Monitor with Confidence

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RST Instruments Ltd.
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ISO 9001

PRODUCT CATEGORY:
READOUTS + DATA LOGGERS

Digital Tilt Loggers

RST's family of Digital Tilt Loggers are low cost, battery powered data loggers and tilt meter in a single, compact unit. They measure tilt in either one (uniaxial) or two (biaxial) perpendicular axes in the plane of the base and are intended to be permanently installed to provide long term observation with maximum resolution and sensitivity.

The DTL201B (uniaxial) and DTL202B (biaxial) Digital Tilt Loggers are designed for either manual monitoring or remote data acquisition. The optional radio antenna allows them to be incorporated into an RSTAR Array Radio System for automated, remote data acquisition. The optional radio antenna can also be used for enabling the DTL201B and DTL202B for RST's DT LINK which allows wireless collection of data logger data in hard to access areas.

The IC6560 (uniaxial) and IC6660 (biaxial) Digital Tilt Loggers possess the same capabilities of the DTL201B and DTL202B, but have no radio options.

RST's Digital Tilt Loggers consists of one or two MEMS tilt sensors, a battery supply, non-volatile memory, USB cable and Windows® host software. The electronics are housed in a NEMA 4X (IP-65) enclosure for environmental protection, and is typically bolted to the structure via mounting plate or bracket.

An optional tilt beam mounted version is also available.

DT SERIES
DATA LOGGERS

DTL201B Uniaxial Tilt Logger

DTL202B Biaxial Tilt Logger

rstar ARRAY RADIO SERIES

DT LINK WIRELESS

As shown above, the DTL201B (uniaxial) and the DTL202B (biaxial) Digital Tilt Loggers can be equipped with an optional radio antenna to incorporate it into an RSTAR or DT LINK wireless system. RST's RSTAR system uses wireless technology to provide automated data acquisition and DT LINK allows wireless collection of data logger data in hard to access areas. Both units can be installed with mounting brackets similar to the IC6560 and IC6660 non-radio units shown below.

The IC6560 (uniaxial) and IC6660 (biaxial) have no radio option and are typically installed with a Mounting Bracket.

> APPLICATIONS

Monitor and log tilt data from retaining and building walls.	
Tilt of concrete dams.	Structural load testing.
Landslide monitoring.	Observation of benches and berms in open pit mines.
Applications where the failure mode is expected to have a rotational component.	Building safety along adjacent excavations.
Bridge pier monitoring.	Ground subsidence.

> FEATURES

HARDWARE:

Data logging and tilt monitoring capabilities in a single, compact unit.	
High accuracy and repeatability.	4MB memory.
Horizontal or vertical applications.	Uniaxial or biaxial sensors available.
Battery powered for remote sites.	-40°C to 60°C (-40°F to 140°F) operating range.
100 year memory backup.	Weather-proof NEMA 4X (IP65) enclosure.
Robust construction.	16 bit analog/digital converter.

SOFTWARE:

User friendly Windows® host software included at no additional cost.	Compatible with most spreadsheet software.
Data stores in CSV format, and opens in Microsoft® Excel.	

> BENEFITS

✓ **Increase Productivity**	✓ **Upgradable**
✓ **High Reliability**	✓ **Custom Options**
✓ **High Accuracy**	✓ **Cost Effective**

MEMS TILT & INCLINATION SERIES

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SPECIFICATIONS + ORDERING

SPECIFICATIONS

GENERAL	
ITEM	**SPECIFICATION**
Range	±15°
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
Power Source	Lithium 'C' or 'D' cell battery
Battery Life	> 1-2 years
Communication	DTL201B (uniaxial) and DTL202B (biaxial): - USB Type B connector - Optional radio for RSTAR and/or DT LINK IC6560 (uniaxial) and IC6660 (biaxial): - USB Type B connector
Operating Temp.	-40 to 60°C (-40 to 140°F)
Dimensions	DTL201B (uniaxial) and DTL202B (biaxial): 120 W x 120 L x 100 H mm IC6560 (uniaxial) and IC6660 (biaxial): 100 W x 100 L x 82 H mm
MEMORY	
Memory Size	4MB
Data Transfer	2,300 data points per second
Interval Mode	10 seconds to 1 day
Variable Rate Mode	16 user programmable sampling rates
Time Format	Month / day / year Hour / minute / second
Memory Full Behaviour	"Wrap around" or "fill & stop" option

ORDERING

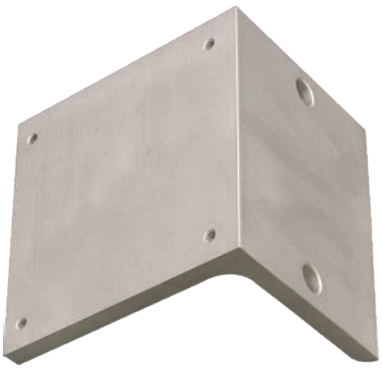
DTL201B AND DTL202B (RADIO OPTION)

ITEM	PART #
UNIAXIAL	
Uniaxial Tilt Logger	DTL201B
BIAXIAL	
Biaxial Tilt Logger	DTL202B
MOUNTING	
Digital Tilt Logger Horizontal Mounting Plate	IC6510
Digital Tilt Logger Vertical Mounting Bracket	IC6512
READOUT	
Ultra-Rugged Field PC2	IC32000-AR2-RSTS
OPTIONS	
RSTAR L900 - automated wireless data collection	
DT LINK - wireless data collection	
Tilt Beam	

IC6560 AND IC6660 (NO RADIO)

ITEM	PART #
UNIAXIAL	
Uniaxial Tilt Logger	IC6560
BIAXIAL	
Biaxial Tilt Logger	IC6660
MOUNTING	
Digital Tilt Logger Horizontal Mounting Plate	IC6568
Digital Tilt Logger Vertical Mounting Bracket	IC6569
READOUT	
Ultra-Rugged Field PC2	IC32000-AR2-RSTS
OPTIONS	
Tilt Beam	

Vertical Mounting Plate



A side profile of a DTL202B (biaxial) Digital Logger shown mounted on a Vertical Mounting Plate.

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