



Proudly Operated
by **Battelle** Since 1965

Battelle Number(s):

12931-B, 13145-E

Patent(s) Issued

Available for licensing in all fields

Available Technologies

Rooftop Diagnostician

SUMMARY

Rooftop Diagnostician provides fast and effective diagnostics for heating, ventilation and air conditioning units in commercial buildings, allowing you to better monitor the HVAC system to provide optimal performance.

The Rooftop Diagnostician attaches directly onto the HVAC unit and provides real-time web-based performance information. It allows you to remotely monitor the functionality of a rooftop unit in order to easily and cost-effectively evaluate performance.

Developed at PNNL, this tool allows you to determine the cause of a malfunction in a rooftop unit or to monitor performance in order to optimize regularly scheduled maintenance.

ADVANTAGES

- * Supports heat pumps and dual fuel systems
- * Detects low fresh air supply to prevent “sick” buildings
- * Features a web-enabled display so no special software is needed
- * Detects high energy use and control failures
- * Provides real-time information that permits service analysis
- * Collects performance data for 3 months - 5 years.

STATE OF DEVELOPMENT & AVAILABILITY

The subject invention is a rooftop package unit diagnostician intended for operation on the DX diagnostician platform (see Invention Report #12931-B for details on platform design). The rooftop package unit diagnostician detects off-normal air side operation, economizer control, and system performance.

Diagnostics targeted to commercial HVAC systems improve the efficiency of buildings, the reliability and quality of the fresh air supply, the comfort of occupants, and the durability of the equipment. Vendors of heating, refrigeration, and air-conditioning systems and services that cover a large service territory need a diagnostician for commercial building rooftop packaged air-conditioning units. These diagnosticians provide vendors with the ability to remotely assess the condition of a rooftop HVAC unit by telephone, cell phone, or internet link. Based on such an assessment, a vendor can more optimally prioritize service requests, dispatch appropriately qualified technicians, and responds more cost-effectively to customer needs.

This diagnostician is targeted specifically to rooftop package unit systems, however the hardware platform and software infrastructure constructed to implement it is



sufficiently general to be used for numerous other field diagnostic tools not limited to buildings.

Patents & Intellectual Property

» Patent #: 6,778,945

Technology Portfolio(s)

» Building Efficiency

» Energy Efficiency Solutions

Potential Industry Applications

» Energy & Utilities

John T. McEntire
Pacific Northwest National Laboratory
(509) 372-6960
john.mcentire@pnnl.gov
<http://availabletechnologies.pnnl.gov>



Proudly Operated by **Battelle** Since 1965