



Installation & Operation Manual

SENSObourse

Off Course Alarm

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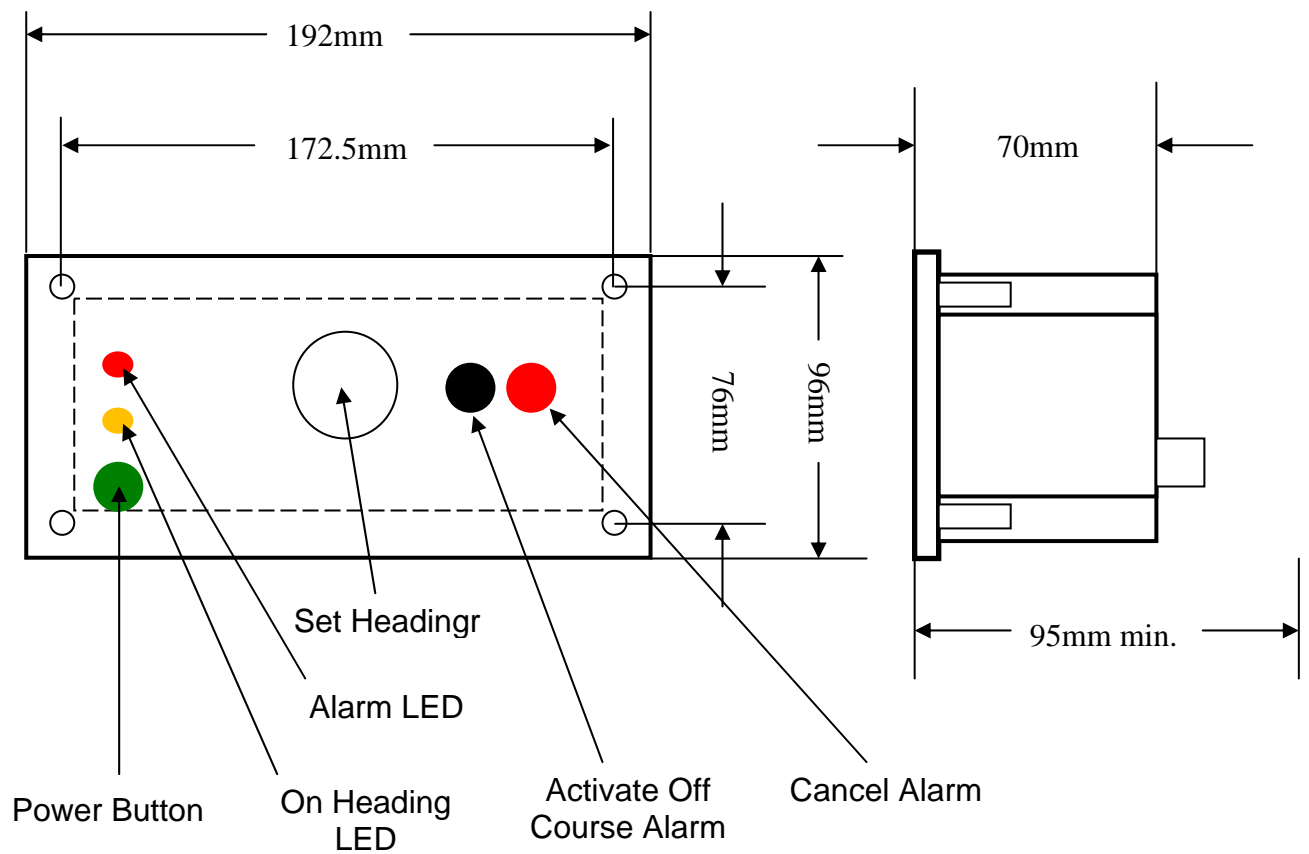
SENSOcourse functions as single heading alarm, what means that the current heading will be compared with a preselected heading. SENSOcourse does not compare two independent heading sources (this will do courseCOMPARATOR). Input is one NMEA heading data sentence independent if magnetic or true. The data protocol reads: "\$HCHDG", "\$HCHDM", "\$HEHDT" and "\$GPHDT" according to IEC61162-1 with checksum.

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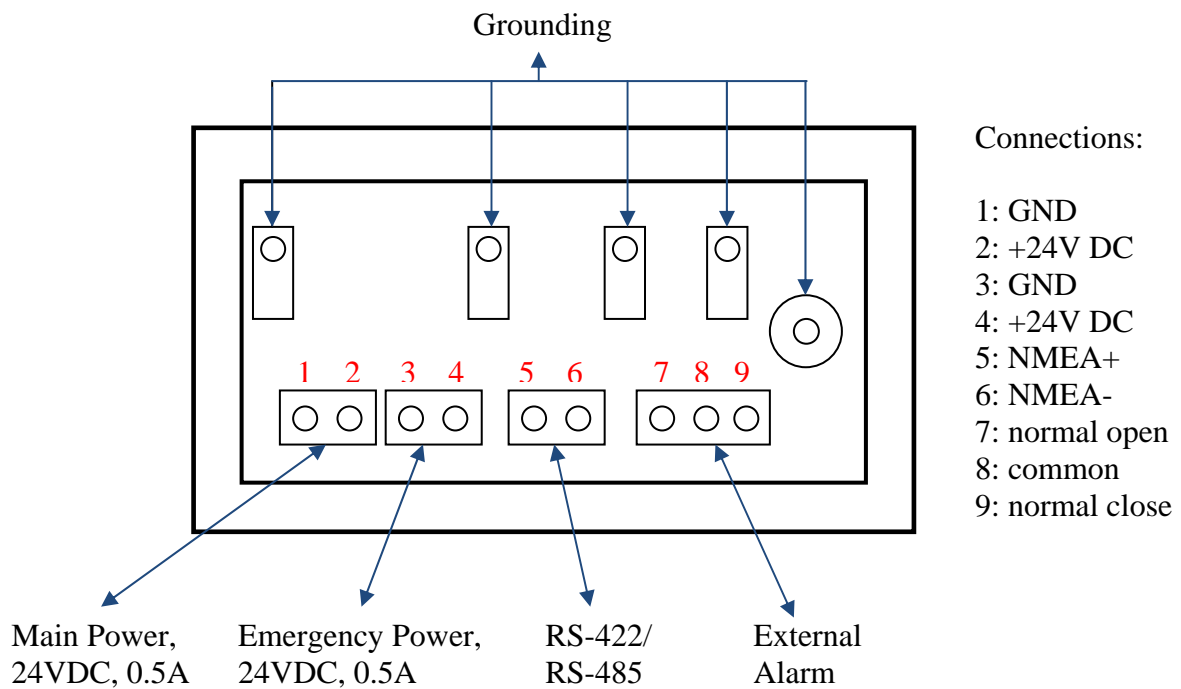
1) Dimensions and Mounting (Front View of Unit)

Flush mounting (cut-out: 182 mm x 85 mm)



**Weight: 0.6 Kg,
Front IP 54, Rear IP 22**

2) Wiring and Pin Connection (Rear View of Unit)



Cables have to be screwed to the terminals.

Screening has to be fixed with clamp at unit.

Grounding has to be connected to the ships superstructure or grounding terminal in ships electric.

3) Operation of SENSOcourse:



1. Switch on the instrument.
2. Select course tolerance by turning "Set Heading Deviation". The mark shows the current heading width.
Push on "Activate OCA" will fix the heading width as selected and accept the current heading as reference heading.
3. With this any further alteration of course width and reference heading is now impossible. If you want to select new values switch off the instrument and start from the beginning.

Vessel on desired heading:

1. The yellow "On Heading" lamp is activated. This indicates that the vessel is on reference heading within a tolerance gap as selected by bottom "Set Heading Deviation"

Vessel Off-Heading and Alarm Sequence

1. If the current heading is off reference heading and heading deviation the yellow "On Heading" lamp dies out. The red "Alarm" lamp will shine.
2. An acoustic alarm switches on in case the off-heading condition lasts more than 15 sec.
3. Cancel this by push on "Cancel Alarm" push button.
4. If the vessel does not return to the reference heading (and heading deviation) within the following 15 sec. the acoustic alarm will be activated again. Again cancel this by push on "Cancel Alarm" push button.
5. No push on "Cancel Alarm" button will activate the ship's general alarm (if connected) within the following 15 sec.

4) Data Formats

All data formats accepted by SENSOcourse have to be RS-422/ RS-485, 4800 or 38400 Baud, 8 databits, 1 stop bit and no parity.

Accepted data sentences are "\$HCHDG", "\$HCHDM", "\$HEHDT" and "\$GPHDT" according to IEC61162-1 with checksum and without leading zeros. SENSOcourse will autodetect these data sentences during start up. After changing data sentence SENSOcourse has to be switched off and on again. SENSOcourse will check data sentence by checksum.

5) Error Messages/ Error Removing

No or wrong data sentence:

If SENSOcourse receives no data sentence for more than 5 seconds, both red "Alarm" and the yellow "On Heading" lamps will illuminate. The same will appear when SENSOcourse receives wrong data sentences for more than 5 times.

If the error will not be corrected, the acoustic alarm will appear after 15 sec.

In this case check:

- Wiring okay? (Ref. to chapter 2)
- A and B interchanged? (Ref. to chapter 2)
- Is data sentence at transmitting unit selected properly? (Ref. to chapter 3 and manual of transmitting unit)

After removing the failure or changing data sentence SENSOcourse has to be switched off and on again.

Power failure:

If power supply of SENSOcourse drops below 16V, the red "Alarm" lamp will illuminate and the green "Power" lamp will die out.

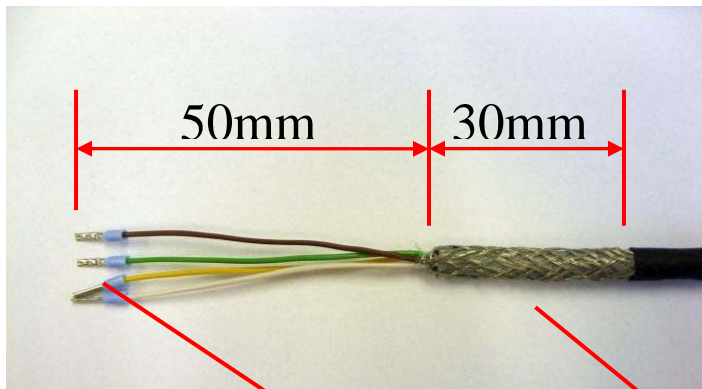
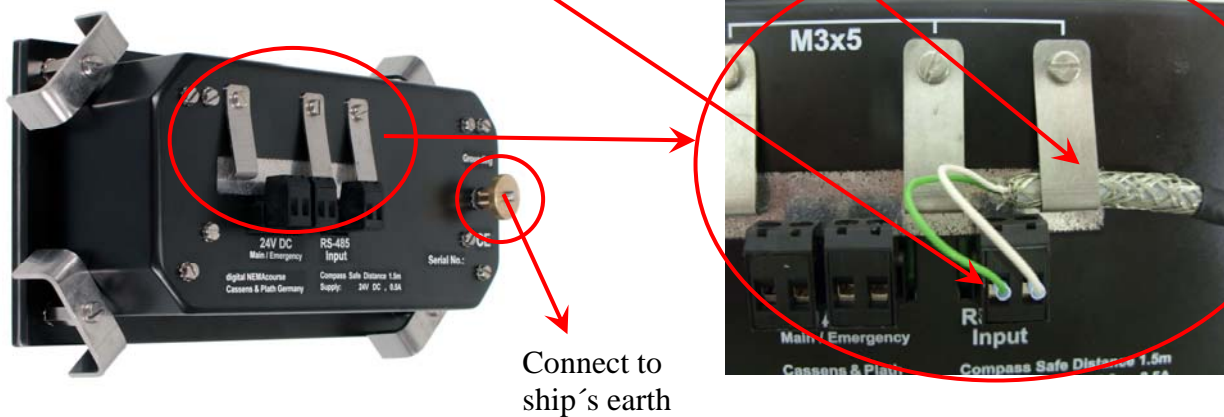
In this case check:

- Is unit turned on?
- Wiring okay? (Ref. to chapter 2)
- Power supply okay? (Check with voltmeter that SENSOcourse is supplied with 24VDC)

SENSOcourse will return to normal operation after error is eliminated.

6) Incoming Cables:

Prepare cable as below

**7) Grounding****8) Cables, Yard Supply:**

2 pieces of data cable:

Min. 2x0.14 mm², twisted pair, screened, max. 100 m

2 pieces of power cable:

Min. 2x0.25 mm², screened, max. 20 m

1 piece of grounding cable:

Min. 1x1 mm², max. 2 m