Combustion

Hybrid

Explore our Technologies

Multi-Mode Clutch Module

for combustion and hybrid vehicles

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BorgWarner

Multi-Mode Clutch Module

The BorgWarner Multi-Mode Clutch is a multi-mode rotation device.

The flexible clutch design can provide up to four different modes and combinations:

1. Overrun Mode – freewheel in both rotation directions with very low drag

2. Lock Mode – transmits torque in both rotation directions similar to a dog clutch

3. One-way Clockwise Mode – Clutch race freewheels in clockwise rotation direction and locks in opposite direction

4. One-way Counter Clockwise Mode - Clutch race freewheels in counter clockwise rotation direction and locks in opposite direction

How the Multi-Mode Clutch works:

The TCU selects the operating mode. The actuator indexes the cam plate to block or unblock locking element(s).

Features and Benefits

- Improved fuel economy
- High torque capacity
- Flexible engagement control
- Better shift feel
- Lower system total mass
- Lower rotating mass
- Optimal fail-safe mode cam plate flexibility
- Centrifugally engaging or disengaging locking elements
- Simplified manufacturing (Bearing grade steels NOT required)
- Small cross-section requirements – axially and radially
- Can reduce total number of clutches in transmission
- Can be used for either rotating or stationary clutch applications or as a friction clutch backing plate
- Has best-in-class hydraulic response
- Electro-mechanical actuation available

For Additional BorgWarner Information:
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