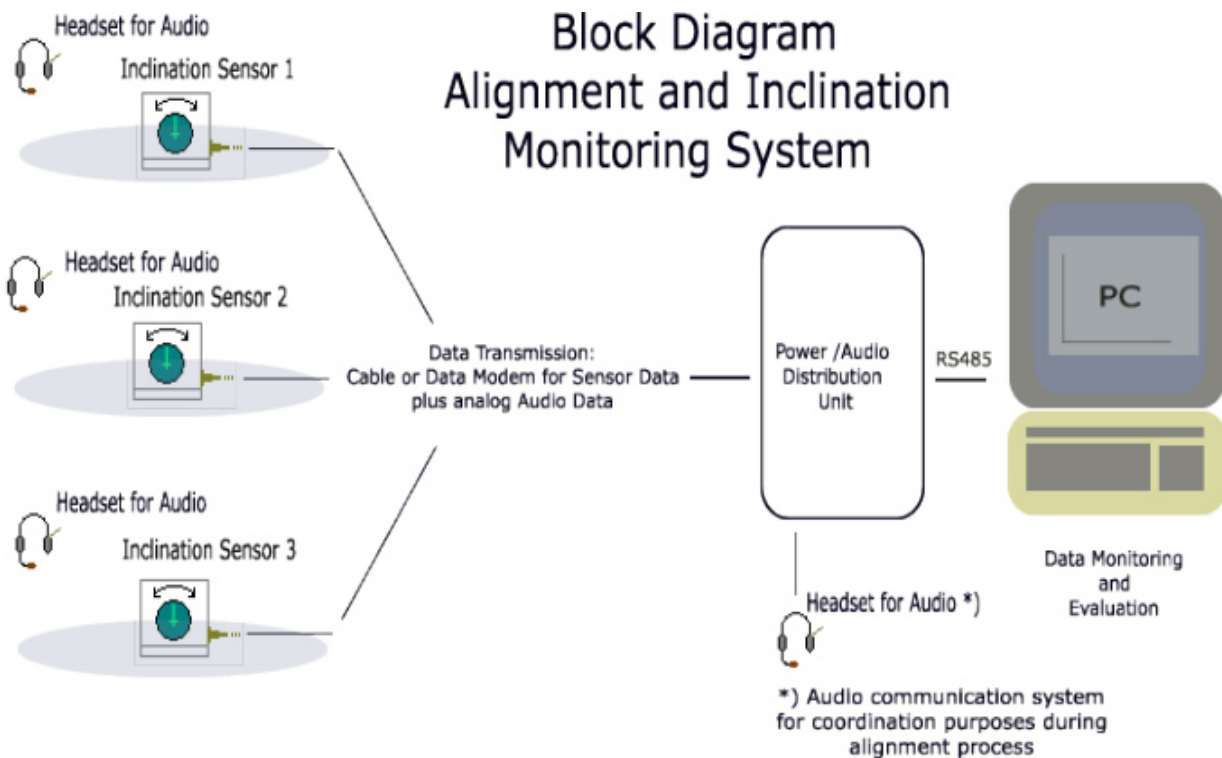




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Alignment And Inclination Monitoring System XXX



System Composition

- three mono-axis inclination sensor units
- a telemetry unit or a cable set (100m length)
- a data logging unit (Laptop)
- customized software for data evaluation
- Audio communication system for coordinated measurements

Performance Data

- Resolution of a single inclination sensor is better than 0.001 deg
- Overall precision better than 0.01 deg
- selectable output of measured data: table, graphics, ASCII
- contemporary measurement of all connected sensors
- incorporated auto-calibration procedure



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Brief function description

A single inclination sensor unit contains a capacitive sensor with a resolution better than 0.001 degree. The output of the sensor is digitalized by a 16 bit A/D converter, then conditioned, filtered and processed by a microprocessor. The data transfer to the main control unit (Laptop) is performed in multiplex mode by means of serial RS485 communication lines. Scanning of all connected sensors is performed in less than 50ms, which guarantees an instant, contemporary measurement.

As an option – for better measurement coordination - we implement an analog audio cable network, which eases communication between the various units.

The evaluation software is developed to work with one, two or three sensor units and offers different modes of data visualization, elaboration and storage. In addition simulation mode is offered for familiarization and test.

An auto-calibration mode in order to nullify sensor errors is also incorporated. Measurement results are visualized in tables, graphically or exported in ASCII format for further applications.

The screenshot displays the 'Operation' page of the software. It features several sections:

- Visualizzazione Dati Sensori:** Three meter scaling graphs for three sensors. Below them are fields for 'Sen1', 'Sen2', and 'Sen3' with values: +00°04'47", +00°01'11", and +00°00'36" respectively. Comparison fields show differences: Sen2-Sen1 (-00°03'36"), Sen3-Sen1 (-00°04'11"), and Sen2-Sen3 (+00°00'36").
- Riferimento:** Radio buttons for 'Sen1', 'Sen2', and 'Sen3', with 'Sen1' selected.
- Intervallo di misura:** Start: 0, Interval: 30, 12 Intervalli.
- Modo di operazione...:** Radio buttons for 'Data reception stopped' (selected) and 'Data reception started'.
- Data logging...:** 'Start...', 'Stop...', and 'Valida...' buttons.
- Prossima inserzione tabella:** A dropdown menu set to '6'.
- Visualizzazione dati registrati...:** A table with columns: NUM, DEG, Sen 1, Sen 2, Sen 3, Sen 2-1, Sen 3-1, Sen 2-3. The table contains 5 rows of data.

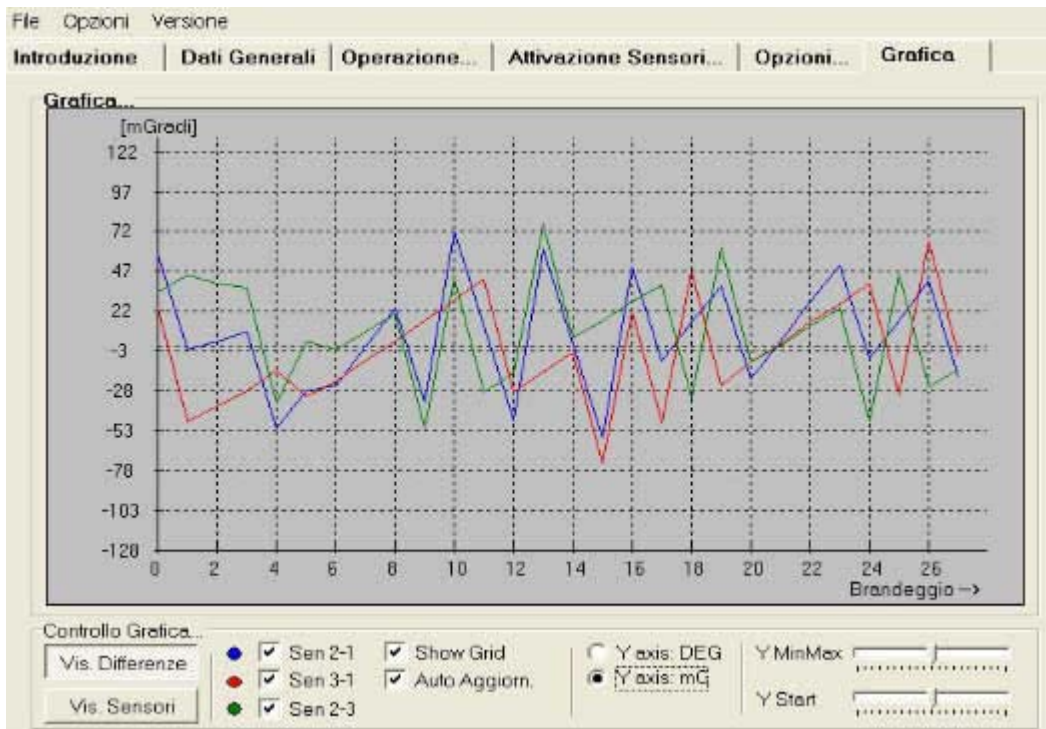
NUM	DEG	Sen 1	Sen 2	Sen 3	Sen 2-1	Sen 3-1	Sen 2-3
1		+00°04'08"	+00°01'44"	+00°01'44"	-00°02'23"	-00°02'23"	+00°00'00"
2	30	+00°04'47"	+00°01'11"	+00°00'36"	-00°03'36"	-00°04'11"	+00°00'36"
3	60	+00°04'47"	+00°01'11"	+00°00'36"	-00°03'36"	-00°04'11"	+00°00'36"
4	90	+00°04'47"	+00°01'11"	+00°00'36"	-00°03'36"	-00°04'11"	+00°00'36"
5	120	+00°04'47"	+00°01'11"	+00°00'36"	-00°03'36"	-00°04'11"	+00°00'36"

Above a screenshot of the 'Operation' page of the Italian version of the evaluation software. Data is visualized in thousands of a degree or in DEG/Min/Sec format as shown in the picture.



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Below a screenshot of the graphic page from the Italian version of the elaboration program.



Due to its versatility the Inclinometer System XXX performs equally in comparison mode

- one reference basement and either one or two basements to compare

or in inclination monitoring mode

- one, two or three structures for inclination monitoring.

The system is expandable to operate more sensors than three and the software is tailored to client needs. Please apply to us.