

ABSTRACT**METHOD AND APPRATUS FOR ENHANCING LED DISPLAY'S
PERFORMANCE VIA THERMAL MANAGEMENT THEREOF**

By segregating the optical and power modules of a LED traffic signal head and sealing each against all weather conditions, an improved LED display system is realised that can achieve the expected energy saving and visibility performance consistently without increasing the payback period of the system. The isolation of the optical module minimizes the fluctuation in temperature of the LED devices and hence ensures a greater luminous output from the optical module. As such, the chances of motorists and pedestrians missing the appropriate traffic signals in unusual weather condition are reduced. The compartmentalization of the power module not only offers better thermal management of the LED display system but allows upgrade of the transformer without the need to retire the optical module. It follows that the present invention permits the LED display system to meet ever stringent energy efficient standards and yet retaining its initial investment.

Figure 2.