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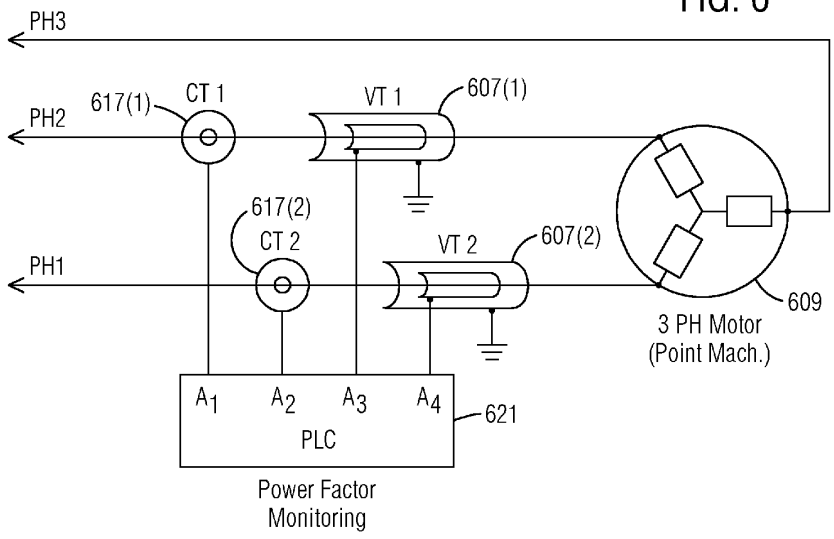
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(54) Title: NON-CONTACT VOLTAGE SENSOR FOR INHERENTLY SAFE POINT MACHINE MOTOR PERFORMANCE MONITORING

FIG. 6



(57) Abstract: A monitoring system is provided for monitoring performance of railway equipment in an inherently safe way. It comprises a non-contact capacitive voltage sensor for monitoring motor performance of a point machine by measuring a phase offset of a motor of the point machine between voltage and current waveforms. The sensor senses a small electrostatic charge of a metallic surface that is capacitively coupled to a live circuit and a reference ground such that the sensor produces a voltage that is proportional to a sensed voltage without needing to make a direct contact to contact circuits of the motor of the point machine. The sensor produces a small voltage signal that is amplified such that this signal can be measured and recorded by the monitoring system.

WO 2025/207109 A1

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