21-151-06

Digital Logic Converter Unit (LCU)

FEATURES

- **Suitable for any airborne application**
- **Operates with all versions of the ARC210 including the ARC210 Gen 5**
- **Designed to MIL-STD-810, MIL-STD-461 and MIL-STD-704**
- **Incorporates the latest FPGA technology**
- **Incorporates continuous and interruptive BIT functionality**

Military aircraft need to be able to depend on and maintain communications for broad-band, frequency hopping V/UHF secure communications. In concert with Cooper Antennas range of tuneable antennas, the 21-151-06 digital Logic Converter Unit (LCU) receives frequency information from all versions of the ARC210 radio and tunes the antenna to the desired frequency which in turn optimizes the gain of the antenna.

The digital LCU validates the control signals from the ARC210 radio (no wiring changes or grounding of pins for version), extracts the frequency information, translates it to a tuning command, and provides the required drive signals to tune the antenna via the parallel bus at the output connector.
The LCU contains extensive built in diagnostic capability (BIT) which monitor the input data, PSU status, internal health monitor, in addition to monitoring each of the output drive lines. The BIT status of the unit is fed back to the transceiver.

The LCU is constructed from aluminium alloy with internal filter and protection PCBs to maximise EMC performance.

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Cooper Antennas Ltd is Accredited to: ISO9001, AS9100, ISO14001 and MAA Approved

SPECIFICATIONS

Cooper Antennas Model 21-151-06

Digital Logic Converter Unit (LCU)

ELECTRICAL	
DC Power Input	Normal Working Voltage: 22 to 29 Volts dc Emergency Working Voltage: 18 to 29 Volts dc Protection: Reverse polarity and transient protection are incorporated in the design. Power interrupts in accordance with MIL-STD-704F; the state of the antenna outputs will remain as set but may be reduced in level during the power interruption.
Serial Control	The frequency information is transmitted via a 1 MHz Manchester encoded differential serial bit stream
ARC-210 Interface	Irrespective of the version or ARC-210 that is used, all wiring from the ARC210 to the LCU is exactly the same. The LCU interprets the radio version and adjust automatically
Antenna Tuning Interface	The antenna tuning interface consists of nine lines of antenna drive signals output on connector J3 and a single return line. Tuning of the antenna is achieved by applying forward or reverse bias to the pin-diode switches in the antenna
LCU DC Connectors	High Level +300 V Reverse Bias Low Level -220 mA Forward Bias constant current source J1 : D38999/42WB35PN J2 : D38999/42WB5PN J3 : D38999/42WB35SN
Electromagnetic Interference	MIL-STD-461F Emissions: CE101, CE102, CE106, RE101, RE102 Susceptibility: CS101, CS114, CS106, RS101, RS103 Electromagnetic Pulse: RS105
Operational Temperature	-54°C to +71°C
MECHANICAL	
Length x Width x Height	**159.7 x 77.8 x 68.6 mm**
Weight (max)	**0.75 kg**
FINISH	
Standard	**Urethane Lusterless Black**

Note: Cooper Antennas Ltd has a policy of continuous product improvement and data herein is therefore subject to change. Please check with Cooper Antennas Ltd that this data sheet is at latest issue before initiating contract activity.