

R&S®GB6500

Remote Control Unit for R&S®M3AR

Specifications



ROHDE & SCHWARZ

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General

The R&S®GB6500 remote control unit allows the remote control of R&S®M3AR airborne VHF/UHF transceivers in fixed-channel or in EPM (ECCM) mode. It is designed for simple operation and does not need any scheduled maintenance. Power-on built-in test (BIT) and continuous BIT functions are incorporated to support failure detection.

The R&S®GB6500 remote control unit is suitable for installation in cockpits in line with MS 25212.

The equipment allows remote control of the radio control functions in system configurations with multiple R&S®GB6500 and R&S®M3AR transceivers. The remote control function is activated by a push button on the panel of the remote control unit or by an external switch. The control interface between the R&S®GB6500 remote control unit and the R&S®M3AR transceiver uses an electrical connection in line with the RS-485 standard.

Technical specifications

General data

Power supply		
DC supply range	negative terminal connected to chassis	+22.5 V to +30 V DC (negative ground) max. 9 W
Emergency mode		+16 V to +30 V DC
Weight		≤ 1.0 kg
Typical value shown – see mechanical interface description for exact values		
Temperature range		
Operating temperature range		–40 °C to +71 °C
Storage temperature range		–54 °C to +85 °C
Dimensions (W × H × D)	body only	127 mm × 72.65 mm × 72.4 mm (5 in × 2.8 in × 2.9 in)
	body with lids, connector and front panel	146.05 mm × 76.2 mm × 124.9 mm (5.75 in × 3 in × 4.9 in)
Typical values shown – see mechanical interface description for exact values		
Installation		in line with MS 25212
Color		FED-STD-595 color no. 37038 (lusterless black)
MTBF	AIF, +40 °C	> 19 000 h, in line with MIL-HBK-217F, notice 2
	AIC, +25 °C	≥ 37 000 h, in line with MIL-HBK-217F, notice 2
	ARW, +25 °C	> 13 900 h, in line with MIL-HBK-217F, notice 2

Environmental data

General environment

Subject	Additional information	Applied standard
Low pressure (altitude)		
Storage	20 000 ft	MIL-STD-810E, method 500.3, proc. I
Operational	20 000 ft	MIL-STD-810E, method 500.3, proc. II
Explosive decompression	40 000 ft, tailored to specific customer program	MIL-STD-810F, method 500.4, proc. IV
Temperature		
Low operating temperature	−40 °C ambient	MIL-STD-810E, method 502.3, proc. II
High operating temperature	+71 °C ambient	MIL-STD-810E, method 501.3, proc. II
Low storage temperature	−55 °C ambient	MIL-STD-810E, method 502.3, proc. I
High storage temperature	+85 °C ambient	MIL-STD-810E, method 501.3, proc. I
Temperature variation and shock	−30 °C to +71 °C	MIL-STD-810E, method 503.3
Rain		
Drip		MIL-STD-810E, method 506.3, proc. II
Fungus resistance		MIL-STD-810F, method 508.5
Sand and dust		
Blowing dust		MIL-STD-810E, method 510.3, proc. I
Explosive atmosphere	tailored to specific customer program	MIL-STD-810B, method 511, proc. I

Mechanical environment

Subject	Additional information	Applied standard
Acceleration		
Structural test	13.5 g in all directions	MIL-STD-810E, method 513.4, proc. I
Operational test	9 g in all directions	MIL-STD-810E, method 513.4, proc. II
Vibration		
Propeller aircraft	tailored to specific customer program	MIL-STD-810E, method 514.4, proc. I, cat. 4
Jet aircraft	tailored to specific customer program, curve J	MIL-STD-810B, method 514.4, proc. I, cat. b
	tailored to specific customer program	MIL-STD-810E, method 514.4, proc. I, cat. 5
Helicopter	tailored to specific customer program	MIL-STD-810E, method 514.4, proc. I, cat. 6
Gunfire	tailored to specific customer program	MIL-STD-810E, method 519.4
Shock		
Functional shock		
Normal landing shock	all axes: ±4.0 g, 100 ms	MIL-STD-810E, method 516.4, proc. I
Hard landing shock	all axes: +6.0 g, 100 ms	MIL-STD-810E, method 516.4, proc. I
Crash safety	all axes: ±40 g, 11 ms	MIL-STD-810B, method 516, proc. III
Crash hazard	all axes: ±20 g, 70 ms (non-operating)	MIL-STD-810E, method 516.4, proc. V
	all axes: ±20 g, 11 ms (operating)	
	all axes: ±40 g, 11 ms	
Bench handling		MIL-STD-810E, method 516.4, proc. VI

Electromagnetic compatibility (EMC)

Subject	Additional information	Applied standard
Conducted emission		
Power leads	30 Hz to 15 kHz	MIL-STD-461C/MIL-STD-462, method CE01
Control and signal leads	30 Hz to 15 kHz	MIL-STD-461C/MIL-STD-462, method CE02
Power leads	10 kHz to 10 MHz	MIL-STD-461E, method CE102
Power leads	15 kHz to 100 MHz	MIL-STD-461C/MIL-STD-462, method CE03
Control and signal leads	15 kHz to 100 MHz	MIL-STD-461C/MIL-STD-462, method CE04
Conducted susceptibility		
Power leads	30 Hz to 50 kHz	MIL-STD-461C/MIL-STD-462, method CS01
Power leads	50 kHz to 400 MHz	MIL-STD-461C/MIL-STD-462, method CS02
Power leads	30 Hz to 50 kHz, curve no. 2	MIL-STD-461E, method CS101
Voltage spike, power leads	±600 V peak	MIL-STD-461C/MIL-STD-462, method CS06
Bulk current injection (BCI) test	10 KHz to 400 MHz, curve no. 5	MIL-STD-461E, method CS114
Bulk current injection (BCI) impulse, pulse excitation		MIL-STD-461E, method CS115
Bulk current injection (BCI) transient, damped sinusoidal transients	10 kHz to 100 MHz	MIL-STD-461E, method CS116
Bulk current injection (BCI)	10 kHz to 400 MHz, category Y	RTCA/DO-160D, section 20
Radiated emission		
Electric field	14 kHz to 1 GHz	MIL-STD-461C, MIL-STD-462, method RE02
Electric field	10 kHz to 1 GHz	MIL-STD-461D/MIL-STD-462D, method RE102
Static magnetic interference	category Z	RTCA/DO-160D, section 15
Radiated susceptibility		
Magnetic field	30 Hz to 30 kHz	MIL-STD-461C, MIL-STD-462, method RS01
Magnetic induction fields, spikes and power frequency		MIL-STD-461C, MIL-STD-462, method RS02
Electric field	14 kHz to 18 GHz	MIL-STD-461C, MIL-STD-462, method RS03
	10 kHz to 18 GHz	MIL-STD-461D, MIL-STD-462D, method RS103
Lightning		
Lightning induced transient susceptibility (LEMP)	multiple stroke, multiple burst; modified	RTCA/DO-160D, section 22
Electrostatic discharge		
ESD		RTCA/DO-160D, section 25
Electrical characteristics		
Transients, ripple and steady state	modified	MIL-STD-704A, cat. B

Referenced standards

Standard	Edition, applicable chapters and date	Title
MIL-STD-461	MIL-STD-461C/D/E, August 1986/January 1993/August 1999	Electromagnetic emission and susceptibility requirements for the control of electromagnetic interference
MIL-STD-462	MIL-STD-462/462D, July 1967/January 1993	Measurement of electromagnetic interference characteristics
MIL-STD-704	MIL-STD-704A, August 1966	Electric power, aircraft, characteristics and utilization of
MIL-STD-810	MIL-STD-810B/D/E/F June 1967/July 1983/July 1989/ January 2000	Environmental test methods and engineering guidelines
MIL-HDBK-217	MIL-HDBK-217F, notice 2 February 1995	Reliability prediction of electronic equipment
MS 25212	Revision C, August 1960	Control panel, console type, aircraft equipment, basic dimensions
RTCA/DO-160	RTCA/DO-160D, July 1997	Environmental conditions and test procedures for airborne equipment
FED-STD-595	FED-STD-595 A/B, January 1968/December 1989	Colors used in government procurement

Ordering information

Designation	Type	Order No.
Remote Control Unit; control interface: RS-485; illumination: white; display: yellow; indicator lights: green and yellow	R&S®GB6500	6087.0012.31
Remote Control Unit; control interface: RS-485; illumination: white; display: red; indicator lights: green and yellow	R&S®GB6500	6087.0012.32
Remote Control Unit; control interface: RS-485; illumination: NVIS (green A); display: green; indicator lights: green	R&S®GB6500	6087.0012.33
Remote Control Unit; control interface: RS-485; illumination: red; display: red; indicator lights: green and yellow	R&S®GB6500	6087.0012.34
Remote Control Unit; control interface: RS-485; illumination: NVIS (green B); display: green; indicator lights: green	R&S®GB6500	6087.0012.35
Mating Connector Set for R&S®GB6500	R&S®ZR6500	6087.1025.02

The system delivered has the configuration as confirmed in the order.

For product brochure, see PD 0758.1970.12 and www.rohde-schwarz.com

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Certified Quality System
ISO 9001

Certified Quality System
EN 9100

Certified Quality System
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EN 9110

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