

STN	Cisterny na prepravu nebezpečných látok Digitálne rozhranie pre zariadenie na rozpoznávanie výrobkov	STN EN 14116+A2 69 8518
------------	---	---

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/18

Obsahuje: EN 14116:2012+A2:2018

Oznámením tejto normy sa ruší
STN EN 14116+A1 (69 8518) z februára 2015

127598

EUROPEAN STANDARD

EN 14116:2012+A2

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2018

ICS 13.300; 23.020.20; 35.240.60

Supersedes EN 14116:2012+A1:2014

English Version

Tanks for transport of dangerous goods - Digital interface for product recognition devices for liquid fuels

Citernes destinées au transport de matières
dangereuses - Interface numérique du dispositif de
reconnaissance de produits pétroliers

Tanks für die Beförderung gefährlicher Güter - Digitale
Schnittstelle für das Produkterkennungssystem für
flüssige Kraft- und Brennstoffe

This European Standard was approved by CEN on 7 August 2014 and includes Amendment 2 approved by CEN on 28 December 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms, definitions and abbreviations	6
3.1 Terms and definitions	6
3.2 Abbreviations	7
4 Functions	8
5 Design characteristics	9
5.1 General.....	9
5.2 Temperature range	10
5.3 Materials of construction	10
5.4 PRD	10
5.5 PID	11
5.5.1 General specification	11
5.5.2 Diode and ESD protection	12
5.6 Contact and insulation resistances.....	13
5.7 Electrical requirements for hoses.....	13
5.8 System architecture of MultiPID.....	14
5.9 Electrical design characteristic of MultiPID	14
5.9.1 Technical description of MultiPID	14
5.9.2 Modulation for the bi-directional communication	17
5.9.3 Message timing.....	18
6 Protocol structure	19
6.1 Telegram transmission sequences	19
6.2 Bit coding	20
6.3 Byte frame.....	21
6.4 Byte sequence in multibyte variables.....	21
6.5 Telegram	21
6.6 Message format.....	22
6.6.1 Format of messages #1 to #32.....	22
6.6.2 Format of messages #33 to #255.....	22
6.7 Message specification	22
6.7.1 Reserved messages.....	22
6.7.2 Other messages.....	22
6.7.3 Message #1: Product description and overfill status (depot/station to truck).....	22
6.7.4 Message #2 Location and product details (depot/station to truck).....	24
6.7.5 Message #3 Multi product loading arm (depot to truck).....	26
6.7.6 Message #4 Tank properties (station to truck)	26
6.7.7 Message #5 Rack meter information (depot to truck)	27
6.7.8 Message #6 Loading information (truck to depot)	28
6.7.9 Message #7 Delivery information (truck to station).....	29
6.7.10 Message #8 Station information (station to truck).....	30
6.7.11 Message #9 Acknowledge (depot to truck).....	31

6.7.12	Message #10 Return product information (truck to return station)	31
6.7.13	Message #32 CRC 16	31
7	Tests	32
7.1	Type test	32
7.1.1	General	32
7.1.2	PID	32
7.1.3	PRD function test	35
7.1.4	Test results	37
7.2	Production test	37
7.2.1	General	37
7.2.2	PID static test	37
7.2.3	PID function test	37
7.2.4	PRD function test	37
7.2.5	Test results	37
8	Marking	37
9	Installation, operating and maintenance recommendations	38
Annex A	(informative) Manufacturer ID	39
Annex B	(normative) Calculation algorithm for CRC 16	40
Annex C	(informative) A-deviations	41
Annex D	(normative) Company code	42
D.1	Reason for the company code	42
D.2	Host of the list	42
D.3	Website	42
D.4	Rules	42
D.4.1	General	42
D.4.2	Preliminary registration	42
D.4.3	Access to “Oil Company code” table	42
D.4.4	Registration of a new company code	42
D.4.5	Automatic notification of changes	42
Bibliography	43

EN 14116:2012+A2:2018 (E)**European foreword**

This document (EN 14116:2012+A2:2018) has been prepared by Technical Committee CEN/TC 296 “Tanks for the transport of dangerous goods”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2018, and conflicting national standards shall be withdrawn at the latest by December 2018.

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

This document includes Amendment 1, approved by CEN on 2014-08-07 and Amendment 2, approved by CEN on 2017-12-28.

This document supersedes A1 EN 14116:2012+A1:2014 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1 and A2 A2.

A1 *deleted text* A1

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

Product recognition, the subject of this European Standard, is the digital interface that allows product data and/or other information to be transferred between transport tanks and other installations.

A2 *deleted text* **A2**

EN 14116:2012+A2:2018 (E)**1 Scope**

This European Standard covers the digital interface at the product loading and/or discharge coupling which is used for the transfer of product related information and specifies the performance requirements, critical safety aspects and tests to provide compatibility of devices.

2 Normative references

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

EN 13616:2004, *Overfill prevention devices for static tanks for liquid petroleum fuels*

EN 15208, *Tanks for transport of dangerous goods — Sealed parcel delivery systems — Working principles and interface specifications*

EN 60079-0, *Explosive atmospheres — Part 0: Equipment — General requirements (IEC 60079-0)*

EN 60079-11, *Explosive atmospheres — Part 11: Equipment protection by intrinsic safety “i” (IEC 60079-11)*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN