



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 1400:2004, and CE 0678.

SUPERTRACK

The new standard of satellite communication



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SUPERTRACK

Product catalog



COMPANY PROFILE

For almost two decades, KNS Inc. has been serving customers all around the world with the highest quality products, customer-friendly service, 24/7 technical support and industry-leading technology. Constantly challenged in the harshest environment, KNS products are used to closely support satellite applications providing a reliable means of communication for Voice and Data Services.

History

- 2001** Foundation
- 2004** Korea Coast Guard Satellite Terminal
- 2007** Distribution of CBSP Terminal for US Navy
- 2008** Satellite Terminal Launch for ASTRA2 Connect
Z-series Mk2 Launch / S-series Launch
- 2011** Europe Distribution Center Open
K-series Launch
- 2013** Next Generation VSAT Launch (Mk3)
China Sales Office Open
- 2014** X-series Launch
- 2016** Satcom-On-The-Move Launch
- 2017** Tactical Division Launch
- 2018** 10ULV Launch
- 2019** Z - series MK4, C - series Launch
- 2020** Ka/Ku Dual band VSAT Launch



SUPERTRACK

As a worldwide designer and manufacturer, KNS has a high reputation with “SuperTrack” series, the most advanced stabilized antennas. All systems, the result of 20-year experiences and committed researchers, have convinced outstanding performance and unprecedented durability in the roughest sea. SuperTrack will be definitely the best solution for your right choice.

PRODUCT LINE UP

THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK

SUPERTRACK MARINE SATCOMS	VSAT	Z (MK2)	KU-Band	Z4MK2 (45cm), Z6MK2 (61cm), Z7MK2 (75cm), Z8MK2 (83cm) Z10MK2 (1.0m), Z12MK2 (1.2m), Z15MK2(1.5m), Z24MK2 (2.4m)
			C-Band	Z24MK2-C (2.4m)
		Z (MK3)	KU-Band	Z7MK3 (75cm), Z8MK3 (83cm), Z10MK3 (1.0m), Z12MK3 (1.2m), Z15MK3 (1.5m)
			KA-Band	Z10MK3-ka (1.0m)
		Z (MK4)	KU-Band	Z6MK4(61cm), Z7MK4 (75cm), Z8MK4 (83cm), Z10MK4 (1.0m), Z12MK4 (1.2m)
			KA-Band	Z5MK4 (55cm), Z10MK4 (1.0m)
			KU/KA-Band	Z10MK4–DUAL (1.0m)
	TVRO	C	KU-Band	C4 (45m), C5(55cm)
		S	KU-Band	S4 (45cm), S6 (61cm), S8 (85cm), S10 (1.0m), S12 (1.2m)
SUPERTRACK TACTICAL SATCOMS	NAVAL VSAT	K	KU-Band	K5 (45cm), K7 (61cm)
		M	KU-Band	M4MK2 (45cm)
		X	X-Band	X10MK3-X (1.0m), X15MK3-X (1.5m)
		ULV	KU Band	10ULV-ku (1.0m)
			KA-Band	10ULV-ka (1.0m)

MARINE SATCOMS

Stay connected Whenever,Wherever

For maritime satcom, there are many vital factors that affect the performance. To keep connected under the various dynamic circumstances, all aspects should be well-balanced and precisely designed including RF performance, system stability, and mechanical durability. KNS has built up its own technology to enhance all these factors by dedicated studies. Moreover, functionality and capability newly improved this year will make the users much more comfortable.

Z series MK2

KNS Z-series Mk2 is the perfect solution for ships looking for VSAT communication network with broadband speed at sea. Through the 3-axis stabilized solution, you may enjoy your voyage staying connected to the network via high speed access for the internet, email, multiple VoIP phones and more.



Z10MK2

Z series MK2

The Standard of Marine Industry

KNS Z-series Mk2 will provide you with a flexibility of service packages. Compatible with all major industry leaders including satellites and modems, it will widen your choice to select the integrated package option without limitation.

Continuous Upgrade More than 10 Years

Nothing can beat the one with long experiences. Z-series Mk2 has been upgraded more than 15 years under numerous experiences. For the best reliability of performance, we have continuously improved pedestal & RF design and technology & manufacturing process.

Auto Beam Switching (ABS) with Open AMIP

Z-series Mk2 supports Auto Beam Switching (ABS) among coverages through iDirect OpenAMIP protocol.

Wide Range of Rotation Angle

With unlimited azimuth angle and wide range of elevation and cross angle, Z-series Mk2 doesn't have any worries on tracking satellites in any areas.



Lower Loss, Higher Durable Radome



Dual Antenna System Support



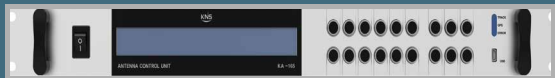
3 - Year Parts Warranty
1 - Year Labor Warranty



High Tracking Speed
More than 90° / sec

BELOW DECK

KA - 165 Antenna Control unit








Front



Back





Z series MK2



Ku-BAND	Z4MK2	Z6MK2	Z7MK2	Z8MK2
Dish Diameter	45cm	61cm	75cm	83cm
Antenna Dimension	66cm(D) x 65cm(H)	85cm(D) x 84cm(H)	102cm(D) x 104cm(H)	113cm(D) x 117cm(H)
Antenna Weight	32kg	65kg	69kg	87kg
Frequency	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz
Antenna Gain	TX : 34.38dBi@ 14.25GHz RX : 33.11dBi@ 11.75GHz	TX : 37.2dBi@ 14.25GHz RX : 35.7dBi@ 11.75GHz	TX : 39.1dBi@ 14.25GHz RX : 37.5dBi@ 11.75GHz	TX : 39.9dBi@ 14.25GHz RX : 38.0dBi@ 11.75GHz
G / T	12.3dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	14.25dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	16.37dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	16.89dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky
Operating Platform	3-Axis	3-Axis	3-Axis	3-Axis
Skew Control	Automatic	Automatic	Automatic	Automatic
Elevation Angle	-20° to +95°	-10° to +95°	-10° to +100°	-20° to +105°
Azimuth Angle	Unlimited	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	CE	  CE	  CE	CE 

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SUPERTRACK



Ku-BAND	Z10MK2	Z12MK2	Z15MK2	Z24MK2-C
Dish Diameter	100cm	120cm	150cm	240cm
Antenna Dimension	144cm(D) x 152cm(H)	161cm(D) x 163cm(H)	212cm(D) x 206cm(H)	315cm(D) x 308cm(H)
Antenna Weight	114kg	142kg	250kg	530kg
Frequency	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	TX : 5.85 ~ 6.725GHz RX : 3.4 ~ 4.2GHz
Antenna Gain	TX : 41.0dBi@ 14.50GHz RX : 40.0dBi@ 11.75GHz	TX : 42.87dBi@ 14.25GHz RX : 40.95dBi@ 11.75GHz	TX : 45.25dBi@ 14.25GHz RX : 43.80dBi@ 11.50GHz	TX : 41.6dBi@ Mid. Freq RX : 38.0dBi@ Mid. Freq
G / T	18.89dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	20.79dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	22.89dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	16.35dBk(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°	-20° to +110°	-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 : ±25°at 8~12 sec periods Pitch : ±15°at 6~12 sec periods Yaw : ±5°at 15~50 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	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	 INTELSAT CE  RMRS MIL-STD-167-1A 	 INTELSAT CE RMRS MIL-STD-167-1A	-	-

*Specifications subject to change without notice

Z series MK3

Undoubtedly, Z-series Mk3 is the best solution for the military application. Its rugged body is endurable in the harsh circumstances such as wartime condition with strong shock and vibration. This high-grade VSAT will allow your ultimate effectiveness of network connection, having shown its true worth in Naval vessels around the world.



Z10MK3

Z series MK3

U.S Military Standard Fully Complied

Z-series Mk3 is more than ready to support the military application. They are designed to meet U.S military standard test, MIL-STD-901D, MIL-STD-167 and MIL-STD-461F by KNS’ rigorous analysis of vibration and shock level in wartime environment. In virtue of the structural strength, Navies and Coastguards in more than 15 countries are operating Mk3 over the years with high satisfaction.

Shock Absorber, Wire Rope Isolator and Rubber Damper Included










For rugged stabilizer in wartime environment, Z-series Mk3 equipped Shock Absorber in the pedestal and rubber dampers on the bottom. It makes the antenna protected from the heavy shock and strong vibration.

KNS Web-GUI Support

Separate installation of software is not required for monitoring and control. KNS web- interface allows you to operate the antenna more easily just with some clicks in your phone, PC, or Tablets with Wi-Fi. You can simply check the current status and set the parameters in real-time. Automatic Daily Report of Log history to your email is useful to monitor the system without log in Web-interface.

Simplified and Easier Maintenance

Z-series Mk3 concentrated on your convenience of maintenance and operation. Most of parts are compatible among all Mk3 systems. They can be replaced and switched among axis or different sizes of antennas, which simplifies the maintenance and spare parts.

- | | | |
|--|---|--|
|  Bluetooth Connecction
between PC & PCU |  Lower Loss, Higher
Durable Radome |  All-in-One PCU |
|  Remote Software
Upgrade & Control |  Shock Absorber
MIL-STD-901
Complied |  Dual Antenna
System Support |
|  High Tracking Speed
More than 90° / sec |  Temp & Power
Consumption
Monitoring |  3+1 3 - Year Parts Warranty
1 - Year Labor Warranty |

BELOW DECK

KA - 180 Antenna Control unit




Front



Back

Z_SERIES MK3

			
Ku-BAND	Z7MK3	Z8MK3	Z10MK3
Dish Diameter	75cm	83cm	100cm
Antenna Dimension	113cm(D) x 117cm(H)	113cm(D) x 117cm(H)	144cm(D) x 152cm(H)
Antenna Weight	86kg	103kg	120kg
Frequency	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz
Antenna Gain	TX : 39.1dBi@ 14.25GHz RX : 37.5dBi@ 11.75GHz	TX : 39.9dBi@ 14.50GHz RX : 38.0dBi@ 11.75GHz	TX : 41.0dBi@ 14.25GHz RX : 40.0dBi@ 11.75GHz
G / T	16.37dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	16.89dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	18.89dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky
Operating Platform	3-Axis	3-Axis	3-Axis
Skew Control	Automatic	Automatic	Automatic
Elevation Angle	-10° to +100°	-12° to +110°	-18° to +110°
Azimuth Angle	Unlimited	Unlimited	Unlimited
Cross Angle	± 35°	± 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 8~12 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	Wire Rope Isolators and Shock Absorber Included	Wire Rope Isolators and Shock Absorber Included	Wire Rope Isolators, Rubber Damper and Shock Absorber Included
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	MIL-STD-901 MIL-STD-461 MIL-STD-167 MIL-STD-810	CE	INTELSAT ANATEL CE eutelsat MIL-STD-901 MIL-STD-461 MIL-STD-167 MIL-STD-810

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Z12MK3	Z15MK3	Ka-BAND	Z10MK3-Ka
120cm	150cm	Dish Diameter	100cm
161cm(D) x 163cm(H)	212cm(D) x 206cm(H)	Antenna Dimension	144cm(D) x 152cm(H)
138kg	260kg	Antenna Weight	119kg
TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	Frequency	TX : 29.0 ~ 30.0GHz RX : 19.2 ~ 21.2GHz
TX : 42.87dBi@ 14.25GHz RX : 40.95dBi@ 11.75GHz	TX : 45.25dBi@ 14.25GHz RX : 43.80dBi@ 11.75GHz	Antenna Gain	TX : 47.84dBi@ 30.0GHz RX : 44.90dBi@ 20.2GHz
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	G / T	20.72dB/K(in Radome) @30deg, Elevation angel and mid freq, Clear Sky
3-Axis	3-Axis	Operating Platform	3-Axis
Automatic	Automatic	Elevation Angle	-15° to +110°
-10° to +110°	-15° to +110°	Azimuth Angle	Unlimited
Unlimited	Unlimited	Cross Angle	± 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 : ±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	Wire Rope Isolators, Rubber Damper and Shock Absorber Included
Wire Rope Isolators, Rubber Damper and Shock Absorber Included	Wire Rope Isolators and Shock Absorber Included	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	CE MIL-STD-901 MIL-STD-461 MIL-STD-167 MIL-STD-810
CE	-		-

*Specifications subject to change without notice

Z series MK4

Choose the Z-series Mk4 if you are searching for the perfect and sophisticated solution for vessels. All aspects of design have been upgraded including mechanical, electrical and RF parts with user-friendly and new functions. This improvement will convince you of much higher tracking accuracy than the previous versions, which certainly brings you the great satisfaction.



Z10MK4-Ka

Z series MK4

Ready for High Throughput Satellite (HTS)

Supporting wide-band and advanced satellite carriers, DVB-S2X is selected for most of High Throughput Satellites. KNS Z-series Mk4 is compatible with DVB-S2X with built-in NIM tuner that enables carrier SNR direct tracking.

User-Friendly VSAT Antenna

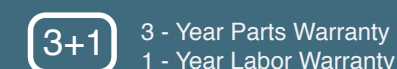
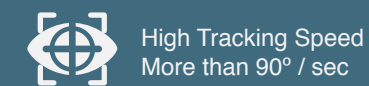
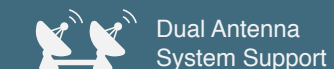
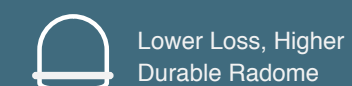
Enjoy or work on the internet with user-friendly applications. KNS web-interface allows you to operate the antenna more easily just with some clicks in your phone, PC, or Tablets with Wi-Fi. You can immediately and simply update the firmware, check the current status in real time, and be daily reported the log history.

Enhanced Tracking Performance, Best Ever than Before

The tracking performance of Z-series Mk4 convinces you of the highest accuracy ever seen. Upgrading the motor driver part and KNS control algorithm, the error rate greatly lowered than previous versions.

Gyro Free Function Supporting

Don't be concerned with Gyro failure. Z-series Mk4 will always sustain your connection even in any case of gyro failure. Without gyro heading value, Z-series Mk4 can independently search and track the target satellite using the parameters.



BELOW DECK KA - 190 Antenna Control unit



Front



Back

Z series MK4



Ku BAND	Z6MK4	Z7MK4	Z8MK4	Z10MK4
Dish Diameter	61cm	75cm	83cm	100cm
Antenna Dimension	85cm(D) x 84cm(H)	102cm(D) x 104cm(H)	113cm(D) x 117cm(H)	144cm(D) x 152cm(H)
Antenna Weight	58kg	70kg	78kg	110kg
Frequency	TX : 13.75 ~ 14.5GHz RX : 10.7 ~ 12.75GHZ	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHZ	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHZ	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHZ
Antenna Gain	TX : 37.2dBi@ 14.25GHz RX : 35.7dBi@ 11.75GHz	TX : 39.1dBi@ 14.25GHz RX : 37.5dBi@ 11.75GHz	TX : 39.9dBi@ 14.25GHz RX : 38.0dBi@ 11.75GHz	TX : 41.0dBi@ 14.25GHz RX : 40.0dBi@ 11.75GHz
G / T	14.25dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	16.37dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	16.89dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	18.89dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky
Operating Platform	3-Axis	3-Axis	3-Axis	3-Axis
Skew Control	Automatic	Automatic	Automatic	Automatic
Elevation Angle	-10° to +110°	-10° to +100°	-10° to +110°	-20° to +110°
Azimuth Range	Unlimited	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 : ±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° at15 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
Certification / Qualification	CE	CE SES	CE	CE INTELSAT

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Ku BAND	Z12MK4	Ka BAND	Z5MK4-Ka	Z10MK4-Ka
Dish Diameter	120cm	Dish Diameter	56cm	105cm
Antenna Dimension	161cm(D) x 163cm(H)	Antenna Dimension	76cm(D) x 80cm(H)	144cm(D) x 152cm(H)
Antenna Weight	120kg	Antenna Weight	65kg	110kg
Frequency	TX : 13.75 ~ 14.50GHz RX : 10.70 ~ 12.75GHz	Frequency	TX : 29.0 ~ 30.0GHz RX : 19.2 ~ 20.2GHz	TX : 29.0 ~ 30.0GHz RX : 19.2 ~ 20.2GHz
Antenna Gain	TX : 42.87dBi@ 14.25GHz RX : 40.95dBi@ 11.75GHz	Antenna Gain	TX : 43.19dBi@ 29.5GHz RX : 39.59dBi@19.7GHz	TX: 48.09dBi@ 29.5 GHz RX : 44.59dBi@19.7 GHz
G / T	20.79dBk(in Radome) @30deg, Elevation angel and 11.75GHz, Clear Sky	G / T	17.05dBk(in Radome) @30deg, Elevation angel and 19.7GHz, Clear Sky	22.05dBk(in Radome) @30deg, Elevation angel and 19.7GHz, Clear Sky
Operating Platform	3-Axis	Operating Platform	3-Axis	3-Axis
Skew Control	Automatic	Elevation Angle	-10° to +110°	-20° to +110°
Elevation Angle	-10° to +110°	Azimuth Range	Unlimited	Unlimited
Azimuth Range	Unlimited	Cross Angle	± 35°	± 35°
Cross Angle	± 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
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	Rubber Damper Included	Rubber Damper Included
Vibration Damper	Rubber Damper Included	Temperature	-20°C to +55°C	-20°C to +55°C
Temperature	-20°C to +55°C	Humidity	Up to 100% @ 40°C	Up to 100% @ 40°C
Humidity	Up to 100% @ 40°C	Certification / Qualification	CE telenor	CE telenor
Certification / Qualification	CE			

*Specifications subject to change without notice

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DUAL BAND

This is the world-first Ku/Ka automatic switching dual band antenna system developed by KNS.

Tx/Rx configuration is not limited to single band, but hybrid, which means the antenna can receive in Ku-band and transmit in Ka-band simultaneously, vice versa.

The electrical band switching does not require you any hardware replacement



Z10MK4 Dual

Z10MK4 Dual



Ku/Ka-BAND	Ku - BAND		Ka - BAND
Dish Diameter	105 cm (41")		
Antenna Weight	142 kg		
Antenna Dimension	144cm (D) X 152cm (H)		
Radome Material	FRP		
Frequency	TX : 14.00 ~ 14.5.0 GHz RX : 10.95 ~ 12.75 GHz		TX : 29.5 ~ 30.0 GHz RX : 19.70 ~ 12.20 GHz
Antenna Gain	TX : 42.45 dBi @ 14.25 GHz RX : 39.75 dBi @ 11.85 GHz		TX : 47.10 dBi @ 29.75 GHz RX : 43.35 dBi @ 19.95 GHz
G /T	17.71 dB/K @ 30deg. Elevation angle and 11.85GHz Clear Sky		18.35 dB/K @ 30deg. Elevation angle and 19.95GHz Clear Sky
Operating Platform	3-axis		
Polarization	Linear		Circular
LNB	Single PLL LNB, Selectable LO PLL LNB(optional)		
BUC	Ku-band : 8W / Ka-band : 5W		
BMIP	Included (BUC M&C Control)		
Elevation Angle	-20° to +110°		
Azimuth Range	Unlimited		
Cross Angle	± 35°		
Tracking Speed	More than 90°/sec		
Vibration Damper	Rubber damper		
Ship Motion	Roll : ±24° at 8~12 sec periods Pitch : ±14° at 6~12 sec periods Yaw : ±8° at 15~20 sec periods		
Temperature	-20°C ~ +55°C		

C series

Experience KNS C-series if you are looking for the smart solution in budget. C-series is a compact size with a light weight for the small vessels such as fishery, speedboats, Tug boats or yachts. To prevent the common issues in small-sized antenna, the extended functions and capabilities were added and the control algorithm was improved.



C4

C series

User-Friendly Antenna

Enjoy or work on the internet with user-friendly applications. KNS web-interface allows you to operate the antenna more easily just with some clicks in your phone, PC, or Tablets with Wi-Fi. You can immediately and simply update the firmware, check the current status in real time, and be daily reported the log history.

Standby for High Throughput Satellite

Supporting DVB-S2X, C-series are already standby for Thor 7 and Intelsat FLEX satellite as being approved with a high performance. Optimal for the HTS, C-series will provide you with the most satisfying service.

IQ200 Modem Turn-key Service

If you don't want to care for ACU and modem separately, select the IQ200 integrating option in ACU. With built-in modem in the ACU, the small vessels can save the below deck spaces. Between ACU and IQ200 is connected by semi-rigid cable which greatly reduces a signal loss and enables to use for longer without abrasion.

ASI (Adjacent Satellite Interference) Free

The small-sized VSAT is normally vulnerable to the Adjacent Satellite Interference (ASI), which affect the neighbored satellites. However, KNS C-series has its own function called "ASI mute function" which mutes the Tx signal when the antenna detects the interference satellite signal by itself.

Keyhole Solution

Having full axis stabilizer and enhanced tracking algorithm, KNS C-series is free from Keyhole effect in the equator region that small-sized antennas are vulnerable.



HTS Communication Applicable



Lower Loss, Higher Durable Radome



ASI Minimizing Function



No Key Hole Effect



Gyro Free Mode Support



2 - Year Parts Warranty



Remote Software Upgrade

BELOW DECK

KA 90A Antenna Control unit



Front



Back

C series



Ku Band	C4	Ka Band	C5
Dish Diameter	45cm(18")	Dish Diameter	55cm(22")
Antenna Dimension	58cm(D)x63cm(H)	Antenna Dimension	76cm(D)x80cm(H)
Antenna Weight	27kg	Antenna Weight	35kg
Frequency	TX : 13.75 ~ 14.50 GHz RX : 10.70 ~ 12.75 GHz	Frequency	3W for Transceiver TX : 29.5 ~ 30.0 GHz RX : 17.8 ~ 20.2 GHz 5W for BUC/LNB TX : 29.0 ~ 30.0 GHz RX : 19.2 ~ 21.2 GHz
Antenna Gain	TX : 34.38 dBi @ 14.25 GHz RX : 33.11 dBi @ 11.75 GHz	Antenna Gain	TX : 42.7 dBi @ 29.75 GHz RX : 39.5 dBi @ 19.95 GHz
G / T	12.3 dB/K (in Radome) @30deg. Elevation angle and 11.75GHz,Clear Sky	G / T	16.73 dB/K (in Radome) @30deg. Elevation angle and 19.95GHz,Clear Sky
Operating Platform	4- Axis (Yaw, Level, Tilt, Skew)	Operating Platform	3 - Axis(Yaw, Level, Tilt)
Elevation Angle	+10° to +115°	Elevation Angle	+10° to +115°
Azimuth Range	690°	Azimuth Range	690°
Tilt Angle	-20° ~ +20°	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	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	Temperature	-20°C to + 55°C
Humidity	Up to 100% @ 40°C	Humidity	Up to 100% @ 40°C
Antenna Input Power	24V ~ 48V DC(Selectable), 2.3A max	Antenna Input Power	24V ~ 48V DC(Selectable), 2.3A max
BUC version option	By Modem	BUC version option	BUC & LNB or 3W Transceiver
ACU version option	Standard or IQ200 integrated	ACU version option	Standard or IQ200 integrated
Certification / Qualification	INTELSAT CE	Certification / Qualification	telenor CE

S series

KNS S-series, the market proven with its 3-axis stabilization, has provided a high satisfaction of TV reception in the maritime market. S-series will convince you of the strong signal acquisition for more efficient performance in any vessels.



S10

S series



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	10.7 ~ 12.75GHz	10.7 ~ 12.75GHz
Minimum EIRP	43dBW	40dBW
Operating Platform	3-Axis	3-Axis
Skew Control	Automatic	Automatic
Elevation Angle	-20° to +105°	-20° to +110°
Azimuth Range	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
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 C C	EN60945 C C

*Specifications subject to change without notice

K series

The small vessels such as private yachts or fishing boats need a compact and budgetary solution. K-series, 2 axis TV antenna, will be an ideal solution which satisfy these requirements, providing with a variety of TV channels in a waterfront or calm environment.



K7

K series

User-Friendly TVRO

Enjoy or work on the internet with user-friendly applications. KNS web-interface allows you to operate the antenna more easily just with some clicks in your phone, PC, or Tablets with Wi-Fi. You can immediately and simply update the firmware, check the current status in real time, and be daily reported the log history.

New Stronger Structure

The structure of KNS K-series was re-designed to endure the external shock and avoid the cable trapping. With new structure and mechanical upgrade, K-series is much more durable in the sea condition.

Gyro Free Supporting

Most of small boats or yachts in a waterfront does not have a gyro compass, which might cause a difficulty of the exact satellite tracking. KNS K-series has a gyro-free mode that enables the smooth TV programs even in case of gyro failure or on non-gyro vessel. Free from this concern, increase your level of enjoy.



Lower Loss, Higher Durable Radome



Compact size



Gyro Free Mode Support



Attitude Heading Reference System (AHRS) using IMU Sensor
3 axis gyro scope & 2 axis acceleration



2 - Year Parts Warranty



Remote Software Upgrade

Below Deck

KA - 90K Antenna Control unit



Front



Back

K series



Ku-BAND	K5	K7
Dish Diameter	45cm	61cm
Antenna Dimension	51cm(D) x 53cm(H)	67cm(D) x 69cm(H)
Antenna Weight	11.5kg	20.6kg
Frequency	10.70 ~12.75 GHz	10.70 ~12.75 GHz
Minimum EIRP	48dBW	46dBW
Skew Control	Automatic	Automatic
Elevation Angle	-10° to +85°	+15° to +115°(Hardware) / +15° to +75°(Software)
Azimuth Range	690°	690°
Ship Motion	Roll: ±25° at 8-12 sec periods Pitch: ±15° 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
Antenna Input Power	24V DC, 2.5A	24V DC, 2.5A
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

*Specifications subject to change without notice



SATCOM On The Move

Communication Partner of Ground Forces

The most important tactical asset is the intelligence in modern warfare. As trend of modern warfare is changing to local war which is based on special forces and counter-terror teams, the sharing and building a datalink of tactical data is critical for successful mission. The SUPER-TRACK OTM series which is engineered with distinct SI technology of KNS is providing enduring, reliable and excellent 24/7 awaken messenger to the mobile ground forces.



THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK

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

In modern network-based battle circumstances, sharing of intelligence and communicating among the units are highly critical especially for widely spread ground force units. To acquire successful mission objectives, M4MK2 OTM system will be the most reliable partner of your campaign in dynamic movement and explosions on the ground.



M4MK2

M series M4MK2

High Grade OTM

KNS M-series is a ground mobile solution with high level of performance and endurance. Using direct-driven motors in 3-axis, it has a fast responsiveness and shows high reliability with ruggedized pedestal.

Stable and Fast Tracking

Since M-series has 4-axis platform, it is able to track in a stable status in any area or circumstances. Its parabolic reflector makes high gain, and tracking acquisition time within 30 sec.

Military Standard Qualified

KNS M4Mk2 is qualified by MIL-STD-461F and MIL-STD-810G. For military application, it is durable in a high temperature, humidity, and vibration.

Easy Installation and Operation

The whole installation is completed by simple mounting and cable connection without a separate controller. The status of SOTM can be easily checked and set by laptops using Web interface/GUI.



4 Axis Stabilization
Azimuth, Elevation, Tilt and Skew



Fast Acquisition Time Less than 30 sec



MIL-STD-461
MIL-STD-810 Compliance



3 - Year Parts Warranty
1 - Year Labor Warranty

M4MK2



Ku-BAND	M4MK2
Dish Diameter	45cm
Antenna & Stabilizer Weigh	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 +110°
Tilt Angle	±15°
Angular Velocity	Azimuth : 300°/s Elebation : 200°/s
Angular Acceleration	Azimuth ≥ 800°/sec² Elevation : 1000°/sec²
Acquisition Time	≤ 30sec.
Re-Acquisition Time	≤ 5sec.
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

Naval VSAT

Even in Brutal circumstances, connecting sophisticatedly

Various naval campaign circumstances are not expectable. Meteorological, tactical, even underwater terrestrial status... such various factors affect to our naval defense forces. Datalink not only among the vessels but also with air forces and/or ground forces the most critical communication can be held by SuperTrack Naval VSAT systems. Along the grade of naval vessels, SuperTrack can provides most reliable communication network. The most of the naval VSAT of SuperTrack is obtaining MIL-STD-167, 901 etc.



X series MK3

KNS X-series is the most selected X-band VSAT by globe-wide Naval vessels. Its exquisite control algorithm and mechanical features have successfully fulfilled the missions with the Navy and Military Forces. In 2020, X-series is upgraded in functionality for user-friendly operation including Web-GUI, Gyro-free, and Wi-Fi.



Z10MK3

X series MK3

Most Durable X-band VSAT for Military Forces

As X-band is for military application, KNS X-series is designed to meet U.S Military Standards. Its robust pedestal with shock absorber enables antennas endurable in the tough environment.

KNS Web-GUI Support

Separate installation of software is not required for monitoring and control. KNS web interface allows you to operate the antenna more easily just with some clicks in your phone, PC, or Tablets with Wi-Fi. You can simply check the current status and set the parameters in real-time. Automatic Daily Report of Log history to your email is useful to monitor the system without log in Web-interface.

Simplified and Easier Maintenance

X-series concentrated on your convenience of maintenance. The spare parts compatible among all X-series systems and All-in-one PCU makes maintenance and replacement much easier. Co-using the spare parts among axis or different sizes of antennas, you can efficiently manage the spare parts stock.

Gyro Free Supporting

Don't be concerned with Gyro failure. KNS X-series will always support your military mission even in any case of the gyro failure. Without gyro heading value, X-series can independently search and tracking the target satellite using the parameters.



Shock Absorber
MIL-STD-901 / MIL-STD-167-1A
Complied



FRP Honeycomb Radome



Remote Software Upgrade & Control



Dual Antenna System Support



High Tracking Speed More than 90° / sec



All-in-One PCU

BELOW DECK

KA - 180 Antenna Control unit

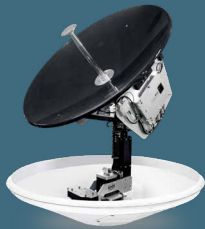
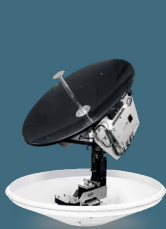


Front



Back

X series



X-BAND	X10MK3	X15MK3
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 : 37.10dBi @ 8.15 GHz RX : 35.65 dBi @ 7.50GHZ	TX : 40.30 dBi @ 8.15 GHz RX : 39.32 dBi @ 7.50 GHZ
G / T	14.54 dB/K (In Radome) @30deg. Elevation angle, 7.5GHz, clear sky	18.21 dB/K (In Radome) @30deg. Elevation angle, 7.5GHz, clear sky
Operating Platform	3 Axis	3 Axis
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

ULV-series is a masterwork of KNS that excels in performance and sturdiness. Its high-end specification with incomparable performance is chosen by Naval Defense Force worldwide as a mission-critical solution.



10_ULV

10 ULV

Fully Complied with Military Standard

It is proved by MIL-STD tests that ULV-series operate without any issues even with the extreme impacts in the level of wartime situation. It shows excellent operation even in the harshest environment. Complied with MIL-STD-901D (Shock), MIL-STD-167-1A(Vibration), MIL-STD-461F (EMC), and MIL-STD-810G (Environment), ULV-series is considered as the best choice by Navies.

Extreme Performance

KNS' ULV-series guarantee the ultimate durability and reliability with the strongest system. They are controlled by direct-driven motors which has high level of responsibility and implement a detailed positioning control. With a real-time precise algorithm, ULV series never fail the critical missions that require a high accuracy and an extreme solidity on wartime conditions.

Extended Functions for Military Application

The extended functions are configured in ULV-series for convenient operation.

- EMCON (Emergency Control): Using the EMCON switch, Tx can be muted in an emergency.
- Automatic Polarity Switching: In Ka-band, RHCP and LHCP is automatically switched depending on the carrier information.
- Web Interface: Monitoring and Control (M&C) is available in Web-GUI. With Wi-Fi connectivity, no physical connection is required.



MIL-STD-901D / MIL-STD-167-1A
MIL-STD-461F / MIL-STD-801G
Compliance



All-in-One PCU



FRP Honeycomb
Radome



Rugged Structure
for Military Application



High Tracking Speed
More than 90° / sec



Dual Antenna System
Support

10 ULV



Ku/Ka-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)	Linear
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°C ~ +55°C	

Antenna Control Unit

KA - 165 Antenna Control unit



Size	19" Rack 1U size
Gyro Interface	NMEA0183, Synchro, Step by step
Input Power	100~200V AC/ 200~240V AC 50/60Hz, 8A / 4A
Output Power	TX : 48V DC, 3.2A RX : 48V DC, 4.18A
Remote Access	Tmonitor, SCS Software
External I/O	RS-232C, Mini USB, Ethernet, Console

KA - 180 Antenna Control unit



ACU Size	19" Rack 1U size
Gyro Interface	NMEA 0183, Synchro, Step by Step
Input Power	100~120V AC / 200~240V AC, 50/60Hz, 8A/4A
Output Power	48V DC, 4.18A
External I/O	RS-232C, Mini-USB, Ethernet, Console

KA - 190 Antenna Control unit



ACU Size	19" Rack 1U size
Gyro Interface	NMEA 0183, Synchro, Step by Step
Input Power	100~240V AC, 8A/4A, 50~60 Hz
Out put Power	48VDC, 4.18A
External I/O	RS-232C, RS-422, USB, Mini-USB, Ethernet, Console
Monitoring	Web Interface Support
Wi-fi Dongle	Wi-fi access is available

Antenna Control Unit

KA - 75 Antenna Control unit



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

KA - 90A Antenna Control unit



ACU Size	313 X 192 X 44 mm
Input Power	24V DC, 9.17A(220W)
Output power	24~48V DC 2.5A max per each RX/TX port
External I/O	Mini-USB, USB, Console, Ethernet, Wi-Fi
Gyro Interface	NMEA 0183

KA - 90K Antenna Control unit



ACU Size	313 X 192 X 44 mm
Input power (Adapter input)	24V DC, 9.17A(220W) 100V~240V AC, 50/60HZ, 4A
Output Power	30VDC, 2.3A max
External I/O	Mini-USB, USB, Console, Ethernet, Wi-Fi
Gyro Interface	NMEA 0183



KNS, the RELIABLE PARTNER

The ultimate goal of KNS is to support the customers with a highest level of service and an exceptional technology. As the closest intelligent solution provider, KNS has established a deep reliability to our partners and end-users by the constant efforts to reach where we are now. KNS SuperTrack is already believed as the most reliable product in the market, being proven by real users not to have any failure in the North Sea, the worst sea condition. As well as showing the performance in a harsh environment, KNS VSAT working for more than 10 years is a true living proof of KNS products' reliability. Whatever the sea or the weather condition, stay connected with KNS.

THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK



GLOBAL SERVICE NETWORK

In a field where connection is of vital importance, immediate and prompt customer service is crucial. To support the partners whenever or wherever, KNS constructed a global service network with more than 60 experienced and authorized partners who are trained and supported by us. Not just concentrating on the delivery, but KNS does think how our systems can work as long as possible, and as conveniently as possible. We promise to be always there with the best assistance.



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