

Endpoint AI-enabled Solution REALITYCHECK™ HVAC

RealityCheck™ HVAC is an endpoint AI-enabled solution for creating smart, self-diagnosing HVAC and refrigerant systems. The solution combines machine learning and edge processing in the [Renesas RA6T2 MCUs](#), utilizing vibration and electrical signals to allow HVAC systems to natively predict a wide range of anomalies, faults and operating conditions.

Features/Benefits

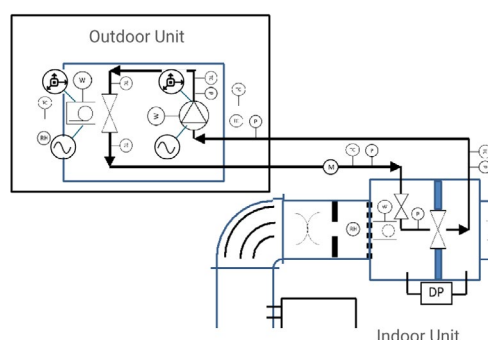
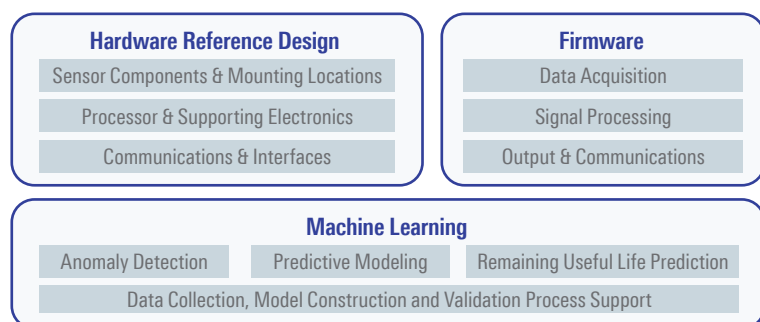
- Enables cost-effective service schedules and reduces emergency service calls by making the HVAC equipment self-aware:
 - Reports anomalies and service needs in advance to building managers, owners, or servicer
 - Sustainable service schedules to reduce environmental impact
 - Improves efficiency of HVAC systems
- Detects and predicts a wide range of conditions, including:
 - Blocked indoor / outdoor airflow
 - Heating / cooling capacity reduction
 - Faulty fan
 - Coil frosting
 - Faulty compressor
 - Failing capacitor
 - Filter life prediction
 - Refrigerant charge issues - undercharge / overcharge
 - Other conditions

Target Applications

- Automated Home and Building HVAC systems for:
 - Smart Cities
 - Smart Industry
 - Smart Home
 - Industry 4.0



Block Diagram



Related Boards & Kits

- MCK-RA6T2 Renesas Flexible Motor Control Kit for RA6T2 MCU Group
 - [RTK0EMA270S00020BJ](#)



For more details, please visit:
renesas.com/realityai