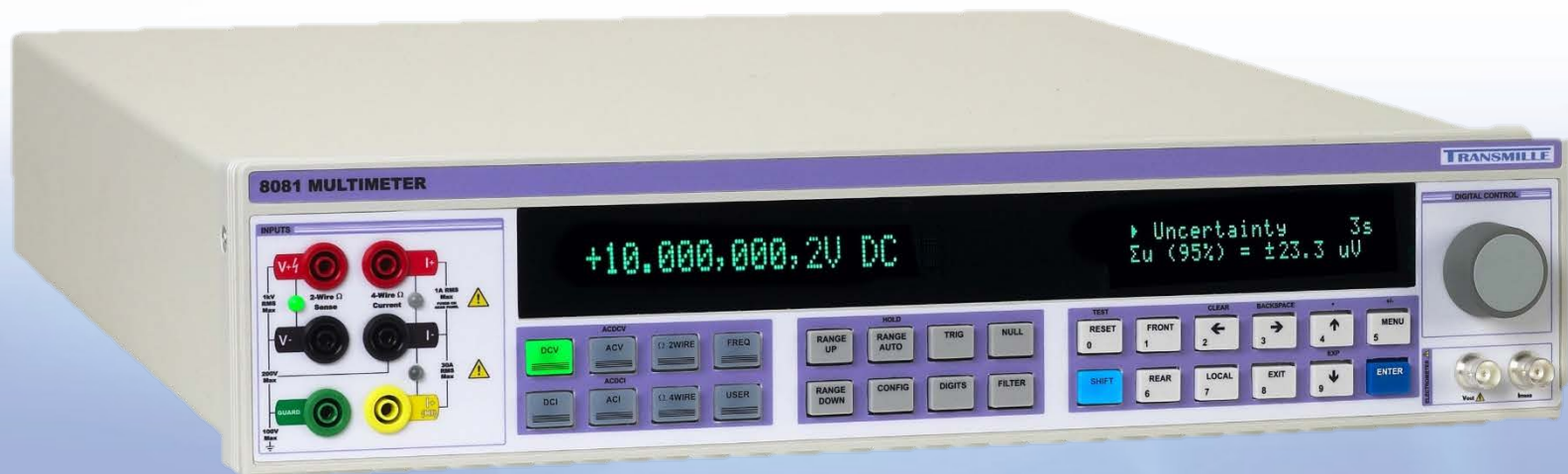


# 8000 Series Digital Multimeter



***THE DMM DESIGNED FOR METROLOGISTS***

# Key Features

Function	Range	Notes
DC Voltage	0 – 1000V	With accuracies of up to 4ppm, and exceptional low noise performance
AC Voltage	0 – 1000V	Frequency range from 10Hz to 1MHz
DC Current	0 – 30A	High performance, low noise low current measurements provided by a dedicated electrometer input
AC Current	0 – 30A	High current ability enables calibration of multiproduct calibrators without the need for external current shunts

# Key Features

Function	Range	Notes
Resistance	0 – 1TOhm	Utilising an inbuilt DC Voltage source, high resistance up to 1T Ohm can be measured with up to 300V
PRT	-200°C – 800°C	The 8000 series has inbuilt support for automated two probe configurations, including ITS-90 and Calendar van Dusen Co-efficients
Thermocouple	-200°C – 2130°C	Automate cold junction measurement with optional TCLEAD
Frequency Measurement	10Hz – 1MHz	

# Available Models

	8081	8080	8071
Basic DCV Accuracy	4ppm	4ppm	9ppm
DC/AC Voltage	X	X	X
DC Current (0.01pA to 30A) / AC Current (0.1nA to 30A)	X		
DC Current (100pA to 30A) / AC Current (1nA to 30A)		X	X
Resistance (0.01uOhm to 1TOhm)	X		
Resistance (1uOhm to 10MOhm)		X	X
Frequency (10Hz to 1MHz)	X	X	X
Temperature (PRT / Thermocouple)	X		
Pressure Measurement	X		
High Current Shunt Measurement	X		

# Advanced Maths Functions

An advanced feature has been added that dynamically calculates the accuracy of the 8000 series based upon the input, as well as the uncertainty of the measurement, based upon the noise of the measurement and the imported uncertainty of the 8000 series calibration.

This enables metrologists to make quick measurements, and determine the relative accuracies immediately

```
▶ Reading Min/Max  #  
+09.99946 /+10.00008
```

```
▶ Specification  
± 45 µV
```

```
▶ Uncertainty  
Σu (95%) = ±90.3 µV
```

```
▶ Standard Deviation  
SDσ = 2.37 µV
```

# Pressure Measurement Functionality

To further extend the 8000 series workload, a series of pressure transducers are available that allow measurements of up to 10,000psi

Co-efficients can be stored in the multimeter for the transducers, meaning performing pressure calibration is as simple as selecting the correct transducer and reading from the VFD display on the 8000 series



Select Transducer  
▶ TMP015 - 100Bar

# High Performance Temperature Functions

The 8000 series has been designed to fulfil all of the requirements in your laboratory, including temperature measurements.

The 8081 features advanced temperature features, including support for using two probes simultaneously, support for both ITS90 and IEC751 coefficients



# Advanced Thermocouple Functionality

To simplify calibration of Thermocouples, the 8081 can be supplied with an optional TCLEAD, which incorporates automated cold junction measurements at the point of connection.

Automatic ratio between the front and rear terminals displays both the measured cold junction, and the corrected thermocouple measurement, as well as the measured voltage for verification





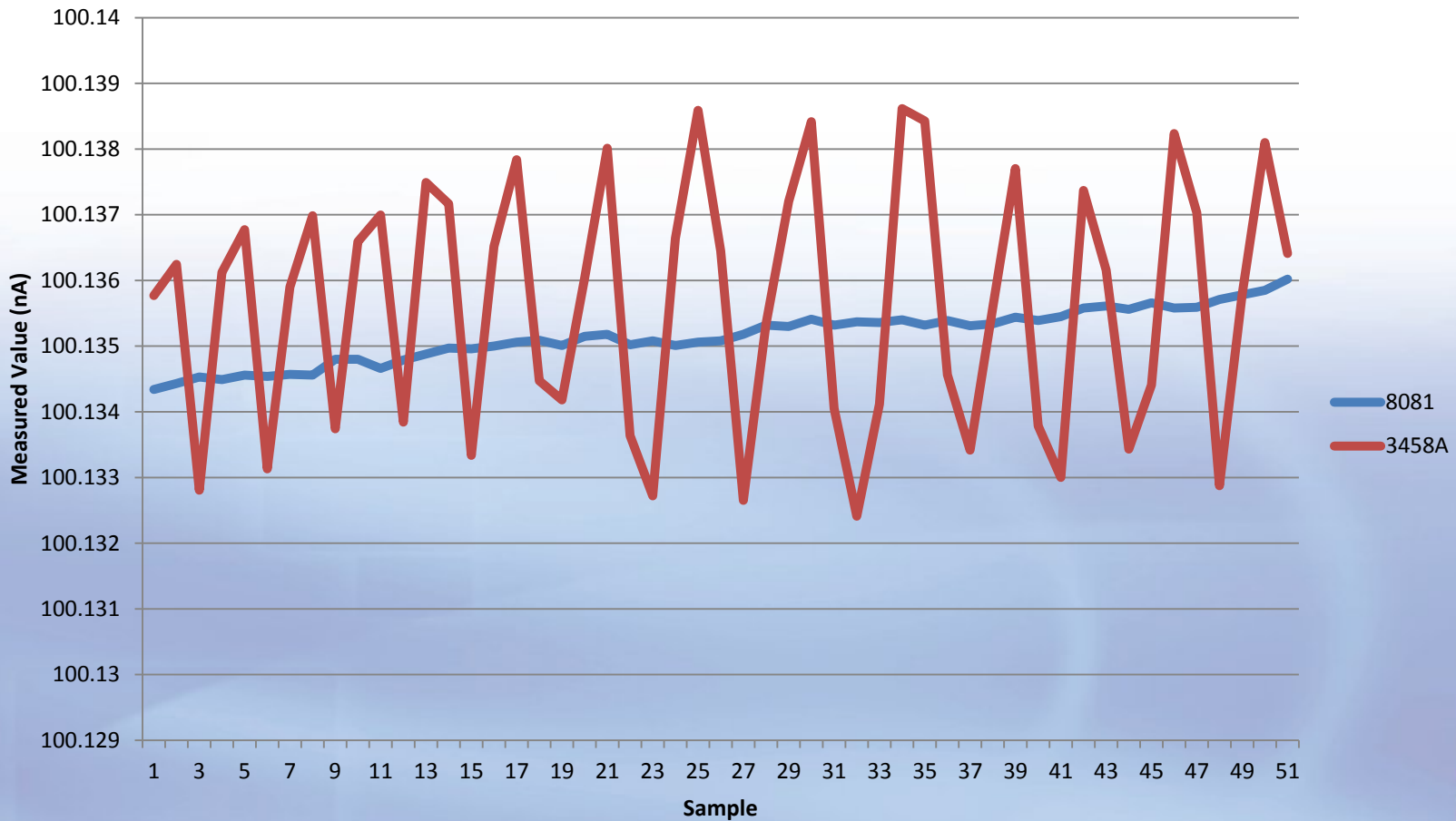
# Dedicated Low Noise Inputs

To ensure accurate measurements on low current ranges, as well as stable low noise high resistance measurements, dedicated inputs are used on the 8000 series for electrometer measurements

This enables low noise screened cables to be used, ensuring accurate and repeatable measurements

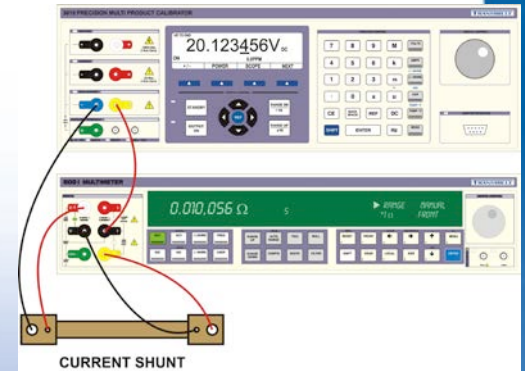


# Superior low noise performance



# Advanced Measurement Capability

In addition to the benefits of the modern design of the 8000 series, using firmware functions additional calculated measurements are possible with the 8000 series, such as High Current shunt measurement, measuring both current and voltage simultaneously to calculate the resistance, as well as multiple ratio modes for comparing two sources automatically



# 8500 10 Channel Low Thermal Scanner

Ideal for automating measurements of PRT Probes and Reference Cells



# Compatible with existing systems

The 8000 series comes fitted with RS232, GPIB, LAN and USB as standard

The 8000 series is also SCPI compatible, allowing the 8000 series to be a drop in replacement for other test equipment, or to run in mixed equipment environments



# ProCal Compatible

The 8000 series is fully compatible with ProCal, including automatic uncertainty calculations and simple selection of electrometer test voltage

Existing procedures that have already been written will continue to work, due to ProCal's innovative instrument driver system, where procedures are written around the UUT, not the standards used.

# Data Acquisition Software

Transmille also offer graphing software to be used with the 8000 series. This can automate the 8000 series and 8500 scanner to utilise multiple channels

