

French standard

NF ISO 11783-11
September 2007

Classification index: **U 05-100-11**

ICS: 35.240.99; 65.060.01

Tractors and machinery for agriculture and forestry

Serial control and communications data network

Part 11: Mobile data element dictionary

F : Tracteurs et matériels agricoles et forestiers — Réseaux de commande et de communication de données en série — Partie 11 : Dictionnaire de données d'éléments mobiles

D : Traktoren und Maschinen für landwirtschaft und Forsten — Serielle Steuerung und Kommunikationsnetzwerk — Teil 11: Mobiles Datenwörterbuch

French standard approved

by decision of the Director General of AFNOR on August 1st, 2007 taking effect on September 1st, 2007.

Correspondence

This document reproduces in full the international standard ISO 11783-11:2007.

Analysis

This part of 11783 specifies a serial data network for control and communications on forestry or agricultural tractors and mounted, semi-mounted, towed or self-propelled implements. Its purpose is to standardize the method and format of transfer of data between sensor, actuators, control elements, information storage and display units, whether mounted on, or part of, the tractor or implement.

This part of ISO 11783 specifies the identifiers for the data elements that are used in process data messages covered in ISO 11783-7 and ISO 11783-10.

Descriptors

Technical International Thesaurus: agricultural machinery, agricultural tractors, forest equipment, information interchange, network interconnection, data transfer, control devices, mobile equipment, data.

Modifications

Corrections



National foreword*References to French standards*

The correspondence between the standards figuring in the clause "Normative references" and the identical French standards is as follows:

ISO 11783-1 : NF ISO 11783-1 (classification index: U 05-100-1) ¹⁾

¹⁾ Currently being prepared.



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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 11783-11 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 19, *Agricultural electronics*.

ISO 11783 consists of the following parts, under the general title *Tractors and machinery for agriculture and forestry — Serial control and communications data network*:

- *Part 1: General standard for mobile data communication*
- *Part 2: Physical layer*
- *Part 3: Data link layer*
- *Part 4: Network layer*
- *Part 5: Network management*
- *Part 6: Virtual terminal*
- *Part 7: Implement messages application layer*
- *Part 8: Power train messages*
- *Part 9: Tractor ECU*
- *Part 10: Task controller and management information system data interchange*
- *Part 11: Mobile data element dictionary*
- *Part 12: Diagnostics*
- *Part 13: File server*

Automated functions is to form the subject of a future Part 14.



Introduction

ISO 11783 specifies a communications system for agricultural equipment based on the CAN 2.0 B ^[1] protocol. SAE J 1939 ^[2] documents, on which parts of ISO 11783 are based, were developed jointly for use in truck and bus applications and for construction and agriculture applications. Joint documents were completed to allow electronic units that meet the truck and bus SAE J 1939 specifications to be used by agricultural and forestry equipment with minimal changes.

General information on ISO 11783 is to be found in ISO 11783-1. The purpose of ISO 11783 is to provide an open, interconnected system for on-board electronic systems. It is intended to enable electronic units (ECUs) to communicate with each other, providing a standardized system.

The International Organization for Standardization (ISO) draws attention to the fact that it is claimed that compliance with this part of ISO 11783 may involve the use of a patent concerning the Controller Area Network (CAN) protocol referred to throughout the document.

ISO takes no position concerning the evidence, validity and scope of this patent.

The holder of this patent has assured ISO that he is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent is registered with ISO. Information may be obtained from:

Robert Bosch GmbH
Wernerstraße 51
Postfach 30 02 20
D-70442 Stuttgart-Feuerbach
Germany

Attention is drawn to the possibility that some of the elements of this part of ISO 11783 may be the subject of patent rights other than that identified above. ISO shall not be held responsible for identifying any and all such patent rights.



Tractors and machinery for agriculture and forestry — Serial control and communications data network —

Part 11: Mobile data element dictionary

1 Scope

ISO 11783 as a whole specifies a serial data network for control and communications on forestry or agricultural tractors and mounted, semi-mounted, towed or self-propelled implements. Its purpose is to standardize the method and format of transfer of data between sensor, actuators, control elements, information storage and display units, whether mounted on, or part of, the tractor or implement. This part of ISO 11783 specifies the identifiers for the data elements that are used in the process data message covered in ISO 11783-7 and ISO 11783-10.

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 11783-1, *Tractors and machinery for agriculture and forestry — Serial control and communications data network — Part 1: General standard for mobile data communication*

ISOBUS Data Dictionary, <http://www.isobus.net/>

3 Terms, definitions, symbols and abbreviated terms

For the purposes of this document, the terms, definitions, symbols and abbreviated terms given in ISO 11783-1 apply.

4 Technical requirements

4.1 General

The variable data that are sent in the process data message in accordance with ISO 11783-7 shall be as defined by the ISOBUS Data Dictionary. The maintenance of this on-line database has been assigned to VDMA (German Engineering Federation), appointed as Maintenance Agency by the ISO Technical Management Board. The database is accessible at the ISOBUS Web site (www.isobus.net).



4.2 Process data element definitions

The description of the process data element definitions consists of the following attributes:

- identification number;
- process data element definition;
- range of the process data element;
- resolution of the process data element;
- units of the process data element.



Bibliography

- [1] CAN Specification Version 2.0 Part B, Robert Bosch GmbH, September 1991
- [2] SAE J 1939/81, *Recommended Practice for Serial Control and Communications Data Network — Part 81: Network Management*
- [3] ISO 7498 (all parts), *Information processing systems — Open Systems Interconnection — Basic Reference Model*
- [4] ISO 11519-1, *Road vehicles — Low-speed serial data communication — Part 1: General and definitions*
- [5] ISO 11898 (all parts), *Road vehicles — Controller area network (CAN)*

