



# ASAM

Association for Standardization of  
Automation and Measuring Systems

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## **ASAM CMP**

Capture Module Protocol

Part 1 of 1

### **Protocol Layer Specification**

Version 1.1.0

Date: 2026-01-31

### **Base Standard**

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## Foreword

ASAM e.V. (Association for Standardization of Automation and Measuring Systems) is a non-profit organization that promotes standardization of tool chains in automotive development and testing. Our members are international car manufacturers, suppliers, tool vendors, engineering service providers, and research institutes. ASAM standards are developed by experts from our member companies and are based on real use cases. ASAM is the legal owner of these standards and is responsible for their distribution and marketing.

ASAM standards span a wide range of use cases in automotive development, test, and validation. They define file formats, data models, protocols, and interfaces. The standards enable easy exchange of data and tools within and across tool chains. They are applied worldwide.

The Capture Module Protocol (CMP) defines the communication between Data Sinks and Capture Modules. Capture Modules capture automotive bus communication and sensor data. Starting with CMP 1.1 Capture Modules may also support transmission.

# Introduction

## Overview

The Capture Module Protocol (CMP) defines the communication between Data Sinks and Capture Modules. CMP uses Ethernet as transport medium.

ASAM CMP also describes how to represent vehicle bus communication and sensor data. The CMP Messages can be stored at the receiver (for example Data Sink), or further decomposed and analyzed. ASAM CMP provides a mechanism for transmitting data to Capture Modules for onward delivery via the applicable communication technologies.

The current ASAM CMP specification supports the following buses/signals:

- CAN / CAN FD (including CAN FD light)
- LIN
- FlexRay
- Digital signals
- UART / RS-232
- Analog signals
- Ethernet
- Raw Ethernet
- Ethernet 10BASE-T1S Symbols
- SPI
- I2C
- GigE Vision
- MIPI® CSI-2® D-PHY<sup>SM</sup>
- A<sup>2</sup>B<sup>TM</sup>
- Vendor-specific

In addition to the captured buses/signals, meta information, like errors, is transmitted. ASAM CMP also includes the specification of:

- Status Messages
- Control Messages
- Vendor-defined Messages

Beside the protocol also configuration mechanisms for capture modules are described and the mechanisms for time synchronization of capture modules is defined.