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(54) **SMART LAMP SYSTEM AND METHOD**

(71) Applicant: **BNSF Railway Company**, Fort Worth, TX (US)

(72) Inventor: **Ross Martin Sterling**, Gardner, KS (US)

(73) Assignee: **BNSF Railway Company**, Fort Worth, TX (US)

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ABSTRACT

A smart lamp system and method for monitoring a status of light-emitting diodes (LEDs). The system can provide LED status monitoring using a logic controller communicating with at least one strip of LEDs. The system can utilize the logic controller to assign a unique identifier (ID) to the at least one strip of LEDs based on a physical position of a plurality of dual-inline package (DIP) switches incorporated within a smart lamp housing. The system can provide a hardware architecture to interface the logic controller with a power-line communication (PLC) transceiver. The system can establish a communication protocol between the PLC transceiver and a PLC receiver to efficiently communicate the statuses of the LEDs. The logic controller can generate a payload including a binary representation of the unique ID of the smart lamp and the statuses of the LEDs and transmit the payload to the PLC transceiver.

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