

# DIN EN ISO 25119-3:2024-07 (E)

Tractors and machinery for agriculture and forestry - Safety-related parts of control systems - Part 3: Series development, hardware and software (ISO 25119-3:2018 + Amd 1:2020) (includes Amendment A1:2023)

<b>Contents</b>	<b>Page</b>
European foreword.....	4
<b>A1</b> European foreword to Amendment A1 <b>A1</b> .....	5
<b>Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered .....</b>	<b>6</b>
Foreword .....	11
<b>A1</b> Foreword to Amendment A1 <b>A1</b> .....	12
Introduction .....	13
<b>1 Scope.....</b>	<b>15</b>
<b>2 Normative references.....</b>	<b>16</b>
<b>3 Terms and definitions .....</b>	<b>16</b>
<b>4 Abbreviated terms.....</b>	<b>16</b>
<b>5 System design .....</b>	<b>17</b>
<b>5.1 Objectives.....</b>	<b>17</b>
<b>5.2 General.....</b>	<b>17</b>
<b>5.3 Prerequisites .....</b>	<b>18</b>
<b>5.4 Requirements .....</b>	<b>18</b>
<b>5.4.1 Structuring safety requirements.....</b>	<b>18</b>
<b>5.4.2 Technical safety concept.....</b>	<b>19</b>
<b>5.5 Work products .....</b>	<b>21</b>
<b>6 Hardware .....</b>	<b>21</b>
<b>6.1 Objectives.....</b>	<b>21</b>
<b>6.2 General.....</b>	<b>21</b>
<b>6.3 Prerequisites .....</b>	<b>21</b>
<b>6.4 Requirements .....</b>	<b>21</b>
<b>6.5 Hardware categories.....</b>	<b>23</b>
<b>6.6 Work products .....</b>	<b>23</b>
<b>7 Software.....</b>	<b>24</b>
<b>7.1 Software development planning.....</b>	<b>24</b>
<b>7.1.1 Objectives.....</b>	<b>24</b>
<b>7.1.2 General.....</b>	<b>24</b>
<b>7.1.3 Prerequisites .....</b>	<b>24</b>
<b>7.1.4 Requirements .....</b>	<b>24</b>
<b>7.1.5 Work products .....</b>	<b>27</b>
<b>7.2 Software safety requirements specification.....</b>	<b>27</b>
<b>7.2.1 Objectives.....</b>	<b>27</b>
<b>7.2.2 General.....</b>	<b>27</b>
<b>7.2.3 Prerequisites .....</b>	<b>27</b>
<b>7.2.4 Requirements .....</b>	<b>27</b>
<b>7.2.5 Work products .....</b>	<b>31</b>
<b>7.3 Software architecture design.....</b>	<b>31</b>
<b>7.3.1 Objectives.....</b>	<b>31</b>
<b>7.3.2 General.....</b>	<b>31</b>
<b>7.3.3 Prerequisites .....</b>	<b>31</b>

7.3.4	Requirements.....	31
7.3.5	Work products.....	33
7.4	Software component design and implementation.....	33
7.4.1	Objectives .....	33
7.4.2	General .....	33
7.4.3	Prerequisites.....	33
7.4.4	Requirements.....	33
7.4.5	Work products.....	43
7.5	Software component testing.....	43
7.5.1	Objectives .....	43
7.5.2	General .....	43
7.5.3	Prerequisites.....	43
7.5.4	Requirements.....	43
7.5.5	Work products.....	51
7.6	Software integration and testing .....	51
7.6.1	Objectives .....	51
7.6.2	General .....	52
7.6.3	Prerequisites.....	52
7.6.4	Requirements.....	52
7.6.5	Work products.....	53
7.7	Software safety testing .....	54
7.7.1	Objectives .....	54
7.7.2	General .....	54
7.7.3	Prerequisites.....	54
7.7.4	Requirements.....	54
7.7.5	Work products.....	58
7.8	Software-based parameterisation.....	58
7.8.1	Objective .....	58
7.8.2	General .....	58
7.8.3	Prerequisites.....	59
7.8.4	Requirements.....	59
7.8.5	Work products.....	60
Annex A (informative) Example of agenda for assessment of functional safety at AgPL = e.....		61
Annex B (normative) Independence by software partitioning.....		63
B.1	Overview .....	63
B.2	Terms, definitions and abbreviated terms.....	63
B.2.1	Terms and definitions.....	63
B.2.2	Abbreviated terms .....	66
B.3	Objectives .....	66
B.4	General .....	66
B.5	Requirements.....	67
B.5.1	General requirements.....	67
B.5.2	Several partitions within a single microcontroller .....	67
B.5.3	Several partitions within the scope of a micro-controller network.....	70
Bibliography .....		73