

IFF CONTROL UNIT



IFF (Identification of Friend or Foe) Control Unit is basically a MIL qualified system with MIL-1553 Connectivity. The Unit has various toggle switches, Rotary selector switch, Push button switches, Self test switch, LED Indicators and Alphanumeric display for Man Machine Interface (MMI). The Design is built around 16 Bit ARM based Microcontroller. The unit has 1553B interface using DDC chip which will be configured as BC (Bus controller). All extended temperature grade components are used. The unit front panel has back light illumination facility whose intensity can be controlled through Potentiometer and intensity of alphanumeric display is also controlled through Potentiometer

MECHANICAL DIMENSION:

Length: 120mm, Width: 146mm, Height: 95mm.

MECHANICAL FINISH:

- The unit is made up of aircraft grade aluminum alloy type B51S WP.
- All Surfaces of the Parts are subjected to ALCHROME treatment as per MIL-C-5541F.
- The external surface is powder coat with Epoxy based polyester for MATT colours as per 13871.

WEIGHT:

- 1.2 Kg

POWER:

- Back Light Illumination: 12Vdc to 28Vdc.
- Input Voltage: 9Vdc to 36Vdc.

EXTERNAL INTERFACE:

- MIL-1553B Interface

TEMPERATURE RANGE:

- Operating Temperature: -40° to +85°C

THE UNIT IS DESIGNED AS PER

MIL-STD-704D	Power Supply
MIL-STD-461C	EMI/EMC
MIL-STD-810D	Environmental tests



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QUALIFICATION	
Vibration (MIL-STD-810D) (duration 5min)	15 Hz to 1KHz 0.04 g2/Hz 1 KHz to 2 KHz 6dB/Octave roll off
Thermal Cycle (10 cycle)	-200 C & +650 C ramp rate 50 C/min
EMI/EMC (MIL-STD-461C)	CE-03,CE-07,CS-01,CS-02, CS-06 RE-01,RE-02,RS-01,RS-02, RS-03
Power Supply Test	16Vdc to 32Vdc
Surge Test	Over voltage surge test Under voltage surge test
Sinusoidal Resonance Search Test	With excitation of 1.5g from 5Hz to 2Khz
Vibration (MIL-STD-810D) (duration 1Hour)	15 Hz to 1KHz 0.04 g2/Hz 1 KHz to 2 KHz 6dB/Octave roll off
Mechanical Shock (MIL-STD-810D)	15g, 11msec, Half sine, 18 shocks (3 shock /direction)
Acceleration Test (MIL-STD-810D)	Method 513.3 Procedure I & II All 6 direction level of 12g (130 m/s ²)
Thermal Shock (MIL-STD-810D)	Method 503.2 (3 Cycles) -40°C to +70°C (5min transfer time)
High Temperature Storage Test (MIL-STD-810D)	Method 501.2 The unit is subjected to +85°C

QUALIFICATION	
High Temperature Operational Test (MIL-STD-810D)	Test cycle: one +71°C (30 Min OFF & 30 min ON) +65°C (1hr OFF & 1hr ON) +55°C(2hr OFF & 2 hr ON)
CATH Test (MIL-STD-810F)	Method 520.2, Cycles: 10 Temperature: -55°C to +71°C Altitude: 9KM Humidity: 75% RH @ 40°C
Humidity Test (MIL-STD-810D)	Method 507.2,Temp: 30°C to 60°C Humidity: 85% to 95%: 24 Hours Cycle, No. of Cycle: 10 Cycles.
Rain Drip Test	Method 506.2 (MIL-STD-810D)
Salt Fog Test	Method 509.2 (MIL-STD-810D)
Bench Handling Test	Method 516.3 Proc IV (MIL-STD-810D)
Crash Hazard Test	Method 516.3 Proc V (MIL-STD-810D)
Transit Drop Test	Method 516.3 Proc VI (MIL-STD-810D)
Rapid Decompression Test	Method 500.2 Proc II VI (MIL-STD-810D)
Blowing Dust Test	Method 510.2 Proc I VI (MIL-STD-810D)
Solar Radiation Test	Method 515.2 Proc II VI (MIL-STD-810D)
Fungus Test	Method 508.3 VI (MIL-STD-810D)

DATASOL INNOVATIVE LABS

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