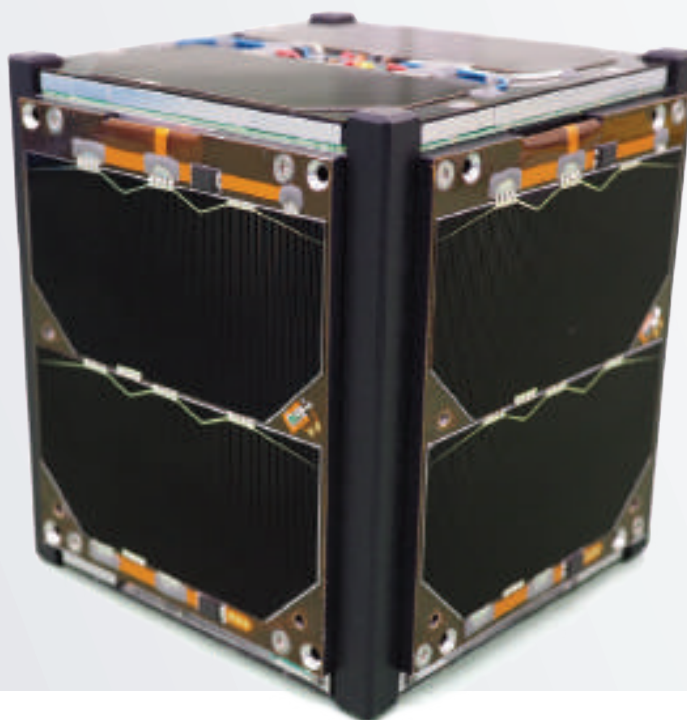


ISIS 1U CubeSat

Standard platform for turn-key solutions



DESCRIPTION

The ISIS 1U CubeSat has been designed to provide a complete solution to teams looking for affordable small satellite technologies. It is delivered together with its ground support equipments and a full software environment to program and operate the satellite.

Such solution can be used in the scope of educational programs and missions with light requirements.

1U COMPONENTS

Basic Bus Subsystems

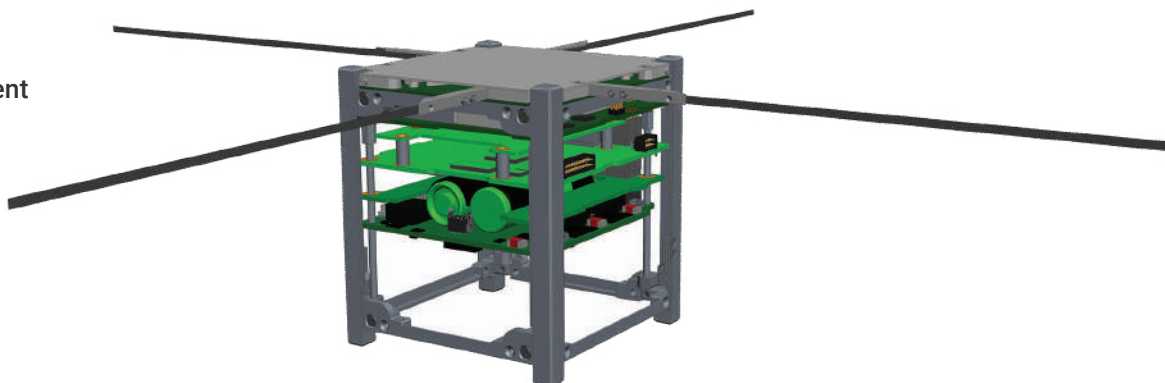
ISIS 1U Structure	In orbit since 2013
ISIS Antenna Subsystem	In orbit since 2010
ISIS EPS and Battery Pack	In orbit since 2017
ISIS VHF/UHF Transceiver	In orbit since 2016
ISIS On Board Computer	In orbit since 2013
ISIS Solar Panels	In orbit since 2017

Software

ISIS Subsystems Interface Library	In orbit since 2013
ISIS Mission Support Library	In orbit since 2013
Flight software upon request	
Ground radio GUI	

Ground Support Equipment

- Mechanical GSE
- Electrical GSE
- Radio GSE



APPLICATIONS

CAPACITY BUILDING/EDUCATION

The ISIS 1U CubeSat offers by default a set of functionalities and sensors.

Transponder - Live re-transmission of voice messages

Radio - Receive, store and send data back to Earth

Magnetometers - Measure the magnetic environment in space

Gyroscope/Photodiodes - Measure the attitude of the satellite

Termo-resistors - Measure the temperature across the satellite

PAYLOAD DEVELOPMENT

CubeSat developers can mechanically and electrically interface and test the platform with third-party or custom-made payloads such as a small camera or a radiation monitoring sensor.

PAYLOAD AVAILABLE RESOURCES

MECHANICAL

Volume available	0.4 U
Mass available	700 g

ADCS

Capability	Detumbling
------------	------------

CDHS

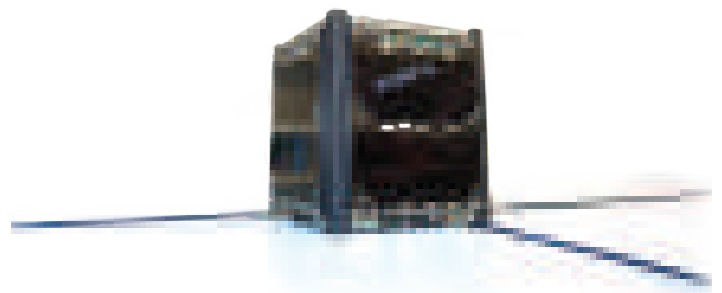
Data bus	I ² C / RS-232
Storage	2 x 2 GB

POWER

Average payload power	400 mW
Power bus	3.3 V / 5 V (2A max)

COMMUNICATION

Uplink	9.6 kbps (VHF)
Downlink	9.6 kbps (UHF)



ADDITIONAL SERVICES



LAUNCH SERVICES

Fully compatible with
ISIS Deployers.
www.isilaunch.com



GROUND STATIONS

Fully compatible with
ISIS VHF/UHF Ground
Segment



OPERATIONS

Satellite commissioning
and operations support



TRAINING

CubeSat mission
design, AIV and
operations

This document is subject to change without notice. Latest information is on www.isispace.nl



ISIS - Innovative Solutions In Space B.V.

Motorenweg 23, 2623CR, Delft, The Netherlands

T: +31 152569018

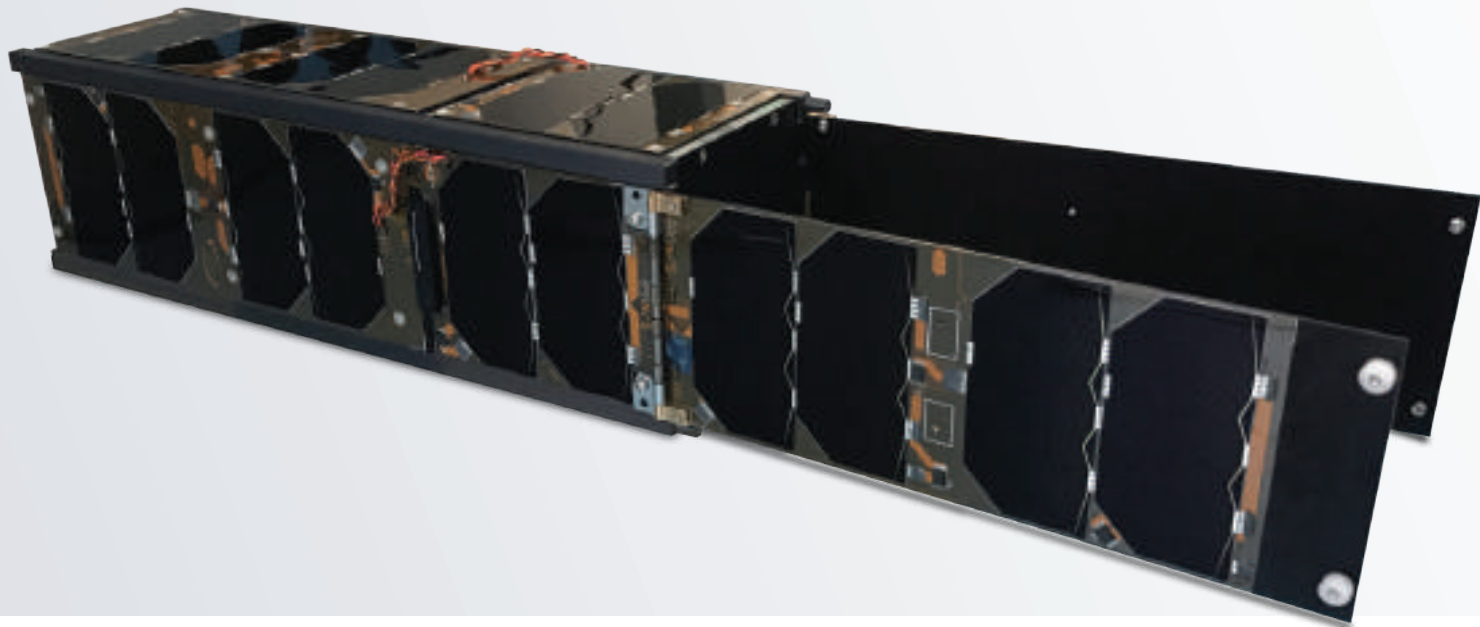
info@isispace.nl

www.isispace.nl



ISIS 3U CubeSat

Modular platform for turn-key solutions



DESCRIPTION

The ISIS 3U CubeSat bus is a flight proven, cost-effective modular platform that can be utilized for fast turn-around nanosatellite missions for a wide range of applications, from satellite based AIS, Earth Observation and astronomy to microgravity research missions.

At ISIS - Innovative Solutions In Space we fully understand that your mission is one-of-a-kind with specific and unique needs and requirements. Therefore, based on our experience with various unique missions, we have developed a 3U CubeSat platform with the right balance between performance, flexibility, payload compatibility and of course reliability and cost. With our team building the platform you need, your team can focus on the payload and mission preparation, reducing your overall time-to-orbit significantly.

3U BUS COMPONENTS

Basic Bus Subsystems

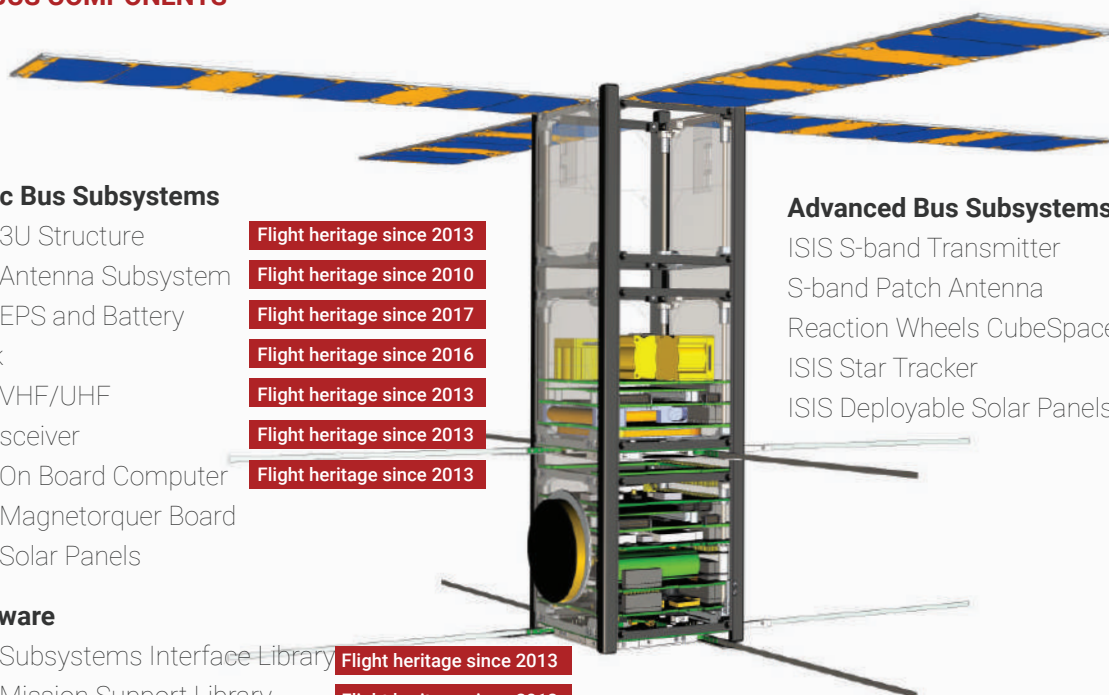
- ISIS 3U Structure **Flight heritage since 2013**
- ISIS Antenna Subsystem **Flight heritage since 2010**
- ISIS EPS and Battery Pack **Flight heritage since 2017**
- ISIS VHF/UHF Transceiver **Flight heritage since 2016**
- ISIS On Board Computer **Flight heritage since 2013**
- ISIS Magnetorquer Board **Flight heritage since 2013**
- ISIS Solar Panels **Flight heritage since 2013**

Software

- ISIS Subsystems Interface Library **Flight heritage since 2013**
- ISIS Mission Support Library **Flight heritage since 2013**
- Flight software upon request

Advanced Bus Subsystems

- ISIS S-band Transmitter **Flight heritage since 2017**
- S-band Patch Antenna **Flight heritage since 2017**
- Reaction Wheels CubeSpace **Flight heritage since 2014**
- ISIS Star Tracker **Flight heritage since 2017**
- ISIS Deployable Solar Panels **Flight heritage since 2013**



PAYLOAD AVAILABLE RESOURCES

	Basic bus	Advanced bus
MECHANICAL		
Volume available:	2U	1.5U
Mass available:	Up to 2kg/U	Up to 2kg/U
ADCS		
Pointing accuracy:	10° (in sunlight)	Down to 1° (whole orbit)
CDHS		
Data bus:	I ² C / SPI / UART	I ² C / SPI / UART / CAN
Storage:	Up to 64GB	Up to 64GB
POWER		
Average payload power:	Up to 2W	> 3.5W
Power bus:	3V3 / 5V / 8V (2A max per line)	3V3 / 5V / 8V / 12V (2A max per line)
COMMUNICATION		
TT&C uplink	1.2 kbps (VHF)	9.6 kbps (VHF)
TT&C downlink	9.6 kbps (UHF)	9.6 kbps (UHF)
Payload data downlink	9.6 kbps (UHF)	3.4 Mbps (S-band)

TURN-KEY SOLUTIONS

Are you rather looking for a fully integrated turn-key satellite solution? Innovative Solutions In Space can offer you such a solution based on a 3U CubeSat platform for satellite-based AIS ship tracking or Earth observation applications.

Ship tracking



Payload

ISIS AIS Receiver
Low power consumption < 2W
Flight heritage since 2013

Bus configuration

Basic Bus
Software available upon request

Earth observation



Payload

Visible / Multispectral images
GSD: <40 m @ 500 km
Flight heritage since 2017

Bus configuration

Advanced Bus
Software available upon request

ADDITIONAL SERVICES



LAUNCH SERVICES

Fully compatible with
ISIS Deployers.
www.isilaunch.com



GROUND STATIONS

Fully compatible with
ISIS VHF/UHF/S-Band
Ground Segment



OPERATIONS

Satellite commissioning
and operations support



TRAINING

CubeSat mission
design, AIV and
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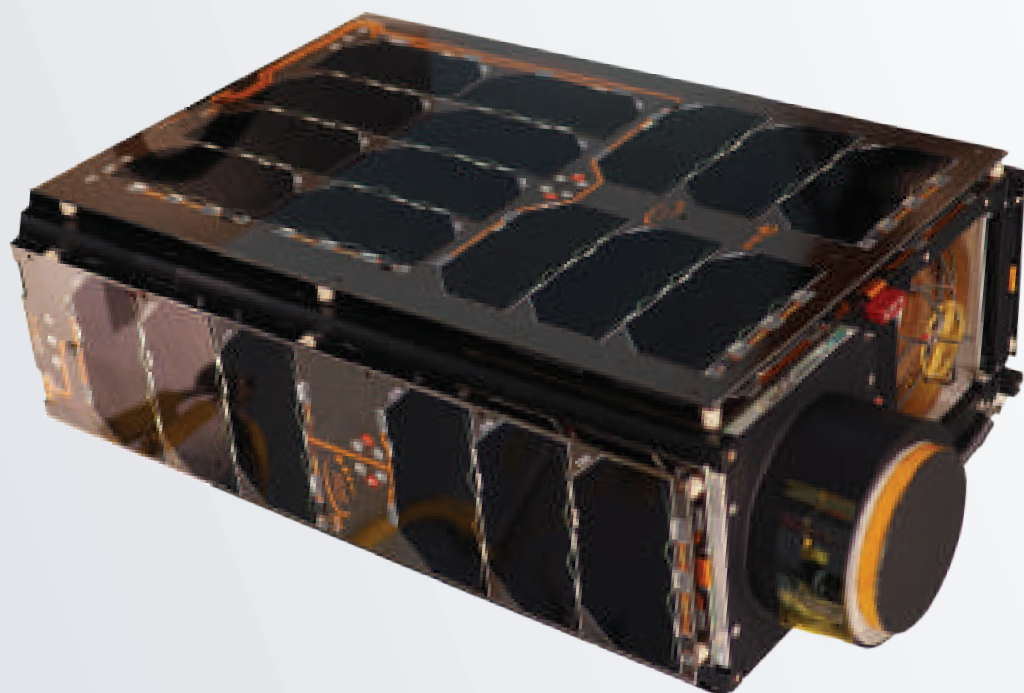
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info@isispace.nl
www.isispace.nl



ISIS 6U CubeSat



Modular platform for turn-key solutions



DESCRIPTION

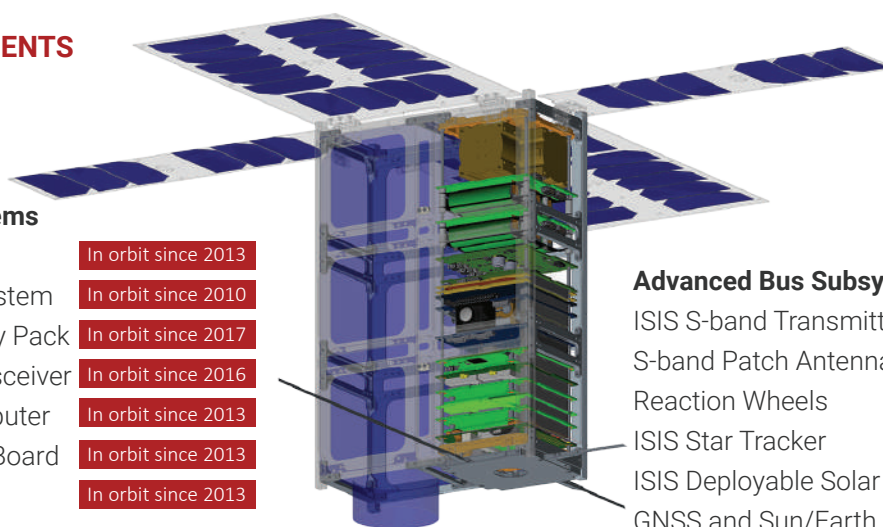
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6U BUS COMPONENTS

Basic Bus Subsystems

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ISIS VHF/UHF Transceiver	In orbit since 2016
ISIS On Board Computer	In orbit since 2013
ISIS Magnetorquer Board	In orbit since 2013
ISIS Solar Panels	In orbit since 2013



Advanced Bus Subsystems

ISIS S-band Transmitter	In orbit since 2017
S-band Patch Antenna	In orbit since 2017
Reaction Wheels	In orbit since 2014
ISIS Star Tracker	In orbit since 2018
ISIS Deployable Solar Panels	In orbit since 2013
GNSS and Sun/Earth sensors	In orbit since 2014

Software


ISIS Subsystems Interface Library	In orbit since 2013
ISIS Mission Support Library	In orbit since 2013
Flight software upon request	

PAYLOAD AVAILABLE RESOURCES

	Basic bus	Advanced bus
MECHANICAL		
Volume available:	3U	2.5U
Mass available:	6kg	5.5kg
ADCS		
Pointing accuracy:	3°	0.1°
CDHS		
Data bus:	I ² C / SPI / USART / UART	I ² C / CAN / SPI / USART / UART
Storage:	Up to 64GB	Up to 64GB
POWER		
Average payload power:	10 W	from 20 W
Power bus:	3V3 / 5V / 16V (2A max)	3V3 / 5V / 16V (2A max)
COMMUNICATION		
TT&C (VHF/UHF)	9.6 kbps	9.6 kbps
Payload data downlink (S-band)	-	3.4 Mbps

TURN-KEY SOLUTIONS

Are you rather looking for a fully integrated turn-key satellite solution? Innovative Solutions In Space can offer you such a solution based on a 6U CubeSat platform for satellite-based AIS ship tracking, Earth observation or IoT/M2M applications.

Ship tracking  **TRITON**


Payload
 ISIS AIS Receiver
 Low power consumption < 2W
 Flight heritage since 2013

Bus configuration
 Basic Bus
 Software available upon request

Earth observation  **GAIA**

Payload
 Visible / Multispectral images
 GSD: 10- 40 m @ 500 km
 Flight heritage since 2017

Bus configuration
 Basic / Advanced Bus
 Software available upon request

IoT / M2M  **HERMES**

Payload
 Configurable receiver
 High power capabilities
 Enabling on-board processing

Bus configuration
 Basic Bus / Advanced Bus
 Software available upon request

ADDITIONAL SERVICES



LAUNCH SERVICES

Fully compatible with
 ISIS Deployers.
www.isilaunch.com



GROUND STATIONS

Fully compatible with
 ISIS VHF/UHF/S-Band
 Ground Segment



OPERATIONS

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