Quick System Sizing Checklist

☐ Identify refrigerator or freezer model and cubic footage
☐ Confirm running wattage (check manufacturer label or manual)
☐ Confirm startup surge wattage
☐ Choose a power station with surge rating exceeding compressor startup
☐ Confirm continuous watt rating supports steady operation
☐ Verify pure sine wave inverter output
☐ Confirm battery chemistry (LiFePO4 preferred for indoor safety)

Runtime Calculation Worksheet

Appliance Running Watts: _____

Estimated Daily Run Time (hours): _____

Multiply:

Running Watts × Hours = Daily Watt-Hours

Daily Watt-Hours Needed: _____

Power Station Battery Capacity (Wh): _____

Estimated Runtime:

Battery Wh ÷ Appliance Running Watts = Estimated Hours of Operation

Always account for 10–15% inverter efficiency loss.

If extended outages are common in your area, consider solar panel integration.

Food Safety Temperature Reference

Critical Temperature Threshold: 40°F (4°C)

Refrigerator Safety Window (door closed): ~4 hours

Freezer Safety Window (door closed):

• Full freezer: ~48 hours
• Half-full freezer: ~24 hours

Discard perishable food if temperature exceeds 40°F for more than 2 hours.

High-risk foods:

• Meat and poultry
• Seafood
• Dairy products
• Cooked leftovers
• Soft cheeses

When in doubt, throw it out.

Emergency Backup Readiness Checklist

☐ Power station fully charged
☐ Tested under real appliance load
☐ Extension cords rated for appliance wattage
☐ Surge rating verified
☐ Solar panels (if used) tested and connected
☐ Refrigerator / freezer thermometer installed
☐ Family members aware of usage procedure

Test your system before an outage occurs.

Preparedness reduces stress and prevents costly food loss.

Plan ahead. Test your system. Protect your food.

For full system planning and product comparisons, visit:
Backup Power for Refrigerators and Freezers: Complete Guide (2026)