

Easy-to-use, rugged and reliable, this versatile family of meters has a variant to suit just about every rate or survey application. The Electra range consists of the Electra, plus three variations (Selectra, Plus and GM) which can be specified in any combination, from the base Electra model up to the flagship SelectraGMPlus.

Electra / Selectra

Survey Meters



Autoranging digital and bargraph displays

Rugged metal body and long battery life

Wide range of GM and scintillation probes

Easy probe swapping with Selectra models and "I" probes

500 point datalogging with Plus models



Electra

The Electra is a digital, microprocessor based, rate meter which is compatible with most GM and scintillation survey probes, and can be calibrated with an external probe for direct readout of dose rate or count rate, in a range of units. Readings are displayed both numerically and on a bargraph, which autoranges across seven decades. Intelligent software discriminates between true rate changes and insignificant fluctuations. Digitally controlled HV and preset parameters provide outstanding consistency between instruments: the setup does not drift and instruments with identical setups are directly interchangeable.

The Electra is sturdy, well balanced, comfortable over long periods of use and

operable when wearing double protective gloves. It is built in a metal extrusion with tough, replaceable, plastic end caps and is powered by long life dry cells or rechargeable batteries. Internal configuration switches let a supervisor choose which parameters are available to users.

Selectra

The Selectra models feature automatic probe setup when used with our "I" style probes. These probes contain chips which store operating parameters, and connect to the meter via a 7-way Fischer connector (the Electra models having PET or MHV). Selectra benefits include tamperproof setup, simpler probe exchange, and less equipment to carry around.

Product Specifications

GM

GM models have a low weight, compact, front extension, housing an energy compensated GM probe whose position is shown by two white crosses. Contact dose rate measurements can be taken without disconnecting the external probe. The GM models' memory includes an exact setup for the internal probe and adjustable setup for the external probe. A single key press switches from one probe to the other. "G" is displayed on screen when the internal GM probe is active. GM models are designed for ease of decontamination, with simple replacement of heavily contaminated parts. A test jig, utilizing gamma emissions from a ¹³⁷Cs source is available.

Plus

Datalogging is made easy with the Plus models. Up to 500 detailed results can be stored on-board in non-volatile memory, from all measuring modes. Result data includes rate, integrate time, date stamp, operating mode, stored background and unique location identities, and results can be reviewed on the instrument. Location identity is a breeze with the built-in iButton™ reader, or optional barcode reader, with alphanumeric location names of up to 16 characters stored with each reading.

The supplied PlusLink software handles communication between the Plus models and external PCs, running under Windows™. Datalog download is easily achieved, for further analysis with common applications such as Microsoft™ Access or Excel. Plus model setup and automatic plateau plotting are also provided in PlusLink, along with other useful facilities.

Technical Specifications - all models

Count rate ranges:

Settable, 0.1 cps to 100 kcps, or 1 cpm to 1000 kcpm

Response factors:

dpm: 0.001 to 1.000 cpm/dpm
Bq: 0.001 to 1.000 cps/Bq
Bq/cm²: 0.01 to 999 cps per Bq/cm²
R/h: 0.01 to 999 cps per mR/h
Gy/h: 0.001 to 99.9 cps per µGy/h
Sv/h: 0.001 to 99.9 cps per µSv/h

Integrate mode preset time:

1 to 10 s in 1 s steps, 15 to 30 s in 5 s steps, and 40 to 5,000 s in 10 s steps

Display:
3 decade bargraph, 6 decade span, autoranging. 4 character digital display. Symbols for: units, sound, battery, alarm, mode, inhibit, channel, setup, overload and operational parameters

Backlight:
A momentary press of the backlight key gives 30 s illumination

Sounder:
Distinct tones for alpha and beta pulses, alarm, change of range and overload

Dead time:
Presettable correction, 0 to 250 µs

Connectors:
Probe: PET or MHV (Electra models)
Fischer (Selectra models)
Headphone/earpiece:
3.5 mm stereo jack socket
Charger: 2.5 mm power jack socket

High Voltage supply:
400 to 1400 V in 5 V steps.
Max. load 66 MOhms, current 40 µA at 900 V

Overload setting:
0.25 to 40 µA excess HV current, adjustable in 0.25 µA steps

Alarm thresholds:
Presettable alpha and beta settings with dual probes
0.1 to 50,000 cps, 1 to 300,000 cpm, 0.1 to 50,000 Bq/cm², 0.1 to 50,000 Bq, 1 to 300,000 dpm, 0.01 µSv/h to 5 Sv/h, 1 µR/h to 500 R/h, 0.01 µGy/h to 5 Gy/h, Off

Lower signal threshold:
1.7 x 10⁻¹¹ C fixed (100 mV internal)

Upper signal threshold:
2.6 x 10⁻¹¹ C to 5.1 x 10⁻¹⁰ C (150 mV to 3 V internal in 50 mV steps)

Batteries:
Three 1.5 V, C sized dry cells (IEC LR14) or three rechargeables (IEC KRH 27/50)

Battery life:
90 h typical, with dry cells and power saver feature (auto switch-off)

Operating temperature:
-20 to +50 °C (-4 to +122 °F)

Humidity: up to 95%, non-condensing

EMC: CE approved

Dimensions:
135 H x 110 W x 250 D mm (5.3" H x 4.3" W x 9.8" D) including handle. GM models are 300 mm (11.9") D

Weight:
1.22 kg (2.7 lb) excluding batteries, except GM models which are 1.42 kg (3.2 lb)

Further Specifications - GM

Gamma Range:
0.1 to 20,000 µSv/h

Intrinsic error:
±10% (IEC60846 requirement, 15%)

Energy response:
-15% to +30%, 60 keV to 1.25 MeV relative to 662 keV ¹³⁷Cs
Overreads slightly above 1.25 MeV

Response times:
1 s sampling with 10 s rolling average for rates > 2 cps. Less than 2 s to respond to > 2.6 sigma changes.
(IEC60846 requirement, < 10 s)

Warm up:
20 s, including completion of self-checks

Overload:
Overload alarm and > Full Scale

Deflection maintained for 20 mSv/h to 2000 mSv/h
Complete recovery after only 30 s

Pulsed radiation:
Not designed for pulsed radiation fields

Coefficient of variation:
Well within IEC 60846 above 2.5 µSv/h

Alarms:
One for dose rate, presettable to any on-range value. Settings stored in non-volatile memory

Temperature:
-10 to +40 °C (14 to 114 °F), within ±6%

Temperature shock:
Has no greater effect than slow changes

Humidity:
No significant change, up to 95%, RH at 35 °C

Further Specifications - Plus

Preset precision:
0.1% to 20% in 0.1% steps (at 2 sigma confidence level)

Sampler mode:
Up to 500 cycles comprising Integrate, followed by Pause

Peak hold mode:
Display is updated only if latest value exceeds all previous since selecting mode

Additional connectors:
RS-232 serial link: 5-way DIN
iButton receptor

Data Log:
Up to 500 unique locations, up to 500 total readings

Accessories

Optional accessories include external probes, iButtons, barcode reader, reference sources, probe holders, belt holsters, cables, batteries and chargers. Consult your supplier for details.

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