

SUPER TRACK

2018 **KNS** CATALOG
THE NEW STANDARD OF SATELLITE COMMUNICATION



KNS



COMPANY PROFILE

Located in Daejeon, the Research and Development capital of South Korea, KNS Inc. is a worldwide designer, manufacturer, and integrator in the marine communications industry.

KNS has been serving customers worldwide providing high quality services, VSAT antennas, equipments and parts for the marine communications industry. As a leader in today's growing industry we also hold ISO 9001:2008, ISO 14001:2004, and CE 0678.

HISTORY



SUPERTRACK

Wherever you are in the world, whether you are on land or at sea, experienced KNS' comprehensive range of advanced stabilized antennas. KNS has expanded its series of antennas to provide a more enhanced service to its customers across a broad spectrum of environments, including On - The - Move, Military, Oil & Gas, OSVs, Leisure, Commercial shipping and Commercial Fishing.

KNS has the capability of providing exceptional military standard service for secure broadband connectivity, voice, data, video and TV Services, at very competitive prices.

2018 PRODUCT LINE UP

SUPERTRACK

SUPERTRACK MARINE SATCOMS	VSAT	Z (MK3)	KU-Band	Z7MK3(75cm), Z8MK3(83cm), Z10MK3(1.0m), Z12MK3(1.2m), Z15KM3(1.5m)
			KA-Band	Z6MK3-Ka(60cm), Z10MK3-Ka(1.0m)
		Z (MK2)	KU-Band	Z4Mk2(45cm), Z6MK2(61cm), Z7MK2(75cm), Z8MK2(83cm), Z10MK2(1.0m), Z12MK2(1.2m), Z24MK2(2.4m)
			C-Band	Z24MK2-C(2.4m)
		A	KU-Band	A6(61cm), A9(83cm),A10(1.0m), A12(1.2m)
		C	KU-Band	C4(40cm)
	TVRO	S	KU-Band	S4(45cm), S6(61cm), S8(85cm), S10(1.0m), S12(1.2m)
		K	KU-Band	K4(39cm), K5(45cm), K7(61cm)
SUPERTRACK TACTICAL SATCOMS	SOTM	M	KU-Band	M4MK2(45cm),
			KU/KA-Band	M9MK1(90cm)
	NAVAL VSAT	X	X-Band	X10MK3-X(1.0m), X15MK3-X(1.5m)
		10-ULV	KU/KA-Band	10-ULV-Ka (1.0m), 10-ULV-Ku (1.0m)



Z_SERIES VSAT

The SuperTrack Z-Series MK2 is the perfect solution for ships looking for VSAT communication network with broadband speed at sea. Through our 3-axis stabilization solution, you may enjoy all the functions of VSAT to stay in touch with your network via high speed access to the internet, email, multiple VoIP phones and more.



Z_SERIES MK2 Ku / C - Band Communication

The diagram shows a white, dome-shaped antenna radome with the KNS logo, a parabolic dish antenna mounted on a mechanical base, and a rack-mounted control unit. Lines connect these components to their respective feature descriptions on the right.

Z-Series Antenna Radome
Honeycomb Radome for durability and higher tolerance preventing any possible damage due to harsh environments.

Tracking Speed
More than 90°/ sec

Unlimited Azimuth
Uninterrupted searching keeps you in business however your ship turns. Cable wrap free.

Pre-programmed Satellite Database
Editable 80 satellite data

Accurate Signal Acquisition by KNS's Distinctive Algorithm
Pointing Accuracy : ± 0.2 deg_{p-p}

KA-165 Antenna Control Unit
3 Types of Gyro Input : NMEA, Synchro, Step by Step
Input Power : 100~120V AC / 200~240V AC, 50/60Hz, 8A/4A
Output Power (Antenna Input Power) : TX - 48V DC, 3.2A / RX - 48V DC, 4.18A
External I/O : RS232C, Mini USB, Ethernet, Console
Size : 19" Rack 1U size
Remote Access : T-monitor, SCS Software, Telnet Terminal

Z
A
C
S
K
M
X

Z SERIES MK2 Ku / C - Band Communication

NEW



KU-BAND	Z4MK2	Z6MK2	Z7MK2	Z8MK2
Dish Diameter	45cm	61cm	75cm	83cm
Antenna Dimension	60cm(D) X 69cm(H)	85cm(D) X 84cm(H)	102cm(D) X 104cm(H)	113cm(D) X 117cm(H)
Antenna Weight	32kg	43kg	69kg	87kg
Frequency	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz
Antenna Gain	TX : 33.2 dBi @ 14.25 GHz RX : 33.0 dBi @ 11.75 GHz	TX : 37.2 dBi @ 14.25 GHz RX : 35.7 dBi @ 11.75 GHz	TX : 39.1 dBi @ 14.25 GHz RX : 37.5 dBi @ 11.75 GHz	TX : 39.9 dBi @ 14.25 GHz RX : 38 dBi @ 11.75 GHz
G / T	11.0dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	14.25dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	16.37dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	16.89dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky
Operating Platform	3-Axis	3-Axis	3-Axis	3-Axis
Skew Control	-90° to +90°	Automatic	Automatic	Automatic
Elevation Angle	-20° to +95°	-10° to +95°	-10° to +100°	-20° to +105°
Azimuth Angle	640°	Unlimited	Unlimited	Unlimited
Cross Angle	± 35°	± 35°	± 35°	± 35°
Ship Motion	Roll: ±20° at 8~12 sec periods Pitch: ±10° at 6~12 sec periods Yaw: ±8° at 15~20 sec periods	Roll: ±20° at 8~12 sec periods Pitch: ±10° at 6~12 sec periods Yaw: ±8° at 15~20 sec periods	Roll: ±24.7° at 8 sec periods Pitch: ±15° at 6 sec periods Yaw: ±8° at 15 sec periods	Roll: ±24° at 8~12 sec periods Pitch: ±14° at 6~12 sec periods Yaw: ±8° at 15~20 sec periods
Vibration Damper	Rubber Damper Included	Rubber Damper Included	Rubber Damper Included	Rubber Damper Included
Temperature	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C	Up to 100% @ 40°C	Up to 100% @ 40°C
Hybrid /All-in-one	Hybrid	Hybrid / All-in-one	Hybrid / All-in-one	Hybrid / All-in-one
Certification / Qualification		0678	0678	0678
Radome	Plastic / FRP	FRP Honeycomb	FRP Honeycomb	FRP Honeycomb

*Specifications subject to change without notice

SUPERTRACK MARINE SATCOMS

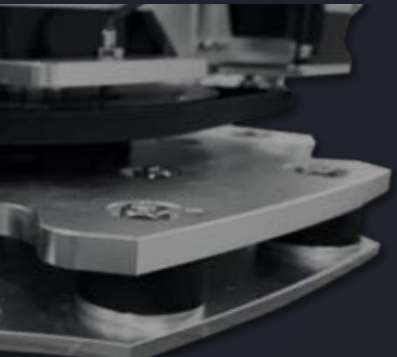


KU/C-BAND	Z10MK2	Z12MK2	Z24MK2	Z24MK2-C
Dish Diameter	100cm	120cm	240cm	240cm
Antenna Dimension	144cm(D) X 152cm(H)	161cm(D) X 163cm(H)	315cm(D) X 308cm(H)	315cm(D) X 308cm(H)
Antenna Weight	114kg	142kg	530kg	530kg
Frequency	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 5.85 ~ 6.725 GHz RX : 3.4 ~ 4.2 GHz
Antenna Gain	TX : 41.0 dBi @ 14.25 GHz RX : 40 dBi @ 11.75 GHz	TX : 42.87 dBi @ 14.25 GHz RX : 40.95 dBi @ 11.75 GHz	TX : 49.1 dBi @ 14.25 GHz RX : 47.8 dBi @ 11.75 GHz	TX : 41.6 dBi @ Mid. Frequency RX : 36 dBi @ Mid. Frequency
G / T	18.89dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	20.79dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	27.27dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	20.6dB/K (in Radome) @ 30deg, Elevation angel and RX mid freq., Clear Sky
Operating Platform	3-Axis	3-Axis	3-Axis	3-Axis
Skew Control	Automatic	Automatic	Automatic	Automatic
Elevation Angle	-20° to +110°	-20° to +110°	-10° to +120°	-10° to +120°
Azimuth Angle	Unlimited	Unlimited	Unlimited	Unlimited
Cross Angle	± 35°	± 35°	± 35°	± 35°
Ship Motion	Roll: ±24° at 8~12 sec periods Pitch: ±14° at 6~12 sec periods Yaw: ±8° at 15~20 sec periods	Roll: ±24° at 8~12 sec periods Pitch: ±14° at 6~12 sec periods Yaw: ±8° at 15~20 sec periods	Roll: ±15° at 8~12 sec periods Pitch: ±10° at 6~12 sec periods Yaw: ±8° at 15~20 sec periods	Roll: ±15° at 8~12 sec periods Pitch: ±10° at 6~12 sec periods Yaw: ±8° at 15~20 sec periods
Vibration Damper	Rubber Damper Included	Rubber Damper Included	-	-
Temperature	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C	Up to 100% @ 40°C	Up to 100% @ 40°C
Hybrid /All-in-one	Hybrid / All-in-one	Hybrid / All-in-one	-	-
Certification / Qualification	0678 MIL-STD-167-1A	0678 MIL-STD-167-1A		
Radome	FRP Honeycomb	FRP Honeycomb	FRP	FRP

*Specifications subject to change without notice

COMPARISON BETWEEN MK2 and MK3

ADU (Above Deck Unit)			
Features	Mk2	Mk3	Remark
Automatic Satellite Searching	√	√	
Auto Skew Control	√	√	Mk2 : 1 deg min skew control angle Mk3 : 0.1 deg min skew control angle
Skew Calibration Setting Free		√	No skew calibration setting required after replacing major components
Motor Compatibility		√	Same motor can be used for all 3 axis and all MK3 model
Interface Unit (LCIU, YIU)		√	Located between PCU and each motor that act as a bridge to shorten the cable to make easy replacement and protect motor driver module
Home Index Sensor	Hall sensor	Proximity sensor	Proximity sensor has better durability (Enclosed in the YIU and also easy to replace)
Co-pol Switch Module	(Optional)	√	
All-in-one PCU	(External)	√	
Brake System	√	√	Prevent the antenna from free moving during power off
Shock Absorber		√	Remove the impact from rough sea condition and conventional weapon fire
Wire Rope Isolator & Rubber Damper	√	√	Reduce vibration
Bluetooth Connection Between PC & PCU		√	
Certification	Intelsat, CE0678, MIL-STD-167, Thaicom	Intelsat, CE0678, MIL-STD-901, MIL-STD-461, MIL-STD-167, Anatel, Eutelsat	

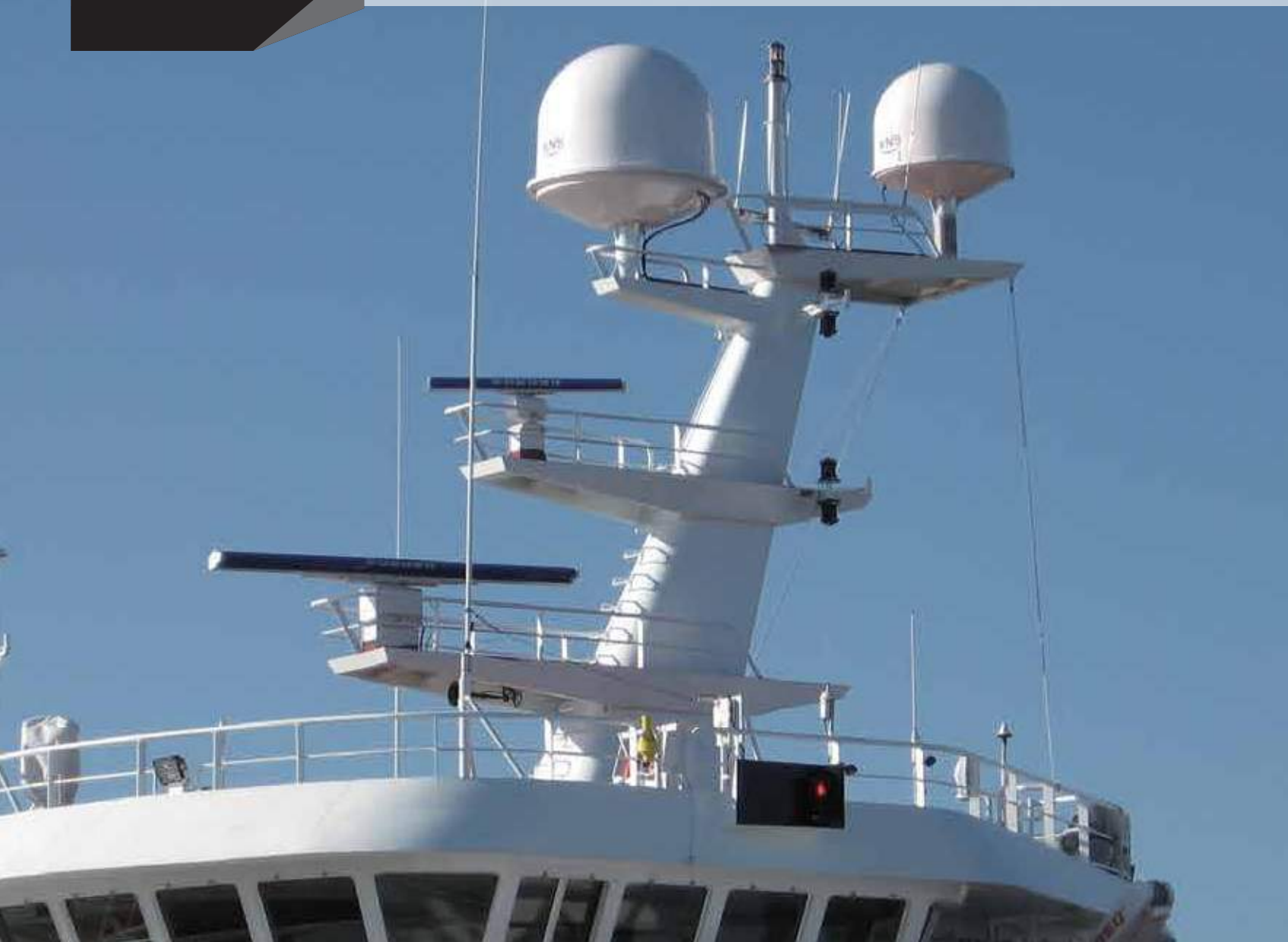


SUPERTRACK

BDU (Below Deck Unit)			
Features	KA-165 ACU	KA-180 ACU	Remark
Main Power Filter Board		√	Decrease noise level, prevent noise interference in the Rack
Extended Power Supply		√	Supply both Rx & TX power, can be extended to 640W (Additional 320W power supply can be installed for high power BUC), individual Tx & Rx power control
Dual Fan	(Single fan)	√	Increased cooling capability, provide constant cooling even when one of the fan fails
Temp Monitoring		√	Able to check temperature inside both ACU and PCU
Power Consumption Monitoring		√	Able to check both Rx & Tx power consumption
Remote Software Upgrade		√	
Gyro Interface	√	√	
ABS Status Monitoring	√	√	Displays ABS status, support iDirect, Comtech, Hughes, STM etc.
Dual Antenna System	√ (With mediator)	√ (With VCS)	
Built-in Impedance Matching Pad		√	LNB impedance 75 Ohm & ACU impedance 50 Ohm, modem interface 50 Ohm

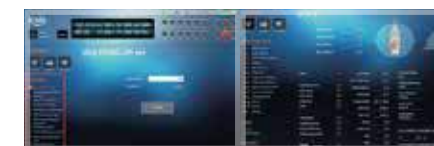
Z_SERIES VSAT

This High-End SuperTrack Z-Series MK3 allows your ultimate effectiveness of network connection even though in harsher environment. You will feel the definite difference from what you expected at VSAT connection via our high performance and easy maintenance within more rigid body structure which is proudly approved for naval vessels. (MIL-STD-901 compliance)



SUPERTRACK MARINE SATCOMS

Z_SERIES MK3 Ku / Ka - Band Communication



Remote Upgrade / Control

* Optional - Heater / Air-conditioner

Z_SERIES MK3 Ku / Ka - Band Communication



KU-BAND	Z7MK3	Z7MK3 Shock ver.
Dish Diameter	75cm	75cm
Antenna Dimension	102cm(D) X 104cm(H)	113cm(D) X 117cm(H)
Antenna Weight	67kg	86kg
Frequency	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz
Antenna Gain	TX : 39.1 dBi @ 14.25 GHz RX : 37.5 dBi @ 11.75 GHz	TX : 39.1 dBi @ 14.25 GHz RX : 37.5 dBi @ 11.75 GHz
G / T	16.37dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	16.37dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky
Operating Platform	3-Axis	3-Axis
Skew Control	Automatic	Automatic
Elevation Angle	-10° to +100°	-10° to +100°
Azimuth Angle	Unlimited	Unlimited
Cross Angle	± 35°	± 35°
Ship Motion	Roll: ±24.7° at 8 sec periods Pitch: ±15° at 6 sec periods Yaw: ±8° at 15 sec periods	Roll: ±24.7° at 8 sec periods Pitch: ±15° at 6 sec periods Yaw: ±8° at 15 sec periods
Vibration Damper	Rubber Damper Included	Wire Rope and Shock Absorber Included
Temperature	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C
Hybrid /All-in-one	Hybrid	Hybrid
Certification / Qualification	 ANATEL  0678 	 ANATEL  0678  MIL-STD-901 MIL-STD-461 MIL-STD-167
Radome	FRP Honeycomb	FRP Honeycomb

*Specifications subject to change without notice



KU-BAND	Z8MK3	Z10MK3
Dish Diameter	83cm	100cm
Antenna Dimension	113cm(D) X 117cm(H)	144cm(D) X 152cm(H)
Antenna Weight	103kg	103kg
Frequency	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz
Antenna Gain	TX : 39.9 dBi @ 14.25 GHz RX : 38 dBi @ 11.75 GHz	TX : 41.0 dBi @ 14.25 GHz RX : 40 dBi @ 11.75 GHz
G / T	16.89dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	18.89dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky
Operating Platform	3-Axis	3-Axis
Skew Control	Automatic	Automatic
Elevation Angle	-12° to +110°	-18° to +110°
Azimuth Angle	Unlimited	Unlimited
Cross Angle	± 35°	± 35°
Ship Motion	Roll: ±24° at 8~12 sec periods Pitch: ±14° at 6~12 sec periods Yaw: ±8° at 15~20 sec periods	Roll: ±25° at 8~12 sec periods Pitch: ±15° at 6~12 sec periods Yaw: ±8° at 15~20 sec periods
Vibration Damper	Rubber Damper Included	Rubber Damper, Wire Rope and Shock Absorber included
Temperature	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C
Hybrid /All-in-one	Hybrid	Hybrid
Certification / Qualification	 0678 	 ANATEL  0678  MIL-STD-901 MIL-STD-461 MIL-STD-167
Radome	FRP Honeycomb	FRP Honeycomb

*Specifications subject to change without notice

Z_SERIES MK3 Ku / Ka - Band Communication



KU-BAND	Z12 MK3	Z15 MK3
Dish Diameter	120cm	150cm
Antenna Dimension	161cm(D) X 163cm(H)	212cm(D) X 1206cm(H)
Antenna Weight	138kg	260kg
Frequency	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz
Antenna Gain	TX : 42.87 dBi @ 14.25 GHz RX : 40.95 dBi @ 11.75 GHz	TX : 45.25 dBi @ 14.25 GHz RX : 43.8 dBi @ 11.75 GHz
G / T	20.79dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	22.89dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky
Operating Platform	3-Axis	3-Axis
Skew Control	Automatic	Automatic
Elevation Angle	-10° to +110°	-15° to +110°
Azimuth Angle	Unlimited	Unlimited
Cross Angle	± 35°	± 35°
Ship Motion	Roll: ±25° at 8-12 sec periods Pitch: ±15° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods	Roll: ±25° at 8-12 sec periods Pitch: ±15° at 6-12 sec periods Yaw: ±5° at 5-50sec periods
Vibration Damper	Rubber Damper and Shock Absorber Included	Rubber Damper and Shock Absorber Included
Temperature	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C
Hybrid /All-in-one	Hybrid	-
Certification/Qualification	-	-
Radome	FRP Honeycomb	FRP Honeycomb

*Specifications subject to change without notice



KA-BAND	Z6 MK3-ka	Z10 MK3-ka
Dish Diameter	60cm	100cm
Antenna Dimension	102cm(D) X 104cm(H)	144cm(D) X 152cm(H)
Antenna Weight	62kg	119kg
Frequency	TX : 29.0 ~ 31.0 GHz RX : 19.2 ~ 21.2 GHz	TX : 29.0 ~ 31.0 GHz RX : 19.2 ~ 21.2 GHz
Antenna Gain	TX : 43.71 dBi @ 30.0 GHz RX : 40.78 dBi @ 20.2 GHz	TX : 44.9 dBi @ 29.5 GHz RX : 42.5 dBi @19.7 GHz
G / T	17.02dB/K (in Radome) @ 30deg, Elevation angel and RX mid freq., Clear Sky	19.6dB/K (in Radome) @ 30deg, Elevation angel and RX mid freq., Clear Sky
Operating Platform	3-Axis	3-Axis
Skew Control	N / A	N / A
Elevation Angle	-10° to +100°	-15° to +110°
Azimuth Angle	Unlimited	Unlimited
Cross Angle	± 35°	± 35°
Ship Motion	Roll: ±24.7° at 8 sec periods Pitch: ±15° at 6 sec periods Yaw: ±8° at 15 sec periods	Roll: ±24° at 8-12 sec periods Pitch: ±14° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods
Vibration Damper	Rubber Damper Included	Rubber Damper, Wire Rope and Shock Absorber included
Temperature	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C
Hybrid /All-in-one	-	-
Certification/Qualification	-	 MIL-STD-901 C06780 MIL-STD-461 MIL-STD-167
Radome	FRP Sponge	FRP Sponge

*Specifications subject to change without notice

A_SERIES

VSAT

The SuperTrack A-Series is perfectly suitable to customers who are seeking compliance with SES and integrated LNB and BUC equipment within market approved body structure of Z-Series MK2.

The feature of A-Series will be highly adaptable for VSAT functional and practical demands of general merchant vessels, fishing and offshore vessels, luxury yachts, leisure boats and so on, especially in EMEA (Europe, Middle East and Africa) region.

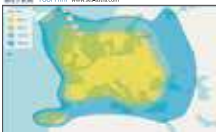
A_SERIES Ku - Band Communication

Honeycomb Radome
A6, A9, A10, A12

Tracking Speed
More than 90° / sec

iLNB(Integrated LNB)





BUC : 0.5W / 0.8W (optional) or 0.8W
Gain : 60dB type.
*NOTE : Only available in Europe.

Brake System
Equipped on Elevation and Cross Axis

Rotary Joint
A9, A12

KA-75 Antenna Control Unit
Gyro Interface : NMEA
Size : 253 X 175 X 44mm
Output Power : 24V DC, 4.17A
External I/O : Mini-USB

*A12 Antenna : KA-160 Antenna Control Unit
*A6, A9 : KA-75 Antenna Control Unit



Z
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A SERIES Ku - Band Communication



KU-BAND	A6	A9
Dish Diameter	61cm	83cm
Antenna Dimension	85cm(D) X 84cm(H)	113cm(D) X 117cm(H)
Antenna Weight	38kg	57kg
Frequency	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz
Antenna Gain	TX : 36.4 dBi @ 14.25 GHz RX : 35.1 dBi @ 11.75 GHz	TX : 39.9 dBi @ 14.25 GHz RX : 38 dBi @ 11.75 GHz
G / T	14.8dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	16.89dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky
Operating Platform	3-Axis	3-Axis
Skew Control	Automatic	Automatic
Elevation Angle	-10° to +95°	-10° to +100°
Azimuth Angle	640°	Unlimited
Cross Angle	± 35°	± 35°
Ship Motion	Roll: ±20° at 8-12 sec periods Pitch: ±10° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods	Roll: ±24° at 8-12 sec periods Pitch: ±14° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods
Vibration Damper	Rubber Damper Included	Rubber Damper Included
Temperature	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C
Hybrid /All-in-one	-	-
Certification /Qualification	CE0678Ⓢ	CE0678Ⓢ
Radome	FRP Honeycomb	FRP Honeycomb

*Specifications subject to change without notice



KU-BAND	A10	A12
Dish Diameter	100cm	120cm
Antenna Dimension	144cm(D) X 152cm(H)	161cm(D) X 163cm(H)
Antenna Weight	90kg	105kg
Frequency	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz
Antenna Gain	TX : 41 dBi @ 14.25 GHz RX : 40 dBi @ 11.75 GHz	TX : 42.87 dBi @ 14.25 GHz RX : 40.95 dBi @ 11.75 GHz
G / T	18.89dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky	20.79dB/K (in Radome) @ 30deg, Elevation angel and 11.75GHz, Clear Sky
Operating Platform	3-Axis	3-Axis
Skew Control	Automatic	Automatic
Elevation Angle	-20° to +105°	-20° to +110°
Azimuth Angle	Unlimited	Unlimited
Cross Angle	± 35°	± 35°
Ship Motion	Roll: ±25° at 8-12 sec periods Pitch: ±15° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods	Roll: ±24° at 8-12 sec periods Pitch: ±14° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods
Vibration Damper	Rubber Damper Included	Rubber Damper Included
Temperature	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C
Hybrid /All-in-one	-	-
Certification /Qualification	CE0678Ⓢ	CE0678Ⓢ
Radome	FRP Honeycomb	FRP Honeycomb

*Specifications subject to change without notice

C_SERIES

COMPACT
VSAT

Always, the need for connection exists in everywhere even on the middle of the sea. This compact and light-weight antenna system would provide high quality and reliable network connection and/or satellite television to professional fishers and leisure yachtsman. The true four-axis stabilization system of C_Series will enhance the connectivity and eliminate the keyhole effect even though when you are cruising the Equator region. You will feel definite difference of quality within budget.

NEW
SERIES

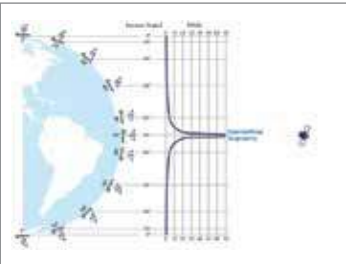
Compact Antenna Radome

Ultra efficient plastic radome for minimal loss.
Radome Material - Plastic

Compact Size / High Capacity

4 Axis Stabilization System

Perfect for searching and tracking with excellent performance. And eliminate the Key-Hole Effect in Equator region.



Key Hole Effect Elimination

C_SERIES Ku - Band Communication



ABOVE DECK		BELOW DECK	
Dish Diameter	40cm(16")	ACU Size	233 x 123.4 x 34.5 mm
Antenna Dimension	51cm(D) X 53.4cm(H)	Gyro Interface	NMEA 0183
Antenna Weight	17 Kg	Input Power	100 to 240V AC, 50~60Hz, 2.0A Max
Radome Material	Plastic	Output Power	24V DC, 5A
Frequency	TX : 13.75 ~ 14.5 GHz RX : 10.75 ~ 12.75 GHz	External I/O	Mini-USB, RS-232, Console, Ethernet
Antenna Gain	TX : 33.6 dBi @ 14.25 GHz RX : 32.25 dBi @ 11.75 GHz	BUC POWER	By Modem
G / T	10.25 dB/K (in Radome) @ 30deg. Elevation angle and 11.75GHz, Clear Sky		
Operating Platform	4 - Axis		
Skew Contro	-135° to +135°		
Elevation Angle	+15° to +115°		
Azimuth Range	690°		
Tilt Angle	-20° ~ +20°		
Ship Motion	Roll : ±20° at 8-12 sec periods Pitch : ±10° at 6-12 sec periods Yaw : ±8° at 15-20 sec periods		
Temperature	-20°C to +55°C		
Humidity	Up to 100% @ 40°C		
Antenna Input Power	24V DC, 5A		

S_SERIES TVRO

Equipped with the state of the art KNS 3 axis servo stabilization system and the built-in GPS, the S-Series outperforms all other TVRO systems in the market today. Larger S-Series antennas providing stronger signal acquisitions are available for more efficient performance in any condition.

S_SERIES Ku - Band Communication

S-Series Antenna Radome

S4 : ABS Plastic
S6 / S8 / S10 / S12 : Honeycomb FRP

Gyro Free Operation Capability

Plug & Play

KA-165 Antenna Control Unit : S10/S12

Gyro Interface : NMEA 0183, Synchro, Step by step
Size : 19" Rack 1U Size
Input Power
S10 / S12 / S18 / S24 : 100~120V AC / 200~240V AC,
50/60Hz, 8A/4A

Output Power
S10 / S12 / S18 / S24 : 48V DC, 4.18A
External I/O : RS232C, Mini USB

KA-75 Antenna Control Unit : S4/S6/S8

DiSEqC 1.2 Function
Gyro Interface : NMEA 0183
Size : 253 X 175 X 44mm
Input Power : 100 ~ 240V AC, 50/60Hz, 2.8A
Output Power : 24V DC, 4.17A
External I/O : Mini-USB



S SERIES Ku - Band Communication



KU-BAND	S4	S6	S8
Dish Diameter	45cm	61cm	85cm
Antenna Dimension	67cm(D) X 69cm(H)	85cm(D) X 84cm(H)	113cm(D) X 117cm(H)
Antenna Weight	25kg	38kg	57kg
Frequency	10.75 ~ 12.75 GHz	10.75 ~ 12.75 GHz	10.75 ~ 12.75 GHz
Minimum EIRP	48dBW	46dBW	44dBW
Operating Platform	3-Axis	3-Axis	3-Axis
Skew Control	Automatic	Automatic	Automatic
Elevation Angle	-20° to +95°	-15° to +95°	-10° to +100°
Unlimited azimuth	640°	640°	640°
Cross Angle	± 35°	± 35°	± 35°
Ship Motion	Roll: ±20° at 8-12 sec periods Pitch: ±10° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods	Roll: ±20° at 8-12 sec periods Pitch: ±10° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods	Roll: ±24° at 8-12 sec periods Pitch: ±14° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods
Brake	N	N	N
Temperature	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C	Up to 100% @ 40°C
Certification /Qualification	EN60945	EN60945	EN60945
Radome	Plastic	Honeycomb	Honeycomb

*Specifications subject to change without notice



KU-BAND	S10	S12
Dish Diameter	100cm	120cm
Antenna Dimension	144cm(D) X 152cm(H)	161cm(D) X 163cm(H)
Antenna Weight	90kg	105kg
Frequency	10.75 ~ 12.75 GHz	10.75 ~ 12.75 GHz
Minimum EIRP	43dBW	40dBW
Operating Platform	3-Axis	3-Axis
Skew Control	Automatic	Automatic
Elevation Angle	-20° to +105°	-20° to +110°
Unlimited azimuth	Unlimited	Unlimited
Cross Angle	± 35°	± 35°
Ship Motion	Roll: ±24° at 8-12 sec periods Pitch: ±14° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods	Roll: ±24° at 8-12 sec periods Pitch: ±14° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods
Brake	N	N
Temperature	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C
Certification /Qualification	EN60945	EN60945
Radome	Honeycomb	Honeycomb

*Specifications subject to change without notice

K_SERIES TVRO

The K-Series antenna provides high quality satellite television to your vessel at very competitive price. The TVRO K-Series antennas are compatible with DVB-S2 and the DisEqc 1.2 function allows exceptional tracking ability via automatic switching between among satellites.
You might enjoy more entertaining leisure voyage through just adding on the K-Series upon your boat or yachts.



K_SERIES Ku - Band Communication

K-Series Antenna Radome
Ultra efficient plastic radome for minimal loss.
Radome Material - Plastic

Honest 3 Axis System-Stabilized Azimuth and Elevation with a Skew Unit
Stabilized Skew System Guarantees
Perfect Searching and Tracking

Gyro Free Operation Capabilities
Plug & Play

Attitude Heading Reference System (AHRS) Using an IMU Sensor
3 Axis gyro Scope, 2 axis acceleration

KA - 78 Antenna Control Unit
Antenna Control Unit Displays Heading Value without Gyro Connection Using AHRS.
Gyro Interface: NMEA 0183
Size: 230 X 84 X 34 mm
Output Power: 24V DV, 2.5 A
External I/O: Mini USB

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K_SERIES Ku - Band Communication



KU-BAND	K4	K5	K7
Dish Diameter	39cm	45cm	61cm
Antenna Dimension	47cm(D) X 50cm(H)	51cm(D) X 53cm(H)	67cm(D) X 69cm(H)
Antenna Weight	9kg	11.5kg	20.6kg
Frequency	10.75 ~ 12.75 GHz	10.75 ~ 12.75 GHz	10.75 ~ 12.75 GHz
Minimum EIRP	50dBW	48dBW	46dBW
Operating Platform	3-Axis	3-Axis	3-Axis
Skew Control	Automatic	Automatic	Automatic
Elevation Angle	-10° to +85°	-10° to +85°	-10° to +85°
Unlimited azimuth	690°	690°	690°
Cross Angle	± 35°	± 35°	± 35°
Ship Motion	Roll: ±25° at 8-12 sec periods Pitch: ±15° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods	Roll: ±25° at 8-12 sec periods Pitch: ±15° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods	Roll: ±25° at 8-12 sec periods Pitch: ±15° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods
DiSEqC	DisEqc 1.2, 22KHz tone, Direct TV	DisEqc 1.2, 22KHz tone, Direct TV	DisEqc 1.2, 22KHz tone, Direct TV
Temperature	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C	Up to 100% @ 40°C
Certification /Qualification	EN60945	EN60945	EN60945
Radome	Plastic	Plastic	Plastic

*Specifications subject to change without notice



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SUPERTRACK

THE NEW STANDARD OF SATELLITE COMMUNICATION



TACTICAL SATCOMS



Our Tactical Satcom range of antennas use next generation precision engineering technology to provide the highest standards of sturdiness and functionality, and encompass Satellite On The Move and our Naval SATCOM range of products. These products are used for mission critical, combat and tactical applications (especially C4ISR) to provide the military and the navy with first class performance 24/7.



M SERIES
SUPERTRACK
TACTICAL SATCOMS

ON-THE-MOVE



The most important factors in modern battle circumstance are intelligence and network all over the Air, Sea and even Ground. The Ground forces have large demand to have more effective SATCOM connection to share warfield data, status video and their voices over the horizon.
The M-Series can be exceptional secure, reliable and fast messenger of your Ground forces especially on vehicles and trains.

SUPERTRACK TACTICAL SATCOMS

M SERIES Ku - Band Communication

Built to work in the harshest of conditions, the M4MK2 is designed to withstand dynamic movement and exoplosions on the ground and still remain connected by using its unlimited continous 360° searching azimuth feature.



KU-BAND	M4MK2
Dish Diameter	45cm
Antenna & Stabilizer Weight	60kg
Radome Size	63cm(D) x 51cm(H)
Frequency	TX : 13.75 ~ 14.5GHz RX : 10.7 ~ 12.75GHz
Antenna Gain	TX : 33.31 dBi @ 14.25GHz RX : 32.26 dBi @ 11.75GHz
L - band Frequency	950 ~ 2150 MHz
Polarization	Linear
Operating Platform	4-Axis (Yaw, Level, Tilt, Skew)
Azimuth Angle	Unlimited
Elevation Angle	0° to +90°
Angular Velocity	Azimuth : 300°/s Elevation : 200°/s
Angular Acceleration	Azimuth: ≥800 °/sec ² Elevation: 1000 °/sec ²
AcquisitionTime	≤ 30 sec.
Re-AcquisitionTime	≤ 5 sec.
Operating Voltage	18 - 36V DC
LNB	Universal 2LO PLL LNB
BUC	Built in 25W
Operating environment	Operation temperature : -20°C~+55°C Storage Temperature : -40°C~ +70°C Humidity : Up to 100% @40°C
Certification / Qualification	MIL -STD-461

*Specifications subject to change without notice

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M SERIES

Ku / Ka Dual - Band Communication

The simple to install and operate COTM broadband statellite antenna has now opened up the market place to provide quality, reliable and secure voice, data and cloud applications, for multiple applications, such as trucks, cars and much more.



KU / KA-BAND	M9MK1	
Dish Diameter	90cm	
Antenna & Stabilizer Weight	140Kg	
Radome Size	135cm(D) X 68cm(H)	
Frequency	Ku-band TX : 14.0 ~ 14.5GHz RX : 12.25 ~ 12.75GHz	Ka-band TX : 29.4 ~ 31.0GHz RX : 19.6 ~ 21.2GHz
Antenna Gain	Ku-band TX : 40.66 dBi@ 14.25GHz RX : 39.25 dBi@ 12.5GHz	Ka-band TX : 46.65 dBi@ 30.2GHz RX : 43.10 dBi@ 20.4GHz
L - band Frequency	950 ~ 2150 MHz	
Polarization	Ku-band Linear (Skew Angle ±90° Adjustable)	Ka-band Circular (Automatic Switching LHCP/RHCP)
Operating Platform	3 axis (Yaw, Level, Skew)	
Azimuth Angle	Unlimited	
Elevation Angle	+10° ~ +85°	
Angular Velocity	Azimuth ≥ 60°/s Elevation ≥ 50°/s	
Angular Acceleration	Azimuth ≥ 200°/sec ² Elevation ≥ 60°/sec ²	
AcquisitionTime	≤ 30 sec.	
Re-AcquisitionTime	≤ 5 sec.	
Operating Voltage	18 - 36V DC	
LNB	Ku-band Universal PLL LNB	Ka-band Single PLL LNB
BUC	Ku-band 40 W	Ka-band 20 W
Operating environment	Operation temperature : -20°C~+55°C Storage Temperature : -40°C~ +70°C Humidity : Up to 100% @40°C	
Certification / Qualification	N/A	

*Specifications subject to change without notice

X_MK3 SERIES
SUPERTRACK
TACTICAL SATCOMS

NAVAL
VSAT

When only the very best will do, KNS is proud to be a reliable supplier to the military. The SuperTrack X-Series antenna, currently available in 1m & 1.5m for X-Band, has been engineered to provide the highest standards of sturdiness and functionality. The X-Series excels in flexibility during rough seas and durability to provide the military with first class performance 24/7. No other antenna can provide this level of broadband satellite communications at sea.



All-In-One PCU

PCB modules integrated in one PCU for easy maintenance

Remote upgrade

Shock Absorber & Wire Rope Isolator

MIL-STD-901, MIL-STD-167-1A complied

KA-180 Antenna Control Unit

3 Types of Gyro Input : NMEA, Synchro, Step by Step
Input Power : 100~240V AC, 50/60Hz, 4.2A max.
Output Power : 48V DC, 6.6A
External I/O : RS232C, Mini USB, Ethernet, Console
Size : 19" Rack 1U size
Remote Access : SCS Software, Telnet Terminal, T-monitor, Web Interface

X_MK3 SERIES X - Band Communication



X-BAND	X10MK3 - X	X15MK3 - X
Dish Diameter	100cm	150cm
Antenna Dimension	144cm(D) X 152cm(H)	212cm(D) X 206cm(H)
Antenna Weight	120kg	270kg
Frequency	TX : 7.9 ~ 8.4 GHz RX : 7.25 ~ 7.75 GHz	TX : 7.9 ~ 8.4 GHz RX : 7.25 ~ 7.75 GHz
Antenna Gain	TX : 36.89dBi @ 8.15 GHz RX : 36.3 dBi @ 7.5 GHZ	TX : 40.2 dBi @ 8.15 GHz RX : 39.6 dBi @ 7.5 GHZ
G / T	16.37 dB/K (In Radome) @30 deg. Elevation angle, included radome loss	16.37 dB/K (In Radome) @30 deg. Elevation angle, included radome loss
Operating Platform	3 Axis	3 Axis
Skew Control	Automatic	Automatic
Elevation Angle	-15° to +110°	-15° to +110°
Azimuth Angle	Unlimited	Unlimited
Cross Angle	±35°	±35°
Ship Motion	Roll: ±25° at 8-12 sec periods Pitch: ±15° at 6-12 sec periods Yaw: ±8° at 15-20 sec periods	Roll: ±25° at 6-12 sec periods Pitch: ±15° at 6-12 sec periods Yaw: ±5° at 5-50 sec periods
Vibration Damper	Rubber Damper, Wire Rope and Shock Absorber Included	Rubber Damper, Wire Rope and Shock Absorber Included
Temperature	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C
Certification / Qualification	-	WGS
Radome	Honeycomb FRP	Honeycomb FRP

*Specifications subject to change without notice

10_ULV
SUPERTRACK
TACTICAL SATCOMS

**NAVAL
VSAT**

KNS is proud to be a reliable supplier to the military. The SuperTrack 10 ULV antenna, currently available in 1m for Ka-Band or Ku-Band, has been engineered to provide the highest standards of sturdiness and functionality. The Ka-Series excels in flexibility during rough seas and durability to provide the military with first class performance 24/7. No other antenna can provide this level of broadband satellite communications for Naval Defence Forces.

10_ULV Antenna Radome

Durable and Ruggedized
Honeycomb Radome Structure

All-In-One PCU with Rugged Housing

PCB modules integrated in one PCU
for easy maintenance

Rugged Structure / Anti Shock

MIL-STD-901D, MIL-STD-167-1A,
MIL-STD-461F, MIL-STD-801G Compatible

Tracking Speed

More than 90°/sec

10_ULV dedicated Antenna Control Unit

Technology of market proved KA-180 ACU also
applied within 10 ULV dedicated ACU.
Gyro : NMEA0183, Synchro, Step by Step
Input Power : 85~254V AC, 12A, 47~63Hz
External I/O : RS-232C, RS-422, Mini-USB, Ethernet,
Console
Monitoring : SMA Female port for RX & TX
STATUS LED : Tracking, Error, GPS

10_ULV

Ku / Ka - Band Communication



KA / KU-Band	10_ULV - Ka		10_ULV - Ku
Dish Diameter	100 cm (40")		
Antenna Weight	184 kg		
Antenna Dimension	145cm (D) X 152.5cm (H)		
Radome Material	Composite FRP		
Frequency	TX : 29.5 ~ 31.0 GHz RX : 19.7 ~ 21.2 GHz		TX : 13.75 ~ 14.5 GHz RX : 10.7 ~ 12.75 GHz
Antenna Gain	TX : 45.6 dBi @ 30.5 GHz RX : 44.6 dBi @ 20.7 GHz		TX : 41.0 dBi @ 14.25 GHz RX : 40 dBi @ 11.75 GHz
G /T	22.05 dB/K @ 20.7 GHz @ 30deg. Elevation angle and Clear Sky		18.89 dB/K @ 30deg. Elevation angle and Clear Sky
Operating Platform	3-axis		
Polarization	-Circular (Automatic Switching LHCP/RHCP)		
Elevation Angle	-20° to +110°		
Azimuth Range	Unlimited		
Cross Angle	± 35°		
Tracking Speed	More than 90°/sec		
Ship Motion	Roll : ±24° at 8~12 sec periods Pitch : ±14° at 6~12 sec periods Yaw : ±8° at 15~20 sec periods		
Vibration Damper	Wire Rope		
Temperature	-20℃ ~ +55℃		

*Specifications subject to change without notice

ADDITIONAL OPTION PARTS



SPARE PARTS KIT

Spare parts kit available for Easier & Faster Maintenance

Z, X, S, A_{SERIES}



VSAT MEDIATOR

VSAT mediator for a dual - VSAT configuration to minimize the blockage by superstructure and ensure always-on connectivity

Z_{SERIES} MK2



HEATING SYSTEM

Built-in type heating system for vessels travelling extremely cold areas or polar regions



VSAT CROSSOVER SYSTEM

VSAT crossover system for a dual - VSAT configuration with strengthened control capabilities & advanced features

- Full M&C capabilities on outdoor units
- Built in 10MHz circuit
- Modem Ethernet interface for ABS
- RF attenuator control
- Available for MK3 antennas*

Z_{SERIES} MK3



AIR-CONDITIONER

Built-in type(1.8m or above*) air-conditioner with high-efficiency designed for tough marine environment

* External type available for smaller sizes.



TRF

TRF(Transmit Reject Filter) option available for precise isolation from the transmit band with minimized effect on receive band

- Low / Mid / High Ku band
- Universal Ku band
- Yahsat

GLOBAL SERVICE NETWORK

KNS Inc., as a longstanding partner of maritime industry, develops all its maritime antennas according to the highest standards of sturdiness and functionality. In terms of the products, service and brand value, KNS Inc. has continued to improve on the basis of building the global management system and quality improvement. We promote a customer-driven corporate culture with the stable operation of global service and sales via KNS dealer network in the world and we aim to hit the business together under KNS Inc.'s vision of "Connecting you to a brighter future".



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