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(54) **PROTECTION APPARATUS AND
BRUSHLESS MOTOR SYSTEM**

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(57) **ABSTRACT**

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A protection apparatus and a brushless motor system reduce costs of the brushless motor system and ensure normal operation of a brushless motor. The protection apparatus includes a demagnetization apparatus and a control apparatus. The demagnetization apparatus is configured to be bridged between a rectifier circuit and an excitation winding, and is configured to consume, when the brushless motor system is faulty, excess electric energy generated on the excitation winding. The control apparatus is configured to separately connect to an excitation power supply circuit and a controller; and is configured to detect electrical parameters of an input terminal and an output terminal of the excitation power supply circuit, and when determining that the electrical parameters exceed a preset threshold, generate an alarm to the controller and adjust the output electrical parameter of the excitation power supply circuit.

