



RADIO ZEELAND DMP

THOR LINE



THOR LINE

Radio Zeeland DMP

Radio Zeeland was founded in 1952 and started as a small shop in Hulst and through the years it changed to a repair center for navigation and communication products in Terneuzen. Over time, the need for reliable and high-quality products for inland shipping became apparent. This triggered focus on development and production of navigation equipment. The core of our portfolio is our own rate of turn gyro, which is complemented with a display instrument, and several autopilot options. By adding a shallow water echo sounder, and other equipment several complete product lines were created. Recurring theme is the focus on design, quality and a user-friendly operation. Radio Zeeland DMP emphasizes the flexibility of its systems, through in-house development special needs can be quickly accommodated.

Whatever the challenge, Radio Zeeland DMP offers the perfect solution.

THOR-line

The THOR line is a completely new line of navigation products that combines proven techniques with contemporary technology and has all required approvals for use of inland vessels. The Thor line is based on its predecessors, the Titan, the Falcon and Sigma line and combines analog and digital techniques in a versatile line of navigation products from a standard device to a fully networked system. The THOR line is suitable for both the new-build and replacement market and is already being used on more than 10,000 vessels.



THOR 100



THOR 120



THOR 130



THOR 300



THOR 500



THOR 550



THOR 650



THOR 700



THOR 1000L



THOR 1000XL



THOR 100 Rudder Angle Indicator

The THOR-100 is a rudder angle indicator and can be used as a stand-alone unit or in conjunction with an autopilot. It is also possible to use the unit as a repeater so that rudder information is available at multiple locations.

Dimming

The THOR-100 display unit is equipped with a dimmer. When used as a repeater, the dimming of the main unit and the repeater can be synchronized.

LED-display

The small LED display in the center above the analog meter provides a digital readout in addition to the analog meter. This provides a quick and clear overview of the data provided. General information, feedback and functions are also indicated on the LED display.

Sensors

The THOR-100 system works with a P-100 rudder angle sensor. The P-100 has a magnetic sensor and thus does not suffer from wear and tear.

Colored scale illumination

The scale of the display unit is illuminated with LED backlighting. The illumination can be set to three different colors; red, yellow or blue, creating a night vision that can be adjusted to personal preferences.



P-100 Rudder angle sensor

Display unit

Housing	Powder-coated aluminum
Dimensions	236 x 154 x 80mm
Weight	Net weight 1.30kg
Protection	IP-50
Temperature	0 to + 55°C,
Humidity	0 to 90% non-condensing

Electrical specifications

Main power supply	18 - 36VDC fused @900mA self-restoring
Backup power supply	18 - 36VDC fused @900mA self-restoring
Amperage	< 1A (without repeaters)

Optical specifications

Scale	90° - 0° - 90°
Dimmer range	5 - 100%
Color illumination	red / blue / yellow

In/Outputs

- Supply voltage: 12-36VCC
- Repeater 0 - 1mA
- NMEA out IEC 61161
- 1x Ethernet port

Other

Overvoltage protection

P-100 Sensor Specifications

Supply voltage	18-36V DC.
Current consumption	less than 1A.
Measuring range	360° mechanical and electrical

Declaration of conformity

- EN 60945 (IEC 60945 Third Edition: 1996-11) Chapters 9, 10, 11 and 12.

Scope of delivery

- THOR-100 display unit
- THOR-100 manual
- P-100 Rudder angle sensor
- P-100 manual
- Mounting set



THOR 120 Echo Sounder

The THOR-120 is an echo sounder, which is connected to a P-121 junction box connected to a transducer. The echo sounder range can be set to 0-4 and 0-40 meters. Between 0 and 4 meters, an alarm can be set to alert the operator if the depth reaches the preset minimum. The THOR-120 echo sounder is specially designed to operate in shallow water, making it the ideal depth sounder for commercial inland navigation. The information is displayed on an analog and a digital indicator. Two junction boxes and two sensors can be connected.

LED-display

The small LED display in the center below the analog meter provides a digital readout in addition to the analog meter. This provides a quick and clear overview of the data provided. General information, feedback and functions are also indicated on the LED display.

Sensors

The THOR-120 system works with a P-121 junction box and a transducer. The P-121 filters out distortions caused by air bubbles, giving a more stable indication.

Dimming

The display unit is equipped with a dimmer. When used as a repeater, the dimming of the main unit and the repeater can be synchronized.

Colored scale illumination

The scale of the display unit is illuminated with LED backlighting. The illumination can be set to three different colors; red, yellow or blue, creating a night vision that can be adjusted to personal preferences.

Shallow water and wake

The THOR-120 is specifically designed to work in shallow water. The THOR-120's transducer is accurate to 0.3 m below the hull, where other depth gauges have inaccurate readings to more than a meter below the hull. The THOR-120 is accurate even in the wake of another vessel.

Two-wire and Ethernet

Because the THOR line can be connected to both a network and a wired two-wire system, it has the unique ability to use analog and digital devices side by side. With this capability, the navigation line offers many possibilities and flexibility.



P-121 dept sensor interface box

P-122 Transducer

Display unit

Housing	Powder coated aluminum
Dimensions	236 x 154 x 80mm
Weight	Net weight 1.30kg
Protection	IP-50
Temperature	0 to + 55°C,
Humidity	0 to 90% non-condensing

Electrical specifications

Main power supply	18 - 36VDC fused @900mA self-restoring
Backup power supply	18 - 36VDC fused @900mA self-restoring
Amperage	< 1A (without repeaters)

Optical specifications

Scale division	0.3 - 4m or 3 - 40m
Dimmer range	5 - 100%
Color illumination	red / blue / yellow
Depth alarm	0 - 4m

In/Outputs

- Supply voltage : 12-36VCC
- Repeater 0 - 1mA
- NMEA out IEC 61161 (DBT, DPT)
- 1x Ethernet port

Other

Overvoltage protection

P-121 Sensor Specifications

- Supply voltage 18-36V DC.
- Current consumption less than 1A.
- Measuring range of 0.3 - 40m

Declaration of conformity

- EN 60945 (IEC 60945 Third Edition: 1996-11) Chapters 9, 10, 11 and 12.

Scope of delivery

- THOR-120 display unit
- THOR-120 manual
- P-121 dept sensor interface box
- P-122 Transducer
- Mounting kit



THOR 130 Wind Meter

The THOR-130 is a wind speed and wind direction meter. Wind speed is displayed by an analog meter but also digitally displayed in m/sec or Beaufort, depending on the preference set. The LED screen also displays the wind direction. The THOR-130 can also display absolute wind information if a GPS is connected to the wind meter.

Sensors

The THOR-130 wind meter works with a solid-state smart sensor. The sensor measures wind direction and wind speed with ultrasonic transducers and therefore has no moving parts which makes the sensor very robust.

LED-display

The small LED display in the center below the analog meter provides a digital readout in addition to the analog meter. This provides a quick and clear overview of the data provided. General information, feedback and functions are also indicated on the LED display.

Dimming

The THOR-130 display unit is equipped with a dimmer. When used as a repeater, the dimming of the main unit and the repeater can be synchronized.

Colored scale illumination

The scale of the THOR-130 display unit is illuminated with LED backlighting. The illumination can be set to three different colors; red, yellow or blue, creating a night vision that can be adjusted to personal preferences.

Wind Speed

An analog meter scaled in Beaufort and m/sec gives a quick overview of the current wind speed. It is also displayed digitally on the LED screen.

Wind Direction

The THOR-130 can display both absolute and relative wind direction with the press of a single button. This requires a GPS connected to the wind meter. The wind direction is displayed on the LED screen so that the wind direction and wind speed can be read at a glance.



P-131 Solid-state wind sensor

Display unit

Housing	Powder-coated aluminum
Dimensions	236 x 154 x 80 mm
Weight	Net weight 1.30kg
Protection	IP-50
Temperature	0 to + 55°C,
Humidity	0 to 90% non-condensing

Electrical specifications

Main power supply	18 - 36VDC fused @900mA self-restoring
Backup power supply	18 - 36VDC fused @900mA self-restoring
Amperage	< 1A (without repeaters)

Optical specifications

Wind speed	0 - 63 m/sec (Can also be displayed in Beaufort)
Wind direction	0 - 360 degrees
Dimmer range	5 - 100%
Illumination	red / blue / yellow

Inputs

- NMEA in IEC 61161 (HDM or HDT or HDG and VTG)
- 1x Ethernet port

Outputs

- External dimmer 15VDC PWM with a maximum of 150mA
- Repeater 0 - 1 mA
- NMEA from IEC 61162 (WIMWV)
- 1x Ethernet port

P-131 Sensor Specifications

- Supply voltage: 10-14V DC.
- Current consumption: < 500mA.
- Wind sensor sends the following signals: Relative wind direction, Relative wind speed.

Declaration of conformity

- EN 60945 (IEC 60945 Third Edition: 1996-11) Chapters 9, 10, 11 and 12.

Scope of delivery

THOR-130 display unit
 THOR-130 manual
 P-131 Smart solid state wind sensor
 P-131 manual
 Mounting kit



THOR 300 Rate of Turn Indicator

The THOR-300 is a turn indicator that can be set to two different ranges. With the push of a button, the THOR-300 is set to a range of 90 or 270 degrees. The display unit can be used as a stand-alone unit or in conjunction with the Radio Zeeland autopilots. In the case of stand-alone use, the THOR-300 display unit comes with the P-300 sensor. By using linear critical damping, the P-300 is always stable. This makes the P-300 unique in its kind. The display unit is overvoltage protected and very suitable for inland navigation and large pusher craft.

Autopilot

The THOR-300 can be used in conjunction with the THOR-550 autopilot. The display unit can be used as a repeater indicator, allowing repeaters in multiple locations.

Dimming

The THOR-300 display unit is equipped with a dimmer. When used as a repeater, the dimming of the main unit and the repeater can be synchronized.

Colored scale illumination

The scale of the THOR-300 display unit is illuminated with LED backlighting. The illumination can be set to three different colors; red, yellow or blue, creating a night vision that can be adjusted to personal preferences.

LED-display

The small LED display in the center below the analog meter provides a digital readout in addition to the analog meter. This provides a quick and clear overview of the data provided. General information, feedback and functions are also indicated on the LED display.



P-300 Smart Gyro

Display unit

Housing	Powder-coated aluminum
Dimensions	236 x 154 x 80 mm
Weight	Net weight 1.30kg
Protection	IP-50
Temperature	0 to + 55°C,
Humidity	0 to 90% non-condensing

Electrical specifications

Main power supply	20 - 36VDC fused @900mA self-restoring
Backup power supply	20 - 36VDC fused @900mA self-restoring
Amperage	< 1A (without repeaters)
Current consumption	<1.5A

Optical specifications

Indicator scale	90° - 0° - 90° or 270° - 0° - 270°
Dimmer range	5 - 100%
Illumination colors	red / blue / yellow

Outputs

- External on/off 15VDC
- External dimmer 15VDC PWM with an NMEA out IEC 61162(ROT)
- 1x Ethernet port

Inputs

- External on/off
- NMEA in IEC 61162(ROT)
- 1x Ethernet port

P-300 Sensor specifications

- Power supply voltage: 20-36VDC
- Current consumption: <1A (<2A during startup)
- Measurement range: 90°/min or 300°/min
- Resolution: 0.1°/min at 90°/min 0.5°/min at 300°/min
- Accuracy: < 5% at maximum deflection
- Start-up time: 60 seconds maximum
- NMEA output (ROT)

Declaration of conformity

- EN 60945 (IEC 60945: 2002, including corrigendum 1:2008) chapters 9, 10, 11 and 12
- Minimum requirements for rate of turn indicators
- The THOR-300 is a class B product (weather protected)

Scope of delivery

THOR-300 display unit
 THOR-300 manual
 P-300 Smart Gyro
 P-300 manual
 Mounting kit

Admission Certificate

No. e-01-082



THOR 500 Compact Autopilot

The THOR-500 is Radio Zeeland's compact combination pilot. This unit has a turn indicator and rudder indicator in the same housing. This makes the autopilot compact and easy to install. The THOR-500 works in combination with the THOR-650 steering handle. This autopilot is used when installation space in the wheelhouse is limited. The THOR-650 steering levers are small enough to fit even in the armrest of your seat, creating a flexible and user-friendly system.

LED-display

The small LED display in the center below the analog meter provides a digital readout in addition to the analog meter. This provides a quick and clear overview of the data provided. General information, feedback and functions are also indicated on the LED display.

Dimming

The THOR-500 display unit is equipped with a dimmer and can be dimmed synchronously with the rest of the Radio Zeeland system. The unit can also be dimmed by another THOR unit.

Colored scale illumination

The scale of the display unit is illuminated with LED backlighting. The illumination can be set to three different colors; red, yellow or blue, creating a night vision that can be adjusted to personal preferences.

Extensions

The THOR-500 combination pilot is a full-fledged pilot, but can be expanded. Additional turn indicators or rudder position indicators can be connected, as well as a compass and additional THOR-650 steering levers.

Sensors

The THOR-500 connected to junction box P-503, which in turn is connected to sensors P-100 and P-300 for turn speed and rudder angle indication.



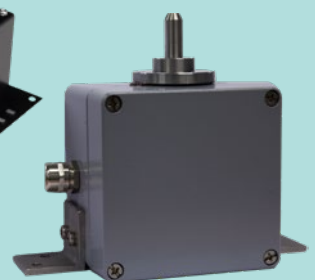
THOR-650



P-300 Smart Gyro



P-503 Autopilot junctionbox



P-100 Rudder angle sensor

Display unit

Housing	Powder-coated aluminum
Dimensions	395 x 154 x 80 mm
Weight	Net weight 2.0 kg
Protection	IP-50
Temperature	0 to + 55°C,
Humidity	0 to 90% non-condensing

Electrical specifications

Main power supply	24-10% / +30%
Backup power supply	24 -10% / +30%
Amperage	< 1A (without repeaters)
Current consumption	< 1A

Optical Specifications

Rudder angle Indicator scale	90° - 0° - 90°
Turn indicator Indicator scale	90° - 0° - 90° or 270° - 0° - 270°
Dimmer range	5 - 100%
Color illumination	red / blue / yellow

Inputs

- 1x NMEA in IEC 61162 (HDM or HDT or HDG and VTG)
- 1x Ethernet port

Outputs

- External dimmer 15VDC PWM with a maximum of 150mA
- Repeater 0-1mA
- 1x NMEA in IEC 61162
- Analog output for 1mA rudder indicator
- Analog output for 1mA rate-of-turn indicator
- 1x Ethernet port

Declaration of conformity

- EN 60945 (IEC 60945 third edition: 1996-11) chapters 9,10,11 and 12

Scope of delivery

- THOR-500 display unit
- THOR-500 manual
- THOR-650 steering handle
- THOR-650 manual
- P-503 junction box
- P-503 manual
- P-100 rudder angle sensor
- P-100 manual
- P-300 Smart Gyro
- P-300 manual
- Mounting kit

Admission Certificate

No. E-01-081



THOR 550 Autopilot

The THOR-550 control unit is one of the Radio Zeeland autopilots. Together with the P-503 junction box, an optional THOR-100 rudder position pointer and an optional THOR-300 rate-of-turn indicator, the THOR-550 is a complete autopilot. This system has the unique ability to be connected to any approved turn indicator using the P-503 junction box and the P-100 sensor.

Steering

With the THOR-550, there are three ways to steer the ship. That is as a turn indicator pilot, as a follow-up system, or by an external system.

Extensions

In some cases it is desirable to expand your autopilot with additional control devices or repeaters. This is all possible with the THOR-550. Whether it is one or several additional THOR-550 or THOR-650 devices, your wheelhouse will be expandable in countless ways when you install the THOR-550 autopilot.

Dimming

The buttons and meters of the THOR-550 are illuminated with EL backlighting. The THOR-550 is equipped with a dimming system that can be synchronized with other Radio Zeeland devices.

LED-display

The small LED display provides a digital readout of rudder output, alarms, functions and indicators. This provides a quick and clear overview of the information given.

Control unit

Housing	Powder-coated aluminum
Dimensions	236 x 154 x 80 mm
Weight	Net weight 1.35kg
Protection	IP-50
Temperature	0 to + 55°C,
Humidity	0 to 90% non-condensing

Electrical specifications

Main power supply	18 - 36VDC fused @900mA self-restoring
Backup power supply	18 - 36VDC fused @900mA self-restoring
Amperage	< 1A (without repeaters)

In/Outputs

- External dimmer 15VDC RWM maximum 150mA
- Repeater -1 | 0 | 1mA
- NMEA in IEC 61162 (ROT)
- 1x Ethernet port

Declaration of conformity

EN 60945 (IEC 60945: 2002 including corrigendum 1:2008) Chapters 9, 10, 11 and 12

Scope of delivery

THOR-550 control unit
 THOR-550 manual
 Mounting kit



THOR 700 Intercom

The THOR-700 main station is an intercom that operates on a two-wire system and can be connected to ten substations. This intercom system finds its strength in simplicity, with intuitive controls and a simple layout. With all call functions, selectable priority per channel and call capability per channel, the THOR-700 is a very complete intercom station.

Intercom Main station

The THOR-700 is an intercom to which stations with callback option can be connected. The system supports up to 10 substations. The intercom provides semi duplex communication with all substations and general calling is also possible.

Extensions

Call buttons can be added on the intercom substations. This allows the person who is near the THOR-700 intercom to be called. A footswitch and gooseneck microphone can also be connected to the intercom system.

Indicators

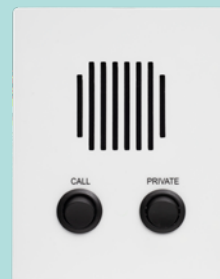
The selected channel is announced by the LED display, which can be dimmed using the dimming function.

Lay-out

The layout of the THOR-700 has been kept as simple as possible to give a quick overview of the activated stations.



Outdoor speaker



P-702 Indoor speaker in both white and black



P-705 Push button IP67



P-711 / P-712- Engine room set

Control unit

Housing	Powder coated aluminum
Dimensions	236 x 154 x 80 mm
Weight	Net weight 1.9kg
Protection	IP-50
Temperature	0 to + 55°C,
Humidity	0 to 90% non-condensing

Electrical specifications

Main power supply	18 - 36VDC
Backup power supply	18 - 36VDC
Amperage	< 2A

Optical specifications

Dim range 5 - 100%

Acoustic specifications

- Adjustable speech level
- Adjustable listening level
- Warning signal at each station
- All call facility

Outputs

- 10 outputs for substations P-701 / P-702 / P 711
- Alarm contact 24VDC 1 A

Inputs

- Input for gooseneck microphone
- Input for footswitch

Declaration of conformity

EN 60945 (IEC 60945 third edition: 1996-11) chapters 9,10,11 and 12

Scope of delivery

- THOR-700 control unit
- THOR-700 manual
- Mounting kit

Peripherals

- Outdoor speaker
- P-702 Indoor speaker in both white and black
- P-711 / P-712- Engine room set
- Foot switch
- P-705 Push button IP67
- P-704 Gooseneck microphone
- P-706 Inside push button
- P-708 Inside push button with private switch



THOR 1000/XL Multifunction Display

The THOR-1000 unit is a multifunction display with embedded software for various types of navigation equipment for commercial shipping. The THOR-1000 display is available with an 8" display and a 10" display (XL). The sensors, connected to a network, are read out and translated to the display using a MultiHub. The THOR-1000 allows the user to swap functions between different displays, allowing the navigation bridge to be adjusted at any time. The THOR-1000 can also be connected directly to the sensors as a stand-alone unit. The THOR-1000 is easy to operate through its clear touch screen.

The THOR-1000 can be used in both landscape mode and portrait mode.

Dimming

The THOR-1000 unit has the ability to create different dim groups that allows the user to dim multiple displays with one key press or put them into night vision mode.

Extensions

By using a network to which the sensors are connected, it is possible to add as many displays as you wish. Since various readout options are pre-programmed into the THOR-1000, the unit is extremely suitable for expanding the navigation system.

Display options

The following applications are pre-programmed into the THOR-1000 as standard

- THOR-100 Rudder angle indicator
- THOR-120 Echo sounder
- THOR-130 Wind gauge
- THOR-300 Rate-of-turn indicator
- THOR-500 Autopilot
- Display pilot



Display unit

Housing	Powder coated aluminum
Dimensions	236 x 154 x 35 mm
Dimensions	305 x 210 x 58.5 mm (XL version)
Weight	0,9 kg
Protection	IP-50
Temperature	0 to + 55°C,
Humidity	0 to 90% non-condensing

Electrical specifications

Main power supply	18 - 36VDC 900mA fused
Backup power supply	18 - 36VDC 900mA fused
Current consumption	< 500mA

Optical specifications THOR 1000

Display size	8"
Display resolution	800 x 480
Dimmer range	5 - 100%
Brightness	450 cd/m ²

Optical specifications THOR 1000XL

Display size	10"
Display resolution	1920 x 1280
Dimmer range	5 - 100%
Brightness	550 cd/m ²

Other

- Safe distance from compass 0.45m
- Overvoltage protection

Outputs

- NMEA 0183
- Ethernet

Inputs

- NMEA 0183
- Ethernet

Declaration of conformity

- EN 60945 (IEC 60945 third edition: 1996-11) chapters 9,10,11 and 12

Scope of delivery

- THOR-1000(XL) display unit
- THOR-1000(XL) manual
- Mounting kit





Radio Zeeland DMP

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