



SLOVENSKI STANDARD
oSIST prEN IEC 62752:2022
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Integrirana zaščita kabla in zaščitna naprava tipa 2 za napajanje električnih cestnih vozil (IC-CPD)

In-cable control and protection device for mode 2 charging of electric road vehicles (IC-CPD)

Ladeleitungsintegrierte Steuer- und Schutzeinrichtung für die Ladebetriebsart 2 von Elektro-Straßenfahrzeugen (IC-CPD)

Appareil de contrôle et de protection intégré au câble pour la charge en mode 2 des véhicules électriques (IC-CPD)

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TITLE:

In-cable control and protection device for mode 2 charging of electric road vehicles (IC-CPD)

PROPOSED STABILITY DATE: 2026

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1 CONTENTS

2	CONTENTS	2
3	FOREWORD	10
4	INTRODUCTION	12
5	1 Scope	13
6	2 Normative references	14
7	3 Terms and definitions	16
8	3.1 Terms and definitions relating to plugs and socket-outlets	17
9	3.2 Terms and definitions relating to terminals	18
10	3.3 Terms and definitions relating to residual current functions	19
11	3.3.1 Terms and definitions relating to currents flowing from live parts to	
12	earth	19
13	3.3.2 Terms and definitions relating to the energization of the residual current	
14	function	20
15	3.3.3 Terms and definitions relating to the operation and to the functions of	
16	the IC-CPD	20
17	3.3.4 Terms and definitions relating to values and ranges of energizing	
18	quantities	22
19	3.3.5 Terms and definitions relating to values and ranges of influencing	
20	quantities	24
21	3.3.6 Terms and definitions relating to conditions of operation	24
22	3.3.7 Terms and definitions relating to control functions between electric	
23	vehicle and IC-CPD	25
24	3.4 Terms and definitions relating to tests	25
25	3.5 Terms and definitions relating to construction	26
26	4 Classification	26
27	4.1 According to the supply	26
28	4.1.1 General	26
29	4.1.2 IC-CPD supplied from one phase and neutral and from two phases	
30	(LNSE/LLSE or LNE/LLE)	26
31	4.1.3 IC-CPD supplied from three phases and neutral (LLLNSE or LLLNE)	26
32	4.2 According to the construction	26
33	4.2.1 General	26
34	4.2.2 IC-CPD including the function box separated from the plug and	
35	connector	26
36	4.2.3 Modular IC-CPD	26
37	4.3 According to the method of connecting the cable(s)	27
38	4.3.1 General	27
39	4.3.2 Non-rewirable IC-CPDs	27
40	4.3.3 IC-CPDs wired by the manufacturer	27
41	4.3.4 Pluggable IC-CPD	27
42	4.4 Classification according to the protective conductor path	27
43	4.4.1 General	27
44	4.4.2 IC-CPDs with switched protective conductor	27
45	4.4.3 IC-CPDs with non-switched protective conductor	27
46	4.5 Classification according to behaviour in case of open protective conductor	27
47	4.5.1 General	27
48	4.5.2 IC-CPD with verification of the availability of the upstream protective	
49	conductor	27

50	4.5.3	IC-CPD without verification of the availability of the upstream protective conductor	28
51			
52	4.6	Classification according to the usage	28
53	4.6.1	IC-CPD for portable use	28
54	4.6.2	IC-CPD for wall mounting	28
55	4.6.3	IC-CPD for portable use and for wall mounting	28
56	5	Characteristics of IC-CPDs	28
57	5.1	Summary of characteristics	28
58	5.2	Rated quantities and other characteristics	29
59	5.2.1	Rated voltages	29
60	5.2.2	Rated current (I_n)	29
61	5.2.3	Rated residual operating current ($I_{\Delta n}$)	29
62	5.2.4	Rated residual non-operating current ($I_{\Delta no}$)	29
63	5.2.5	Rated frequency	29
64	5.2.6	Rated making and breaking capacity (I_m)	29
65	5.2.7	Rated residual making and breaking capacity ($I_{\Delta m}$)	29
66	5.2.8	Operating characteristics in case of residual currents comprising a DC component	30
67			
68	5.2.9	Insulation coordination including creepage distances and clearances	30
69	5.2.10	Coordination with short-circuit protection devices (SCPDs)	30
70	5.3	Standard and preferred values	30
71	5.3.1	Preferred values of rated operational voltage (U_e)	30
72	5.3.2	Preferred values of rated current (I_n)	30
73	5.3.3	Standard values of rated residual operating current ($I_{\Delta n}$)	31
74	5.3.4	Standard value of rated residual non-operating current ($I_{\Delta no}$)	31
75	5.3.5	Standard minimum value of the non-operating overcurrent through the IC-CPD	31
76			
77	5.3.6	Preferred values of rated frequency	31
78	5.3.7	Minimum value of the rated making and breaking capacity (I_m)	31
79	5.3.8	Minimum value of the rated residual making and breaking capacity ($I_{\Delta m}$)	31
80			
81	5.3.9	Standard value of the rated conditional short-circuit current (I_{nc})	31
82	5.3.10	Standard value of the rated conditional residual short-circuit current ($I_{\Delta c}$)	32
83			
84	5.3.11	Limit values of break time	32
85	6	Marking and other product information	32
86	6.1	Data to be marked on the IC-CPD	32
87	6.2	Information to be provided to the end-user	34
88	7	Standard conditions for operation in service and for installation	35
89	7.1	Standard conditions	35
90	7.2	Conditions for installations	35
91	8	Requirements for construction and operation	35
92	8.1	Mechanical design	35
93	8.2	Pluggable electrical connections of pluggable IC-CPDs according to 4.3.4	36
94	8.2.1	General	36
95	8.2.2	Degree of protection of pluggable electrical connection against solid foreign objects and water for pluggable IC-CPD	37
96			

97	8.2.3	Breaking capacity of pluggable electrical connection for pluggable IC-	
98		CPD	37
99	8.3	Construction	37
100	8.3.1	General	37
101	8.3.2	Terminations of IC-CPDs	38
102	8.3.3	Enclosure of IC-CPDs according to 4.3.3	38
103	8.3.4	Terminal screws or nuts of IC-CPDs according to 4.3.3	39
104	8.3.5	Strain on the conductors of IC-CPDs according to 4.3.3	39
105	8.3.6	Additional requirements for IC-CPDs according to 4.3.3.....	39
106	8.3.7	Insulating parts which keep the live parts in position	39
107	8.3.8	Screws for IC-CPD according to 4.3.3.....	40
108	8.3.9	Means for suspension from a wall or other mounting surfaces	40
109	8.3.10	Plug as an integral part of direct plug-in equipment	40
110	8.3.11	Flexible cables and cords and their connection	40
111	8.4	Electrical performance	41
112	8.4.1	Protective conductor path	41
113	8.4.2	Contact mechanism	41
114	8.4.3	Clearances and creepage distances (see Annex C)	42
115	8.5	Protection against electric shock	45
116	8.5.1	General	45
117	8.5.2	Requirements relating to plugs, whether incorporated or not in integral	
118		items	45
119	8.5.3	Degree of protection of the function box	45
120	8.5.4	Requirements relating to vehicle connectors	46
121	8.6	Dielectric properties	46
122	8.7	Temperature rise	46
123	8.8	Operating characteristics	47
124	8.8.1	General	47
125	8.8.2	Safe connection operating characteristics	47
126	8.8.3	Operating characteristics with AC residual currents and residual	
127		currents having a DC component	47
128	8.8.4	Operating characteristics with smooth DC residual current	47
129	8.8.5	Behaviour of the IC-CPD after a residual current operation	47
130	8.8.6	Residual pulsating direct currents which may result from rectifying	
131		circuits supplied from two phases	47
132	8.8.7	Residual pulsating direct currents which may result from rectifying	
133		circuits supplied from three phases.....	48
134	8.9	Mechanical and electrical endurance	48
135	8.10	Performance at short-circuit currents	48
136	8.11	Resistance to mechanical shock and impact	48
137	8.12	Resistance to heat	48
138	8.13	Resistance to abnormal heat and to fire	49
139	8.14	Performance of the test function	49
140	8.15	Behaviour in case of loss of the supply voltage	49
141	8.16	Resistance of IC-CPDs against unwanted tripping due to surge currents to	
142		earth resulting from impulse voltages	50
143	8.17	Control pilot function controller	50
144	8.18	Reliability	50
145	8.19	Resistance to tracking.....	50
146	8.20	Electromagnetic compatibility (EMC).....	50

147	8.21	Behaviour of the IC-CPD at low ambient air temperature.....	50
148	8.22	Operation with supply failure and hazardous live protective conductor	
149		conditions	50
150	8.23	Verification of a standing current in the protective conductor in normal	
151		service	50
152	8.24	Behaviour at specific environmental conditions	51
153	8.25	Resistance to vibration and shock.....	51
154	9	Tests	51
155	9.1	General.....	51
156	9.1.1	Opening and closing of contacts	51
157	9.1.2	Type tests.....	51
158	9.1.3	Test sequences	52
159	9.1.4	Routine tests	53
160	9.2	Test conditions	53
161	9.3	Test of indelibility of marking	53
162	9.4	Verification of protection against electric shock.....	54
163	9.5	Test of dielectric properties.....	54
164	9.5.1	Resistance to humidity.....	54
165	9.5.2	Insulation resistance of the main circuit	55
166	9.5.3	Dielectric strength of the main circuit	56
167	9.5.4	Secondary circuit of detection transformers	56
168	9.5.5	Verification of impulse withstand voltages (across clearances and	
169		across solid insulation) and of leakage current across open contacts.....	56
170	9.6	Temperature-rise test.....	59
171	9.6.1	Test conditions	59
172	9.6.2	Test procedure	59
173	9.6.3	Measurement of the temperature rise of different parts	60
174	9.6.4	Temperature rise of a part	60
175	9.7	Verification of the operating characteristic	60
176	9.7.1	Test circuit.....	60
177	9.7.2	Residual sinusoidal alternating currents tests	60
178	9.7.3	Verification of the correct operation with residual currents having a DC	
179		component.....	63
180	9.7.4	Verification of behaviour in case of composite residual current	64
181	9.7.5	Verification of the correct operation in case of smooth DC residual	
182		current.....	65
183	9.7.6	Miswiring and supply failure tests	66
184	9.7.7	Verification of protective conductor contact behaviour	70
185	9.7.8	Verification that the protective conductor is connected to the electric	
186		vehicle.....	70
187	9.7.9	Verification of standing current in the protective conductor connection in	
188		normal service	70
189	9.7.10	Verification of the correct operation in case of residual direct currents	
190		which may result from rectifying circuits supplied from two phases	71
191	9.7.11	Verification of the correct operation in case of residual direct currents	
192		which may result from rectifying circuits supplied from three phases.....	71
193	9.8	Verification of mechanical and electrical endurance	72
194	9.8.1	Endurance of plug and vehicle connector part	72
195	9.8.2	Endurance of the residual current function of the IC-CPD	72
196	9.9	Verification of the behaviour of the IC-CPD under overcurrent conditions.....	73
197	9.9.1	List of the overcurrent tests	73

198	9.9.2	Short-circuit tests	74
199	9.9.3	Verification of the making and breaking capacity of the plug of the IC-	
200		CPD	79
201	9.10	Verification of resistance to mechanical shock and impact	79
202	9.10.1	General	79
203	9.10.2	Drop test	80
204	9.10.3	Test for screwed glands of IC-CPDs	80
205	9.10.4	Mechanical strength test on IC-CPDs provided with cords	80
206	9.10.5	Mechanical impact test and shock test	81
207	9.11	Test of resistance to heat	81
208	9.11.1	General	81
209	9.11.2	Temperature test in heating cabinet	81
210	9.11.3	Ball pressure test for insulating material necessary to retain in position	
211		current-carrying parts	81
212	9.11.4	Ball pressure test for insulating material not necessary to retain in	
213		position current-carrying parts	82
214	9.12	Resistance of insulating material to abnormal heat and to fire	82
215	9.13	Verification of the self-test	83
216	9.13.1	Test conditions	83
217	9.13.2	Verification of the self-test with IC-CPD in normal operation	83
218	9.13.3	Verification of the self-test with simulated welded contacts of IC-CPD	84
219	9.14	Verification of the behaviour of IC-CPDs in case of loss of the supply voltage	84
220	9.14.1	Verification of correct operation at the minimum operating voltage (U_x)	84
221	9.14.2	Verification of the automatic opening in case of loss of the supply	
222		voltage	85
223	9.14.3	Verification of the reclosing function	85
224	9.15	Verification of the limiting values of the non-operating current under	
225		overcurrent conditions	85
226	9.16	Verification of resistance against unwanted tripping due to surge currents to	
227		earth resulting from impulse voltages	85
228	9.17	Verification of reliability	86
229	9.17.1	Climatic test	86
230	9.17.2	Test at a temperature of 45 °C	87
231	9.18	Resistance to ageing	88
232	9.19	Resistance to tracking	89
233	9.20	Test on pins provided with insulating sleeves	89
234	9.21	Verification of the effects of strain on the conductors	89
235	9.22	Checking of the torque exerted by IC-CPDs on fixed socket-outlets	89
236	9.23	Tests of the cord anchorage	90
237	9.24	Flexing test of non-rewirable IC-CPDs	90
238	9.25	Verification of the electromagnetic compatibility (EMC)	92
239	9.25.1	Emission	92
240	9.25.2	Immunity	92
241	9.26	Tests replacing verifications of creepage distances and clearances	94
242	9.26.1	General	94
243	9.26.2	Abnormal conditions	94
244	9.26.3	Temperature rise resulting from fault conditions	94
245	9.27	Verifications for single electronic components used in IC-CPDs	97
246	9.27.1	General	97
247	9.27.2	Capacitors	97

248	9.27.3	Resistors and inductors	97
249	9.28	Chemical loads	97
250	9.29	Heat test under solar radiation	97
251	9.30	Resistance to ultra-violet (UV) radiation	98
252	9.31	Damp and salt mist test for marine and coastal environments	98
253	9.31.1	Test for external metallic parts only	98
254	9.31.2	Test criteria	98
255	9.32	Vehicle drive-over	99
256	9.32.1	General	99
257	9.32.2	Test at crushing force 5 000 N	99
258	9.32.3	Test at crushing force 11 000 N	99
259	9.32.4	Performance after the tests	99
260	9.33	Low storage temperature test	100
261	9.34	Vibration and shock test	100
262	9.35	Verification of insulating parts which keep live parts in position	101
263	9.36	Verification of the thermal control device	101
264	Annex A (normative) Test sequences and number of samples to be submitted for		
265	verification of conformity to this standard		142
266	A.1	Verification of conformity	142
267	A.2	Test sequences	142
268	A.3	Number of samples to be submitted for full test procedure	144
269	A.4	Number of samples to be submitted for simplified test procedures in case of	
270		submitting simultaneously a range of IC-CPDs of the same fundamental	
271		design	146
272	Annex B (normative) Routine tests		148
273	Annex C (normative) Determination of clearances and creepage distances		149
274	C.1	Overview	149
275	C.2	Orientation and location of a creepage distance	149
276	C.3	Creepage distances where more than one material is used	149
277	C.4	Creepage distances split by a floating conductive part	149
278	C.5	Measurement of creepage distances and clearances	149
279	Annex D (informative) Switched-protective conductor application		154
280	D.1	Explanation of switched-protective conductor (SPE) function and application	154
281	D.2	Examples of incorrect supply wiring	155
282	Annex E (informative) Example of IC-CPD for mode 2 charging		158
283	Annex F (informative) Types of IC-CPD according to construction and assembly		159
284	Annex G (informative) Methods for determination of short-circuit power factor		160
285	G.1	Overview	160
286	G.2	Method I – Determination from DC components	160
287	G.3	Method II – Determination with pilot generator	160
288	Bibliography		162
289			
290	Figure 1 – Test circuit for the verification of operating characteristic (9.7.2), reduced		
291	supply voltage (9.14)		103
292	Figure 2 – Verification of correct operation for hazardous live PE (see Table 14 and		
293	Table 15)		106
294	Figure 3 – Verification of temperature rise of the protective conductor		107
295	Figure 4 – Verification of open neutral for LNSE types, and open line for LLSE types		108

296	Figure 5 – Verification of a standing current in the protective conductor in normal	
297	service	109
298	Figure 6 – Test circuit for the verification of the making and breaking capacity and the	
299	short-circuit coordination with an SCPD (see 9.9.2)	113
300	Figure 7 – Standard test wire 1,0 mm	113
301	Figure 8 – Test circuit for the verification of the correct operation in the case of	
302	residual pulsating direct currents (see 9.7.3)	116
303	Figure 9 – Test circuit for the verification of the correct operation in the case of	
304	residual pulsating direct currents superimposed by a smooth direct current (see	
305	9.7.3.3)	119
306	Figure 10 – Verification of open protective conductor (see 9.7.6.4)	121
307	Figure 11 – Arrangement for compression test for verification of protection against	
308	electric shock	122
309	Figure 12 – Ball-pressure test apparatus	122
310	Figure 13 – Test circuit for IC-CPD according to 4.1.2 to verify the correct operation in	
311	case of residual pulsating direct currents which may result from rectifying circuits	
312	supplied from two phases	123
313	Figure 14 – Tests circuit for IC-CPD according to 4.1.3 to verify the correct operation in	
314	case of residual pulsating direct currents which may result from rectifying circuits	
315	supplied from three phases	124
316	Figure 15 – Apparatus for testing the cord retention	125
317	Figure 16 – Apparatus for flexing test	126
318	Figure 17 – Arrangement for mechanical strength test on IC-CPDs provided with cords	
319	(9.10.4)	127
320	Figure 18 – Stabilizing period for reliability test (9.17.1.4)	127
321	Figure 19 – Reliability test cycle (9.17.1.4)	128
322	Figure 20 – Example for test circuit for verification of ageing of electronic components	
323	(9.18)	129
324	Figure 21 – Current ring wave 0,5 μ s/100 kHz	129
325	Figure 22 – Example of test circuit for the verification of resistance to unwanted	
326	tripping	130
327	Figure 23 – Minimum creepage distances and clearances as a function of peak value	
328	of voltage (see 9.26.3 a)	131
329	Figure 24 – Minimum creepage distances and clearances as a function of peak value	
330	of operating voltage (see 9.26.3 a)	131
331	Figure 25 – Test cycle for low temperature test	132
332	Figure 26 – Test circuit for verification of connection of protective conductor to the EV,	
333	according to 9.7.8	133
334	Figure 27 – Verification of correct operation in case of smooth DC leakage current,	
335	according to 9.7.5	134
336	Figure 28 – Example of a test circuit for the verification of correct operation in case of	
337	residual sinusoidal alternating currents composed of multi-frequency components	135
338	Figure 29 – Test circuit for endurance test according to 9.8	136
339	Figure 30 – The use of the IC-CPD	137
340	Figure 31 – Informative wave shape of inrush current for tests according to 9.8.2	137
341	Figure 32 – Standard Test finger	138
342	Figure 33 – Small parts	139
343	Figure 34 – Test circuit for the verification of the self-test (9.13)	140
344	Figure 35 – Arrangement for verification of the thermal control device	141

345	Figure D.1 – Examples of incorrect supply wirings for LLSE types	156
346	Figure D.2 – Examples of incorrect supply wirings for LNSE types	157
347	Figure E.1 – Example for IC-CPD showing the different parts and functions	158
348	Figure F.1 – Example of IC-CPD including function box, cables, plug and connector	
349	according to 4.2.2	159
350	Figure F.2 – Example of modular IC-CPD according to 4.2.3a)	159
351	Figure F.3 – Example of modular IC-CPD according to 4.2.3b)	159
352		
353	Table 1 – Preferred values of rated current and corresponding preferred values of	
354	rated voltages	31
355	Table 2 – Limit values of break time for AC residual currents at rated frequency	32
356	Table 3 – Limit values of break time for smooth DC residual currents	32
357	Table 4 – Limit values of break time for residual pulsating direct currents which may	
358	result from rectifying circuits supplied from two or three phases	32
359	Table 5 – Standard conditions for operation in service	35
360	Table 6 – Minimum cross-sectional area of flexible cable or cord	40
361	Table 7 – Minimum clearances and creepage distances	44
362	Table 8 – Temperature-rise values	46
363	Table 9 – List of type tests	52
364	Table 10 – Test voltage for verification of impulse withstand voltage	58
365	Table 11 – Tripping current ranges for IC-CPDs in case of pulsating DC current	63
366	Table 12 – Different frequency component values of test currents and starting current	
367	values (I_{Δ}) for verifying the operating in case of steady increased residual current	64
368	Table 13 – Operating current ranges for composite residual current	65
369	Table 14 – Supply failure and hazardous live protective conductor (PE) connections for	
370	test with reference to correct supply connections for LNSE/LLSE and LNE/LLE types	67
371	Table 15 – Supply failure and hazardous live protective conductor (PE) connections for	
372	test with reference to correct supply connections for LLLNSE and LLLNE types	68
373	Table 16 – Tests to verify the behaviour of IC-CPDs under overcurrent conditions	74
374	Table 17 – Minimum values of I^2t and I_p	75
375	Table 18 – List of tests of resistance to mechanical shock and impact	79
376	Table 19 – Torque applied to the spanner for the test	80
377	Table 20 – EMC-Immunity-Tests	93
378	Table 21 – Maximum permissible temperatures under abnormal conditions	96
379	Table 22 – PSD value depending on frequency for vibration testing	100
380	Table A.1 – Test sequences	143
381	Table A.2 – Number of samples to be submitted for full test procedure	145
382	Table A.3 – Reduction of number of samples	147

383

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385 INTERNATIONAL ELECTROTECHNICAL COMMISSION

386

387

388 **IN-CABLE CONTROL AND PROTECTION DEVICE FOR MODE 2**
389 **CHARGING OF ELECTRIC ROAD VEHICLES (IC-CPD)**

390

391

FOREWORD

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425 International Standard IEC 62752 has been prepared by subcommittee 23E: Circuit-breakers
426 and similar equipment for household use, of IEC technical committee 23: Electrical accessories,
427 in co-operation with ISO TC 22/SC 37 Electrically propelled vehicles.

428 This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

429 In this standard, the following print types are used:

430 – Requirements proper, in roman type;

431 – *Test specifications, in italic type;*

432 – NOTES, in smaller roman type.

433 The committee has decided that the contents of the base publication and its amendment will
434 remain unchanged until the stability date indicated on the IEC web site under
435 "http://webstore.iec.ch" in the data related to the specific publication. At this date, the
436 publication will be

- 437 • reconfirmed,
- 438 • withdrawn,
- 439 • replaced by a revised edition, or
- 440 • amended.

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446

INTRODUCTION

447 The essential purpose of this standard is safe and reliable access of electric vehicles to a supply
448 system. The definition for mode 2 charging of electric vehicle is described in IEC 61851-1.

449 For all charging modes, protection against electric shock in case of failure of basic protection
450 and/or fault protection is provided, at least by a type A RCD (see IEC 60364-7-722 and
451 IEC 61851-1).

452 For mode 2 charging including the situation where it cannot be guaranteed that the installation
453 is equipped with RCDs, for example charging the electric vehicle at an unknown installation, a
454 dedicated protection is used for the connected electric vehicle. The intention of this standard is
455 to describe the relevant requirements for an in-cable control and protection device (IC-CPD) to
456 be used for mode 2 charging.

457 This version of IEC 62752 covers also the content of the former IEC 62335.

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IN-CABLE CONTROL AND PROTECTION DEVICE FOR MODE 2 CHARGING OF ELECTRIC ROAD VEHICLES (IC-CPD)

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1 Scope

465 This International Standard applies to in-cable control and protection devices (IC-CPDs) for
466 mode 2 charging of electric road vehicles, hereafter referred to as IC-CPD including control and
467 safety functions.

468 This standard applies to portable devices performing simultaneously the functions of detection
469 of the residual current, of comparison of the value of this current with the residual operating
470 value and of opening of the protected circuit when the residual current exceeds this value.

471 The IC-CPD according to this standard

- 472 • has a control pilot function controller in accordance with IEC 61851-1:2017, Annex A;
- 473 • checks supply conditions and prevents charging in case of supply faults under specified
474 conditions;
- 475 • may have a switched protective conductor.

476 Residual currents with frequencies different from the rated frequency, DC residual currents and
477 specific environmental situation are considered.

478 This standard is applicable to IC-CPDs performing the safety and control functions as required
479 in IEC 61851-1 for mode 2 charging of electric vehicles.

480 This standard is applicable to IC-CPDs for single-phase circuits not exceeding 250 V or multi-
481 phase circuits not exceeding 480 V, their maximum rated current being 32 A.

482 This standard is applicable to IC-CPDs to be used in AC circuits only, with preferred values of
483 rated frequency 50 Hz, 60 Hz or 50/60 Hz. IC-CPDs according to this standard are not intended
484 to be used to supply electric energy towards the connected grid.

485 This standard is applicable to IC-CPDs having a rated residual operating current not exceeding
486 30 mA and are intended to provide additional protection for the circuit downstream of the IC-
487 CPD in situations where it cannot be guaranteed that the installation is equipped with an RCD
488 with $I_{\Delta n} \leq 30$ mA.

489 The IC-CPD consists of:

- 490 • a plug for connection to a socket-outlet in the fixed installation;
- 491 • one or more subassemblies containing the control and protection features;
- 492 • a cable between the plug and the subassemblies (optional);
- 493 • a cable between the subassemblies and the vehicle connector (optional);
- 494 • a vehicle connector for connection to the electric vehicle.

495 For plugs for household and similar use the respective requirements of the national standard
496 and specific requirements defined by the national committee of the country where the product
497 is placed on the market apply. If no national requirements exist, IEC 60884-1 applies. For
498 industrial plugs IEC 60309-2 applies. For specific applications and areas non interchangeable
499 industrial plugs may be used. In this case IEC 60309-1 applies