

# DIN EN 13763-13:2025-12 (E)

## Explosives for civil uses - Detonators and detonating cord relays - Part 13: Verification of the resistance to electrostatic discharge (ESD) of electric and electronic detonators

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
1	Scope .....	6
2	Normative references .....	6
3	Terms and definitions .....	6
4	Principle .....	6
5	Apparatus .....	7
6	Preparation of test sample .....	7
6.1	Electric detonators .....	7
6.2	Electronic detonators .....	8
7	Procedure .....	9
7.1	Electric detonators .....	9
7.1.1	General .....	9
7.1.2	Pin-to-pin configuration .....	9
7.1.3	Pins-to-case configuration .....	10
7.2	Electronic detonators .....	12
7.2.1	General .....	12
7.2.2	Human Body Model ESD .....	12
7.2.3	Machine Model ESD .....	13
7.2.4	ESD after command to fire and before end of delay time .....	13
8	Expression of results .....	14
8.1	Electric detonators .....	14
8.2	Electronic detonators .....	14
9	Test report .....	15
Annex A (normative) Adjustment of the electrostatic discharge generator for testing electric detonators .....		16
A.1	General .....	16
A.2	Apparatus .....	16
A.3	Procedure .....	17
Annex B (normative) Function test for electronic detonators .....		19
B.1	Principle .....	19
B.2	Apparatus .....	19
B.3	Preparation of test sample .....	19
B.4	Procedure .....	19
B.4.1	Test pieces from electronic detonators without delay time .....	19
B.4.2	Test pieces from electronic detonators with delay time .....	19
B.5	Expression of result .....	20

<b>Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2014/28/EU relating to the making available on the market and supervision of explosives for civil uses aimed to be covered .....</b>	<b>21</b>
<b>Bibliography .....</b>	<b>22</b>