



RADAR ANTENNAS SERIES ASX-2101/FD • ASX-1901/FD

GENERAL DESCRIPTION

The GEM ELETTRONICA ASX-2101/FD • ASX-1901/FD Series takes all advantages offered by the radar frequency diversity technique while keeping high azimuth discrimination. The variation of squint allows helps clutter de-correlation as the bands of frequency are well separated, however the electrical characteristics of radiation are still kept. Both linear horizontal and circular polarization are available, so making this series the choice for virtually all shore-based radar installations.

Maintenance-free, the antennas comply with the most severe environmental requirements and the rotation rate can be remotely selected.

FEATURES

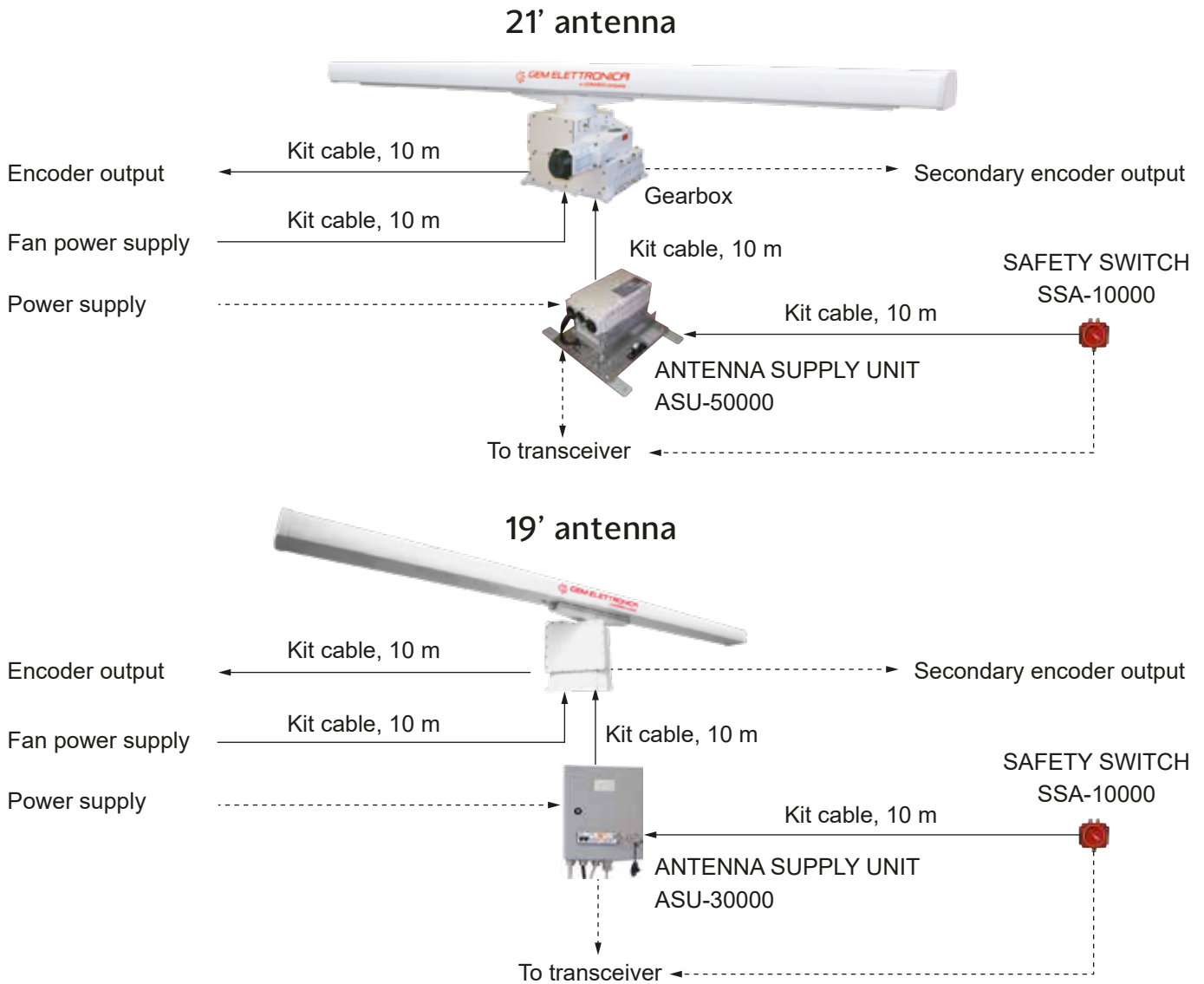
- High azimuth discrimination
- Fan-beam
- Functionality 24 h for 360 day/night all-weather conditions.
- Can be remotely driven to select different rotation rates
- Can interface different GEM ELETTRONICA radar transceivers
- Maintenance free (MTBF more that 60000 h)
- Compact aspect
- Fully compliant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

APPLICATIONS

The antenna system series ASX-2101/FD • ASX-1901/FD 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 | Switchable Polarizations | Nominal center frequency | Antenna Supply Unit | Safety Switch | Gearbox | Tilt | rpm |
|---------------|------------------|--------------------------|--------------------------|---------------------|---------------|----------|-----------|--------|
| ASX-2101/FD | 21 feet (6.51 m) | Horizontal | 9225 MHz 9450 MHz | ASU-50000 | SSA-10000 | MU-3122 | TIM-12000 | 11, 22 |
| ASX-2101/C/FD | 21 feet (6.51 m) | Circular | 9225 MHz 9450 MHz | ASU-50000 | SSA-10000 | MU-3122 | TIM-12000 | 11, 22 |
| ASX-1901/FD | 19 feet (5.89 m) | Horizontal | 9225 MHz 9450 MHz | ASU-30000 | SSA-10000 | MU-1022X | TIM-11000 | 16, 22 |
| ASX-1901/C/FD | 19 feet (5.89 m) | Circular | 9225 MHz 9450 MHz | ASU-30000 | SSA-10000 | MU-1022X | TIM-11000 | 16, 22 |

SUPPLY COMPOSITION AGAINST EACH ORDER CODE

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

OPTIONS:

- Depending on installation requirements, cable lengths are delivered in accordance with Buyer's instructions
- Can be released at other center frequencies between 8800-9600MHz upon Buyer's requirement
- Use and installation manual in English language

SERIES SPECIFICATIONS

| BASIC PERFORMANCE DATA | ASX-2101/FD | ASX-2101/C/FD | ASX-1901/FD | ASX-1901/C/FD |
|---|---|-------------------|------------------------------------|-------------------|
| Antenna type: | Slotted waveguide array | | | |
| Nominal Center frequencies | 9225 MHz and 9450 MHz | | | |
| Frequency band around each center frequency | 80 MHz | | | |
| Array length: | 21 feet (6.51 m) | | 19 feet (5.89 m) | |
| Polarization: | Horizontal | Circular | Horizontal | Circular |
| Gain: | 38 dBi ± 0.5 dB | 38 dBic ± 1 dB | 35 dBi ± 0.5 dB | 35 dBic ± 1 dB |
| VSWR: | less than 1.2:1 | | | |
| Beamwidth (at -3 dB) | | | | |
| Horizontal: | 0.35° ± 0.02° | | 0.42° ± 0.03° | |
| Vertical: | 11° ± 1° | | 18° ± 2° | |
| Sidelobes | | | | |
| Within ± 10°: | less than -28 dB | | | |
| Outside ± 10°: | less than -35 dB | | | |
| Azimuth encoders: | 16384 or 8192 or 4096 pulses per revolution | | 2048 or 4096 pulses per revolution | |
| Rotation speed: | 11, 22 rpm | | 16, 22 rpm | |
| Drive Motor Power: | 3.5 kW | | 1.5 kW | |
| Operational wind speed: | up to 100 knots | | | |
| ELECTRICAL POWER | | | | |
| Required supply at ASU input: | mono phase, 50/60 Hz | | | |
| Voltage: | 220 Vac | | | |
| Absorption: | less than 2 kW | | less than 1 kW | |
| ENVIRONMENTAL PERFORMANCES | | | | |
| Operating temperature range | | | | |
| Standard | from -25° C to +55° C | | | |
| With heating unit | from -40° C to +70° C | | | |
| Relative humidity: | up to 100% at +40° C with dehydrator | | | |
| Vibrations: | in accordance with IEC-60945 | | | |
| Vibrations/shock: | 1g from 0 to 50 Hz | | | |



OUTLINE

dimensions in mm

ANTENNA and ROTATION UNIT

21' antennas
 Weight
 Antenna Unit: 178 Kg
 Rotation Unit: 245 Kg
 Tilt: 31 Kg

19' antennas
 Weight
 Antenna Unit: 65 Kg
 Rotation Unit: 140 Kg
 Tilt: 28 Kg

ANTENNA SUPPLY UNIT

ASU-50000
 Weight 10 Kg

ASU-30000
 Weight 10 Kg

SAFETY SWITCH

Weight 2 Kg

