

ENCARDIO RITE



VIBRATING WIRE LOW PRESSURE SENSOR

Model EPP-60V

INTRODUCTION

The Encardio-rite vibrating wire model EPP-60V low pressure sensor is specially designed to measure low water pressure. The basic pressure sensor is conveniently designed to measure water level, and water pressure in boreholes. It provides significant quantitative data on ground water level, ground water pressure & its variations with time. Proper evaluation of water level helps in monitoring the behavior after construction & indicates potentially dangerous conditions that may adversely affect the stability of the structure and its foundation. It also provides basic data for design improvement that will promote safer and more economical design and construction.



OVERVIEW

The Encardio-rite pressure sensor incorporates the latest vibrating wire technology to provide remote digital readout of water level, water pressure in standpipes and bore holes. Pressure sensor is used for applications in which maximum hydrostatic head (height of water level above piezometer location) is less than 7 m over the sensor diaphragm. Sensor is essentially supplied with vented attached cable of specified length.

OPERATING PRINCIPLE

Encardio-rite pressure sensor basically consists of a magnetic, high tensile strength stretched wire, one end of which is anchored and the other end fixed to a diaphragm which deflects in some proportion to the applied pressure. Any deflection of the diaphragm changes the tension in the wire, thus affecting the resonant frequency of the vibrating wire.

The resonant frequency with which the wire vibrates can be accurately measured. Encardio-rite model EDI-51V VW readout logger or ESCL-10VT single channel data logger or EDAS-10 data acquisition system are available for monitoring pore pressure at site.

FEATURES

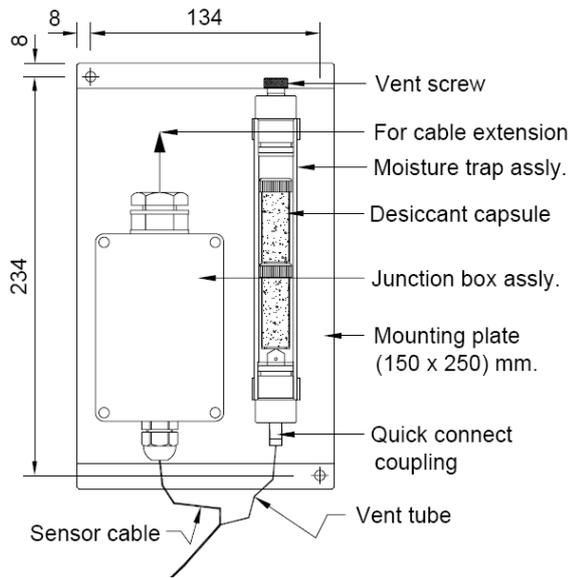
- ♦ Reliable, accurate, low cost, simple to read.
- ♦ Easy installation.
- ♦ Suitable for remote reading of ground water level, water pressure and settlement.
- ♦ Atmospheric pressure change does not affect reading.
- ♦ Very small time lag.
- ♦ Stainless steel construction.
- ♦ Thermistor provided for additional temperature measurement.
- ♦ Negative pressure measurement is possible.

APPLICATIONS

- ♦ Monitoring of ground water level.
- ♦ Monitoring of water pressure in standpipes and bore holes.
- ♦ Consolidation under storage.
- ♦ Monitoring & control of de-watering & drainage.

DESCRIPTION OF EQUIPMENT

The capsule and coil magnet assembly is housed in a stainless steel body with two small openings provided on the glass to metal seal. The sensor model EPP-60V is supplied with the required length of special model CS-1102 vented tubes cable attached. This shielded cable has two vent tubes running through it which connect the inside of the sensor to the outside atmosphere, thus ensuring that sensor reading is unaffected by any change in barometric pressure.



The open end of the vent tubes in the cable, terminate into a moisture trap assembly comprising of a terminal box and desiccant chamber at the top of the borehole thus preventing any moisture from migrating into the vent tube or the sensor.

The pressure sensor is individually temperature compensated making the requirement of a thermistor for temperature correction redundant. However a thermistor is provided for monitoring temperature.

Ceramic filter

Ceramic filter is provided for piezometric applications. Low air entry value ceramic filter of 40 micron porosity is provided. The filter can be taken out for saturation.

SPECIFICATIONS

Type	Vibrating wire
Range (MPa)	0.07, 0.035
Accuracy	± 0.2 % fs normal ± 0.1 % fs optional
Non linearity	± 0.5 % fs
Temperature limit	
Operational	-20 to 80°C
Compensated	0 to 80°C
Insulation resistance	Better than 500 M Ohm at 12 V
Over range limit	150 % of range
Thermistor	YSI 44005 or equivalent
Cable	CS-1102 vented cable 1 m long; specify
Dimension (φ x L)	30 x 160 mm

* All specifications are subject to change without prior notice.

ENCARDIO-RITE ELECTRONICS PVT. LTD.

A-7 Industrial Estate, Talkatora Road, Lucknow, UP-226011, India
 P +91 522 2661040, F +91 522 2662403; International: P +91 522 2661044
 Email: geotech@encardio.com
 www.encardio.com

INTERNATIONAL: UAE | QATAR | SAUDI ARABIA | BAHRAIN | GREECE | SINGAPORE | BHUTAN
 INDIA: LUCKNOW | DELHI | KOLKATA | MUMBAI | CHENNAI | BANGALORE | HYDERABAD | J&K

