
SBFL 160

SBFH 160

Marker Light
Product Manual



Content

	SBFL 160 SBFH 160	1
1.	Introduction	4
1.1.	Standard Features	4
1.2.	Optional Features	4
1.3.	Product Codes	5
2.	Technical Details	5
2.1.	Main Technical Specifications.....	5
2.2.	Power Consumption.....	6
2.3.	Dimensions and Mechanical Properties	7
2.3.1.	Dimensions	7
2.3.2.	Mechanical properties.....	7
3.	Commissioning	8
3.1.	Mounting	8
3.2.	Battery change.....	10
3.2.1.	SBFH 160-1.7 lantern with integrated solar panel and NIMH battery.....	11
3.3.	Flasher	11
3.4.	Monitoring & Control	12
3.4.1.	Bluetooth® app	12
3.4.2.	Sabik EasyProgrammer	13
4.	Environmental and Safety	14
4.1.	Battery	14
4.2.	Buoy.....	15
5.	Disposal	16
5.1.	Disposal Guidelines	17
5.2.	Dismantling process.....	17
5.3.	EMC and Grounding	18
5.4.	Insert SIM Card (only lanterns with a GSM Module)	18
6.	Periodic Maintenance	18
7.	Troubleshooting (Q&A)	19
8.	APPENDICES	20

1. Introduction

Marker Light SBFL 160 and SBFH are a marker light especially developed for aquaculture farms. The unit is designed to meet requirements regarding night and day time visibility as well as radar visibility. It can also be installed directly on floats for aquaculture farms.

The marker light consists of a yellow buoy tube with integrated alkaline battery, LED lantern, light reflectors as well as internal radar reflector. The partly integrated, robust lantern has very low power consumption and is equipped with GPS synchronization. LightGuard remote monitoring can be added as option. Advanced Bluetooth® Control up to 50m app also available for android and IOS mobile phones.

1.1. Standard Features

- Adjustable intensity and range
- Standard range 3 NM at $T_c = 0.74$
- Standard IALA yellow colour light
- Equipped with internal
- radar reflector
- Energy sources: alkaline primary battery
- Vertical divergence $8^\circ @ 50\% (\pm 1^\circ)$ of peak intensity
- GPS synchronization as standard
- Mounting mechanism can be customized for different floats
- Sabik Easy programmer can be used for programming the lantern and for reading the status of the lantern and battery
- Advanced Bluetooth programming and control up to 50 m radius available as iPhone and Android app

1.2. Optional Features

SBFH-160 has an integrated solar panel and battery.

- GSM/GPS remote monitoring

1.3. Product Codes

Product Codes

SBFL 160-1.7YBS	Marker light with 220Ah primary battery + sync
SBFL 160-1.7YTS	Marker light with 230/12V power supply and 12Ah back-up battery + sync
SBFH 160-1.7 YBS	Buoy fitted with HBL-110 lantern
Product code for mechanical fixing 841011	Mechanics for buoy installation
Product code for spare lantern VPL 110Y4	Lantern for SBFL marker light with synchronization
Product code for spare lantern HBL 110	Lantern for SBFH marker light with synchronization
Product code for battery 950168	220 Ah primary battery
Product code for Programmer 980332	Sabik Easy Programmer

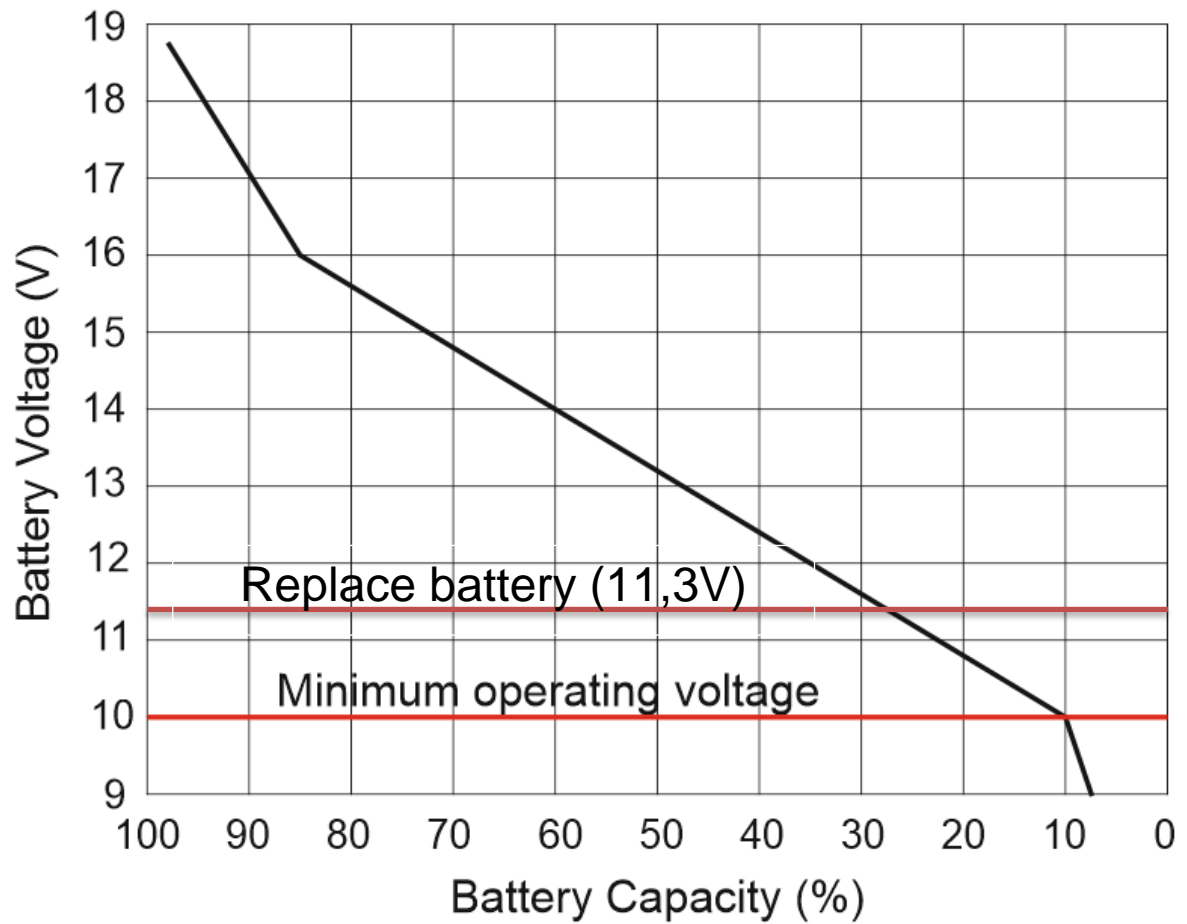
2. Technical Details

2.1. Main Technical Specifications

Lantern intensity setting	17 cd
Max lantern intensity	40 cd
Vertical divergence	8° @ 50% (±1°) of peak intensity
Buoy material	UV resistant Polyethylene
Lantern material	UV resistant Polycarbonate
Weight without adapter plate	33 kg
Degree of protection, lantern	IP 67
Lantern programming	Wireless with Sabik Easy programmer or with an advanced Bluetooth Android and iOS mobile app
Primary battery 220 Ah	Changing interval ~ 1,5 years

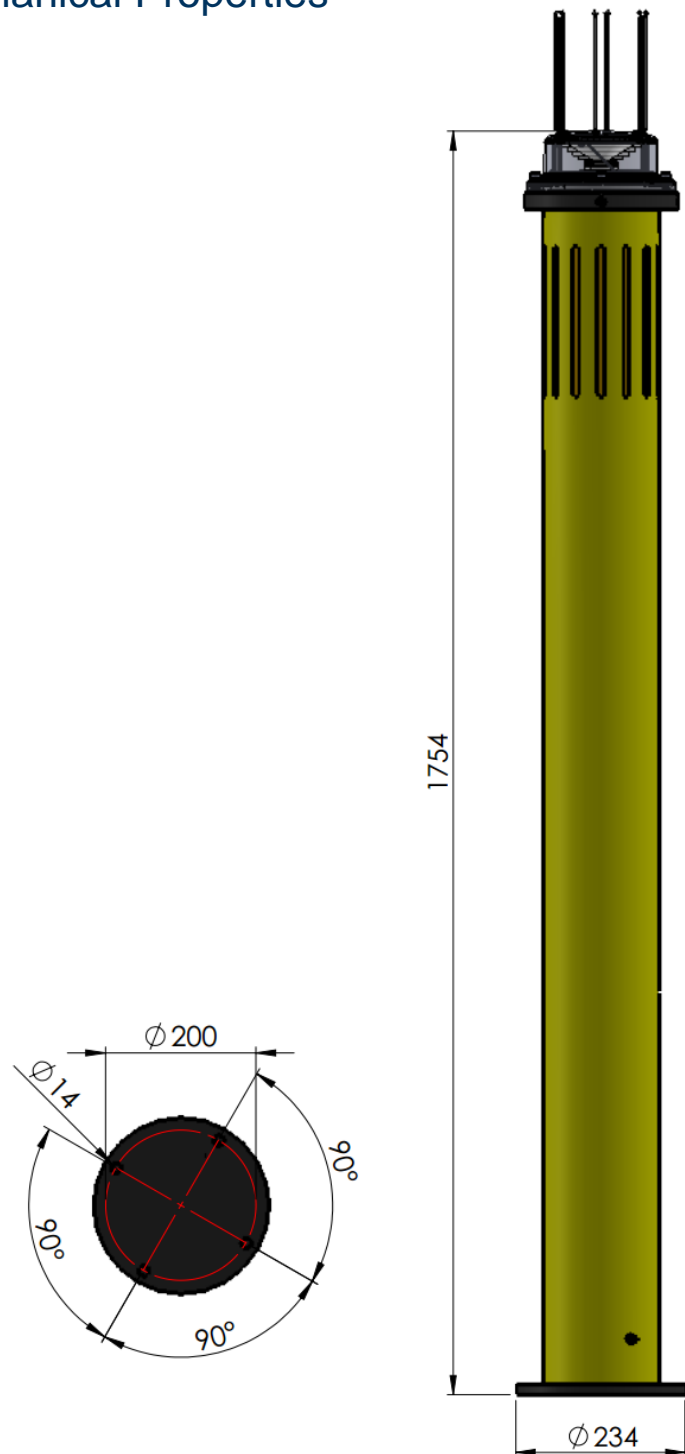
2.2. Power Consumption

The power consumption is dependable of the Latitude and ambient temperature. Below is a (rough) table that describes the primary battery life.



2.3. Dimensions and Mechanical Properties

2.3.1. Dimensions



2.3.2. Mechanical properties

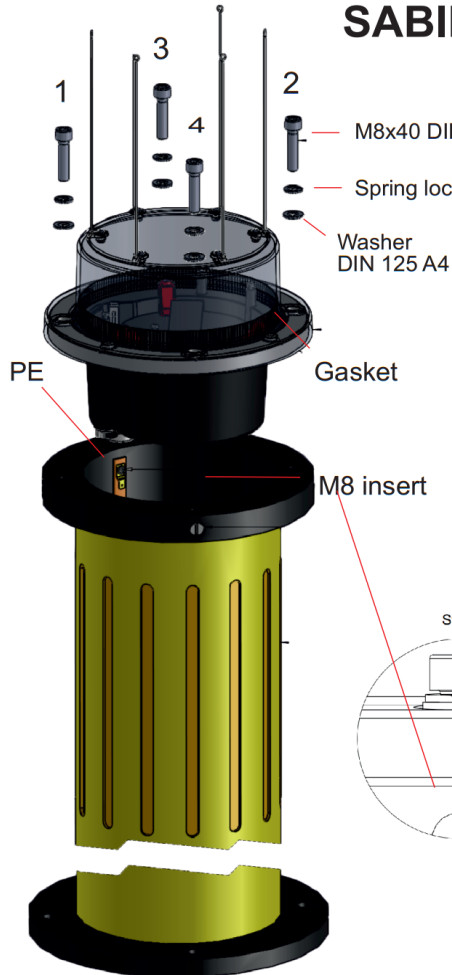
The lantern buoy is made of UV resistant Polyethylene and the lantern of UV resistant Polycarbonate. For material details, read the chapter "Environmental and Safety".

3. Commissioning

This chapter describes how to install, configure and test the lantern.

3.1. Mounting

SABIK SBFL 160 and SBFH 160 Mounting



- M8x40 DIN912 A4
- Spring lock Washer DIN 127 A4
- Washer DIN 125 A4

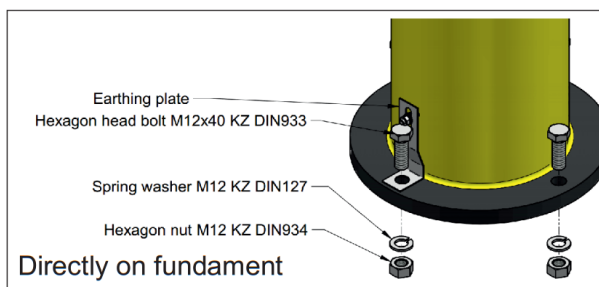
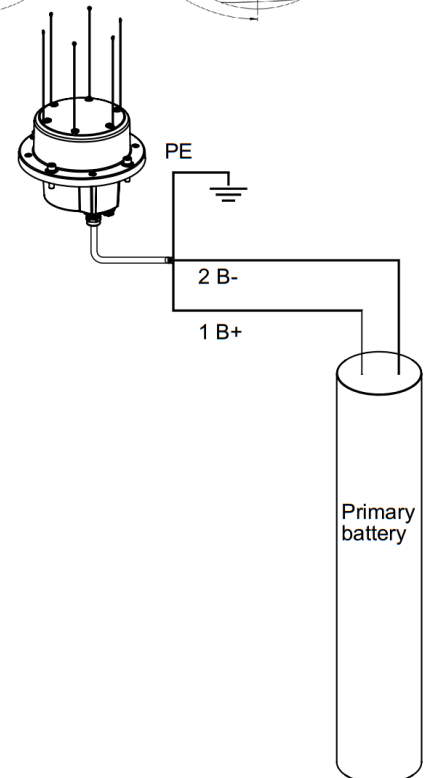
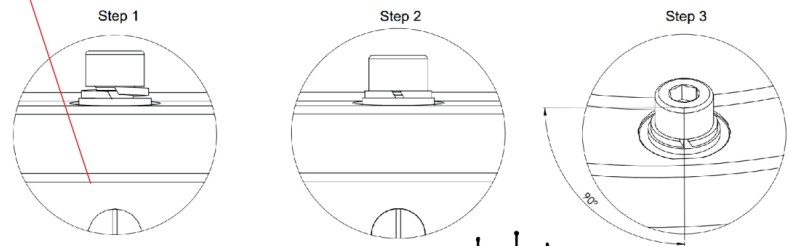
Assembly Instructions:

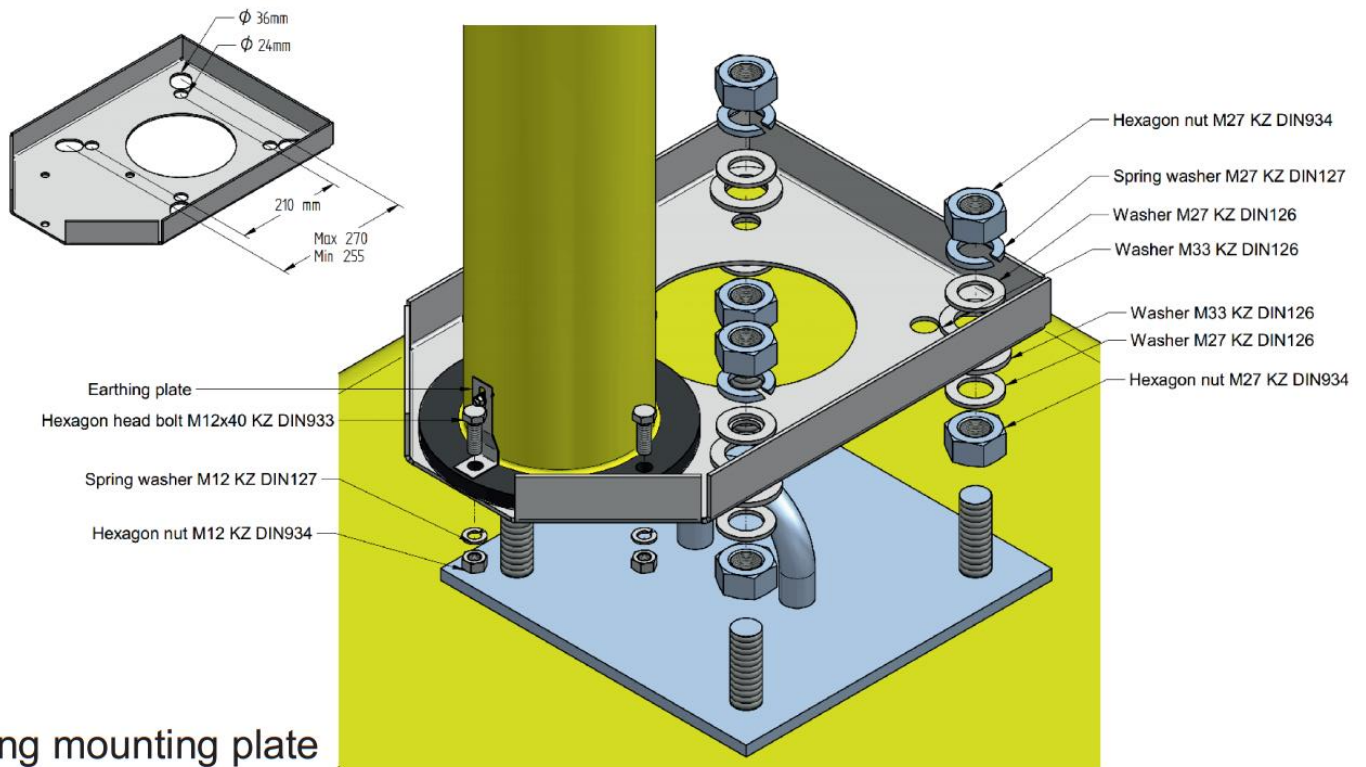
1. Remove the lantern from the buoy
2. Connect the primary battery wires
3. Attach the lantern and insert the washers and bolts (align the M8 inserts if needed):

Step 1: Tighten until bolt head touches the spring washer.

Step 2: Tighten until washer is flat.

Step 3: Tighten to 3NM or an additional 90 degrees in order 1-2-3-4.





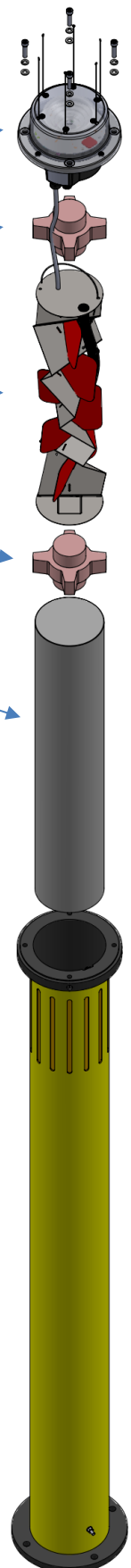
Using mounting plate

3.2. Battery change

The buoy is fitted with a big Primary battery (220 Ah) Connect PE, Plus (+) and Minus (-) connectors.

To change the battery, you need an 8mm Hex (Allen) key and recommended to use Sabik EasyProgrammer or Bluetooth app (for testing).

1. remove the lantern-head from the buoy using the 8mm Hex (Allen) key
2. disconnect the wires
3. remove the protecting foam
4. remove the radar reflector
5. remove the protecting foam
6. carefully lift the battery from the buoy by lifting it from the handle on top
7. insert fresh battery
8. assemble in reverse order, remember to first connect the PE wire
9. test using Bluetooth app or Sabik EasyProgrammer



3.2.1. SBFH 160-1.7 lantern with integrated solar panel and NIMH battery

SBFH-160 Common guidelines: The solar power version commissioning is similar to SBFL-160 except, that it should be stored in (complete) darkness. It is provided with a hood and Charger

The marker light is delivered in storage mode therefore we have covered the marker light with a black cover. When removing the cover and the lantern senses light the yellow light resumes to standard working mode and starts flashing automatically when sensing darkness.

The lantern is programmed to shut down if it experiences a period of darkness longer than 24 hours. When lanterns are stored and during the transportation to your customer keep the black cover on the marker light top.

In case the lanterns have been operational for a long time before shipping them to your customer, our recommendation is to charge the internal NiMH battery with a Sabik charger type 900199. Due to this storage mode setting, these lanterns are not recommended to be installed on latitudes higher than 65 degree.



Sabik charger 900199



3.3. Flasher

Pre-programmed on delivery. Programmable using Sabik Easy Programmer or Bluetooth. On the next pages you will find short descriptions.

3.4. Monitoring & Control

Carmanah/Sabik

3.4.1. Bluetooth® app

Contact your local dealer to register.

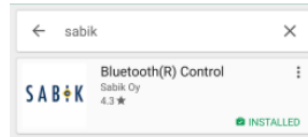
Use App to read the device status.

Bluetooth® app for android and IOS

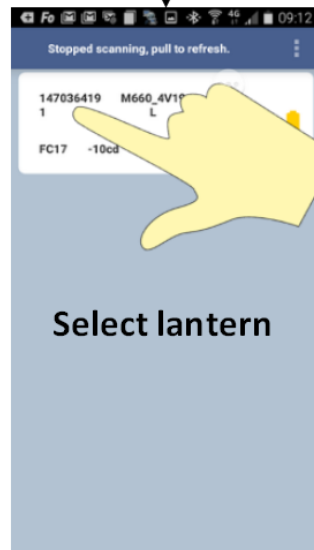
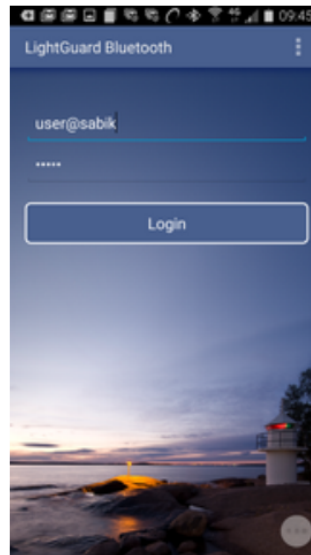
Bluetooth® app Quick Guide



Search for Sabik:



Start App:



DEVICE STATUS

DEVICE STATUS Expanded

184201903728	
Device Status	
Light	
Idle	Light Status
Ok	Lantern Health Status
160 lux	Photocell Value
2018-10-18 12:31	Day-to-Night
2018-10-18 12:32	Night-to-Day
Power	
19.26 V	Battery Voltage
19.29 V	Battery Voltage Max.
19.13 V	Battery Voltage Min.
0.34 W	Power Consumption
Not active	Extern bat status
Temperature	
22 °C	Temperature
22 °C	Max. Temp 24h
22 °C	Min. Temp 24h
Counters	
0.01 h	Operating Hours
2	Power Cycle Counter
0	System Reset Counter
Engineering	
0.33 A	Measured LED Current
2.80 V	Measured LED Voltage
82 cd	LED Max Intensity

The pictures are for reference only. The interface may change with newer versions.

3.4.2. Sabik EasyProgrammer

Sabik easyProgrammer is a stand-alone simple programmer for lanterns with an infrared-Interface.



1. Insert batteries (3 standard size AAA)
2. Start programmer: Press green ENTER for at least 2sek.
3. Set/Check Date and time settings:
Select ADVANCED -> DATE/TIME



To check/change existing lantern settings

1. Select SETTINGS and press green ENTER
2. Point at lantern's IR diode to read lantern's settings. The programmer beeps twice, when reading is completed.

Please refer to the easyProgrammer product manual for more detailed information.

4. Environmental and Safety

4.1. Battery

Type: alkaline primary battery 220Ah, consists of cells
 Cell: LR20, LR14, LR6, LR03, or 6LR61

Ingredients

1. Manganese dioxide	CAS Number	1313-13-9	~25-45%
2. Zink	CAS Number	7440-66-6	~10-20%
3. Potassium hydroxide	CAS Number	1310-58-3	~3-9%
4. Zinc oxide	CAS Number	1314-13-2	~0-1%
5. Graphite	CAS Number	7782-42-5	~1-4%
6. Steel	CAS Number	7439-89-6	~10-30%

Handling and storage

Do not disassemble, try to charge or throw in fire.
 Do not short circuit or install with reverse polarity.
 Store at dry places and at room temperature

Transport info

These are "Batteries dry" and are not considered to be a "hazardous material" per U.S. DOT (department of transportation regulations) or a " dangerous goods" per IATA (International Air Transport Association Regulations)

Disposal

Batteries should be disposed of in accordance to local regulations. In case of doubt, contact your local dealer for more information.
 Avoid heating/burning in order to avoid explosion at exposure to excessive temperatures

Stability and reactivity

Stability:	Stable
Incompatibility (materials to avoid):	NA
Hazardous decomposition of BY-products:	Oxides or fumes of Mn , Zn
Hazardous polymerization:	Will not occur

Toxological information

Not applicable to batteries as such : for detailed info on ingredients check Ingredients

Hazard identification

Critical hazards for human beings :	If battery starts leaking, exposure to caustic ingredients is possible
Useful info :	Keep away from children
Critical hazards to environment :	Not applicable

First aid measures

Avoid skin and eye contact to avoid irritation and/or caustic burns/injury
 If leakage from battery contacts skin or eyes, flush immediately with copious quantity of water

Contact a physician for medical attention in case of eyes!
Ingestion is unlikely due to size of batteries, but in case it happens, a physician should be contacted at once to avoid damage to intestines caused by the unnatural object.

Accidental release measures

Safety responsible should be notified in case of large spills. Caustic Kalium Hydroxide may come out from leaking batteries. Avoid contact to skin/and or eyes. Increase ventilation. Personnel cleaning up should wear appropriate protecting clothing and gloves.

Fire hazard

Flash point (Method used):	NA
Flammable limits:	LEL: NA UEL: NA
Extinguishing media:	Dry powder, carbon dioxide, foam, dry sand
Special firefighting procedures:	Fire fighters should wear self-contained breathing apparatus when any fire.
Unusual fire and explosion hazards:	Cells exposed to excessive heat, may cause electrolyte leakage or explosion

4.2. Buoy

Polyethylene

1. Identification of the substance/mixture and of the company/undertaking

Trade name: BorSafe HE3490-LS (Trade name may differ)
Material use: raw material for plastics industry

2. Hazards identification

Health: The product is not classified as hazardous. Inhalation of dust may irritate the respiratory tract. Prolonged inhalation of high doses of decomposition products may give headache or irritation of the respiratory tract.

Fire: The product burns, but is not classified as flammable.

Environment: The product is not considered hazardous for the environment.

3. Composition/information on ingredients

The product is a polyethylene polymer.

Contains no substance classified as hazardous in concentrations, which should be taken into account according to EU regulations.

4. First aid measures

No specific instructions needed.

Skin contact: Cool melted product on skin with plenty of water. Do not remove solidified product.

5. Firefighting measures

Suitable extinguishing media: Water in spread jet, dry chemicals, foam or carbon dioxide.

Special exposure hazards: Principal toxicant in the smoke is carbon monoxide.

6. Accidental release measures

Vacuum or sweep up spill. All spill of material must be removed immediately to prevent slipping accidents.

7. Handling and storage

Handling: During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released. Provide adequate ventilation. Local exhaust ventilation may be necessary. Avoid inhalation of dust and decomposition fumes. Dust from the product gives a potential risk for dust explosion. All equipment shall be grounded.

Storage: Safety aspects do not require any special precautions in terms of storage.

8. Exposure controls/personal protection

Provide adequate ventilation. Local exhaust ventilation may be necessary.

9. Physical and chemical properties

Appearance: solid, black
 Odor: odorless
 Melting point/range: 110 - 140 °C
 Density: 0,9 - 1,0 g/cm³

Ignition temperature: > 320 °C
 Water solubility: insoluble in water

10. Stability and reactivity

The product is a stable thermoplastic, with no chemical reactivity.

11. Toxicological information

The product is not classified as hazardous according to Regulation (EC) No 1272/2008. Inhalation of dust may irritate the respiratory tract. Prolonged inhalation of high doses of decomposition products may give headache or irritation of the respiratory tract.

12. Ecological information

The product is not considered hazardous for the environment.

13. Disposal considerations

Reuse or recycle if not contaminated. The product may be safely used as fuel. Proper combustion does not require any special flue gas control. Check with local regulations.

14. Transport information

The product is not regulated by ADR/RID, IMDG or IATA.

15. Regulatory information

In accordance with Regulation (EC) No 1272/2008, the product does not need to be classified nor labelled.

16. Other information

Issued in accordance with Article 32 of Regulation (EC) No 1907/2006, and its amendments.

Disclaimer

To the best of our knowledge, the information contained herein for the battery and buoy raw materials is accurate and reliable as of the date of publication; however, we do not assume any liability whatsoever for the accuracy and completeness of such information
 Sabik makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.
 It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.
 No liability can be accepted in respect of the use of the products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

5. Disposal

NOTICE!

Incorrect handling or improper disposal can cause danger to the environment!

There can be serious damage to the environment if substances hazardous to the environment are handled incorrectly and if they are disposed of incorrectly.

- Separate waste and dispose of it separately.
- Observe the disposal instructions on containers/packaging and safety data sheets.
- Have dangerous waste disposed of by companies specialising in disposal.
- Immediately take appropriate action if substances hazardous to the environment are accidentally released into the environment. If in doubt, inform the responsible local authority of the damage.



5.1. Disposal Guidelines

- Have electronic scrap, electronic components, lubricants and other auxiliary materials disposed of by specialist disposal companies.
- If in doubt, obtain information on environmentally-friendly disposal from the local authority or specific disposal specialists.

Below you will find some guidelines:

Electronic components

Electronic components and electronic scrap are classified as special waste and may only be disposed of by authorised specialist disposal companies.

Metals, plastics, paper

Unless there is a return or disposal contract, the dismantled components must be sent for recycling:
Scrap metals.

Send plastic elements and paper for recycling.

Dispose of the remaining components according to their material compositions.

Greases, oils and other floating chemicals

Greases and oils contain toxic substances. They may not enter the environment. They must be disposed of by a company specialising in disposal.

Batteries

The batteries contained in the back-up power supply for SBFH-160 contain toxic substances. They may not enter the environment. They must be disposed of by a company specialising in disposal.

5.2. Dismantling process

Proceed as follows to dismantle a device:

Unless there is a return or disposal contract, the dismantled components must be sent for recycling:

- Scrap metals.
- Plastic elements.
- Sort the remaining components and dispose of them according to their material compositions.

5.3. EMC and Grounding

The lantern is tested for EMC

5.4. Insert SIM Card (only lanterns with a GSM Module)

The GSM modem is installed inside the base of the lantern. Contact Sabik distributor for details.

6. Periodic Maintenance

The SBFL 160 is a robust lantern, which requires no maintenance, except for periodical lens cleaning and battery change. To maintain a good light output and achieve a long service life, it is advisable to visually inspect the lantern whenever visiting the site.

Mechanical inspection and maintenance:

- Check the lens and clean it with a damp cloth (Do NOT use any solvents!)
- Check the mounting bolts and the yellow buoy part especially the welding between the buoy and the bottom flange for damage and replace parts if necessary.
- Check and clean the roof and bird spike if necessary
- Check the lantern for leakage (condensation through the lens)

Functional inspection and maintenance:

- Check that the lantern turns on by covering the light top
- Check visually that the lens inside lantern is in place, LEDs are equal and uniform intensity when lit
- Read controller values with the Bluetooth app or with the SABIK EasyProgrammer to check the status
- Check battery voltage with Bluetooth app or with the SABIK EasyProgrammer. If battery voltage is below 11,3V -replace the battery

7. Troubleshooting (Q&A)

Q: I covered the photocell, but the lantern does not turn on.

A1: Read controller values with the Bluetooth app or with the SABIK EasyProgrammer and check status, you may also download the log file. The battery voltage is below the minimum programmed value. Replace the battery.

A: Read controller values with the programmer and check status. There is a LED failure error. Return the lantern for service.

Q: I covered the photocell, but the lantern does not turn on and I cannot read controller values with the programmer.

A: Check the battery cables for damage or short-circuit. Replace the battery.

Q: I covered the photocell, but the lantern does not turn on and I cannot read controller values with the programmer even though I replaced the battery.

A: Return the lantern for service.

Q: The lantern seems to work normally, but I cannot read it with the SABIK easyProgrammer.

A1: Locate the IR eye on your programmer and on the lantern. Place them facing each other.

A2: Try to shade out the sun and put the programmer close to the lens during read process.

A3: Try different angles when reading, the light beam might block out the IR sensor of the PDA.

8. APPENDICES

No Appendices