Irish Standard
I.S. EN 16815:2019

CleANopen - Application profile for municipal vehicles

I.S. EN 16815:2019

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 16815:2019 is the adopted Irish version of the European Document EN 16815:2019, CleANopen - Application profile for municipal vehicles

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16815

March 2019

ICS 35.240.60; 43.160

Supersedes CEN/TR 16815:2015

English Version

CleANopen - Application profile for municipal vehicles

CleANopen - Profil d'application aux véhicules municipaux

CleANopen - Anwendungsprofil für Kommunalfahrzeuge

This European Standard was approved by CEN on 30 December 2018.

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

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European foreword

This document (EN 16815:2019) has been prepared by Technical Committee CEN/TC 183 “Waste management”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

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

This document is based on the version 2.0 of the CiA 422 specification series describes the embedded body control network of refuse collecting vehicles (RCV). It specifies the CANopen (EN 50325-4) communication interfaces and the application functionality of several functional elements (virtual devices). It does not specify CANopen devices.

This document is structured as follows:

— the 1st part (Clauses 3 to 9) contains general definitions and describes the functionality of the virtual devices as well as the CANopen physical layer requirements and recommendations.

— the 2nd part (Clause 10) provides a detailed overview of communication and application parameters supported by the different virtual devices. Virtual devices include the body controller, and the change container, compaction, lifter, identification, measuring A and B, bin classification, washing, truck gateway as well as GPS units. Also a monitoring device is described

— the 3rd part (Clauses 11 to 15) and its sub-parts specify the pre-defined Process Data Objects (PDO) and the additional pre-defined SDOs. The pre-defined Transmit-PDOs for all virtual devices ares specified in Clause 11. This includes the PDO communication parameter set as well as the PDO mapping parameter set. The corresponding Receive-PDOs are specified in Clause 13. The SDO communication between bin classification units and measuring units is specified in Clause 15.

— the 4th part (Clause 16) specifies the application parameters. This covers the process data (mainly mapped into PDOs), configuration data, and diagnostic information (both mainly transmitted by SDO communication services). In this clause are defined parameter pools for the measuring units, and the data read as well as write for identification units. Other introduced parameters include support profile version, extended status for measuring units and measuring ident controllers.

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1 Scope

This document provides a set of CANopen application profile specifications that describes the C*le*ANopen embedded body control network of municipal vehicles, e.g. refuse collecting trucks.

It specifies the CANopen communication interfaces and the application functionality of several functional elements (virtual devices).

It does not specify CANopen devices.

The C*le*ANopen application profile specifications consist of several parts dealing with the following:

— general definitions;

— functionality of the virtual devices;

— pre-defined PDOs and SDOs;

— application objects.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 639-1, *Codes for the representation of names of languages — Part 1: Alpha-2 code*

ISO/IEC 646, *Information technology — ISO 7-bit coded character set for information interchange*

ISO 11898-2, *Road vehicles — Controller area network (CAN) — High-speed medium access unit*

SAE J1939-71, *Recommended practice for a serial control and communication network — Vehicle application layer*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
C*le*ANopen unit
virtual device that provides functional elements specified in this application profile

3.2
functional element
atomic application function