



# Digital MEMS Inclinometer Spiral Sensor

**MEMS**  
TILT & INCLINATION  
SERIES**rst**  
INSTRUMENTS**GEOSENSE**Official RST distributor in  
Europe & MENAGeotechnical Centre  
Rougham Industrial Estate  
Rougham, Bury St Edmunds  
Suffolk IP30 9ND  
ENGLAND  
Telephone: +44(0)1359 271167  
Facsimile: +44(0)1359 271168  
Geosense is a division of  
Marton Geotechnical Services Ltd

info@mgsgeosense.co.uk

www.mgsgeosense.co.uk

ISO 9001:2000  
REGISTERED QUALITY SYSTEM

The RST Digital MEMS Inclinometer Spiral Sensor is used to determine down-hole helical deformation of installed inclinometer casing. Installed casing spiral is a function of the manufacturing process, casing coupling, and installation technique.

Best casing installation practice requires that the casing be installed with the correct azimuth from the start and throughout the installation, with no torque applied either intentionally or otherwise during the installation. Such carefully installed RST inclinometer casing would typically maintain groove azimuth to within a few degrees over 30 meters. However, for very deep installations, or installations where twist due to installation problems is suspected, the Digital MEMS Inclinometer Spiral Sensor permits measurement of the installed groove azimuth down-hole.

Operation is similar to the RST Digital Inclinometer, using the same cable, reel, and hand-held readout. It is only necessary to read one data set; no 180 degree second reading set is required. Typically this measurement is only performed once in the life of the hole, as the casing is torsionally restrained by the backfill, typically grout. RST Inclinalysis™ Inclinometer Software processes the resulting spiral data set.

The Digital Inclinometer Spiral Sensor is supplied in a robust carrying case.

## specifications

ITEM	DESCRIPTION
Material	Stainless Steel
Weight	1 kg
Overall Length	570 mm
Gauge Length	400 mm
Accuracy	±0.25% F.S.
Resolution	0.01°
Compatible Casing Sizes	70 mm (2.75 in.) and 85 mm (3.34 in.)

## control cable

As spiral surveys are typically performed in deep boreholes, the lightweight Kevlar® strain relief employed in RST cable, eases operation in comparison to a heavy stainless strain relief cable.

## ordering info

ITEM	PART #
Digital Inclinometer Spiral Probe	IC32705

## applications

Determining spiral deformation of inclinometer casing installed in very deep boreholes.

## features

“Hot swap” capability with RST’s Digital Inclinometer System - simply connect the probe to the reel’s connector and prepare for spiral readings on the spot.

No additional software required - Inclinalysis™ Software used for RST’s Digital Inclinometer System doubles as the method of processing spiral data.

Compact and lightweight design ensures spiral surveys in all casing orientations - unlike bulky traditional probes.

The use of an inertial sensor to measure the groove azimuth variation eliminates errors due to:

- sensor offset
- wheel/groove clearance
- friction
- magnetic declination

