THE HONG KONG POLYTECHNIC UNIVERSITY
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Self-sustainable Electrical Sensors and Condition Monitors for Smart Cities

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Special Features

- SsESs can convert wasted environmental energies into useful electrical energy for local storage
- Do not require power shut down for installation, commissioning, thereby directly improving the safety, reliability, and availability of electrical assets and systems

Watch shaped design

Ring shaped design

The electricity transport and utilization activities can now be loyally, safely, smartly, and continuously guarded by the "Self-sustainable Electrical Sensors (SsESs)" and the "Energy-harvesting Self-powered Wireless Condition Monitors (EhSpWCMs)"without the needs of external power supplies, signal conditioners, or other active auxiliaries to sustain their operations. SsESs can be simply placed on any sensing point of interest (e.g. cables, conductors, busbars, etc.) to detect electrical currents and temperatures while harvesting and also powering microcontroller, memory, display, wireless transmitter, etc. associated with EhSpWCMs. The technology can be applied to sensor and condition-monitoring markets for all electrical devices, equipment, systems, assets, and infrastructures, ranging from personal and home appliances to residential, commercial, and industrial facilities as well as from public utilities to national infrastructures, military defensive and space systems, etc.

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