

DR12.21: Evaluation of Residential Room Air Conditioner Control with Smart Plugs for Peak Load Reduction

OPPORTUNITY

What have previous studies demonstrated about the potential for smart plug devices for room air conditioners?

LESS THAN 1%

Of plug loads today are being managed externally with smart plugs as part of a plug load energy management system.

TECHNOLOGY

How do smart plug devices work on room air conditioning units?

Smart Plugs Control Room Air Conditioners in Response to Demand Response Events

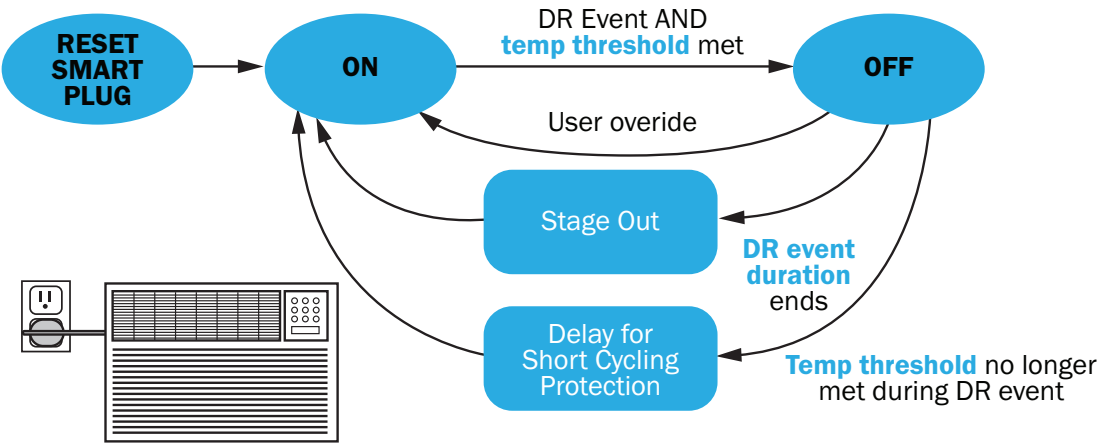


Figure 1: Thinkeco Modlet and Thermostat Remote Control.

M&V

Where did Measurement and Verification occur?

thinkeco modlet smart plug device paired with a Friedrich Kuhl room air conditioner with Wifi connectivity was chosen for evaluation. The modlet was first field tested to control existing air conditioning units of customers before being lab-tested with a connective window air conditioner.

RESULTS

How did Smart plugs for air conditioners perform in M&V?

49-55%
Reduction In Average Power Consumption In Lab Tests.

Products
Field tested and lab tested performed as manufactures described in their marketing literature.

DEPLOYMENT

Where does M&V recommend deploying smart plugs for air conditioners windows?

PILOT PROGRAM

SCE recommends that further examination of the DR opportunities may be explored via a pilot program, to evaluate demand savings in real-world situations with enough customers to establish statistically-meaningful results.

Integrating control devices with house fans (such as whole-house fans) could augment the pilot investigation.