

## ***ELECTROLEVEL* APPLICATIONS IN THE OIL INDUSTRY**

The *ELECTROLEVEL* has many uses in all fields of industry, the following are some of the main applications in the oil sector:-

### **1. Concrete Oil Rig Construction Monitor.**

During the construction of concrete rigs the base raft must be maintained horizontal whilst the concrete is poured, forming the central column and other structures. The *ELECTROLEVEL* provides a visual indication and with suitable logic circuits controls pumps and valves to correct the attitude.

### **2. Pitch and Roll Indicator.**

The *ELECTROLEVEL* is a robust pitch and roll indicator for tankers, exploratory drilling rigs, research buoys, submarines, or other vessels.

### **3. Attitude Monitor for installed Rig.**

With a rig installed on the sea bed the *ELECTROLEVEL* may be used to indicate small movements due to the loading or settlement.

### **4. Sway Indicator for Tall Towers.**

Using the *ELECTROLEVEL* as an accelerometer the sway of tall towers is analysed, with suitable electronics the displacement may be directly displayed.

### **5. Submersible Stability Monitor.**

A precision *ELECTROLEVEL* Mounted on a submerged structure will indicate tilt movements due to subsidence or slip.

### **6. Trim Indicator.**

An *ELECTROLEVEL* trim indicator facilitates correct loading of vessels for maximum efficiency. List angle may also be indicated.

### **7. Deck Movement Indicator for Shipboard Helicopter Platforms.**

Mounting the pendulous *ELECTROLEVEL* at flight deck level allows tilt and acceleration to be sensed and is a direct indication of the stability of a body standing on the deck - a useful aid to helicopter landing and take off.

### **8. Pipe Line Gradient Tester**

As a pipe line gradient tester the *ELECTROLEVEL* is used as a portable device applied to the top outside of the pipe or mounted on a 'pig' travelling inside the pipe.

### **9. Drill or Borehole Angle Measurement.**

Drilling angle measurement is possible with the *ELECTROLEVEL* either mounted on the drill or on a rig member parallel to the drill. It is necessary to stop the drill to obtain readings with the drill mounted unit. Borehole angles may be similarly measured with the aid of *ELECTROLEVEL* mounted on a pilot probe.

### **10. Attitude Control for Submersible Vessels**

The **ELECTROLEVEL** is used to indicate or control submersible vessels such as submarines and ASDIC probes.

### **11. Distortion Indicator.**

When loading large vessels such as tankers or container ships, unbalanced distribution of the loads can cause distortion of the vessel.

Dual **ELECTROLEVELS** indicate the amount of distortion such as hog or sag raising alarm at predetermined levels.

### **12. Aid in the Construction of Heavy Equipment.**

During the construction of large equipment the **ELECTROLEVEL** is used as a conventional spirit level with the advantages of remote indication, wide range and switched gain. Pairs of **ELECTROLEVELS** are used to indicate a difference angle between two widely separated members.

Tilt Measurements' Engineers are available for discussion of any possible applications and have many years' experience in the design of systems for customers from a diverse range of industries.

All information herein is believed to be correct but no liability is accepted by Tilt Measurement Limited for any application in respect of fitness of purpose, infringement of intellectual property rights, or consequential loss or damage howsoever caused.

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