

# Motorized tracking antenna

TATS-M, tracking antenna for use on aircrafts and ground vehicles



## Key features:

- frequency range 4.5- 5.5 GHz (in agreement with the user, other frequencies on request)
- circular polarization
- 9 dBic gain
- 60° beam width
- lightweight miniature construction
- 12 Vdc power & antenna control signal through the antenna cable
- GPS target tracking capability
- rugged design for long - term usage on aircraft fuselage
- TWINS protocol compatible

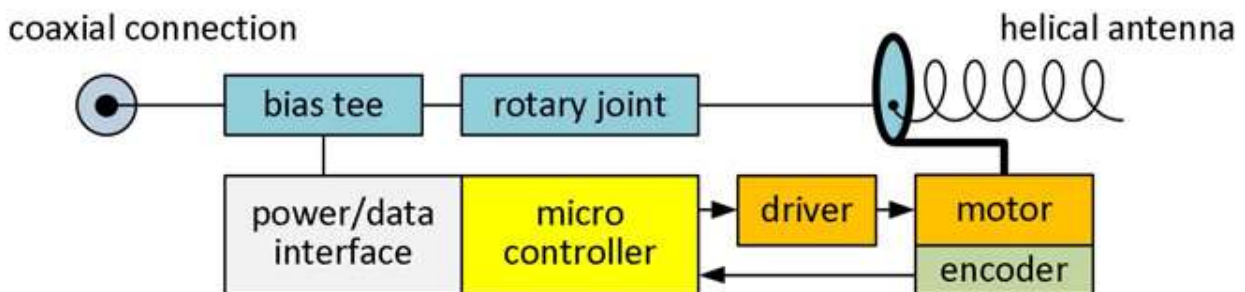
## Description:

The rotary antenna TATS-M is a very small and light directional antenna for use on aircraft and ground vehicles. The waterproof design and the very robust construction of this antenna make it suitable for use even under very hostile environmental conditions. Circular polarization, the high gain and the automatic tracking of the other station enable a range several times as great as with linear polarization and an omnidirectional antenna.

The coax connection supplies the RF signal, the operating voltage and the control signals for the tracking antenna. The control protocol is compatible with TWINS, the modular IP transmission system. By using an optionally available interface box, the antenna can be used in stand- alone operation. In this case the target coordinates are supplied through a serial interface or Ethernet.

The antenna is available in two connection types: axial SMA connection for a direct link to the interior of the vehicle (version designation '- 1') and radial TNC connection for an external cable connection (version designation '- 2').

## Functional bloc diagram:



**Specifications:**

Model	TATS-M-1 (SMA) TATS-M-2 (TNC)
Frequency Range	4400 - 5500 MHz, other frequencies on request
Gain	9 dBic
Polarization	circular RHC
Beam Width ( - 3 dB az./elev.)	60 degrees
Pointing Accuracy $\pm 1.5^\circ$	(depends on compass accuracy)
Maximum Angular Velocity	24°/sec (faster version optionally available)
Front to Back Ratio	>20 dB
Impedance	50 Ohm
VSWR	< 1.5 :1
Maximum Input Power	20 Watt
Maximum Speed	450 km/h
Altitude	$\leq 5000$ m
Radome Material	Delrin® POM
Command/Control	Protocol TWINS (through the antenna cable)
Supply Voltage	10 - 16 VDC (through the antenna cable)
Current Draw (rotating)	500 mA max.
Current Draw (idle, LED s off)	30 mA
Operating Temperature	- 40°C to +85°C
Humidity	$\leq 95\%$ RH
Vibration	10g (sine 20Hz- 2kHz)
Shock ( $\frac{1}{2}$ sine)	100g peak (11ms)
Dimensions	113 mm (height) x 120 mm x 120 mm
Weight	750 g
RF Input Connector	SMA (TATS-M-1: axial through baseplate) TNC (TATS-M-2: radial through radom base)

**Outline drawing:**

