DATASHEET
ORIGINALNAi SAB-GPS-NAI

- **Exact day-night switching and GPS precise synchronisation of all flash code 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**

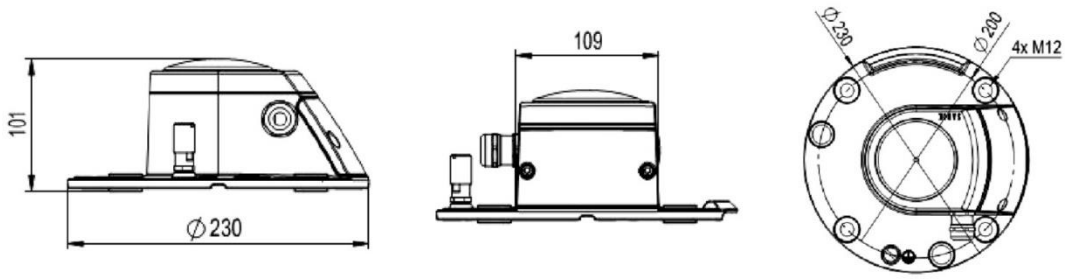
The SABIK GPS NAi is a GPS device that provides day-night information and synchronisation pulses for the flash codes in the network of a structure marking system, based on a very precise GPS/GLONASS time stamp and an integrated ambient light sensor.

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 flash code 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.

Dimensions & Weight



Diameter	230 mm
Height	101 mm
Weight	1.8 kg

Material

Housing (Device Foot, Head, Cover for Socket)	Anodised, powder-coated Aluminium (AlSi12)
Housing Head	ABS/PC
Cable Gland	Nickel-plated Brass
Earthing Connection	Stainless Steel 1.4571
Cover indicator LED	PMMA
Insulation Sleeve	PA
Seals	TPE, injection-molded
Pressure Compensation Valve for Socket and Housing	PTFE membrane

GPS System

Parameter	Specification	Frequency
Receiver Type	56 Channels GPS L1C/A SBAS L1C/A QZSS L1C/A Galileo E1B/C	1575,42 MHz

Components

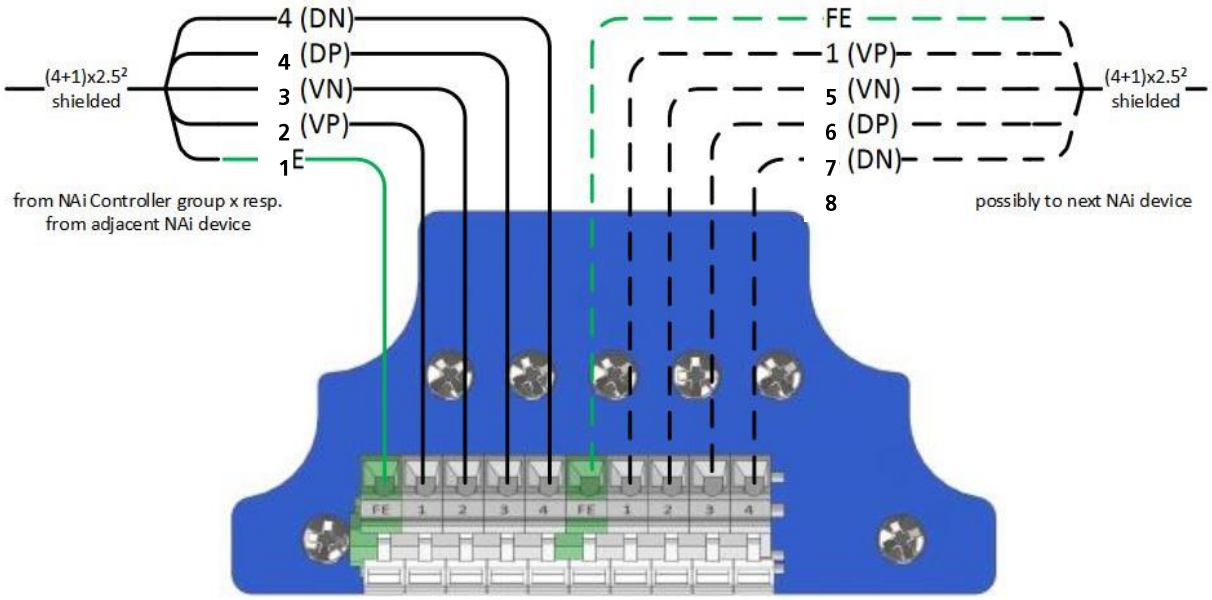
1.	Device cover with integrated GPS/GLONASS antenna
2.	Indicator LED, light sensor
3.	Second cable gland M20 or blanking plug
4.	Housing cover for socket with spring terminal block
5.	Cable gland M20
6.	Earthing connection
7.	Device foot with integrated socket and third cable gland M20 or blanking plug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

	Size	For cable diameter	Key width
EMC cable gland	M20 x 1.5	7.5 – 14.0 mm	24 mm

Electrical Connection

Electrical Connection	Spring Terminal Block, max. 2.5 mm²
Operating Voltage V_{IN}	9 V DC to 36 V DC
Power Consumption (V_{IN} = 24 V DC – max. Intensity)	400 mW



1	VPI	Power supply input (Positive)
2	VN	Power supply input (Negative)
3	DP	NAi data (Positive)
4	DN	NAi data (Negative)
5	VPO	Power supply output (Positive – to next device)
6	VN'	Power supply output (Negative – to next device)
7	DP'	NAi data (Positive – to next device)
8	DN'	NAi data (Negative – to next device)

Environmental Conditions

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

Electrical Safety and Health

Protection Class	Class III
Overvoltage Protection	Class III
Pollution Degree	3

Reliability

MTBF Electronics (acc. To SN 29500-1)	1 320 000 h

Mechanical Requirements

Vibration Testing sinusoidal Vibrations	acc. to IEC 60945

EMC Compliance

EMC Requirements		Applied Standard
Emission	Radiation Emission	EN 60945:2002
Interference Immunity	Electrostatic Discharge (ESD) Electromagnetic Fields Fast Transients (Burst) Conducted Disturbances	EN 60945:2002
	High Energy Transients (Surge)	EN 61000-6-2:2005

Ordering Information

Item Number	Product ID
30101000	SAB-GPS-NAI