

ABSTRACT**TITLE: ELECTRICAL SAFETY DEVICE AND SYSTEM**

An electrical safety device is described which includes a socket arranged to receive an electrical plug of an electrical appliance to connect a current supply to the electrical appliance, a thermal sensor arranged to detect the surface temperature of an electrical plug when received in the socket and a processor in communication with the thermal sensor, the processor configured to determine when the sensed surface temperature exceeds a predetermined threshold. The invention also includes an electrical safety system comprising the electrical safety device configured to communicate with a remote device. The device and system provide early detection of electrical faults and hazards to reduce the risk of fires. **Figure 2A.**