

## FEATURES

- 10 A (continuous) current range
- Data hold/relative modes
- 1 MHz counter with full 9999 Count display
- Diode test and continuity sounder
- 4 nF to 40  $\mu$ F capacitance ranges
- Mains proof resistance ranges
- Full autoranging with manual override
- Auto power shutdown
- Digital display update rate 2 per second
- Bargraph display update rate 20 per second
- Fused 400 mA and 10A ranges
- Dust and water protected to IP64
- Water resistant via O-Ring sealed case
- Dual high energy fuse protection
- 3 year warranty

# RS PRO Digital Multimeters- IDM103N Handheld Digital Multimeter

RS Stock No.: 123-3235



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

## Product Description

### RS PRO IDM103N Digital Multimeter

RS PRO IDM103N digital multimeters are handheld devices which can measure capacitance, voltage, electrical current and resistance with diode and continuity check. This meter has an LCD display where the measurement readouts can be viewed

## General Specifications

Multimeter Type	Handheld
True RMS	NO
Display Type	LCD
Bar graph	42 segments
Operating Temperature (Min to Max)	0 to +50°C
Storage Temperature (Min to Max)	-20°C to +60°C
Diode Test	Yes
Continuity Test	Yes
Auto power off	Yes, Approx 30 minutes
Optical isolated interface output	RS232

## Measurement

Type	Absolute Maximum Measurement	Resolution	Best Accuracy
DC Current	10A dc	10µA	±0.6% + 2 Digits
AC Current	10A ac	10µA	±1.5% + 5 Digits
Resistance	40MΩ	100mΩ	±0.6% + 3 Digits
DC Voltage	1000 V dc	100µV dc	±0.25% + 2 Digits
AC Voltage	1000V ac	0.1mV ac	±1.3% + 5 Digits
Capacitance	40mF	1pF	±2% + 8 Digits
Frequency	400 MHz		

## Electrical Specifications

Battery Type	AAA 1.5 V, AM4, IEC LR03
Battery life	500 h
Safety Category Voltage	600 V, 1000 V

## Mechanical Specifications

<b>Dimensions</b>	<b>100 x 55 x 212 (with Holster)mm</b>
<b>Width</b>	<b>55mm</b>
<b>Length</b>	<b>100mm</b>
<b>Height</b>	<b>212mm</b>
<b>Weight</b>	<b>620g</b>

## Protection Category

<b>Safety Category Level</b>	<b>CAT II, CAT III</b>
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## Approvals

<b>Compliance/Certifications</b>	<b>IEC / CSA</b>
<b>Declarations</b>	<b>RoHS Certificate of Compliance</b>

## Similar Products

<b>Stock No.</b>	<b>Brand</b>	<b>Product Name</b>	<b>Multimeter Type</b>	<b>Functions Measured</b>	<b>Digit Resolution</b>
124-2010	RS PRO	IDM505 Handheld Digital Multimeter With RSCAL calibration	Handheld	AC Current, AC Voltage, Capacitance, Continuity, DC Current, DC Voltage, Diode, Duty Cycle, Frequency, Resistance, Temperature	
161-1629	RS PRO	Handheld Digital Multimeter	Handheld	AC Current, AC Voltage, Capacitance, DC Current, DC Voltage, Frequency, Resistance	

**Specifications:** (All at 23°C±5°C, ≤80% R.H.)

## DC Voltage

Range	Accuracy	Over Voltage Protection
400mV	±(0.3%+5dgt)	1000V rms
4.00V	±(0.4%+1dgt)	
40.0V	±(0.25%+1dgt)	
400V		
1000V		

**Input Impedance:** 10MΩ

## AC Voltage

Range	Accuracy	Over Voltage Protection
400mV	±(2%+8dgt) 50Hz~60Hz	1000V rms
4.00V	±(1.3%+5dgt) 40Hz~300Hz	
40.0V	±(1.5%+5dgt)	
400V	40Hz~60Hz	
1000V	±(1.5%+5dgt) 61Hz~1KHz	

**Input Impedance:** < 100pF

**Conversion Type:** Average sensing RMS indicating

## DC Current

Range	Accuracy	Voltage Burden
40mA	±(0.6%+2dgt)	300mV max
400mA	±(0.7%+2dgt)	3V max
10A	±(1.2%+3dgt)	3V max

## AC Current

Range	Accuracy	Voltage Burden
40mA	±(1.5%+5dgt)	300mV max
400mA	40Hz~1KHz	3V max
10A	±(2.5%+5dgt) 40Hz~1KHz	3V max

**Overload Protection:** 1A/600V fast blow fuses for mA input

10A/600V fast blow fuses for A input

**Conversion Type:** Average sensing RMS indicating

## Resistance

Range	Accuracy
400Ω	±(0.7% + 3dgt)
4KΩ	±(0.6% + 3dgt)
40KΩ	
400KΩ	
4MΩ	±(0.7% + 3dgt)
40MΩ	±(1.5% + 5dgt)

Open Circuit Voltage: -1.3V approx.

## Diode & Continuity

Continuity Beeper: <30Ω, 2KHz tone buzzer

Test Current: 1.5mA max

Open Circuit Voltage: 3V max

Overload Protection: 600V rms

## Frequency/RPM


Range	Sensitivity	Accuracy	Overload Protection
4KHz/40KRPM	150mV rms >20HZ	Frequency: 0.01%±1dgt RPM: 0.01%±10dgt	600V rms
40KHz/400KRP M			
400KHz/4MRPM	1.5V rms ≤20Hz		
4MHz/40MRPM	300mV rms		
40MHz/400MRP M	1V rms		

## Capacitance

Range	Accuracy	Overload Protection
4nF	±(3%+10dgt)	600V rms
40nF		
400nF	±(2%+8dgt)	
4μF		
40μF		
400μF		
4mF	±(5%+20dgt)	
40mF		

Overload Protection: **600V rms**

## General

<b>Sampling Rate:</b>	2 times/sec for digit, 12 times/sec for analog
<b>Overload Indication:</b>	"OL" or "- OL"
<b>Low Battery Indication:</b>	
<b>Auto Power Off:</b>	Approx. 30 minutes after last operation
<b>Operating Temperature:</b>	0°C~30°C (≤ 80% R.H.), 30°C~40°C (≤ 75% R.H.), 40°C~50°C (≤ 45% R.H.)
<b>Storage Temperature:</b>	-20°C~60°C
<b>Temperature Coefficient:</b>	0.15×(spec. Acc'y)/°C <18°C, >28°C
<b>Safety:</b>	IEC 61010-1: CAT.IV 600V/CAT.III 1000V
<b>Power Requirement:</b>	Two 1.5V Alkaline type AAA batteries
<b>Battery Life:</b>	500 hours(Alkaline)
<b>Size:</b>	90mm(W)×200mm(L)×42mm(H), without holster 100mm(W)×212mm(L)×55mm(H), with holster
<b>Weight:</b>	620g with holster
<b>Accessories:</b>	Battery (installed), Test Leads, Test Clips, Protective Holster and User Manual