

STN	Radiče cestnej svetelnej signalizácie Požiadavky na bezpečnú funkčnosť	STN EN 12675 73 6024
------------	---	--

Traffic signal controllers - Functional safety requirements

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. 02/18

Obsahuje: EN 12675:2017

Oznámením tejto normy sa ruší
STN EN 12675 (73 6024) zo septembra 2003

126373

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2018
Podľa zákona č. 264/1999 Z. z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov v znení neskorších predpisov sa slovenská technická norma a časti slovenskej technickej normy môžu rozmnožovať alebo rozširovať len so súhlasom slovenského národného normalizačného orgánu.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12675

August 2017

ICS 93.080.30

Supersedes EN 12675:2000

English Version

Traffic signal controllers - Functional safety requirements

Contrôleurs de signaux de circulation routière -
Exigences de sécurité fonctionnelle

Steuergeräte für Lichtsignalanlagen - Funktionale
Sicherheitsanforderungen

This European Standard was approved by CEN on 19 June 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: Avenue Marnix 17, B-1000 Brussels

Contents

Page

European foreword.....	3
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Functional safety requirements.....	10
4.1 General.....	10
4.2 Application of power.....	11
4.3 Diagnostic checks of traffic signal controller logic system	11
4.4 Classification of faults.....	11
4.5 Conflict faults	12
4.5.1 Signal group conflicts (unwanted signals)	12
4.5.2 Signal group green/absent red conflict.....	12
4.5.3 Absent red/absent red conflicts	13
4.6 National signal regulations (unwanted signals)	13
4.7 Absent signals.....	14
4.7.1 Absent signal group red signals.....	14
4.7.2 Absent signal groups, yellow or green signals.....	15
4.8 Compliance checking	15
4.9 Safety timings	15
4.10 National signal sequences.....	16
4.11 Faults of external inputs.....	16
5 Fault condition	17
5.1 General.....	17
5.2 Major faults	17
5.3 Minor faults	17
5.4 Storage of faults	17
6 User documentation.....	18
7 Marking and labelling.....	18
Annex A (informative) A-deviations.....	19
Bibliography.....	21

European foreword

This document (EN 12675:2017) has been prepared by Technical Committee CEN/TC 226 "Road equipment", 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 February 2018, and conflicting national standards shall be withdrawn at the latest by February 2018.

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 supersedes EN 12675:2000.

The main changes in this revision are as follows:

- a) Clause 1, Scope: deleted the restriction of scope for portable traffic signal control equipment;
- b) Clause 1, Scope: clarified the handling of classes on national level;
- c) Clause 2, Update of references to standard EN 50556;
- d) 3.9: deleted the restriction of manual operation mode to an operator;
- e) 3.12: renamed and reordered the operation modes of a traffic signal controller;
- f) 3.29: invented the definition for time base frequency;
- g) 3.32: extended the definition of traffic signal controller by the function of monitoring;
- h) 3.34: invented the definition of traffic signal controller logic;
- i) 4.2: generalized the requirement on power up self-test;
- j) 4.3: generalized the requirement on continuous diagnostic checks;
- k) 4.7.1 Class CB1: deleted the restriction to vehicular signal groups;
- l) 4.9: clarified the requirements to safety relevant timings;
- m) 5.2: deleted the requirement for ongoing operation of master clock and maintenance facilities in the case of a major fault;
- n) 5.4: renumbered and corrected the list of faults necessary to be recorded;
- o) 6: restricted necessary user documentation to needs for safe operation and service;
- p) 6 f): replaced means of programming by tools;

- q) 7. Reformulated the requirements for marking and labelling more general, to cover also onsite reprogrammable memory;
- r) Annex A: deleted deviations on National Regulations for Netherlands;
- s) Some corrections in orthography and grammar.

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.

Introduction

The objective of this European Standard is to specify the functional safety requirements of equipment used for the control of traffic signals. It relates to the control of signals to traffic, and any associated signalled traffic movements. The primary concern is to safeguard persons and objects against hazards due to conflicting signals to traffic.

The hazards to be considered include, but are not limited to, the following types of possible signal failures:

- a) the failure to display a red signal to traffic;
- b) the display of a green signal to conflicting traffic;
- c) the failure to display the correct signal sequence to traffic;
- d) the failure to provide the correct timing of all signals.

Persons to be safeguarded are:

- e) users of traffic signals, drivers and passengers of vehicles (including public transport), pedestrians, cyclists and equestrians, persons with physical disabilities;
- f) maintenance and inspection personnel.

1 Scope

This European Standard specifies the functional safety requirements for traffic signal controllers. It is applicable to traffic signal control equipment permanently and temporarily installed, and portable traffic control equipment, with the exception of portable traffic signal equipment only capable of controlling alternate / shuttle working lanes (as further defined in 3.37), without the control of crossing vehicular or pedestrian movements. Traffic signal controllers, as defined by this European Standard, are required to control conflicting traffic, both vehicular and pedestrian in a safe manner. Examples are junction signals, pedestrian crossings, shuttle signals, public transport signals.

The electrical safety requirements and additional traffic safety requirements, the interfacing with external equipment and the test methods for verifying compliance with this European Standard are contained in EN 50556.

For a full applicability of this European Standard as well as of the EN 50556 the national standardization bodies are requested to define the set of classes relevant for their national requirements.

NOTE National requirements may specify special conditions for public transport signals (PT) and for any other signal that is not specified in a European Standard.

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 50556:2011, *Road traffic signal systems*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN