



## *Inline Large-Gap Noncontact Sheet Resistance Meter*

### **DATASHEET FOR MODEL:**

### **30C9 Inline Vacuum-Ready Sensor and 873 Interface Module**

#### **ADVANTAGES OF EDDY CURRENT TECHNOLOGY**

- Nondestructive
- Reads through insulating layers
- Measures moving material
- Nearly instantaneous readings
- Provides real-time process inspection

#### **REDUCE PRODUCT AND LABOR COSTS**

- Automate testing—no more manual probing
- Test 100% of material without damage
- Address coating issues as they happen
- Avoid further processing of out-of-spec material

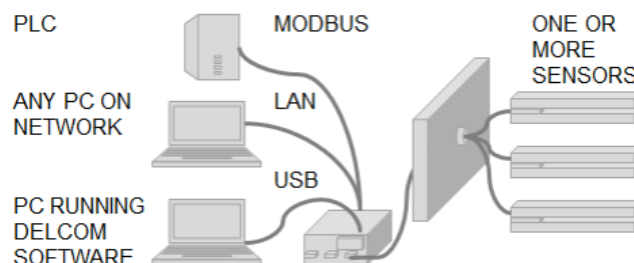
#### **FEATURES OF THIS CONFIGURATION**

- Vacuum-ready configuration
- Large gap for thick materials and substrates
- Measures sheet conductance, sheet resistance, thickness (with known resistivity), and resistivity (with known thickness)
- Simple one-button operation
- Read via LCD, software, browser, or PC application
- Swap sensors of other types and ranges
- Monitor up to 12 sensors at once with software
- Software includes automatic sample detection, reading, recording, manual mapping, pass/fail, and exportation to .csv file and Microsoft Excel
- Remotely read and control sensors with Modbus or web-based application
- Single point, detached, caliper-style sensor
- Calibrate each sensor in less than one minute
- Automatic compensation for temperature drift

**APPLICATIONS**—Designed for use on glass, wafers, film and more, including:

- Touch screens, flat screens, ITO, TCOs, etc.
- Carbon nanotube, graphene, silver nanowire, etc.
- Semiconductor materials
- Photovoltaic materials
- Architectural glass (Low-E), smart glass
- OLED and LED applications
- Packaging, decorative films/paper, metalized labels, microwave susceptors, reflective materials
- Flex circuitry and flexible circuit boards
- Metalized capacitor foil
- Low observables
- Batteries and fuel cells
- De-icing and heating products
- Antennas
- Anti-static films

#### **GENERIC CONFIGURATION**



## SPECIFICATIONS

Reach into material:	30 cm
Sensor gap:	9 mm
Minimum sample size:	9 cm diameter circle
Spatial resolution:	9 cm diameter circle
Response rate:	40 ms
Max web speed:	10 m/s

**METER RANGES**—Delcom meters are available in one of four ranges.

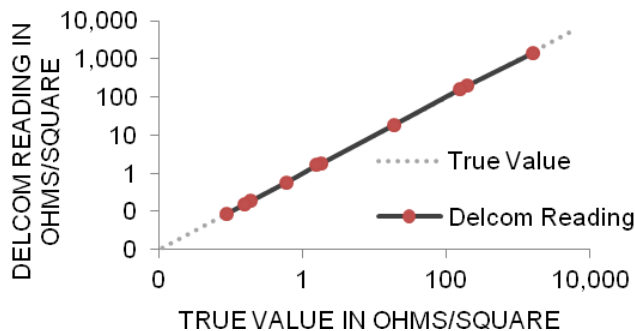
×10	From 5 to 100,000 ohms/square
×1	From .5 to 10,000 ohms/square
÷10	From .05 to 1,000 ohms/square
÷100	From .005 to 100 ohms/square

**ACCURACY**—Meters are calibrated to better than 99.9% accuracy against National Institute of Standards and Technology (NIST) standards. User can calibrate a meter with one standard in one minute.

**RESOLUTION**—Significant digits available at each order of magnitude for each of the four meter ranges.

RANGE	.001	.01	.1	1	10	100	1K	10K
×10				5	4	3	2	1
×1			5	4	3	2	1	
÷10		5	4	3	2	1		
÷100	5	4	3	2	1			

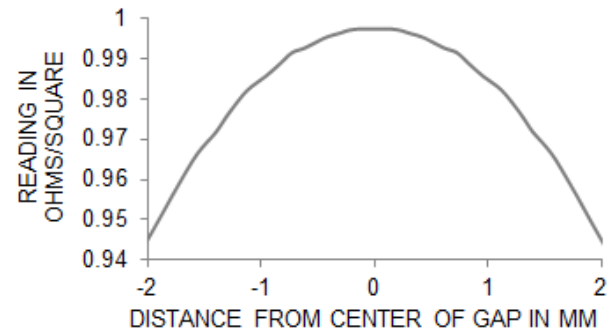
**LINEARITY**—Delcom guarantees no more than 3% deviation from the true sheet resistance value of tested material. The chart below shows a Delcom meter tested against 10 NIST, VLSI, and MSA standards.



**REPEATABILITY**—The Delcom meter readings are effectively 99.9% repeatable if sample placement and environmental factors, such as temperature, are held constant.

**TEMPERATURE COMPENSATION**—The baseline readings of eddy current instruments drift with changes in ambient temperature. Delcom benchtop sensors are compensated so they drift no more than .06% of total resolution per degree Celsius per hour.

**EFFECTS OF ELEVATION ON READING**—The elevation of the conductive layer in the sensor gap affects the meter readings. This effect can be addressed through the use of a stage, automatic correction with a distance detector, or calibrating the meter to expect the material at a known elevation.



## REQUIREMENTS

Power input:	100–120/200–250 VAC
Frequency:	60/50 Hz
Power consumption:	1.0/0.5 A
Temperature range:	10°C–60°C

## DIMENSIONS AND WEIGHTS

30C9 Sensor:	49 × 10 × 10 cm, 7 kg
873 Interface Module:	22 × 18 × 10 cm, 2 kg
30C9 and 873 packaged for shipping:	71 × 51 × 30 cm, 15 kg

**DELCOM SOFTWARE**—Optional software includes five different modes optimized for common user applications.

