

DIN EN ISO 18497:2019-08 (E)

Agricultural machinery and tractors - Safety of highly automated agricultural machines - Principles for design (ISO 18497:2018)

| Contents | | Page |
|---|--|-------------|
| European foreword | | 3 |
| Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of Directive 2006/42/EC Machinery aimed to be covered | | 4 |
| Foreword | | 5 |
| Introduction | | 6 |
| 1 | Scope | 7 |
| 2 | Normative references | 7 |
| 3 | Terms and definitions | 8 |
| 4 | Safety requirements and protective or risk reduction measures | 10 |
| 4.1 | General | 10 |
| 4.2 | Principles for protection | 10 |
| 4.3 | Machine enabling operations | 11 |
| 4.3.1 | General requirements | 11 |
| 4.3.2 | Labelling and identification | 11 |
| 4.3.3 | Functional requirements | 11 |
| 4.4 | Operational procedures | 11 |
| 4.4.1 | General requirements | 11 |
| 4.4.2 | Automated engine control | 11 |
| 4.4.3 | Automated motion control | 13 |
| 4.5 | Machine operational status | 14 |
| 4.6 | Overriding of highly automated operation | 15 |
| 4.7 | Remote stopping of highly automated operation | 15 |
| 4.8 | Pendant control | 15 |
| 4.9 | Operational speeds of the machine | 15 |
| 4.10 | Communication system | 15 |
| 4.11 | Perception system | 16 |
| 4.11.1 | General | 16 |
| 4.11.2 | Possible risk and failure modes | 16 |
| 4.11.3 | Fault management | 17 |
| 4.12 | Safeguarding system | 18 |
| 4.13 | Visual and audible alarms | 18 |
| 4.13.1 | Visual alarm | 18 |
| 4.13.2 | Audible alarm | 19 |
| 5 | Verification and validation of the safety requirements and protective or risk reduction measures | 19 |
| 5.1 | General | 19 |
| 5.2 | Verification methods | 19 |
| 5.3 | Test object specification | 20 |
| 5.4 | Verification of minimum performance of the systems perception and safety | 20 |
| 6 | Information for use | 21 |
| Annex A (informative) List of significant hazards | | 22 |
| Bibliography | | 24 |