

RADIO MAGNETIC INDICATOR (RMI)



The RADIO MAGNETIC INDICATOR (RMI) is used on Cheetah/ Chetak helicopters to provide the Heading and VOR bearing, by interfacing with Gyro Compass (or AHRS) and VOR. The electrical interfaces are ARINC-429 and Discrete I/Os. The unit avoids interfaces like Synchro or Resolver and thereby provides easy wiring, scalability and ease of maintenance. It is equipped with a 3-ATI AMLCD display with LED back-light.

MECHANICAL DIMENSION:

Length: 171mm, Width: 82.8mm, Height: 82.8mm

MECHANICAL FINISH:

- The enclosure is made up of aircraft grade aluminum alloy type 6061 T6
- All surfaces of the parts are subjected to ALCHROME treatment as per MIL-C-5541F
- The external surface of the unit is Anodized with Black color Matt finish as per MIL-C-8625F

WEIGHT:

1.2 Kg

POWER:

Back Light illumination: 9Vdc to 28Vdc

Input Voltage: 9Vdc to 36Vdc

THIS UNIT IS DESIGNED AS PER

MIL-STD-704F	Power Supply
MIL-STD-461F	EMI/EMC
MIL-STD-810D	Environmental Tests



EXTERNAL INTERFACE:

ANALOG SIGNAL
ARINC 429, RS 422

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TEMPERATURE RANGE:

Operating temperature: -40° to +85°C

QUALIFICATION	
Vibration (MIL-STD-810D) (duration 5min)	20 Hz to 80 Hz -3dB/ Octave 80 Hz to 350 Hz 0.04 g2/Hz 350 Hz to 2000Hz 3dB/Octave
Thermal Cycle (10 cycle)	-40°C & +65°C ramp rate 10°C/min
EMI/EMC (MIL-STD-461C)	CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, Rs101, RS103(MIL-STD-461C)
Power supply test	MIL-STD-704F
Sinusoidal Resonance Search test	Resonance search at 0.5g from 5Hz to 500Hz
Vibration (duration 4 Hour)	10- 100 Hz @ 0.0010 to 0.010 g2/Hz 10-300 Hz @ 0.010 g2/Hz 300-ft @ 0.010 to 0.0010 g2/Hz (MIL-STD-810G)
Mechanical Shock	20g saw tooth / 15g half sine pulse of 11 milliseconds duration in all six directions in ON condition (MIL-STD-810G)
Acceleration Test	MIL-STD-810G Method 513.6 Procedure I (Structural) Table 513.6-I Procedure II (Operational) Table 513.6-II (MIL-STD-810G)
Thermal Shock	Method 503.5 (3 Cycles) -40°C to +65°C (MIL-STD-810G)
High Temperature Storage Test	Method 501.5 Diurnal cycle ranges Table 501.5-I.Procedure I (Storage) (MIL-STD-810G)
High Temperature Operational Test	Method 501.5 Procedure II (operation) Table 501.5 III (MIL-STD-810G)

QUALIFICATION	
CATH Test	Method 520.3 Table 520.3 - VII, Table 520.3 - II Fig 520.3 - 1 cycles: 10 (MIL-STD-810G)
Humidity Test	Method 507.5 Procedure II Fig. 507.5-7 Table 507.5-IX (MIL-STD-810G)
Rain Drip Test	Method 506.5 Procedure III (MIL-STD-810G)
Salt Fog Test	Method 509.5 test (MIL-STD-810G)
Bench Handling Test	Method 516.6 Proc VI (MIL-STD-810G)
Crash Hazard Test	Method 516.6 Proc V (MIL-STD-810G)
Transit Drop Test	Method 516.6 Proc IV (MIL-STD-810G)
Low Pressure	Method 500.5 Proc II (MIL-STD-810G)
Contamination by Fluids	Method 504 (MIL-STD-810G)
Solar Radiation Test	Method 505.5 Proc II (MIL-STD-810G)
Dust Test	Method 510.4 (MIL-STD-810F)
Compass Safety	Section 15 DO-160C
Rain Drip Test	Method 506.54 (MIL-STD-810G)
Lighting Protection	Section 22 DO-160C
Fungus Test	Method 508.6 (MIL-STD-810G)



DILABS SYSTEMS PVT LTD

Bangalore:

No: 5AC-418, 1st Floor,
5A Cross, Kalyan Nagar,
Banaswadi, Bangalore 560043.
Ph: +91 80 46601700 - 796.

USA:

No: 2500 Main Street,
Suite 209, Tewksbury,
MA01876, USA.
Ph: +001 978 447 1882.

E: info@dilabs.in

www.dilabs.in

• DELHI • HYDERABAD • MUMBAI • BOSTON, USA

