

Accuracy is valid at $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for a period of one year from the date of calibration.

Range/Resolution/Test Current/Accuracy

Table 1

Range	Resolution	Maximum Input	Nominal Test Current	Accuracy
20 Ω	1m Ω	19.999 Ω	10mA	$\pm 0.05\%$ of rdg, $\pm 0.025\%$ of rng
200 Ω	10m Ω	199.99 Ω	1mA	$\pm 0.05\%$ of rdg, $\pm 0.025\%$ of rng
2k Ω	100m Ω	1.9999k Ω	100 μA	$\pm 0.05\%$ of rdg, $\pm 0.025\%$ of rng
20k Ω	1 Ω	19.999k Ω	10 μA	$\pm 0.05\%$ of rdg, $\pm 0.025\%$ of rng
200k Ω	10 Ω	199.99k Ω	1 μA	$\pm 0.07\%$ of rdg, $\pm 0.03\%$ of rng
2M Ω	100 Ω	1.9999M Ω	100nA	$\pm 0.1\%$ of rdg, $\pm 0.15\%$ of rng

Temperature

Temperature Coefficient: $\pm 0.002\%$ per $^{\circ}\text{C}$ (from 0°C - 15°C and 35°C - 50°C)
not applicable for 200k Ω range and above.

Operating Temperature Range: 0°C to 50°C

Storage Temperature Range: -10°C to 70°C

General Specifications

Full Scale Test Voltage: 200mV

Current Source Compliance Voltage: 5V

Terminal Configuration: 4-Wire

Display Type: 4 ½ Digit LED's

Overrange/Overload Indication: Display Flashes

Conversion Rate: 3 readings/seconds

Power Specifications

Power Source (Standard AC):	115 or 230 VAC, $\pm 10\%$, 50Hz – 400Hz
Power Source (Optional DC):	4 rechargeable Ni-Cad Batteries 1.2V 4000mA/H
Battery Charger (Standard with DC)	Provides 6VDC at 300mA nominal

Physical Specifications

Width:	9.5" / 24cm
Depth:	11" / 27cm
Height:	3" / 8cm
Weight (AC Power):	3 lbs / 1.5kg net; 5 lbs / 2.5kg shipping ^[1]
Weight (DC Power):	4 lbs / 2kg net; 8 lbs / 4 kg shipping ^[1]

[1] Shipping weight may vary.

Optional Equipment

Available Options

Listed below are the options available for use with the Model 4021 Digital Ohmmeter.

Option CC4: Carrying Case

Option "CC4" is a meter and accessory carrying case with extra room for test leads, power cord, etc.

Option HDB: Battery Operation

The 4021 may be modified at the factory for operation from an internal rechargeable battery pack.

Replacement batteries for Option HDB are available as Valhalla Stock № 05-10117 quantity: 4.

Option A: Battery Charger

Option "A" is an AC to DC converter that is used to convert 115VAC line voltage into 6VDC @300mA which is required to recharge the batteries of a 4021 fitted with Option HDB. One Option "A" is provided if the 4021 has been fitted with Option "HDB". Additional adapters may be ordered as needed.

Option R4: Rack Mount Adapter

Option "R4" is an adapter tray that allows the Model 4021 to be installed in a standard 19" equipment rack.

Test Leads

Option K: 4-Wire Kelvin Lead Set

Option "K" is the recommended general purpose lead set for all Valhalla Ohmmeters. Option K is a shielded 48" lead set terminating in ½ inch gold plated clips.

Option MP-S: Single Probe Lead Set

Option "MP-S" is a 4-wire lead set terminated in single points. The 4-wire configuration is maintained up to the point of the probe, eliminating most cable resistance effects.

Option MP-S may be used where a single probe tip is a must.

Option MP-1: Kelvin Micro-Probes

Option "MP-1" is a 48" shielded lead set (dual banana), handheld pencil type, terminated in spring loaded steel tips with .05" separation (1 amp max.). Special orders or modified versions available upon request.

Option MP-2: Kelvin Mini-Probes

Option "MP-2" is a 48" shielded lead set, handheld pencil type, terminated in spring loaded steel tips with 0.18" separation. (1 Amp max.)

Option MP-3: Kelvin Micro-Probes

Option "MP-1" is a 48" shielded lead set (dual banana), handheld pencil type, terminated in spring loaded steel tips with .08" separation (1 amp max.). Special orders or modified versions available upon request.

Option MP-4/MP-5: Surface Probes

These probes permit rapid, repeatable bonding testing on a variety of screened or flat surfaces. Test current is evenly distributed through the probe base while sensing is accomplished via a spring loaded center contact. The "MP-4" target area is 1" in diameter. The "MP-5" target area is .4" in diameter.

Option KK: 4-Wire Kelvin Lead Set

Option "KK" is a 48" heavy duty cable set terminated in large "jaws" that have an open span of 2".

Option C: Banana-to-Clip Cable

Option "C" is a 48" shielded cable terminated in dual alligator clips

Option BBL: Banana-to-Banana Cable

Option "BBL" is a 48" shielded cable terminated in dual banana plugs at both ends.

Option KCS: Kelvin Clips

Option "KCS" is the gold plated Kelvin clips used on the Option "K" cable. These clips may be used when making custom cables or when repairing Option "K".

Option JAWS: Heavy-Duty Clips

2" opening for use on large bushings, transformers and motors. The upper/lower jaw teeth (gold plated) provide true 4-wire measurement. Can accommodate up to 150 amps.

Interface**Option BCD: Data Output**

This option provides parallel BCD data on p rear-panel 50-pin connector. All outputs are TTL comparable levels with a drive capability of 1 LS load. The Option BCD may be used to drive the Valhalla Model 1248.

Model 1248: Dual-Limit Comparator

The Valhalla Model 1248 may be used in conjunction with a 4021 and Option BCD above. The Model 1248 is a dual-limit BCD comparator that interprets the display indications of the ohmmeter as either "HI", "LO" or "GO", based on a tolerance that is set by the user. Relay contact closure is provided to trigger an alarm, counter, batch sorter or other device. The 1248 also reduces operator workload by allowing him to make an instant determination of the test results. The mating cable from the ohmmeter to the 1248 is 3' in length and designated as "IDC-2".