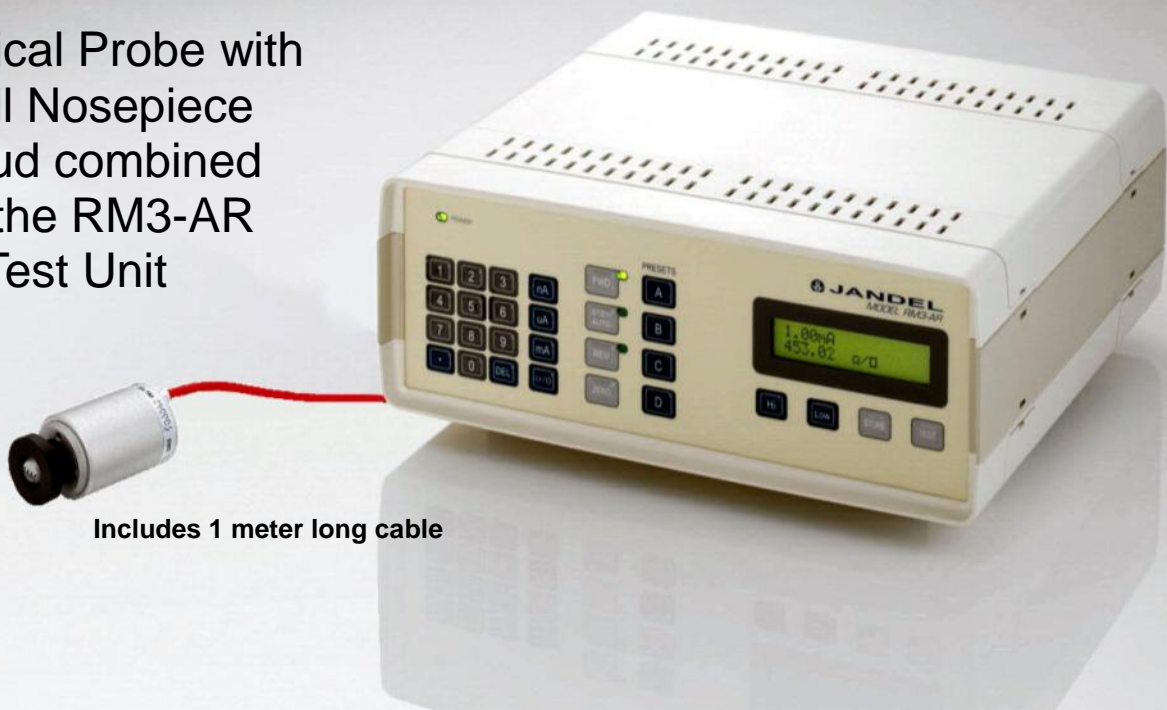


**JANDEL ENGINEERING LTD.**  
**CYL-RM3AR Four Point Probe System**  
**General Purpose Portable Four Point**  
**Probing System for Measuring**  
**Sheet Resistance or Volume Resistivity**

Cylindrical Probe with  
Small Nosepiece  
Shroud combined  
with the RM3-AR  
Test Unit



Includes 1 meter long cable

**About the RM3-AR Test Unit**

- **The RM3-AR Test Unit** is a specialty electronics instruments designed specifically for the four point probe measurement. It features high accuracy, an excellent range, and many features which simplify the four point probing measurement. The following are features of the RM3-AR Test Unit:  
The measurement range of the RM3-AR Test Unit is from 1 milliohm-per-square ( $10^{-3}$ ) up to  $5 \times 10^8$  ohms-per-square with 0.3% accuracy. The volume resistivity range is from 1 milliohm-cm ( $10^{-3}$ ) up to  $10^6$  ohms-cm.
- The RM3-AR includes PC control software which can be used for data logging (storing data in the CSV format) and measurement conversion to ohms-per-square or ohms-cm.
- The RM3-AR reads-out directly in ohms-per-square (or toggle to millivolts) without requiring the use of the software or a PC.
- The RM3-AR has onboard non-volatile memory so that up to 50 measurements can be stored internally and then downloaded and saved all at one time using the software. Alternately, each measurement can be saved to a PC as it is made.

Continued

- The RM3-AR has an auto-range button that can be used to automatically determine the optimum input current for a given material without using the trial and error method.
- The RM3-AR has forward (FWD) and reverse (REV) buttons to reverse the direction of current flow. A common way to determine if a measurement is valid is to reverse the direction of current flow and then check to see if the forward and reverse voltage readings correlate well, i.e., the values should be similar, but with the reverse current voltage being a negative value. More about reversing the input current: [reversing current.pdf](#)

## About the Jandel Cylindrical Probe

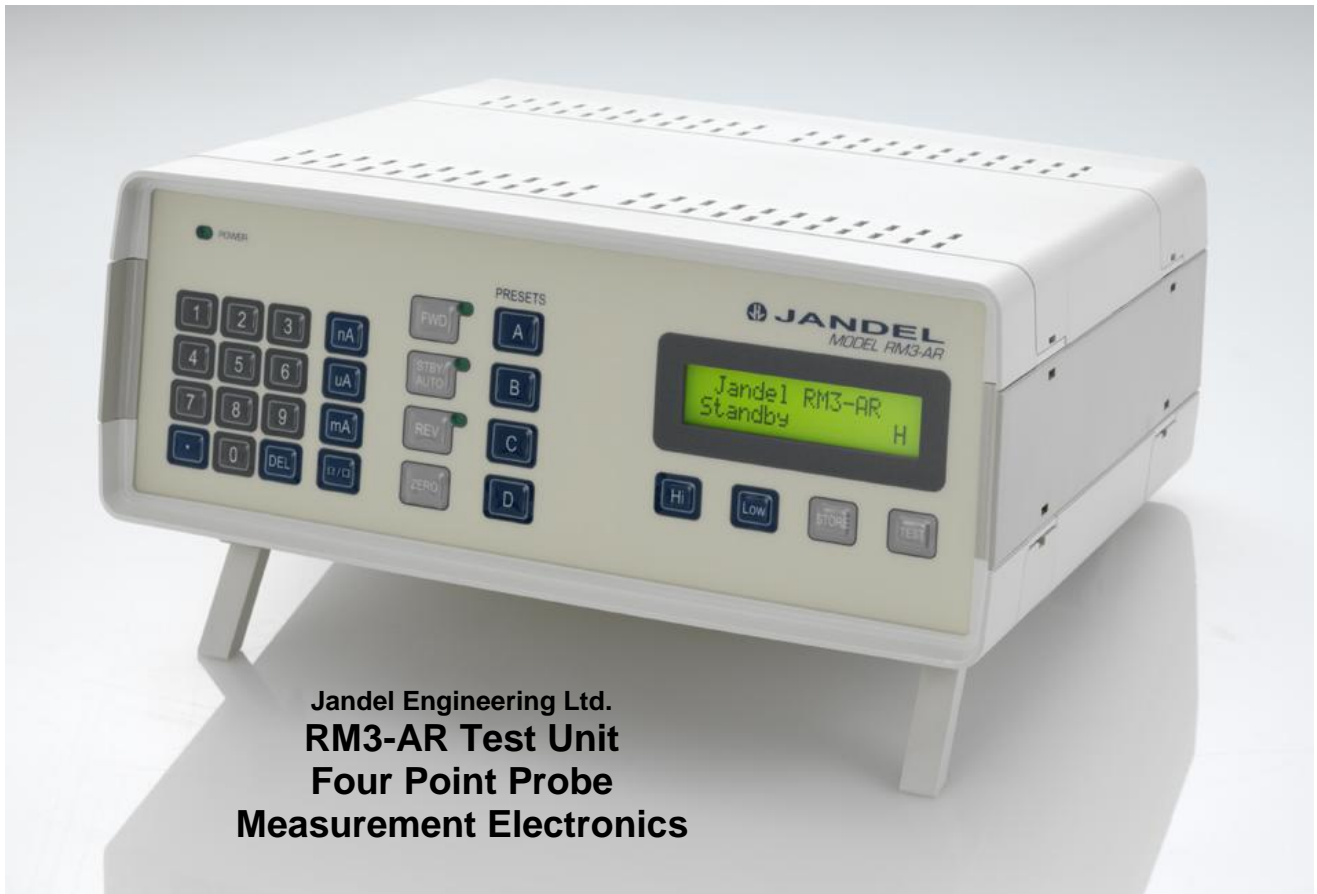
The Jandel Cylindrical probe is built to a high level of mechanical accuracy as are all Jandel four point probe heads. Specifications for radii, spacing, planarity, and spring load are verified by calibrated instruments including a video inspection system, an optical interferometer, and an electronic force gauge. Each probe tip is guided by upper and lower jeweled needle guides. Additional information about probe quality can be found in the [Jandel probe head application notes](#).



PROBE SPACING	25 to 50 mils (0.635mm to 1.27mm) in 5 mil (127 micron) increments, also 1.0mm and 1.59mm. 20 mil (0.5mm) available on special order.
TOLERANCE	+/-0.01 mm
ARRANGEMENT	Linear or Square array
NEEDLES	Solid Tungsten carbide Ø 0.40 mm (Ø 0.30 mm for close-spacing) 45 degree included angle, phosphor-bronze connecting ligament
OTHER MATERIALS	50% osmium alloy tips available
RADII	12.5 µm min. to 500 µm max. polished with 2 µm diamond
RETRACTION TO INSULATING PAD	0.5 mm
PLANARITY	+/- 0.025 mm or better
LOADS	Low: 10-30g, Medium: 30-60g High: 60-150g
LEADS	4-way cable Teflon insulated (screened on cylindrical)
ELECTRICAL LEAKAGE	10 <sup>13</sup> ohms resistance between needles at 500 volts

Cylindrical Probe Brochure Online:

<http://www.fourpointprobes.com/jandelcylindrical.pdf>



Jandel Engineering Ltd.  
**RM3-AR Test Unit**  
**Four Point Probe**  
**Measurement Electronics**

The RM3-AR Test Unit reads out directly in ohms-per-square (or millivolts), and it includes a USB connection and PC software to save the data as either sheet resistance or as volume resistivity. Information regarding the PC software can be found here:

[http://www.fourpointprobes.com/rm3ar\\_instructions.pdf](http://www.fourpointprobes.com/rm3ar_instructions.pdf)



**Small Shroud Installed on Cylindrical Probe Nosepiece**



### Cylindrical Probe Pressure Adjustment

The Cylindrical Probe has spring loads which are user adjustable within one of three ranges. The probe shown here has been factory set to 100 grams per tip, however, the user can increase the load to as high as 150 grams per tip or as low as 60 gram per tip by moving the red Teflon knob towards either the "H" for higher or towards the "L" for lower. Cylindrical Probe Brochure Online:

<http://www.fourpointprobes.com/jandelcylindrical.pdf>

