
**Road vehicles — Automotive multimedia
interface —**

**Part 5:
Common message set**

*Véhicules routiers — Interface multimédia pour l'automobile —
Partie 5: Exigences de message commun*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 22902-5 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

ISO 22902 consists of the following parts, under the general title *Road vehicles — Automotive multimedia interface*:

- *Part 1: General technical overview*
- *Part 2: Use cases*
- *Part 3: System requirements*
- *Part 4: Network protocol requirements for vehicle interface access*
- *Part 5: Common message set*
- *Part 6: Vehicle interface requirements*
- *Part 7: Physical specification*

Introduction

This part of the standard Common Message Set concerns a set of application-layer messages that “AMI-C” multimedia networks must support and thus the name Common Message Set (CMS).

This part provides two types of information for system communication:

- *It defines the exact list of functions for, and therefore sets the boundary of, the communication in an “AMI-C” system. The communication could take place between an “AMI-C” compliant vehicle and an “AMI-C” network or between two “AMI-C” networks. The list of the functions is the consensus of ISO experts.*
- *It provides standardized descriptions of the listed functions in network-independent message format.*

The purpose of a CMS is to achieve interoperability and interchangeability among networked components in an “AMI-C” system. It does this by exactly defining the semantics of each message. The CMS is based on, and developed in, ASN.1 (Abstract Syntax Notation One). For any specific network technology, the CMS needs to be encoded in a manner consistent with the network protocol.

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Road vehicles — Automotive multimedia interface —

Part 5: Common message set

1 Scope

This documents covers the following aspects of an Common Message Set:

- the Common Message Set definition;
- ASN.1 format for the Common Message Set;
- standardized descriptions of the selected functions in a network independent message format.

The descriptions cover the following message categories and classes:

- Management
 - Network management messages
 - Resource management messages
- Vehicle
 - Core messages
 - Body module messages
 - Powertrain messages
 - Vehicle diagnostics messages
- Audio / Video
 - Amplifier messages
 - General player messages
 - Disk media messages
 - Tape media messages
 - Tuner messages
- Phone
 - Basic phone messages
 - Advanced phone messages
- HMI
 - Text Display messages

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 8824-1, *Information technology — Abstract Syntax Notation One (ASN.1) — Part 1: Specification of basic notation*

ISO/IEC 8824-2, *Information technology — Abstract Syntax Notation One (ASN.1) — Part 2: Information object specification*

AMI-C 2003, AMI-C vehicle interface requirements, v1.00

ASN.1 Complete, Prof John Lamouth

ASN.1 – *Communication between heterogeneous systems*, Olivier Dubuisson, Morgan Kaufmann Publishers

3 Common Message Set Definition

Feature sets that can be uniquely addressed for messaging are defined as objects. A specific attribute of an object is called property of an object. Each object has one or more properties. For example, the odometer object can provide an absolute mileage property or the changed value (delta) property. Also, an object type can have multiple instances of it present in a vehicle. Multiple instances are designated through position of an object. For example, brake object has enumeration such as hand, engine, right foot, etc. An object with only one instance, e.g., engine, can be designated with a no-position enumerator.

3.1 Common Message Set Transaction

3.1.1 Message Type (Msg Type)

The Message Type indicates the action required on the destination node. Message Type can have 6 values: INQUIRE, REPORT, SET, CONFIRM, COMMAND, and WARNING.

Figure 1 illustrates the relationship between the INQUIRE and REPORT message types.

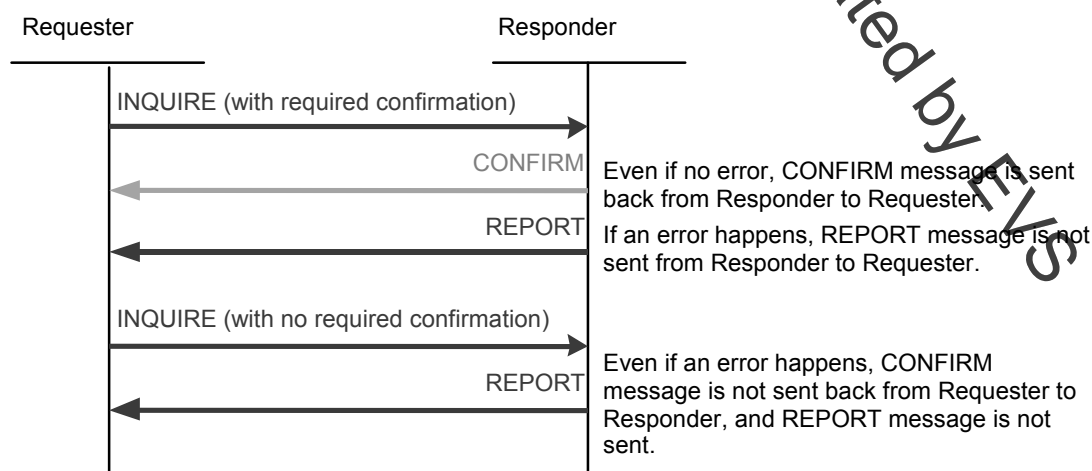


Figure 1 — INQUIRE and REPORT message sequence