



Standard 22 Compact and Retrofit Solutions





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Standard 22 compact is the most popular Gyro Compass in the market – due to its performance and reliability.

Standard 22 uses sophisticated gyro compass technology based on 100 years of experience. Operational safety was dramatically increased due to a patented data transmission technology that completely replaces the use of slip rings.

The new Standard 22 combines proven technology and long maintenance periods with most advanced features. A safe investment in your ship – for a long time.

Features

In addition to fulfill the main function as a heading sensor, the Standard 22 Gyro Compass System offers many features that provide additional value and make day-to-day work easier. The Gyro Compass Standard 22 compact comes with automatic speed/latitude error correction and dynamic error correction which makes it really unique in this class. By using the optional «Quick Settling Mode» the heading information is provided within just one hour after switching the compass on. All Standard 22 compasses are approved for standard and High-Speed Craft.

Benefits of Standard 22

- High accuracy of 0.1 degrees
- Automatic speed/latitude error correction and a dynamic error correction
- Quick settling mode (option)
- Wide range of accessories
- Short installation time and long maintenance periods
- IMO approved for standard and High-Speed Crafts

Retrofit solutions

Raytheon Anschutz provides a variety of converters that enables to retain your existing equipment as repeaters and autopilots when retrofitting an old gyro compass.

Old gyro compasses transmit the heading information as analog synchro or step signals. By one of the new converters the serial / digital heading information from new compasses is converted into analog signals.

Advantages: Reduced expenses for new equipment and reduced installation efforts.

Approved technology

All Raytheon Anschutz converters are type approved according to IMO regulations. This is important because the converter becomes part of the gyro compass system and thus subject to the type approval process. For details please refer to the Standard 22 EC Type Examination Certificate or ask your sales representative.

Serial / 360° Synchro Converter



Serial / Universal Synchro Converter Serial / Universal Step Converter





132-628

Replacing a gyro with 360° axis (1:1)

The Serial / 360° synchro converter converts serial heading information (NMEA or course bus) to a coarse synchro output (360°, compatible to 11 CX synchro) and can be used to connect NautoCourse or old autopilots to new compasses. The reference voltage has to be supplied by the connected equipment.

Technical data

Based on the reference voltage the following signal voltages can be created:

Reference voltage [V]	Signal voltage [V]	Frequency [Hz]
115	90	400
26	11.8	400
13	11.8	400
13	6	400
3.5	6	800

- Supply voltage 24 V DC,
- Max. synchro output power 1.2 V A.



132-629
132-630

Replacing a gyro with synchro output

The serial / universal synchro converter converts serial heading information (NMEA or course bus) into various synchro signals. It is used when an old gyro compass (e.g from Anschütz, C. Plath, Tokimec, Yokogawa, Hokushin, Microtechnica, Amur, Kurs 4) with synchro output is replaced with a new Standard 22 to keep the existing equipment with synchro input (e.g. autopilots and steering repeaters).

Technical data

Configurable output of synchro signals:

Reference voltage [V]	Signal voltage [V] line-to-line
110	90
110	50
50	68
50	20

- Turn ratio: 1:360; 1:180 or 1:90
- Max. synchro output power: 150 W
- 7 outputs (1 A fused), 1 output (6.3 A fused) for distribution
- Converter provides supply voltage for Standard 22 (max.150 W, not in combination with 400 Hz and 500 Hz synchro applications)
- Supply voltage: 115/230 V with one of the following frequencies: 50 Hz, 60 Hz, 400 Hz, 500 Hz (according to synchro application)

Replacing a gyro with step output

The serial / universal step converter converts serial heading information (NMEA or course bus) into step (6step / degree) signals. It is used when an old gyro compass (e.g. from Sperry, Tokimec, Yokogawa, Robertson) with step output is replaced with a new Standard 22 to keep the existing equipment with step input (e.g. autopilots and steering repeaters).

The serial / universal step converter can alternatively be used as a step booster.

Technical data

- Configurable output of step signals with 24, 35, 50 or 70 V DC, one voltage configurable as common plus or common minus
- Max. step output power: 150 W
- 7 outputs (1 A fused), 1 output (6.3 A fused) for distribution
- Converter provides supply voltage for Standard 22 (max.150 W)
- Supply voltage: 115/230 V 50/60 Hz

Technical Data Standard 22

Accuracy

Settle point error: $\pm 0.1^\circ \text{secLat.}$, RMS
 Static error: $\pm 0.1^\circ \text{secLat.}$, RMS
 Dynamic error: $\pm 0.4^\circ \text{secLat.}$, RMS
 (periodic roll and pitch+horizontal acceleration)
 $\text{secLat.} = 1/\cos \text{Latitude}$

Supply voltage

24 V DC (18 – 36 V DC)

Power consumption

60 W to 120 W (start-up) sensor unit

General data

Permissible ambient temperature
 Operation: -10°C to $+55^\circ \text{C}$
 Storage: -25°C to $+70^\circ \text{C}$
 without supporting liquid
 Settling time: 1 h ($< 3^\circ$) with
 «Quick settling»
 Rate of follow-up: admissible rate-of-turn of
 the ship is unlimited
 Permissible roll
 and pitch angle: $\pm 45^\circ$

Signal outputs

- 1 x Anschütz course bus
- 2 x Anschütz course bus or NMEA 0183

Alarms

Built-in alarms: power failure, gyro failure
 system failure
 Alarm outputs: potential-free relay contacts

In accordance with

IMO A.424(XI), A694(17), A.821(19)
 EN/IEC 60945, EN/ISO 8728, EN/IEC 61162

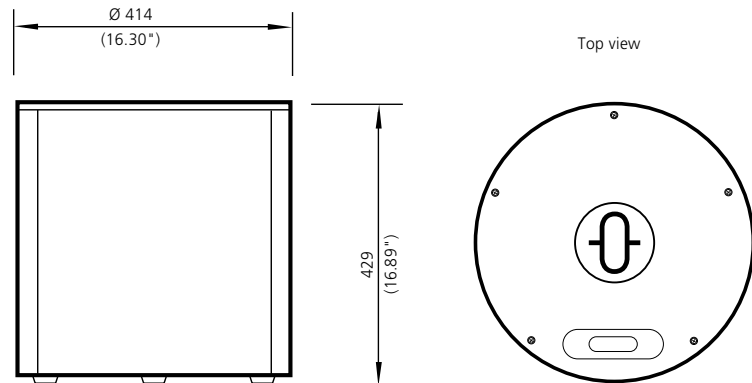
Type of enclosure acc. to IEC/EN 60529

Gyro compass: IP 23

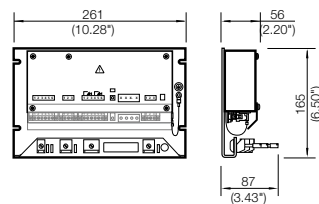
Benefits

- High accuracy of 0.1 degrees
- Quick settling reduces the settling time to 1 hour (option)
- Automatic speed / latitude error correction
- Short installation time and long maintenance periods
- IMO approved for standard and High-Speed Craft

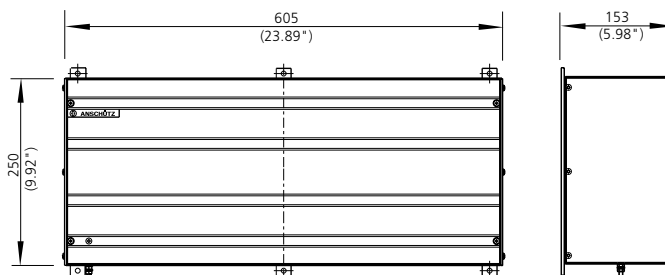
Gyro compass STD 22



Serial/360° Synchro Converter



Serial/Universal Synchro Converter Serial/Universal Step Converter



Benefits of Raytheon Anschütz retrofit solutions

- Standard 22 and converters are IMO, Wheelmark and High-Speed Craft certified
- Cost-efficient replacement of any old gyro compass
- Existing repeaters, autopilots and other heading receivers (periphery) can remain on board
- Existing cabling can be utilized
- Minimum installation time
- Universal step and synchro converters provide supply voltage for Standard 22
- Cost-efficient solution for ship owner
- Perfect solution for service organisations – nearly all available compasses in the market can be retrofit with only 2 different converters.