

Vibrating Wire load cell – LCCK04

Vibrating Wire load cells are manufactured based on strain measurement of a hollow cylinder metallic annulus under applied load. An elastic material (i.e. Alloyed Aluminum) is instrumented by 3, 4 or 5 VW sensors arranged in axial direction. These sensors measure the axial strain and their average is used. If temperature change happens, thermal corrections are also applied. Knowing the deformability of the material, the strain can be translated into the stress and then to the force. Accurate laboratory calibrations provide the relation between applied force and load cell output. The load cell is designed to accommodate for off center loading.

The sensors are covered by a metallic ring to seal it from any ingress of water and to protect it from mechanical impacts during handling and installation. The central hole varies in a wide range making these instruments suitable for a wide variety of reinforcement load measurement applications.

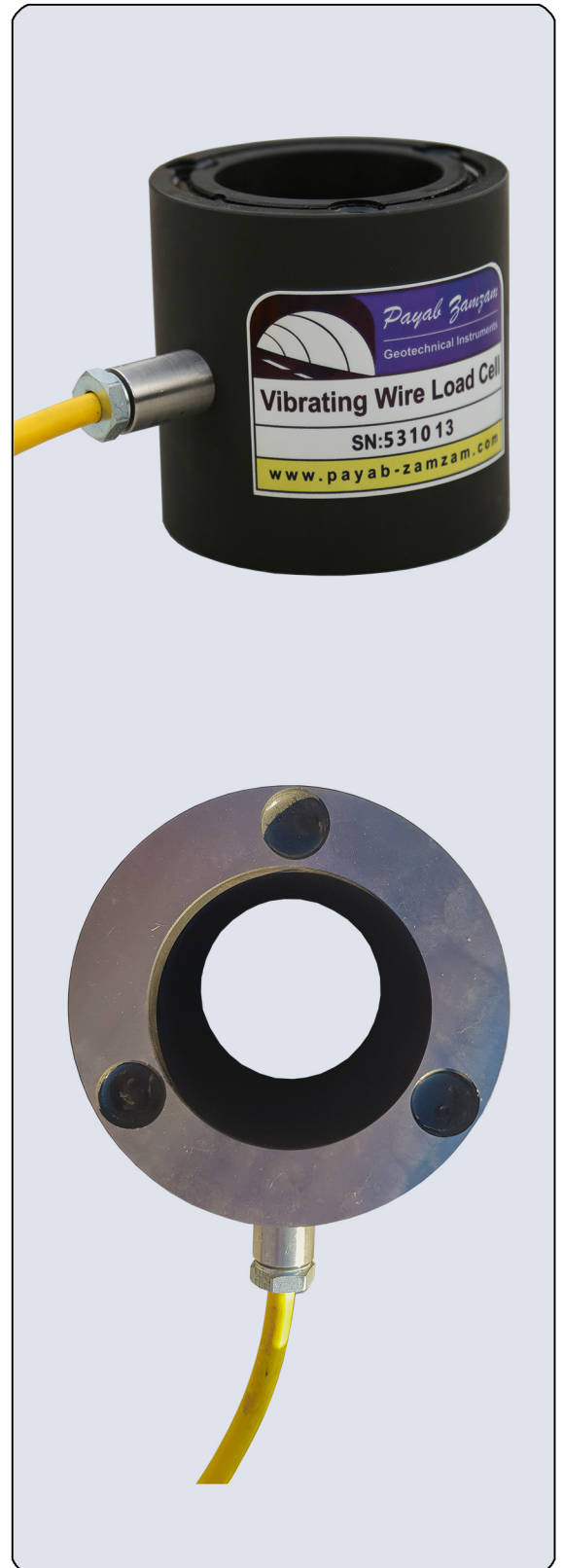
Application

- Some of the applications of this instrument are:
- Measuring load in rock bolts and cable bolt systems.
 - General load measurement as in the big scales.
 - Force measurement in pile tests.

Operation and Installation

Installation of electrical load cells are similar to the hydraulic type. For mounting on a reinforcement, it is important to prepare a flat bearing surface normal to the reinforcement axis. Thick side of the load cell is placed on the bearing area. A set of spherical seating plates are used on top of the cell to make sure the loading direction is perfectly normal to the load cell surface. The fastening nut is fixed on top of the assembly and is tightened to about 10% of the reinforcement working capacity to eliminate any slack in the system and bring the load cell into complete contact with the reinforcement.

Technical Spec	
Load capacity	10 – 1000 tons
Transducer type	Vibrating Wire
Accuracy	0.1 % FS
Temperature range	-20 to +80°C
Material	Alloyed Aluminum
Central hole	10-200 mm



Order information

LCCK04-AAA-BB-CC
 AAA: Capacity in tons
 BB: Central hole dimensions in cm
 CC: Cable length in meters