

AUTOPILOT PT 500 series





Yokogawa Denshikiki Co.,Ltd.

PT500 AUTOPILOT



is highly reliable and meets the needs of times.

An autopilot controls and automatically maintains ship's course by means of its control algorithm as well as conventional hand-steering whichever activates the steering gear that moves the rudder.

Modern controls such as Track Control Steering (TCS) are also available if appropriate information interchanges are established among relevant equipment like an ECDIS.

PT500 AUTOPILOT

FEATURES

- PT500 AUTOPILOT is suitable for a wide range of applications from large tankers to small freighters, and can easily be adapted to any type of steering gears and actuators.
- Two types of model are available and facilitate to configure the optimum system for each vessel.

PT500A - - - - Adaptive Control Model
PT500D - - - - Digital PID Control Model

- Fully dual redundant control lines;
 the malfunction of one control line does not affect to another.
- Superior operability and functionality;
 well arranged panel design ensures the Human Machine Interface (HMI) to avoid miss-operation.
- DIN size modular design;
 the modular units can easily be incorporated in a console to build up a system.
- Space saving design;
 CMZ900 Gyrocompass can be inside of the Steering Control Stand in order that bridge space may be saved.

FUNCTIONS

- Follow-up steering: AUTO mode, HAND mode REMOTE mode, NAVI mode (TCS)
- Non follow-up steering
- Operation mode (Economy, Precision 1, Precision 2)
 Note: BNAAC (Batch Noise Adaptive Autopilot Controller) algorithm will be assigned instead of the current Economy algorithm, if selected on placing a purchase order.
- Multi-heading input (max. 2 input signals of the serial data)
- Off-heading alarm
- Digital remote steering (option)



DIN-size Modular Design



and CMZ900 Gyrocompass inside

PANEL ARRANGEMENT and FUNCTIONALITY

- Typical panel arrangement is illustrated below. Actual panel arrangement may be different from this arrangement and subject to the performance specification requirement of the vessel.
- Primary units different between PT500A and PT500D are;

PT500A - - - - uses PB343 AUTO STEERING UNIT (Adaptive Control Type) and PT500D - - - - uses PB344 AUTO STEERING UNIT (Digital PID Control Type).

PB343 for PT500A



PB344 for PT500D



Note: TCS and BNAAC algorithm are available only if PB343 AUTO STEERING UNIT is employed.

ANNUNCIATOR UNIT (PH614)

Various types of annunciator are provided depending on the type of system configuration.

AUTO STEERING UNIT (PB343 or PB344)

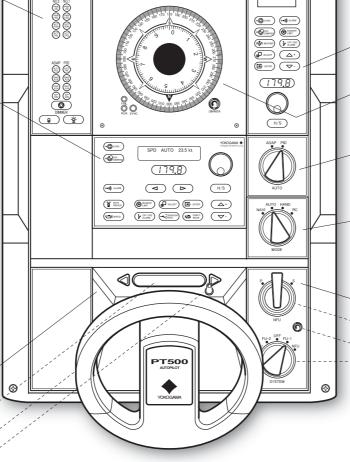
Function Keys and Displays

- Gyrocompass select key
- External compass select key
- Buzzer stop key
- One-touch key for course setting
- Set keys for;
 - Ship's speed
 - Limit angle to steer
 - Deviation angle for off-course alarm
 - Draft mode (Full, Middle or Ballast)
 - Operation mode (Economy or Precision)
 - Turning mode
 - (Constant Rate Turn or Constant Radius Turn)
- Other various parameters
- Up/down keys and enter key for the input data
- Data display
- Course setting dial and display

HAND STEERING UNIT (PB335)

Steering Angle Indicator with --Direction Lamps for rudder motion
Steering Handle -----

Dimmer -----



Top View of Control Panel

PB345 for option



- Almost equivalent functions to PB344
- PB345 AUTO STEERING UNIT assists PB343 or PB344. Digital control capabilities can then be duplicated and enhanced for the safety voyage.

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Steering Repeater Compass with Vernier Card

- 10 °/rev. vernier card
- Precise and comfortable reading to steer

AUTO STEERING UNIT (PB345)

STEERING REPEATER COMPASS (MKR056)

SWITCH UNIT (PH721)

AUTO STEERING UNIT Select Switch

ADAP : Adaptive control PID : Digital PID control

SWITCH UNIT (PH720)

Steering Mode Select Switch

NAVI : Track control steering (TCS) AUTO : Automatic steering HAND : Hand steering RC : Remote steering

SWITCH UNIT (PH718)

Non Follow-up Steering Lever

- Dimmer

System Select Switch

OFF : System shutdown FU-1 : No.1 system run FU-2 : No.2 system run

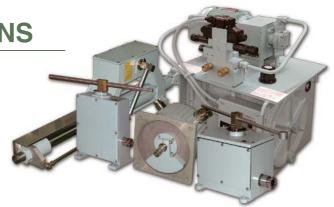
NFU : Non follow-up steering



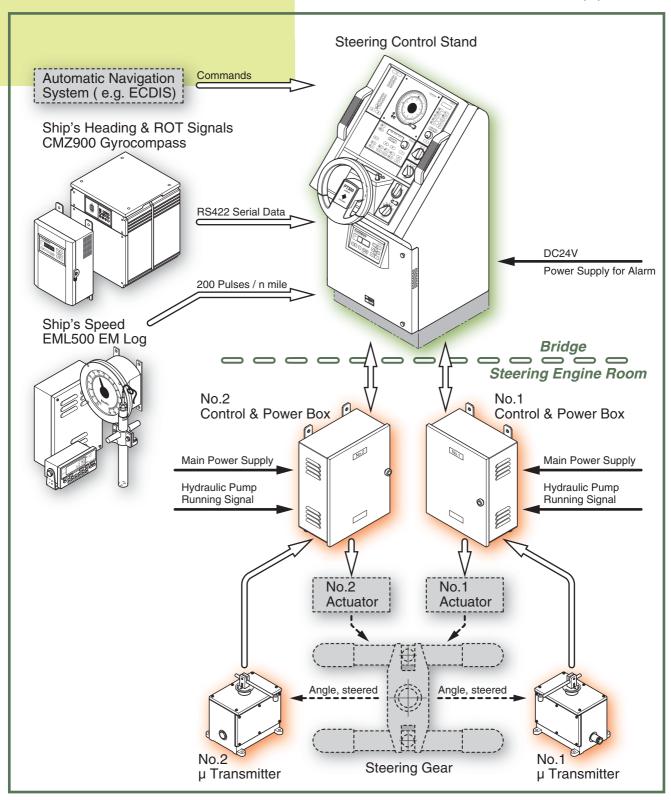
Top View of PT500

SYSTEM CONFIGURATIONS

- Typical system configuration of PT500 AUTOPILOT is illustrated below.
- Since there are various types of actuator for the steering gears, the system configuration may be optimized and configured depending on the type of actuator to be employed.

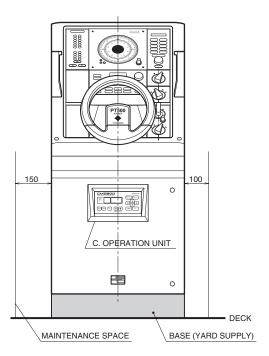


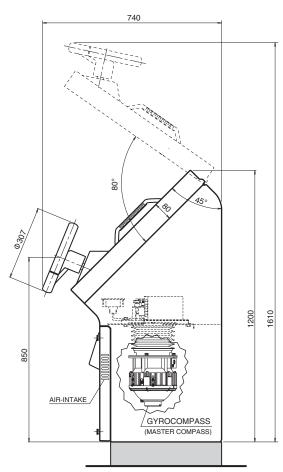
Various Actuators and Feedback Equipment



OUTLINE DIMENSIONS

PT500 AUTOPILOT (STEERING CONTROL STAND)



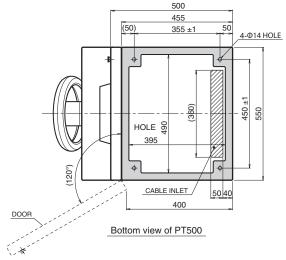


MASS: 107 kg

117 kg (Gyrocompass Built-in Type)

Dimensions in mm

Note: Outline Dimensions for the modular units will be specified in GS80B21B01E.







Yokogawa Denshikiki Co., Ltd.

URL: http://www.yokogawa.com/ydk/



Caution: Please read the manual before using this product.

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