

CMD Explorer and CMD Mini Explorer Ground Conductivity Meter (GCM)



Technical description:

CMD Explorer and CMD Mini Explorer apparatus are modern measurement systems characterized by high resolution, both vertical and horizontal, for well-conducting media. The apparatus complement each other in terms of depth ranges, and the measurement takes place at a total of six depth levels for each of the two configurations of the measuring systems, i.e. HD and VD. This allows for geophysical interpretation and obtaining a depth range from approx. 0.25 to 7 m. The method enables good recognition of shallow, well-conducting geological layers. It allows imaging of the geological medium, i.e. determination of the conductivity distribution resulting from geophysical interpretation. In this method there is no grounding problem because the field is excited inductively and not galvanically. Measurement in the conductivity method can be performed quickly over a large area and can be performed by one person.

Trade name: CMD Explorer and CMD Mini Explorer

More details: </equipment/aparatura-do-pomiarow-konduktometrycznych-cmd-expl/>

Access type: External

Type of accreditation / certificate: Not applicable

Contact person: Klityński Wojciech

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Responsible body: Department of Geophysics

Group / laboratory / team: Geophysical laboratory / Mobile laboratory / Geoelectrical laboratory

Last update date: May 24, 2023, 1:51 p.m.

Year of commissioning: 2015

IDUB research areas:

(PRA 3) Water-energy-climate: interdisciplinary approach to sustainable development

(PRA 4) Technical solutions: from fundamental research, through modelling and design, to prototypes. The application of mathematical, information technology, and electronics tools to macro-, micro-, and nanoscale problems

Research capabilities:

engineering survey, road and railway building

localization of watered zones and landslides, zone of water leak

monitoring of waste water leakage

geological mapping

agriculture, soil quality monitoring

archaeology

environmental mapping of pollution plumes

Measurement capabilities:

The apparatus allows the measurement of apparent conductivity for six depth level for two HD and VD configurations differing in resolution and depth range. CMD Explorer and CMD Mini Explorer are complementary in depth (three levels each for two configurations). The length of the profile is arbitrary and the measurement step is 1 m as standard, which ensures good resolution in the horizontal direction.

Conditions for providing infrastructure:

Sharing of equipment requires prior approval of the Head of the Department. Sharing takes place on a collaborative basis or for a fee, under commercial orders.