



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 9001:2015, ISO 14001:2015, and CE.

SUPERTRACK

The new standard of satellite communication



www.kns-kr.com

KNS Inc. 1476-55, Yuseong-daero, Yuseong-gu, Daejeon 34055, South Korea

TEL +82.42.932.0351/0352 FAX +82.42.932.0353 E-mail sales@kns-kr.com

SUPERTRACK

The new standard of satellite communication

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

| | | | | |
|--------------------------------|------------|------------|------------|---------------------------------------------------------------------------------------------------------------------|
| 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) |
| | | A | KU-Band | A6MK4 (61cm), A9MK4 (83cm), A6AMK4 (61cm), A9AMK4 (83cm) |
| | | C | KU-Band | C4 (45m), C5 (55cm) |
| | | E | KU-Band | E5 (45m), E7 (61cm) |
| SUPERTRACK TACTICAL SATCOMS | TVRO | S | KU-Band | S4 (45cm), S6 (61cm), S8 (85cm), S10 (1.0m), S12 (1.2m) |
| | | K | KU-Band | K5 (45cm), K7 (61cm) |
| | SOTM | M | KU-Band | M4MK2 (45cm) |
| | NAVAL VSAT | 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



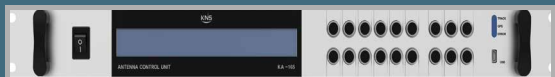
3 - Year Parts Warranty
1 - Year Labor Warranty



High Tracking Speed
More than 90° / sec

BELOW DECK

KA - 165 Antenna Control unit








Front



Back





Z seriesMK2



| 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 angle and 11.75GHz, Clear Sky | 14.25dBk(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky | 16.37dBk(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky | 16.89dBk(in Radome) @30deg, Elevation angle 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  |

THE NEW STANDARD OF SATELLITE COMMUNICATION
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 angle and 11.75GHz, Clear Sky | 20.79dBk(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky | 22.89dBk(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky | 16.35dBk(in Radome) @30deg, Elevation angle 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 enduring 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, MIL-STD-461F and MIL-STD-810 by KNS’ rigorous analysis of vibration and shock level in wartime environment. In virtue of the structural strength, Navies and Coast-guards 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.

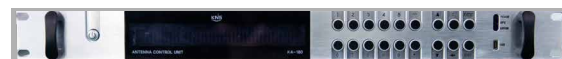
Simplified and Easier Maintenance

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 Connction 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

|  | | | |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 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 angle and 11.75GHz, Clear Sky | 16.89dBk(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky | 18.89dBk(in Radome) @30deg, Elevation angle 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-901D ,MIL-STD-810 MIL-STD-461F,MIL-STD-167 | CE | INTELSAT ANATEL CE avanti eutelsat MIL-STD-901D ,MIL-STD-810, MIL-STD-461F,MIL-STD-167 |

|  | | | |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------|
| 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 angle and 11.75GHz, Clear Sky | 22.89dB/K(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky | G / T | 20.72dB/K(in Radome) @30deg, Elevation angle 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 avanti MIL-STD-901D ,MIL-STD-810, MIL-STD-461F,MIL-STD-167 |
| 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

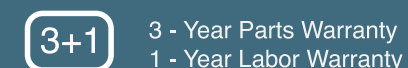
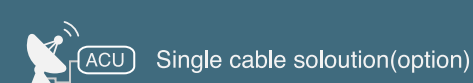
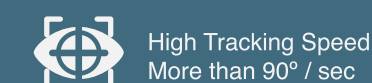
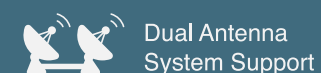
Enjoy or work on the internet with user-friendly applications. KNS web-interface allows you to operate the antenna more easily just with some clicks in your phone, PC, or Tablets with Wi-Fi. You can immediately and simply update the firmware, check the current status in real time, and be daily reported 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 can support your connection although the vessel does not have gyro or in any case of the gyro failure. Gyro-free mode will sustain your network communication regardless of the vessel's failure.



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 | INTELSAT CE |

THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK



| 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: 47.84dBi@ 30.0 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

*Specifications subject to change without notice

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

THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK



| Ku/Ka-BAND | Ku - BAND | | Ka - BAND |
|--------------------|-------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------|
| Dish Diameter | 105 cm (41") | | |
| Antenna Weight | 112 kg | | |
| Antenna Dimension | 144cm (D) X 152cm (H) | | |
| Radome Material | FRP | | |
| Frequency | TX : 13.75 ~ 14.50 GHz RX : 10.70 ~ 12.75 GHz | | TX : 29.00 ~ 30.00 GHz RX : 19.20 ~ 20.20 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 | | |

A series MK4

The SuperTrack A-series is the perfect solution for ships looking for broadband speeds at sea. Stay in touch with your networks via high speed access to the internet, email, multiple VoIP phones and more



A9MK4

A 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 A-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 A-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. A-series Mk4 can support your connection although the vessel does not have gyro or in any case of the gyro failure. Gyro-free mode will sustain your network communication regardless of the vessel's failure.

HTS APPLICATION HTS Communication Applicable

 High Tracking Speed
More than 90° / sec

SNMP SNMP support

 Remote Software Upgrade & Control

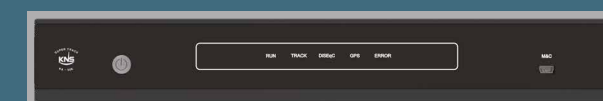
 Gyro Free Mode Support

2+1 2 - Year Parts Warranty
1 - Year Labor Warranty

 All-in-One PCU

Below Deck

KA - 90K Antenna Control unit







Front



Back

A series MK4

THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK

| |  |  |  |  |
|----------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Ku-BAND | A6MK4 | A9MK4 | A6AMK4 | A9AMK4 |
| Dish Diameter | 61cm | 83cm | 61cm | 83cm |
| Antenna Dimension | 85cm(D) x 84cm(H) | 113cm(D) x 117cm(H) | 85cm(D) x 84cm(H) | 113cm(D) x 117cm(H) |
| Antenna Weight | 58kg | 78kg | 58kg | 78kg |
| 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 : 37.20dBi@ 14.25GHz RX : 35.70dBi@ 11.75GHz | TX : 39.90dBi@ 14.25GHz RX : 38.00dBi@ 11.75GHz | TX : 37.20dBi@ 14.25GHz RX : 35.70dBi@ 11.75GHz | TX : 39.90dBi@ 14.25GHz RX : 38.00dBi@ 11.75GHz |
| G / T | 14.25dBk(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky | 16.89dBk(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky | 14.25dBk(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky | 16.89dBk(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky |
| Operating Platform | 3-Axis | 3-Axis | 3-Axis | 3-Axis |
| iLNB(Integrated LNB) | LNB : Linear / Internal PLL Gain : 60 | LNB : Linear / Internal PLL Gain : 60 | Universal LNB (4LO Selectable PLL LNB) | Universal LNB (4LO Selectable PLL LNB) |
| BUC | 0.8W | 0.8W | 4W | 4W |
| Elevation Angle | -10° to +110° | -10° to +110° | -10° to +110° | -10° 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 : ± 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 |
| 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 |
| | | | | |

*Specifications subject to change without notice

E series

The E series provides the best solution with the highest cost-benefit ratio for small vessels such as river boats, fishery boats, ferry and work boats which sails at local area mainly.
Feel the excellent performance at budget with the semi-three axis stabilisation system of E series.



E7

E series

User-Friendly VSAT

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 E-series was re-designed to endure the external shock and avoid the cable trapping. With new structure and mechanical upgrade, E-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 E-series has a gyro-free mode that enables the smooth communication 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

E series



| Ku-BAND | E5 | E7 |
|---------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Dish Diameter | 45cm | 61cm |
| Antenna Dimension | 51cm(D) x 53cm(H) | 67cm(D) x 69cm(H) |
| Antenna Weight | 19kg | 28kg |
| Frequency | TX : 13.75 ~14.50 GHz RX : 10.70~ 12.75 GHz | TX : 13.75 ~14.50 GHz RX : 10.70~ 12.75 GHz |
| Antenna Gain | TX : 34.38dBi @ 14.25 GHz RX : 33.11dBi @ 11.75 GHz | TX : 37.20dBi @ 14.25 GHz RX : 35.70dBi @ 11.75 GHz |
| G/T | 12.30 dBK(in Radome) @30deg.Elevation angle and 11.75GHz, Clear sky | 14.25 dBK(in Radome) @30deg.Elevation angle and 11.75GHz, Clear sky |
| BUC | 4W standard (6W option) | 4W standard (6W or 8W option) |
| Skew Control | Automatic | Automatic |
| Elevation Angle | +15° to +115°(Hardware) / +15° to +75°(Software) | +15° to +115°(Hardware) / +15° to +75°(Software) |
| Azimuth Range | 690° | 690° |
| 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 |
| Antenna Input Power | 30V DC, 2.3A max | 30V DC, 2.3A max |
| Temperature | -20°C to + 55°C | -20°C to + 55°C |
| Humidity | Up to 100% @ 40°C | Up to 100% @ 40°C |

*Specifications subject to change without notice

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 boats, speedboats, Tug boats or yachts. To prevent the common issues in a 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

THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK



| 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

Market Proven


Believe the market reliability. KNS S-series have been operating for more than 15 years in the marine market with continuous improvement. The latest version is more robust with the whole pedestal upgraded and better performance with RF parts changed.

Seamless TV Signal Reception with HD

The seamless TV is guaranteed for your entertainment. To eliminate the interruption of TV reception, KNS has improved its gain and tracking accuracy with the loss reduced, which enables S-series to provide seamless SD and HD reception.

Global TVRO LNB option for S10 and S12


S10 and S12 optionally cover the global satellite TV without LNB replacement, supporting 8 LOs in both linear and circular polarity. In addition, it provides ease of LO selection on the ACU and SCS (SuperTrack Control Software).



Lower Loss, Higher Durable Radome



Gyro Free Mode Support



Dual Antenna System Support (S10, S12)

2

2 - Year Parts Warranty (S4, S6, S8)

2+1

2 - Year Parts Warranty
1 - Year Labor Warranty (S10, S12)

Below Deck

KA - 165 Antenna Control unit (S10, S12)



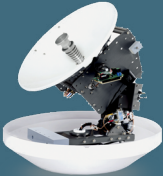
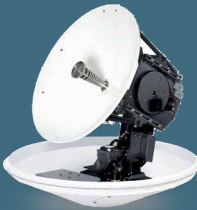

KA - 75 Antenna Control unit (S4, S6, S8)



THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK

S series

THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK

| |  |  |  |
|-------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 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° |
| Azimuth Range | 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 |
| 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 C € | EN60945 C € | EN60945 C € |
| | | | |
| | | | |

*Specifications subject to change without notice

S series

THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK



| 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 satisfies these requirements, providing with a variety of TV channels in a waterfront or calm environment.



K7

K series

THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK

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 do 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



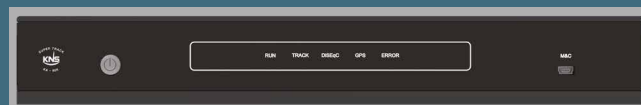
2 - Year Parts Warranty



Remote Software Upgrade

Below Deck

KA - 90K Antenna Control unit



Front



Back

K series

THE NEW STANDARD OF SATELLITE COMMUNICATION
SUPERTRACK



| 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

4 Axis Stabilization
Azimuth, Elevation, Tilt and Skew



Fast Acquisition Time Less than 30 sec



MIL-STD-461
MIL-STD-810 Compliance

3+1

3 - Year Parts Warranty
1 - Year Labor Warranty



| 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 |
| G / T | 11.87dBk(in Radome) @30deg, Elevation angle and 11.75GHz, Clear Sky |
| 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 | 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-461F,MIL-STD-810 |

*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 KNS Naval VSAT of SuperTrack is complied with MIL-STD-167, MIL-STD-901D and MIL-STD-461F



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.



X10MK3

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



Dual Antenna System Support



All-in-One PCU



High Tracking Speed More than 90° / sec



Remote Software Upgrade & Control

BELOW DECK

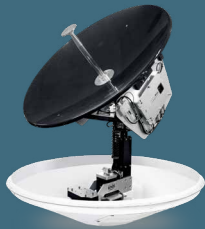
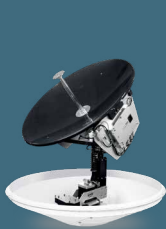
KA - 180 Antenna Control unit



Front



Back



| 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 | 15.50 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 | FRP | 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

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 guarantees the ultimate durability and reliability with the strongest system. They are controlled by direct-driven motors which have high level of responsibility and implement a detailed positioning control. With a real-time precise algorithm, ULV-series never fails 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 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



Dual Antenna System
Support



Rugged Structure
for Military Application



High Tracking Speed
More than 90° / sec



| 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 | |
| Certification / Qualification | MIL-STD-901D, MIL-STD-810, MIL-STD-461F, MIL-STD-167 | |

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 TX : 48V DC, 3.2A RX : 48V DC, 4.18A |
| Output Power | |
| Remote Access | T-monitor, 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 48V DC, 4.18A |
| Output Power | |
| 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 | 24V DC, 9.17A(220W) |
| (Adapter input) | 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.



Europe Distribution Center

Seattleweg 5-3195ND, Rotterdam-pernis, The Netherlands
E-mail sales@kns-kr.com



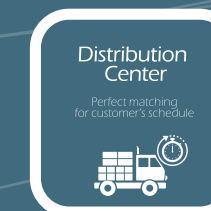
Europe Sales Office

Carl-Zeiss-Straße4, 71093, Weil im Schönbuch, Deutschland
Tel +49(0)172 7640257



Europe Support Center

Uffelte, The Netherlands
Tel + 31 2 0208 9909 E- mail support.eu@kns-kr.com



Singapore Sales Office

9 Straits View Marina One West Tower Singapore 018937
E-mail sales@kns-kr.com



1476-55, Yuseong-daero, Yuseong-gu,Daejeon 34055, South Korea
E-mail sales@kns-kr.com Tel +82 42 932 0351 Fax +82 42 923 0353