COCKPIT VOICE RECORDER (CVR) A400

Cockpit Voice Recorder(CVR) is designed to record 2 hours of audio/voice data for each of 4 channels of cockpit audio (i.e. Pilot, Co-pilot, Third crew & Cockpit area microphone) as a EUROCAE Class 1 CVR, in a crash protected solid state memory. It is capable of retaining the audio information during the last 2 hours of its operation. CVR works with following unit:

Control unit (B100/GB020000): A control unit (CU) is provided along with CVR unit. It is used by both flight and maintenance crew for the purpose of operation and maintenance.

Cockpit Area Microphone (CAM): is installed in the cockpit and interfaced using correct polarity with CVR for capturing the surrounding voices inside the cockpit.

Recorder Independent Power Supply (RIPS) (TSO-C155):RIPS is an alternate power source that supplies direct current voltage to CVR for duration of 10 ±1 minutes, whenever the primary aircraft power is removed from the recorder.

Ground Relay Unit (GRE): is milking & analysis system for downloading of CVR/Combi Recorder / FDR data and analysis of the downloaded data.

Cockpit Voice Recorder (CVR) A400	
Physical	
Dimension	267 ± 5 mm X 128 ± 5 mm X 130mm ± 5 mm
Weight	4.0 Kg
Power consumption	
Typical Short term	28 VDC 28 Watts 28 VDC <=45Watts (during cold operation at -45 °C)
Recording capability	
Audio Recording Duration: Frequency Range:	No. of Channels: 04 nos. (Pilot, Co-pilot, Third crew & Area microphone) 2 hours of audio/voice data for each of 4 channels 150 Hz to 3.5 KHz (for Pilot, Co-pilot, Third crew) 150 Hz to 6 KHz (for Area microphone channel)
Interface	
128-pin Circular (P/N: D38999/20-W-J-35PN) – 01 nos. (for electrical signals) 128-pin Circular (P/N: D38999/20-W-J-35PA) – 01 nos. (for electrical signals) 6-pin Circular (P/N: D38999/20-W-A-35PN) - 01 no. (for power supply)	
Environmental qualification:As per DO-160G	
Regulatory specifications:ED-112A	
Regulatory Certification: ITSO-C123c	
Accessories: Control Unit, Recorder Independent Power Supply (RIPS) TSO-C155 / ETSO-C155, Cockpit Area Mike (CAM) & Ground Replay Equipment (GRE)	
Mounting: The unit is hard mounted using 4 numbers of M5X20 Cheese Head Screw SS and M5 Nut Hex SS in the ircraft.	



Description	Part No					
Cockpit Voice Recorder (CVR)	**A400-**	X =0 for Single CVR	X =1 for Control Unit	X =1 for RIPS	X =1 for CAM	-Y =1 for GRE
Control Unit	B100/GB020000					
Ground Relay Unit (GRE)	B200/GB070000					

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COMBI RECORDER A400

Combi Recorder is designed to record 2 hours of audio/voice data for each of 4 channels of cockpit audio (i.e. Pilot, Co-pilot, Third crew & Cockpit area microphone) and 25 hours of aircraft data. It is capable of retaining the audio information during the last 2 hours of its operation and data recorded during at least the last 25 hours of its operation. Combi Recorder works with following unit:

Control unit (B100/GB020000): A control unit (CU) is provided along with CVR unit. It is used by both flight and maintenance crew for the purpose of operation and maintenance.

Cockpit Area Microphone (CAM): is installed in the cockpit and interfaced using correct polarity with combi recorder for capturing the surrounding voices inside the cockpit.

Recorder Independent Power Supply (RIPS): (TSO-C155) is an alternate power source that supplies direct current voltage to combi recorder for duration of 10 ± 1 minutes, whenever the primary aircraft power is removed from the recorder.

Ground Relay Unit (GRE): is milking & analysis system for downloading of CVR / Combi Recorder / FDR data and analysis of the downloaded data.

Combi Recorder A400	
Physical	
Dimension	267 ± 5 mm X 128 ± 5 mm X 130mm ± 5 mm
Weight	4.0 Kg
Power consumption	
Typical Short term	28 VDC 28 Watts 28 VDC <=45Watts (during cold operation at -45 °C)
Recording capability	
Analog Signal Frequency Signal Discrete Signal ARINC-429 Signal ARINC-717 Signal Audio Recording Duration	24 nos. 02 nos. 44 nos. 12 nos. Rx 01 Tx & 01 Rx No. of Channels: 04 nos. (Pilot, Co-pilot, Third crew & Area microphone). Duration: 2 hours of audio/voice data for each of 4 channels 25 hours of aircraft data
Interface	
128-pin Circular (P/N: D38999/20-W-J-35PN) – 01 nos. (for electrical signals) 128-pin Circular (P/N: D38999/20-W-J-35PA) – 01 nos. (for electrical signals) 6-pin Circular (P/N: D38999/20-W-A-35PN) - 01 no. (for power supply)	
Environmental qualification:As per DO-160G	
Regulatory specifications:ED-112A	
Regulatory Certification: ITSO-C123c & ITSO-C124c	
Accessories Control Unit, Recorder Independent Power Supply (RIPS) TSO-C155 / ETSO-C155, Cockpit Area Mike (CAM) & Ground Replay Equipment (GRE)	
Mounting:The unit is hard mounted using 4 numbers of M5X20 Cheese Head Screw SS and M5 Nut Hex SS in the ircraft.	



Description	Part No					
Cockpit Voice Recorder (CVR)	**A400-**	X =1 for Combi Recorder	X =1 for Control Unit	X =1 for RIPS	X =1 for CAM	-Y =1 for GRE
Control Unit	B100/GB020000					
Ground Relay Unit (GRE)	B200/GB070000					

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FLIGHT DATA RECORDER A600

Flight Data Recorder(FDR) is designed to record 25 hours of flight data in crash protected solid state memory as a UROCAE Class A FDR. It is capable of retaining the data recorded during at least the last 25 hours of its operation. FDR works with following unit:

Control unit (B100/GB020000): A control unit (CU) is provided along with FDR unit. It is used by both flight and maintenance crew for the purpose of operation and maintenance.

Recorder Independent Power supply (RIPS): (TSO-C155) RIPS is an alternate power source that supplies direct current voltage to FDR for duration of 10 ±1 minutes, whenever the primary aircraft power is removed from the recorder.

Note: FDR has spare capacity or provision for additional recording medium capacity to accommodate the additional parameters that may be required by specific operating conditions or addition to operational rules.

Ground Relay Unit (GRE): is milking & analysis system for downloading of CVR / Combi Recorder / FDR data and analysis of the downloaded data.

Flight Data Recorder A600	
Physical	
Dimension	267 ± 5 mm X 128 ± 5 mm X 130mm ± 5 mm
Weight	4.0 Kg
Power consumption	
Typical Short term	28 VDC 28 Watts 28 VDC <=45Watts (during cold operation at -45 °C)
Recording capability	
Analog Signal Frequency Signal Discrete Signal ARINC-429 Signal ARINC-717 Signal Recording Duration	24 nos. 02 nos. 44 nos. 12 nos. Rx 01 Tx & 01 Rx 25 hours of aircraft data
Interface	
128-pin Circular (P/N: D38999/20-W-J-35PN) – 01 nos. (for electrical signals) 128-pin Circular (P/N: D38999/20-W-J-35PA) – 01 nos. (for electrical signals) 6-pin Circular (P/N: D38999/20-W-A-35PN) - 01 no. (for power supply)	
Environmental qualification:As per DO-160G	
Regulatory specifications:ED-112A	
Regulatory Certification: ITSO-C124c	
Accessories: Control Unit, Recorder Independent Power Supply (RIPS) TSO-C155 / ETSO-C155, Cockpit Area Mike (CAM) & Ground Replay Equipment (GRE)	
Mounting: The unit is hard mounted using 4 numbers of M5X20 Cheese Head Screw SS and M5 Nut Hex SS in the ircraft.	



Description	Part No			
Flight Data Recorder (FDR)	**A600-**	X =1 for Single FDR	X =1 for Control Unit	X =1 for RIPS	-Y =1 for GRE
Control Unit	B100/GB020000			
Ground Relay Unit (GRE)	B200/GB070000			

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