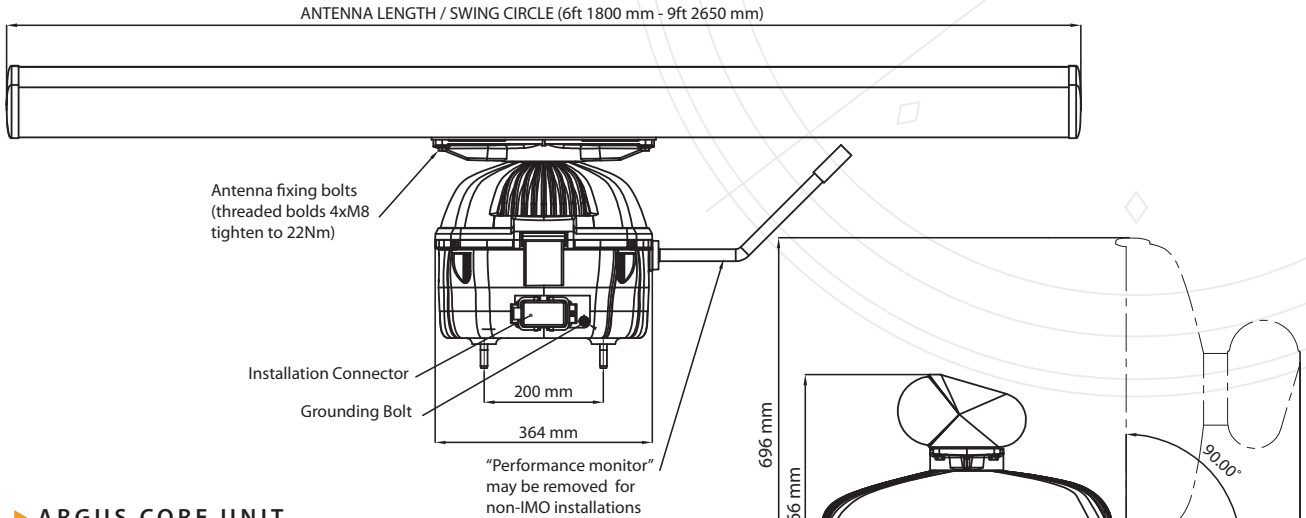
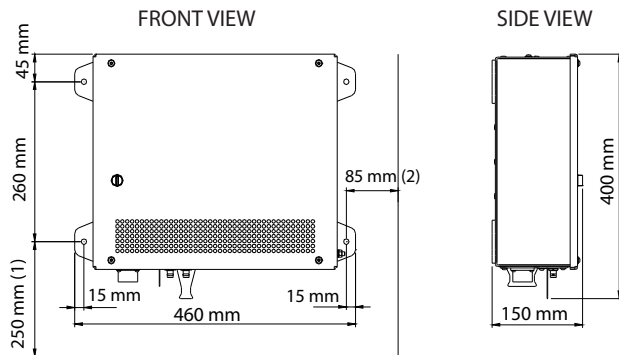


# Technical Specifications

## ▶ ARGUS RADAR ANTENNA

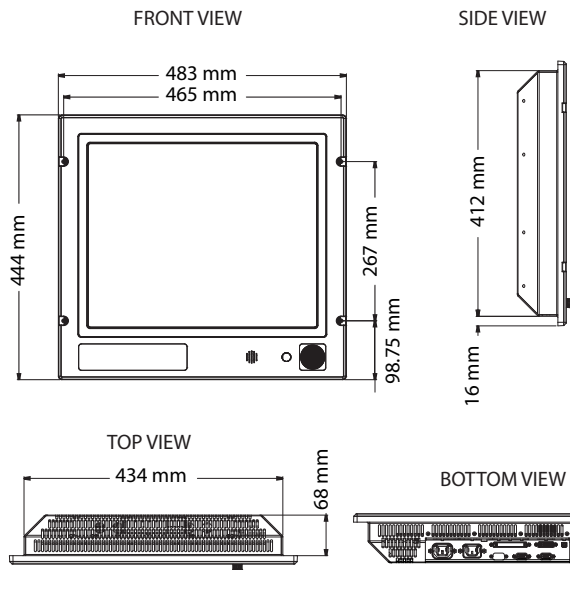


## ▶ ARGUS CORE UNIT

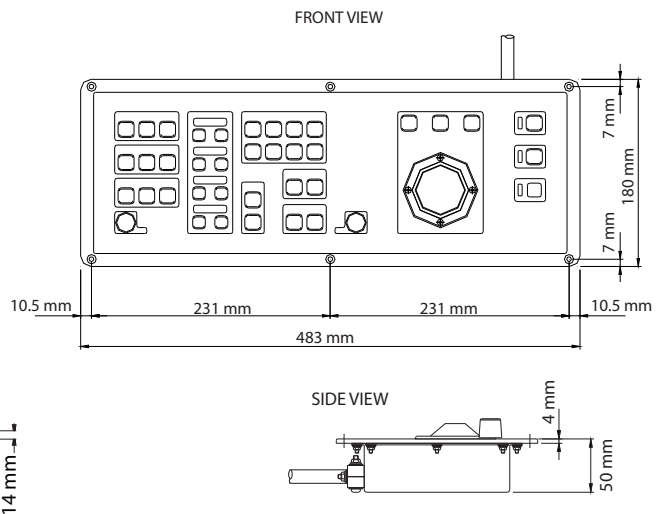


- (1) Minimum distance to the floor
- (2) Minimum distance to the wall and to others equipments

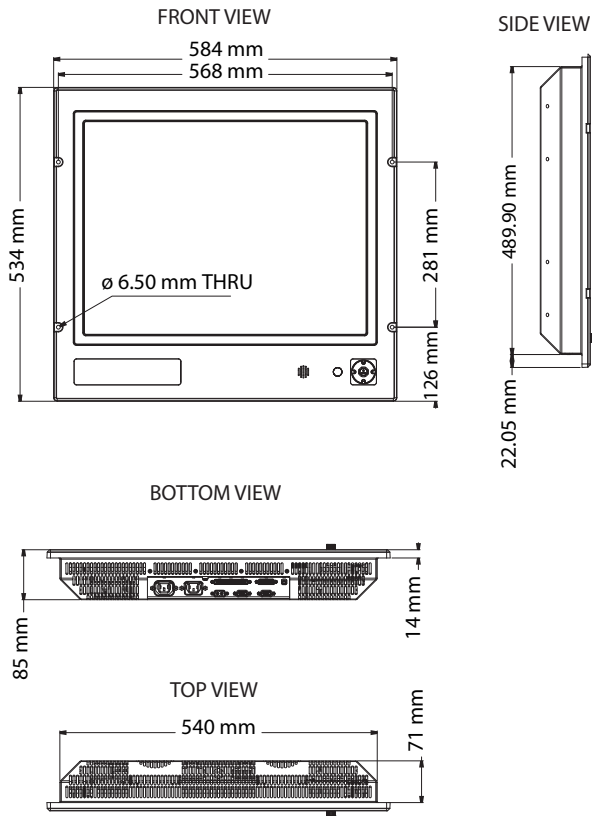
## ▶ ARGUS RADAR 19" MONITOR



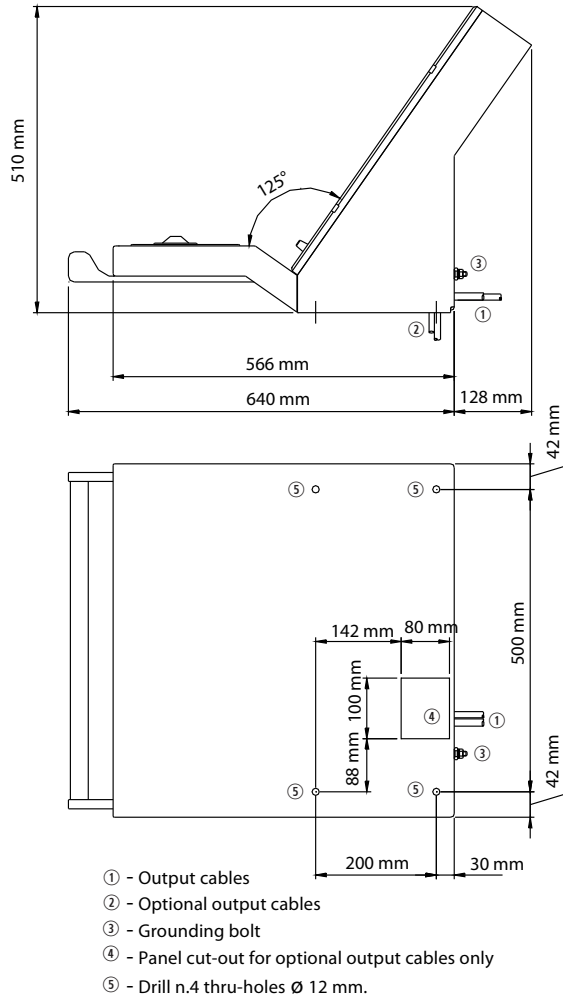
## ▶ ARGUS RADAR KEYBOARD



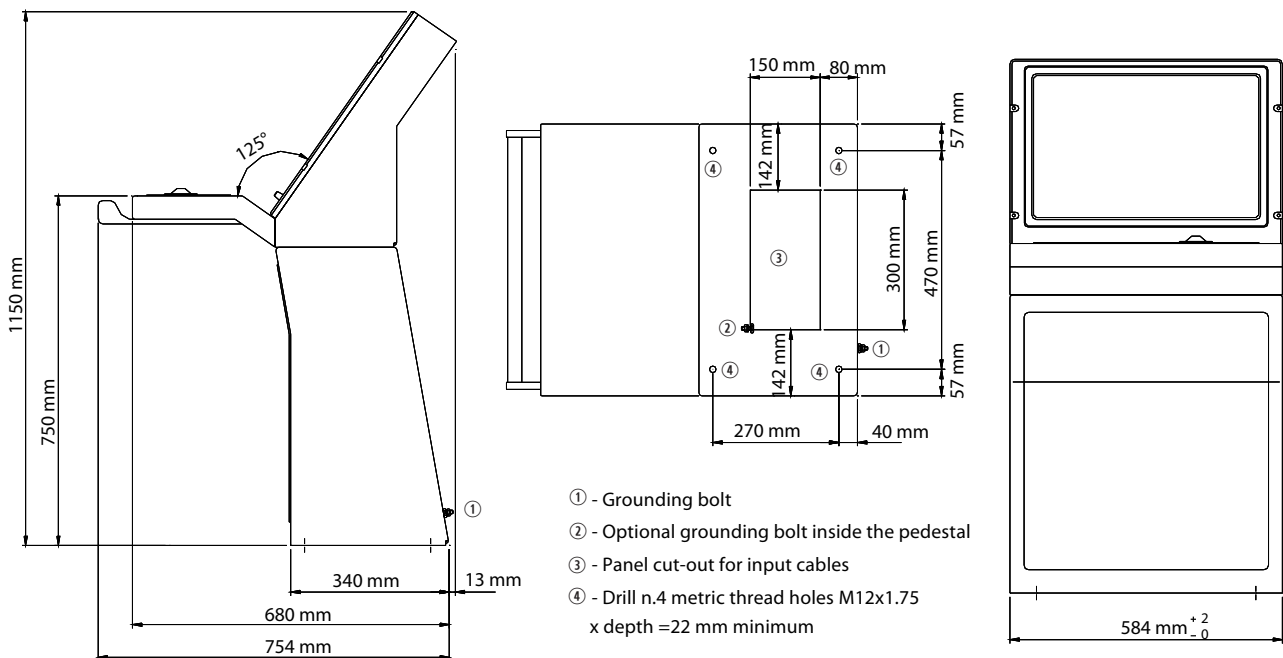
▶ ARGUS RADAR 23" MONITOR



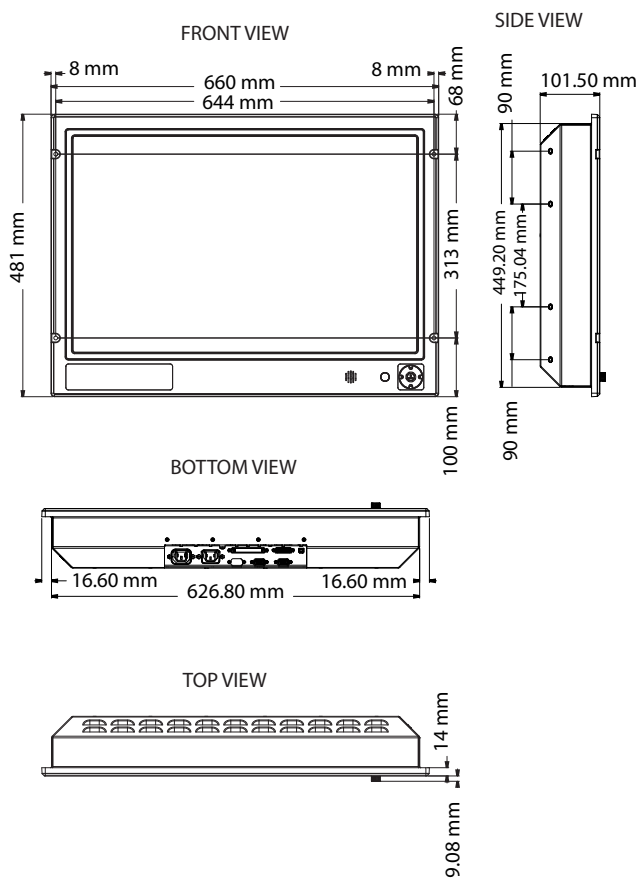
▶ ARGUS RADAR 23" DESK MOUNTING



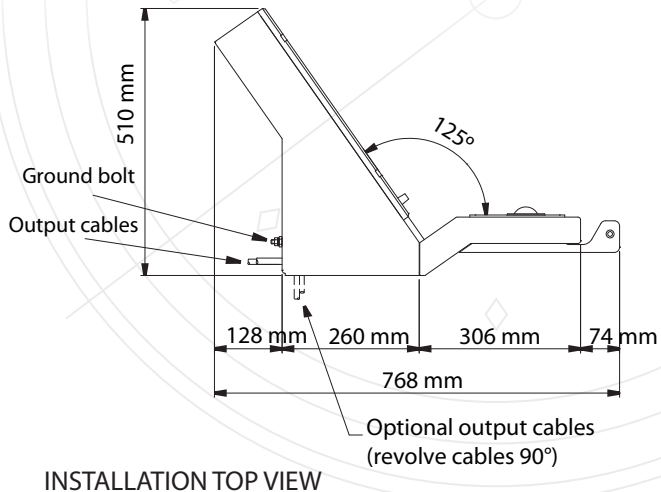
▶ ARGUS RADAR 23" DECK MOUNTING



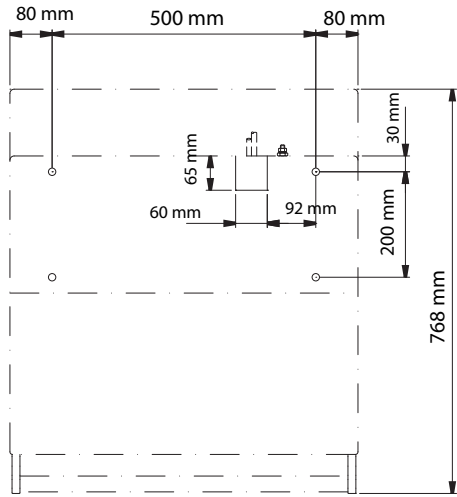
▶ ARGUS RADAR 27" MONITOR



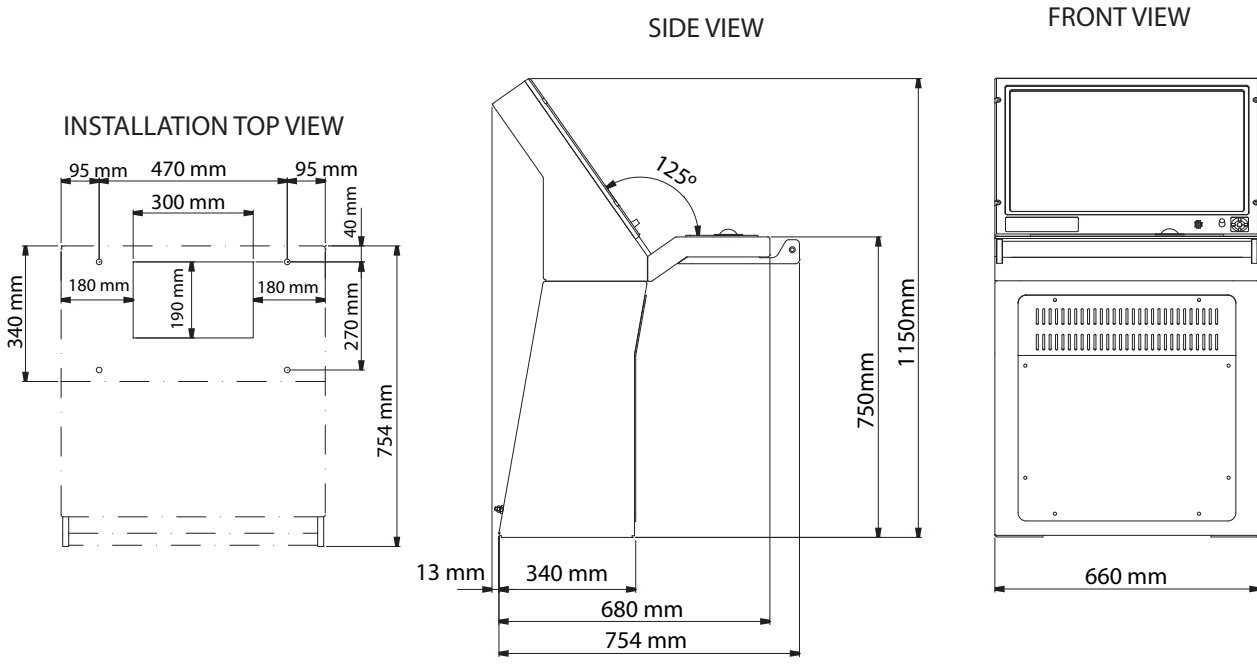
▶ ARGUS RADAR 27" DESK MOUNTING



INSTALLATION TOP VIEW



▶ ARGUS RADAR 27" DECK MOUNTING

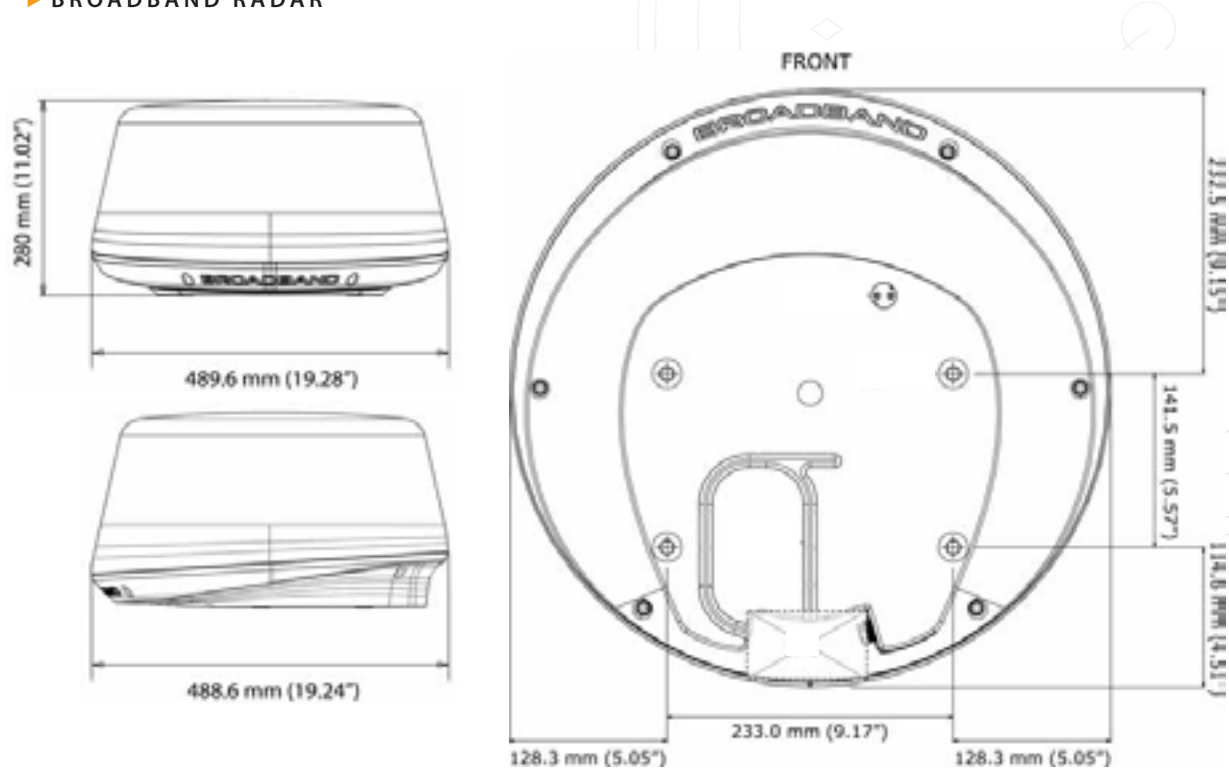


## ► ARGUS SPECIFICATIONS

<b>DISPLAYS</b>	
Monitor - size and resolution	19" LCD - 1280x1024 23" LCD - 1600x1200 27" LCD Wide screen - 1920 x 1200
Radar picture	>250 mm (12" PPI) / >320 mm (16" PPI)
Presentation Modes	Day/Night modes
Relative motion (RM)	Head, Course and North Up
True Motion (TM)	Course and North Up
Off-centering	Up to 50% of range scales in use
Range Scales	0.25; 0.5; 0.75; 1.5; 3; 6; 12; 24; 48; 96 nm
Range Resolution	3 m on 0.75 nm range scale
Azimuth resolution	0.1°
Trackball	Polar and Geographical coordinates. Continuously displayed
Diagnostic	On-line diagnostic programs
<b>ARPA FACILITIES</b>	
Acquisition	Manual or automatic up to 40 targets
Tracking	Automatic up to 40 targets
Auto acquisition / Guard Zones	One auto acquisition zone stabilized on Ownship heading and size/shape configurable. Four sectors with fixed width of 0.5 nm configurable as auto acquisition or guard zone
<b>AIS FACILITIES</b>	
Presentation	Up to 200 targets chosen as the nearest to own ship AIS overflow mechanism of priority
Safe checking	All 200 targets in sleep or activated stated
Auto acquisition / Guard Zones	Same zones as described for ARPA facilities. The System provides up to four Guard Zones
<b>TRIAL MANOEUVERS</b>	
Trial course	For ARPA and AIS target. Manually adjustable from 0° to 360° or automatically computed within 135° with reference to present course.
Trial speed	Adjustable from 0 to 50 knots
Trial ROT	Adjustable from 1° to 60°/min
Trial time	Adjustable with 1 min increments
<b>MAPPING</b>	
Operator compiled maps up to 120 segments plus symbols and text strings with selectable colors and line styles.	
Map stabilization	Relative, true (Dead Reckoning) or geographic
Map storage	By name, on a built-in non-volatile memory. Transferable via USB Memory stick
Map adjustment	Position and Orientation
Parallel index	Four independent parallel index lines
Data readout	Own ship data ARPA target data AIS target data
System setting	Safe minimum CPA and TCPA, vector / past position / trial / trials time
<b>OTHERS</b>	
Alarms	Acoustic and visual warning for: Dangerous Target, Target in Guard Zone, Lost Target, System Failure and external interface sensors (EPFS and AIS).
Other features	Anchor watch, echo reference speed (not for AIS enabled systems), EPFS speed.
Inputs	Serial interface NMEA0183 (IEC 61162-1/2) Gyro, Speed log, EPFS, AIS, Wind sensor, Ext. Alarm Interface
Outputs	Serial interface NMEA 0183 (IEC 61162-1/2) RATTM-RAOSD-RARSD-RAALR sentence AIACK for AIS alarm acknowledge, RATTD, RATLB, Dead Man Alarm, Power Fail, Danger Target, Video output for VDR
Other interface	Dual Ethernet 10/100Mbit/s USB 2.0 port
<b>ENVIRONMENTAL CONDITIONS</b>	
Operating temperature	Display Unit: -15° to 55°C (IEC 60945 protected equipment) Antenna group: In-door -15° to 55°C Out-door, std -25°C to 55°C Out-door option: Down to -40°C (Pedestal with heater)
Storage Temperatures	25°C to 70°C (IEC 60945)
Relative humidity	Up to 93% at 40°C (IEC 60945)
IP class	IP41 (display)
Vibrations	As per IEC 60945
Power supply	Display Unit: 220/115 VAC 50/60 Hz (30 W) SRT X-Band Radar: 220/115 VAC 50/60 Hz (300 VA) Fed by Core unit
Power consumption	500 W max (depending on monitor and wind load)

Type testing in accordance with	IMO Resolution A.813 (19) A.694 (17), MSC192 (79), MSC 36 (63), IMO Circ. S/N 217 and specified standards: IEC 60945 (General Requirements) IEC 62388 (Performance Requirements) IEC 61162-1/2 (NMEA Interface)	
<b>X-BAND RADAR UP-MAST</b>		
Peak Power (kW)	12 or 25	
Pulse length (nsec)	60 – 250 - 800	
PRF (Hz)	3000-1500-750	
Antenna model	<b>6X</b>	<b>9X</b>
Gain (dB)	29	31
Horizontal beam width at -3 dB (°)	1,3	0,9
Vertical beam width at -3 dB (°)	22	22
Weight of Antenna incl. Pedestal with Transceiver (kg)	40	40
Nominal Rotation speed (RPM)	20 or 42 for HSC	20
<b>GRAPHIC FUNCTIONS</b>		
True or relative time adjustable vectors Target identification number, track-ball marker and true marks AIS identification number, ship names or call signs Time adjustable past position plots Four independent parallel index lines Waypoints and Route from Electronic Position Fixing Systems Own ship shape and activated AIS target shape on lower range scales		
<b>SPECIAL FEATURES</b>		
Fully complies and exceeds IMO recommendations Best radar signal processing in the market Wide screen presentation with Dual radar presentation True zoom in second window Real time Dual Range Picture In Picture control (CCTV) Square PPI for clutter free presentation and same look as side by side ECDIS Integrated solid state FMCW Broadband radar control <ul style="list-style-type: none"> <li>• Anti-piracy aft blind sector target detection</li> <li>• PORT or STBD docking radar</li> <li>• Short range own ship awareness</li> <li>• Anti-collision</li> </ul> Up to four IMO + two Broadband radar transceivers per core unit can be controlled from a single display <ul style="list-style-type: none"> <li>• Single Transceiver/Single Display</li> <li>• Single Transceiver/Multi Displays</li> <li>• Multiple Transceivers/Single Display</li> <li>• Multiple Transceivers/Multiple Displays</li> </ul> Built-in electronic dual Inter-switch Intelligent merging of AIS & ARPA targets Anchor-watch with echo references Auto Diagnostics User selectable Menu and Radar video color pallets User defined "Cursor Rest Position" with timeout feature Three Function keys for storing personal settings Automatic help labels on each radar button Sweep to Sweep Correlation for enhanced Interference Rejection Scan to Scan Correlation separating real echoes from sea clutter Advanced Target Enhancement for smaller echoes 6 kinds of pre-sets for superb video processing: Harbor, Short Range/ Small Echoes, Medium Range, Long range, Bad Weather and Iced Sea /Iceberg detection User defined Master/Slave operation Build in Performance Monitor to test the status of the transceiver, waveguide and antenna chain "Power Booster" function for the medium ranges Optional Oil spill detection software pack All X band scanners (Pulse and FMCW) has an external snap on connector for quick and easy installation/service		

► BROADBAND RADAR



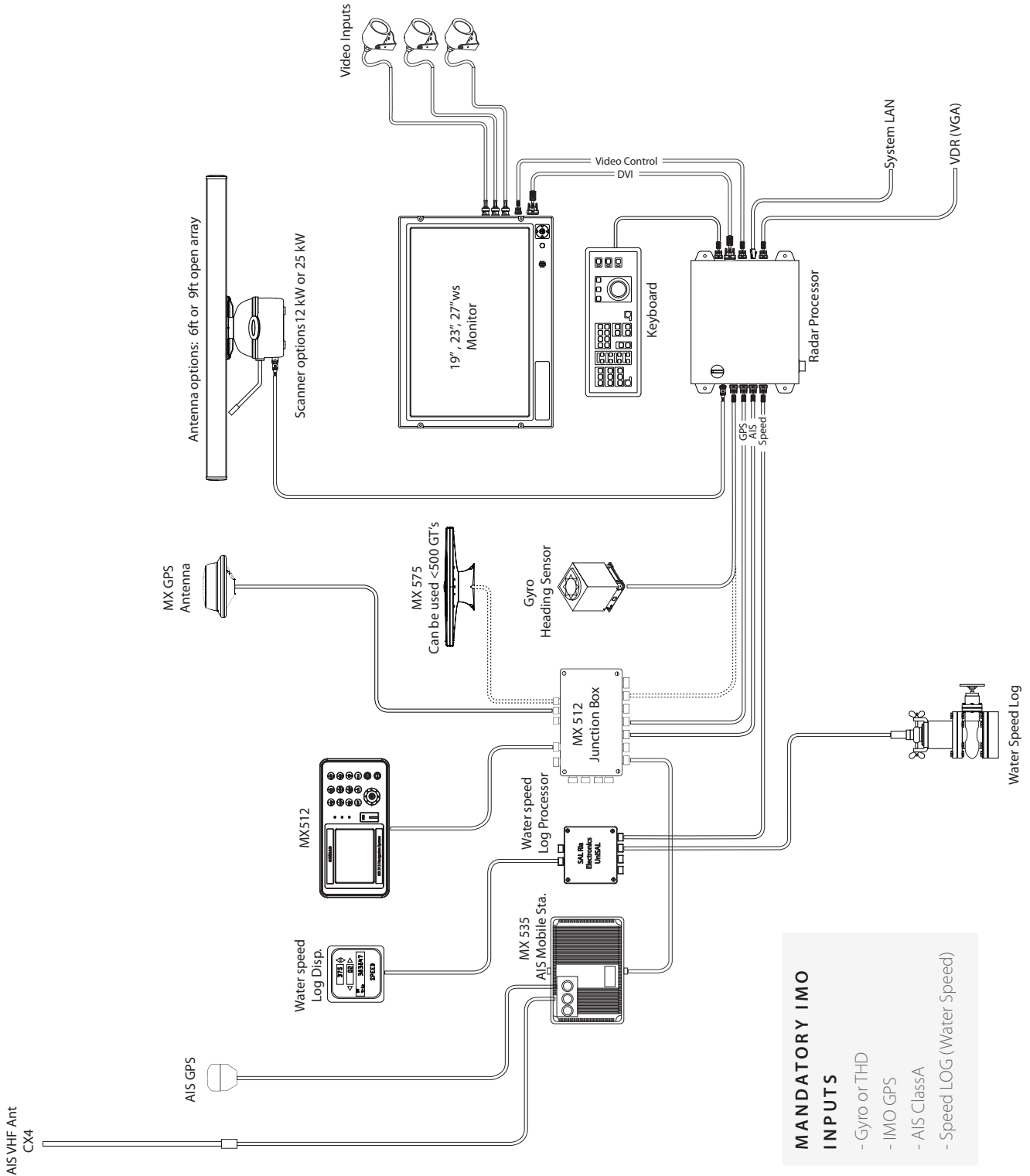
► BROADBAND RADAR SPECIFICATIONS

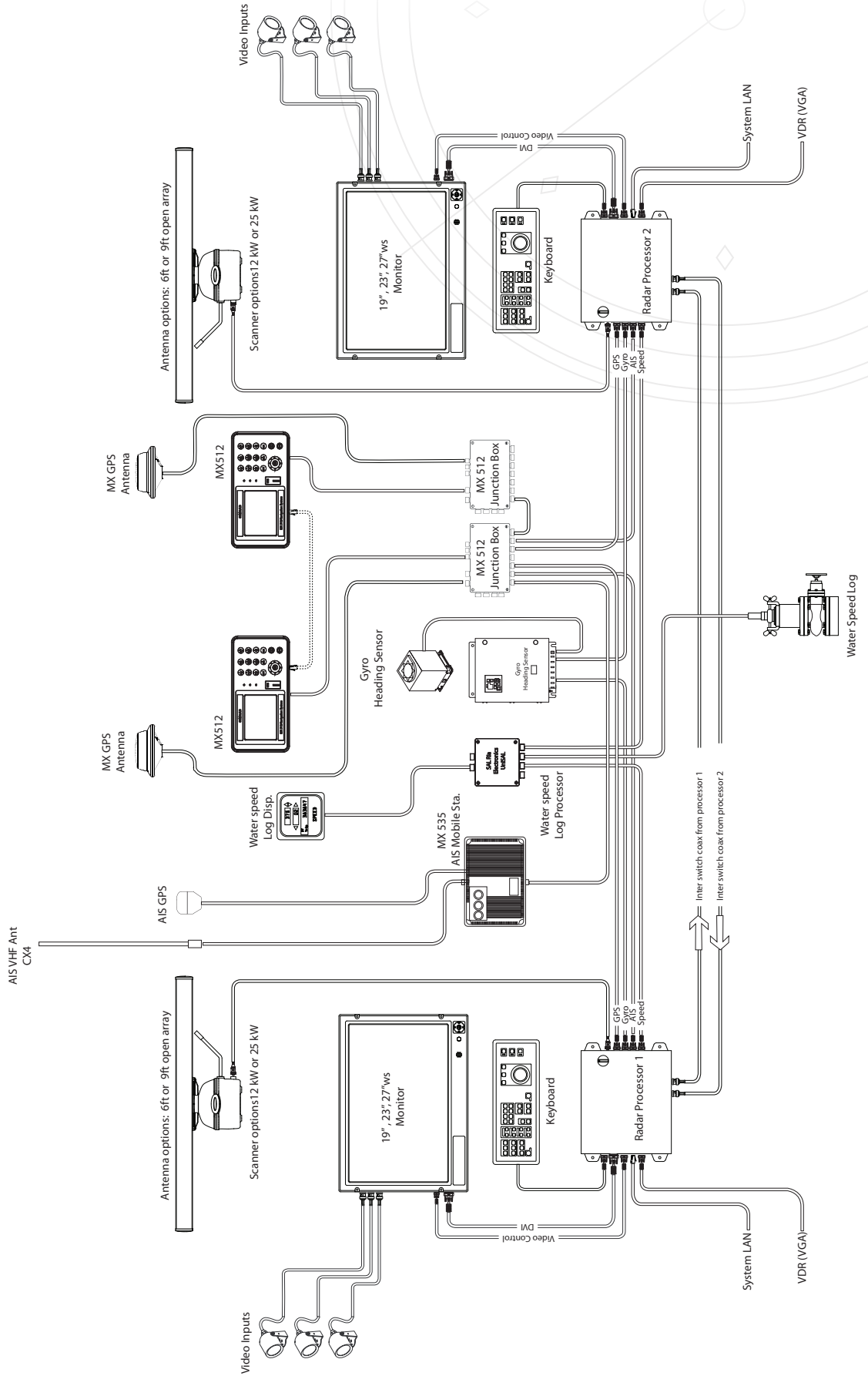
GENERAL	
Compliance	FCC/IC/R&TTE FCC ID: RAY3G4G IC ID: 4697A-3G4G Human Exposure General Public Safety Limit – touch dome anywhere.
Environmental	IEC60945 4th edition 2002-2008 Operating Temperature: -25° to +55°C Relative humidity: +35°C, 95% RH Waterproof: IPx6
Relative wind velocity	51 m/sec (Max:100 Knots)
Power consumption	Operating: 18W (Typ.) @ 13.8VDC Standby: 2W (Typ.) @ 13.8VDC ~ 150ma
DC input (at end of radar cable)	9V to 31.2Vdc (12/24 Volt systems). Reverse polarity protection
Transmitter Source (pre-heating time)	No magnetron – Instant On™
Outside dimensions	Height 280mm x Diameter 488mm
Weight (no cable)	7.4 kg
RADAR AND ANTENNA PARAMETERS	
Radar Ranges	200' to 24nm with 17 range settings (nm/sm/km)
Rotation	24/36 rpm +/- 10%; Mode Dependant
Transmitter frequency	X-band - 9.3 to 9.4Ghz
Transmitter source (warm-up time)	No Magnetron – all solid state. Instant On™
Plane of polarization	Horizontal Polarization

Transmitter peak power output (at antenna port)	165mW (nominal)
Main Bang Dead Zone & Tuning	None – not a pulse radar
Sea and Rain Clutter	5X less than a pulse radar
Sweep Repetition Frequency	200Hz
Sweep Time	1 ms
Sweep Bandwidth	75MHz max
Horizontal Beam width (Tx and Rx antenna)	5.2° +/- 10% (-3dB width)
Vertical Beam width (Tx and Rx antenna)	25° +/- 20% (-3dB width)
Side lobe level (Tx and Rx antenna)	Below -18dB (within ±10); Below -24dB (outside ±10)
Noise figure	Less than 6dB
COMS/CABLING/MOUNTING	
Com Protocol	High Speed Ethernet and Serial
Heading	NMEA2000/Simnet (with RI-10 interface box)
Inter Connecting cable length	10m standard with RJ45 thin custom connector – Display model dependent
Maximum Inter Connecting cable length	30m
Bolts (4)	M8x30 - 304 stainless steel
Footprint	W233mm (port/starboard) x L141.5mm (matches Garmin GMR18HD/Raymarine RD218 footprint)

# Technical drawings

## ▶ BASIC SYSTEM





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