

# DIN EN ISO 18497:2019-08 (E)

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

---

<b>Contents</b>	<b>Page</b>
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