

Intrinsically Safe

Safety Ohm Meter

Type 1681



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The 1681 Safety Ohm Meter is a rugged highly portable intrinsically safe instrument for use in Potentially Explosive Atmospheres. The instrument is CE marked and is approved under the Atex Directive 94/9/EC Ex ib IIC T4 Gb ($-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$) Baseefa 03ATEX0284.

In addition to the measurement of the quality of electrical bonds the tester is ideally suited to continuity testing in equipment with semiconductor devices having low breakdown voltage.



SPECIFICATION		NSN 6625-99-950-2497	
Model Ref:	1681	Battery Life:	1 Year; non operational. 56 hours continuous at 20°C.
Tester Body:	Precision sand-cast aluminium alloy case with integral battery compartment.	Battery Protection:	Series diode protects equipment against inadvertent attempts to fit the batteries incorrectly.
Tester Weight:	2kg Excluding carrying case.	Battery State Check:	Low battery condition annunciator incorporated in the LCD display indicates when approximately 90% of battery life is consumed.
Tester Casing:	Precision sand-cast aluminium case with integral battery compartment. Magnesium content less than 1%.	Tester Weight:	3Kg approx including carrying case and test leads
Tester Dimensions:	190 x 70mm (Front Panel).	Reliability:	MTBF > 4000 hours (calculated) Source ref; MIL HDBK 217E Ground Mobile, Part stress analysis.
Depth:	200mm excluding controls. 220mm including range switch.	Test Leads	Standard set of test leads supplied
Finish:	Golden Yellow Semi Gloss Enamel BS381C Tint 356 stoved to DEF 1059.	Calibration Period:	12 Months.
Display:	3.5 digit LCD incorporating a battery condition annunciator. Character height; 12.7mm High Rel grade display with wide temperature range fluid.	Operating Temp Range:	-20°C to +40°C for intrinsic safety.
Ranges:	000.0 to 199.9mΩ (resolution = 0.1mΩ) 0.000 to 1.999Ω (resolution = 0.001Ω) 00.00 to 19.99Ω (resolution = 0.01Ω) 000.0 to 199.9Ω (resolution = 0.1Ω) 0.000 to 1.999kΩ (resolution = 1.0Ω) 00.00 to 19.99kΩ (resolution = 10Ω)	Storage Temp Range:	-40°C to +60°C.
Measurement Accuracy:	0 to 200Ω ±1% of reading; ±1 digit 0 to 2kΩ ±1.5% of reading; ±1 digit 0 to 20kΩ ±2% of reading; ±3 digit	Desiccant:	Sachet type with indicator. NSN 6850-99-341-5048. Replaced at calibration intervals.
Zero Adjustment:	Screwdriver slot adjustment on the front panel.	Contaminants:	Resistant to accidental damage from accidental contact with the following: Trichloroethane (Inhibisol) Avcat NATO F-43 Avcat NATO F-44 Cargas NATO F-50 Oils: OPE215 OM15 NATO H515 NATO U-123 NATO U-149 OMD 160 OX 38
Response Time:	3 seconds		Dieso NATO F-54 General Purpose UK K(MT) Dieso Displacing fluid PX-24 NATO C-634 De-icing fluid AL5 NATO S-735 Isopropanol AL11 NATO S-737 Methanol AL14 NATO S-747 Methylethylketone (MEK)
Warm-up Time:	Instantaneous	EMC:	Designed to be immune to interference from other service equipment and to emit minimal electromagnetic interference. Designed to DEF STAN 59-41 (Part 1). Class A requirement.
Measurement Frequency:	10Hz	Safety Classification:	Ex ib IIC T4 Gb ($-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$) Baseefa 03ATEX 0284 CE 1108.
Voltage Across Sample:	1mV at FSD	Carrying Case:	Black padded, flame retardant, antistatic nylon carrying case with shoulder strap for Tester, Test leads and Operators Handbook. Internal dividers separate the Test Leads, Handbook and Tester from each other.
Max Test Voltage:	1V peak with Test Leads open circuit		
Applied Test Currents:	3.5mA rms on 000.0 to 199.9mΩ range. 350μA rms on 0.000 to 1.999Ω range. 35μA rms on 00.00 to 19.99Ω range. 3.5μA rms on 000.0 to 199.9Ω range. 0.35μA rms on 0.000 to 1.999kΩ range 0.035μA rms on 00.00 to 19.99kΩ range		
DPM Back-Lighting:	LED. (4 off), Red Operated by momentary action switch.		
Power Requirement:	Four AA size batteries Manganese Alkaline Duracell MN1500		

This publication is not intended to form the basis of a contract

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About AGI

AGI is backed by over 30 years of experience in the design, development, manufacture and installation of defence systems and provides full Integrated Logistic Support services, training, installation and documentation.

AGI is accredited to International Quality Standards ISO 9001/BS5750 Part 1 and Tick-IT software procedures.



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