

CAN Basics

Duration:	1 Day
Target group:	CAN users
Prerequisites:	none

1 Introduction to serial bus systems in motor vehicles (1,0 h)

Goal: Build an understanding of serial communications in the motor vehicle

Contents: Motivation for the use of serial communication systems, properties of serial communication systems

2 Introduction to the Controller Area Network (CAN) (0,5 h)

Goal: Build an understanding of the Controller Area Network (CAN)

Contents: Requirements of CAN, creating a CAN characteristic, areas of usage for the CAN protocol, CAN in the motor vehicle, milestones of CAN development

3 CAN Physical Layer (0,5 h)

Goal: Build an understanding of the CAN physical layer

Contents: Standards and implementation, CAN-High- und CAN-Low-speed-communication, physical signal transmission, voltage levels, bandwidth

4 CAN Protocol (5 h)

Goal: Understanding of the basic principles of the CAN protocol

Contents: Bus levels, signal encoding, signal delay, synchronization, resynchronization, bit time interval, bit stuffing, bus access methods, message transmission, message formats, error detection and error handling, failure detection, demonstrations with CANalyzer, CANscope and CANstress, future prospects, lots of exercises

5 Questions, Feedback, Suggestions

Goal: Clarification of open issues and open discussion as feedback for Vector