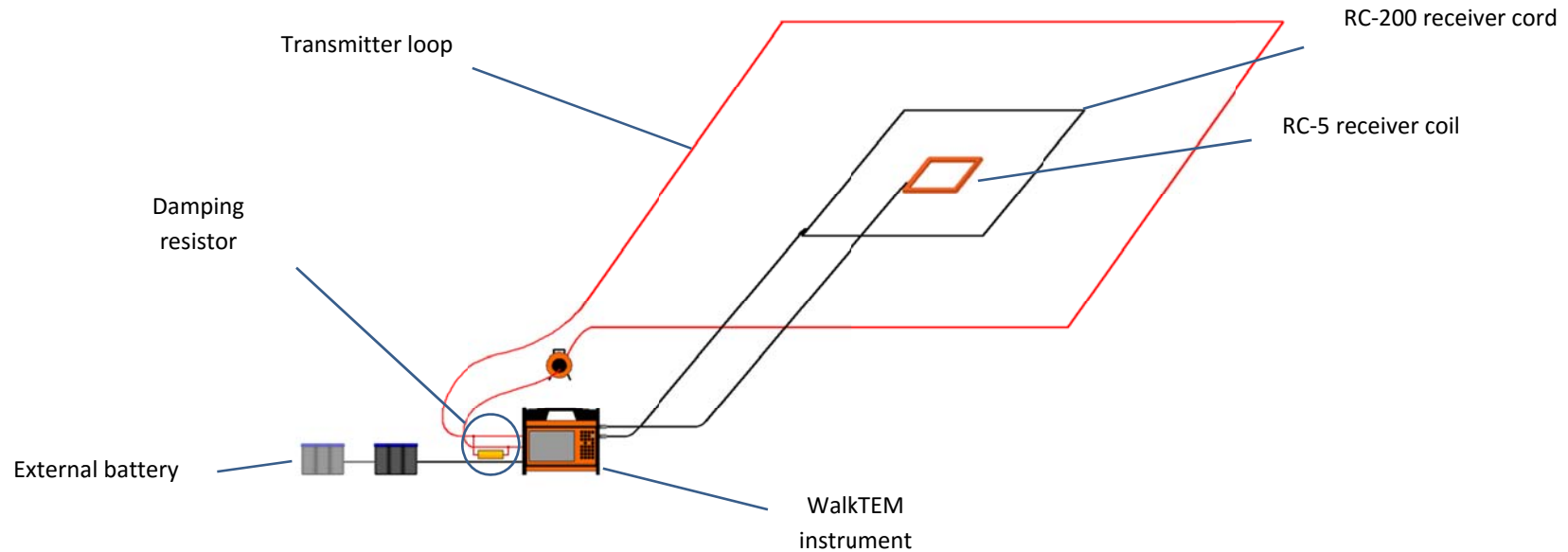


ABEM

WalkTEM – System description



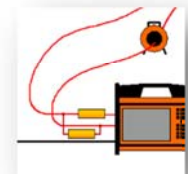
System layout description

The basic system configuration consists of a transmitter loop, one or two receiver antennas, an external battery and suitable serial and damping resistors together with the instrument itself. The larger transmitter loops are divided on several reels for convenience.

System can operate with two receiver antennas simultaneously. When measuring with a larger transmitter loop, it is necessary to extend the antenna lead-ins with the supplied extension cable.

A resistor, called serial resistor, can optionally be connected in serial with the transmitter loop and a damping resistor is connected in parallel (outside of the serial resistor). Suitable resistors are supplied with each transmitter loop size.

Picture shows how an optional serial resistor is connected.



ABEM

Data collection

WalkTEM operates with dual moment, which means running with full power as well as reduced power in an alternating sequence. This permits data to be collected from both shallow depths as well as greater depths. A noise measurement (no transmitted current) is also performed in the sequence, which is used during post processing. The unique acquisition technology allows WalkTEM to accurately resolve subtle changes in geology in fine detail with excellent depth penetration.

During measurement data is sampled with 1 MHz and up to 200 gates can be configured individually by a measuring script. The high dynamic range (140 dB instantly) corresponds to an efficient resolution of approximately 28 bits, and system span in the area of 170 dB taking in account available gain configurations.

All data, together with GPS information, is stored into a database which is exported for post processing. Data is interpreted with the PC based SiTEM/Semdi suite.

Output power and sounding depth

It is always recommended to use external batteries when transmitting current into the transmitter loop. Using sufficient external power the transmitter can output 15 A. Maximum input voltage of 34 V permits two 12 V external batteries to be connected in serial, thus increasing the outputted power. This results in deeper soundings.

Instrument comprises dual built-in batteries that feed the transmitter and receiver separately and both batteries are charged by their separate integrated chargers when connected an external power supply.

High level of integration

Besides both a transmitter and receiver, the WalkTEM instrument also has a built-in PC, which allows for evaluation and processing on-site where the high resolution color and sunlight-viewable monitor makes operation smooth and intuitive. The system is cased in a rugged aluminium case that meets IEC IP 66, making it suitable for demanding field work under rough field conditions.