

# Delphi Frontal Airbag Modules

## ► Description

Delphi Frontal Airbag Modules are key components of our total safety system product portfolio. Employing patented Delphi technologies, we design, validate, and manufacture driver, passenger, and knee airbags for vehicle manufacturers worldwide. Advanced airbag technologies enable Delphi to provide airbag systems with adaptive features like cushion deployment volume, inflation output, and venting based on crash conditions. These visually-appealing, high-performance products are reliable, of world-class quality, and easily integrated into the vehicle.

## ► Benefits

- Vertical integration for production of cushions, covers, inflation devices and lead wires for module assembly in the United States, Europe and Asia
- High-value, cost-competitive products to help vehicle manufacturers meet U.S. FMVSS 208 and other regulatory requirements
- Help improve occupant protection performance in vehicle assessment programs including the NHTSA New Car Assessment Program (NCAP)



**Delphi Frontal Airbag Modules**

## **Delphi Dual-depth Passenger Airbag**

The Delphi Dual-depth Passenger Airbag is designed to enhance protection of a vehicle's front seat occupants—no matter what their size—in moderate to severe crash situations. To maximize protection, the rate at which the airbag inflates and the extent to which it fills corresponds to the situation. The Dual-depth Passenger Airbag deploys in a small or large size based upon sensing inputs such as occupant size, occupant position, seat belt usage, crash severity, and crash direction. Packaged in the same manner as a conventional airbag, the Dual-depth Passenger Airbag does not require vehicle architecture changes.

### Delphi Frontal Airbag Modules



5th percentile female seated in the full-forward position. Dual-depth airbag is at restrained deployment depth and inflation is at low output.



50th percentile male in mid-seat position. Dual-depth airbag deploys to full depth and inflation is at full output.

#### ► Benefits

- Provides safety benefits for a variety of crash scenarios and occupant sizes/conditions
- Does not require vehicle architecture design changes
- Compatible with existing restraint system electronics
- Advanced performance with only 2 firing loops
- Helps meet consumer demand for enhanced safety

#### ► Features

- Variable inflation outputs
- Extendable and constrained cushion depths
- Selectable cushion venting levels

#### **Delphi Mechanical Proximity Sensing Low Risk Deployment Airbag**

Delphi's Mechanical Proximity Sensing Low Risk Deployment Airbag offers self-contained assessment of occupant size and proximity during airbag deployment and adjusts output to provide an appropriate level of restraint. The airbag lowers its deployment energy for near-proximity occupants, helping to reduce the need for seat-based suppression systems. The system does not compromise in-position and high-severity performance and may provide beneficial supplemental restraint for properly restrained small occupants.

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### ▶ Benefits

- Simple, yet highly-effective design
- Compatible with IP integrated, hidden deployment door
- Can be incorporated in both mid- and top-mount airbag locations

### ▶ Features

- Handles both punch-out and membrane induced injuries

### **Snap-in Driver Airbag Module**

Delphi's Snap-in Driver Airbag Module features a patented design that allows it to be "snapped" into the steering wheel, minimizing vehicle assembly plant installation effort and time.

### ▶ Benefits

- Ease of assembly and service
- Assembly requires no power tools inside vehicle
- Reduced warranty claims
- Fewer accidental cuts or scuffs
- Extensive production experience—more than 24 million modules produced

### ▶ Features

- Snap-in module with attached mounting pins
- Cross-threading fasteners eliminate scrap
- Steering wheel with spring clips