

A1410 PULSAR

Transducers for crack monitoring,
Load Tests and flat jacks tests



The world-first **ultrasonic pulse velocity testing instrument** for couplant-free on-site. A compact, ergonomic and easy to handheld ultrasonic pulse velocity tester for **quality assessment of concrete compliant** with valid international standards.

The instrument is made of light-weight shockproof plastic and operates two drypoint-contact transducer arrays for through-transmitting up to 2 meters of concrete. A compact, ergonomic and easy to handheld ultrasonic pulse velocity tester for quality assessment of concrete compliant with valid international standards.

The instrument is made of **light-weight shockproof plastic** and operates two dry-point-contact transducer arrays for through-transmitting up to 2 meters of concrete. Wear resistant wearproof ceramic tips of the transducers are insensitive to the surface condition and allow comfortable and robust operation on site by arbitrary surface condition.

Hence, there is no need to apply coupling gel to prepare object surface for testing; the device possesses non-volatile memory allowing storing of 50,000 measurements (the results can be grouped) and **USB port for transferring** measured data to the external PC; the instrument is suitable for compressive strength evaluation of concrete.

The evaluation is based on correlation of longitudinal **ultrasonic wave velocity** in concrete with its mechanical properties; Measurements are performed by thru-transmission of inspection object by means of two transducer arrays.

Further possible areas of application of A1410 are:

- Evaluation of the load-carrying ability of concrete backbones and posts;
- Evaluation of porosity and fissuring of concrete;
- Evaluation of anisotropy in composite materials;
- Evaluation of the concrete aging.

The A1410 PULSAR complies with following international standards.

The given technical specifications conform with the following international standards:

- DIN EN 12504 4;
- BS 1881: Part 203 : 1986;
- ASTM C597 16;
- IS 13311 1.

Caratteristiche tecniche:

Type	Array di 7 sonde DPC, disposizione a margherita
Transmitter pulse voltage	400 V
Operating frequency	50 kHz
Set delay range	μs 0 to 20;
Time shift	μs 0 to 500;
Adjustable range of the base size	mm 50 to 2500;
Maximum averaging factor	64
Automatic Gain Control (AGC)	Switchable:
Maximum thickness of the inspection object	2.5 m
Indication resolution of the propagation time of ultrasonic waves	μs 0,1
Indication resolution of the propagation velocity of ultrasonic waves	m/s 10
The measurement range of the time propagation of the longitudinal ultrasonic wave	μs 10 to 700;
The measurement range of the time propagation of the longitudinal ultrasonic wave	m/s 1000 to 15000;
Limits of the absolute permitted inaccuracy of the propagation time of ultrasonic waves, s, where t is the measured time value	μs ±(0.02·t+0.1)
Limits of the absolute permitted inaccuracy of the propagation velocity of ultrasonic waves, m/s, where c is the measured velocity value, m/s is the relative measurement inaccuracy of the base	± (0.02 + ε) * c + 10
Rated supply voltage;	3.3 V
Period of continuous operation with the display brightness 80%, temperature 25 degrees celsius	16 ore
Display	2,8", 320×240 pixel
Overall dimensions of the electronic unit	230 × 125 × 65 mm
Weight of the electronic unit	420 gr
Mean time between failures	hours 18,000
Regular service life	years 5

Accessories:

- Electronic unit of the Ultrasonic pulse velocity tester A1410;
- PulsarAntenna array M1001 0.05A0D25PL;
- EMO-LEMO single cable 3 m;
- Adapter 220 V – USB;
- Cable USB A – Micro B;
- Hard case;:
- CD with documentation;
- Warranty certificate;
- Operation Manual.

