

**Technical Specification of
"PORTABLE SOIL PARAMETERS MEASUREMENT PROBE"**

1. INTRODUCTION

Advanced Technology Research Center (ATRC) is involved in R&D work related to S&T projects and tasks like antipersonnel land mine detection techniques involving GPR, MM wave, THz imaging and spectroscopy, NQR spectroscopy and ultrasonic waves. Establishment of these technologies shall require extensive modelling, simulation and actual sample data collection from the field. Parameters shall include moisture content, dielectric of the soil sample, bulk electrical conductivity and temperature profile.

Hence, there is a requirement of rugged, accurate and easy-to-use portable soil data collection probe.

2. TECHNICAL SPECIFICATIONS OF “PORTABLE SOIL PARAMETERS MEASUREMENT PROBE”

SN	ITEMS	SPECIFICATIONS
1.	Soil probe	Hydrago, M/s Eijkelkamp or equivalent
2.	Battery type	Rechargeable battery
3.	Parameters measured	Soil moisture, temperature, bulk electrical conductivity, dielectric permittivity
4.	Housing	Anodized aluminium
5.	Data transfer	Wireless
6.	Operating temperature	-10 to +65 deg C
7.	Dimensions	Pole length: Atleast 130cm
8.	Moisture range	Complete dry to fully saturated Accuracy: 0.03 wfv
9.	Bulk electrical conductivity range	0 to 1.5 S/m Accuracy: 0.02 S/m
10.	Dielectric permittivity range	1 to 80 Accuracy: 0.05%
11.	Temperature range	-10 to +60 deg C Accuracy: 0.3 deg C

Notes:

- Any deviation from the mentioned specifications should be clearly brought out.
- Delivery period: 02 months from the date of issue of SO.