

New!

CONDUCTIVITY METER

EM38-4

While retaining all of the functionality of the standard-model EM38-MK2, the new EM38-4 Ground Conductivity Meter includes an additional two receiver coils to provide data from a greater number of depth ranges. Information available from four receiver coils supports a better understanding of the soil profile through inverse modelling of the data, both in real-time and at various stages of data processing.

Multiple modes of deployment are possible, including walking, towing behind a vehicle and vehicle-mounting, each supported by the option of continuous data collection.



EM38-4 Ground Conductivity Meter



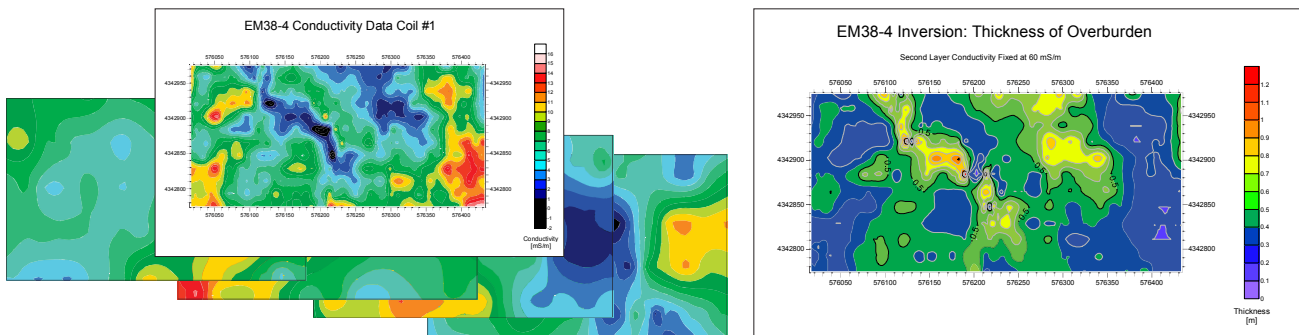
GEONICS LIMITED

8-1745 Meyerside Dr., Mississauga, ON, Canada L5T 1C6 T: (905) 670-9580 F: (905) 670-9204 E: geonics@geonics.com U: www.geonics.com

EM38-4 CONDUCTIVITY METER

OPERATING FEATURES

- Four receiver coils provide soil conductivity (quad-phase) and magnetic susceptibility (in-phase) data from each of four distinct depth ranges, all simultaneously, to an effective maximum depth of 1.5 m
- During standard operation, all receiver coils are positioned in vertical dipole orientation; for shallower measurements, the instrument can be rotated such that all coils will be in horizontal dipole orientation, thereby providing data from four additional depth ranges with an effective maximum depth of 0.75 m
- Data from multiple depth ranges supports a more complete characterization of the soil profile through inverse modelling of data. Software included with the instrument provides two-layer modelling of the profile both in real-time and during data processing; optional third party software further offers both forward and expanded inverse modelling capabilities
- Bluetooth technology provides reliable wireless communication with any compatible acquisition device (e.g. Mesa3 Rugged Tablet) within a 10 m distance
- An external, lightweight rechargeable battery pack supports daily survey operations; a power input connector facilitates the use of alternate external power sources
- An optional, collapsible calibration stand facilitates a semi-automated calibration procedure; using the stand, the instrument can be calibrated within a few seconds without requirement for iterative adjustments



Spatial data from multiple depths provides information to describe the soil profile both vertically and horizontally

TECHNICAL SPECIFICATIONS

Displayed Quantity: Apparent conductivity in millisiemens per metre (mS/m) at each coil separation
Two-layer apparent conductivity model in real-time
In-phase response in parts per thousand (ppt) of secondary to primary magnetic field at each coil separation

Intercoil Spacing: 0.5, 0.75, 0.88 and 1 m

Conductivity Range: 0 to 1,000 mS/m, all separations

In-phase Range: +/- 28 ppt for 1 m separation
+/- 22 ppt for 0.88 m separation
+/- 16 ppt for 0.75 m separation
+/- 7 ppt for 0.50 m separation

Measurement Precision: +/- 0.1% of full scale

Measurement Accuracy: +/- 5% at 30 mS/m

Noise Level: +/- 0.5 mS/m (Conductivity) at 1 m separation
+/- 0.02 ppt (In-phase) at 1 m separation

Operating Frequency: 14.5 kHz

Data Communication: RS-232, Bluetooth, USB

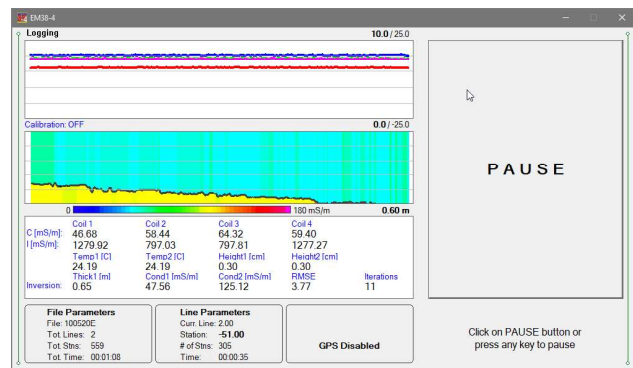
Temperature Range: -40 °C to +50 °C

Power Source – External: 12 VDC Rechargeable battery

Operating Weight and Dimensions: 9 kg; 133 x 17 x 8 cm

Shipping Weight and Dimensions: 20 kg; 140 x 25 x 15 cm

Real-time Modelling Display



GEONICS LIMITED

8-1745 Meyerside Dr., Mississauga, ON, Canada L5T 1C6 T: (905) 670-9580 F: (905) 670-9204 E: geonics@geonics.com U: www.geonics.com