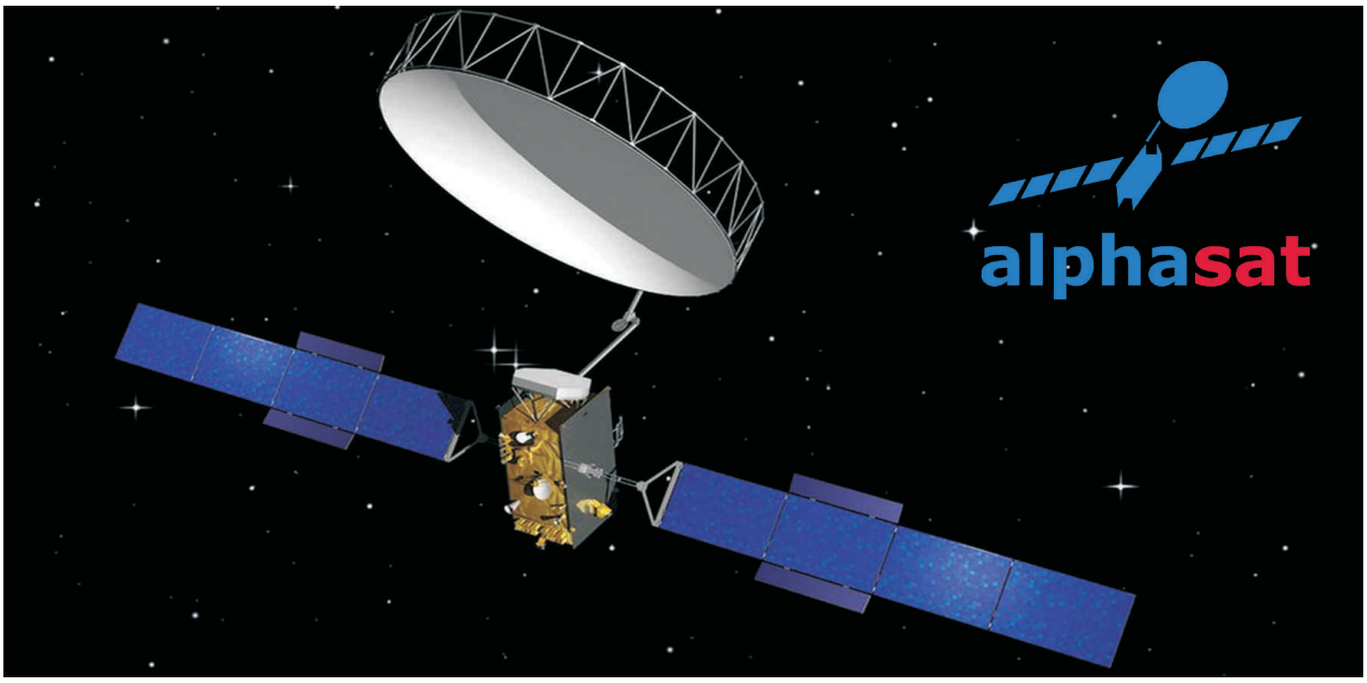
professional telecommunication Systems and Services



Alphasat receiver

Alphasat satellite beacon 19.701 GHz and 39.402 GHz receiver

Alphasat satellite beacon receiver is designed for receiving and evaluating of transmitted signal on 19.701 GHz and 39.402 GHz. Receiver is designed as two separate receiver units which are connected to monitor server by industrial RS485 bus with Modbus protocol. Modbus server is processing and logging 20 measurements per second and allows to control and monitor all receiver parameters by web interface and show graph from measured values. Besides web interface monitor server offers FTP standard protocol to manage measurement data and download data logs for further processing.

Whole receivers are consisting of Andrew parabolic offset antennas with 1.8m of electrical diameter. Antennas are equipped with antifreeze heating to maintain constant gain in winter. Satellite position drift in north-south axis which is approx. 0.27° is compensated mechanically by suitable LNB position, optionally measurement error can be calculated based on actual satellite position and processed by monitoring server (option). LNB units are temperature stabilized by PID temperature regulator to 40°C to achieve constant gain in whole temperature range.

Technical parameters:

receiving frequency:	19.701GHz, 39.402GHz	custom frequency as option
phase noise:	-75dBc/Hz @ 1kHz, -80dBc/Hz @ 10kHz	
dynamic range:	25dB	
IF filters:	100kHz, 10kHz, 1kHz	
receiver speed:	20 measurements/sec.	
receiver resolution:	0.5dB	
measurement log capacity:	~200 days	
communication protocols:	HTTP/HTTPS	
	FTP/FTPS/SFTP	
	SSH	
	Modbus	
interfaces:	10/100Mbit/s, Auto-MDI/X	RJ45 connector
	RS485	
supply voltage:	110 - 240 VAC	
temperature range:	-40° to + 70° C	-20° to + 50°C to meet specifications

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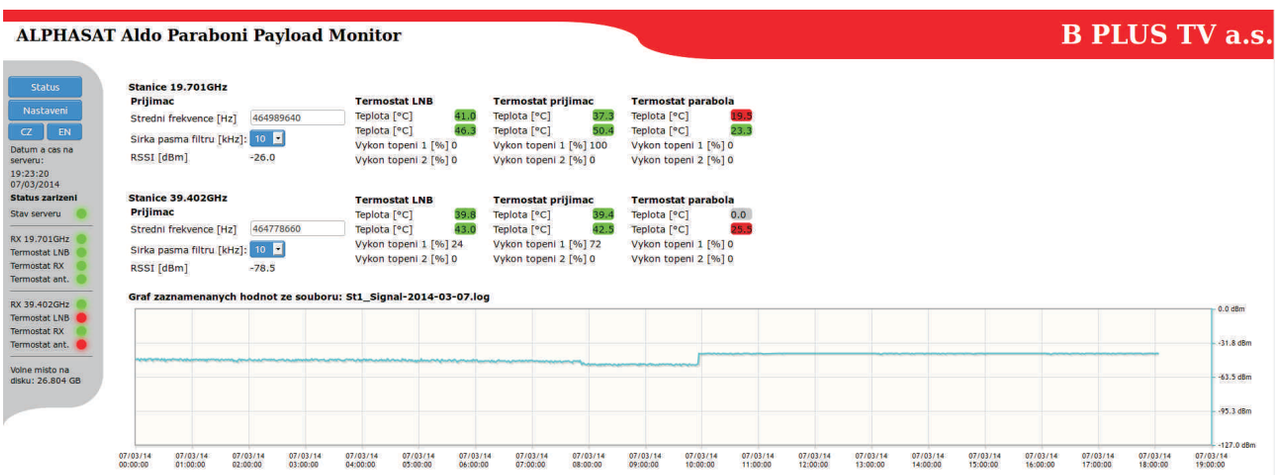
Modules description

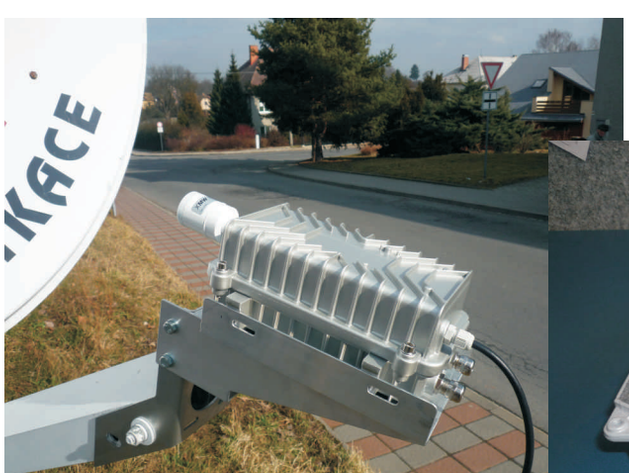
Alphasat Monitor Server

Compact SBC server on ARM architecture completely solid state provides reliable 24/7 operation and low power consumption. To control and data management server offers standard protocols like HTTP, HTTPS, FTP, FTPS, SFTP, Modbus. Data storage on server is able at least 200 days of measurement results. Intuitive web interface offers full receiver control, real-time overview and logged measurement graphing.



LNB and receiver

LNB is designed in outdoor robust waterproof aluminum case with temperature compensation of outside environment by PID temperature regulator.
Receiver module is installed in outdoor rack which is installed on base antenna construction. Receiver output is connected to monitor server through isolated RS485 driver.



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