

Intrinsically Safe

# Safety Ohm Meter

Type 1681



## Features

- o Intrinsically safe
- o Robust & high reliability
- o Selection of test leads



## Intrinsically Safe Safety Ohm Meter Type I681

The I681 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  $\text{Ex}$  II 2G Ex ib IIC T4 Gb (-20°C ≤ Ta ≤ +40°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	
<b>Model Ref:</b>	I681	<b>Battery Life:</b>	1 Year; non operational. 56 hours continuous at 20°C.
<b>Tester Body:</b>	Precision sand-cast aluminium alloy case with integral battery compartment.	<b>Battery Protection:</b>	Series diode protects equipment against inadvertent attempts to fit the batteries incorrectly.
<b>Tester Weight:</b>	2kg excluding carrying case.	<b>Battery State Check:</b>	Low battery condition annunciator incorporated in the LCD display indicates when approximately 90% of battery life is consumed.
<b>Tester Casing:</b>	Precision sand-cast aluminium case with integral battery compartment. Magnesium content less than 1%.	<b>Tester Weight:</b>	3Kg approx including carrying case and test leads.
<b>Tester Dimensions:</b>	190 x 70mm (Front Panel).	<b>Reliability:</b>	MTBF > 4000 hours (calculated) Source ref; MIL HDBK 217E Ground Mobile, Part stress analysis.
<b>Depth:</b>	200mm excluding controls. 220mm including range switch.	<b>Test Leads</b>	Standard set of test leads supplied.
<b>Finish:</b>	Golden Yellow Semi Gloss Enamel BS381C Tint 356 stoved to DEF 1059.	<b>Calibration Period:</b>	12 Months.
<b>Display:</b>	3.5 digit LCD incorporating a battery condition annunciator. Character height; 12.7mm High Rel grade display with wide temperature range fluid.	<b>Operating Temp Range:</b>	-20°C to +40°C for intrinsic safety.
<b>Ranges:</b>	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)	<b>Storage Temp Range:</b>	-40°C to +60°C.
<b>Measurement Accuracy:</b>	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	<b>Desiccant:</b>	Sachet type with indicator. NSN 6850-99-341-5048. Replaced at calibration intervals.
<b>Zero Adjustment:</b>	Screwdriver slot adjustment on the front panel.	<b>Contaminants:</b>	Resistant to accidental damage from accidental contact with the following: Trichloroethane (Inhibisol) Avcat NATO F-43 Dieso NATO F-54 Avcat NATO F-44 General Purpose UK K(MT) Dieso Circgas NATO F-50 Oils: OPE215 Displacing fluid PX-24 NATO C-634 OMI5 De-icing fluid AL5 NATO S-735 NATO H515 Isopropanol AL11 NATO S-737 NATO U-123NATO U-149 Methanol AL14 NATO S-747 OMD 160 OX 38 Methyl ethyl ketone (MEK)
<b>Response Time:</b>	3 seconds	<b>EMC:</b>	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.
<b>Warm-up Time:</b>	Instantaneous	<b>Safety Classification:</b>	$\text{Ex}$ II 2G Ex ib IIC T4 Gb (-20°C ≤ Ta ≤ +40°C). Baseefa 03ATEX 0284 CE I 108.
<b>Measurement Frequency:</b>	10Hz	<b>Carrying Case:</b>	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.
<b>Voltage Across Sample:</b>	1mV at FSD		
<b>Max Test Voltage:</b>	1V peak with Test Leads open circuit		
<b>Applied Test Currents:</b>	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		
<b>DPM Back-Lighting:</b>	L.E.D. (4 off), Red Operated by momentary action switch.		
<b>Power Requirement:</b>	Four AA size batteries Manganese Alkaline Duracell MINI500		

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



### 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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