



BY-WIRE-KIT

Developed for on/off road autonomy

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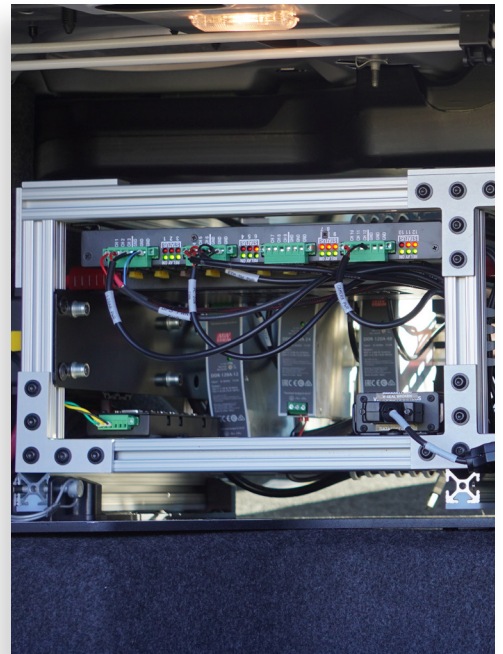
Dataspeed Drive-By-Wire Kit

For Control of Autonomous Platform

The By-Wire Kit is a complete industrial-grade hardware and software solution that allows seamless electronic control of a vehicle's brake, throttle, steering, and shifting to enable testing for autonomous vehicle applications. The By-Wire Kit taps into the vehicle's existing control system and CAN bus messaging with minimal modifications to production parts and without disabling safety features. It can be installed within a few days, allowing engineers to get up and running quickly on algorithm, sensor, or data research.

What Hardware is Included?

- Brake, throttle, steer, and shift by-wire controller modules
- CAN interface module with 4 networks up to 1Mbps each and configurable bit rates
- CAN breakout module enabling up to five additional nodes (additional available for further expansion)
- Intelligent Power Distribution System (iPDS) with 12 Channels
- Touchscreen Display Kit for iPDS
- Inverter module (if required based on geographic location)
- Discrete wiring harness with positive locking mechanisms on every connector
- E-Stop Button
- Installation Baseplate and Mounting Rack (if applicable to vehicle platform)
- Demonstration Pack including joystick controller and carrying bag



Ford Mustang Mach-E

Vehicle Type: Crossover
Model Years: 2021-2023



Ford F-150 Lightning

Vehicle Type: Pickup
Model Years: 2022-2024
Required Features: Adaptive Cruise Control
Console Mounted Shifter**



Ford F-150

Vehicle Type: Pickup
Model Years: 2021-2023
Required Features: Adaptive Cruise Control
Console Mounted Shifter**



Ford E-Transit

Vehicle Type: Cargo Van
Model Years: 2022-2024



Polaris RZR Pro R

Vehicle Type: UTV
Model Years: 2024
Required Features: Electronic Power Steering (EPS)



Polaris RZR XP 1000

Vehicle Type: UTV
Model Years: 2022-2024
Required Features: Electronic Power Steering (EPS)



Polaris Ranger XP 1000 Northstar

Vehicle Type: UTV
Model Years: 2023-2024
Required Features: Electronic Power Steering (EPS)

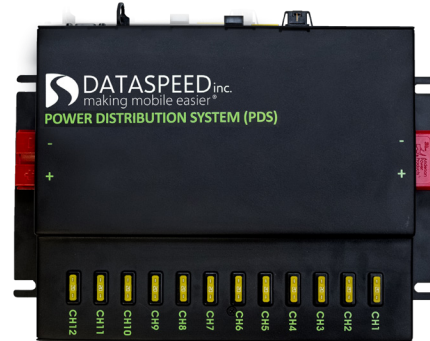
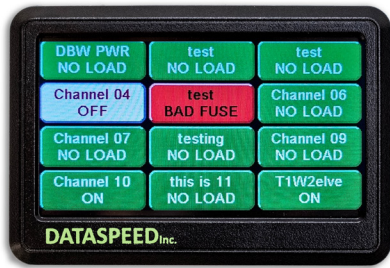


Polaris RZR Pro XP

Vehicle Type: UTV
Model Years: 2023-2024
Required Features: Electronic Power Steering (EPS)

Maintenance & Support

- One year By-Wire Maintenance Subscription is included for hardware replacement & firmware updates
- By-Wire hardware, such as the electronic control units and other components, will be unconditionally replaced if any defect is found (not valid if tamper proof seal is broken)
- Telephone and email support is included for any issue that arises during installation or use of the By-Wire Kit
- Access is provided to all the latest software and firmware releases, as they are made available



What software is included?

Controlling vehicle actuators in a self-driving vehicle can be challenging and time consuming without adding significant value to higher-level projects. The included Dataspeed ROS Driver and Universal Lat/Lon Controller (ULC) is designed to alleviate this issue. The ULC provides equivalent interface and control behavior across all Dataspeed By-Wire platforms. Therefore, engineers using a particular vehicle platform can easily port existing software to another platform.

- Embedded Drive-by-Wire Kit Firmware
- Full-range Speed Control
- Automatic Shifting
- Natural Set Speed Transitioning
- Kinetic Yaw Rate and Curvature Control
- Configurable Dynamics Limits
- Independent Subsystem Disabling
- Versatile Integration with Other Controllers



Ford Ranger

Vehicle Type: Pickup

Model Years: 2019-2021

Required Features: Console Mounted Shifter**



GEM

Vehicle Type: Neighborhood

Model Years: 2016-2023

Required Features: Tilt Steering with EPS



Ford Fusion / Mondeo

Vehicle Type: Sedan

Model Years: 2017-2020*

Required Features: Hybrid



Jeep Grand Cherokee

Vehicle Type: SUV

Model Years: 2018-2021

Required Features: Adaptive Cruise Control with Stop
Parallel & Perpendicular Park Assist



Ford Edge

Vehicle Type: SUV

Model Years: 2019-2022

Required Features: Adaptive Cruise Control



Lincoln MKZ

Vehicle Type: Sedan

Model Years: 2017-2020

Required Features: Hybrid



Lincoln Aviator

Vehicle Type: SUV

Model Years: 2020-2021

Required Features: Adaptive Cruise Control
Active Park Assist



Chrysler Pacifica

Vehicle Type: Minivan

Model Years: 2017-2022

Required Features: Parallel & Perpendicular Park Assist
Hybrid

PARTNER WITH DATASPEED

Dataspeed specializes in innovative autonomous vehicle (AV) research and testing platforms. Whether your company is new to the industry or is looking to expand your current fleet, our experienced team of engineers and business professionals can guide your organization in developing an action plan to meet your specific needs. We're skilled in full vehicle integration including by-wire implementation, sensor and computer installation, data acquisition, and vehicle communications.

Our vehicle systems engineers have extensive experience creating custom hardware and software solutions. Contact us today to discuss how Dataspeed can accelerate your AV research and development.



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