

# SLOVENSKI STANDARD oSIST prEN IEC 62920:2025

01-julij-2025

# Fotonapetostni energetski sistemi - Zahteve EMC in preskusne metode za opremo močnostnih pretvornikov

Photovoltaic power generating systems - EMC requirements and test methods for power conversion equipment

Photovoltaische Stromerzeugungssysteme - EMV-Anforderungen und Prüfverfahren für Leistungsumrichter

Systèmes de production d'énergie photovoltaïque - Exigences de CEM et méthodes d'essai pour les équipements de conversion de puissance

Ta slovenski standard je istoveten z: prEN IEC 62920:2025

ICS:

27.160 Sončna energija Solar energy engineering

33.100.01 Elektromagnetna združljivost Electromagnetic compatibility

na splošno in general

oSIST prEN IEC 62920:2025 en,fr,de

oSIST prEN IEC 62920:2025

# iTeh Standards (https://standards.iteh.ai) Document Preview

<u>oSIST prEN IEC 62920:2025</u>

https://standards.iteh.ai/catalog/standards/sist/2d535e6e-6857-437h-bc6c-7843766729e3/osist-pren-iec-62920-2025



### 82/2402/CDV

#### COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:	
IEC 62920 ED2	
DATE OF CIRCULATION:	CLOSING DATE FOR VOTING:
2025-05-30	2025-08-22
SUPERSEDES DOCUMENTS:	
82/2231/CD, 82/2257A/CC	
2025-05-30 SUPERSEDES DOCUMENTS:	

IEC TC 82 : SOLAR PHOTOVOLTAIC ENERGY SYSTEMS	
SECRETARIAT:	SECRETARY:
United States of America	Mr George Kelly
OF INTEREST TO THE FOLLOWING COMMITTEES: SC 22E,SC 22H,SC 77A,CIS/B	HORIZONTAL FUNCTION(S):
ASPECTS CONCERNED:  Electromagnetic Compatibility	andards dords itch oi)
SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING
Attention IEC-CENELEC parallel voting	it Preview
The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.	
The CENELEC members are invited to vote through the CENELEC online voting system.	

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any relevant "In Some Countries" clauses to be included should this proposal proceed. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (SEE AC/22/2007 OR NEW GUIDANCE DOC).

#### TITLE:

Photovoltaic power generating systems - EMC requirements and test methods for power conversion equipment

proposed stability date: 2030

#### NOTE FROM TC/SC OFFICERS:

This project was discussed and supported by WG6 during their meeting in 2024-10.

Copyright © 2025 International Electrotechnical Commission, IEC. All rights reserved. It is permitted to download this electronic file, to make a copy and to print out the content for the sole purpose of preparing National Committee positions. You may not copy or "mirror" the file or printed version of the document, or any part of it, for any other purpose without permission in writing from IEC.

### **CONTENTS**

1

2	CONTE	NTS	1	
3	FOREW	ORD	6	
4	INTROD	UCTION	8	
5	Back	ground	8	
6		tenance of IEC 62920 Ed.1.1		
7	1 Scc	ppe	10	
8	2 Nor	mative references	10	
9	3 Ter	ms and definitions	12	
10		ssification of PCE		
11	4.1	Category of locations		
12	4.1	Division into classes		
13	4.3	Information for users		
14		st setup		
15	5.1	General		
16	5.2	Configuration of test setups		
17	5.2	·		
18	5.2			
19	5.2	1 i An Standards		
20	5.2			
21	6 Ope	erating conditions during testing		
22	6.1	General		
23	6.2	Operating conditions for immunity requirement test		
24	6.3	Operating conditions for low frequency emission requirement test		
25	6.4	Operating conditions for high frequency emission requirement test	22	
https://st	and lmn	nunity requirements ds/sist/2d535e6e-6857-437b-bc6c-7843766729e3/osist	-pren-1ec <sub>23</sub> 2920-202	
27	7.1	Requirements	23	
28	7.2	Performance criteria	28	
29	8 Em	ission requirements	29	
30	8.1	Low frequency	29	
31	8.1	.1 General	29	
32	8.1	2 Harmonics	29	
33	8.1	.3 Voltage change	29	
34	8.2	High frequency	30	
35	8.2	.1 General	30	
36	8.2	.2 Conducted emission	30	
37	8.2			
38	9 Tes	t procedures, results and report	36	
39	Annex A	(informative) Configuration examples of test setups	38	
40	A.1	General	38	
41	A.2	Setups for immunity requirement test	38	
42	A.2	.1 Electrostatic discharge	38	
43	A.2	,		
44	A.2			
45	A.2	S .		
46	A 2	5 Conducted disturbances, induced by radio-frequency fields	45	

47	A.2.6 Voltage dips and interruption	45
48	A.3 Setups for high frequency emission requirement test	46
49	A.3.1 Conducted disturbances	46
50	A.3.2 Radiated disturbances	49
51	Annex B (informative) Setups for low frequency emission requirement test	50
52	B.1 General	50
53	B.2 Example of a test circuit for low frequency emission requirement test	50
54	B.2.1 Harmonics	50
55	B.2.2 Voltage fluctuations and flicker	52
56	Annex C (informative) Test setup for conducted disturbance measurement	54
57	C.1 General	54
58	C.2 Examples of a test setup	54
59	Annex D (informative) Alternative test setups for high-power PCE	57
60	D.1 General	57
61	D.2 Alternative setup for immunity requirement test	57
62	D.2.1 Alternative setups for EFT/burst immunity test	57
63	D.2.2 Alternative setup for surge test	57
64	D.2.3 Alternative test setup for conducted disturbances, induced by radio-	50
65	frequency fields	
66	D.2.4 Conducted disturbances measurement	59
67 68	Annex E (normative) Conditional measurement methods and limits of conducted common mode (asymmetric mode) disturbance at ports other than power ports	61
69 70	E.1 Consideration of requirements specified in CISPR32 and covered in IEC 62920	61
70 71	E.2 Configuration of EUT specified in CISPR 32	
71	E.3 Measurement conditions specified in CISPR 32	
73	E.4 Proposals on measurements for wired network ports cover in IEC 62920.	
	E.5 Consideration of the interface model covered in IEC 62920	
https://st	E.6 Applicable conducted emission limits at wired network ports in IEC 62920	
76	Bibliography	
77		
78	Figure 1 – Example of ports	13
79	Figure A.1 – Example of a test setup for direct application of discharges to PCE	39
80	Figure A.2 – Example of a test setup for indirect application of discharges to PCE	
81	Figure A.3 – Example of a test setup for wall-mounted PCE	
82 83	Figure A.4 – Example of a test setup for direct coupling of the test voltage to AC mains power ports	
84 85	Figure A.5 – Example of a test setup for application of the test voltage with a capacitive coupling clamp	
86	Figure A.6 – Example of a test setup for AC mains power ports	
87	Figure A.7 – Example of a test setup for DC power ports	
88	Figure A.8 – Example of a setup of conducted disturbances immunity test applied f	or
89	wall-mounted PCE	45
90 91	Figure A.9 – Example of a test setup using a generator for voltage dips and short interruptions	46
	Figure A.10 – Example of a test setup of conducted disturbances measurement	
92 93	applied for wall-mounted PCE	47

94 95	Figure A.11 – Example of a test setup of conducted disturbances measurement applied for wall-mounted PCE with power circulation	48
96 97	Figure A.12 – Example of a test setup of conducted disturbances measurement applied for wall-mounted PCE with direct connection to AC mains	48
98 99	Figure A.13 – Example of a test setup of radiated disturbances measurement applied for wall-mounted PCE	49
100	Figure B.1 – Measurement circuit for single-phase two-wire PCE	50
101	Figure B.2 – Measurement circuit for single-phase three-wire PCE	51
102	Figure B.3 – Measurement circuit for three-phase three-wire PCE	
103	Figure B.4 – Measurement circuit for three-phase four-wire PCE	51
104	Figure B.5 – Measurement circuit for single-phase two-wire PCE	52
105	Figure B.6 – Measurement circuit for single-phase three-wire PCE	52
106	Figure B.7 – Measurement circuit for three-phase three-wire PCE	53
107	Figure B.8 – Measurement circuit for three-phase four-wire PCE	53
108 109	Figure C.1 – Example of a standardized test setup for conducted disturbances measurement with AC mains power supply	55
110 111	Figure C.2 – Example of a standardized test setup for conducted disturbances measurement with a laboratory AC power source	56
112	Figure D.1 – Example of an alternative setup for EFT/Burst immunity test	57
113 114	Figure D.2 – Example of an alternative coupling/decoupling network for AC mains power ports	58
115 116	Figure D.3 – Example of a test setup applying clamp injection method to AC mains power ports	59
117 118	Figure D.4 – Alternative test setup of conduced disturbances measurement using artificial networks as voltage probes	60
119 120	Figure E.1 – Typical circuit diagram of PCE which is equipped with wired network ports configured with a module	
121	ndards.iteh.ai/catalog/standards/sist/2d535e6e-6857-437b-bc6c-7843766729e3/osist-pren-	
122	Table 1 – Immunity requirements for class B PCE	24
123	Table 2 – Immunity requirements for class B PCE (For ports besides power ports)	25
124	Table 3 – Immunity requirements for class A PCE	26
125	Table 4 – Immunity requirements for class A PCE (For ports besides power ports)	27
126	Table 5 – Voltage dips and interruption immunity requirements for class B PCE	27
127	Table 6 – Voltage dips and interruption immunity requirements for class A PCE	28
128	Table 7 – Performance criteria for immunity tests	29
129 130	Table 8 – Disturbance voltage limits at the AC mains and auxiliary AC power port for class A PCE measured on a test site	30
131 132	Table 9 – Disturbance voltage limits at the AC mains and auxiliary AC power port for class B PCE measured on a test site	31
133 134	Table 10 – Disturbance limits at the DC power port for class A PCE measured on a test site	32
135 136	Table 11 – Disturbance limits at the DC power port for class B PCE measured on a test site	32
137	Table 12 – Applicability of measurements at DC power ports	33
138 139	Table 14 – Limits of conducted common mode (asymmetric mode) disturbance at ports other than power ports for class A PCE (Under the operating condition b as in 6.4)	33
140 141	Table 15 – Limits of conducted common mode (asymmetric mode) disturbance at ports other than power ports for class B PCE	34

142	measured on a test site	35
144 145	Table 17 – Electromagnetic radiation disturbance limits up to 1GHz for class B PCE measured on a test site	35
146 147	Table 18 – Electromagnetic radiation disturbance limits > 1GHz for class A PCE measured on a test site	36
148 149	Table 19 – Electromagnetic radiation disturbance limits >1 GHz for class B PCE measured on a test site	36
150	Table 20 – Required highest frequency for radiated measurement	36
151		
152		

### iTeh Standards (https://standards.iteh.ai) Document Preview

https://standards.iteh.ai/catalog/standards/sist/2d535e6e-6857-437h-bc6c-7843766729e3/ogist-pren-jec-62920-202