WHEEL-END DISCONNECT
Battery Electric Vehicles

A 2-position wheel-end disconnect to reduce drivetrain losses and increase vehicle range. The device can be activated at cruising speeds when only 2WD is required to mechanically disconnect the e-motor and axel shaft from the wheel hub. The wheel-end disconnect has zero drag in 2WD. Additionally, the device can be actuated quickly to provide 4WD during a loss of traction or to restore full vehicle torque on-demand.

The disconnect contains a bi-stable actuator with on-board position sensing to verify spline engagement and disengagement using PWM or SENT protocol. Optional on-board speed sensing is available to facilitate half-shaft to wheel hub speed synchronization. The actuator is only powered momentarily during actuation, with zero current draw while holding in 2WD or 4WD.

Change of State: Current is supplied to device, the actuator changes states and translates clutch ring to couple or de-couple the half-shaft and wheel hub. The position sensor verifies the engagement or disengagement of the system, and then the power is turned off while the system holds the desired state.

***Technical Data:**
Nominal Torque Rating: Up to >3000Nm
Resistance: 0.93±1.05Ω @ 20°C
Inductance: 6mH
Operating Current: (+) or (-) 7A, 0A hold
Preferred PWM Frequency: 1000Hz Min
Response Time: <50ms
Sealing: Knuckle PIP Face Seal
Half-Shaft Dynamic Seal
Lubrication: Grease

***Operating Limits**
Voltage: 10.5-16VDC
Ambient Temp: -20°C to 125°C

***Survivable Limits:**
Ambient Temp: -40°C to 125°C

*Contact Husco engineering for customized performance, sensing, mounting, or connectors.

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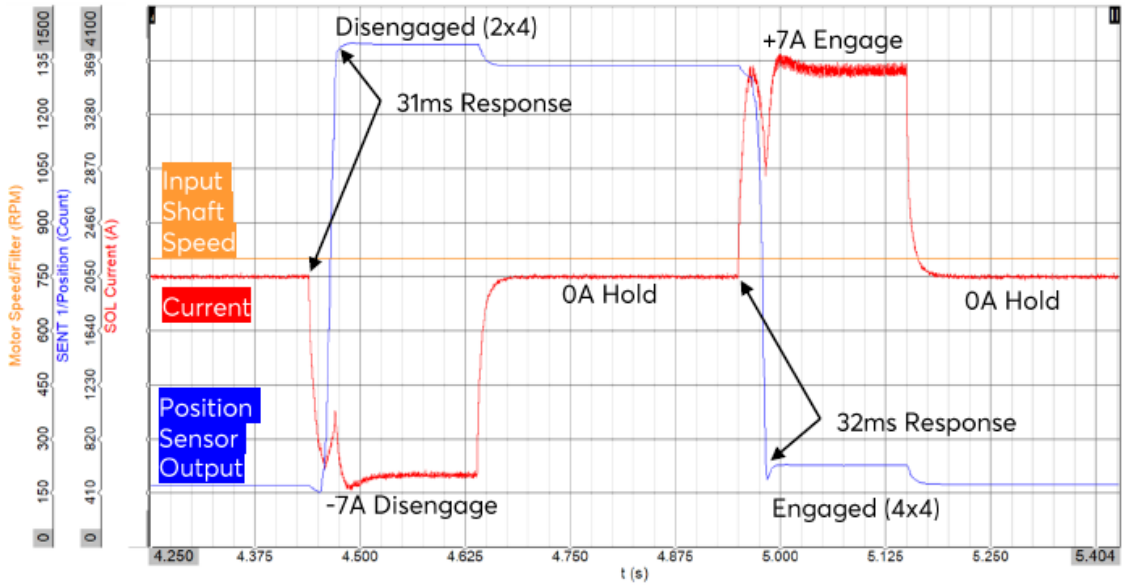
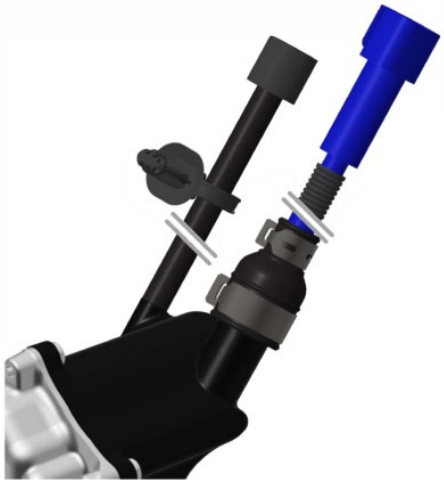
Performance Curve

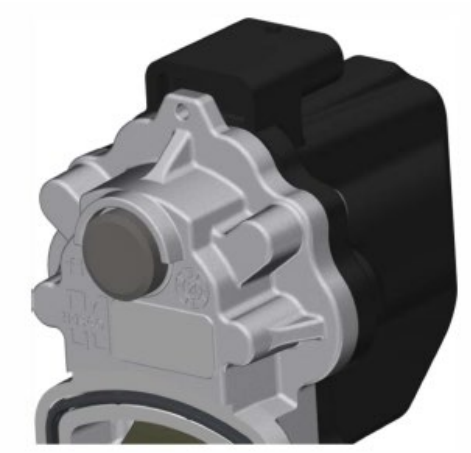


Common Variants

Wiring Harness with Wire Seal and Remote Vent with Jiggle Cap



Molded Connector with ePTFE Vent on Housing



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