

DOSIMETRY, ADVANCED

An intuitive user-interface and a host of innovative features make the SuperMAX the premier reference-grade electrometer on the market.



SUPERMAX ELECTROMETER



The Premier, Reference-Grade Electrometer

The SuperMAX Electrometer is the culmination of one simple notion – *surpass expectations for a reference-grade electrometer*. Each aspect of the SuperMAX has been engineered to integrate seamlessly into clinical quality assurance, forming the preeminent dosimetry tool available.

- **Superior Accuracy and Stability**

Standard Imaging's legacy of accuracy, and rounds of rigorous testing, ensure the SuperMAX exceeds requirements for reference grade instruments. This exceptional stability allows for measurement after only one minute of warm-up time.

- **Touchscreen Operation**

A color, touchscreen interface has an on-screen keypad and pull-down menus for easy operation.

- **Unmatched Versatility**

Two measurement channels with independent control over range, bias voltage and applied factors, and an extensive range are ideal for external beam IMRT, brachytherapy and stereotactic radiosurgery.

“The SuperMAX is a great electrometer. Its interactive screen is big and easy to see and use. Its small footprint makes it possible to set-up on even the most crowded work surface. Most importantly, it is fast to warm up, precise and very reliable. I particularly like the fact that the SuperMAX will store calibration factors for all of my chambers, as well as all my readings from our evening of data collecting. The SuperMAX is a great piece of gear.”

David J. Misisco, MS

Medical Physicist

Community Hospital of the Monterey Peninsula





SuperMAX Electrometer shown with the Exradin A19 Ion Chamber and the Exradin A10 Ion Chamber

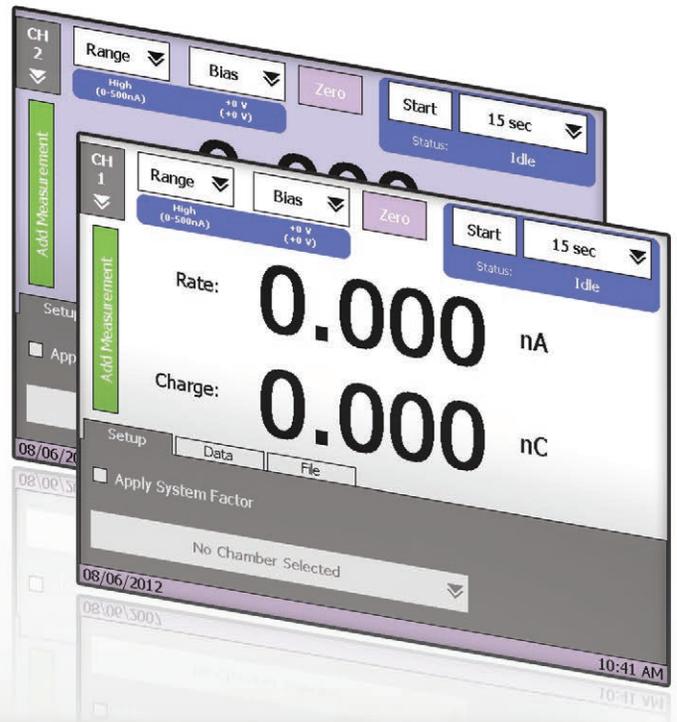


Two Independent Channels

The SuperMAX Electrometer has two measurement channels with independent control over range, bias voltage and applied system factors. Both channels have an extensive range (0.001 pA to 500.00 nA, 0.001 pC to 999.9 μ C) with automatically scaling units, ideal for a spectrum of applications, including:

- Cross calibration between two chambers
- Isocenter versus off-axis comparisons
- In-air versus in-water comparisons

These channels can be viewed individually in full screen or together in a split-screen interface, with the option to display the ratio of the two channels.



Flexible Collection Modes

The SuperMAX Electrometer has three charge collection modes, facilitating data acquisition in a variety of clinical applications.

- Timed Charge Collection: obtain measurements in 1 second intervals from 1 second – 24 hours. Perform these measurements sequentially without re-zeroing the electrometer.
- Continuous Charge Collection: Manual start/stop measurement for an unlimited duration.
- Triggered Charge Collection: Automatically start, stop and save measurements at custom thresholds for high and low ranges. This mode is ideal for external beam measurements.

Comprehensive Detector Library

A detector library built into the SuperMAX can store over 100 calibrations and/or system factors, which are easily input using a step-by-step wizard. Once entered, these corrections can be quickly sorted and applied for real-time display of dose or dose rate values. Factor-applied measurements are shown side-by-side with raw data for increased analysis. No extra PC software or cables are needed to take advantage of this functionality.



Each channel allows ± 100 V up to ± 1000 V bias for large volume chambers, selectable in 1 volt increments.

Easily **Save and Export** Data

As charge collections are completed, measurements are automatically stored in a time- and date- stamped list. Rate or dose rate measurements can be added manually by tapping the “Add Measurement” button. At any time, this list can be exported to the USB flash memory in .csv or .txt files, transferred to a PC and opened in Microsoft Excel or other spreadsheet applications.



Exradin W1 Scintillator Integration

The Exradin W1 Scintillator is a new detector with characteristics that closely mimic water, negating many measurement corrections required with other detectors. When used in conjunction, these tools effectively eliminate Cherenkov Effect without the need for extraneous calculations. Two dedicated modes in the SuperMAX provide an intuitive interface for scintillator setup and measurement.



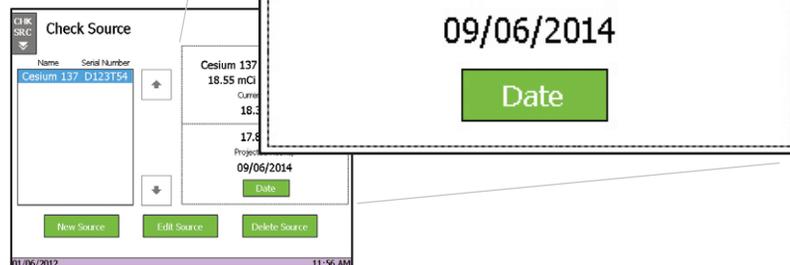
the Exradin W1 Scintillator



The capabilities of the SuperMAX are integral to the instrument; no PC is required.

Check Source Utility

The SuperMAX can store over 100 sources for quick projected strength calculations. Enter the known activity on a given date and the Check Source Utility can display either the current strength or calculate future strength.



SUPERMAX (REF 90018) SPECIFICATIONS

DISPLAY RANGE

RATE: *Low Range* 0.001 pA – 500.0 pA, 1 fA resolution
High Range 0.001 nA – 500.0 nA, 1 pA resolution

CHARGE: *Low Range* 0.001 pC – 999.9 μ C, 1 fC resolution
High Range 0.001 nC – 999.9 μ C, 1 pC resolution

CHARGE COLLECTIONS

TRIGGER: Automatic start, stop, reset and save data based on user defined thresholds (*Start:* 0.2 – 9.9 pA; *Stop:* 0.1 – 9.8 pA)

TIMED: User set duration (*Range:* 1 s – 24 hours; *Increment:* 1 s)

CONTINUOUS: Unlimited duration with manual stop

REAL TIME CLOCK Date and time stamp for all measurements for easy identification

INTERNAL MEMORY Store preferences, > 100 sources, > 100 chamber/system factors

RANGE SWITCHING User selectable — High or Low

CONFORMITY CE 93/42/EEC Reference class according to IEC 60731

DISPLAY 6.4" color TFT, touchscreen

INPUT (2) BNC two lug, triaxial connector

BIAS VOLTAGE Nominal \pm 1000 volt bias

USER SETTINGS: – 1000 to – 100, 0; 100 to 1000 (set in 1 volt increments)

POWER 100-240 VAC, 0.5 A max, 50/60 Hz input to external power supply, 9 VDC, 1.7 A power supply output to electrometer input, UL/TUL listed power supply

ZEROING Automatic zero function, user activated

OUTPUT (2) USB ports

DIMENSIONS *Height:* 8.1 cm, 3.2 in *Width:* 26.7 cm, 10.5 in
Length: 21.1 cm, 8.3 in *Weight:* 2.4 kg, 5.3 lbs

PERFORMANCE SPECS

RESOLUTION	High Range: 0.001nA Low Range: 0.001pA	IEC 60731 (Reference Class) requirement: \pm 0.25%
MEASURING RANGE	High Range: 0.400 nA – 500.0 nA	Low Range: 0.400 pA – 500.0 pA
MEASURING RANGE (CHARGE)	High Range: 0.400 nC – 999,999 nC Low Range: 0.400 pC – 999,999 nC	
REPEATABILITY	\pm 0.1%	IEC 60731 requirement: \pm 0.5%
LONG-TERM STABILITY	\pm 0.5%	over one year
STABILIZATION TIME	\pm 0.5%	IEC 60731 requirement: \pm 0.5% of value at 1 hr for measurements taken at 15 min and 6 hrs
ZERO DRIFT	High Range: < \pm 0.1% Low Range: < \pm 0.25%	IEC 60731 requirement: \pm 0.5%
ZERO SHIFT	High Range: < \pm 0.1% Low Range: < \pm 0.25%	IEC 60731 requirement: \pm 0.5%
NON-LINEARITY	\pm 0.2%	IEC 60731 requirement: \pm 1.0%
RESPONSE TIME	High Range Rate: 3 s	Low Range Rate: 15 s All Ranges Charge: < 0.5 s

OPTIONS

SuperMAX Accessory Kit (REF 72245)
Includes extra stylus, extra USB flash drive, and set of 5 extra screen protectors

SuperMAX Electrometer with TNC connector (REF 90018-C)

Specifications subject to change without notice.

To learn more call (800) 261-4446 or (608) 831-0025

STANDARD IMAGING



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1302-24 (7.16)