



» inclinometer casing | inclinometer systems | tilt meters & sensors

# Probe Style In-place MEMS Digital Bus Inclinometer

**MEMS**  
TILT & INCLINATION  
SERIES



**RST Instruments Ltd.**

11545 Kingston St.,  
Maple Ridge, BC  
Canada V2X 0Z5

Telephone: 604 540 1100  
Facsimile: 604 540 1005  
Toll Free: 1 800 665 5599

info@rstinstruments.com

www.rstinstruments.com

**applications**

Monitoring local tilt  
in active boreholes.

**features**

Tracking equal to  
probe inclinometer.

24 A/D in sensors.

High resolution and stability.

On board electronics.

Optional single cable  
digital BUS system.

Highly cost effective  
per sensor point.

Removable.

High precision, wheeled probe.

Easily adaptable to datalogging.

**ordering info:  
collar hangers**

DIGITAL BUS SYSTEM	PART #
Hanger & Wheel Kellums 70 mm casing	IC7837
Hanger & Wheel Kellums 85 mm casing	IC7838

**ordering info:  
readouts**

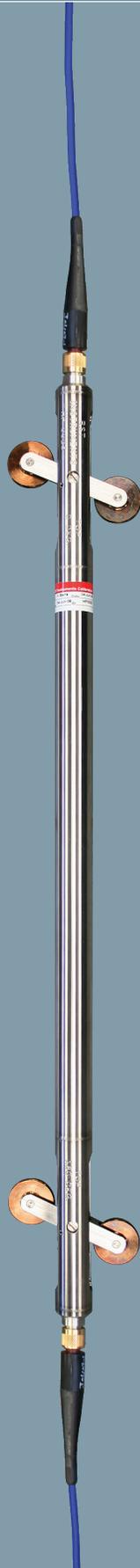
**READOUTS & DATALOGGERS**

flexDAQ Dataloggers

WORKS WITH



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Standard in-place inclinometers may not be able to track in casings deformed by active ground movement. The Probe Style In-place MEMS Digital Bus Inclinometer has tracking equal to the best standard probe inclinometers.

The Probe Style In-place MEMS Digital Bus Inclinometer is designed to remotely monitor, and continuously measure, underground vertical movement as a result of construction and excavation and any settlement that may occur around tunnels, dams, embankments and landfills.

In-place inclinometers consist of one or more MEMS inclinometer sensors housed in a 25 mm (1.0 in.) diameter, water-tight, stainless steel enclosure. Each sensor is separated from the next by Kevlar® cable assemblies. Cable lengths can be varied so sensors can be concentrated in areas of expected movement.

Wheel assemblies are sized to fit both 70 mm (2.75 in.) and 85 mm (3.34 in.) O.D. inclinometer casing. As movement occurs and the inclinometer casing deforms, each sensor can be automatically monitored and can be read at a remote readout location. If necessary, an alarm can be triggered when movement reaches a preset critical rate or magnitude.

**specs: in-place  
digital bus inclinometer**

DESCRIPTION	SPECIFICATION
<b>ELECTRICAL</b>	
Range	±15° (other ranges upon request)
Resolution	±2 arc sec. (±0.0006°) (0.01 mm/m)
Non-linearity	±0.0125% F.S. (±0.002°) (0.03 mm/m)
Repeatability	±0.0125% F.S. (±0.002°) (0.03 mm/m)
Sensor	MEMS (Micro-Electro-Mechanical Systems) Accelerometer
Excitation	8 - 15V DC
Operating Temp.	-40 to 85°C (-40 to 185°F)
<b>MECHANICAL</b>	
Gauge Length	0.5 m or 24 in.
Housing Diameter	25.0 mm (1.0 in.) (sensor)
Casing Size	For 70 mm (2.75 in.) and 85 mm (3.34 in.)
Wheel Assembly	Standard inclinometer

**ordering info**

DIGITAL BUS CABLE SYSTEM	Other lengths upon request	PART #
0.5 m MEMS IPI digital bus sensor: Uniaxial		IC7801
0.5 m MEMS IPI digital bus sensor: Biaxial		IC7802
24 in. MEMS IPI digital bus sensor: Uniaxial		IC7811
24 in. MEMS IPI digital bus sensor: Biaxial		IC7812
Top cable: 1 connector/bare leads (specify length)		IC7820
Interprobe cable: 2 connectors (specify length from wheel center to wheel center)		IC7824
Bottom Sealing Connector		IC7828

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IC80034A