

**PRODUCT
SUMMARY**

VXI BUS

DIGITAL MULTIMETERS

CALIBRATION STANDARDS

CALIBRATION STANDARDS

PROGRAMMABLE CALIBRATORS

Wavetek's Datron Division was originally founded in 1971 and has been providing innovative solutions to high accuracy DC and LF measurement problems ever since.

Long acknowledged as a world leader in DMM design, Datron manufactures high accuracy DMMs for use in calibration labs, VXI and GPIB systems. The 4800 series of programmable calibrators offers a range of functional capabilities that can be tailored to meet any DMM calibration requirement, while 'Portocal' PC-based calibration software is available to increase efficiency, improve quality and simplify record-keeping. The 4900 series of support products provide solutions to the problems of maintaining the traceability of the programmable calibrators and DMMs.

This leaflet provides brief details and specification of the products in the Datron range. Specific product literature is available with more detailed descriptions and specifications. Please feel free to contact either the factory or your local representative for further information.



VXI BUS

1362 VXI DMM

- DCV, DCI, ACV, ACI and Ohms Functions
- Twin Channel Ratio Input
- 6 1/2 Digit Readings
- 1000 Readings per Second
- SCPI Compatible
- MATE (CIIL) Version Available
- TTL Backplane Triggering

The 1362 is a message based, single width, C sized DMM conforming to version 1.4 of the VXI specification. Undisputed leader in its field, the 1362 employs innovative techniques to combat the effects of line, common mode and wideband noise, improving the quality of measurement. With DCV, ACV, Ohms measurement and comprehensive triggering facilities as standard and an optional DCI, ACI and twin-channel ratio input, the 1362 is capable of meeting any VXI DMM requirement.

Functions	Ranges	Resolution (digits)	90 Day Accuracy ± ppm / R + ppm / FS	Frequency Span
DCV	100mV - 300V	4 1/2 - 6 1/2	20 + 2	-
ACV	100mV - 300V	4 1/2 - 5 1/2	350 + 100	10Hz - 1MHz
DCI	1000mA	4 1/2 - 6 1/2	200 + 10	-
ACI	1000mA	4 1/2 - 5 1/2	800 + 300	10Hz - 3kHz
Ω	100Ω - 10MΩ	4 1/2 - 6 1/2	30 + 3	-

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MULTIMETERS



1281 Selfcal Standard DMM

- The World's Finest 8 1/2 Digit DMM
- 90 Day DCV Specifications to ± 3ppm
- 90 Day ACV Specifications to ± 60 ppm
- Selfcal Internal Calibration
- Simultaneous Display of Frequency and True RMS ACV
- Two channel ratio mode

The 8 1/2 digit 1281 Selfcal Standard is, without exception, the finest DMM in the world. Designed with Standards and Calibration laboratories in mind, the 1281 provides the ultimate in electrical measurement, outperforming all rivals in noise rejection, accuracy, functional capability, and ease of use.



1271 Selfcal Systems Digital Multimeter

- 5 1/2 to 8 1/2 Digit resolutions
- Functional Capability and High Accuracy
- 1000 Readings/sec, 5 1/2 Digit Readings
- IEEE 488.2 Compatible
- Outstanding Diagnostics

The Datron 1271 is a Premium Digital Multimeter designed for the system specialist with a performance optimized for a wide range of test applications. With systems use firmly in mind, the 1271 incorporates a variety of dedicated facilities. Maths processing, reading storage and limit testing are available on all functions. Included with Ohms are active guarding, low source currents and true ohms modes, maintaining accuracy in difficult measurement applications.



1061A & 1062 Autocal Digital Multimeter

- 6 1/2 Digit Resolution
- 90 Day DCV Specifications to ± 20 ppm
- High Accuracy ACV Option to ± 250 ppm
- IEEE-488 and MATE Models
- 200 Readings / sec

The 1061A & 1062 series are accurate 6 1/2 digit DMMs optimized for systems applications, which also satisfy a wide range of bench and professional requirements. Maximum flexibility is assured by offering the 1061A as a DC voltmeter to which options may be added, such as True rms ACV (normal or high accuracy versions), resistance, current, ratio and IEEE-488. The model 1062 is a fixed configuration version, featuring DCV, True rms ACV, Resistance, selectable rear inputs and IEEE-488.



1065A Autocal Digital Multimeter

- 6 1/2 Digit Resolution
- DCV, ACV and Resistance Functions
- 90 Day DCV Specifications to 40 ppm
- Autocal
- IEEE-488 Programmable

The 1065A is a general purpose 6 1/2 digit DMM designed to offer the facilities required in most systems and bench applications. With ACV, DCV and Resistance measurements capabilities installed as standard, the 1065A possesses many features associated with higher performance instruments including full autocalibration, selectable front or rear input terminals, maximum and minimum readings, and a powerful IEEE-488 bus capability.

MODEL NUMBER	BASIC FUNCTIONS	OPTIONAL FUNCTIONS	DISPLAY RESOLUTION	RANGES	90 DAY ACCURACY ± ppm / R + ppm / FS 23°C ± 1°C	FREQUENCY SPAN	COMMENTS
1281	DCV Ratio IEEE - 488.2	True RMS ACV Ω DCI / ACI Analog Output	5 1/2 - 8 1/2 Digits (100 % Overrange)	DCV : 100mV - 1000V ACV : 100mV - 1000V Ω : 10Ω - 1GΩ DCI : 100μA - 1A ACI : 100μA - 1A	3 + 0.1 60 + 10 6 + 0.3 25 + 2 200 + 100	ACV: 1Hz - 1MHz ACI: 10Hz - 5kHz	Selftest 3 Isolated Inputs Frequency Counter Mathematics Readings Memory
1271	DCV Rear Input IEEE - 488.2	True RMS ACV (Fast or High Accuracy) Ω , DCI / ACI, Ratio, Analog Output.	5 1/2 - 8 1/2 Digits (100 % Overrange)	DCV : 100mV - 10 ACV : 100mV - 1000V Ω : 10Ω - 1GΩ DCI : 100mA - 1A ACI : 100μA - 1A	7 + 0.25 200 + 50 60 + 10 10 + 0.5 50 + 2 200 + 100	ACV: 1Hz - 1MHz ACI: 10Hz - 5kHz	Selftest Isolated Inputs Frequency Counter Mathematics 1000 Readings / sec Readings Memory MATE
1061A 1062	DCV True RMS ACV Ω , Rear Input IEEE - 488	DCI / ACI Ratio (1061A : ACV , Ω)	4 1/2 - 6 1/2 Digits (100 % Overrange)	DCV : 100mV - 1000V ACV : 100mV - 1000V Ω : 10Ω - 10MΩ DCI : 100μA - 1A ACI : 100μV - 1A	20 + 4 400 + 10 30 + 4 100 + 20 2000 + 500	ACV: 10Hz - 1MHz ACI: 45Hz - 5kHz	AutoCal Selftest MATE Mathematics 2 - 4 Wire Ohms
1065	DCV True RMS ACV Ω , Rear Input		4 1/2 - 6 1/2 Digits (100 % Overrange)	DCV : 100mV - 1000V ACV : 1V - 1000V Ω : 100Ω - 10MΩ	40 + 4 600 + 250 40 + 4	ACV: 10Hz - 1MHz	Rear input Selftest MATE

DIGITAL MULTIMETERS
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4910 / 4911 / 4912 DC Voltage Reference Standards

- The First Real Alternative to the Weston Cell
- Four Truly Independent 10 Volt Output Cells (4910/11)
- Hardware Averaging yields 1ppm/year Stability (4910/11)
- Overall < 0.05ppm/°C for 0 to 40°C Operation
- 4910 & 4912 offer Divided Outputs (1.0V & 1.018V) & Buffered (10V) output
- 7 Day (4910/11) and 16 Day (4912) Protected Battery Backup Transit Mode

The models 4910, 4911 & 4912 are the ultimate in Electronic DC Reference Standards, establishing a performance benchmark for the assessment of other devices. Offering the traditional benefits of electronic references - ruggedness and ease of use - they are the first solid state devices available featuring sufficient stability to replace the Weston Cell as a company prime DC Voltage Reference Standard.

STANDARDS

MODEL NUMBER	BASIC FUNCTIONS	OPTIONAL FUNCTIONS	90 DAY ACCURACY ± ppm / R + ppm / FS 23°C ± 1°C	COMMENTS
4910	4 x 10V DC Cells 10V average 10V Buffered & 1.0V & 1.18V Divided Outputs	Hot Shipment and Characterisation	1 0.8 1 1.5	7 Days Battery Backup (@ 25°C) Hard Transit Case & / or Protective Muff.
4911	4 x 10V DC Cells	Hot Shipment and Characterisation	1 0.8	7 Days Battery Backup (@ 25°C) Hard Transit Case & / or Protective Muff.
4912	1 x 10V DC Cells. 10V Buffered. 1.0V & 1.018 Divided Outputs	Hot Shipment and Characterisation	1 1.5	16 Days Battery Backup (@ 25°C) Hard Transit Case & / or Protective Muff.

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4920 AV Measurement Standard

- National Standards Traceable Measurement Performance to ± 30 ppm
- Direct Reading: $5\frac{1}{2}$ to $7\frac{1}{2}$ Digit Resolution
- Fast Reading Rates
- Simultaneous Display of Voltage and Frequency
- Fully IEEE-488.2 Programmable

The model 4920 Alternating Voltage Measurement Standard is the latest generation AC Calibration device for applications currently requiring traditional thermal transfer standards.

The 4920 offers performance which meets or exceeds traditional thermal approaches and provides fast, stable, foolproof measurements, either manually or remotely via its IEEE 488.2 interface.



4950 Transfer Standard

- Over 140 multifunction transfer points - suitable for todays calibrators.
- Powerful software package - fully automates calibration/verification process.
- Ruggedised transit case complete with internal environmental monitors.
- 30 day transfer stability : DCV ± 1.5 ppm, ACV ± 10 ppm, Resistance ± 3 ppm, DCI ± 7 ppm, ACI ± 40 ppm.
- Results formatted for Lotus 1.2.3. & Excel - suitable for statistical process control.

Using closed loop traceable measurement techniques the 4950 transfers the necessary calibration points between the calibration source and your calibrators. The system, complete with software, fully supports automated calibration of Datron calibrators. The 4950 reduces calibrator downtime, improves measurement confidence and cost of calibrator ownership.

MODEL NUMBER	BASIC FUNCTIONS	OPTIONAL FUNCTIONS	DISPLAY RESOLUTION	RANGES	4920 90 Day Accuracy 4950 30 Day Stability \pm ppm R 23°C \pm 1°C	FREQUENCY SPAN	COMMENTS
4920	ACV ACV Spot AC / DC AC / DC Spot	1mV - 100mV 1MHz - 50MHz	7 1/2 Digits (30 % - 110 % of Range)	1 x and 3 x from 3mV to 1KV	20 10 17 7	ACV: 1Hz - 1.25MHz Wideband : 10Hz - 50MHz	IEEE - 488.2 Programmable Frequency Counter
4950	DCV ACV Ω DCI ACI	10 Amp Range 10 Amp Range	4 1/2 - 7 1/2 Digits (90 % - 110 % of Range)	DCV : 100mV - 1000V ACV : 1mV - 1000V Ω : 10 Ω - 100M Ω DCI : 100 μ A - 1A ACI : 100 μ A - 1A	1.5 10 3 7 40	ACV: 10Hz - 1MHz ACI: 10Hz - 20KHz	Control software IEEE - 488.2 Programmable 4953 10A Shunt Hard Transit Case & Environmental (Temp & Shock) Monitoring

STANDARDS

4808 Multifunction Calibrator

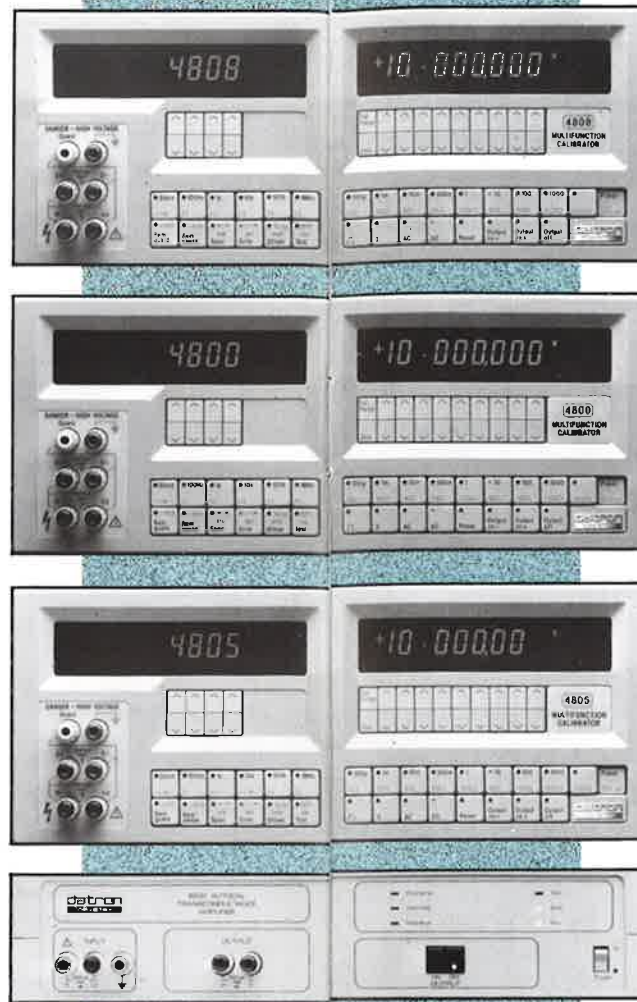
- DCV, ACV, DCI, ACI and Ohms Functions
- True 1kV AC Performance from a Single Unit
- Configurable to meet Individual Requirements
- IEEE-488, Selfcal, Autocal, 4600 and Portocal Compatible
- Calibrates DMMs of up to 8 1/2 Digit Scale Length

The model 4808 Autocal Multifunction Calibrator offers the very best in programmable multifunction performance. Capable of calibrating - BY ITSELF - the latest generation of high performance systems and standards DMMs, it represents the most practical and cost-effective solution to today's high accuracy calibration requirements.

4800 Multifunction Calibrator

- DCV, ACV, DCI, ACI and Ohms Functions
- True 1kV AC Performance from a Single Unit
- Configurable to meet Individual Requirements
- IEEE-488, Selfcal, Autocal, 4600 and Portocal Compatible

Over 90% of the typical calibration facility DMM workload consists of a range of instruments varying in performance and capabilities from simple handheld multimeters to the latest generation of mid-performance 5 1/2 and 7 1/2 digit systems DMMs. For these instruments, the model 4800 offers the most cost-effective calibration solution available, providing the necessary performance at an economic price.



4805 Multifunction Calibrator

- DCV, ACV, DCI, ACI and Ohms Functions as Standard
- ACV Output from 10Hz to 100kHz
- True 1kV AC Performance from a Single Unit
- IEEE-488, Selfcal,
- Autocal, 4600 and Portocal Compatible
- Calibrates DMMs of up to 5 1/2 Digit Scale Length
- 1 Year TCal ± 10 °C at full specification

The model 4805 is a low cost, fully multifunction, programmable calibrator which has all functions fitted as standard. It is designed to calibrate DMMs of up to 5 1/2 digit scale length without the addition of external performance enhancement techniques, such as the use of a standards DMM to monitor the output.

4600 Autocal Transconductance Amplifier

- 11A Precision DCI & ACI
- Slave mode and solo mode
- Autocal

The model 4600 extends the current sourcing capabilities of the multifunction calibrators to 11A DC or RMS AC. Designed for operation in conjunction with the 4800 series, it may be used with any suitable voltage source to generate the high current necessary for calibration of bench and handheld which measure up to 10A.

DMM CALIBRATORS

MODEL NUMBER	BASIC FUNCTIONS	OPTIONAL FUNCTIONS	DISPLAY RESOLUTION	RANGES	90 DAY ACCURACY ± ppm / R + ppm / FS 23°C ± 1°C	FREQUENCY SPAN	COMMENTS
4808	DCV and / or ACV	DC 200V / 1100V AC 200V / 1100V 1100V, Ω DCI 2A / 11A ACI 2A / 11A	7 1/2 digits (100 % Overrange)	DCV: 100µV - 1000V ACV: 1mV - 1000V Ω: 10Ω - 100MΩ DCI: 100µA - 1A ACI: 100µA - 1A	1 + 0.15 30 + 5 3 20 + 5 70 + 30	10Hz - 1MHz 10Hz - 5kHz	IEEE 488, Portocal Compatible, 4600 Compatible, Suitable to calibrate up to 8 1/2 digit DMMs.
4800	DCV and / or ACV	DC 200V / 1100V AC 200V / 1100V 1100V, Ω DCI 2A / 11A ACI 2A / 11A	7 1/2 digits (100 % Overrange)	DCV: 100µV - 1000V ACV: 1mV - 1000V Ω: 10Ω - 100MΩ DCI: 100µA - 1A ACI: 100µA - 1A	3 + 0.5 80 + 20 6 35 + 10 70 + 30	10Hz - 1MHz 10Hz - 5kHz	IEEE 488, Portocal compatible, 4600 compatible, Suitable to calibrate up to 7 1/2 digit DMMs.
4805	DCV (1100V) ACV (1100V) Ω DCI (2A) ACI (2A)	DCI / ACI 11A (Option 60)	6 1/2 digits (100 % overrange)	DCV: 100µV - 1000V ACV: 1mV - 1000V Ω: 10Ω - 100MΩ DCI: 100µA - 1A ACI: 100µA - 1A	15 + 1 250 + 50 6 50 + 15 220 + 80	10Hz - 100kHz 10Hz - 5kHz	IEEE 488, Portocal compatible, 4600 compatible, Suitable to calibrate up to 5 1/2 digit DMMs.
4600	DCI ACI	Solo Slaved 480X	6 1/2 digits (480X slaved)	DCI: 0 - 11A ACI: 0 - 11A	50 + 25 300 + 60	10Hz - 20kHz	IEEE 488, Programmable with 480X / 470X.

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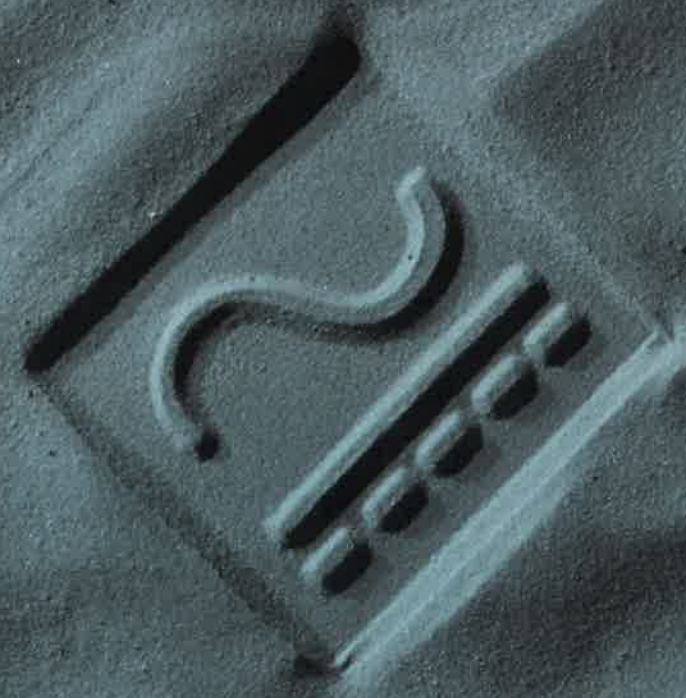
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