



Helitune

Engineering Rotortuner Solutions

General System Data Sheet

Rotortuner TipTrak™

Versatile Fixed Rotor Blade Tip Tracker

Designed by Aircraft Engineers for Aircraft Engineers

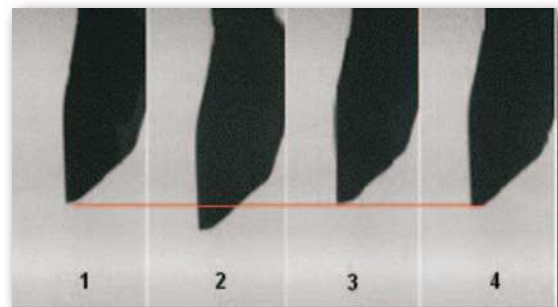
RT-TipTrak™ has been developed as an aircraft installed device for measuring helicopter rotor blade height and lead lag either as an integral part of on-board HUMS systems or Rotortuner Track and Balance Systems.

The RT-TipTrak system uses 'Line Scan' camera technology allowing track measurement to be made at the blade tip, regarded in the helicopter industry as the optimum point of measurement.

Housed in a lightweight alloy enclosure and containing no moving parts, the RT-TipTrak has been designed as a high reliability system to meet the EMC and Environmental requirements of DO-160G.

The option of internal or external mounting offers maximum installation flexibility, the RT-TipTrak is provided with internal heating to prevent misting and ice accretion. The RT-TipTrak is fully compatible with all systems adopting the RITA data transfer protocols.

The RT-TipTrak contains internal 1/rev conditioning allowing direct interface to an unconditioned 1/rev measurement sensor, negating the need for any additional signal conditioning units. Advanced blade recognition technology with 14 bit resolution eliminates the need for supplementary blade contrast enhancements such as tip targets or painting of rotor blades.



BERP blade in flight track

Performance Data**RT-TipTrak Unit**

Physical Specification:	
Dimensions (H x W x D)	120.5mm x 91mm x 85mm (exc. Connector)
Weight	880g MAX
Fixings:	4x 5/16 24 UNF or 4x M8 (12mm deep) - Mounted From Base
Input Specification:	
Blade Track Accuracy	$\pm 1.0\text{mm}$ (22deg option at target distance of 2.5m)
Camera Viewing Window options	16°, 22° or 32°
1/rev Input Compatibility	Helitune OPU, MPU or TTL Input
1/rev Input Type	Single Interrupt or Double Interrupt
1/rev Sensing Range	60RPM to 1200RPM
Communication Specification:	
RTB Interface Compatibility	Helitune RT-6, HT-VHM, RT-2000 and RT5-JS+
HUMS Interface Compatibility:	RITA AS5394 (RS485 Interface, 1Mbaud)
HUMS Interface Protocol	RITA AS5393
Electrical Specification:	
Connector	D38999 series III
Power Supply:	+10V to +36V DC
Power Consumption	<20W
Remote Enable	TTL Input

Environmental Specification

Waterproofness	DO-160G, Section 10, Category R
Sand and Dust	DO-160G, Section 12, Category S
EMC	DO-160G
Environmental	DO-160G
Operating Temperature	-40° C to +70° C
Storage Temperature	-55° C to +85° C

TipTrak is a trademark of Helitune Ltd in the United Kingdom and/or other countries.

Helitune's Quality Management System is certified to BS EN ISO 9001 / AS9100

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This specification may change without notice.

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