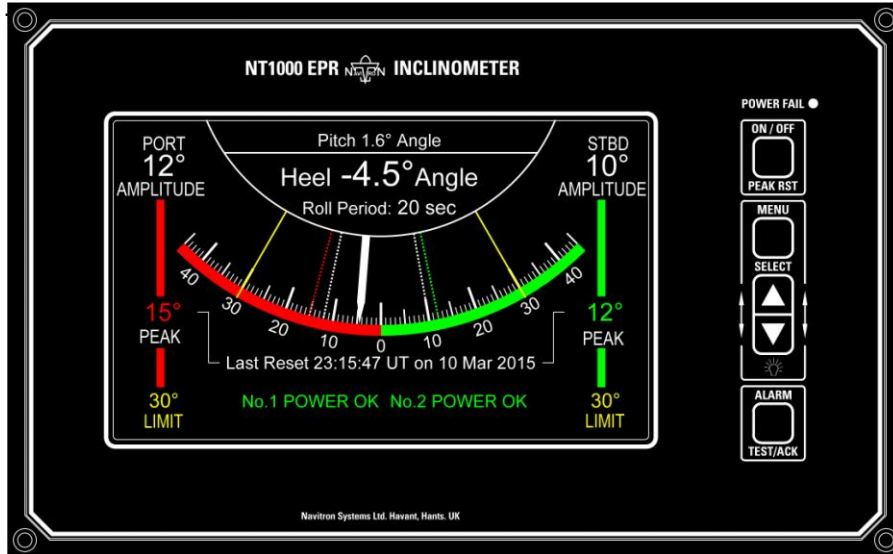


# NAVITRON SYSTEMS LTD

## NT1000 EPR Inclinerometer with Escort Tug Mode

Designed and developed by Navitron Systems Ltd. and fully Type Approved to MSC. 363(92) by DNV-GL and RMRS, the NT1000 Electronic Pitch and Roll Inclinerometer is a robust and accurate instrument which is fully compliant with IMO recommendations to all Governments that Inclinerometers not inferior to this specification should be installed to SOLAS vessels.



**NT1000 EPR Inclinerometer**

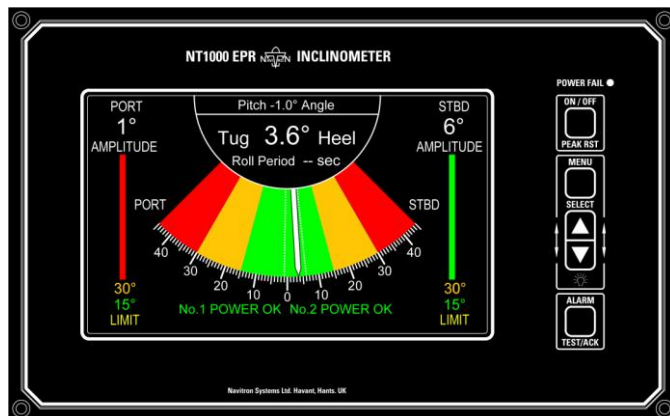
Dims 252mm x 156mm x 104mm (depth)

[The traditional mechanical "pendulum" type of heel measuring devices can provide reasonably accurate indications of angle, but this is largely confined to static situations whereas in a seaway, pendulum mass and inertia will almost invariably result in significant errors.]

The NT1000 EPR Electronic Inclinerometer provides real time – and historical (last 3 & 30 minute) – graphic Pitch & Roll information to the watch crew and serial data to VDR and BAMS etc.

Accordingly, watch personnel are able to monitor vessel performance and are alerted to the development of potentially dangerous situations such as Parametric Roll and associated instability involving increasingly adverse Heel Angles and Roll Periods.

In addition to the Type Approved MSC.363(92) Inclinerometer display, an operator selectable second display screen is provided for Escort Tug towing operations commensurate with Bureau Veritas (BV) Classification Rules NR467 January 2019 "Rules for the Classification of Steel Ships / Part E – Service Notations for Offshore Service Vessels and Tugs".



This display is based on Tug Master adjustable Red (Danger – immediate action required) Amber (Action required) and Green (Safe) Heel Angle Zones (as suited to vessel safety in current towing circumstances) and allows watch personnel to monitor Heel Angles which, in the event that safe levels are exceeded, are visually and audibly alarmed for corrective action to be taken.

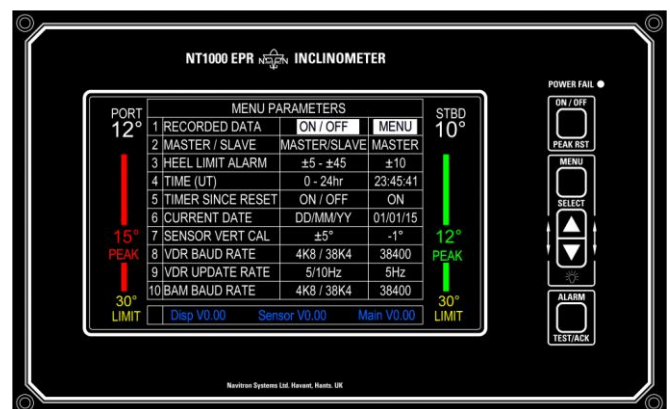
Operator adjustable alarm levels are available via the simple to use Set Up Menu and the Heel Limit Alarm can be visually and / or audibly signalled to remote locations (Masters Cabin etc.) by volt free contacts provided within a Navitron Junction Box.

Other Set Up Parameters include Time (UT) Date and Sensor Calibration.

The NT1000 EPR Inclinerometer system operates on 24Vdc supplies (Main and Back Up) and can be installed in single (Master) or multi head display configurations (3 x Slave heads maximum) where all display heads are equipped with sockets to accept 3m lengths of cable supplied with factory fitted plugs.

The Sensor Unit is a sealed, factory calibrated unit fitted with 3m of cable for connection to the Display Unit(s) via a 2Entry Junction Box also supplied.

All Inclinerometer Units are identical (Master / Slave selectable) and provide installation menu selectable Standard and Reverse Display Formats plus Manual or Auto alarm cancellation options.



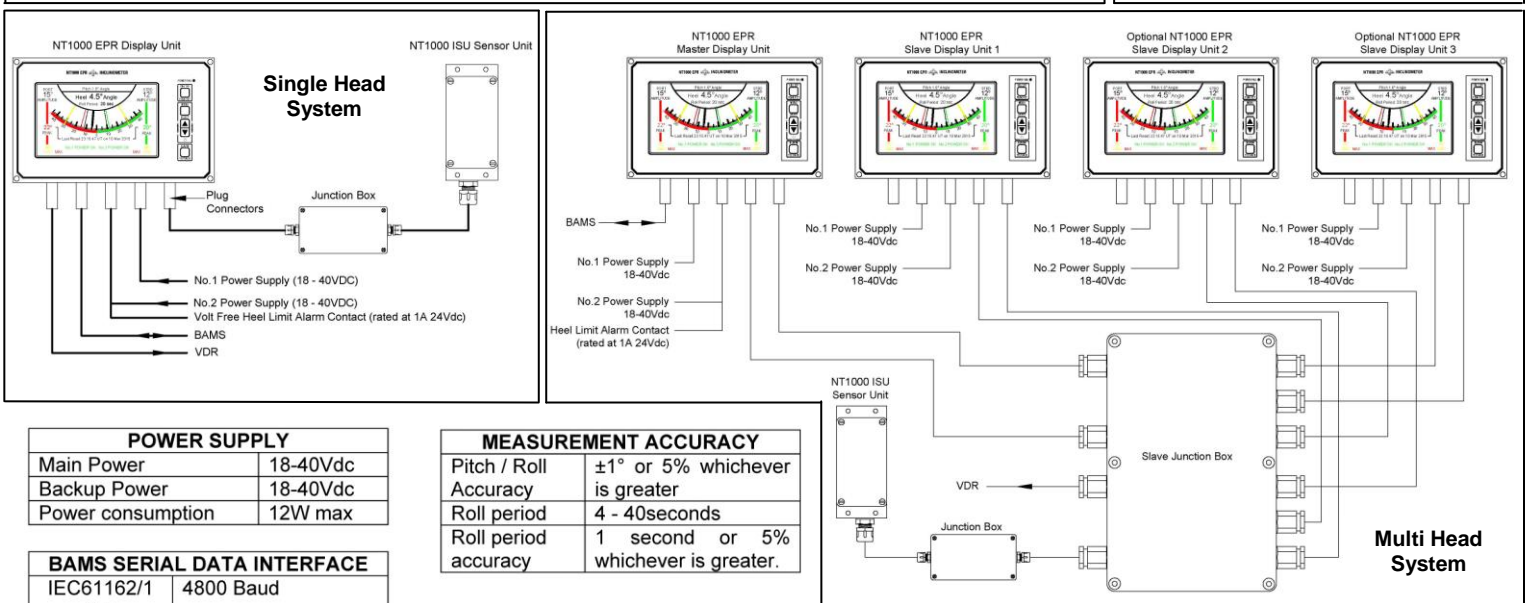
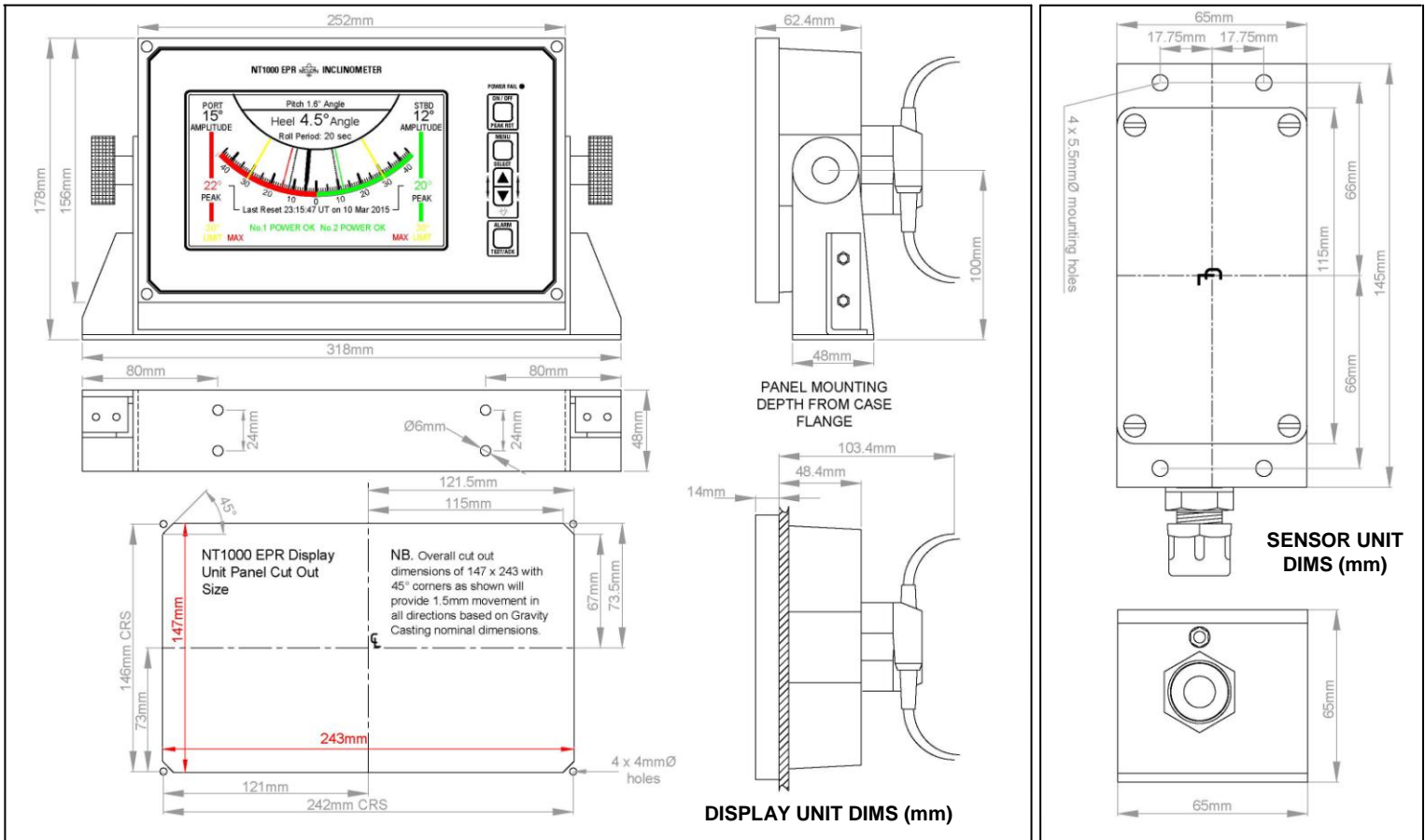
The Inclinerometer is supplied suitable for foot bracket or panel mounting as required.



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# NAVITRON SYSTEMS LTD

## NT1000 EPR Inclinator



POWER SUPPLY	
Main Power	18-40Vdc
Backup Power	18-40Vdc
Power consumption	12W max

MEASUREMENT ACCURACY	
Pitch / Roll Accuracy	±1° or 5% whichever is greater
Roll period	4 - 40seconds
Roll period accuracy	1 second or 5% whichever is greater.

BAMS SERIAL DATA INTERFACE	
IEC61162/1 OR IEC61162/2	4800 Baud OR 38400 Baud
Output sentences	\$\$IALF \$\$IALC \$\$IHBT
Input sentences	\$\$IACN

VDR SERIAL DATA INTERFACE	
IEC61162/1 OR IEC61162/2	4800 Baud OR 38400 Baud
Output sentences	\$\$IHRM \$\$IHBT

MECHANICAL DATA	CONTROL UNIT	SENSOR UNIT
Width	252mm	110mm
Height	156mm	65mm
Depth	50mm	55mm
Weight	2.2kg	0.3kg



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