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(54) LIGHTING FLEX-LINK SMART SYSTEM FOR SENDING WIRELESS LIGHTING FIXTURE CONTROL SIGNALS TO LIGHTING FIXTURES USING POWER LINE COMMUNICATION (PLC) SIGNALS

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(57) ABSTRACT

A master control unit (MCU) is adapted to send wireless lighting fixture control signals to lighting fixtures using wired power line control (PLC) signals. The MCU has: an MCU power controller coupled through power lines for sending illumination power to the lighting fixtures; a command receiver for receiving from an input device, a modulated command signal having lighting fixture commands for the of lighting fixtures; a demodulator for demodulating the modulated command signal to obtain the lighting fixture commands; a wireless encoder for encoding the lighting fixture commands into wireless lighting fixture control signals for the lighting fixtures; a PLC modulator for converting the wireless lighting fixture control signals for the lighting fixtures into PLC lighting fixture control signals; and a power and PLC transmitter for sending the PLC lighting fixture control signals and the illumination power to each of the lighting fixtures using the wired power lines.

Input Device 110		100 System	Light Fixture 130		Light 132
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Wireless Modulator	Wireless Transmitter	Scene 190	Cntl Decoder 134		Illumination
116	118		PLC	Cntl	Power Signal
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MCU 120	Wireless	PLC Signal 174	139		
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Lighting Fixture Commands 114			Lighting Fixture		Fixture Controller
Control Encoder	Cntl Sig 125		Commands 151		153
124 Illumination Power	PLC	Power — Signal 126	Cntl Decoder 154		Illumination
Signals 126	Modulator 127	PLC Signal 176 — Power Line 166 —	PLC Demod	Cntl Sig	Power Signal 156
MCU Power	Power & PLC		157 155 Power & PLC Receiver 159		Fixture Power Controller 158
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