Monitor with Confidence

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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.

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.

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.

MEMS TILT & INCLINATION SERIES

## > 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** |

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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 | - USB Type B connector<br>- Optional radio for RSTAR and/or DT LINK |
| Operating Temp. | -40 to 60°C (-40 to 140°F) |
| Dimensions | 120 x 120 x 100 mm (4.72 x 4.72 x 3.94 in.) |
| **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

| 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 ANATEL | |
| DT LINK - wireless data collection | |

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

Vertical Mounting Plate

CE