 Input paper: [[1]](#footnote-1) ENG4-9.20

Input paper for the following Committee(s): check as appropriate Purpose of paper:

**□** ARM X ENG **□** PAP X Input

**□** ENAV **□** VTS **□** Information

Agenda item [[2]](#footnote-2) 9

Technical Domain / Task Number 2 TD#1 / 1.1.3 / Guideline No 1038

Author(s) / Submitter(s) Sigge Gustafsson / SMA

AIS detection for visual AtoN

# Summary

The purpose of this function is to be able to offer low voltage floodlight at AtoN structures with a reasonable size of photovoltaic/battery energy installation. The application is designed for all vessels with AIS-transmitter.

# Background

Costs are high for installation and maintenance of underwater electric cables. At some locations we have a demand of indirect structure light and a high cost for cable installation. To be able to offer low voltage flood light we decided to have an on demand function to control the floodlight.

# Discussion

We decided to have this installation as a complement to ordinary low energy direct lighting as LED-pipes. This application is also usable to activate i.e. projector lights. An ordinary AIS-receiver is used and the information from the AIS-message together with the known position of the AtoN is the input data for the software that runs on a microprocessor which then decides if the conditions are met for lighting. The internal energy consumption of the control box is approximately 2.5 W. We use the ordinary daylight switch to activate the AIS-controller only at night. When the position of the AtoN is programmed it’s possible to activate the light at different distances from AtoN acc. to speed of vessel.The controller calculates with the vessels bearing, heading and speed. The heading must be towards the AtoN. It’s possible to program up to 5 subtends from 0-360° where the vessel should be detected.The application has a time out in case the vessel crosses a programmed bearing for a short period and also to keep the AtoN lit a short time after passing.

 

Diagram

AIS DETECTOR

AIS RX

MICRO PROCESSOR

Serial interface to PC

VHF antenna

DATA

RELAY DRIVER

230 V AC

Fasad belysning

RELAY

Several bench tests has been carried out and a temporary installation at the lighthouse LISS Lindö was tested with good results.



1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)