

Global Automotive Pyrotechnic Battery Disconnect (PBD) Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global Automotive Pyrotechnic Battery Disconnect (PBD) market size was valued at US\$ 1019 million in 2025 and is forecast to a readjusted size of US\$ 2448 million by 2032 with a CAGR of 13.3% during review period.

Automotive Pyrotechnic Battery Disconnect (PBD) is a vehicle battery safety disconnect device used in high-voltage power systems, designed to rapidly separate the conductive path through a pyrotechnic actuator during collision, short circuit, thermal event, or severe electrical fault, thereby isolating the battery pack and reducing secondary electrical safety risks. Compared with conventional mechanical disconnectors or fuse-based protection devices, its advantages lie in millisecond-level response, reliable one-time interruption, strong high-voltage fault isolation capability, compact structure, high integration with vehicle safety systems, and better suitability for electric vehicle battery platforms. In 2025, production was approximately 45 million units and the average price was USD 22 per unit. The industry's capacity utilization rate in 2025 was about 73% and the average gross margin was around 43%. Upstream, the key inputs include melt materials, busbar systems, and electronic control units, with representative suppliers such as Mersen, Rogers Corporation, and Bosch providing melt protection materials, conductive busbar systems, and control electronics. The midstream segment focuses on pyrotechnic actuator design, high-voltage conductive path separation, fuse element matching, sealing and insulation design, ignition reliability control, crash-signal response validation, high-voltage safety testing, thermal and vibration reliability verification, and automated assembly, which together determine breaking speed, battery isolation reliability, high-voltage endurance, safety consistency, and cost competitiveness. Downstream, Pyrotechnic Battery Disconnect (PBD) is mainly used in battery electric

vehicles and hybrid electric vehicles, with representative customer companies including Tesla, BYD, and Toyota.

The Automotive Pyrotechnic Battery Disconnect (PBD) works as an active current circuit breaker. When the signal is detected from the vehicle, an ignition current is generated to operate the pyro switch, shutting down the circuit, preventing electrical flow and decrease the risk of fire. Pyro switch is controlled by software and precisely cuts off the circuit in a few milliseconds. Pyro switch can cut off current in the event of current faults (short circuit/electrical overload, etc.) or non-current faults (collision/overheating, etc.) to protect passengers and vehicles.

This report is a detailed and comprehensive analysis for global Automotive Pyrotechnic Battery Disconnect (PBD) market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global Automotive Pyrotechnic Battery Disconnect (PBD) market size and forecasts, in consumption value (\$ Million), sales quantity (K Units), and average selling prices (US\$/Unit), 2021-2032

Global Automotive Pyrotechnic Battery Disconnect (PBD) market size and forecasts by region and country, in consumption value (\$ Million), sales quantity (K Units), and average selling prices (US\$/Unit), 2021-2032

Global Automotive Pyrotechnic Battery Disconnect (PBD) market size and forecasts, by Type and by Application, in consumption value (\$ Million), sales quantity (K Units), and average selling prices (US\$/Unit), 2021-2032

Global Automotive Pyrotechnic Battery Disconnect (PBD) market shares of main players, shipments in revenue (\$ Million), sales quantity (K Units), and ASP (US\$/Unit), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Automotive Pyrotechnic Battery Disconnect (PBD)

To forecast future growth in each product and end-use market

To assess competitive factors affecting the marketplace

This report profiles key players in the global Automotive Pyrotechnic Battery Disconnect (PBD) market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Autoliv (Sweden), Daicel (Japan), Pacific Engineering Corporation (Japan), Littelfuse (USA), Mersen (France), Eaton (Ireland), Miba AG (Austria), MTA Group (Italy), Xi'an Sinofuse Electric (China), Joyson Electronic (China), etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

Automotive Pyrotechnic Battery Disconnect (PBD) market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

High Voltage (Above 700V)

Mid Voltage (400V-700V)

Low Voltage (Below 400V)

Market segment by Current

Current?250A

250A

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