Rotortuner TipTrak™

Versatile Fixed Rotor Blade Tip Tracker

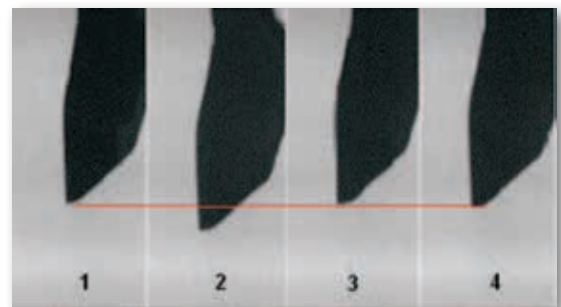## Designed by Aircraft Engineers for Aircraft Engineers

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	*±1.0mm (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*

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

Helitune Ltd.
Hatchmoor Industrial Estate, Torrington
Devon EX38 7HP, UK

Phone +44 (0)1805 624650, Fax +44 (0)1805 624 689
Registered in England & Wales, No. 03979088
VAT Reg. No. 762 442 630

Helitune Germany
Lilienthalstr. 2a
82205 Gilching, Germany

Helitune USA
190 Gordon Street
Elk Grove Village, IL 60007-1120, USA

Helitune Italy
Via Ferrarese, 3
40128 Bologna, Italy

www.helitune.com