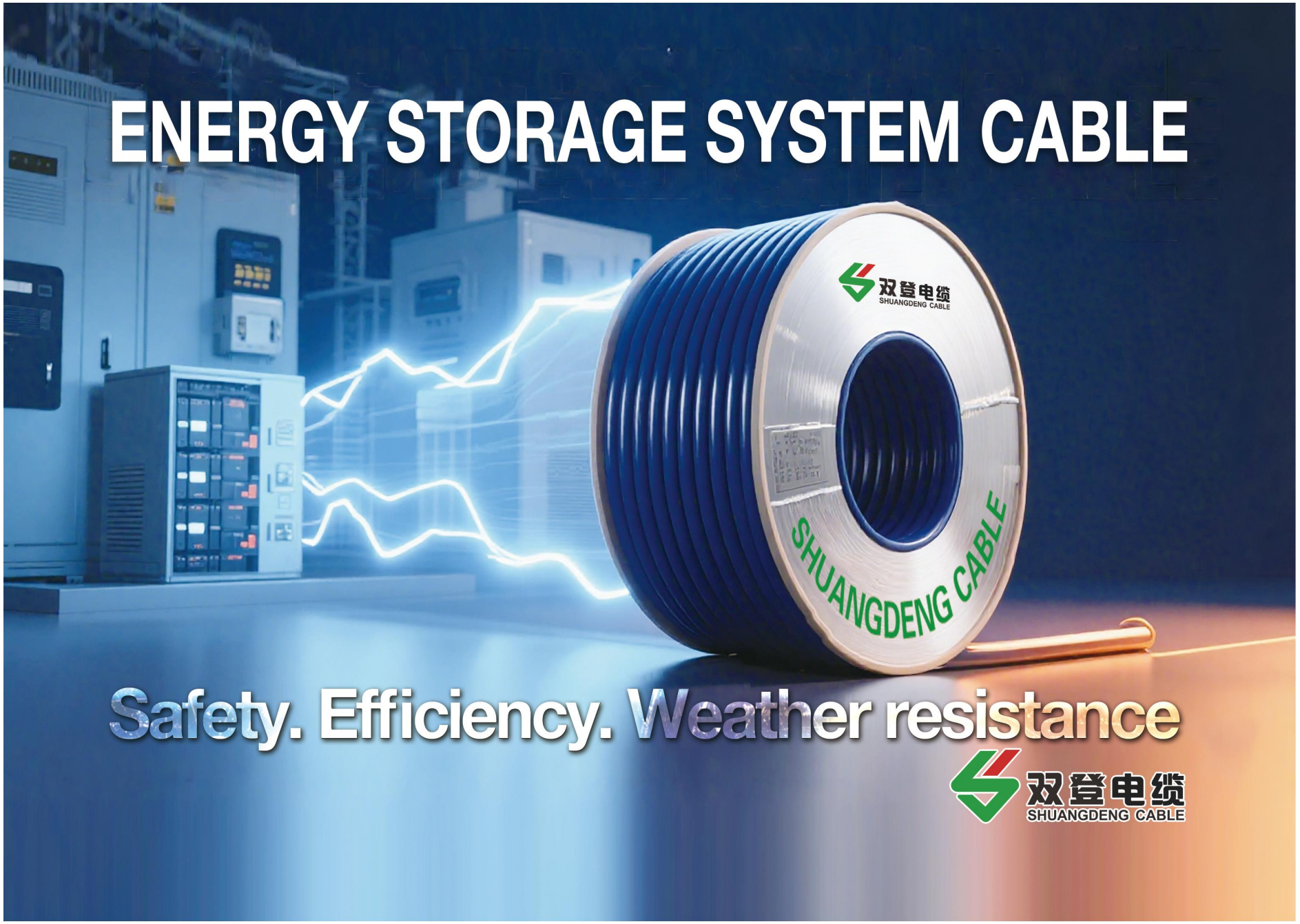
ENERGY STORAGE SYSTEM CABLE
双登电缆
SHUANGDENG CABLE
SHUANGDENG CABLE
Safety. Efficiency. Weather resistance
双登电缆
SHUANGDENG CABLE

Shuangdeng Energy Storage Cable Product Manual

High-performance Solutions for Energy Storage Systems

❶ Product Overview

Shuangdeng Energy Storage Cables are meticulously engineered to meet the stringent requirements of modern energy storage systems. These cables are designed to ensure reliable power transmission and signal control in diverse ESS (Energy Storage System) applications, from large-scale utility - grade installations to residential and commercial setups. Combining innovative materials and cutting - edge manufacturing techniques, our cables offer exceptional durability, high - efficiency power transfer, and enhanced safety features.

❷ Core Features & Benefits

Feature	Technical Advantage	Application Benefit
Ultra - High Conductivity	Utilize high - purity oxygen - free copper conductors with optimized stranding for minimal resistance.	Significantly reduces power loss, improving the overall efficiency of energy storage systems.
Thermal Management Design	Advanced insulation materials with excellent heat - dissipation properties and temperature - resistant sheaths.	Enables continuous operation in high - temperature environments, preventing overheating and ensuring system stability.
Superior Flexibility	Flexible construction with special compound sheaths, allowing for easy installation in confined spaces.	Facilitates quick and hassle - free installation in complex ESS layouts, reducing labor costs and installation time.
Enhanced Safety Features	Low - smoke, zero - halogen (LSZH) materials and fire - retardant coatings that meet international safety standards.	Minimizes the release of toxic fumes and flames in case of fire, ensuring the safety of personnel and equipment.
Electromagnetic Compatibility	Multiple - layer shielding (aluminum foil and copper braid) for effective EMI/RFI suppression.	Ensures stable operation of sensitive ESS components, preventing signal interference and system malfunctions.

❸ Product Specifications

3.1 Conductor

· Material: High - purity oxygen - free copper (≥99.97% conductivity)
· Structure: Class 5 or Class 6 flexible stranded conductors (IEC 60228)
· Cross - sections: 1.5mm² - 120mm² (single - core) and multi - core configurations (2 - 37 cores)

3.2 Insulation & Sheath

· Insulation: Cross - linked polyethylene (XLPE) or Ethylene Propylene Diene Monomer (EPDM) for high - temperature resistance
· Sheath: LSZH (standard for indoor use), Polyurethane (PUR) for outdoor and harsh - environment applications
Color coding: Compliant with IEC 60445 and customized options available

3.3 Electrical Characteristics

· Rated voltage: 0.6/1kV, 1.8/3kV, 3.6/6kV, 6/10kV (customizable)
· Capacitance: ≤0.2μF/km (at 50Hz)
· Insulation resistance: ≥10000MΩ·km (20°C)
· Current - carrying capacity: Up to 600A (depending on cable size and ambient temperature)

❹ Application Scenarios

· Large - scale battery energy storage systems (BESS) for grid - scale applications
· Residential and commercial energy storage systems for backup power and peak - shaving
· Hybrid renewable energy systems (solar + storage, wind + storage)
· Electric vehicle (EV) charging stations with integrated energy storage
· Telecom base stations and data centers with energy storage backup

❺ Compliance & Certifications

· International standards: IEC 60502, IEC 60227, UL 4703, CE
· Environmental compliance: RoHS 3.0, REACH
· Optional certifications: TÜV, SGS, KTL

❻ Installation & Maintenance

6.1 Installation Guidelines

· Minimum bending radius: 8× cable diameter (static), 12× (dynamic)
· Ensure proper grounding and insulation during installation

· Avoid sharp bends and excessive pulling forces
· Keep a safe distance from other high - voltage cables and heat sources

6.2 Storage Conditions

· Store in a dry, cool environment with temperatures ranging from - 20°C to + 40°C
· Keep cable reels horizontally on flat surfaces to prevent deformation of the sheath
· Protect from direct sunlight, moisture, and chemical exposure

7 Customization Options

· Special temperature - resistant cables (- 50°C to + 180°C)
· Armored cables for enhanced mechanical protection
· Custom - designed multi - core cables for specific ESS requirements
· Tailored cable lengths and color - coding systems