VECTOR

vMeasure Option Diadem

Product Information

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Valid for vMeasure Option DIAdem as of version 10.0.

This document describes the application areas of vMeasure Option DIAdem. The document provides a brief overview of its function and supported interfaces.

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1. Overview

1.1 Introduction

DIAdem is a software environment from National Instruments for use on standard desktop PCs and laptops. It is used wherever measurement and analysis data is generated. vMeasure Option DIAdem and vMeasure Option DIAdem Basic extend the functional scope of DIAdem with the acquisition of bus signals which are defined in a database.

1.2 Advantages at a Glance

vMeasure Option DIAdem accesses bus signals exclusively by their symbolic names. The raw data is converted automatically into physical values. This is done using conversion rules from the database. If the bus configuration (e.g. conversion rules) changes, it is only necessary to edit the database. The references in the DIAdem measurement structure can be updated automatically. vMeasure Option DIAdem also supports the J1939 protocol (mixed mode J1939 and extended CAN IDs).

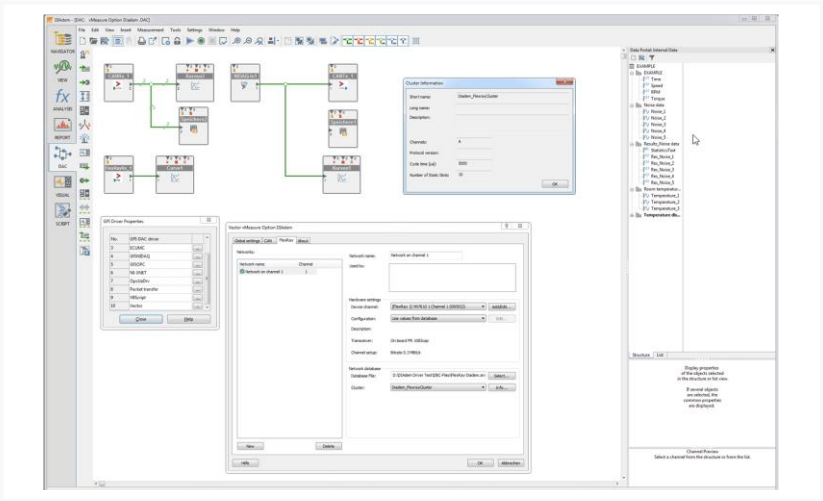


FIGURE 1: vMeasure Option DIAdem makes it possible: signal-oriented measurement of bus systems in DIAdem

1.3 Supported Bus Systems

> CAN
> CAN FD
> FlexRay

1.3.1 Supported Database Formats:

> DBC (for CAN, CAN FD)
> FIBEX (for FlexRay)
> ARXML (for CAN, CAN FD, FlexRay)

1.3.2 vMeasure Option DIAdem Supported Protocol Functions:

> Receiving signals (CAN, CAN FD, FlexRay)
> Sending signals (CAN, CAN FD)
> Receiving signals in PDUs (CAN, CAN FD, FlexRay)
> Sending signals in PDUs (CAN, CAN FD)
> Checksum calculation according to SAEJ1850

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> Checksum calculation according to AUTOSAR Profiles 2 and 5
> Signal multiplexing
> J1939
> Receiving signals in SecOC PDUs (CAN, CAN FD, FlexRay)

1.4 Supported Network Interfaces

Bus System	Interface	PC Connection
CAN (FD), LIN and J1939	CANcardXL[1,2] / CANcardXLe [1,2] /CANcaseXL[1,2], CANcase XL log[1,2], CANboardXL Interface Family[1,2], VN1600 Interface Family	PCMCIA / ExpressCard USB PCI, PCIe, PXI USB
CAN (FD) and Ethernet	VN5610A[2] and VN5640[2]	USB
FlexRay and CAN (FD)	VN7570[2], VN7572 VN7600[1,2], VN7610 VN7640 VN8900 Interface Family	PCIe USB USB or Ethernet USB (RT PC) or Ethernet

[1] not CAN FD capable
[2] legacy devices

1.5 System Requirements

> DIAdem Version 2023 (32-bit or 64-bit) or higher
> vMeasure Option DIAdem license
> Vector CAN-Driver Version 10.0 or higher
> Windows 10 / 11

2. Application Areas

vMeasure Option DIAdem can be used in all phases of the development and production of vehicles, where measurement data must be analyzed, compared and presented together with the results in meaningful reports.

3. Functions

vMeasure Option DIAdem supports simultaneous use of up to 200 CAN channels or 64 FlexRay channels. Other Vector CAN tools as well as applications created with the Vector XL-Driver-Library can be used at the same time and on the same channels. Virtual CAN channels are also available for tests without hardware.

vMeasure Option DIAdem Basic has the same functional scope as Option DIAdem with the exception of the following functions:

> No FlexRay support
> No support of PDUs or SecOC PDUs
> No checksum calculation according to AUTOSAR profiles 2 and 5

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