



## **DATA 500**

## **ACQUISITION SYSTEM**

The DaTa500 acquisition system is the most innovative solution for the detection of electrical signals from a wide range of sensors.

The software interface enables the user to view, save and analyse any kind of data, both in real time and after acquisition in the field.

Thanks to its unlimited configuration options and ability to monitor multiple sensors, the DaTa500 system provides the best support for destructive and non-destructive testing applications for civil engineering, and can be used both in the field and in the laboratory.

The system has 8 simultaneous 24-bit channels and 2 CANBUS channels. The channels are independent, so that different sensors can be hooked up simultaneously, thus providing a complete, detailed overview of the test situation.

The system is USB 2.0 compatible.

The kit includes software which enables a vast range of configurations, sensor settings and analysis options, and an IP67 carry case for use in even the most challenging conditions.



## ■ ANALYSIS SOFTWARE - DEWESOFT

The software license is linked to the client's hardware, so that it can be installed in multiple PC's.

The software configures and calibrates all types of sensor in a simple, intuitive manner.

The display screens can be configured to suit the test, and configurations can be saved for future use.

The data are acquired and displayed in real time.

The logged data can be exported to any format for analysis using the most popular applications.



## FIELDS OF APPLICATION \*

- Static load testing of floor slabs and decks
- Load testing of foundation piles
- Dynamic characterisation of structures
- Dynamic testing
- Extensometry
- Displacements and deformations
- Single/dual flat jacks

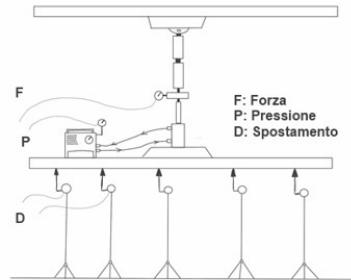
\* For the proper use of the equipment, [www.drcitalia.net](http://www.drcitalia.net) - Download Area section WebHelp Area



## EXAMPLES OF FIELDS OF APPLICATION

### Load testing

- Decks
- Floor slabs
- Foundations
- Load testing of plates

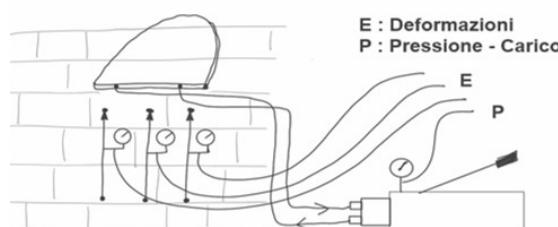


### Sensors

- Displacement transducers (potentiometers)
- LVDT's
- Load cells
- Pressure transducers
- Temperature and humidity sensors

### Flat Jacks/ Masonry

- Single jack
- Double jack
- Shear testing of masonry

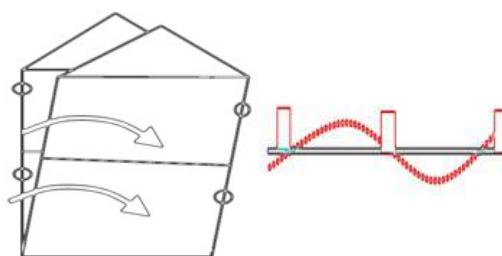


### Sensors

- Displacement transducers (potentiometers)
- LVDT's
- Pressure transducers

### Vibrations and Dynamics

- Dynamic testing of bridges and structures
- Data acquisition for the dynamic identification of civil engineering works
- Chain tension monitoring
- Measurement of vibration in civil engineering structures due to vehicle traffic
- Measurement of vibration due to machinery

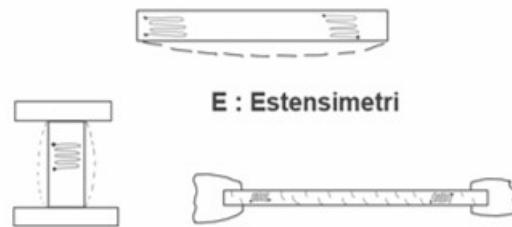


### Sensors

- ICP accelerometers
- IEPE accelerometers
- MEMS accelerometers
- Signal conditioners
- Signal amplifiers
- Anemometers

### Extensometry

The acquisition of sensors, such as strain gauges (bridge, half bridge and a quarter of bridge) allows to use the DaTa500 acquisition system also for laboratory testing on specimens and samples



### Sensors

STRAIN GAUGES to:

- a quarter of bridge
- half bridge
- full bridge
- thermocouples

### Failure of ceiling slabs

Verification of failures in hollow core concrete ceiling slabs



### Sensors

- Microphones
- Accelerometers
- Displacement transducers (potentiometers)
- LVDT's

## TECHNICAL SPECIFICATIONS



### GENERAL TECHNICAL DATA

NUMBER OF CHANNELS	8 simultaneous channels
MEASURABLE SIGNALS	Tension, Full bridge (IEPE, Charge, Thermocouples e RTD /MSI adapter
RESOLUTION	24 bit
ADC TYPE	Sigma - Delta
ACQUISITION FREQUENCY	10 to 200 000 Hz 204.8 kS/s
INPUT RANGE	Voltage $\pm 0,01$ V, $\pm 0,1$ V, $\pm 1$ V, $\pm 10$ V; Voltage via MSI adapter; Full bridge $\pm 10$ mV/V, $\pm 100$ mV/V, $\pm 1000$ mV/V; Half bridge ; IEPE—MSI adapter $\pm 0,1$ V, $\pm 1$ V, $\pm 10$ ; Thermocouples (-200°C to 1000°C and from 0 to 6.5kOhm)
DC ACCURACY	10V range: 0,1% of value, $\pm 1$ mV 1 V range: 0,1% of value, $\pm 0,5$ mV 100mV range: 0,1 of value, $\pm 0,1$ mV 10mV range: 0,1% of value, $\pm 0,1$ mV
TENSION SENSORS	$\pm 5$ V 0.1% @ 100mA, 12V@400mA for single channel
OVERLOAD PROTECTION	$\pm 0$ 70V

### WORK ENVIRONMENT

OPERATING TEMPERATURE	0 to 50 °C
STORAGE TEMPERATURE	-20 to 70 °C
RELATIVE HUMIDITY	10 to 90%

### CONSUMPTIONS

TYPICAL CONSUMPTION	5 W
MAXIMUM CONSUMPTION SENSORS	6 W

### SYSTEM REQUIREMENTS

INTERFACE	USB 2.0
HARDWARE SYSTEM	PC completo di software DEWEsoft

### PHYSICAL

DIMENSIONS	400 x 300 x 180mm
WEIGHT	7,500 kg

# ORDERING INFORMATION

## ARTICLE CODE 01.DRC.0141



### THE KIT INCLUDES:

- DaTa500 Acquisition system
- DEWEsoft Software
- USB mini cable
- Power supply 220 Volt
- IP67 rigid case

### PACKAGE

DIMENSIONS	420 x 300 x 180 mm
WEIGHT	7,900 Kg

### WARRANTY & MAINTENANCE

12  
months

DRC guarantees maintenance service at its center or at authorized centers.

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