



## RADAR ANTENNAS SQUINTELESS SERIES **ASX-2101/S • ASX-1901/S**

### GENERAL DESCRIPTION

The GEM ELETTRONICA ASX-2101/S • ASX-1901/S Series constitutes the top in the art of design and production of radar antenna systems. Designed for vessel traffic management, coastal surveillance and security airport traffic monitoring, its unique property of non-dispersion versus the frequency of operation provides zero-squint radiation, a must for wideband, fully solid state systems. Radar pulses are kept un-distorted, so ensuring superb angular discrimination even when connected to non-diverse, magnetron-based radar transceivers to automatically compensate for the magnetron's frequency shift avoiding unwanted pulse modulation. The antenna "backlash" is definitely eliminated so that the bearing data is extremely precise.

The ASX-2101S/ASX-1901S Series can be provided with horizontal or circular polarization so making it the choice in many shored-based installations.

### FEATURES

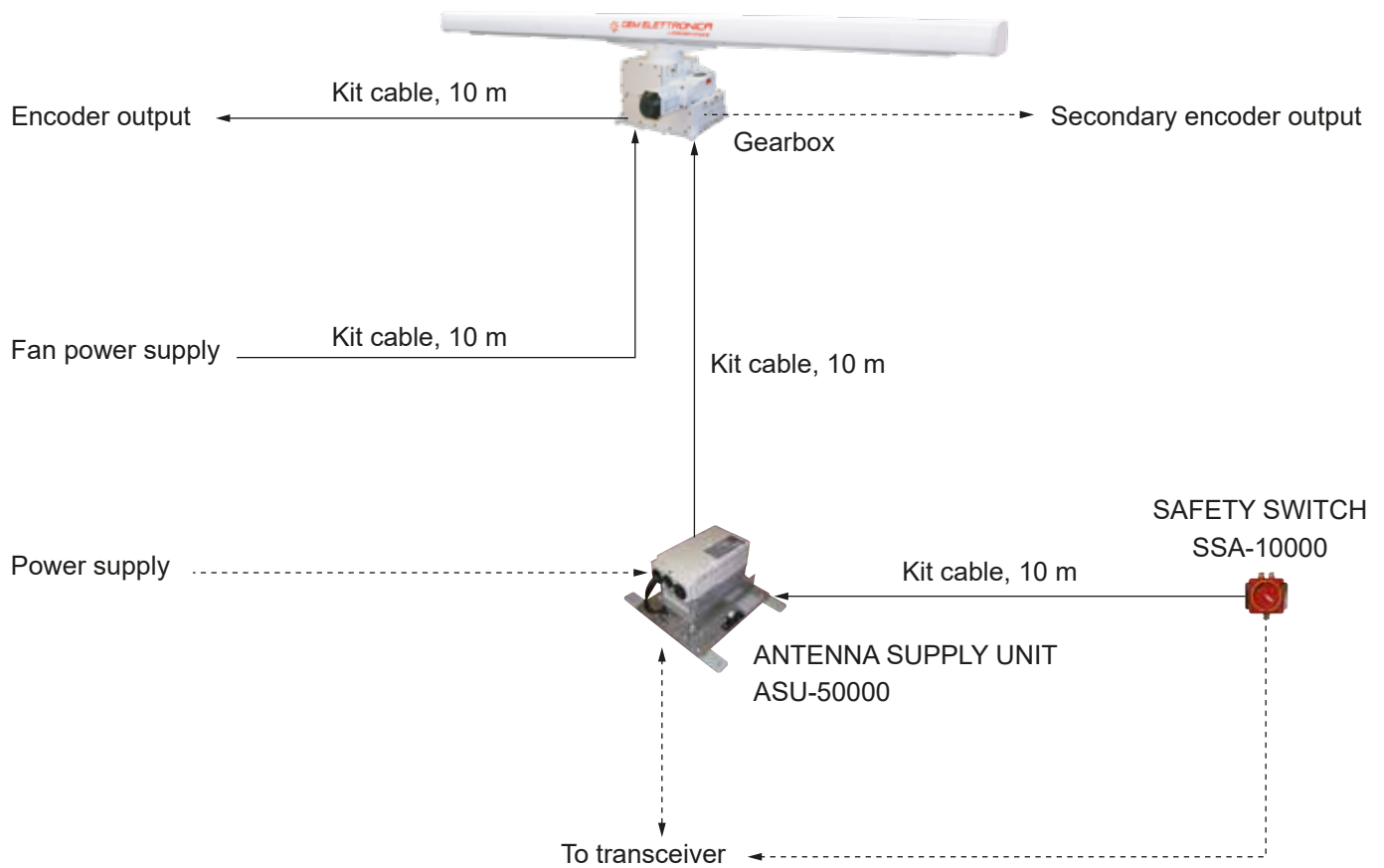
- High azimuth discrimination
- Wide band of operation
- Functionality 24 h for 360 day/night all-weather conditions.
- Can be remotely driven to select different rotation rates
- Can interface different GEM ELETTRONICA radar transceivers
- Maintenance free (MTBF more that 60000 h)

### APPLICATIONS

The antenna system series ASX-2101/S • ASX-1901/S 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



## ORDERING INFORMATION

Order Code	Antenna Length	Polarization
ASX-2101/S	21 feet (6.51 m)	Horizontal
ASX-2101/C/S	21 feet (6.51 m)	Circular
ASX-1901/S	19 feet (5.89 m)	Horizontal
ASX-1901/C/S	19 feet (5.89 m)	Circular

Included in each order code:

- Antenna Supply Unit ASU-50000
- Safety Switch SSA-10000
- Tilt Unit TIM-12000
- Connecting cable kit (standard lengths: 10 mt)

OPTIONS:

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

## SUPPLY COMPOSITION

- Antenna system including gearbox and antenna unit
- Tilt Unit TIM-12000
- Antenna Supply Unit ASU-50000
- Safety switch Unit SSA-10000
- Connecting cables kit
- Use and installation manual in English language
- Certificate of conformance
- Packing list

## SERIES SPECIFICATIONS

### BASIC PERFORMANCE DATA

• Center frequency:	between 9300 to 9500 MHz (X band)
• Array length:	21 feet (ASX-2101/S versions) 19 feet (ASX-1901/S versions),
• Polarization:	Horizontal (ASX-2101/S, ASX-1901/S) or Circular (ASX-2101/C/S, ASX-1901/C/S)
• Gain:	• $35.5 \pm 0.5$ dBi (ASX-2101/S), $35.5 \pm 1$ dBic (ASX-2101/C/S), • $33 \pm 0.5$ dBi (ASX-1901/S), $33 \pm 1$ dBic (ASX-1901/C/S)
• VSWR:	$\leq 1.40$
• Beamwidth (at -3 dB)	
- Horizontal:	$0.35^\circ \pm 0.03^\circ$ (ASX-2101/S family), $0.43^\circ \pm 0.03^\circ$ (ASX-1901/S family)
- Vertical:	$11^\circ \pm 1^\circ$ (ASX-2101/S family), $18^\circ \pm 2^\circ$ (ASX-1901/S family)
• Sidelobes	
- Within $\pm 10^\circ$ :	$\leq -28$ dB
- Outside $\pm 10^\circ$ :	$\leq -35$ 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 $-25^\circ\text{C}$ to $+70^\circ\text{C}$
• With heating unit:	From $-40^\circ\text{C}$ to $+70^\circ\text{C}$
• Relative humidity:	Up to 100% at $+40^\circ\text{C}$ with de-hydrator
• Vibrations:	In accordance with IEC-945.
• Vibration/shock:	1 g from 0 to 50 Hz

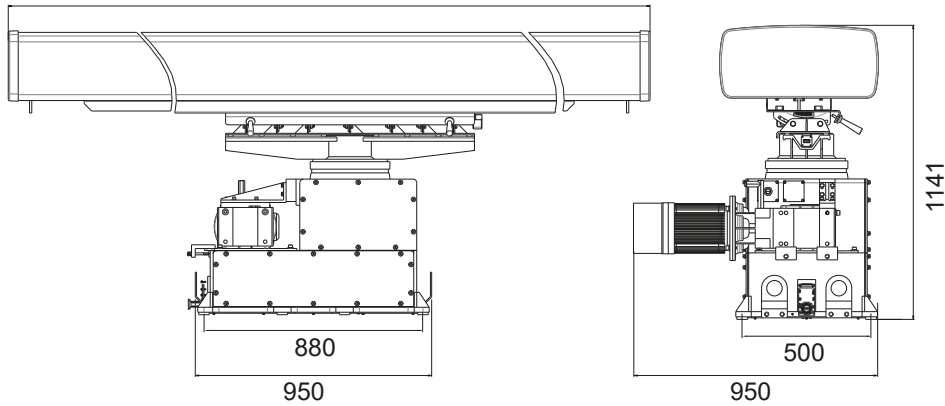


# OUTLINE

dimensions in mm

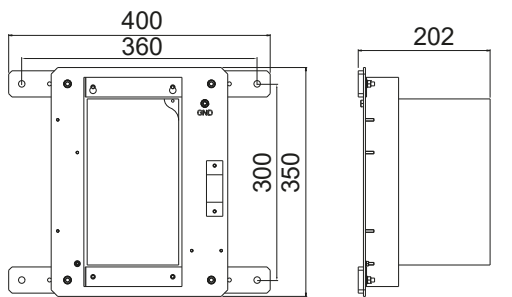
## ANTENNA and ROTATION UNIT

6510 (21' antennas)  
5890 (19' antennas)



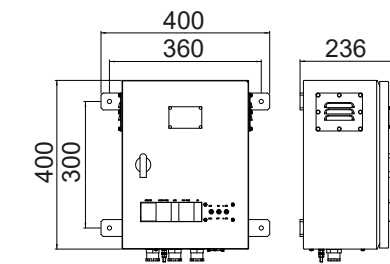
Weight  
21' Antenna Unit: 177 Kg  
19' Antenna Unit: 165 Kg  
Rotation Unit: 245 Kg  
Tilt: 31 Kg

## ANTENNA SUPPLY UNIT



ASU-50000

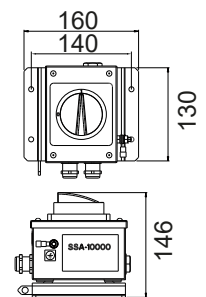
Weight 10 Kg



ASU-30000

Weight 10 Kg

## SAFETY SWITCH



Weight 2 Kg

