



# Transform Data Sheet

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## Mx-SP CAN-DBC

This is a powerful **Transform** that configures itself automatically as the Vehicle Model based on the available information in the CAN DBC file.

### The CAN DBC Transform does the following:

- Reads and interprets the CAN DBC file and configures itself a model of the vehicle electronics. Several CAN DBC Transforms can be loaded modeling the electronics on all busses.
- When enabled, automatically transmits the periodic and event-driven messages onto the virtual CAN bus (the Virtual CAN bus is easily connected to a real CAN using existing **Connector Transforms** for Vector and ValueCAN CAN transceivers).
- Automatically populates the Data Dictionary in **Mx-VDev™** so that you can include the signal in test cases that you build.
- Automatically creates Interactive Test Panels. These can be loaded into **Mx-VDev**, giving you immediate access to modify the signals through text boxes, radio buttons, slider controls, combo boxes, etc. As you change values in the Interactive Test Panel, values are automatically transmitted on the bus.
- If you create a test case with, for example, a sine wave applied to the Wheel Speed signal, if wheel speed is a periodic signal in a CAN message, then automatically the value of the Sine wave will be:
  - Sampled at the periodic rate
  - Scaled as specified in the DBC file
  - Packed into the appropriate CAN message
  - And transmitted on the CAN bus at the appropriate time
- If the CAN DBC file changes it can be automatically imported again to update the **Transform**.

Consider the case where you are testing a Simulink model (which knows nothing of BUS messages, and deals only in Signals). You want the test cases to be re-usable in the HIL environment (the HIL environment may utilize a simple CAN USB transceiver or may be a comprehensive HIL system). This is where the CAN DBC Transform comes in really handy. In the scenario above you have now got everything you need to start building portable tests:

- Place the CAN DBC **Transform** in your Virtual Wiring Harness.
- Set its DBC file reference to the appropriate DBC file. Select the ECU under test to filter the Signals that are imported (if desired), and import.
- Configure it to use any one of the Virtual VAN busses.
- Attach a CAN **Connector Transform** if needed.
- Start building test cases – the Data Dictionary will already be populated with the Signals from the DBC file.
- Simple aliases can be used if needed to map the Signals to the Simulink model.
- Reuse tests in the HIL environment simply by enabling the **CAN DBC Transform**.