



**The DUALEM 421S has dual-geometry receivers at separations of 1, 2 and 3m from the transmitter, which provide four simultaneous depths of conductivity sounding, six simultaneous depths of susceptibility sounding, and detection of metal.**

## PRINCIPLE

Patented DUALEM 421s sensors incorporate an EM-transmitter that operates at a fixed frequency and 3-pairs of EM-receivers. The transmitter and one of the receivers in a pair have horizontal windings, and these components form the horizontal co-planar geometry (HCP). The other receiver in a pair has vertical windings; it combines with the transmitter to form the perpendicular geometry (PRP).

Array	1m	1.1m	2m	2.1m	4m	4.1m
	HCP1	PRP1	HCP2	PRP2	HCP3	PRP3
DOE (m)	1.6	0.5	3.2	1	2	6.4

## APPLICATION

DUALEM sensors measure terrain conductivity, detect shallowly buried objects of high conductivity and, where conductivity is negligible, measure the magnetic susceptibility of terrain.

DUALEM sensors can be applied to many types of shallow-earth investigations. These include soil mapping and monitoring, archaeology, the delineation of conductive contamination, and exploration for groundwater and clay.

## TECHNICAL SPECIFICATIONS

- Measured quantities : Apparent conductivity HCP (HC) et PRP (PC) ; In-phase HCP (HI) et PRP (PI).
- The ARCHER2 connexion : Bluetooth (10m).
- Intercoil spacing: HCP1: 1 m ; PRP1: 1.1m ; HCP2: 2m ; PRP2: 2.1m ; HCP3: 4m ; PRP3: 4.1m.
- Operating frequency : 9.0 kHz.
- Power supply : rechargeable battery 3W/12V DC (approx. 20h continuous).
- Measuring ranges :
  - HC/PC: +-3000 mS/m ; HI/PI: +-300 ppt.
- Measurement accuracy :
  - HC/PC: +/- 0.2mS/m ; HI/PI: +/-0.07 ppt.
- Transport : 250 x 26 x 18 cm / 33kg.
- DUALEM weight : 15 Kg.