Systel Instrumentaion Services Pvt. Ltd

ISO 9001-2008 Certified

CRACKMETERS

Model SIS -120 Crackmeter are used to measure movements across surface cracks or joints in structures, concrete or rock.

The Crackmeter incorporates vibrating wire sensor with the resonant frequency of vibration of a tensioned steel wire is proportional to the strain or tension in the wire. This fundamental relationship is utilized in a variety of configurations for the measurement of load.

The design contributes to the outstanding features and performances over conventional Vibrating Wire Crackmeter. The Model SIS -120 Vibrating Wire Crackmeter offers:

Unprecedented sensitivity
Long term stability and reliability
Isolation of the sensor from the effects of total stresses acting on the body of the Jointmeter/Crack meter
Robust and sturdy construction
Slim-line design

FEATURES:

Accurate, highly sensitive and reliable
In-built thermistor and gas discharge tube
Extremely stable for long term operations
Frequency output for transmission over long distances
Suitable for remote reading, scanning and datalogging
Stainless steel construction

TYPICAL APPLICATION:

The Crack meter is designed to measure:

Lifts in Dams
Fault movement in rock
Strata deformation
Crack separations
Separation of Shot Crete

DESCRIPTION:

Series SIS-120 offers the following:

Crackmeter SIS 120A - designed to measure movement in surface crack and joints
Displacement Transducer SIS 121 – designed for measuring linear displacement in Borehole Extensometer

Socket Assembly - facilitate assembly of Joint meter in concrete/masonry Dams.

Mounting Brackets - facilitate the use of joint Meter for crack measurement

OPERATION:

The Crackmeter transducer employs a shaft coupled by a spring, which is attached to heat treated high tensile strength steel wire. Movement of the shaft changes the tension in the spring and in the wire causing a corresponding change in its frequency of vibration. The wire is plucked by energizing the coil magnet so that it vibrates at its natural resonant frequency. The resonant frequency is proportional to the square root of the tension of the wire. A conventional readout unit can accurately measure the frequency of the wire. A microprocessor based readout unit can display the frequency as well as the value of the measured pressure directly in engineering units.

The Crackmeter are suitable for connection to data loggers for recording data in engineering units automatically at pre determined intervals. By the use of appropriate software, the data logger can present recorded data in desired formats, predict trends of variations and even generate alarms at pre-determined set points. The thermistor mounted in the Jointmeter and crackmeter enables simultaneous measurement of temperature. This allows any corrections to be made in the observed readings due to temperature changes. Crackmeter with lightning protection is available on request.

SPECIFICATION

Standard Ranges 12.5, 25, 50, 100, mm

Resolution 0.025% F.S.

Accuracy ±0.2% F.S.

Nonlinearity <0.5% F.S.

Temperature Range −20°C to +60°C

Diameter 16 mm (shaft)

Lengths 320, 340, 380, 550 mm (transducer)