

Liquid-Cooled EV Charging Cable Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

<https://marketpublishers.com/r/LD18D0F41145EN.html>

Date: November 2025

Pages: 206

Price: US\$ 4,850.00 (Single User License)

ID: LD18D0F41145EN

Abstracts

The Global Liquid-Cooled EV Charging Cable Market was valued at USD 2.03 billion in 2024 and is estimated to grow at a CAGR of 16.5% to reach USD 10.88 billion by 2034.

The accelerated deployment of ultra-fast DC charging infrastructure is transforming the EV charging landscape. Liquid-cooled charging cables support high current capacities ranging from 150 kW to more than 1.5 MW, enabling faster and safer charging while maintaining a compact design. These cables allow operators and network providers to reduce charging time significantly without increasing cable weight or heat risks. This technology also optimizes site area usage, simplifies operation and maintenance of high-power chargers, and supports large-scale fleet electrification and highway corridor development.

The market is seeing intensified investments and production expansion as manufacturers and OEMs scale operations to meet rising megawatt-level demand. Numerous producers and charging infrastructure integrators have upgraded manufacturing facilities, initiated pilot-scale production of liquid-cooling components, and partnered with connector and cooling system suppliers to accelerate deployment of charging systems ranging from 350 kW to over 1,000 kW. The growing transition to electric commercial transport, including trucks, buses, and delivery fleets, is a major catalyst for liquid-cooled charging solutions. Heavy-duty charging applications demand consistent thermal performance, making liquid-cooled cables ideal for operators seeking longer equipment lifespan and efficient thermal regulation under demanding operational conditions.

In 2024, the passenger vehicle segment held a 71% share and is anticipated to grow at

a CAGR of 16.2% through 2034. The strong dominance of this segment is linked to the rapid global increase in electric car adoption and the rising need for ultra-fast charging options. As automakers continue integrating higher voltage systems, efficient heat management during fast charging becomes critical. Liquid-cooled cables enable safe and compact power delivery, allowing higher energy throughput and shorter charging durations while maintaining system safety and performance reliability.

The level 3 segment held a 66% share and is expected to grow at a CAGR of 17.5% between 2025 and 2034. This segment's leadership stems from its capability to deliver ultra-fast DC charging that significantly minimizes vehicle downtime. With the surge in electric vehicle adoption, demand for high-power charging exceeding 350 kW has risen sharply, especially in public and highway charging applications. Liquid-cooled cables play a vital role in this space by managing heat efficiently during high current flow, ensuring reliable, safe operation, and longer cable service life even under continuous heavy-duty cycles.

United States Liquid-Cooled EV Charging Cable Market held an 85% share, generating USD 554.4 million in 2024. Market expansion in the U.S. is being driven by the nationwide implementation of high-speed charging networks supported by federal and state initiatives. Rapid development of megawatt-scale infrastructure across both public and fleet networks is stimulating demand for advanced liquid-cooled cable systems that can handle high voltage and current levels. These solutions enhance safety, performance, and durability, which are critical in large-scale public and commercial charging environments.

Leading players in the Global Liquid-Cooled EV Charging Cable Market include Sumitomo Electric, ABB, Huber+Suhner, Phoenix Contact, TE Connectivity, KemPower, Besen International, Brugg eConnect, Leoni, and Sinbon Electronics. These companies continue to strengthen their competitive advantage through technological innovation and strategic expansion. Key participants in the Liquid-Cooled EV Charging Cable Market are adopting a range of strategic initiatives to enhance their market position. Many are investing in research and development to design next-generation cables capable of supporting ultra-high power levels while maintaining flexibility and safety. Strategic collaborations with charging system manufacturers and thermal management specialists are helping accelerate technology commercialization. Companies are also expanding production capacities and establishing localized manufacturing hubs to meet regional demand and reduce supply chain lead times.

Contents

CHAPTER 1 METHODOLOGY

- 1.1 Market scope and definition
- 1.2 Research design
 - 1.2.1 Research approach
 - 1.2.2 Data collection methods
- 1.3 Data mining sources
 - 1.3.1 Global
 - 1.3.2 Regional/Country
- 1.4 Base estimates and calculations
 - 1.4.1 Base year calculation
 - 1.4.2 Key trends for market estimation
- 1.5 Primary research and validation
 - 1.5.1 Primary sources
- 1.6 Forecast model
- 1.7 Research assumptions and limitations

CHAPTER 2 EXECUTIVE SUMMARY

- 2.1 Industry 360° synopsis, 2021 - 2034
- 2.2 Key market trends
 - 2.2.1 Regional
 - 2.2.2 Vehicle
 - 2.2.3 Charging Level
 - 2.2.4 Cable Length
 - 2.2.5 Power
 - 2.2.6 Application
 - 2.2.7 Conductor Material
 - 2.2.8 Connector
- 2.3 TAM Analysis, 2025-2034
- 2.4 CXO perspectives: Strategic imperatives
 - 2.4.1 Executive decision points
 - 2.4.2 Critical success factors
- 2.5 Future outlook and strategic recommendations

CHAPTER 3 INDUSTRY INSIGHTS

- 3.1 Industry ecosystem analysis
 - 3.1.1 Supplier landscape
 - 3.1.2 Profit margin analysis
 - 3.1.3 Cost structure
 - 3.1.4 Value addition at each stage
 - 3.1.5 Factor affecting the value chain
 - 3.1.6 Disruptions
- 3.2 Industry impact forces
 - 3.2.1 Growth drivers
 - 3.2.1.1 Rising demand for high-power dc fast charging
 - 3.2.1.2 Increasing EV adoption across passenger and commercial segments
 - 3.2.1.3 Growing investments in charging infrastructure expansion
 - 3.2.1.4 Advancements in cable durability and thermal management
 - 3.2.1.5 Supportive government policies and emission reduction targets
 - 3.2.2 Industry pitfalls and challenges
 - 3.2.2.1 Complex installation and cooling system integration
 - 3.2.2.2 Limited availability of skilled maintenance personnel
 - 3.2.3 Market opportunities
 - 3.2.3.1 Integration of liquid-cooled cables in megawatt charging corridors
 - 3.2.3.2 Expansion of public-private partnerships in EV infrastructure
 - 3.2.3.3 Technological innovation in lightweight and flexible cable design
 - 3.2.3.4 Rising demand for fleet electrification and depot charging
 - 3.2.3.5 Entry of new players offering cost-optimized cooling solutions
- 3.3 Growth potential analysis
- 3.4 Regulatory landscape
 - 3.4.1 North America
 - 3.4.2 Europe
 - 3.4.3 Asia Pacific
 - 3.4.4 LAMEA
- 3.5 Porter's analysis
- 3.6 PESTEL analysis
- 3.7 Technology and Innovation landscape
 - 3.7.1 Current technological trends
 - 3.7.2 Emerging technologies
- 3.8 Patent analysis
- 3.9 Price trends
 - 3.9.1 By region
 - 3.9.2 By vehicle
- 3.10 Cost breakdown analysis

- 3.11 Business Case & ROI Analysis
 - 3.11.1 Total cost of ownership framework
 - 3.11.2 ROI calculation methodologies
 - 3.11.3 Implementation timeline & milestones
 - 3.11.4 Risk assessment & mitigation strategies
- 3.12 Sustainability and environmental impact analysis
 - 3.12.1 Sustainable practices
 - 3.12.2 Waste reduction strategies
 - 3.12.3 Energy efficiency in production
 - 3.12.4 Eco-friendly initiatives
 - 3.12.5 Carbon footprint considerations
- 3.13 Future outlook & opportunities
 - 3.13.1 Emerging Application Opportunities
 - 3.13.2 Investment Requirements & Funding Sources
 - 3.13.3 Risk Assessment & Mitigation Strategies
 - 3.13.4 Strategic Recommendations for Market Participants

CHAPTER 4 COMPETITIVE LANDSCAPE, 2024

- 4.1 Introduction
- 4.2 Company market share analysis
 - 4.2.1 North America
 - 4.2.2 Europe
 - 4.2.3 Asia Pacific
 - 4.2.4 LAMEA
- 4.3 Competitive analysis of major market players
- 4.4 Competitive positioning matrix
- 4.5 Strategic outlook matrix
- 4.6 Key developments
 - 4.6.1 Mergers & acquisitions
 - 4.6.2 Partnerships & collaborations
 - 4.6.3 New Product Launches
 - 4.6.4 Expansion Plans and funding

CHAPTER 5 MARKET ESTIMATES & FORECAST, BY VEHICLE, 2021 - 2034 (\$BN, UNITS)

- 5.1 Key trends
- 5.2 Passenger

- 5.2.1 Hatchbacks
- 5.2.2 Sedans
- 5.2.3 SUV
- 5.3 Commercial
 - 5.3.1 Light commercial vehicles (LCV)
 - 5.3.2 Medium commercial vehicles (MCV)
 - 5.3.3 Heavy commercial vehicles (HCV)

CHAPTER 6 MARKET ESTIMATES & FORECAST, BY APPLICATION, 2021 - 2034 (\$BN, UNITS)

- 6.1 Key trends
- 6.2 Public Charging Stations
- 6.3 Commercial Fleet Charging
- 6.4 Residential / Private Charging
- 6.5 Highway and Long-Distance Charging Networks

CHAPTER 7 MARKET ESTIMATES & FORECAST, BY CHARGING LEVEL, 2021 - 2034 (\$BN, UNITS)

- 7.1 Key trends
- 7.2 Level
- 7.3 Level
- 7.4 Level

CHAPTER 8 MARKET ESTIMATES & FORECAST, BY CABLE LENGTH, 2021 - 2034 (\$BN, UNITS)

- 8.1 Key trends
- 8.2 Below 5 meters
- 8.3 6-10 meters
- 8.4 Above 10 meters

CHAPTER 9 MARKET ESTIMATES & FORECAST, BY POWER, 2021 - 2034 (\$BN, UNITS)

- 9.1 Key trends
- 9.2 AC charging
- 9.3 DC charging

CHAPTER 10 MARKET ESTIMATES & FORECAST, BY CONDUCTOR MATERIAL, 2021 - 2034 (\$BN, UNITS)

- 10.1 Key trends
- 10.2 Copper
- 10.3 Aluminum

CHAPTER 11 MARKET ESTIMATES & FORECAST, BY CONNECTOR, 2021 - 2034 (\$BN, UNITS)

- 11.1 Key trends
- 11.2 Type
- 11.3 Type
- 11.4 CCS1
- 11.5 CCS2
- 11.6 CHAdeMO
- 11.7 Others

CHAPTER 12 MARKET ESTIMATES & FORECAST, BY REGION, 2021 - 2034 (\$BN, UNITS)

- 12.1 Key trends
- 12.2 North America
 - 12.2.1 US
 - 12.2.2 Canada
- 12.3 Europe
 - 12.3.1 Germany
 - 12.3.2 UK
 - 12.3.3 France
 - 12.3.4 Italy
 - 12.3.5 Spain
 - 12.3.6 Russia
- 12.4 Asia Pacific
 - 12.4.1 China
 - 12.4.2 India
 - 12.4.3 Japan
 - 12.4.4 Australia
 - 12.4.5 South Korea

12.4.6 Philippines

12.4.7 Indonesia

12.5 LAMEA

12.5.1 Brazil

12.5.2 Mexico

12.5.3 Argentina

12.5.4 South Africa

12.5.5 Saudi Arabia

12.5.6 UAE

CHAPTER 13 COMPANY PROFILES

13.1 Global Players

13.1.1 ABB

13.1.2 Aptiv

13.1.3 Huawei

13.1.4 Huber+Suhner

13.1.5 Johnson Electric

13.1.6 Leoni AG

13.1.7 Phoenix Contact

13.1.8 Siemens

13.1.9 Sinbon Electronics

13.1.10 TE Connectivity

13.1.11 Volex

13.2 Regional Players

13.2.1 Blink Charging

13.2.2 Boyd

13.2.3 BTC Power

13.2.4 CPC Worldwide

13.2.5 FreeWire Technologies

13.2.6 Kempower

13.2.7 OMG

13.2.8 Tritium

13.2.9 Wallbox

13.3 Emerging Players

13.3.1 AG Electrical

13.3.2 Cargill

13.3.3 Engineered Fluids

13.3.4 E-valucon / Sam Woo Electronics

13.3.5 i-charging

13.3.6 Linke Cable Technology

13.3.7 Senku

13.3.8 TST Cables

I would like to order

Product name: Liquid-Cooled EV Charging Cable Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

Product link: <https://marketpublishers.com/r/LD18D0F41145EN.html>

Price: US\$ 4,850.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/LD18D0F41145EN.html>