

CAN Fundamentals

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) (1,0 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 Protocol (4,0 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 Vector tools, future prospects, exercises

4 CAN Controller (0,5 h)

Goal: Build an understanding of the way a CAN controller works

Contents: Tasks of a CAN controller, integration variants and protocol variants, implementation variants (Basic-CAN and Full-CAN concepts)

5 Physical Bus Interface (0,5 h)

Goal: Build an understanding of the physical relationships in CAN

Contents: CAN transmission system, standards, CAN Low-Speed bus interface and CAN High-Speed bus interface

6 Questions, Feedback, Suggestions

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