Solar Energy Solutions

Clean, Reliable Power for Homes & Businesses

Flare Communications
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Authorized Installer
Signature Solar Equipment
EG4 Electronics Systems

About Flare Communications

Flare Communications brings over 20 years of electrical expertise to solar energy installations. We partner with Signature Solar and EG4 Electronics to provide high-quality, affordable solar solutions for residential and commercial properties throughout St. Louis, Metro East Illinois, and Central Illinois.

Our Solar Energy Services

Solar System Design

Proper solar system design maximizes energy production while meeting your specific needs and budget. Our design process includes site assessment, shading analysis, energy consumption review, system sizing calculations, equipment selection, and financial analysis showing costs, incentives, and projected savings.

Solar Panel Installation

We install complete solar photovoltaic systems for homes and businesses. Our installations include roof-mounted and ground-mounted arrays, with proper structural analysis, waterproofing, and electrical integration. Every installation meets NEC requirements and local building codes.

Battery Storage Systems

Battery storage transforms solar from a cost-saving measure into true energy independence. We install lithium iron phosphate (LiFePO4) battery systems that provide backup power during outages and allow you to use solar energy $^{24}/_{7}$. Our battery systems integrate seamlessly with solar arrays and can be sized for essential circuits or whole-property backup.

Grid-Tied & Off-Grid Systems

Grid-tied systems reduce your utility bills while maintaining grid connection for reliability. Off-grid systems provide complete energy independence for properties without utility service or those seeking maximum self-sufficiency. We design systems appropriate for your goals and location.

Solar System Monitoring

Modern solar systems include monitoring that shows real-time production, consumption, and battery status. We configure monitoring systems accessible from smartphones, tablets, and computers so you always know how your system is performing.

Solar Maintenance & Support

Solar systems require minimal maintenance, but occasional cleaning and inspection ensure optimal performance. We provide maintenance services and troubleshooting support to keep your system operating at peak efficiency.

Service Pricing Guide

Residential Solar Systems

System Size	Annual Production	Equipment Cost	Installation	Total Investment
5 kW (small home)	6,000-7,000 kWh	$6,500	$3,500	$10,000
10 kW (average home)	12,000-14,000 kWh	$12,000	$6,000	$18,000
15 kW (large home)	18,000-21,000 kWh	$17,500	$8,500	$26,000
20 kW (large home + EV)	24,000-28,000 kWh	$23,000	$11,000	$34,000

Battery Storage Systems

Battery Capacity	Backup Duration	Equipment Cost	Installation	Total Investment
10 kWh (essential circuits)	8-12 hours	$5,000	$2,000	$7,000
20 kWh (whole home, limited)	12-24 hours	$9,500	$3,000	$12,500
30 kWh (whole home)	24-48 hours	$14,000	$4,000	$18,000
40 kWh (extended backup)	48-72 hours	$18,000	$5,000	$23,000

Commercial Solar Systems

System Size	Annual Production	Price Range
25 kW (small business)	30,000-35,000 kWh	$40,000-55,000
50 kW (medium business)	60,000-70,000 kWh	$75,000-100,000
100 kW (large business)	120,000-140,000 kWh	$140,000-180,000
250 kW+ (industrial)	300,000+ kWh	Custom quote

Solar Incentives & Tax Credits

Federal Solar Investment Tax Credit (ITC): 30% of total system cost (equipment + installation)

Missouri & Illinois Incentives: Various state and utility rebates may be available

Net Metering: Utility credit for excess solar production sent to grid

Accelerated Depreciation (Commercial): MACRS depreciation for business solar installations

Example: $20,000 solar system - $6,000 federal tax credit = $14,000 net cost

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Case Studies

Case Study 1: Residential Solar with Battery Backup

Client: Single-family home, Ballwin, MO
Challenge: High electricity bills ($250/month average) and frequent power outages

Solution:

- Installed 12 kW solar array (30 panels) on south-facing roof
- Added 20 kWh EG4 battery storage system
- Configured hybrid inverter for grid-tied operation with backup
- Installed monitoring system for real-time production tracking

- Handled all permits and utility interconnection

Results:

- Electricity bills reduced from $250/month to 15/month (grid connection fee)
- Annual savings: $2,820
- Battery provides whole-home backup during outages
- System pays for itself in 6-7 years
- Home value increased by approximately $25,000

Investment: $32,000 (before 9,600 federal tax credit = $22,400 net cost)

Case Study 2: Commercial Solar Installation

Client: Manufacturing facility, Edwardsville, IL
Challenge: $2,500/month electricity costs impacting profitability

Solution:

- Installed 75 kW commercial solar array (roof-mounted)
- Designed system to offset 80% of daytime electricity consumption
- Configured net metering for utility credit on excess production
- Provided production monitoring and performance guarantees
- Coordinated with utility for interconnection approval

Results:

- Electricity costs reduced by $1,800/month (21,600/year)
- Federal tax credit: $27,000
- MACRS depreciation provides additional tax benefits
- System ROI: 5-6 years
- Demonstrates environmental commitment to customers

Investment: $90,000 (before 27,000 federal tax credit = $63,000 net cost)

Case Study 3: Off-Grid Solar System

Client: Rural property, Central Illinois
Challenge: No utility service available; generator costs $400/month in fuel

Solution:

- Designed 8 kW solar array optimized for year-round production
- Installed 30 kWh battery bank for multi-day backup
- Configured off-grid inverter system with generator integration
- Sized system for all household loads including well pump
- Provided propane generator for backup during extended cloudy periods

Results:

- Eliminated $400/month generator fuel costs
- Reliable power year-round with battery storage
- Generator runs only 10-15 days per year (winter)
- Quiet, clean power without noise and emissions
- System provides 95%+ energy independence

Investment: $42,000 (before 12,600 federal tax credit = $29,400 net cost)
Payback vs. generator operation: 6 years

Why Choose Signature Solar & EG4 Equipment?

Signature Solar

Signature Solar specializes in complete solar solutions with everything from individual components to fully integrated system packages. Their advantages include:

- **Complete System Packages:** Pre-engineered kits with all components tested to work together
- **Quality Components:** High-efficiency panels, reliable inverters, and proven battery technology

- **Competitive Pricing:** Direct pricing without distributor markup
- **Technical Support:** Knowledgeable support for system design and troubleshooting
- **Substantial Inventory:** Fast delivery without backorder delays

EG4 Electronics

EG4 provides professional-grade solar inverters and battery systems at accessible prices:

- **Hybrid Inverters:** Grid-tied with battery backup capability in one unit
- **Scalable Battery Systems:** Modular design allows capacity expansion
- **Advanced Features:** Smart load management, generator integration, remote monitoring
- **Proven Reliability:** Thousands of installations with excellent track record
- **Comprehensive Warranty:** Strong warranty coverage with responsive support

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Solar System Components

Solar Panels

Modern solar panels convert sunlight to electricity with 20-22% efficiency. We install high-quality monocrystalline panels rated for 25+ years of production. Panels include 25-year power output warranties and 10-12 year product warranties.

Inverters

Inverters convert DC power from solar panels to AC power for your home or business. We install string inverters for most applications and microinverters when panel-level optimization is beneficial. Hybrid inverters combine solar, battery, and grid management in one unit.

Battery Storage

Lithium iron phosphate (LiFePO4) batteries provide safe, long-lasting energy storage. Modern batteries offer 6,000+ charge cycles, 90%+ efficiency, and 10-year warranties. Battery management systems protect against overcharge, over-discharge, and temperature extremes.

Mounting Systems

Proper mounting ensures solar panels withstand wind and weather for decades. We use engineered mounting systems appropriate for your roof type or ground installation, with structural analysis and waterproofing that prevents leaks.

Monitoring Systems

Solar monitoring shows real-time and historical production, consumption, and battery status. Most systems include smartphone apps with alerts for any system issues, allowing proactive maintenance.

Solar Energy Benefits

Lower Electricity Bills: Solar reduces or eliminates electricity costs, with savings increasing as utility rates rise.

Energy Independence: Battery storage provides power during outages and reduces reliance on the grid.

Environmental Impact: Solar produces clean energy without emissions or pollution.

Increased Property Value: Homes with solar systems typically sell for 3-4% more than comparable homes.

Predictable Energy Costs: Solar provides stable energy costs for 25+ years, protecting against utility rate increases.

Tax Benefits: Federal tax credits and accelerated depreciation (commercial) improve financial returns.

Is Solar Right for You?

Solar makes sense for properties with:

- Adequate roof space or land area with good sun exposure (south, southwest, or southeast facing)
- Roofs in good condition (won’ t need replacement within 10 years)
- Moderate to high electricity consumption ($100+/month)
- Long-term ownership plans (solar is a long-term investment)
- Interest in energy independence and backup power
- Desire to reduce environmental impact

The best way to determine if solar is right for your specific situation is through a professional assessment.

Why Choose Flare Communications?

Electrical Expertise: Over 20 years of electrical experience ensures safe, code-compliant installations.

Licensed Electricians: All solar installations performed by licensed electricians.

Quality Equipment: Partnership with Signature Solar and EG4 ensures reliable components.

Complete Service: We handle everything from design to permits to installation to monitoring setup.

Local Support: Based in St. Louis with fast response for service and support.

Transparent Pricing: Clear quotes showing equipment, installation, incentives, and projected savings.

Service Areas

St. Louis Metro: Ballwin, Chesterfield, Clayton, Creve Coeur, Des Peres, Kirkwood, Ladue, Manchester, Maryland Heights, Olivette, Richmond Heights, St. Louis City, Town and Country, University City, Webster Groves, Wildwood

Metro East Illinois: Belleville, Collinsville, Edwardsville, O' Fallon, Fairview Heights, Swansea, Glen Carbon, Granite City, Alton, Godfrey, Wood River, Highland, Troy, Maryville, Caseyville, Shiloh

Central Illinois: Springfield, Decatur, Champaign, Urbana, Bloomington, Normal, Peoria, Quincy

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Get Started Today

Schedule a Free Solar Assessment

Contact Flare Communications to explore solar energy for your home or business. We' ll evaluate your property, analyze your energy usage, and provide a detailed proposal showing system design, costs, incentives, and projected savings.

Phone: (636) 391-7530
Email: info@flarecomm.com
Website: flarecomm.com

Business Hours:
Monday - Friday: 8:00 AM - 5:00 PM
24/7 Emergency Service Available

Professional Network Infrastructure, Electrical Services & Fire Alarm Systems since 2000

Now Offering Professional Solar Energy Solutions