## **Calibration box**

# SCB

# Signal calibration box

The signal calibration box (SCB) is designed to convert signals from a sensor and display these corrected signals on one or more panel indicators.

#### Compliancy

LR TA System Specification 1 of 2002 EN 60945: 2002 ISO 20673: 2007 EN 20672: 2007 EN 22554: 2007 EN 22555: 2007



General specifications

Supply voltage 24 VDC (-25 % +30 %) Power consumption  $\pm$  3.6 W Operation temperature -15 °C...+70 °C

Input

Three wire potentiometer  $(1 \text{ K}\Omega - 10 \text{ K}\Omega)$ 

Current signal 4...20 mA RI (max) 150  $\Omega$ 

0...20 mA RI (max) 150  $\Omega$  0...10 V RI (min) 5 M $\Omega$ 

Voltage signal 0...10 V RI (min) 5 M $\Omega$ -10...0...10 V RI (min) 5 M $\Omega$ 

-12...0...12 V RI (min) 5MΩ

(the input type is selectable by software)

### Output

10 x adjustable indicators output

Voltage signal 0...10 V

-10...0...10 V -12...0...10 V

1 x NMEA 0183 compatible output

Talker device Engine room monitoring systems (ER)

Sentence format Rudder sensor angle

 $\begin{array}{ll} \text{Baud rate} & 4800 \\ \text{Message frequency} & \pm 10 \, \text{Hz} \end{array}$ 

Message format \$--RSA, x.x, A, x.x, A\*hh<CR><LF>

Sensors\*

Port rudder sensor Status A = data valid / V = data invalid Starboard (or single) rudder sensor Status A = data valid / V = data invalid

\* Relative measurement of rudder angle without units, "-" = bow turns to port. Sensor output is proportional to rudder angle but not necessarily 1:1

Communication 1x USB port for the adjustment

Software built-in to denial converter

Indication LED's Power on / Run / Input correct







Internal software Corrects the input to a "perfect" signal

Sends the "perfect" signal over the NMEA 0183 Compatible output converts the "perfect signal

per indicator output

Possibility to adjust via the USB port

Adjustment software Windows<sup>tm</sup> based adjustment software

Possibility to adjust the input and output Curves option to generate a report file

Response time 200 ms max.

**Accuracy** The complete system (from rudder axis to

> indicator) can be calibrated to accuracy less than 0.5 % (in accordance with the standards).

Initial factory accuracy 1.0 %.

Accuracy over temperature range 0.2 %.

Housing

155 x 110 x 62 mm (w x b x h), Dimensions

35 mm rail mounting Plastic, UL-9u V-o

Materials Connections Pluggable screw connectors



# Schematic

## Typical rudder indicator system

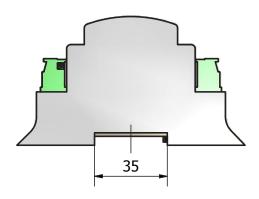




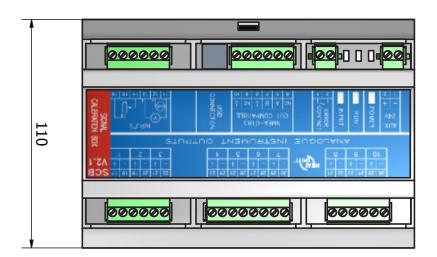
# **Dimensions**



## Rear view



### Front view



## Side view

