LCD-Display
- 1st line
  - Status or heading value of the gyro compass
  - Current speed or latitude value (reference value)
  - Alarms, warnings, operating notes
- 2nd line
  - Alarms, warnings, operating notes

Alarm signalling and acknowledgement

- Take-over
  LED flashes after pressing key Lat or Speed
  Request for take-over after
  - reference value adjustment
  - operating mode switch over
- Call: contrast adjustment LCD-display
  (only possible when LED is not flashing)
  Contrast change with 5 and 6

Selection of gyro compass
LED lights up, key Gyro 2 without function

Call-up of status of gyro compass in the heating and settling phase

Call-up of alarm cause after acknowledgement

Call-up of uncorrected heading value of the gyro compass

Call-up of the current latitude or speed values (reference values) and operating mode

Operating mode switch-over after renewed actuation
Take-over by Set key

Dimmer  
continuous change in brightness

Value adjustment  
for speed and latitude in the respective operating mode Man (manual reference input)

Test automatic test run after simultaneous pressing of the keys 5 and 6
Check of
- the LCD segments
- the acoustic signal
- the LEDs with the most brightness
- the key illumination with the most brightness
Display of current software version

Fig. 1: Operating and Indicating Units
Display of:
- the supporting liquid temperature during
  the heating phase
- the (still) imprecise heading value during
  the settling phase
- the exact heading value after the settling
  phase
- of alarms (E1 to E9) and warnings
  (c1 to c5)

Fig. 2: Digital Display on Gyro Compass STANDARD 20

Three-coloured LED
(yellow, green, red)  Illuminated panel
Operating mode Correction is selected

Digital display (in connection with three coloured LED)
- of the heating phase and the settling
  phase of the gyro compass
- of the heading value of the gyro
  compass
- of faults in the repeater compass
  (in acknowledged state only)
- of missing or faulty heading values

- Dimmer  ●, or ●
  continuous brightness adjustment
- Select operating mode 'Correction'
  (both keys pressed for 10 s)
  single-key correction
- Select operating mode 'Test'
  (both keys pressed for 5 s)
  automatic lamp test
- Acknowledgement (Reset)
  of a waiting alarm

Fig. 3: Operating and Indicating Units on Front Panel of the Repeater Compass
Type 133 – 555

Three-coloured LED
(yellow, green, red)  Illuminated panel
Operating mode Test is selected

Digital display (in connection with three coloured LED)
- of the heating phase and the settling
  phase of the gyro compass
- of the heading value of the gyro
  compass or magnetic compass
- of faults in the repeater compass
- of missing or faulty heading values

- Dimmer  ●, or ●
  continuous brightness adjustment
- Select operating mode 'Correction'
  (both keys pressed for 10 s)
  single-key correction
- Select operating mode 'Test'
  (both keys pressed for 5 s)
  automatic lamp test
- Acknowledgement (Reset)
  of a waiting alarm

Fig. 4: Operating and Indicating Units on Front Panel of the Repeater Compass
Type 133 – 556
# Gyro Compass Equipment STANDARD 20 COMPACT
## with Speed-error Correction
### Short Operating Instruction

### LCD Display
- **1st line**
  - Status or heading value of the gyro compass
  - Current speed or latitude value (reference value)
  - Alarms, warnings, operating notes
- **2nd line**
  - Alarms, warnings, operating notes

### Alarm signalling and acknowledgement
- Take-over
  - LED flashes after pressing key Lat. or Speed
  - Request for take-over after reference value adjustment or operating mode switch-over
- Call contrast adjustment LCD-display
  - Only possible when LED is not flashing
  - Contrast change with and
- Dimmer
  - Continuous change in brightness
- Value adjustment
  - For speed and latitude in the respective operating mode Max. (manual reference input)
  - Tast automatic reset run after simultaneous pressing of the keys and
  - Check of:
    - the LCD segments
    - the acoustic signal
    - the LEDs with the most brilliance
    - the key illumination with the most brightness
  - Display of current software version

### Putting into Operation

<table>
<thead>
<tr>
<th>Operator Unit Type 130 - 001</th>
<th>Gyro Compass</th>
<th>Repeater Compass Analog Type</th>
<th>Comments, Notes</th>
</tr>
</thead>
</table>
| Display of temperature of supporting liquid in °C | ○ (yellow) | ○ (yellow) | Switching on:
  - 24 V navigation power supply
  - Gyro compass operation with automatic reference value input for speed-error correction.
  - Gyro compass in the heating phase
  - LED of the gyro compass is alright
| 130.5° | ○ (yellow) | ○ (yellow) | After reaching the lower operating temperature of 45 °C, automatic display of the heating value.
  - Heading value still impractic and not usable, as settling phase not yet terminated!
| 132.3 | ○ (green) | ○ (green) | Gyro compass is ready for operation after approx. 3 hrs.
  - Setting time from now, display of valid, corrected heading value of the gyro compass
  - Accuracy:
    - after approx. 3 hrs.: ± 2°
    - after approx. 5 hrs.: ± 0.1° x 1/4 cos lat.

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**Further fault possibilities see Operator and Service Manual No. 3099**

1) = E1 to E9 indication on gyro compass

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### Note:
With occurrence of a fault and measure completed, trouble shooting and fault elimination are indispensable!
(Refer to Service Manual No. 3099E, DOC032)
Gyro Compass Equipment STANDARD 20 COMPACT
with Speed-Error Correction
Short Operating Instruction

Calling up the Mode of Operation for Inputting the Reference Value of Speed-error Correction

- Press key Lat. or Speed resp., key Set is flashing
- LCD display shows current operation mode, either:
  - automatic reference value input by sensors or:
  - manual reference value input
- Selection of the operating mode by pressing the key Lat. or Speed, resp.

Operating Mode Manual Reference Value Input

- Change the indicated value via dimming keys
- stepwise by short actuation
- continually by long actuation
- If, after 7 s, these keys or the key Set are not actuated, then the yellow LED goes out and the system returns to its initial condition.
- Values outside of the limit values cannot be set.

Accepting Values

and thereby switching→over to the operating mode Max
- Press key Set
- Current, corrected heading value of the gyro compass;
- Max signalizes selection of the manual reference value input.

Calling up the Uncorrected Heading Value

Indication on the LCD display whilst key is being pressed

Dimming

Continuous brightness adjustment
- of the key illumination
- of the LEDs (apart from alarm LED)
- of the background illumination of the LCD display

Contrast Adjustment of the LCD Display

- Press key Set
  (LED must not have been alight before)

- Changing the contrast by pressing the dimming keys
  After approx. 2 s, automatic switching back to heading display, if no key is pressed

Warnings by Events at the Gyro Compass

The function of the gyro compass equipment is not restricted when warnings occur!
A possible breakdown can be avoided by correcting the fault in a timely manner.

Signalling

Signalling (CW = caution)
- Indication of the cause of the warning whilst pressing the key
- If several warnings are waiting then these are displayed one after the other whilst key is pressed.
- Possible warnings and measures for elimination see Description No. 2771

Fault Operation – Alarms

Alarm display:
- with selected gyro compass operation
  - Fault name flashing
  - Procedure in case of alarms:
    - Acknowledge alarms (press key "*" = *)
    - Ascertain cause of alarm
      (Actuate key Gyro 1 or "x")
    - Immediately take the following measures:
      - switch→over to variable redundant operating modes
        (manual reference value input, navigation with magnetic compass)
      - fault correction with means on→board ship
      - contact RAYTHEON MARINE Service
  - Type of fault for a) and b) whilst key is pressed