DIN EN 17067:2019-03 (E)

Forestry machinery - Safety requirements on radio remote controls

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 7

3 Terms and definitions 8

4 Requirements for cableless control systems (CCS) 13
4.1 General 13
4.2 Minimum control functions 13
4.3 General Safe STOP (GSS) 13
4.4 Control elements 14
4.4.1 General requirements 14
4.4.2 Unintended activation 14
4.4.3 Latching control functions 14
4.4.4 Minimum requirements 14
4.5 Design principles for forestry cableless control systems 14
4.5.1 Protection against unintended activation 14
4.5.2 Ergonomics 15
4.6 Marking 15
4.7 Requirements for controls with dual or multiple functions 19
4.7.1 Dual function with hold-to-run control (shift button) 19
4.7.2 Multiple control functions with mode selector 19
4.8 Multiple operator control units 19
4.9 Multiple base stations 20
4.10 Response times 20
4.10.1 Start and stop of movement functions 20
4.10.2 Fault tolerating times 20
4.11 Safety functions 20
4.11.1 Minimum requirements for the performance level 20
4.11.2 Safety objectives 20
4.11.3 Monitoring and safety of the wireless connection 21
4.12 Prevention of unintentional start of a function that would lead to a hazardous movement 21
4.13 Environment requirements 21
4.13.1 Temperature range according to EN 60068-2-14 and EN 60068-2-1 21
4.13.2 Mechanical strength according to EN 60068-2-31 21
4.13.3 IP protection class according to EN 60529 21
4.13.4 Requirements for the electromagnetic compatibility (EMC) 21
4.14 Self-tests 22
4.15 Warning devices 22
4.16 Control outputs 22
4.17 Marking 22
4.17.1 General 22
4.17.2 Information on the remote station 23
4.17.3 Information on the base station 23
4.18 Instruction handbook 24

DIN EN 17067:2019-03 EN 17067:2018 (E) 4.18.1 General 24
4.18.2 Winches 26

4.18.3 Mobile yarders ... 26
4.18.4 Additional instructions for CCS integration in a wood chipper ... 26

5 Requirements for cableless control systems for logging winches - minimum scope of functions ... 26

6 Requirements for cable-less control systems for travelling functions ... 27

7 Requirements for cableless control systems for mobile yarders ... 29
7.1 General ... 29
7.2 Multiple operator control units ... 29
7.3 Transfer/Adopt function ... 29
7.4 Stop function ... 30
7.4.1 General ... 30
7.4.2 Passive stop - additional requirements ... 30
7.5 Marking ... 30

8 Requirements for cableless control systems for wood chippers ... 32

Annex A (normative) Examples of permissible radio ranges of CCS for mobile yarders ... 35

A.1 Action ranges with long distance in automatic mode ... 35
A.2 Carriage controlled by the tower yarder ... 36
A.2.1 Without remote stations ... 36
A.2.2 With remote commands reaching the tower yarder ... 37
A.2.3 Remote commands reaching the tower yarder via external repeater ... 38
A.3 Carriage controlled by CCS ... 38
A.3.1 Remote commands reaching the tower yarder via a transceiver installed on the carriage 38
A.3.2 Remote commanded active self-propelled carriage ... 39

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC amended by Directive 2009/127/EC aimed to be covered ... 40

Bibliography ... 42