permission of Safegate Group, Djurhagegatan 19, SE-213 76 Malmö, Sweden.

## History

Version	Date	Description
1.0	March 2010	First Release
1.1	March 2014	Second Release
1.2	August 2014	Third Release

**Note:** *This page is to be updated with every authorised change to the document.*

## Abbreviations and Terms

This document may include abbreviations and terms.

Abbreviation	Term
APP	Approach
ASP-SC	Airfield Smart Power SafeControl
CAA	Civil Aviation Authority
CCR	Constant Current Regulator
CU	Concentrator Unit
FAA	Federal Aviation Administration
HEL	Heliport
ICAO	International Civil Aviation Organization
IEC	International Electrotechnical Committee
LED	Light Emitting Diode
LMS	Light Monitor and Switch unit
NATO	North Atlantic Treaty Organization
RWY	Runway
STAC	Service Technique de l'Aviation Civile (France)
STANAG	Standardization Agreement (NATO)
TWY	Taxiway

## 1. INTRODUCTION

In this section you can find a general description and safety instructions related to the installation and usage of the fitting.

The IN-OMH is an 8" omnidirectional medium-intensity heliport inset light.

The fitting has many advantages and special features:

- Low power consumption.
- Low power consumption: only 50 Watts.
- Power Supply: 240 Vac (or 12 Vac) 50/60 Hz.
- Lamp life greater than 4,000 hours.
- Low projection: 10 mm (<1/2").
- Small diameter: 215 mm.
- Shallow depth: 100 mm shallow base
- Excellent photometric performances obtained by the use of reflector lamps:
  - Good luminous efficacy
  - Identical lamp performances: Reflector being an integral part of the lamp, hence each time the lamp is changed there will be a new reflector
  - High optical stability: No internal adjustment needed.

### 1.1 SAFETY INSTRUCTIONS

Make sure you read this section and are familiar with safety precautions before any work is started.

#### 1.1.1 Product Safety

Airfield lighting fixtures in a constant current circuits are connected in a circuit via isolating transformers with currents between 2.0 – 6.6A in the primary circuits. The primary voltages, depending on the circuitry, are usually several kilovolts and therefore lethal. Although the open circuit voltages of the isolating transformers are much lower, the peak voltage while opening the secondary circuit under current is also hazardous. So it is vitally important to follow all the safety regulations with adequate circumspection.

In the design of this equipment all the practical safety aspects have been taken into account. It is also important to strictly follow existing international or national regulations, the instructions established by civil aviation authority or airport operator and the following instructions.

#### 1.1.2 Electrical Maintenance

Valid safety regulations must always be followed. Never carry out any maintenance or maintenance measures before the current is confirmed as safely disconnected. Use extreme caution when disconnecting or connecting high voltage primary connectors.



**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 AUTHORISED PERSON RESPONSIBLE FOR THE ELECTRICAL ENGINEERING SERVICES AT THE AIRPORT WITH REGARD TO THE DURATION OF THE WORK AND SO ON. IT IS RECOMMENDED THAT PRIOR TO STARTING ANY CUTTING**

*WORK, THE NATURE AND LOCATION OF SERVICES SUCH AS CABLE DUCTS AND THE LIKE SHOULD BE IDENTIFIED. ANY INSTALLATION OR MAINTENANCE WORK SHOULD ONLY BE CARRIED OUT BY TRAINED AND EXPERIENCED PERSONNEL. ALSO, WHEN WORKING ON CIRCUITS USING AIRFIELD SMART POWER SYSTEM (ASP) THE SCM MUST BE TUNED OFF.*

### 1.1.3 Mechanical Maintenance

When maintaining mechanical components, it is important to follow the instructions for electrical maintenance.

## 1.2 DESCRIPTION OF THE FITTING

The IN-OMH is an 8" omnidirectional medium-intensity inset light equipped with one lamp.

This fitting is mainly used for heliport for:

- boundary marking of final approach and take off area F.A.T.O (White)
- boundary marking of touchdown and lift off area T.L.O.F (Green)
- aiming point (White).

The IN-OMH lighting fitting exist in two versions corresponding to the two possible power supplies: - 12 Vac or - 230 Vac (equipped with 230 Vac/12 Vac Transformer).

**Note:** *The Coloured fittings (Green) are equipped with Dichroic Filters.*

## 1.3 DELIVERY OF THE FITTING

Each unit is supplied completely assembled with a base, tested and sealed, ready for installation. The electrical connection is made via one 2-pole low voltage cable or two 1-pole low voltage cables; the cable is equipped with an FAA L-823 2-pole plug, as standard.

Each unit is individually packed in a durable cardboard box, labelled with its reference name and code. Product documentation is available at [www.safegate.com](http://www.safegate.com) or on request, one set of fitting documents is delivered with fittings.

## 2. INSTALLATION

In this section you can find a description of the different steps for successful installation of the fitting. Before you start, make sure you have read and understand §1.1 Safety Instructions.

When removing the fitting from its packaging box, check that nothing is broken.

The screw tapping of the frangible support can be either 2 in. NPS (American standard - 11.5 threads per inch) or 2 in. BPS (British standard - 11 threads per inch). Check support and base tapings fit.

The following tools and accessories are required for installation and removal of the unit:

*Standard tools and accessories:*

- Angled socket wrenches: 7 mm, 10 mm, 16 mm (for installation on THORN bases), 22 mm.
- Angled box wrenches: 7 mm, 12 mm.
- An open end wrench, 22 mm.
- One Box spanner 16 mm (for installation on THORN bases).
- A torque limiting spanner with an adaptor: 16 mm and 7 mm adaptors.
- Screwdrivers: a small flat, a medium flat and two big screwdrivers.
- Standard surveying equipment
- Coring and cutting equipment (such as for pavement surfaces)
- Positioning tool (jig) for 8" bases
- Sight telescope
- Crimping tool (for electrical connections)
- Air gun or blow lamp (for electrical connections)
- Silicone grease.
- Special sealing compound for valve water tightness.
- A brush or cloth

The installation steps refer to:

1. Preparing the fitting and the base
2. Civil works
3. Electrical connections
4. Mounting/removing the fitting

### 2.1 PREPARING THE FITTING AND THE BASE

When opening a fitting box, verify the fitting characteristics correspond to site design requirements, for example type, colour and so on.

Carefully clean all contact surfaces: fitting, base and also adaptor ring, if required.

- (a) To separate the fitting from the base, use a box spanner of 16 mm, unscrew and remove the two fixing bolts.
- (b) Remove the fitting body from its base using two big screwdrivers.
- (c) Disconnect the lamp socket from the lamp.
- Note:** *It is important to remember: when all fittings are prepared for installation, check each fitting for water tightness and when all fittings are installed in bases, check for proper functionality.*

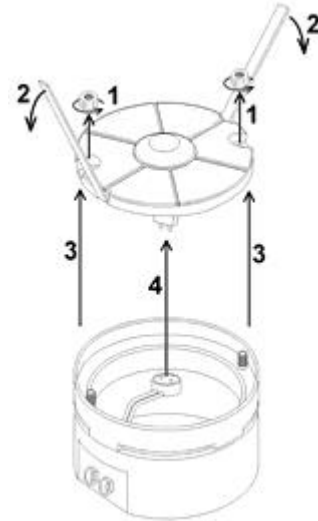


FIGURE 1 – INSTALLATION ON A CURVE TUBE

## 2.2

### CIVIL WORKS

All necessary markings must be accurately positioned by the surveying team in order to define the precise location of the base and fitting.

The pavement has to be chased out to allow the run of the supply cable.

The size of saw cut has to be adapted to the version of fitting:

- 230VAC version: 2 x 1,5 mm<sup>2</sup> supply cable.
- 12VAC version: 2 cables of 1 x 3,2 mm<sup>2</sup>.

After breaking out the saw cut and the hole for the base, carefully clean and remove all gravel, sand or waste material from the groove.

Make sure that the resin to be used meets manufacturer recommendations for:

- Expiration date
- Free from moisture (to reducing the risk for chemical reaction)
- Storage conditions

If the resin is acceptable for use, mix according to manufacturer recommendations.

For more information, see [www.safegate.se](http://www.safegate.se).



## 2.4 ELECTRICAL CONNECTIONS

### 2.4.1 Power Supply Cable

The fitting includes a power supply cable with gland (supplied by Safegate).

**Note:** The fitting thread is 21 mm.

During installation or maintenance, it is important to make sure that the fitting is water –tight in order to avoid ingress protection problems, such in following scenarios:

1. If replacing the power supply cable, the new power supply cable must fit correctly in the fitting gland.
2. When re-assembling the fitting, fasten to the correct torque.

**Note:** Safegate do not take responsibility for product modifications due to local regulations. However, if alternative power supply cables are to be used, make sure the fitting glands have the correct size (are compatible) for the power supply cable to be used in the fitting, in order to avoid ingress protection problems.

### 2.4.2 Power Supply Circuit Design

The IN-OMH fittings for heliport are for power supply voltage 230 Vac.

The fittings for a similar function (F.A.T.O, T.L.O.F, taxiway edge or apron edge) are supplied by one (or two) circuit(s) on which the fittings are connected in parallel.

The electrical circuits design refer to including junction boxes (B) for connection of fittings in parallel (A), see the figure below.

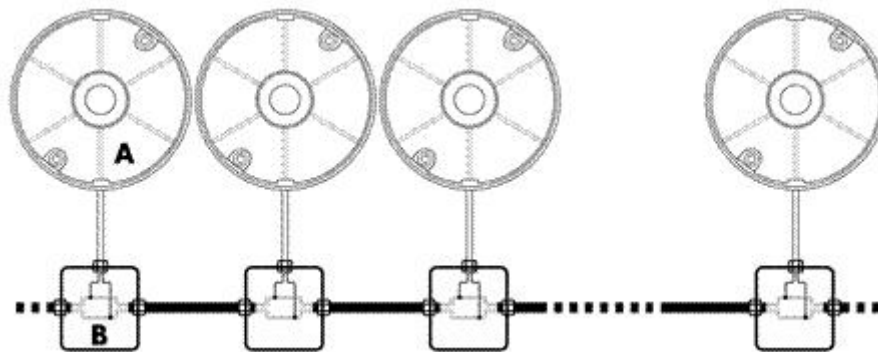
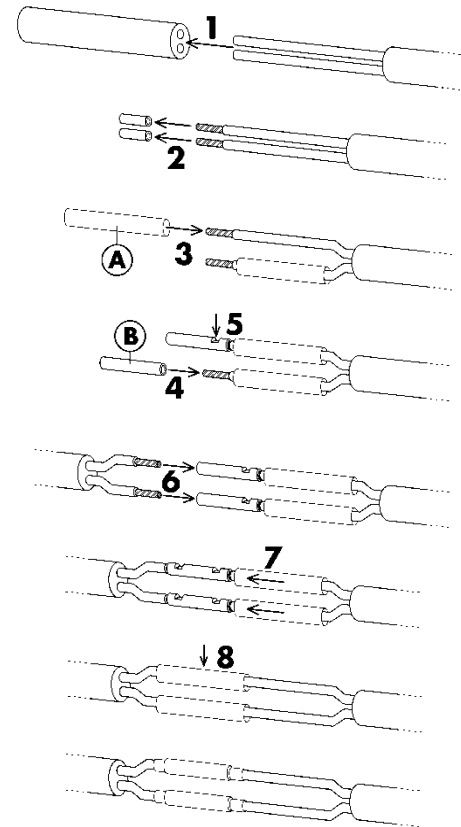


FIGURE – POWER SUPPLY CIRCUIT DESIGN

### 2.4.3

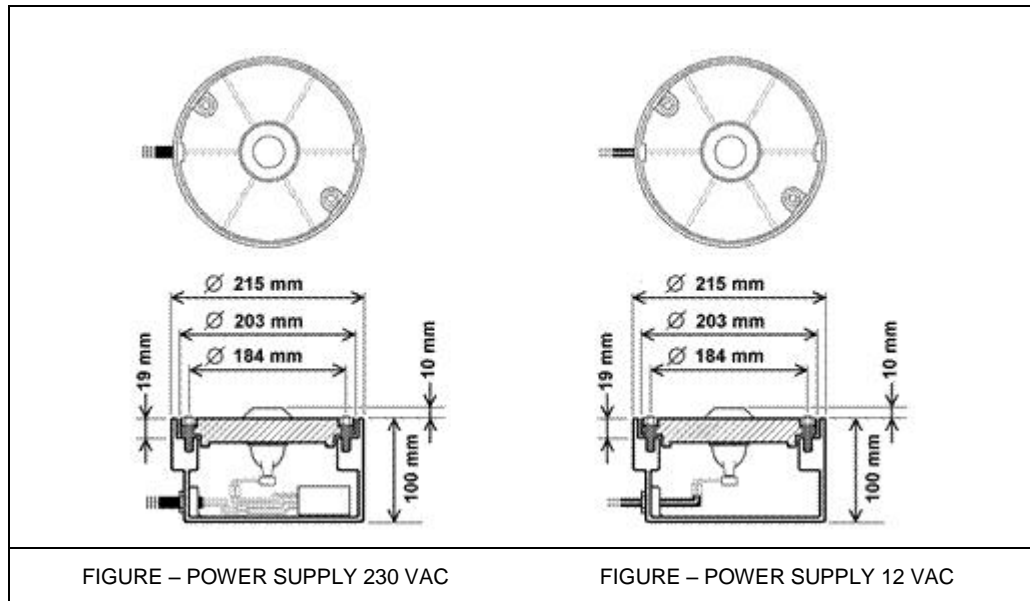
### Prepare Electrical Connections

- (a) Connect the junction box cable wires to the shallow base cable wires using kit accessories supplied with the light fitting, terminals and heat shrinkable sleeves.
- (b) Strip the cable insulation sleeves.  
Junction box cable: 100 mm.  
IN-OMH cable: 40 mm.
- (c) Strip the cable wire sleeves: 15 mm.
- (d) Place the heat shrinkable sleeves (A) over the two junction box cable wires.
- (e) Place the terminals (B) on the junction box cable wires.
- (f) Crimp the terminals on the junction box cable wires.
- (g) Place the IN-OMH cable wires in the junction box cable wire terminals and crimp for connection.
- (h) Place the heat shrinkable sleeves over the terminals.
- (i) Heat up the heat shrinkable sleeves.
- (j) The electrical connections are insulated and water tight.



## 2.5 MOUNTING/ REMOVING THE FITTING

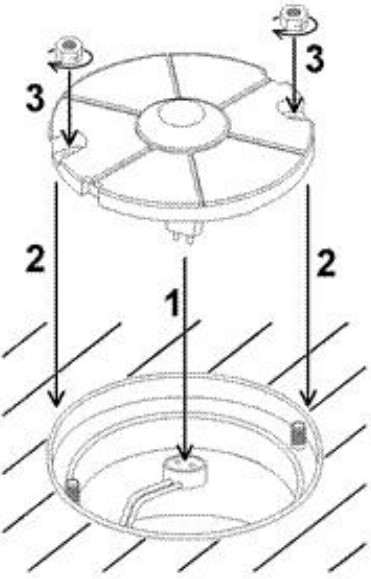
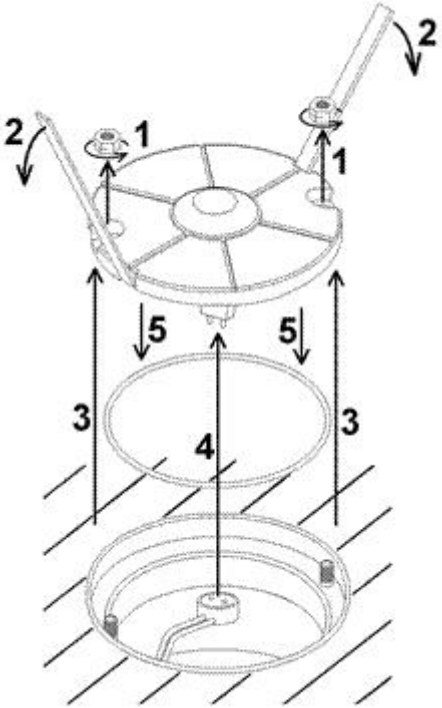
The fittings, as described in this document, are for standard mechanical installation directly in a specific shallow base with one side entry (8" - 100 mm - see figures below).



**Note:** The base must be correctly adjusted for alignment, angle setting and height before fitting installation.

When opening a fitting box, verify the fitting characteristics correspond to site design requirements, for example type, colour and so on.

Carefully clean all contact surfaces: fitting, base and also adaptor ring, if required.

Mount	
<p>(a) Place the O-ring gasket (see 1) on the 8" fitting in the base.</p> <p><b>Note:</b> <i>New 8" fittings are delivered with the O-ring gasket in place. For previously used fittings, it is recommended to replace the O-ring gasket and the lock nuts before re-installation.</i></p> <p>(b) Check that the fitting corresponds to site installation position, for example colour and direction.</p> <p>(c) Connect the fitting connector to the base supply cable (see 1).</p> <p>(d) Install the fitting on the base (see 2).</p> <p>(e) For installation on THORN bases, use a 16 mm torque limiting box spanner to secure the fixing bolts (see 3) to a torque of 35 Nm (= 3.5 kg m). For other manufacturers refer to their specifications.</p> <p>(f) When the fitting is installed, check the fitting for proper functionality.</p>	
Remove	
<p>(a) Unscrew the fixing bolt.</p> <p>(b) Remove the fitting with two big screwdrivers.</p> <p>(c) Carefully lift the fitting.</p> <p>(d) Disconnect the supply connector.</p> <p>(e) Remove the O-ring gasket.</p> <p><b>Note:</b> <i>After removing a fitting, it is recommended to clean all contact surfaces, replace the O-ring gasket and the lock nuts in preparation for or before re-installation.</i></p> <p><b>WARNING!</b> <i>WHEN A FITTING HAS BEEN REMOVED FROM ITS BASE, THE BASE MUST BE EITHER FITTED WITH A COVER OR A RESERVE FITTING PUT IN ITS PLACE.</i></p>	

### 3. MAINTENANCE

In this section you can find a description of the different steps for the maintenance of the fitting.

Before you start, make sure you have read and understand §1.1 Safety Instructions. Find out the location of the light unit that needs maintenance. If the purpose is to replace an existing light unit with new one, make sure that corresponding unit is available.



**WARNING!** WHEN A FITTING HAS BEEN REMOVED FROM ITS BASE, THE BASE MUST BE EITHER FITTED WITH A COVER OR A RESERVE FITTING PUT IN ITS PLACE.

IT IS RECOMMENDED THAT ONLY AUTORIZED PERSONNEL DISASSEMBLE FITTINGS WITH PRIOR AGREEMENT FROM SAFEGATE.

#### 3.5 BASIC MAINTENANCE PROGRAMME

There are recommended maintenance tasks to ensure that the equipment is in correct operating condition.

Maintenance tasks	
Weekly	<ul style="list-style-type: none"><li>• Visual inspection of the fitting.</li><li>• Removal of dust from external surfaces of the fitting.</li></ul>
Monthly	<ul style="list-style-type: none"><li>• Check of the optical window, check for mechanical damage.</li><li>• Check for proper fixing of the fitting in its base.</li></ul>
Yearly	<ul style="list-style-type: none"><li>• Detailed inspection of the fitting.</li><li>• Check of the body resistance, check for mechanical damage (for example cracks around prism windows).</li><li>• Clean of the optical windows.</li></ul>

A daily function check is referred to in the document:  
ICAO, Airport Services Manual Part 9, Airport Maintenance Practice and FAA AC 150/5340-26A, Maintenance of airport visual aids facilities.

**Note:** The basic maintenance program is intended for fittings at a standard airport site in normal operating conditions.

The light is designed for outdoor operation, however storing the light outside without using it is a risk for damage to light components. For a longer storage time (more than a week), it is recommended to store the light indoors in a dry and dust free environment and at room temperature. Proper storage ensures trouble free replacement procedures. It is strongly recommended not to store any electrical equipment outside.

**Note:** Only the most common maintenance procedures are instructed in following paragraphs. Construction of the luminaire allows that it can be fully disassembled and all the parts can be replaced if needed.

### 3.6

#### WORKSHOP MAINTENANCE

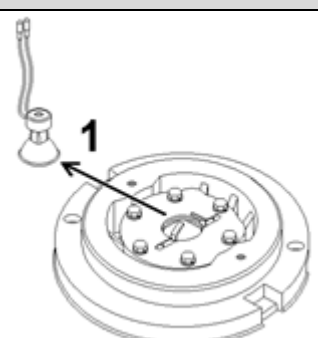
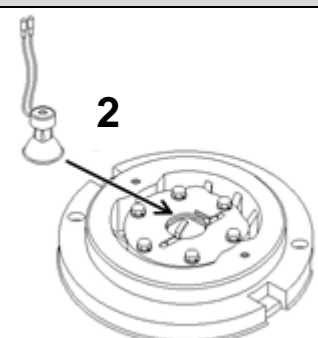
Before you start, make sure you have read and understand §1.1 Safety Instructions.

The workshop maintenance refers to following:

1. Replacing a lamp
2. Replacing a lamp holder
3. Replacing a filter
4. Replacing a prism and a gasket

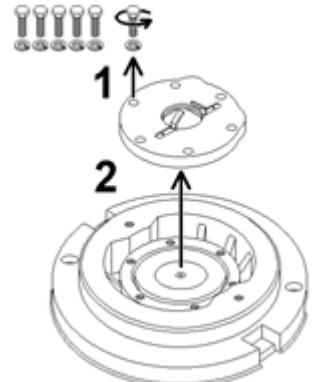
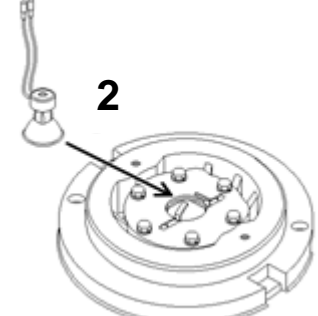
#### 3.6.1

##### Replacing a Lamp

Remove	
<p>(a) Disassemble the fitting</p> <p>(b) Remove the lamp from the fixing spring of the lamp support, by sliding it out to the side.</p>	
Replace	
<p>(a) Install a new lamp in the fixing spring of the lamp holder, by sliding it in from the side.</p> <p>(b) Assemble the fitting.  <b>Note:</b> <i>If the fitting is equipped with a film disk cut out, it must also be replaced with a failed lamp. For preventative maintenance re-lamping, it is not necessary to replace the film disk cut out.</i></p>	

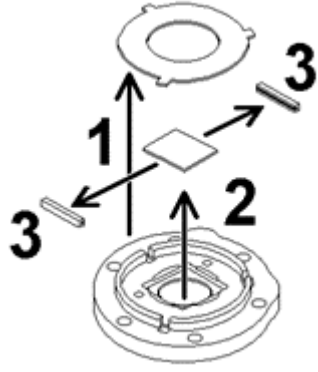
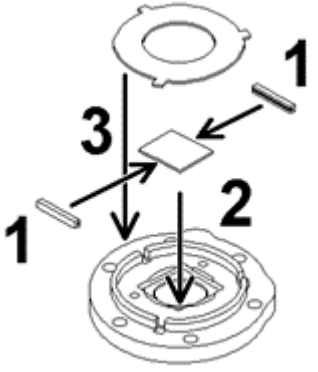
### 3.6.2

### Replacing a Lamp Holder

Remove	
<ul style="list-style-type: none"> <li>(a) Disassemble the fitting.</li> <li>(b) Remove the lamp by using an angled socket wrench 10 mm. Unscrew and remove the fixing screws of the lamp holder.</li> <li>(c) Remove the lamp fixing plate.</li> <li>(d) Remove the lamp holder from the body of the fitting.</li> </ul>	
Replace	
<ul style="list-style-type: none"> <li>(a) Place a new equipped lamp holder on the fitting.</li> <li>(b) Place the lamp fixing plate in position.</li> <li>(c) Fasten the lamp holder using the fixing screws.</li> <li>(d) Put the lamp in place and assemble the fitting.</li> </ul>	

### 3.6.3

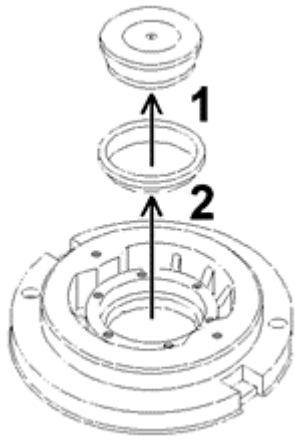
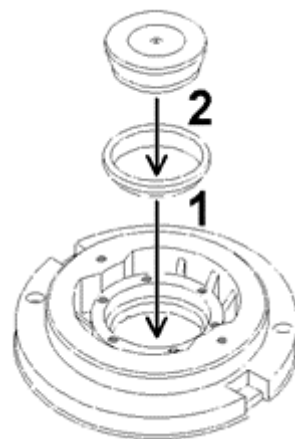
### Replacing a Filter

Remove	
<p>(a) Disassemble the fitting, remove the lamp, and the lamp holder.</p> <p>(b) Remove the protection Teflon plate from the lamp holder.</p> <p>(c) Remove the filter and the gaskets from the lamp holder.</p> <p>(d) Remove the gaskets from the filter.</p>	
Replace	
<p>(a) Mount the protection gaskets on the new filter. <b>Note:</b> It is recommended to change the protection gasket each time a deviator or filter is replaced.</p> <p>(b) Install the filter and protection gaskets in the lamp holder. <b>Note:</b> Verify that the colour(s) of the filter(s). Blue, Green, Yellow or Red corresponding to function(s).</p> <p>(c) Place the Teflon plate on the lamp holder.</p> <p>(d) Place the lamp holder in position, place the lamp in position and assemble the fitting.</p>	



### 3.6.4

### Replacing a Prism and a Gasket

Remove	
<ul style="list-style-type: none"> <li>(a) Make sure you understand which prism types should be used in which lights (see prism markings).</li> <li>(b) Disassemble the fitting and remove the lamp.</li> <li>(c) From outside the fitting body, push the prism.</li> <li>(d) Remove the prism and gasket from the fitting body.</li> <li>(e) Carefully clean the contact surfaces of the window on the fitting body.</li> </ul>	
Replace	
<ul style="list-style-type: none"> <li>(a) Make sure you understand which prism types should be used in which lights (see prism markings).</li> <li>(b) Mount the new gasket in the fitting body. <b>Note:</b> <i>It is recommended to change the gasket each time a prism is removed.</i></li> <li>(c) Insert the prism in the gasket in the fitting body window.</li> <li>(d) Place the lamp in position and assemble the fitting.</li> </ul>	

## 4. SUPPORT

### 4.1 SAFEGATE GROUP WEBSITE

The Safegate Group Website, [www.safegate.com](http://www.safegate.com), offers information regarding our airport solutions, products, company, news, links, downloads, references, contacts and more.

**Note:** *There is also a **Client/Partner login** area for the latest information and updates, if available.*

### 4.2 RE-CYCLING

#### 4.2.1 Local Authority Re-cycling

The disposal of Safegate Group products is to be made at an applicable collection point for the recycling of electrical and electronic equipment. The correct disposal of equipment prevents any potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling. The recycling of materials helps to conserve natural resources. For more detailed information about recycling of products, contact your local authority city office.

#### 4.2.2 Safegate Group Re-cycling

Safegate Group is fully committed to environmentally-conscious manufacturing with strict monitoring of our own processes as well as supplier components and sub-contractor operations. Safegate Group offers a re-cycling program for our products to all customers worldwide, whether or not the products were sold within the EU.

Safegate Group products and/or specific electrical and electronic component parts which are fully removed/separated from any customer equipment and returned will be accepted for our recycling program.

All items returned must be clearly labelled as follows:

- **For ROHS/WEEE Re-cycling**
- Sender contact information (Name, Business Address, Phone number).
- Main Unit Serial Number.

Safegate Group will continue to monitor and update according for any future requirements for EU directives as and when EU member states implement new regulations and or amendments. It is our aim to maintain our compliance plan and assist our customers.

**Note:** *For more information, see [www.safegate.com](http://www.safegate.com), or contact Safegate Group Support via email at [support@safegate.com](mailto:support@safegate.com) or phone +46 40 699 1740.*

### 4.3 SPARE PARTS

Spare parts are available for Airfield Lighting. For more information see the Spare Parts List document.

**Note:** *Contact Safegate Group for assistance with ordering spare parts.*

**Note:** *This page is blank for convenient double-sided printing.*

# Check in to the future

How many aircraft can your airport handle today?

Can this number be increased without adverse effects on the airport's safety level?

It is a known fact that traffic volume will rise in the foreseeable future. More movements will demand monitoring of the entire airport. Requirements will be sharpened and the development of an integrated system

controlling not only ground movements but also air traffic close to the airport is of the highest interest.

The International Civil Aviation Organization (ICAO) already describes A-SMGCS, Advanced Surface Movement Guidance and Control System, as the answer to the future modern airport need to control the entire airport space in one superior system.

To a larger extent than today's systems, A-SMGCS will rely on automated processes to give both pilots and traffic controllers exact information about positions and directions. Safegate Group delivers complete A-SMGCS solutions already, as well as all vital parts relating to it. Safegate Group can check your airport into the future – today!



## Safegate Group HQ

Djurhagegatan 19  
SE-213 76 Malmö, Sweden  
Phone: +46 (0)40 699 17 00  
Fax: +46 (0)40 699 17 30  
E-mail: [market@safegate.com](mailto:market@safegate.com)

## Australia

[australia@safegate.com](mailto:australia@safegate.com)  
+61 (0)3 9720-3233

## Austria

[office@avibit.com](mailto:office@avibit.com)  
+43 316 429961

## Brazil

[brazil@safegate.com](mailto:brazil@safegate.com)  
+55 11 2137 4405

## China

[china@safegate.com](mailto:china@safegate.com)  
+8610-85275297

## Dubai

[dubai@safegate.com](mailto:dubai@safegate.com)  
+971 4 452 75 75

## Finland

[finland@safegate.com](mailto:finland@safegate.com)  
+358 (0)20754 7700

## France

[france@safegate.com](mailto:france@safegate.com)  
+33 (0)1 42 99 60 40

## Germany

[germany@safegate.com](mailto:germany@safegate.com)  
+49 (0)4121 464 303

## India

[india@safegate.com](mailto:india@safegate.com)  
+91 11 4106 1545

## Malaysia

[malaysia@safegate.com](mailto:malaysia@safegate.com)  
+60 32 011 3522

## Qatar

[qatar@safegate.com](mailto:qatar@safegate.com)  
+974 436 9628

## Russia

[russia@safegate.com](mailto:russia@safegate.com)  
+7 495 917 4614

## Singapore

[singapore@safegate.com](mailto:singapore@safegate.com)  
+65 6289 6893

## Spain

[spain@safegate.com](mailto:spain@safegate.com)  
+34 917 157 598

## UK

[uk@safegate.com](mailto:uk@safegate.com)  
+44 (0)208 573 0384

## USA

[usa@safegate.com](mailto:usa@safegate.com)  
+1 763 535 92 99

**THORN**  
Airfield Lighting

**IDMAN**

**avibit**  
AIR TRAFFIC SOLUTIONS

**SAFEGATE**  
GROUP 

*Safegate Group offers solutions for increased safety, efficiency and environmental benefits to airports worldwide. The company was founded in 1973 and has its headquarters in Malmö, Sweden. Safegate Group has more than 70 partners around the globe in order to be close to its customers. Earlier members of Safegate Group include Thorn AFL and Idman, who both have over 40 years of experience in airfield lighting solutions for airports and heliports. The latest member of Safegate Group is Avibit, a leading provider of next generation software applications and integration of efficient air traffic control systems. Safegate Group's complete range of products and services, a "one-stop shop", provides solutions to customers and airborne travellers around the globe.*

[www.safegate.com](http://www.safegate.com)