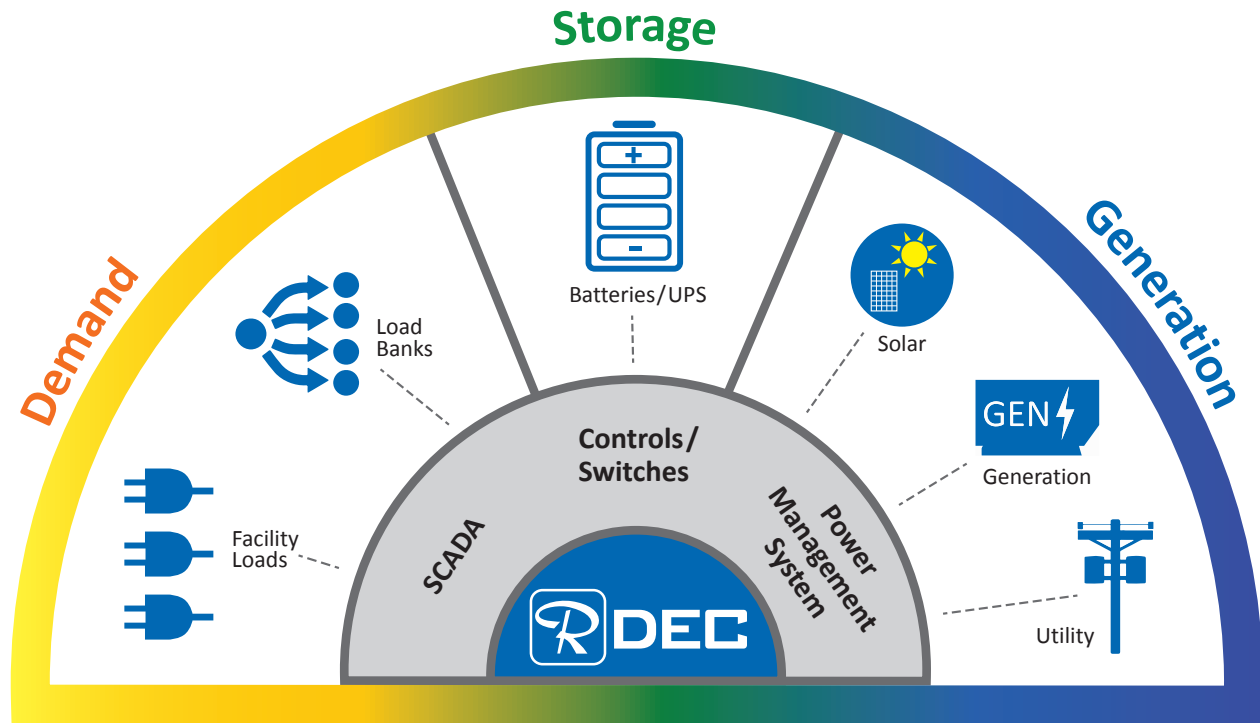


Russelectric Innovation Center (RIC)



Over 50 Years of Distributed Energy Control Experience

Russelectric systems have been controlling multiple sources of electric power — whether grid or locally generated — and managing demand for multi-building facilities and campuses for more than 50 years. In fact, Russelectric paralleling and load curtailment systems were providing microgrid control long before the term “microgrid” was even coined.

Advanced Distributed Energy Control Technology

The Russelectric Innovation Center, located at our Hingham, Massachusetts headquarters, advances the state of the art in microgrid and DER controllers. It serves as both:

- A real-time functioning microgrid supporting our headquarters
- A fully functioning test bed for Russelectric Distributed Energy Controls (RDEC™) and microgrid equipment system design and development, using live loads in normal, high-stress, and failure conditions.

The RIC Includes:

- **Microgrid** - Grid, On-Site Generator, PV, and Power Storage
- **Controls** - RDEC™ configurable microgrid control system provides the ability to switch out and test components
- **Demonstration Room** - Houses a complete microgrid system including RDEC™, switchgear, arc-resistant switchgear, and combined full-wall screens for real-time and analytical data visualization on all system components and performance
- **Test Mode** - Ability to decouple the microgrid from the facility and operate it in test mode with real or simulated active energy demands

Trusted by Critical Facilities



System Technical Information

Behind-The-Meter Equipment

Photovoltaic	(736) 340Watt, stationary, roof-mounted PV modules with a total output of 250kW DC, (6) 33.33kW paralleled string inverters with a maximum total output rating of 250kW AC
Energy Storage	Inverter: Bi-directional, rated at 250kW/250kVAR, maximum rating = 250kVA Battery System: (360) L-ion NCM cells, (18) modules, (2) racks, 69kW AC continuous rating, 137 kWh total energy storage
Emergency Generator	480 VAC, 60Hz, 975kW diesel
Load Banks	(2) 100kW step-loaded resistive banks, 480 VAC/60Hz/200kW rated
Russelectric RDEC™	Distributed Energy Controls, Switchgear and Automatic Transfer Switches for power transfer, control demand, and outage simulation
Controller	SCADA system and Electrical Power Management System

RIC Microgrid Test Modes

The on-site microgrid can be configured for operation in multiple modes to test and analyze equipment and system performance.

Russelectric switchgear and ATSS allow an operator to transfer critical loads to or from any power source through either open- or closed-transition transfer. Using the RIC system, an operator can isolate the PV and ES battery system from on-line facility infrastructure for testing purposes.

The Russelectric switchgear and ATS in the RIC can be configured to allow the operator to simulate source outages and conduct transfer failures to any of the power sources and equipment utilizing the load banks to simulate critical loads.

The RDEC™ and its Supervisory Control and Data Acquisition (SCADA) system are capable of remotely operating and monitoring all equipment including control modes, setpoints, test sequences, event logs, system reports, and alarm notifications. The Electrical Power Management System (EPMS) monitors the entire power and energy system. It allows the user to manage capacity and visualize how power is distributed throughout the facility, as well as to analyze historical data to find any power problems and make adjustments to correct them. It provides granular, real-time information from the equipment and environment, allowing operators to access and respond to abnormal conditions in a timely manner.

		Grid / Microgrid Mode		
		Grid	Parallel	Isolated
Grid Power	On	●	●	
	Off			●
Battery	Off	●	●	●
	Charge	●	●	●
	Discharge	●	●	●
PV	Off	●	●	●
	Variable Gen	●	●	●
Generator	Off		●	●
	Variable Gen		●	●
	Maximum Gen		●	●
Demand	Stable	●	●	●
	Variable	●	●	●



POWER CONTROL PEOPLE YOU CAN RELY ON

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