



TY-Space Technology

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23

PRODUCTS

5

SERVICES

10

WITH DATASHEETS

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as of 23 August 2026



TY-Space Technology

TY-Space Technology (Beijing) Ltd. is a Chinese space technology company headquartered in Haidian District, Beijing, specialising in advanced attitude optical sensors and star trackers for the satellite industry. The company designs and manufactures a broad family of star trackers (HST, NST, PST series), digital sun sensors, dynamic and static star simulators, ground support test equipment, and a plug-and-play attitude control module (ADCS) that integrates star trackers, sun sensors, gyroscopes, magnetometers, reaction wheels, magnetic torquers and GNSS into a single subsystem. TY-Space reports over 1,000 sets of star trackers successfully operating on-orbit. Its products have flown on numerous Chinese space missions, including the High Resolution Remote Sensing Project, the Lunar Exploration Program (Chang'e-4 relay/formation), and satellite constellations such as Jilin-1, Zhuhai-1, Chuangxin-06 and the Microscope constellation, as well as more recent launches for the Jixing high-score series, Traffic VDES, SpaceSail networking satellites, the G60 Polar Group, and the Chutian and Taijing constellations, demonstrating extensive and continuing on-orbit flight heritage. TY-Space targets satellite manufacturers, research institutes, and commercial spacecraft developers requiring reliable, high-precision attitude determination optical sensors for LEO, MEO, GEO and deep-space missions. The company also offers professional testing services covering performance testing, environmental testing, space target discovery and tracking, and in-orbit remote sensing camera calibration, and maintains partnerships with Chinese universities and research institutes (Tsinghua, BUAA, NWPU, NUDT, CIOMP, AIRCAS, NSSC and others) as well as commercial satellite operators.

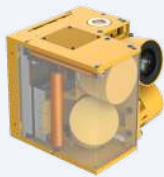
This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

SERVICES

Services

Environmental Test TY-Space performs environmental tests to determine the stray light exclusion angle of devices under various light intensities.	Performance Testing TY-Space conducts performance testing for star trackers, including static and dynamic attitude efficiency, accuracy, and capture time.
Professional Test TY-Space offers professional testing services including performance testing, environmental testing, and specialized tests for star trackers and remote sensing cameras.	Remote Sensing Camera Calibration in Orbit TY-Space provides in-orbit calibration services for remote sensing cameras.
System Alignment Measurement TY-Space measures the transformation matrix between device sensor coordinate systems and satellite coordinate systems using theodolite self-collimation.	

Product catalogue

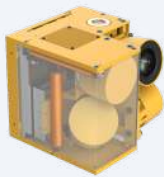


TY-SPACE TECHNOLOGY

Attitude control module PnP ADCS-N1

The Attitude control module PnP ADCS-N1 is a product offered by TY-Space Technology for attitude control in space applications.

price on request



TY-SPACE TECHNOLOGY

Attitude Control Module PnP ADCS-N1

A plug-and-play (PnP) satellite attitude determination and control module (ADCS-N1) integrating star trackers, sun sensor, gyroscope, magnetometer, reaction flywheels, magnetic tor

Star tracker - quantity	2
Star tracker - accuracy (Pointing/Rolling)	5" (3sigma) / 50" (3sigma)
Star tracker - update rate	10 Hz
Star tracker - dynamic range	2 deg/s
Sun sensor - quantity	1
Sun sensor - measurement accuracy	0.1 deg (3sigma)
Sun sensor - update rate	10 Hz

price on request



With global star map, DSS-25 is for testing all function and performance of the star tracker @ whole global simulator test. DSS-25, 400g, is designed for all function and performance tests @ environment testing, such as thermal vacuum and atmospheric thermal cycle, after the star trackers mounted on the satellites. DSS-25 receive the quaternion from the simulator computer and output the real-time star patterns by 422 or UDP connector for the satellite Semi-physical simulation test.

TY-SPACE TECHNOLOGY

Dynamic Star Simulator DSS-25

Ultra-compact TY-Space Dynamic Star Simulator (DSS-25) designed for all function and performance testing of star trackers mounted on satellites.

Field of view	20x20 deg
Magnitude	2 to 6.5 Mv
Accuracy	30" [3sigma]
Update rate	>= 40 Hz
Resolution	2560x2560
Mass	< 400 g
Working temperature	-40 to 45 C

price on request



With global star map,DSS-14 is for testing all function and performance of the star-tracker @ whole global simulator test. DSS-14 is used for testing all function and performance of the star tracker @ the environment experiments such as thermal vacuum and atmospheric thermal cycle. DSS-14 receive the quaternion from the simulator computer and output the real-time star patterns by 422 or UDP connector for the satellite Semi-physical simulation test.

TY-SPACE TECHNOLOGY

Dynamic Star Simulators (DSS-14)

The TY-Space Dynamic Star Simulators (DSS-14) is an instrument designed for function and performance testing of star trackers, offering adaptability to various star tracker brands.

Field of view	20°×20°
Magnitude	2 ~ 6.5 Mv
Accuracy	30" [3σ]
Update rate	≥ 40 Hz
Resolution	1440 × 1440
Dimensions	-40℃ ~ 45℃
Thermal	X,Y,Z (Tri-axially adjustable)

price on request



TY-SPACE TECHNOLOGY

Dynamic Test System

TY-Space Dynamic Testing System (DTS) is mainly formed by a star tracker, a Dynamic Star Simulator (DSS), and an image acquisition system for satellite semi-physical simulation tes

Dynamic star simulator	Receives quaternion from simulator computer; outputs real-time star field for satellite se
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Star tracker - attitude accuracy (pointing/rolling)	3"/50" [3sigma]
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Image acquisition system	Image acquisition, real-time display and storage
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price on request



TY-SPACE TECHNOLOGY

Ground Support Equipment

TY-Space Technology offers Ground Support Equipment, including Static Test Systems and Dynamic Test Systems, for the space industry.

price on request



TY-SPACE TECHNOLOGY

HST-A1 Star Tracker

The HST-A1 Star Tracker is a high-performance attitude optical sensor designed for space industry applications, providing precise attitude determination for satellites.

price on request



TY-SPACE TECHNOLOGY

HST-A1 Star Tracker

The HST-A1 is a fully autonomous, high-precision star tracker offering ultra-high pointing accuracy (up to 0.3 arcseconds, 3-sigma) for satellite attitude determination.

Lens dimensions	140x125x212 mm3
Sensor+baffle dimensions	155x155x297 mm3
Mass	4700 g
Optical design	Refractive
Vibration (FM)	sine 13 g, random 12 grms
Vibration (Qualification)	sine 16 g, random 18 grms
Working temperature	-10 to 30 C

price on request datasheet



TY-SPACE TECHNOLOGY
NST-3 Nano Star Tracker

The NST-3 is an advanced Nano Star Tracker designed for compact working conditions, featuring a smaller baffle and lower weight compared to its predecessor, the NST-4.

Mass <165g

price on request



TY-SPACE TECHNOLOGY
NST10-G1 Star Tracker

The NST10-G1 is a star tracker equipped with a MEMS gyroscope, offering high pointing accuracy and dynamic performance for spacecraft attitude determination.

Dimensions	Sensor+Baffle 56×47×86(mm ³)
Mass	Sensor+Baffle 90 g
Optical design	Lens refractive
Environmental vibration (FM)	sine 13 g, random 12 grms
Vibration (Qualification)	sine 16 g, random 18 grms
Working temperature	-30~40 (°C)
Radiation resistance	30 Krad [Si]

price on request

[datasheet](#)



TY-SPACE TECHNOLOGY
NST20-G2 Star Tracker

The NST20-G2 is a fully autonomous, highly reliable, and precise star tracker designed for attitude determination with high dynamic performance and a secondary baffle for sun exclu

Dimensions	Sensor+Baffle 90×100×268 (mm ³)
Mass	Sensor+Baffle 1200 g
Optical design	Lens refractive
Environmental	Vibration (FM) sine 13 g, random 12 grms
Vibration (Qualification)	sine 16 g, random 18 grms
Working temperature	-30~50 (°C)
Radiation resistance	100 Krad [Si]

price on request

[datasheet](#)



TY-SPACE TECHNOLOGY
NST20-G3 Star Tracker

The NST20-G3 is an upgraded, fully autonomous, high-precision, and high-dynamic attitude star tracker designed for spacecraft navigation.

Dimensions	Sensor+Baffle 90×100×268 (mm ³)
Mass	Sensor+Baffle 1200 g
Optical design	Lens refractive
Environmental vibration (FM)	sine 13 g, random 12 grms
Vibration (Qualification)	sine 16 g, random 18 grms
Working temperature	-30~50 (°C)
Radiation resistance	100 Krad [Si]

price on request

[datasheet](#)



TY-SPACE TECHNOLOGY

NST4S-A2 Star Tracker

The TY-Space NST4S-A2 Star Tracker is an autonomous nano star tracker designed for high-accuracy attitude determination in space applications.

Dimensions	Sensor+Baffle 57×57×182 (mm ³)
Mass	Sensor+Baffle 370 g
Optical design	Lens refractive
Environmental vibration (FM)	sine 13 g, random 12 grms
Vibration (Qualification)	sine 16 g, random 18 grms
Working temperature	-40~40 (°C)
Radiation resistance	50 Krad [Si]

[price on request](#) [datasheet](#)



TY-SPACE TECHNOLOGY

NST5S-A1 Star Tracker

The NST5S-A1 is an autonomous, high-precision, and compact star tracker designed for spacecraft attitude determination, featuring a Sun Exclusive Angle of 35°.

Dimensions	Sensor+Baffle 57×57×168 (mm ³)
Mass	Sensor+Baffle 380 g
Optical design	Lens refractive
Environmental vibration (FM)	sine 13 g, random 12 grms
Vibration (Qualification)	sine 16 g, random 18 grms
Working temperature	-40~40 (°C)
Radiation resistance	50 Krad [Si]

[price on request](#) [datasheet](#)



TY-SPACE TECHNOLOGY

Optical Star Pattern Simulator (OSPS)

The TY-Space Optical Star Pattern Simulator (OSPS) is a static star simulator designed for testing the function and performance of star trackers, including in environmental experim

Field of view	15°×15°
Number of stars	>15
Sky district	North Pole Area / Customization
Optics / illumination	Collimating / LED
Dimensions	Φ65mm×73mm
Mass	108 g
Adjusting	X,Y,Z (Tri-axially adjustable)

[price on request](#)



TY-SPACE TECHNOLOGY

PST3S-H4 Star Tracker

The PST3S-H4 is a compact, low-power refractive-optics star tracker designed for high-pointing-accuracy spacecraft attitude determination, with strong dynamic performance and radia

Dimensions (Sensor+Baffle)	33×33×98 mm ³
Mass (Sensor+Baffle)	95 g
Optical design (Lens)	Refractive
Vibration (FM)	sine 13 g, random 12 grms
Vibration (Qualification)	sine 16 g, random 18 grms
Working temperature	-40 to 40 C
Radiation resistance	30 Krad [Si]

[price on request](#) [datasheet](#)



TY-SPACE TECHNOLOGY

PST3S-H5 Star Tracker

The PST3S-H5 is a compact, lightweight star tracker that operates normally under stray light conditions and can be customized for various satellite mission requirements.

Dimensions (Sensor+Baffle)	35.5x35.5x134 mm3
Mass (Sensor+Baffle)	130 g
Optical design (Lens)	Refractive
Vibration (FM)	sine 13 g, random 12 grms
Vibration (Qualification)	sine 16 g, random 18 grms
Working temperature	-40 to 40 C
Radiation resistance	50 Krad [Si]

[price on request](#) [datasheet](#)



TY-SPACE TECHNOLOGY

PST3S-K4 Star Tracker

A micro-miniature, radiation-resistant star tracker with a deployment baffle, providing high-accuracy attitude determination for small satellites.

Dimensions (Sensor+Baffle)	Baffle Folded: 40x40x34.6 (mm ³)
Dimensions (Sensor+Baffle) (deployed)	Baffle Deployed: 40x40x75.7 (mm ³)
Mass (Sensor+Baffle)	60 g
Optical design (Lens)	refractive
Vibration (FM)	sine 13 g, random 12 grms
Vibration (Qualification)	sine 16 g, random 18 grms
Working temperature	-40~40 (°C)

[price on request](#) [datasheet](#)



TY-SPACE TECHNOLOGY

PST4S-H1 Star Tracker

The PST4S-H1 is a low-power-consumption, pico-class star tracker customizable for various small-satellite applications, part of a TY-Space product line with over 100 units successf

Dimensions (Sensor+Baffle)	57x57x141 mm3
Mass (Sensor+Baffle)	310 g
Optical design (Lens)	Refractive
Vibration (FM)	Sine 13 g, random 12 grms
Vibration (Qualification)	Sine 16 g, random 18 grms
Working temperature	-40 to 40 C
Radiation resistance	30 Krad [Si]

[price on request](#) [datasheet](#)



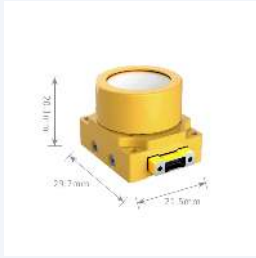
TY-SPACE TECHNOLOGY

SS-D Sun Sensor

The SS-D Sun Sensor is a high-accuracy digital sun sensor designed for spacecraft, providing 2-axis sun vector angle output.

Accuracy	5" [3σ]
Update rate	10 Hz
Field of view	120°
Dimensions	32x 36x13
Mass	45 g
Power consumption	1.1 W
Vibration (FM)	sine 13 g, random 12 grms

[price on request](#)



TY-SPACE TECHNOLOGY

SS-G3 Sun Sensor

The SS-G3 Sun Sensor is a product offered by TY-Space Technology, likely used for attitude determination in space applications.

price on request



TY-SPACE TECHNOLOGY

Star Simulator

TY-Space Technology offers Star Simulators, including Optical Star Pattern Simulators and Dynamic Star Simulators (DSS-14, DSS-25), designed for testing and calibration of attitude

price on request



TY-SPACE TECHNOLOGY

Static Test System

TY-Space Static Star Testing System (SSTS) is mainly formed by a star tracker, an Optical Star Pattern Simulator (OSPS), and an image acquisition system.

Optical star pattern simulator	Static star simulator, North Pole Area/Customization
Star tracker - attitude accuracy (pointing/rolling)	3"/50" [3sigma]
Image acquisition system	Image acquisition, real-time display and storage

price on request

Contact TY-Space Technology

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

<https://newspacemarket.com/companies/ty-space-technology/>

<https://www.ty-space.net/>

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