

## **TECHNICAL SPECIFICATIONS**

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| Type                                                                                 | Precision Pipe and Cable locator / Route tracer                                                                                                                                                                                                              |
| Number of predefined Low frequencies available                                       | 15                                                                                                                                                                                                                                                           |
| Number of predefined Medium frequencies available                                    | 8                                                                                                                                                                                                                                                            |
| Number of predefined High frequencies available                                      | 13                                                                                                                                                                                                                                                           |
| Simultaneous Dual frequency available                                                | yes                                                                                                                                                                                                                                                          |
| Gain control                                                                         | Both Auto & Manual                                                                                                                                                                                                                                           |
| Depth Measurement (in Transmitter Mode)                                              | Upto 10 meter                                                                                                                                                                                                                                                |
| Depth Measurement Accuracy (in Transmitter Mode)                                     | ± 5% or better                                                                                                                                                                                                                                               |
| Display Size (Receiver)                                                              | 3.7 inch                                                                                                                                                                                                                                                     |
| GNSS (GPS)                                                                           | IN BUILT GPS                                                                                                                                                                                                                                                 |
| Data logging capability (Receiver)                                                   | Both Auto & Manual                                                                                                                                                                                                                                           |
| Built-in Data logging memory (Receiver)                                              | 4 gigabyte                                                                                                                                                                                                                                                   |
| Capacity of the SD Card supplied (inclusive in the supply)                           | 4 gigabyte                                                                                                                                                                                                                                                   |
| Power Source to the Receiver                                                         | Rechargeable Battery, Alkaline (non-rechargeable) Battery                                                                                                                                                                                                    |
| Transmitter wattage (Minimum)                                                        | 5Watt                                                                                                                                                                                                                                                        |
| Transmitter maximum voltage output                                                   | between 76V-99V                                                                                                                                                                                                                                              |
| Display on Transmitter                                                               | Yes                                                                                                                                                                                                                                                          |
| Display Size (Transmitter)                                                           | 2.5 inch                                                                                                                                                                                                                                                     |
| Information provided in the Transmitter Display                                      | Output frequency,Battery Condition,Connected mode,Output Power level,Output Voltage,Output Current                                                                                                                                                           |
| Datalogging capability (Transmitter)                                                 | NA                                                                                                                                                                                                                                                           |
| Built-in Data logging memory (Transmitter)                                           | 0 gigabyte                                                                                                                                                                                                                                                   |
| Power Source to the Transmitter                                                      | Rechargeable Battery,Alkaline (non-rechargeable) Battery                                                                                                                                                                                                     |
| Battery Chemistry (Transmitter)                                                      | Li-ion                                                                                                                                                                                                                                                       |
| Battery Chemistry (Receiver)                                                         | Li-ion                                                                                                                                                                                                                                                       |
| GPS (GNSS) Data Capability features                                                  | Onboard GPS (GNSS) module,Capturing / Export of Survey measurement data                                                                                                                                                                                      |
| Software Features                                                                    | Locator Configuration,Survey measurements data collation and export,User Account Management,Free software updation during warranty period,Filter usage logging and survey measurement points on Google maps                                                  |
| "Accessories inclusive in the scope of supply (Select Only Applicable Accessories )" | Transmitter Signal Coupler / Clamp 100 mm dia with 2 meter connection lead,Battery Charger (only incase of Rechargeable Battery), Direct connection lead with magnets, 10 meter extension cable, Earth stake - 1 no., Suitable Carry bag, Instruction Manual |
| WARRANTY (FOR BOTH TRANSMITTER AND RECEIVER)                                         | 03 years                                                                                                                                                                                                                                                     |

| APPLICATION / FREQUENCY / PERFORMANCE                          |                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Application                                                    | Pipe and Cable Locator / Route Tracer is useful for precise locating or tracing (or both) of underground utilities such as power cable, armoured telecom cables & pipelines etc.                                                                                                                 |
| Components / Working Principle                                 | A typical Pipe and Cable Locator / Route Tracer consists of a Receiver, a Transmitter, connection leads and ground stake. The Receiver detects electromagnetic signals radiating from metallic cables, power cables, armoured telecom cables & pipelines etc., both in active and passive modes. |
| Type                                                           | Precision Pipe and Cable locator / Route tracer                                                                                                                                                                                                                                                  |
| Frequency Range                                                | Low Frequency (between 200 Hz and 1.1 kHz), Medium Frequency (between 1.2 kHz and 44 kHz), High Frequency (between 45 kHz and 500 kHz)                                                                                                                                                           |
| Number of predefined Low frequencies available                 | 15                                                                                                                                                                                                                                                                                               |
| Number of predefined Medium frequencies available              | 8                                                                                                                                                                                                                                                                                                |
| Number of predefined High frequencies available                | 13                                                                                                                                                                                                                                                                                               |
| Simultaneous Dual frequency available                          | yes                                                                                                                                                                                                                                                                                              |
| <b>RECEIVER</b>                                                |                                                                                                                                                                                                                                                                                                  |
| Receiver - inclusive in the scope of supply                    | Yes                                                                                                                                                                                                                                                                                              |
| Receiver Housing Material                                      | High Impact Resistant ABS                                                                                                                                                                                                                                                                        |
| Gain control                                                   | Both Auto & Manual or higher                                                                                                                                                                                                                                                                     |
| Operating Modes in the Receiver                                | Transmitter Mode, Power Mode, RF / Radio Mode, Signal Current Measurement Mode, Left Right Arrow Mode, Compass Mode, Peak Mode, Peak, Null & Pinpoint Peak Modes                                                                                                                                 |
| Depth Detection range in Power                                 | 3 meter or higher                                                                                                                                                                                                                                                                                |
| Depth Detection range in RF mode                               | 3 meter or higher                                                                                                                                                                                                                                                                                |
| Depth Measurement (in Transmitter Mode)                        | Upto 10 meter                                                                                                                                                                                                                                                                                    |
| Depth Measurement Accuracy (in Transmitter Mode)               | ± 5% or better                                                                                                                                                                                                                                                                                   |
| Predefined frequency at which Receiver Sensitivity is declared | 33 kiloHertz                                                                                                                                                                                                                                                                                     |
| Receiver Sensitivity at declared predefined frequency          | 5 micro Ampère                                                                                                                                                                                                                                                                                   |
| Display on Receiver                                            | Yes                                                                                                                                                                                                                                                                                              |
| Type of Display (Receiver)                                     | LCD with backlight                                                                                                                                                                                                                                                                               |
| Display Size (Receiver)                                        | 3.7 inch                                                                                                                                                                                                                                                                                         |
| Information provided in the Receiver Display                   | Locating Mode Indication, Bar graph Display, Left/Right Arrows, Depth measurement, Line orientation (compass), Antennae operating mode, Continuous Battery Check, Operating frequency, Volume level, Current direction, GPS Status                                                               |
| Number of Antennas (Vertical + Horizontal + Compass            | 4 or more                                                                                                                                                                                                                                                                                        |

|                                                                               |                                                                                                                                                                                                                                                                                          |
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| GNSS (GPS)                                                                    | In-built GPS                                                                                                                                                                                                                                                                             |
| Data logging capability (Receiver)                                            | Both Auto & Manual                                                                                                                                                                                                                                                                       |
| Data logging file formats (Receiver)                                          | csv                                                                                                                                                                                                                                                                                      |
| Built-in Data logging memory (Receiver)                                       | 4gigabyte                                                                                                                                                                                                                                                                                |
| Receiver Interface (connectivity)                                             | Micro SD Card, Mobile App, Bluetooth                                                                                                                                                                                                                                                     |
| Capacity of the SD Card supplied (inclusive in the supply)                    | 4 gigabyte                                                                                                                                                                                                                                                                               |
| <b>POWER SOURCE / BATTERY FOR RECEIVER</b>                                    |                                                                                                                                                                                                                                                                                          |
| Power Source to the Receiver                                                  | Rechargeable Battery, Alkaline (non-rechargeable) Battery                                                                                                                                                                                                                                |
| Battery Chemistry (Receiver)                                                  | Li-ion                                                                                                                                                                                                                                                                                   |
| Battery size (Receiver)                                                       | Other                                                                                                                                                                                                                                                                                    |
| Capacity of Battery (Receiver) (Ah)                                           | 5.2 – 16.0 or higher                                                                                                                                                                                                                                                                     |
| Battery back-up time under continuous operation (for Receiver)                | 30 hour or higher                                                                                                                                                                                                                                                                        |
| Number of Batteries Required for operation (Receiver)                         | 1                                                                                                                                                                                                                                                                                        |
| Number of Batteries supplied ( for Receiver) inclusive in the scope of supply | <b>1, 2, 3, 4, 6, 8, 12, 16 or higher</b>                                                                                                                                                                                                                                                |
| <b>SALIENT FEATURES OF THE RECEIVER</b>                                       |                                                                                                                                                                                                                                                                                          |
| Salient Features of Receiver                                                  | Push button for Mode Selection;, Impact resistant replaceable wear boot, Audio, Visual indication,, Auto Depth measurement, Auto Current measurement push button depth measurement, push button current measurement ,Noise cancellation from overhead power cables, Shallow depth alarm, |
| <b>TRANSMITTER</b>                                                            |                                                                                                                                                                                                                                                                                          |
| Transmitter compatible to the Receiver - inclusive in the scope of supply     | Yes                                                                                                                                                                                                                                                                                      |
| Transmitter Housing Material                                                  | High Impact Resistant ABS                                                                                                                                                                                                                                                                |
| Transmitter wattage (Minimum)                                                 | 5 Watt                                                                                                                                                                                                                                                                                   |
| Transmitter maximum voltage output                                            | between 76V-99V, <b>between 100V – 150 V or higher</b>                                                                                                                                                                                                                                   |
| Operating Modes in the Transmitter                                            | Induction Mode, Clamp Mode, Direct Connection Mode                                                                                                                                                                                                                                       |
| Controls in the Transmitter                                                   | Frequency Modulation, Frequency Selection, Output Level                                                                                                                                                                                                                                  |
| Display on Transmitter                                                        | Yes                                                                                                                                                                                                                                                                                      |
| Type of Display (Transmitter)                                                 | LCD with backlight                                                                                                                                                                                                                                                                       |
| Display Size (Transmitter)                                                    | <b>2.5 inch – 6.0 inch or higher</b>                                                                                                                                                                                                                                                     |
| Information provided in the Transmitter Display                               | Output frequency, Battery Condition, Connected mode, Output Power level, Output Voltage, Output Current                                                                                                                                                                                  |
| Datalogging capability (Transmitter)                                          | NA                                                                                                                                                                                                                                                                                       |
| Datalogging file formats (Transmitter)                                        | NA                                                                                                                                                                                                                                                                                       |
| Built-in Data logging memory (Transmitter)                                    | 0 gigabyte                                                                                                                                                                                                                                                                               |
| Transmitter Interface (connectivity)                                          | NA                                                                                                                                                                                                                                                                                       |

| <b>POWER SOURCE / BATTERY FOR TRANSMITTER</b>                                                         |                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Source to the Transmitter                                                                       | Rechargeable Battery, Alkaline (non-rechargeable) Battery                                                                                                                                                                                                     |
| Battery Chemistry (Transmitter)                                                                       | Li-ion                                                                                                                                                                                                                                                        |
| Battery size (Transmitter)                                                                            | NA                                                                                                                                                                                                                                                            |
| Capacity of Battery (Transmitter) (Ah)                                                                | <b>7.8 – 10.0 or higher</b>                                                                                                                                                                                                                                   |
| Battery back-up time under continuous operation (Transmitter)                                         | <b>More than 8.0 hour or higher</b>                                                                                                                                                                                                                           |
| Number of Batteries Required for operation (for Transmitter)                                          | 1                                                                                                                                                                                                                                                             |
| Number of Batteries Supplied (for Transmitter)                                                        | <b>1, 2, 3, 4, 6, 8, 12 or higher</b>                                                                                                                                                                                                                         |
| <b>SALIENT FEATURES OF THE TRANSMITTER</b>                                                            |                                                                                                                                                                                                                                                               |
| Salient Features of Transmitter (Select Applicable features Only)                                     | Fault locating Mode for sheath fault locating, Audio, Visual indication, Voltage boost option                                                                                                                                                                 |
| <b>GENERIC</b>                                                                                        |                                                                                                                                                                                                                                                               |
| GPS (GNSS) Data Capability features                                                                   | On board GPS (GNSS) module, Capturing / Export of Survey measurement data                                                                                                                                                                                     |
| Software Features                                                                                     | Locator Configuration, Survey measurements data collation and export, User Account Management, Free software updation during warranty period, Filter usage logging and survey measurement points on Google maps                                               |
| Bluetooth survey measurement data protocols                                                           | ASCII                                                                                                                                                                                                                                                         |
| Compliance to safety standards (both Receiver & Transmitter) including battery as per law of the land | Yes                                                                                                                                                                                                                                                           |
| <b>ACCESSORIES INCLUSIVE IN THE SCOPE OF SUPPLY</b>                                                   |                                                                                                                                                                                                                                                               |
| "Accessories inclusive in the scope of supply (Select Only Applicable Accessories)"                   | Transmitter Signal Coupler / Clamp 100 mm dia with 2 meter connection lead, Battery Charger (only incase of Rechargeable Battery), Direct connection lead with magnets, 10 meter extension cable, Earth stake - 1 no., Suitable Carry bag, Instruction Manual |
| Optional Accessories inclusive in the scope of supply                                                 | CARRY BAG                                                                                                                                                                                                                                                     |
| <b>OPERATING CONDITIONS / INGRESS PROTECTION</b>                                                      |                                                                                                                                                                                                                                                               |
| Receiver Minimum Operating Temperature                                                                | -20 degree Celsius                                                                                                                                                                                                                                            |
| Receiver Maximum Operating Temperature                                                                | 55 degree Celsius                                                                                                                                                                                                                                             |
| Transmitter Minimum Operating Temperature                                                             | -20 degree Celsius                                                                                                                                                                                                                                            |
| Transmitter Maximum Operating Temperature                                                             | 55 degree Celsius                                                                                                                                                                                                                                             |
| Enclosure Ingress Protection (Receiver)                                                               | IP 65                                                                                                                                                                                                                                                         |
| Enclosure Ingress Protection (Transmitter)                                                            | IP 65                                                                                                                                                                                                                                                         |
| <b>WARRANTY</b>                                                                                       |                                                                                                                                                                                                                                                               |
| WARRANTY (FOR BOTH TRANSMITTER AND RECEIVER)                                                          | 3 years                                                                                                                                                                                                                                                       |