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A Microprocessor Controlled Resistance Balance Analyzer for Three Phase Motors

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A MICROPROCESSOR CONTROLLED RESISTANCE BALANCE ANALYZER FOR THREE PHASE MOTORS

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Abstract of "A MICROPROCESSOR CONTROLLED RESISTANCE BALANCE ANALYZER FOR THREE PHASE MOTORS"

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The Franklin Electric Comapny is a manufacturer of electric motors. Franklin Electric is best known for the manufacturing of three phase submersible motors designed for the water well industry. During the manufacturing of submersilbe motors it is possible to break one of the several strands of magnet wire that are designed to carry the current in each of the phases of the motor.

The Resistance Balance Analyzer is a piece of test equipment designed specifically to test submersible motors for the broken magnet wire defect. The Resistance Balance Analyzer interfaces to a Cimron DMM-42 digital multimeter. The Cimron DMM-42 is the device that measures the line to line resistance in the motor while the Resistance Balance Analyzer is the device that computes and displays resistance balance of the three line to line readings.

The Resistance Balance Analyzer utilizes an 8085A microprocessor to compute the resistance balance. The software is hand assembled and includes a very complete BCD floating point math package. Microprocessor technology allows the construction of the Resistance Balance Analyzer at one tenth the cost of commercially available units.

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