DSi13 Ku PRO

Reflector diameter	Tracking speed	Max. BUC power	SIM LTE
130 cm	up to **35°/s**	**60** W	**available**

Maritime VSAT antenna with 130 cm dish size and 3-axis motion system for Ku-Band services.

EPAK's latest innovation in maritime satellite communication is the VSAT DSi13 Ku PRO, a maritime satellite antenna for Internet connection operating in Ku-band.

The 130 cm diameter dish system is so far the largest antenna in EPAK's portfolio. Its high-end technical features allow reliable functionality even in regions with fading signals or under harsh weather conditions.
The 3-axis motion system make the antenna free to move and point to whichever direction the satellite is.

The DSi13 Ku PRO has been designed for addressing the communication needs of superyachts, oil and gas platforms, navy boats and frigates, cruise ships and all other vessels demanding for a strong and reliable but yet easy to install satellite system for Internet at sea.

The DSi13 Ku PRO reaches excellent tracking performance under the hardest maritime motion profile "Class A", defined by Global VSAT Forum and Fraunhofer Institute.
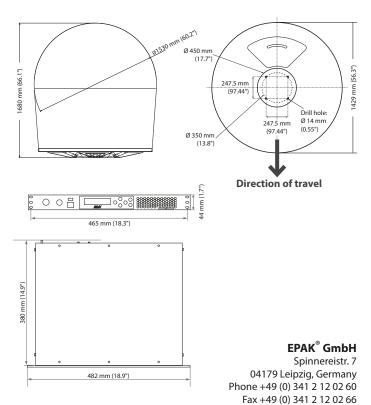
Remote Management Access
Access, monitor and control the DSi13 Ku PRO from any location in the world or set up an automated system diagnostics including event logging.

Web Interface
EPAK VSAT antennas feature an embedded webserver to provide a web user interface for making configurations and accessing live data from the antenna for simplified troubleshooting and monitoring performance.

SIM LTE
You can insert two local SIM cards into the antenna's control unit to access low-cost, high-speed Internet when a 3G/4G network is available.

Automatic Satellite Acquisition
The acquisition of the satellite is completely automated by DVB-S2-Receiver and Modem confirmation.

Diversity Kit Compatibility
No more blind spots by combining the free line of sight ranges of two antennas in one bundle. That will prevent nearly any loss of satellite signals through blockades.

Solid Hardware
Improved hardware reliability against sea conditions.

KEY FEATURES:

- 3-axis motion system + auto skew
- Range movement from -20° to +115°
- Tracking speed up to 35°/s
- LTE Plug & Go SIM cards
- LEO, MEO, GEO tracking supported
- Easy to install
- 130 cm dish for high-quality signal reception and transmission
- Electronically switchable in x-pol and co-pol operation
- Compatible with most modems
- Honeycomb FRP radome
- VoIP optional

Feed Subsystem

Reflector diameter	130 cm (51.18")
Minimum E.I.R.P.	40 dBW
LNB	Universal (LOF 9.75/10.6 GHz, PLL stabilized, internal ref.)
BUC	Super extended Ku (LOF 12.80 GHz, PLL stabilized, external ref.)
Available BUC power	8 W / 16 W / 25 W / 40 W / 60 W
RX antenna gain	43.1 dBi @ 12.5 GHz
TX antenna gain	44.3 dBi @ 14.25 GHz
RX / TX polarization	Linear, Co-pol and X-pol
G/T	>20.9 dB/K (clear sky, 30° elevation)
Position acquisition	Internal GNSS (GPS / Glonass / Galileo / Beidou / QZSS)
Tracking receiver	Internal, 950 - 2150 MHz; BW 0.5 - 50 MHz

Frequency Band

RX frequency	10.7 - 12.75 GHz
TX frequency	13.75 - 14.5 GHz

Drive Subsystem

Tracking technology	Twin RF tracking receiver + 6D inertial + GNSS (NMEA input optional)
Maximum tracking speed	35°/s (each axis)
Azimuth range	Unlimited
Elevation range	-20° to +115°
Skew range	-120° to +120°
Cross level range	-45° to +45°
Maximum ship motion	• Roll ±30° @ 9 sec • Pitch ±20° @ 9 sec • Yaw ±8° @ 12 sec
Ship motion (for stabilization accuracy tests)	• Roll ±30° @ 10-12 sec • Pitch ±20° @ 8-10 sec • Yaw ±8° @ 15 sec
Motion system	3-axis plus auto skew

Miscellaneous

Lock on time	Typ. 30 sec (Time to online depends on modem)
Satellite acquisition	Completely automated by DVB-S2-Receiver and/or modem confirmation (according to ETSI 302 340)
EPAK® Diversity-Kit compatible	✓
Modem approval	Standard type approval; CE & EPAK type approval
Operating temperature	-30°C to 55°C
Storage temperature	-30°C to 85°C
Humidity	According to IEC 60945, 100% condensing
Vibration	According to IEC 60945; MIL-STD-167-1
Shock	According to IEC 60721-4-6; MIL-STD-810F
Rain	IP56
Wind	• Operational: < 150 km/h • Survival: < 200 km/h
Compass safe distance	≥ 2.00 m (according to IEC 60945)
Compliance	• CE (Maritime), ETSI • Complies with the specifications of EC directive 2014/53/EU Radio & Telecommunications Terminal Equipment (R&TTE); compliance with EC directive 2014/35/EU, EMC directive 2014/30/EU and IEC 301-427

Power Specifications

Power supply antenna (ODU)	48 V DC (supplied by ACU)
Antenna input voltage TX (BUC)	25 W BUC and less: 24, 48 V DC / 250 VA (supplied by ACU) 40 W BUC: 48 V / 350 VA (supplied by additional power supply)
Power consumption (ODU excl. BUC)	Up to 180 VA (supplied by ACU)

Dimensions and Weight

Radome (D x H)	153 cm x 168 cm (60.24" x 66.14")
Weight (incl. radome)	120 kg (264 lbs)
Radome material	Honeycomb FRP

Antenna Control Unit

Dimensions (WxHxD)	48.2 cm x 4.4 cm x 38 cm (19" x 1.7" x 14.9") (19" Rack 1HU size)
Weight	5.1 kg (11.24 lbs)
Gyro interface	NMEA0183 / NMEA2000 (via RS422 or RS485 or RS232) / SIMRAD RGC11
Input voltage, frequency	90~264 V AC, 47~63 Hz
Interfaces	• 1x RS232/RS422 (RJ45) • 4x Ethernet + 1x open BMIP (RJ45) • 2x USB • 1x GPIO
Local user interface	256x64px OLED-Display, 3 Status-LEDs, 6 Push-Buttons
Modem interface	Ethernet port + GPIO
Modem protocols	openAMIP / SNMP / Telnet / open BMIP
Remote access	TCP / IP
Position acquisition	Supplied by ODU
Operating temperature	-20°C to 55°C
Storage temperature	-40°C to 85°C
Humidity	According to IEC 60945
IP class	IP 30
Compass safe distance	0.5 m according to IEC 60945

Supported modems

Modem type	• iDirect iNFINITI, Evolution, Velocity • Hughes HX200 • ViaSat SBT-M • Comtech CDM-250/840 • Gilat Skyedge II C4 • Paradise PD25L, Datacom Q-Flex • Advantech VR700, VR7400 • STM Satlink 1910 • Romantis / Eastar UHP 1000 / UHP 2000 • others on request

Cables and Connectors

ACU to Antenna	• 2x Double shielded coax cable (ECOFLEX 10) with N-plugs
ACU to Modem	• 2x Double shielded coax cable (RG6) with F and TNC-plugs • 1x Ethernet with RJ45 plugs

Radome and ACU Dimensions

Direction of travel