



Data sheet

SABIK GPS NAI

- **Exact day-night switching and GPS-precise synchronisation of all flashcode generators according to IALA standard in the NAI network**
- **GPS/GLONASS based UTC time base**
- **Integrated ambient light measurement with programmable switching threshold**
- **NAI bus interface for power supply and communication**
- **More than 2 hours of holdover performance for the synchronisation**

The SABIK GPS NAI is a GPS device that provides day-night information and synchronisation pulses for the flashcodes in the network of a structure marking system, based on a very precise GPS/GLONASS time base and an integrated ambient light sensor.

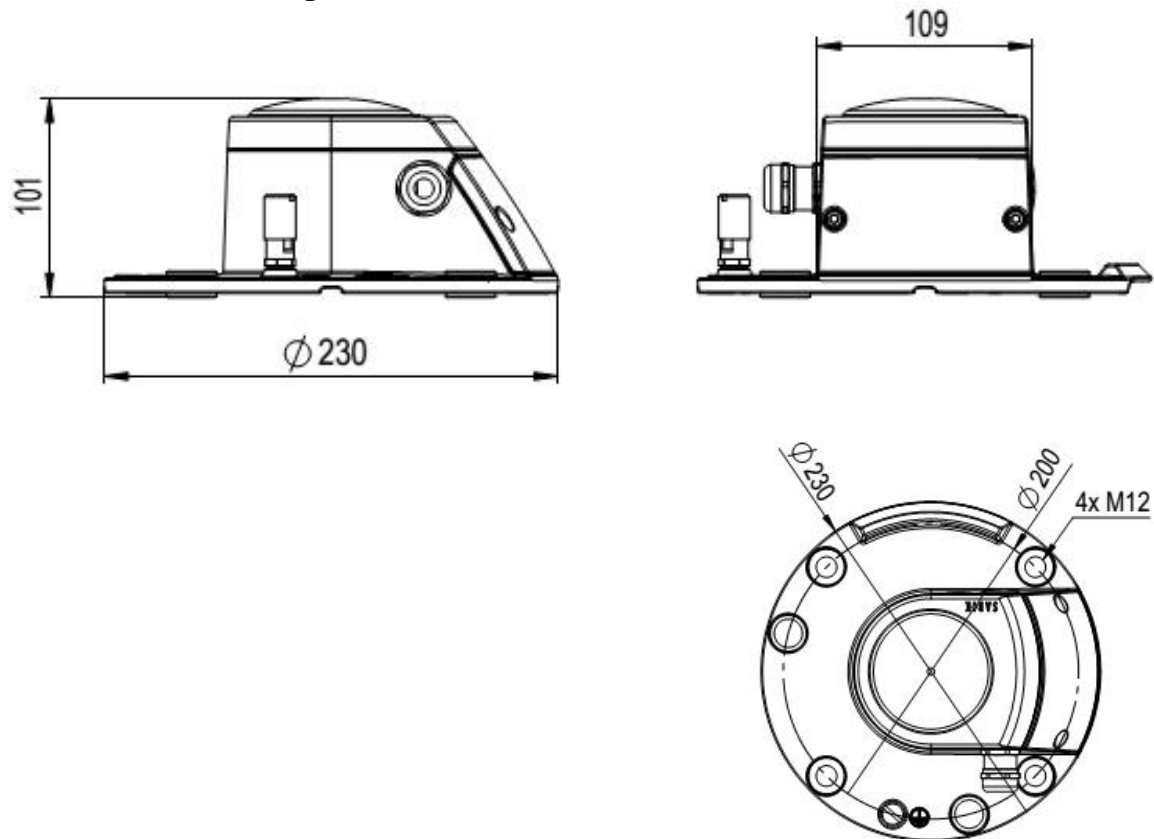
The day-night switching occurs depending

- on the ambient brightness **and**
- the current date in conjunction with the Cuxhaven calendar (North Sea or Baltic Sea) **or**
- the geographic position of the device according to the astronomical clock.

The exact flashcode synchronisation of the connected navigation light components is guaranteed even in the event of a weak or absent GPS/GLONASS signal over a time period of at least 2 hours.

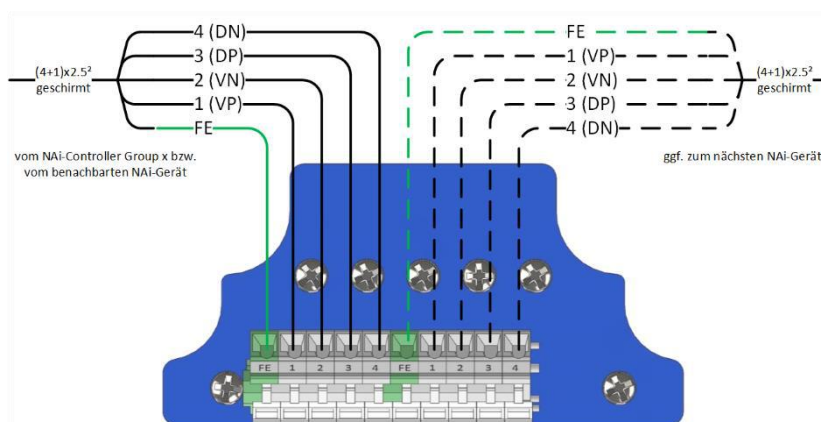
Technical Data

Dimensions and weight



| | |
|--|-----------------|
| Dimensions, (diameter x height) | 230 mm x 101 mm |
| Weight | approx. 1,76 kg |

Electric connection



| | |
|---|---|
| Electric connection | Spring terminal block, max. 2.5 mm ² |
| Operating voltage V_{IN} | 9 to 36 V DC |
| Power consumption ($V_{IN}=24$ V DC - max. intensity) | 400 mW |

Environmental conditions

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|--|----------------------------------|
| Regulations | IEC 60945, device type 'exposed' |
| Ambient temperature (operation) | -40 °C to 55 °C |
| Ambient temperature (storage / transport) | -40 °C to 70 °C |
| Humidity (operation / storage / transport) | max. 95 % acc. to IEC 60945 |
| Atmospheric pressure (operation / storage / transport) | 80 kPa to 108 kPa |
| Degree of protection (acc. to IEC 60529) | IP67 |
| Protection class | Class III |

Mechanical requirements

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|---|-------------------|
| Vibration testing sinusoidal vibrations | acc. to IEC 60945 |
|---|-------------------|

Reliability

| | |
|------------------|-------------|
| MTBF Electronics | 1 320 000 h |
|------------------|-------------|

EMC compliance

| EMC requirements | | Applied standard | Test standard / Test criteria |
|------------------|--------------------------------|-------------------|---|
| EMC emission | Radiated interference emission | EN 60945:2002 | IEC/CISPR 16-2-3:2010 Measuring distance 3 m |
| EMC immunity | Electrostatic discharge (ESD) | EN 60945:2002 | IEC 61000-4-2:2008 Criterion B 8 kV air discharge 6 kV contact discharge |
| | Electromagnetic fields | EN 60945:2002 | IEC 61000-4-3:2010 Criterion A Field strength 10 V/m |
| | Fast transients (burst) | EN 60945:2002 | IEC 61000-4-4:2012 Criterion B All connections: Test voltage 1 kV |
| | High energy transients (surge) | EN 61000-6-2:2005 | IEC 61000-4-5:2005 1 kV on NAI bus line (shield) |
| | Conducted interference | EN 60945:2002 | IEC 61000-4-6:2008 Criterion A All connections: Test voltage 10 kV |

Components



1. Device cover with integrated GPS/GLONASS antenna
2. Indicator LED, light sensor
3. Second cable gland M20 or blanking plug
4. Housing cover for socket with spring terminal block
5. Cable gland M20
6. Earthing connection
7. Device foot with integrated socket and third cable gland M20 or blanking plug on the bottom side

Note: All housing components including the cable glands satisfy the IP67 degree of protection requirements according to IEC 60529. During connection and assembly, ensure that no moisture or dirt penetrates into the open socket.

| | | | |
|-------------------------------------|-------------------|-----------------------------------|--------------------|
| EMC cable gland¹⁾ | Size M20 x 1.5 | for cable diameter 7.5-14.0 mm | Key width 24 mm |
|-------------------------------------|-------------------|-----------------------------------|--------------------|

¹⁾ Typ: HELUTOP® MS-EP4

Material

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|---|--|
| Housing (device foot, cover for socket) | Anodised, powder-coated aluminium (ALSi) |
| Housing head | ABS/PC |
| Cable gland | Nickel-plated brass |
| Earthing connection | Nickel-plated brass |
| Cover indicator LED | MAKROLON® (PC) |
| Insulation sleeves | PA |
| Seals | TPE, injection-molded |
| Pressure compensation valve for socket and housing | PTFE membrane |