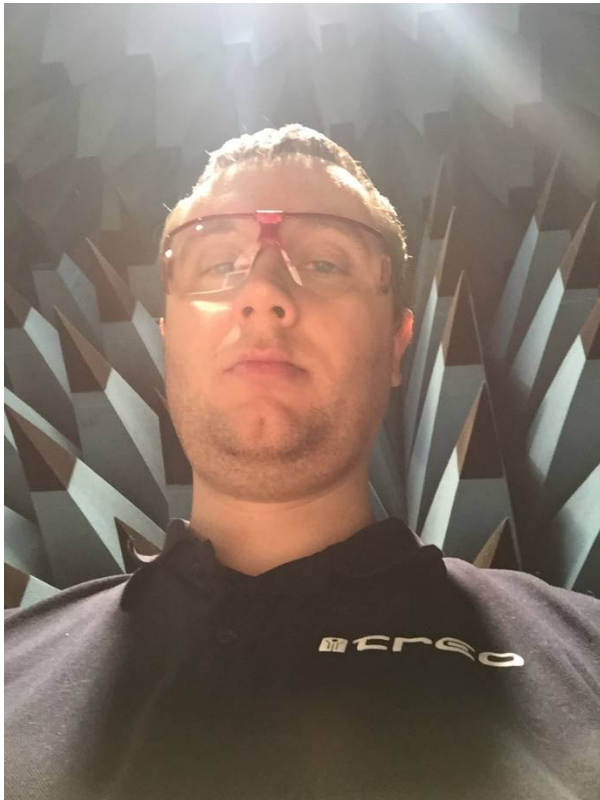


# Regulations and test requirement

27 February 2018

EMC in industrial electronics





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## EU Regulation

756/2008

„CE – Mark“ and declaration of conformity



+ Company Name

+ Post Adress

Optional: 4-Number Code of Notified Body



## **Electromagnetic Compatibility (EMC)**

Directive 2014/30/EU

An EU Directive always requires a national law to be implemented.

Elektromagnetische-Verträglichkeit-Gesetz  
vom 14. Dezember 2016 (BGBl. I S. 2879)



# Publication of titles and references of harmonised standards under Union harmonisation legislation

2016/C 293/03

ESO <sup>(1)</sup>	Reference and title of the standard (and reference document)	First publication OJ	Reference of superseded standard	Date of cessation of presumption of conformity of superseded standard Note 1
(1)	(2)	(3)	(4)	(5)
CEN	EN 617:2001+A1:2010 Continuous handling equipment and systems — Safety and EMC requirements for the equipment for the storage of bulk materials in silos, bunkers, bins and hoppers	13.5.2016		
CEN	EN 618:2002+A1:2010 Continuous handling equipment and systems — Safety and EMC requirements for equipment for mechanical handling of bulk materials except fixed belt conveyors	13.5.2016		
CEN	EN 619:2002+A1:2010 Continuous handling equipment and systems — Safety and EMC requirements for equipment for	13.5.2016		



- **Product Standard**

example:                    EN 61326-2-1:2012  
Sensitive test and measurement equipment  
for EMC unprotected applications

- **Product Family Standard**

example:                    EN 61326-1:2013  
Electrical equipment for measurement, control  
and laboratory use

- **Generic Standard**

example:                    EN 61000-6-2:2005  
Immunity for industrial environments



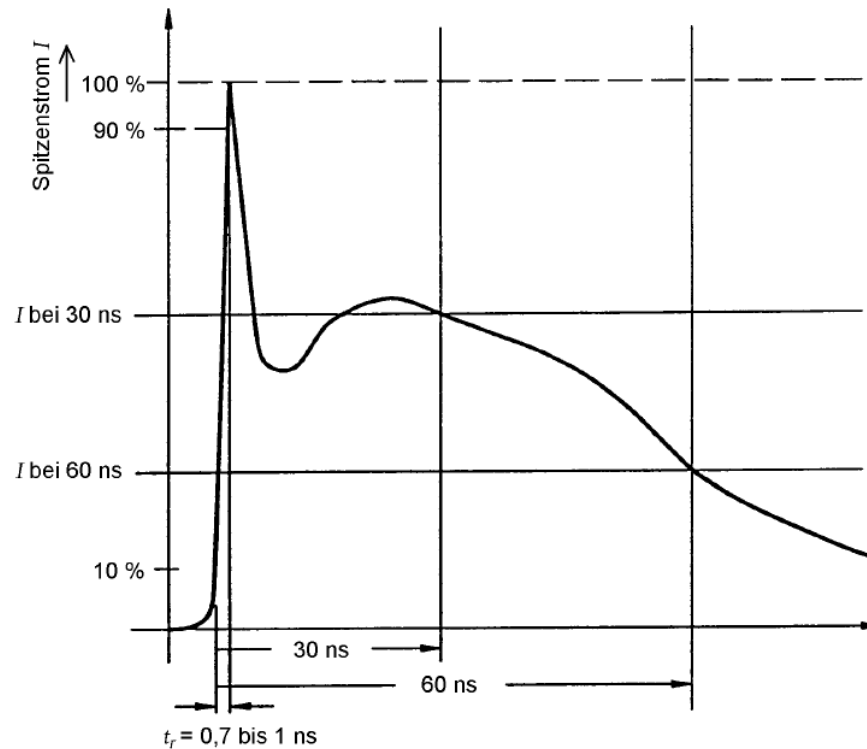
## ■ Testing and measurement techniques (Examples of EN 61000-4-X series)

- 2:           Electrostatic discharge immunity
- 3:           Radiated, radio-frequency, electromagnetic field immunity
- 4:           Electrical fast transient/burst immunity
- 5:           Surge immunity
- 6:           Immunity to conducted disturbances, induced by radio-frequency fields
- 8:           Power frequency magnetic field immunity
- 11:          Voltage dips, short interruptions and voltage variations immunity



## ▪ Electrostatic discharge immunity

Up to 8 kV and 30 A for ns





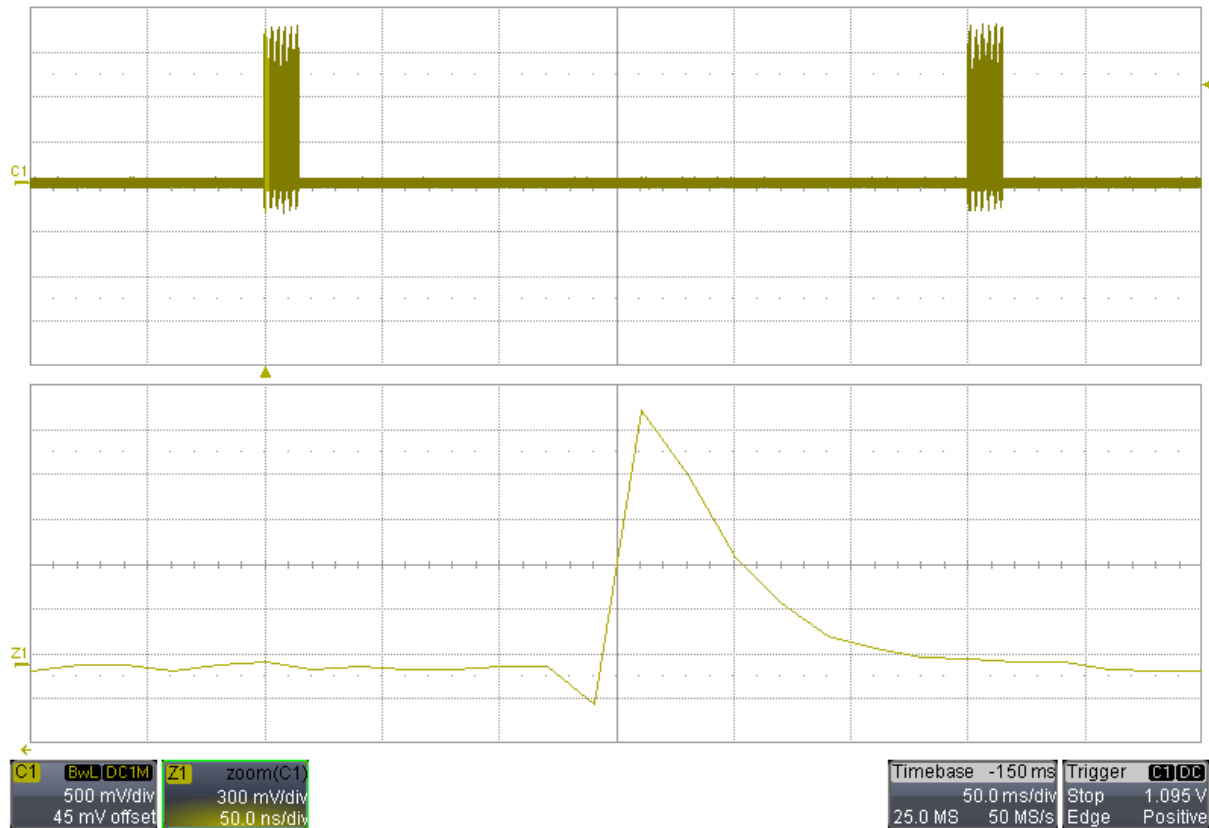
- **Radiated, radio-frequency, electromagnetic field immunity**

Up to 10 V/m from 80 MHz to 6 GHz



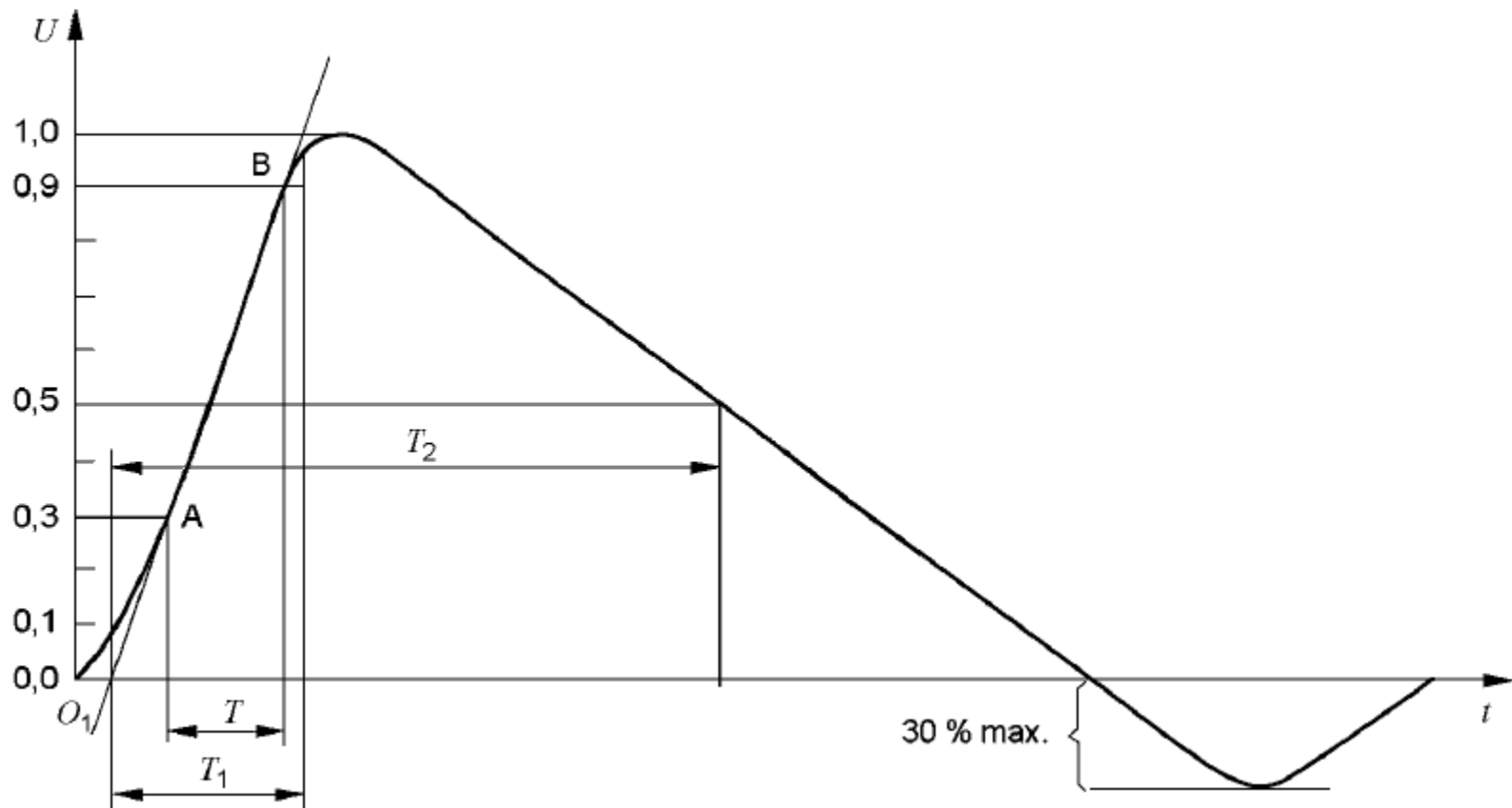
## ■ Electrical fast transient/burst immunity

Up to 2 kV ns pulse packages (common mode)



## ▪ Surge immunity

Up to 2 kV  $\mu$ s pulse with 50 A (line-to-earth / line-to-line)



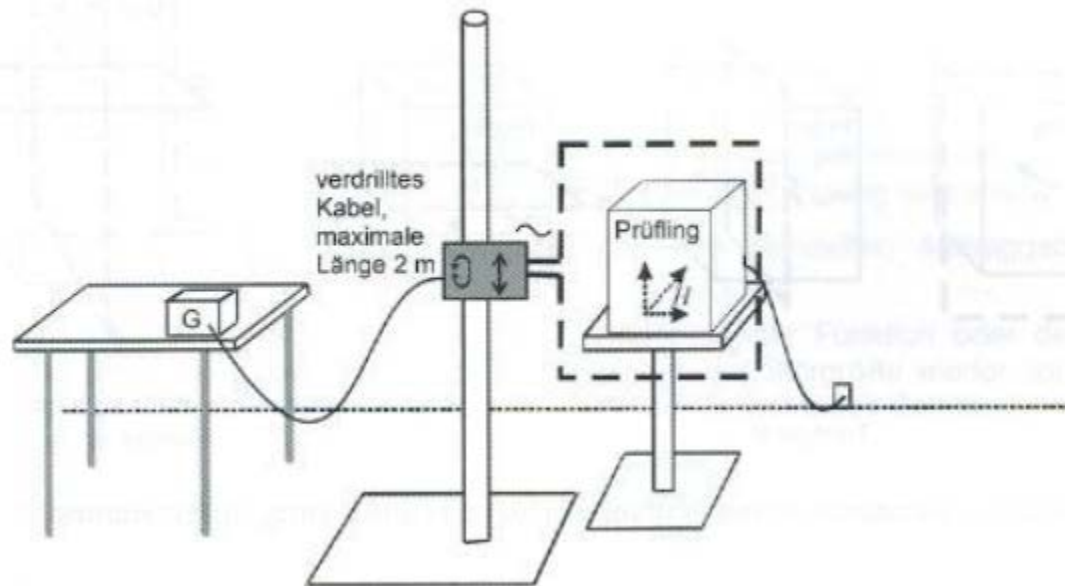
- **Immunity to conducted disturbances, induced by radio-frequency fields**

Up to 10 V/m from 150 kHz to 80 MHz



## ■ Power frequency magnetic field immunity

Up to 30 A/m (DC, 50 Hz, 60Hz)



- **Voltage dips, short interruptions and voltage variations immunity**

0 % voltage for 20 ms, 40 % voltage for 200 ms



**Thank you for your attention !**

**Questions ?**

