

Rate-of-Turn Gyro



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The rate gyro is an aid for steering and manoeuvring of seagoing vessels.

The gyro element is a component of the well-proven Anschütz gyro technology and thus a guarantee for reliability, precision and long life; developed for round-the-clock operation.

The use of the most modern microprocessor technology for internal process and signal treatment makes the rate-of-turn indicator an intelligent, selfmonitoring sensor which can be integrated very flexibly into sophisticated navigation systems. The operator- and indicator unit with either 30°/min, 100°/min or 300°/min scale can be supplied for flush mounting or with a casing and tiltable bracket for desktop mounting.

Your Benefit[®]

- Robust, reliable sensor based on a professional gyro system
- Simple installation on board
- Operating surface of the operator- and indicator unit in modern soft key technique
- Microprocessor-controlled data processing and -output
- Galvanic separation from ship's mains with protection against reversal of poles
- Variable outputs for radar, riverpilot and RoT- and data processing periphery
- Integrated monitoring, test- and damping functions
- Ready for installation, free of maintenance
- Future application assured by fulfilment of the following rules:
 - BSH: Type approval rules for rate-of-turn indicator equipment
 - IMO: Resolution A.526 (13)

RoT repeater KPLQ 144
30°/min



RoT repeater
100°/min



Rate Gyro



Areas of application

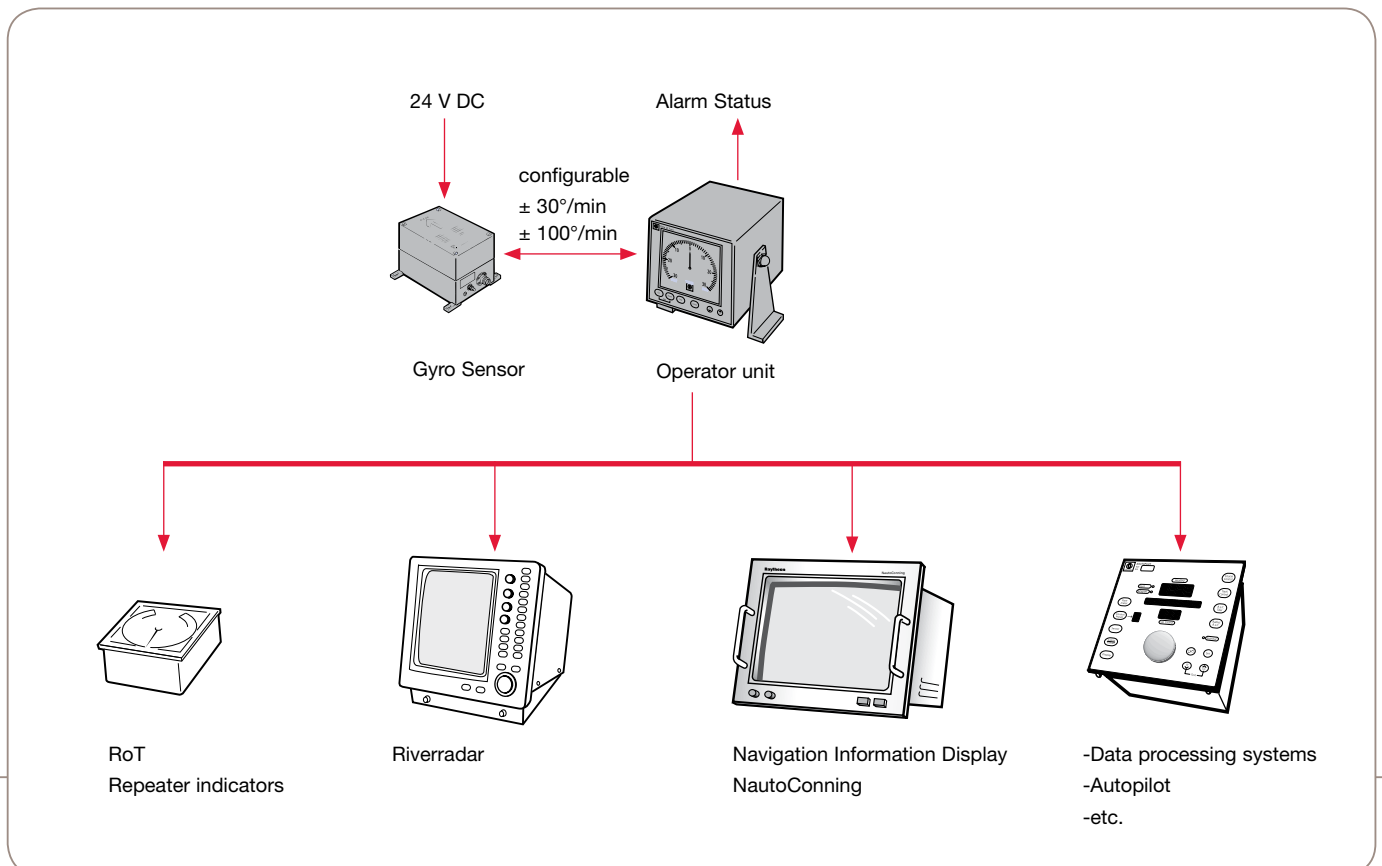
The rate-of-turn indicator has the task of assisting radar navigation by measuring and indicating the swing (rate of turn) of the ship to port and starboard.

In conjunction with course-keeping devices (autopilot) the rate gyro, as sensor system, provides the turning rate reference.

On seagoing ships, the rate-of-turn indicator serves primarily as a navigating support for sensing and indicating swing.

For seagoing vessels of 50,000 grt and more, an RoT indicator is required equipment.

- Correction link for doppler log equipment
- Control of fin stabilizers
- Rudder roll stabilizing
- Vessels of 50,000 grt and more (IMO rules)
- Special applications (e.g. stabilizing gyro)



Technical Data

Precision

Response sensitivity 0.1°/min
Resolution 0.3°/min

Connection voltage/power consumption

24 V DC ($\pm 20\%$) / 800 mA, max. 1200 mA
approx. 160 sec, equipment input is protected against reversal of poles and separated from mains by DC/DC-converter

General data

Permissible ambient temperature

operation -15°C to +55°C
storage -25°C to +70°C

Ready for operation

less than 160 sec

Turn rate signal outputs

Analog actual value $\pm 30/50/100/180/300^\circ/\text{min} =$
 ± 10 V DC
and/or 20mV/degree/min
10 mA per output
(e.g 5 displays with 2 mA per instrument)

Serial actual value IEC 1162-1
RS 232/NMEA 0183 Version 2.1

Damping device

Damping time constant 0, 3, 5 or 10 sec (selectable)

Alarm-/Operating indication

Internal alarms power failure, revolutions of gyro
Alarm outputs dedicated contact
Internal indications ready, alarm
Test function internal equipment test

Type of protection acc. to DIN

Rate gyro IP 65
Operator units IP 23 after desk mounting
IP 23 with casing

Environmental influences, EMC

Acc. to IEC Publication 945
Marine Navigational Equipment
General Requirements
BSH Rules

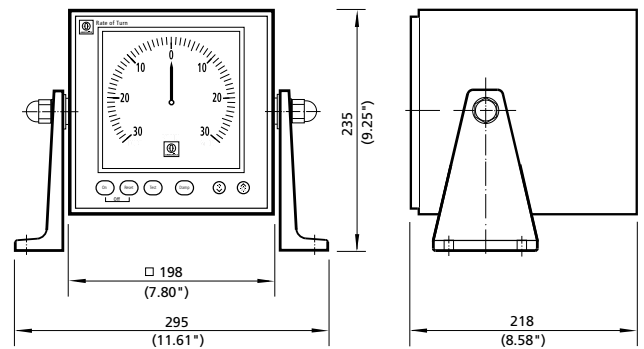
Weight

Indicator and control unit 1.5 kg
3.5 kg with casing
Rate gyro 2.3 kg

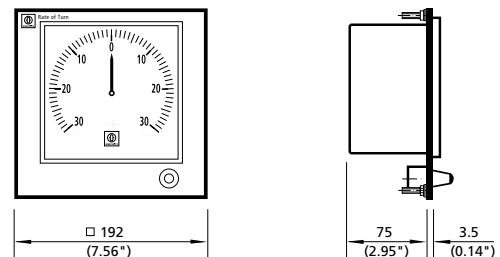
Abbreviations

ARCS – Admiralty Raster Chart Service
CCTV – Closed Circuit Tele Vision
PRF – Pulse Repetition Frequency

Indicator and control unit



Repeater indicator unit for desk mounting



Rate gyro

