

# BATTERY POWERED TDEM (TEM) CURRENT SOURCE



## AT-3000

### DESCRIPTION:

The AT-3000 transmitter is lightweight, portable, battery powered current source specialized for TDEM (TEM) methods. AT-3000 set includes AT-Tx10 controller, GPS and manual synchronization options for driving inductive and resistive loads, intuitive GUI interface and numerous build-in safety features.

### CURRENT SOURCE APPLICATIONS:

- Shallow, mid-range and deep investigations
- Mining, kimberlites (diamonds), oil & gas, geothermal and groundwater exploration
- Geological, landslide, faults, melt rock, aquifer and karst mapping
- Geological engineering, land reclamation, environmental studies
- Geodynamic, dike and sills, geological monitoring and research, ecological investigations

### MAIN FEATURES:

- **STAND-ALONE TIME DOMAIN EM CURRENT SOURCE** - no external devices (PC, tablets, etc.) needed to carry out field work
- Field survey capabilities: **TDEM (TEM), TDIP**
- 3kW maximum power output
- 12V-150V DC external battery or battery pack (BAT-60) power input
- 40A maximum output current
- Bipolar square wave output (50% duty cycle), quick turn-off times and current waveform recording with AT-Tx10 controller
- Intuitive touchscreen user interface, manual and automatic operation modes
- Real-time parameters monitoring, operator notifications and fault detection
- Build-in safety features - reverse polarity, line break detection, emergency stop, etc.
- GPS and cable synchronization options
- Portable, lightweight

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## TECHNICAL SPECIFICATIONS

### AT-3000 CURRENT SOURCE:

|                                      |   |
|--------------------------------------|---|
| <b>SUPPORTED METHODS:</b>            | TDEM (TEM) - FASTEM, MULTEM, LoTEM, TDIP  |
| <b>MAXIMUM POWER OUTPUT:</b>         | 3kW   |
| <b>MAXIMUM OUTPUT VOLTAGE</b>        | 150V  |
| <b>MAXIMUM OUTPUT CURRENT:</b>       | 40A   |
| <b>POWER SUPPLY:</b>                 | 12V-150V external battery, BAT-60 battery pack  |
| <b>OUTPUT SIGNAL WAVEFORM:</b>       | Bipolar square wave   |
| <b>DUTY CYCLE:</b>                   | 50% (with pause)  |
| <b>OUTPUT FREQUENCIES (60Hz):</b>    | 30, 15, 6, 3, 1.5, 0.75, 0.375, 0.3, 0.1875, 0.15 Hz  |
| <b>OUTPUT FREQUENCIES (50Hz):</b>    | 25, 12.5, 5, 2.5, 1.25, 0.625, 0.3125, 0.25, 0.15625, 0.125 Hz  |
| <b>TRANSMITTER LOOPS (STANDARD):</b> | 50 x 50m, 100 x 100m, 200 x 200m, 400 x 400m - flexible configuration with quick-mate insulated connectors allows robust construction of various size Tx loops. Custom sizes are available upon request |
| <b>TURN-OFF TIME:</b>                | 5 - 50µsec depending on loop size and output current  |
| <b>DAMPING OPTIONS:</b>              | 6 user selectable   |
| <b>METERS:</b>                       | Input voltage meter (digital), current meter (digital)  |
| <b>INDICATORS:</b>                   | Power On/Off, Tx active, output polarity, high temperature, faults  |
| <b>SAFETY FEATURES:</b>              | Short circuit, line break, over current, emergency stop, high temperature, visual and audible fault indicators, insulated high power connectors   |
| <b>DISPLAY:</b>                      | 2 x 16 character LCD  |
| <b>USER INTERFACE:</b>               | AT-Tx10 controller with intuitive GUI, touchscreen  |
| <b>OPERATION MODES:</b>              | Manual, automatic   |
| <b>OPERATING TEMPERATURE RANGE:</b>  | -40 to +50C   |
| <b>CASE:</b>                         | Rugged, dust-moisture protective, all-season  |
| <b>DIMENSIONS:</b>                   | 49 x 39 x 23 cm   |
| <b>WEIGHT:</b>                       | 12 kg   |

### AT-Tx10 CURRENT CONTROLLER:

|                                     |   |
|-------------------------------------|---|
| <b>CURRENT WAVEFORM RECORDING:</b>  | 1 Channel   |
| <b>ADC:</b>                         | 18 bit  |
| <b>SAMPLING RATE:</b>               | 32kHz   |
| <b>DATA TRANSFER MODES:</b>         | SD card   |
| <b>DATA STORAGE CAPACITY:</b>       | 8Gb standard, expandable to 128Gb                 |
| <b>POWER SUPPLY:</b>                | 12V external battery                              |
| <b>SYNCHRONIZATION:</b>             | GPS, crystal, cable                               |
| <b>ACCURACY OF SYNCHRONIZATION:</b> | $\pm 1 \times 10^{-6}$                            |
| <b>DISPLAY:</b>                     | 7", 800 x 480 sunlight readable color touchscreen |
| <b>USER INTERFACE:</b>              | Intuitive GUI                                     |
| <b>CASE:</b>                        | Rugged, dust-moisture protective, all-season      |
| <b>DIMENSIONS:</b>                  | 34 x 30 x 15 cm                                   |
| <b>WEIGHT:</b>                      | 3.5 kg  |

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