
BATTERY CONNNECTION
SPECIAL CABLE
LOW IMPEDANCE | AGING RESISTANT | HIGH INSULATION
双登电缆
SHUANGDENG CABLE

Shuangdeng Battery Connecting Cable Product Manual

Precision - Engineered for Seamless Battery Interconnections

❶ Product Overview

Shuangdeng Battery Connecting Cables are expertly designed to address the unique demands of battery systems across various applications. Whether for electric vehicles (EVs), energy storage systems (ESS), or industrial battery banks, these cables ensure stable power transmission, reliable signal control, and enhanced system performance. Crafted with high - quality materials and advanced manufacturing processes, our cables offer superior conductivity, durability, and safety features.

❷ Core Features & Benefits

Feature	Technical Advantage	Application Benefit
Exceptional Conductivity	Constructed with high - purity oxygen - free copper conductors, optimized for low electrical resistance.	Minimizes power loss during transmission, improving the overall efficiency of battery - powered systems.
High - Temperature Resistance	Utilizes specialized insulation materials with excellent heat - resistance properties, such as cross - linked polyethylene (XLPE) or Ethylene Propylene Diene Monomer (EPDM).	Enables continuous operation in high - temperature environments, preventing insulation degradation and ensuring long - term reliability.
Flexible & Durable Design	Stranded conductor structure and flexible sheath materials (e.g., Polyurethane - PUR) allow for easy installation and resistance to mechanical stress.	Facilitates installation in tight spaces within battery compartments, reducing installation time and potential damage to the cable.
Enhanced Safety Assurance	Incorporates low - smoke, zero - halogen (LSZH) sheaths and flame - retardant coatings, compliant with international safety standards.	Reduces the risk of fire and minimizes the release of toxic fumes in case of emergencies, safeguarding personnel and equipment.
Electromagnetic Shielding	Equipped with multi - layer shielding (aluminum foil and copper braid) to effectively suppress electromagnetic interference (EMI) and radio - frequency interference (RFI).	Ensures stable operation of sensitive battery management systems and other electronic components, preventing signal disruptions.

❸ Product Specifications

3.1 Conductor

· Material: High - purity oxygen - free copper (≥99.99% conductivity)
· Structure: Class 5 or Class 6 flexible stranded conductors (IEC 60228)
· Cross - sections: 0.5mm² - 50mm² (single - core) and multi - core configurations (2 - 24 cores)

3.2 Insulation & Sheath

· Insulation: XLPE (standard for general applications), EPDM (for high - temperature resistance), or Fluorinated Ethylene Propylene (FEP) (for extreme conditions)
· Sheath: LSZH (indoor use), PUR (outdoor and harsh - environment applications), or PVC (cost - effective option)
Color coding: Compliant with IEC 60445 and customizable for specific customer needs

3.3 Electrical Characteristics

· Rated voltage: 300/500V, 600V, 1000V (customizable)
· Capacitance: ≤0.15μF/km (at 50Hz)
· Insulation resistance: ≥5000MΩ·km (20°C)
· Current - carrying capacity: Up to 300A (depending on cable size and ambient temperature)

❹ Application Scenarios

· Electric vehicles (EVs) and hybrid electric vehicles (HEVs) for battery pack interconnections
· Energy storage systems (BESS) in residential, commercial, and industrial settings
· Telecom base stations and data centers with backup battery systems
· Forklifts, golf carts, and other battery - powered industrial and recreational vehicles
· Solar and wind energy storage systems for power integration

❺ Compliance & Certifications

· International standards: IEC 60227, IEC 60502, UL 4703, CE
· Environmental compliance: RoHS 3.0, REACH
· Optional certifications: TÜV, SGS, ISO 9001

❻ Installation Guidelines

6.1 Installation Guidelines

· Minimum bending radius: 6× cable diameter (static), 10× (dynamic)
· Ensure proper crimping or soldering of connectors to maintain electrical conductivity

· Keep the cable away from sharp edges and moving parts to prevent mechanical damage
· Follow the recommended grounding procedures for safety

6.2 Storage Conditions

· Store in a dry, well - ventilated environment with temperatures between - 15°C and + 40°C
· Keep cable reels in an upright position to avoid sheath deformation
· Protect from direct sunlight, moisture, and chemical substances

7 Customization Options

· Specialized cables for high - vibration environments (e.g., for off - road vehicles)
· Armored cables for enhanced mechanical protection in industrial applications
· Custom - length cables and unique color - coding systems for easy identification
· Temperature - resistant cables suitable for - 40°C to + 150°C operating conditions