

# switch

storage solutions

The Switch Microgrid is assembled to the highest standards in a UL 508A shop. It is shipped as a self-contained unit and can be installed outdoors or indoors.



## SWITCH MICROGRID

### Turnkey Solution

- Factory Assembled
- Pre-Engineered
- Pre-Wired
- Pre-Installed Safety Labels
- Pre-Tested

### Managed Assets

- Diesel Generation
- Solar Generation
- Distributed Battery Storage
- Grid Power

### Communications & Control

- 4G LTE Cellular
- Ethernet Wifi, Satellite
- Generator Start and Stop
- Optimal Power Forecasting
- Power Reliability Alerts
- Isochronous Generation Control

### The Switch Advantage

- Assembled in UL 508A Shop
- Turnkey Solution
- Indoor and Outdoor Enclosure Options
- Includes Climate Control and Fire Suppression
- Includes Switch Microgrid Installation and O&M Guides

# SWITCH TECHNICAL SPECIFICATIONS

## Electrical Specifications

### Single Phase Operation

|  |                              |
|--|------------------------------|
| AC Voltage                             | 240 VAC                      |
| AC Input/Output Current                | 301A                         |
| AC Output Power ( <i>discharge</i> )   | 72kW                         |
| AC Input Current ( <i>charge</i> )     | 72kW                         |
| Battery Capacity Range                 | 69kWh – 500+ kWh             |
| AC Frequency ( <i>field settable</i> ) | 50/60 Hz                     |
| Max AC Overcurrent Protection          | 375A                         |
| Peak Efficiency                        | 98.60%                       |
| AC Connection                          | Split Phase 3 Wire L1, L2, N |

### Three Phase Operation

|  |                  |
|--|------------------|
| AC Voltage                             | 480 VAC          |
| AC Input/Output Current                | 301A             |
| AC Output Power ( <i>discharge</i> )   | 250kW            |
| AC Input Current ( <i>charge</i> )     | 250kW            |
| Battery Capacity Range                 | 69kWh – 500+ kWh |
| AC Frequency ( <i>field settable</i> ) | 50/60 Hz         |
| Max AC Overcurrent Protection          | 375A             |
| Peak Efficiency                        | 98.60%           |
| AC Connection                          | 3 Phase, 3 Wire  |

## Equipment Specifications

|  |                          |
|--|--------------------------|
| External Dimensions ( <i>L x W x H</i> ) | 7' x 4' x 6'             |
| Weight                                   | 4500 lbs.                |
| Lifting Provisions                       | Fork Lift Slots          |
| Paint Tested                             | 1000 Salt Hour Spray     |
| Handles                                  | Stainless Steel Lockable |
| Fire Suppression                         | 3M Novec 1230            |
| Temperature Range                        | -20°C to 50°C            |

## Control Software

|  |
|--|
| Web Portal Hosted on Microsoft Azure                       |
| Access & Alerts Desktop & Mobile 24/7                      |
| Asset Monitoring System Level & Individual Component Pages |
| Component Status PV, Inverters, Generators, Batteries      |
| Local HMI IP 65 Touchscreen                                |
| Communications WiFi, Ethernet, Cellular, Satellite         |

## Operation Parameters

|                        |   |
|------------------------|---|
| Island MicroGrid       | Building Power when Grid is Down                      |
| Grid Tied MicroGrid    | Maintain Constant Power Irregardless of Utility Power |
| Distributed Generation | Time of Use Operation                                 |

## Key System Components

|   |
|---|
| NEMA 4 Enclosure                              |
| Bi Directional Storage Inverter               |
| High Voltage Li Ion Battery                   |
| DC Disconnect                                 |
| AC Disconnect ( <i>battery – inverter</i> )   |
| AC Disconnect ( <i>utility interconnect</i> ) |
| Circuit Breaker                               |
| Utility Disconnect Relay                      |
| Transformer ( <i>if needed</i> )              |
| Climate Controls                              |

## Certifications

|           |                 |
|-----------|-----------------|
| Batteries | UL 1973         |
| Inverter  | UL 1741 SA      |
| System    | UL 9540 Pending |

Switch's S-MG 70/250 can be configured for single or 3-phase operation via firmware updates to the inverter. Both single phase and 3-phase operation do require an external step down transformer which is included in the system package. The Switch inverter can accept multiple high voltage commercial batteries which can supply up to 500+ kWh per energy storage container. For higher power or storage requirements multiple systems can be paralled on the AC side of the inverter. Please contact Switch for more details.

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