RADAR ANTENNAS SERIES **ASX-2110 • ASX-1910**

GENERAL DESCRIPTION

The GEM ELETTRONICA ASX-2110 • ASX-1910 Series is the answer to most demanding requirements of high-performances of radar detection of surface targets. Designed for top-ranked vessel traffic management, coastal surveillance and security airport traffic movement, its inverse square-cosecant vertical beam distributes the RF energy so as to allow constant radar detection of surface targets. Despite its length the array is completely free from "sagging" at its extremities, meaning that RF propagation is undistorted. Moreover, the design of these antennas practically eliminates the antenna "backlash" so that the bearing data is extremely precise. Horizontal or circular polarization can be implemented at customer's choice.

FEATURES

- High azimuth discrimination
- Inverse square cosecant coverage
- Fully compliant with IALA Guideline No. 1111, Edition 1 (May 2015)
- Functionality 24 h for 360 day/night all-weather conditions.
- Can be remotely driven to select different rotation rates
- Can interface different GEM ELETTRONICA radar transceivers
- Maintenance free (MTBF more that 60000 h)

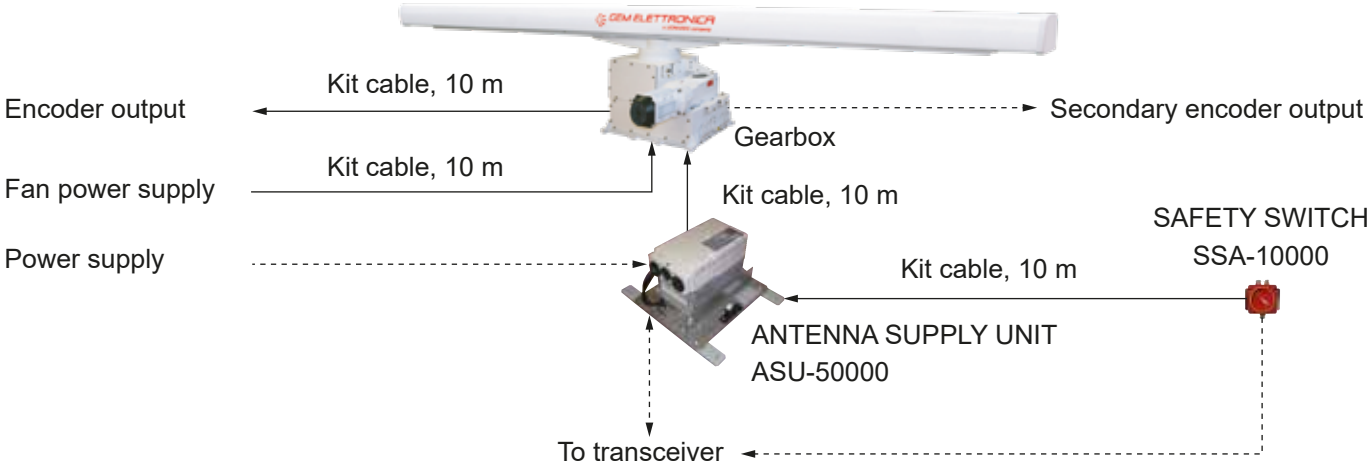
APPLICATIONS

The antenna system series ASX-2110/1910 is targeted to top-ranked applications, such as:

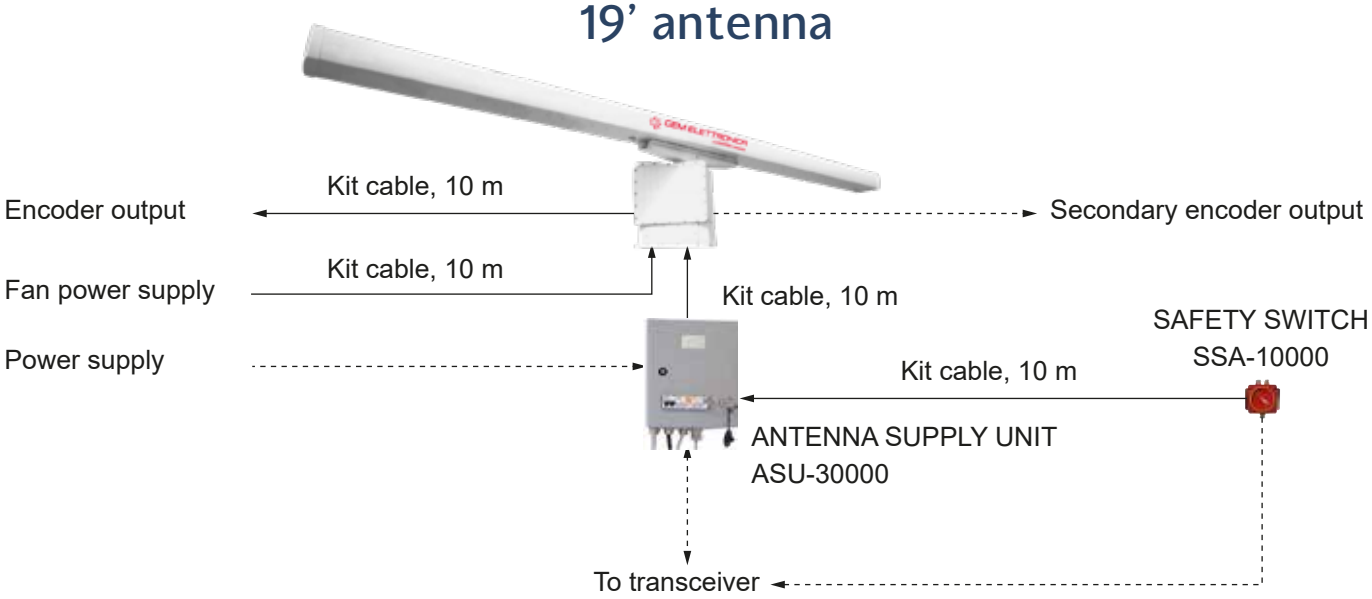
- Vessel Traffic System (VTS),
  Vessel Traffic Management & Information Systems (VTMIS)
- Coastal Surveillance & Security
- Surface Movement Guidance Control System (SMGCS)
- Homeland Security

GENERAL DIAGRAM OF CONNECTION

21’ antenna



19’ antenna



ORDERING INFORMATION

Order Code	Antenna Length	Switchable Polarizations
ASX-2110	21 feet (6.51 m)	horizontal
ASX-2110/C	21 feet (6.51 m)	Circular
ASX-1910	19 feet (5.89 m)	horizontal
ASX-1910/C	19 feet (5.89 m)	Circular

SUPPLY COMPOSITION

- Antenna system including gearbox and antenna unit
- Tilt Unit
- Antenna Supply Unit (ASU)
- Safety switch Unit (SSA)
- Connecting cables kit (standard lenghts: 10 mt)
- Certificate of conformance
- Packing list

OPTIONS:

- Depending on installation requirements, cable lengths are delivered in accordance with Buyer’s instructions
- Use and installation manual in English language

SERIES SPECIFICATIONS

BASIC PERFORMANCE DATA

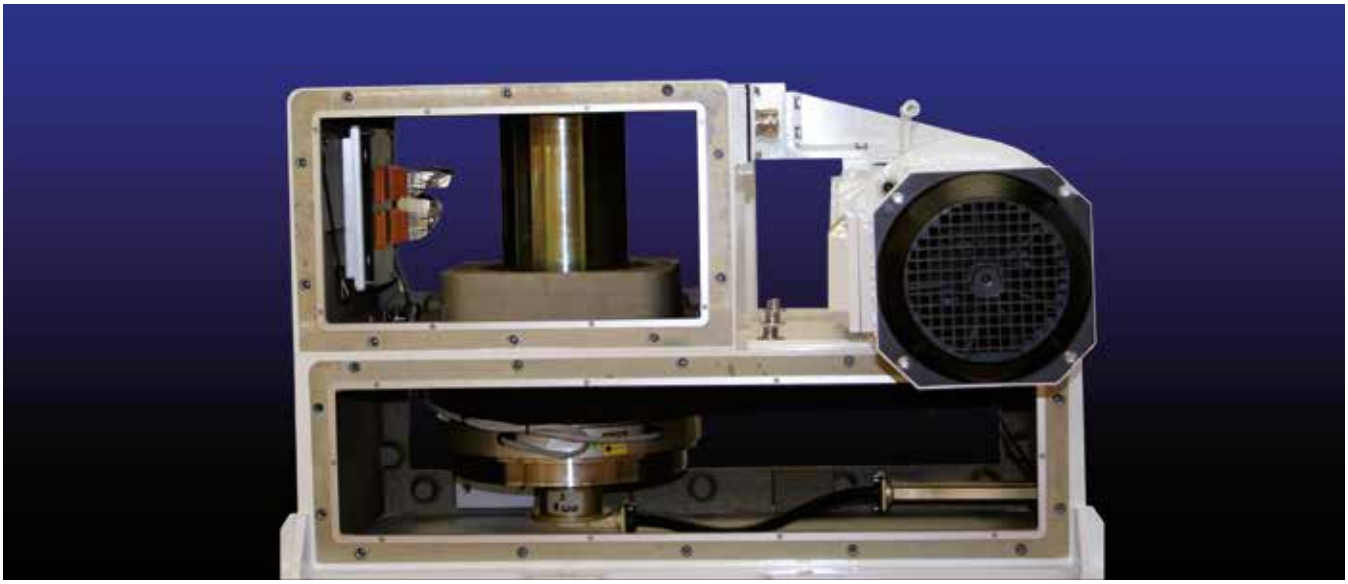
• Antenna type:	Slotted waveguide array
• Center frequency:	between 9300 to 9500 MHz (X band)
• Array length:	21 feet (ASX-2110 versions) 19 feet (ASX-1910 versions),
• Polarization:	Horizontal (ASX-2110, ASX-1910) or circular (ASX-2110/C, ASX-1910/C)
• Gain:	• 37.5 ± 0.5 dBi (ASX-2110), 37.5 ± 1 dBic (ASX-2110/C), • 35 ± 0.5 dBi (ASX-1910), 35 ± 1 dBic (ASX-1910/C)
• VSWR:	≤ 1.40
• Beamwidth (at -3 dB)	
• Horizontal:	≤ 0.35°± 0.03° (ASX-2110 family), ≤ 0.42°± 0.03° (ASX-1910 family)
• Vertical:	13° ± 2°
• Inverse square cosecant sector	From broadside to -35°
• Sidelobes	
• Within ± 10°:	≤ - 28 dB
• Outside ± 10°:	≤ - 35 dB
• Azimuth encoders:	incremental 4096 pulses per revolution, 16,384 pulses for SMGCS applications
• Rotation speed:	From 11 to 26 r.p.m. with variable speed module, 60 rpm for SMGCS applications
• Drive Motor Power:	at least 3 kW, 3 Phase, 380/420 VAC
• Operational wind speed:	up to 100 knots

ELECTRICAL POWER

• Required supply:	Three-phase or single-phase alternating current at either 50 Hz or 60 Hz
• Voltage:	Either 220/380 Vac or 240/415 Vac
• Absorption:	3000 Volt-Amperes (nominal).

ENVIRONMENTAL PERFORMANCES

• Operating temperature range	
• Standard:	From -25°C to + 70°C
• With heating unit:	From -40°C to + 70°C
• Relative humidity:	Up to 100% at +40°C with de-hydrator
• Vibrations:	In accordance with IEC-945.
• Vibration/shock:	1 g from 0 to 50 Hz

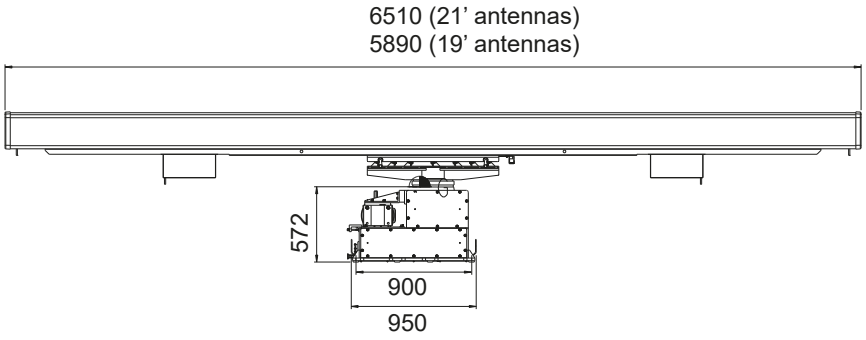


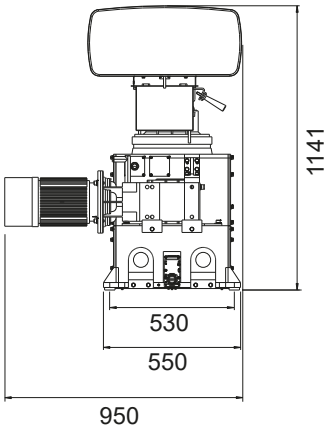
OUTLINE

dimensions in mm

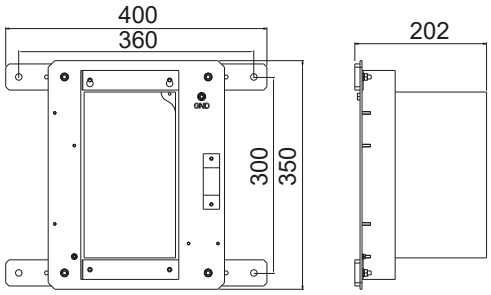
ANTENNA and ROTATION UNIT

Weight
21' Antenna Unit: 178 Kg typical
19' Antenna Unit: 160 Kg typical
Rotation Unit: 245 Kg
Tilt: 31 Kg

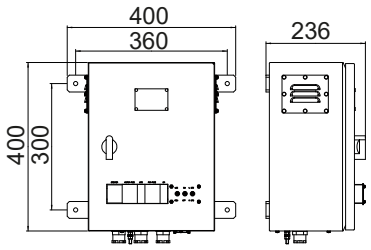




ANTENNA SUPPLY UNIT

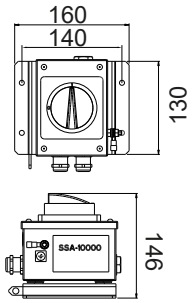


ASU-50000 Weight 10 Kg



ASU-30000 Weight 10 Kg

SAFETY SWITCH



Weight 2 Kg