



Model NT920AHR MKII
120mm Diameter Card
Non Type Approved



Model NT880AHR
150mm Diameter Card
GL Type Approved



Model NT990AHR
180mm Diameter Card
GL Type Approved

Navitron Systems Ltd

Gyro/Mag Heading Repeaters Type NT880 AHR & NT990 AHR

Navitron Analogue Heading Repeater types NT880 AHR & NT990 AHR are Approved and Certificated by Germanischer Lloyd as fully compliant with all aspects of IEC 60945 and may be configured for single or multihead display of NMEA 0183 Heading Data received from proprietary transmission elements (Gyro, TMC systems etc.).



NT880 AHR

In cases involving non NMEA data sources (proprietary Gyros etc. with step by step or synchro type outputs) an Approved Navitron Heading Data Interface may also be employed for conversion of step/synchro signals to NMEA Serial Data.

Navitron Heading Data Interface types NT990 HDI & NT925 HDI are available for this purpose.

Suitable for 11 – 40Vdc operation, all NT880 AHR Repeater heads are fully interchangeable (no master or slave distinction).

The NT990 AHR heads are also fully interchangeable and both types may be panel or bracket mounted.

Bezel outline dimensions of 192 X 192mm (NT880 AHR) and 240 X 240mm (NT990 AHR) allow the units to be mounted in the appropriate DIN size panel cut outs if required.

A single input is necessary (NMEA heading data in at 4K8 or 38K4 baud) for each Repeater type. Additionally, two power supply inputs (normal and backup) a remote Illumination Control input and a power failure alarm output facility are available with a total of 5 cable entry glands provided.



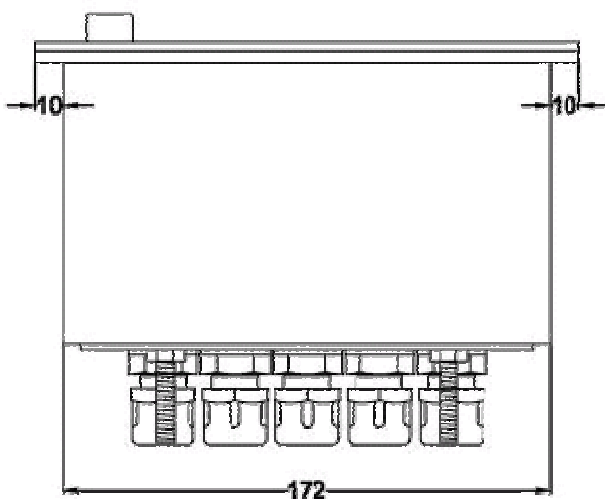
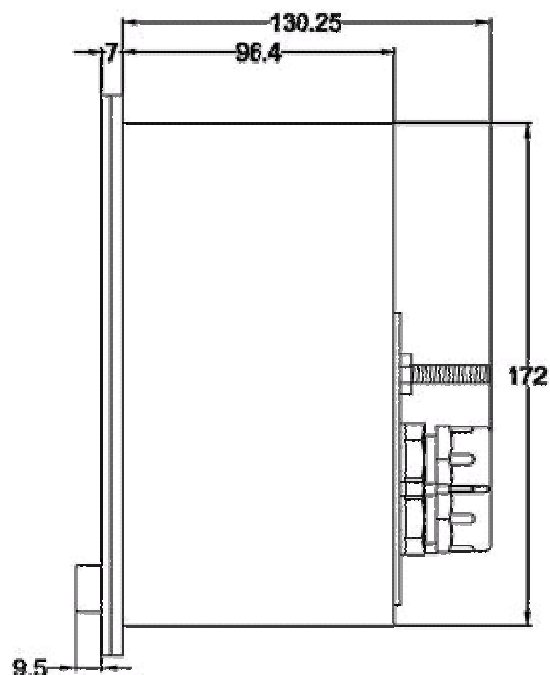
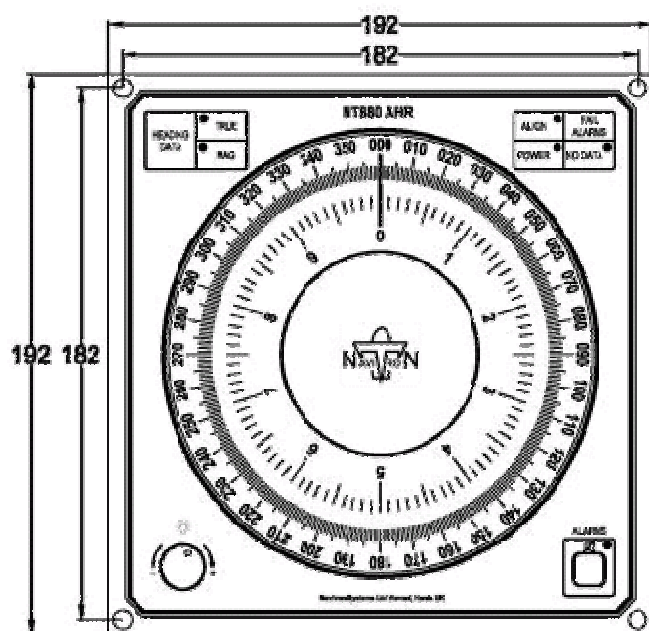
NT990 AHR

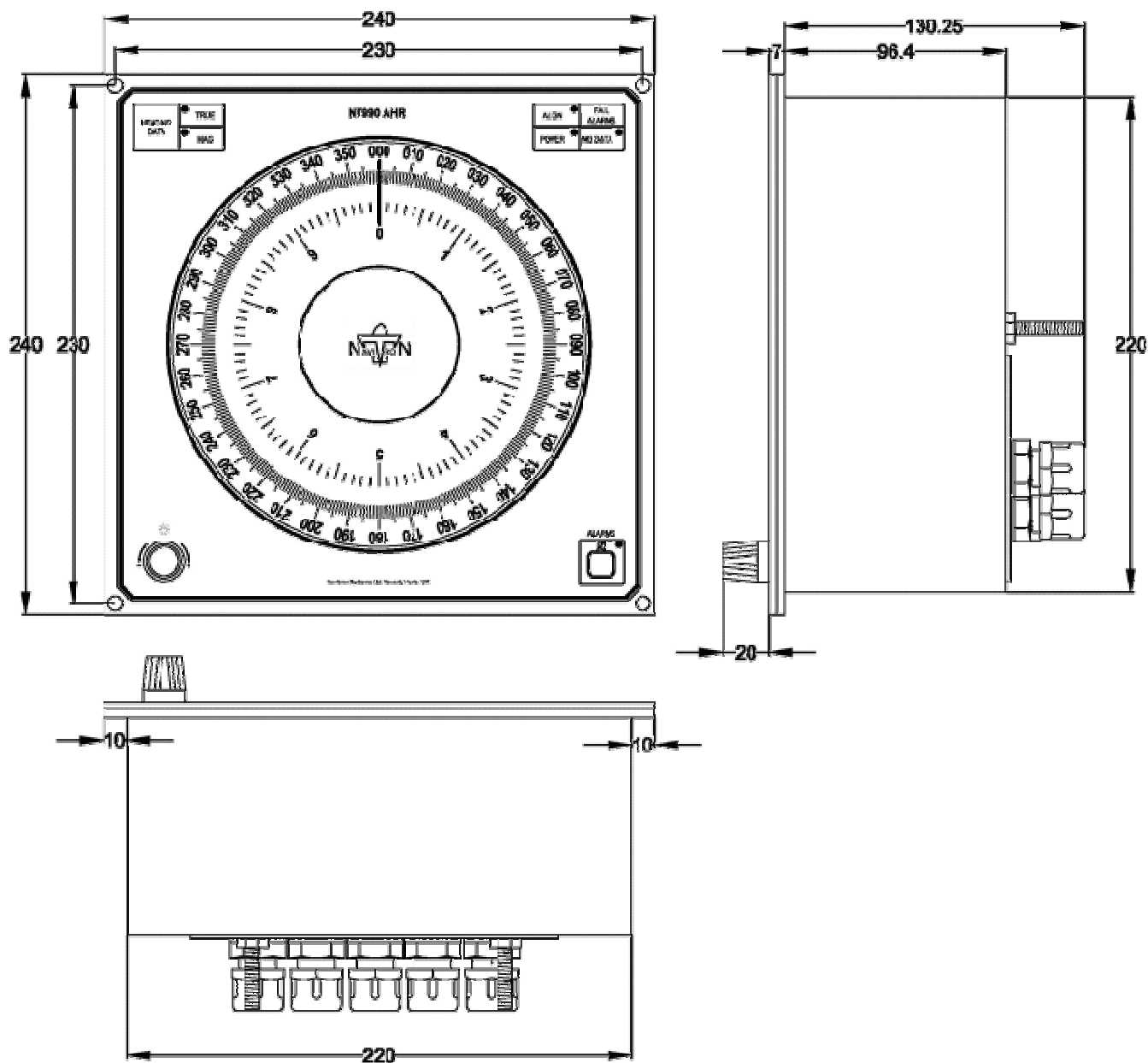
Both Repeater types are self aligning (no calibration required) thus both the main and inner cards will automatically align with NMEA 0183 data received.

Ships head is simply read from a 150mm diameter (NT880 AHR) or 180mm dia (NT990 AHR) main rotating card which is marked in 1° increments with 5° and 10° divisions also defined. The smaller diameter inner card rotates at a rate which is 10 times faster than the main card to provide a clear indication of tenths of a degree. All 3 digit numbers (4.5 or 5.0mm height) are shown at 10° intervals and all scale markings are white on black card backgrounds.

Variable intensity backlight illumination is controlled from a dimmer pot mounted on the instrument panel(s) or via an external dimmer, to illuminate all card legends in red or green (link installation selectable) for night viewing.

Operational integrity is continuously monitored and both Repeater types provide front panel indications of Heading Data type (True or Mag) and failure status (if appropriate) involving Alignment, Data and Power failure malfunctions. The visual indications are accompanied by an audible alarm which may be silenced when acknowledged by Alarm key operation.





NAVITRON SYSTEMS LTD

NT920AHR MKII Analogue Heading Repeater

Simple to install featuring fully automatic self alignment and self test facilities, the NT920 AHR MKII will accept NMEA heading transmission direct from proprietary gyros, TMC systems and fluxgate sensors.

The clearly marked rotating card (120mm dial) is backlight illuminated in red or green as selected and is adjustable via a built in dimmer control.

Of robust weatherproof construction in cast aluminium casings and suitable for single or multihead installation, every unit is supplied for panel or foot bracket mounting in magnetically hostile internal & external locations including steel enclosed wheelhouses and tiller flats etc.



Model NT920AHR MKII Dims 144mm x 144mm x 90mm [depth]

- **NMEA 0183 Compatible**
- **GYRO or MAG Heading**
- **Self Aligning**
- **Variable Illumination**
(Installation selectable - Red or Green)
- **Panel or Bracket Mount**
(Internal & External locations)
- **11 - 40Vdc Supply**



NMEA 0183 Input Sentences	\$XXHDT, \$XXHDG, \$XXHDM, \$XXHCC, \$HEHSC	
Max Following Rate	30°/sec	
Card Readout Accuracy	+/- 0.5°	
Operating Temp Range	-10 to +60°C	
Overall Panel Dimensions	144 x 144mm	
Total Width (Foot Mounted)	204mm	
Total Depth Including Glands	90mm	



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NAVITRON SYSTEMS LTD

Off Course Alarm and Heading Indicators



Model NT925OCA Off Course Alarm

Dims 110mm x 175mm x 75mm (depth)

Simple to operate, both versions feature: -

- 3 digit course set display
- 2 digit course error display
- 3° to 30° OCA trip level
- Red backlight illumination
- 11 - 40 Vdc power supply



Model NT920DHR / 2 Digital Heading Repeater

Dims 110mm x 145mm x 94mm (depth)

Designed and developed by Navitron Systems Ltd the Off Course Alarm type NT925OCA is available in two versions.

NT925OCA / 1 is primarily intended for use as an independently referenced course monitor which, when installed as an independent system or in conjunction with an appropriate Navitron Autopilot system, renders the entire configuration compliant with all articles of IMO Resolution A.342(ix).

Dual Heading input ports are standard and can be connected to accept magnetic information derived from a Navitron heading sensor coil attached above or below an existing ships compass and/ or a range of NMEA 0183 heading sentences derived from proprietary sources such as GPS compasses and Gyro's etc. Whilst only one heading input is essential, dual inputs will provide a back up system where either input maybe chosen as the primary or secondary heading reference.

Standard features include installation programmable Deviation and Variation correction, NMEA 0183 and Step by Step (installation Programmable 3, 6,12 and 24 step/degree) heading outputs for use by proprietary radars etc.

NT925OCA / 2 is designed for use as an independently referenced Off Course Alarm but includes a Course Comparator Alarm which may be enabled or disabled during installation as required.

Unlike the heading sensor coil and single NMEA input associated with the NT925OCA / 1, the NT925OCA / 2 features dual NMEA 0183 heading input ports. Only one input is required for Off Course Alarm operation whilst dual inputs are essential for the additional Course Comparator function which continuously monitors and compares the two sets of NMEA data received. In the event of excessive differences between the data received (trip level installation programmable 1-20") the alarm is activated.

A Step by Step (installation programmable 3, 6,12 and 24 step/degree) output facility is standard

The **NT920DHR / 2** Digital Heading Repeater is immediately compatible with NMEA 0183 heading data and is equipped with an opto isolated input port for direct connection to proprietary senders (gyro's, GPS compasses etc.) transmitting the following sentence types.

\$XXHDT, \$XXHDG, \$XXHDM, \$XXHCC, \$HCHSC.

Ruggedly engineered and suitable for bracket or console mounting in internal and external locations, the NT920DHR may be installed in single or multihead configurations as add on repeaters with proprietary equipment or to provide an independent system with Navitron equipment such as the NT925OCA 1 Off Course Alarm. Standard features include a 3 or 4 digit 25mm LCD display of current heading optimised for night viewing by operator variable red backlight illumination.



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