



## Applications:

- The patent pending Swift dual mode automatic multi-electrode system can be used in dual mode or single mode for resistivity and resistivity/IP surveys.
- The Swift system can be programmed by the user to perform any type of resistivity survey.
- The Swift electrode addresses can easily be reprogrammed in the field.
- Measurement procedure is simple. First set out a number of electrodes at even intervals, connect the Sting/Swift system, erase the memory, enter the electrode interval into the memory, run a contact resistance test and press the MEA-key to start the measurement.
- The Sting/Swift system is used for resistivity and IP imaging in applications such as groundwater exploration, geotechnical investigations, horizontal drilling, mapping of pollution plumes, cavity detection, archeological and environmental work etc.

# SWIFT™ DUAL MODE (PATENT PENDING) ELECTRODES FOR SUPERSTING™

## AUTOMATIC SMART ELECTRODE SYSTEM

The Swift Dual Mode smart electrode system for SuperSting is especially designed for efficient acquisition of resistivity data when performing time consuming surveys like 3D resistivity imaging surveys or bore hole to bore hole surveys. The SuperSting is an eight channel instrument and can therefore record data up to eight times faster than a single channel instrument.

The system also features built in roll-along routines for unlimited survey profile length and selectable electrode interval without having to reload new command files.

A complete system consists of a number of electrode switches (smart electrodes) placed on stainless steel electrode stakes and connected by a multi-lead cable to the SuperSting R8 IP.

The switches are capable of connecting any of the A, B, P<sub>1</sub>, P<sub>2</sub>, P<sub>3</sub>, P<sub>4</sub>, P<sub>5</sub>, P<sub>6</sub>, P<sub>7</sub>, P<sub>8</sub>, P<sub>9</sub> electrodes to the SuperSting.

The electrodes can be used in "dual mode" or "single mode". For regular resistivity work each stainless steel electrode is both current and potential electrode (single mode). However, for IP measurements the electrodes also allows an automatic measurement to be performed using stainless steel stakes when the electrode is a current electrode and automatically switch to a non-polarizable electrode, placed near the stainless steel stake, for the potential measurement (dual mode). When high resolution IP data is required this is the preferred method to perform an automatic IP survey. However, if the highest resolution IP data is not required the Dual Mode function can be disabled so that both current and potential are measured through the stainless steel stake.

The Swift system is controlled directly by the SuperSting R8 IP multi-channel memory resistivity/IP meter. The SuperSting can automatically run a complete dipole-dipole survey or any customer programmed array (i.e. Schlumberger, Wenner, pole-pole, pole-dipole, square array etc.) Since the SuperSting can be programmed to perform any electrode array measurement, there is no need to bring a computer to the field. However, optionally a computer can be connected to the SuperSting.

Measurement procedure is simple. Set out a number of electrodes at even intervals and connect the SuperSting, open a data file, select an appropriate command file, enter the electrode interval, run a contact resistance test and then press the MEA-key to start the automatic survey.

## TECHNICAL SPECIFICATION

<b>Smart electrode dimensions</b>	Ø34x145 mm (Ø1.3"x5.7")
<b>case</b>	Stainless steel
<b>weight</b>	0.25 kg (9 oz)
<b>Cable diameter</b>	12 mm (0.5")
<b>Number of electrodes</b>	Virtually unlimited amount (theoretically over 65000 electrodes can be addressed)
<b>Electrode control</b>	Each smart electrode is individually addressable and can be A, B, P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>4</sub> , P <sub>5</sub> , P <sub>6</sub> , P <sub>7</sub> , P <sub>8</sub> or P <sub>9</sub> at any time
<b>Electrode addresses</b>	The electrode addresses can easily be re-programmed by software
<b>Electrode response time</b>	33 ms/switch
<b>Array type</b>	Any array type can be programmed by the user

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