

<b>STN</b>	<b>CleANopen</b> <b>Aplikačný profil pre komunálne vozidlá</b>	<b>STN</b> <b>EN 16815</b>  30 0354
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CleANopen - Application profile for municipal vehicles

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. 08/19

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English Version

**CleANopen - Application profile for municipal vehicles**CleANopen - Profil d'application aux véhicules  
municipauxCleANopen - Anwendungsprofil für  
Kommunalfahrzeuge

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

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**EN 16815:2019 (E)**

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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of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.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 1<sup>st</sup> 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 2<sup>nd</sup> 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 3<sup>rd</sup> 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 are 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 4<sup>th</sup> 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.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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.

**EN 16815:2019 (E)****1 Scope**

This document provides a set of CANopen application profile specifications that describes the *CleANopen* 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 *CleANopen* 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*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**