



Test Report issued under the responsibility of:



**TEST REPORT
IEC 61984
Connectors – Safety requirements and tests**

Report Number : 250150-TL6-1

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**Name of Testing Laboratory
preparing the Report** : **VDE** Prüf- und Zertifizierungsinstitut GmbH
VDE Testing and Certification Institute

Applicant's name : **Weidmüller Interface GmbH & Co. KG**

Address : Klingenbergstraße 16; 32758 Detmold; Germany

Test specification:

Standard : IEC 61984:2008

Test procedure : CB Scheme

Non-standard test method : N/A

Test Report Form No. : IEC61984C

Test Report Form(s) Originator : VDE Prüf- und Zertifizierungsinstitut GmbH

Master TRF : Dated 2017-06

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Test item description	Connector (COC)
Trade Mark	
Manufacturer	Weidmüller Interface GmbH & Co. KG; Klingenbergsstraße 16; 32758 Detmold; Germany
Model/Type reference	BCF 3.81 Buchsenteil / female part; SC-SMT 3.81 Stiftteil / male part
Ratings	160 V / 17,5 A

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):

<input checked="" type="checkbox"/>	CB Testing Laboratory:	VDE Prüf- und Zertifizierungsinstitut GmbH VDE Testing and Certification Institute	
Testing location/ address		Merianstrasse 28, 63069 Offenbach, Germany	
Tested by (name, function, signature)	Markus Benkner (authorization of test report) test engineer		
Approved by (name, function, signature) ..:	Berthold Reinholtz reviewer		
<input type="checkbox"/>	Testing procedure: CTF Stage 1:		
Testing location/ address			
Tested by (name, function, signature)			
Approved by (name, function, signature) ..:			
<input type="checkbox"/>	Testing procedure: CTF Stage 2:		
Testing location/ address			
Tested by (name + signature)	(authorization of test report)		
Witnessed by (name, function, signature) ..:			
Approved by (name, function, signature) ..:			
<input type="checkbox"/>	Testing procedure: CTF Stage 3:		
<input type="checkbox"/>	Testing procedure: CTF Stage 4:		
Testing location/ address			
Tested by (name, function, signature)			
Witnessed by (name, function, signature) ..:			
Approved by (name, function, signature) ..:			
Supervised by (name, function, signature) :			

List of Attachments (including a total number of pages in each attachment):

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Summary of testing:

All requirements were passed with positive result.

Tests performed (name of test and test clause):

Complete test according to IEC 61984

Testing location:

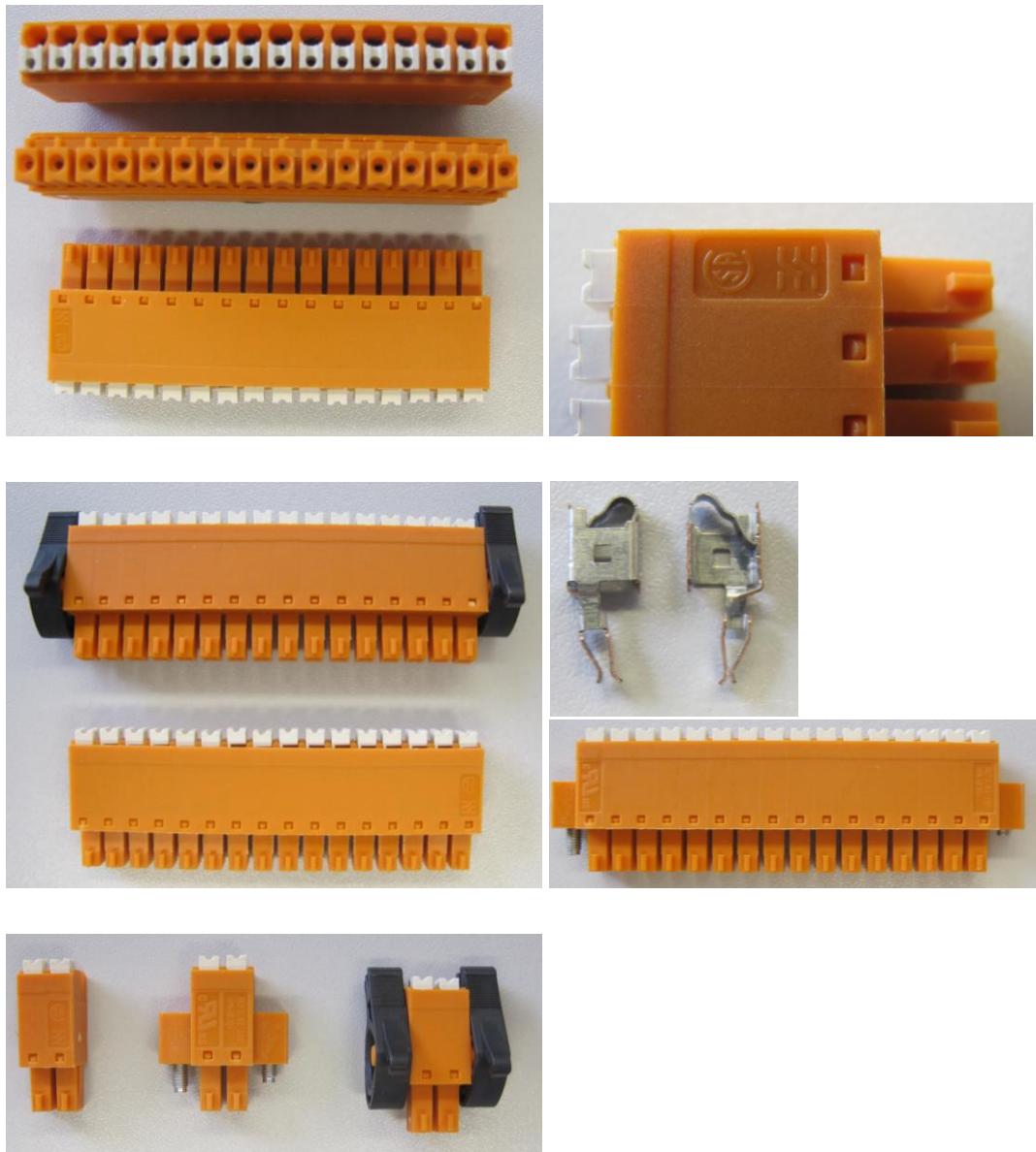
VDE Testing and Certification Institute
Merianstraße 28, 63069 Offenbach, Germany

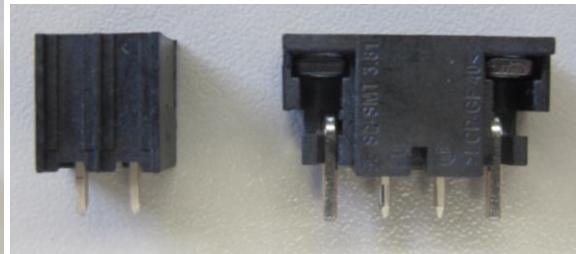
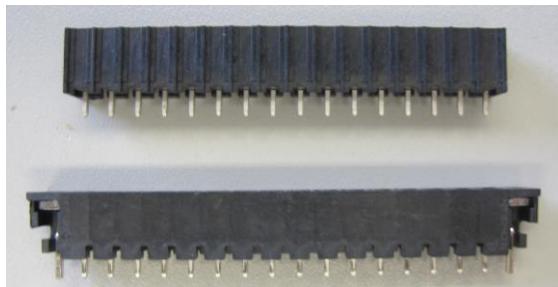
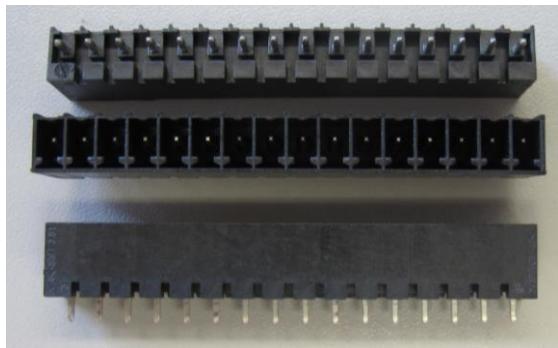
Summary of compliance with National Differences (List of countries addressed):

The product fulfils the requirements of
DIN EN 61984 (VDE 0627):2009-11; EN61984:2009
DIN EN 61984 Berichtigung 1 (VDE 0627 Berichtigung 1):2012-03

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

BCF 3.81

SC-SMT 3.81

Test item particulars :	
Classification of installation and use : Built in	
Supply Connection..... :	
.....	
Possible test case verdicts:	
<ul style="list-style-type: none"> - test case does not apply to the test object..... : N/A - test object does meet the requirement : P (Pass) - test object does not meet the requirement..... : F (Fail) 	
Testing :	
Date of receipt of test item : 2018-05-07	
Date (s) of performance of tests..... : 2018-05-30...2018-06-26	
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60068-2-29:	
<p>The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)... : Thüringische Weidmüller GmbH; Allee 1; 99848 Wutha-Farnroda; Germany / Reference 30010824 Weidmüller Interface (Suzhou) Co., Ltd., OEM-Business; 81 Xiangyang Road Suzhou New District; 215011 SUZHOU CITY; Jiangsu; China / Reference 30017348	
General product information and other remarks:	
All tests were performed with samples from both factories.	

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MECHANICAL TEST GROUP A (TABLE 10)			
A1	VISUAL EXAMINATION: IEC 60512 Test 1a		
6.2.2	Marking indelible and easily legible		P
	Minimum marking on the connector a) trademark		P
	Markings a) trademark and b) type identification on smallest unit of packaging		P
	All other markings (c – k) given in the technical documentation or catalogue of the manufacturer		P
	c) Rated current	17,5 A	P
	c) Rated voltage	160 V	P
	e) Over voltage category	1,39 kV	P
	f) Pollution degree	3	P
	g) Protection degree	IP00	P
	h) Range of temperature	-50°C up to +120°C (LLT – ULT)	P
	i) Type of terminals	Solder termination (PCB) (male part) Screw type clamping units (female parts)	P
	j) Connectable conductors	0,14 – 1,5 mm ² Solid and flexible	P
	k) Reference to this standard or to the DS	IEC 61984	P
6.2.3	Position for the contacts and protective earthing contacts clearly indicated. Marking of protective earthing contacts applies symbol  or "PE". This requirement is not necessary for non rewirable connectors.	The definite marking of the contacts has to be guaranteed by overprint or the build-in conditions.	P
6.9.2	Fixing means not used to fix live parts.		P
6.9.3	Termination without damage possible.		P
6.10	CBC has adequate breaking capacity.		N/A
6.11	Free connector: Wires protected against shear and tensile stress at the termination and secured to prevent twisting.		N/A
	The above requirement does not apply to:		
	a) free connectors for termination to cables in fixed mountings (plug connection in the sense of a detachable connection)		N/A

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	b) free connectors in which the terminations are protected against pull and twisting by mounting provisions in the end-use product		N/A
	DIMENSIONAL EXAMINATION: IEC 60512		
6.19	Clearances and creepage distances according to IEC 60664.	see table 0.2	P
	Connector dimensions comply with the DS or manufacturer's specification.		N/A
A2	DURABILITY OF MARKING		
7.3.2	Test liquid: water Test piston size 1; force 5 N; 10 cycles IEC 60068-2-70 Test Xb „Abrasion of marking“		P
	VISUAL EXAMINATION: IEC 60512 Test 1a		
	Visible with the naked eye		P

A3	POLARISATION AND CODING: IEC 60512 / Test [13e]		
	- For unenclosed connectors (internal connections) 20 N		P
	- For enclosed connectors (external connections) 1,5 x mating force, but not higher than 80 N		N/A
6.3	Multipole connector: Contact between protective earthing contacts and live contacts is not possible by engagement.		N/A
6.9.1	Multipole connector: Polarisation prevents improper connection of mating parts.		P
	VISUAL EXAMINATION: IEC 60512 Test 1a		
	No damage likely to impair function		P

A4	PROVISIONS FOR EARTHING		
6.5.1	For a CBC the earthing contact is a "first make - last break" contact.		N/A
7.3.3	No electrical contact indication between earth contact and the other contacts.		N/A
6.5.4	CONNECTION OF THE PROTECTIVE EARTH CONNECTOR		
	VISUAL EXAMINATION: IEC 60512 Test 1a		
	Remove any available covers if required.		N/A
6.5.4.1	The protective conductor terminal accepts a		N/A

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	conductor with a minimum cross-section as specified in Table 1, Column 2:		
	Minimum cross- section according to Table 1.....:	mm ²	—
6.5.4.2	With regard to design and type of construction, the protective conductor terminations are at least equivalent to the other terminations according to clause 6.:		N/A

A5	INTERLOCK		
7.3.4	The specimens are engaged by hand over their full engagement distance. All other contacts are wired in series. The interlock contacts "make last and break first", before any other contact does.		N/A
6.7	The connector with an interlock cannot be engaged or disengaged as long as the contacts are live.		N/A

A6	TERMINATIONS		
6.6	Range of connectable conductor(s)	from: 0,14 mm ² to: 1,5 mm ²	—
6.6.1 a)	Test acc. to: IEC 60352-1 Wrapped connections		N/A
6.6.1 b)	Test acc. to: IEC 60352-2 Crimped connections		N/A
6.6.1 c)	Test acc. to: IEC 60352-3 or IEC 60998-2-3 Accessible insulation displacement connections		N/A
6.6.1 d)	Test acc. to: IEC 60352-4 or IEC 60998-2-3 Non-accessible insulation displacement connections		N/A
6.6.1 e)	Test acc. to: IEC 60352-5 Press-in connections		N/A
6.6.1 f)	Test acc. to: IEC 60352-6 or IEC 60998-2-3 Insulation piercing connections		N/A
6.6.1 g)	Test acc. to: IEC 60999-1 or IEC 60999-2 or IEC 60352-7 Screwless-type clamping units		P
6.6.1 h)	Test acc. to: IEC 60999-1 or IEC 60999-2 Screw-type clamping units		N/A
6.6.1 i)	Test acc. to: IEC 60760 or IEC 61210 Flat, quick-connect terminations		N/A
	Test acc. to: IEC 60068-2-20 Solder terminations		P
	Other terminations, not mentioned above, acc. to IEC standard		N/A

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A7	CONTACT RETENTION IN INSERT: IEC 60512 Test 15a		
	Test load shall be three times the specified insertion force (mating) of one contact or the specified insertion force of one contact plus 50 N, whichever is less. Minimum test load 20 N.	insertion force of one contact: 6,5 N Test load 20 N	—
	VISUAL EXAMINATION: IEC 60512 Test 1a		
6.18.2	Contacts safety retained		P
	No axial displacement likely to impair normal operation		P

A8	CABLE CLAMP: IEC 60512		
6.17	The cable clamp is made of insulating material or metal.		N/A
6.17	Metal cable clamps meet one of the following requirements:		
	a) Provided with a covering of insulating material to prevent any accessible metal part becoming live in case of a fault.		N/A
	b) No contact possible with the IEC test finger according to IEC 60529.		N/A
	c) Be connected to protective earth.		N/A
	Cable clamping range (6.17 Table 6 or manufacturer's specification)	from: mm to: mm	—
A8.1	CABLE CLAMP (PULL) IEC 60512 Test 17c		
	VISUAL EXAMINATION: IEC 60512 Test 1a		
	Covers mounted / contacts not connected	See appended table A8.1	N/A
A8.2	CABLE CLAMP (TORSION): IEC 60512 Test 17d		
	VISUAL EXAMINATION: IEC 60512 Test 1a		
	Covers mounted	See appended table A8.2	N/A

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A9	MECHANICAL STRENGTH IMPACT (Only free Connectors and CBC): IEC 60512 Test 7b		
	Dropping cycles: 8 positions in 45° steps		—
	Dropping height: mm		—
	VISUAL EXAMINATION: IEC 60512 Test 1a		
6.18.1	No damage likely to impair safety		N/A
6.18.3	Internal insulations not damaged		N/A
	Parts against electric shock not damaged		N/A
	Clearances and creepage distances not reduced		N/A

	SERVICE LIFE TEST GROUP B (TABLE 11)		
B1	INITIAL MEASUREMENTS (CONTACT RESISTANCE): IEC 60512 Test 2b		
	Reference value for subsequent measurement: See appended table B1		—
	Test current: 1 A		—

B2	BREAKING CAPACITY (ONLY FOR CBCs)		
7.3.5	Operating cycles: —		—
	Speed of insertion/ withdrawal: 0,8 m/s		—
	Test voltage: V		—
	Test current: A		—
	Power factor / cos(φ): 0,9 ± 0,05		—
	Time constant		1 ms ± 15%
	VISUAL EXAMINATION: IEC 60512 Test 1a		
6.14.2	No damage occurred, which could impair normal use		N/A

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B3	MECHANICAL OPERATIONS: IEC 60512 Test 9a		
7.3.9	Operating cycles	: 25	—
	Insertion speed	: 0,01 m/s	—
	Rest	: 30 s	—
	VISUAL EXAMINATION: IEC 60512 Test 1a		
6.14.1	No damage occurred, which could impair normal use		P

B4	FINAL MEASUREMENTS (CONTACT RESISTANCE): IEC 60512 Test 2b		
	Test current	: 1 A	—
	$R2 \leq 1,5 R1$ or $R2 \leq 5 \text{ m}\Omega + R1$: See appended table B4.1	P
	DIELECTRIC STRENGTH: IEC 60512 Test 4a		
	a) Impulse withstand voltage	: --	—
	b) r.m.s. withstand voltage	: 1,39 kV	—
6.13	No breakdown or flashover occurred	See appended table B4.2	P

B5	BENDING (FLEXING) TEST (To be performed on new specimen)		
7.3.10	Only non-rewirable connectors		
	Rated current	: A	—
	Rated voltage	: V	—
	Wire cross section	: mm^2	—
	Load: $> 0,75 \text{ mm}^2 / 20 \text{ N}$; $\leq 0,75 \text{ mm}^2 / 10 \text{ N}$: N	—
	Numbers of bending		—
	DURING THE TEST		
	No interruption of the test current		N/A
	No short-circuit between the conductors		N/A
	AFTER THE TEST		
	Cable support sleeve not loosened from the body		N/A
	Insulation shows no signs of abrasion or of wear and tear.		N/A
	Broken strands do not pierce the insulation.		N/A
	VISUAL EXAMINATION: IEC 60512 Test 1a		

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6.14.3	No damage occurs, which could impair normal use.		N/A
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THERMAL TEST GROUP C (TABLE 12)		
C1	TEMPERATURE RISE TEST: IEC 60512 Test 5A	
	Test conductor length according Table 7	Female part: 250 mm Male part: direct bridged
	Test conductor cross-section	1,5 mm ²
7.3.7	Mated specimen	See appended tables C1
	Test current	17,5 A
	Ambient temperature – components	20°C
	Upper limit temperature – components	120°C
6.16	The upper limiting temperature specified for the specimen is not exceeded	See appended table C1
		P

CLIMATIC TEST GROUP D (TABLE 13)		
D1	INITIAL MEASUREMENTS (CONTACT RESISTANCE): IEC 60512 Test 2b	
	Reference value for subsequent measurement..	See appended table D1
	Test current	1 A

D2	COLD: IEC 60512 Test 11j	
	Mated specimen	
	Test duration	2 h
	Lower temperature limit	-50 °C
	VISUAL EXAMINATION: IEC 60512 Test 1a	
6.6.3	Sufficient contact pressure through insulation	N/A
6.8 / 6.15	No visual damage, no cracks on insulations parts likely to impair safety	P
6.18.3	Internal insulation shows no damage likely to impair safety	P
	No damage occurred, which could impair normal use	P

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D3	DRY HEAT: IEC 60512 Test 11i		
	Mated specimen	:	—
	Test duration	:	7 days
	Upper temperature limit	:	120 °C
	VISUAL EXAMINATION: IEC 60512 Test 1a		
6.6.3	Sufficient contact pressure through insulation		N/A
6.8 / 6.15	No visual damage, no cracks on insulations parts likely to impair safety		P
6.18.3	Internal insulation shows no damage likely to impair safety		P
	No damage occurred, which could impair normal use		P

D4	PROTECTION AGAINST CORROSION: IEC 60512 Test 11g		
7.3.14 Test 1	Flowing mixed gas corrosion according to IEC 60512-11-7, test 11g Method 1 or alternatively Method 4 (Table 1 of IEC 60512-11-7)). Test duration is 4 days.		N/A
7.3.14 Test 2 alternative	Sulphur dioxide test with general condensation of moisture according to ISO 6988 . Test duration is 24h (1 test cycle)		P
	VISUAL EXAMINATION: IEC 60512 Test 1a		
6.21	Function guaranteed		P
	No damage occurred, which could impair normal use		P

D5	FINAL MEASUREMENT (CONTACT RESISTANCE): IEC 60512 Test 2b		
	Test current	:	1 A
	$R2 \leq 1,5 R1$ or $R2 \leq 5 \text{ m}\Omega + R1$:	See appended table D5

D6	DIELECTRIC STRENGTH: IEC 60512 Test 4a		
	Mated specimen	:	See appended table D1
	Impulse withstand voltage	:	--
	r.m.s. withstand voltage	:	1,39 kV
6.13	No breakdown or flashover occurred		See appended table D6

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DEGREE OF PROTECTION TEST GROUP E (TABLE 14)			
E1	PROTECTION AGAINST ELECTRIC SHOCK		
	Unenclosed connectors (for use inside an enclosure):		
	5.4 c1) COC classified as IP0X, no test required	IP00	P
6.4.2.2	5.4 c2) COC Hand back safety (IP1X or IPXXA) 50 mm sphere pressed with 20 N against mated specimen. No live parts accessible.		N/A
6.4.2.3	5.4 c3) COC Finger safety (IP2X or IPXXB) Jointed test finger pressed with 20 N against mated specimen. No live parts accessible.		N/A
6.4.2.3	5.4 d) CBC finger safety (IP2X or IPXXB) Jointed test finger pressed with 20 N against mated and unmated specimen. No live parts accessible.		N/A
	Enclosed connectors (COCs and CBCs)		
6.4.1	Test at mated and unmated specimen. Jointed IEC test finger pressed with 20 N against the surface except the mating face of the male part of the connector. Creepages and clearances ensured between live parts and test finger.		N/A
	All parts necessary to ensure protection against electric shock only removable with a tool.		N/A
6.4.3	For a CBC, protection against electric shock is ensured also during insertion and withdrawal. This is proved by use of the jointed IEC test with a test force of 20 N. Creepages and clearances ensured between live parts and test finger.		N/A

PROVISION FOR EARTHING			
7.3.13 6.5.3	Resistance between accessible metal parts and the earthing contact $\leq 100 \text{ m}\Omega$:	$\text{m}\Omega$	N/A

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E3	DEGREE OF PROTECTION IP CODE: IEC 60529		
7.3.6.3	Tests for IP Codes higher than IP2X or IPXXB		
6.12 7.3.7.1	IP code according to IEC 60529 in mated condition or according manufacturers conditions	IP	—
	Maximum and minimum cross-section wiring or cable diameter connected	mm ² / Ø mm mm ² / Ø mm	—
7.3.7.2	Protection against ingress of foreign solid objects, tested according to IEC 60529		N/A
7.3.7.3	Protection against harmful ingress of water, tested according to IEC 60529		N/A

A8.1	TABLE: Covers mounted / contacts not connected			
Nominal size (mm):	Ø [mm]	Tensile force [N]	Displacement [mm]	—
Min.			≤	N/A
Max.			≤	N/A
Min.			≤	N/A
Max.				

A8.2	TABLE: Covers mounted			
Nominal size (mm):	Ø [mm]	Torque [Nm]	Twist [°]	—
Min.			≤ ±	N/A
Max.			≤ ±	N/A
Min.			≤ ±	N/A
Max.				

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B1		TABLE: Initial measurements (Contact resistance)				
Test current			1 A			—
Test sample	Contact	1	2	3	PE	—
1 Thüringische Weidmüller GmbH	ΔU1 [mV]	1,2	1,1	1,1	--	
	R1 [mΩ]	1,2	1,1	1,1	--	
	Contact	1	2	3	PE	—
2 Thüringische Weidmüller GmbH	ΔU1 [mV]	1,1	1,1	1,2	--	
	R1 [mΩ]	1,1	1,1	1,2	--	
	Contact	1	2	3	PE	—
3 Weidmüller Interface (Suzhou)	ΔU1 [mV]	1,2	1,1	1,1	--	
	R1 [mΩ]	1,2	1,1	1,1	--	
supplementary information: SC-SMT + BCF						

B4.1		TABLE: Final measurements (Contact resistance)				
Test current.....			1 A			—
Number of cycles			25			—
Condition.....			R2max \leq 1,5R1 or R2max \leq 5 mΩ + R1			—
Test sample	Contact	1	2	3	PE	—
1 Thüringische Weidmüller GmbH	R2max [mΩ]	6,2	6,1	6,1	--	P
	ΔU2 [mV]	1,2	1,1	1,1	--	
	R2 [mΩ]	1,2	1,1	1,1	--	
	Contact	1	2	3	PE	—
2 Thüringische Weidmüller GmbH	R2max [mΩ]	6,1	6,1	6,2	--	P
	ΔU2 [mV]	1,1	1,1	1,1	--	
	R2 [mΩ]	1,1	1,1	1,1	--	
	Contact	1	2	3	PE	—
3 Weidmüller Interface (Suzhou)	R2max [mΩ]	6,2	6,1	6,1	--	P
	ΔU2 [mV]	1,1	1,2	1,1	--	
	R2 [mΩ]	1,1	1,2	1,1	--	
supplementary information: SC-SMT + BCF						

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B4.2	TABLE: Dielectric strength (mated specimen)			P
Test voltage applied between:	a) Impulse withstand voltage applied	b) r.m.s withstand voltage applied	Breakdown / flashover (Yes/No)	
Contact – Contact	--	1,39 kV	No	
Contact – Earth	--	--	--	
Contact – Surface	--	--	--	
supplementary information: SC-SMT + BCF				

C1	TABLE: Temperature rise test				
	Ambient temperature (°C) : 20 °C				—
Thermocouple Locations	Test current (A)	Upper temperature limit (ULT) (°C)	Temperature measured (°C)	—	
Female part / 102 Thüringische Weidmüller GmbH	17,5	120	74,8	P	
Female part /103 Weidmüller Interface (Suzhou)			78,1	P	
Male part / 104 Thüringische Weidmüller GmbH			85,5	P	
Male part / 105 Weidmüller Interface (Suzhou)			83,6	P	
supplementary information: SC-SMT + BCF					

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D1 TABLE: Initial measurements (Contact resistance)						
Test current.....			: 1 A			
Test sample	Contact	1	2	3	PE	—
1 Thüringische Weidmüller GmbH	ΔU_1 [mV]	0,87	1,0	0,85	--	—
	R_1 [$\text{m}\Omega$]	0,87	1,0	0,85	--	
supplementary information: SC-SMT + BCF						

D5 TABLE: Final measurements (Contact resistance)						
Test current.....			: 1 A			
Condition.....			: $R_{2\max} \leq 1,5R_1$ or $R_{2\max} \leq 5 \text{ m}\Omega + R_1$			
Test sample	Contact	1	2	3	PE	—
1 Thüringische Weidmüller GmbH	$R_{2\max}$ [$\text{m}\Omega$]	5,87	6,0	5,85	---	P
	ΔU_2 [mV]	0,84	0,65	0,84	---	
	R_2 [$\text{m}\Omega$]	0,84	0,65	0,84	---	
supplementary information: SC-SMT + BCF						

D6 TABLE: Dielectric strength (mated specimen)				P
Test voltage applied between:	a) Impulse withstand voltage applied	b) r.m.s withstand voltage applied	Breakdown / flashover (Yes/No)	
Contact – Contact	--	1,39 kV	No	
Contact – Earth	--	--	--	
Contact – Surface	--	--	--	
supplementary information: SC-SMT + BCF				

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0.1	TABLE: Characteristic features	
Example	X	Please mark relevant line with "X"
Kind of equipment	X	Connector without breaking capacity (COC)
		Connector with breaking capacity (CBC)
Existence of an enclosure	X	Unenclosed connector
		Enclosed connector
Design of the connector	X	Fixed connector
		Free connector
Additional characteristics		Connector with protective earthing contact
	X	Connector without protective earthing contact
		Connector with cable clamp
	X	Connector without cable clamp
		Connectors (COC) with protection against electric shock for hand back safety, when mated
		Connectors (COC) with protection against electric shock for finger safety
		CBC with protection against electric shock for finger safety, both in mated and unmated condition
		Degree of protection of a connector
		Connector for class II equipment
		Connector with interlock
	X	Connector without interlock
		Non-rewirable connector
	X	Rewirable connector
Pollution degree		1
		2
	X	3
		4
Over voltage category		I
		II
	X	III
		IV

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0.1	TABLE: Characteristic features
Operating cycles	10
	50
	100
	500
	1000
	2000
	5000
X	According manufacturer's: 25
Bendings	10
	50
	100
	500
	1000
	2000
	5000
	20000
X	According manufacturer's: N/A
Upper temperature limit	70°C
	85°C
	100°C
	125°C
X	According manufacturer's: 120°C
Lower temperature limit	-10°C
	-25°C
	-40°C
	-55°C
	0°C
X	According manufacturer's: -50°C

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0.1	TABLE: Characteristic features	
Type of conductor	X	Solid
	X	Flexible
Termination and connection		Wrapped connection
		Crimped connection
		IDC Accessible
		IDC Non-accessible
		Press in connections
		Insulation piercing connections
	X	Solder termination
	X	Screwless-type clamping units
		Screw-type clamping units
		Flat, quick-connect terminations
Values for cable clamp		According manufacturer's:
		[4–9 mm]
		[9–12 mm]
		[12–20 mm]
		[20–32 mm]
		[33–42 mm]
	X	According manufacturer's: N/A
Rated voltage(s)		160 V
Rated current		17,5 A
Rated impulse voltage(s)		--
Rated insulation voltage(s)		2500 V
Number of poles		2-24
Protection degree (IP-Code)		IP 00
Mounting		For built in
Wire cross section area or cross section range		0,14 – 1,5 mm ² Solid and flexible
Material and coating of female contact		Copper alloy, tin plated
Material and coating of male contact.....		Copper alloy, tin plated

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0.2	TABLE: Clearance and creepage distance measurements Pitch 5 mm		
Type / Shell-size / etc.	BCF		SC-SMT
Clearances measured	5,0 mm		4,6 mm
Creepage distances measured :	3,0 mm		3,0 mm
Impulse withstand voltage [kV] :	2,5		
Test voltage [kV]	1,39~		
Clearances required	1,5 mm		
Isolation material group	II		II
Rated voltage [V]	160		160
Pollution degree	3		3
Creepage distances required ... :	2,2mm		2,2mm
Supplementary information: --			

0.3.1	TABLE: IEC 60112 / Tracking test							
	Specimen			Erosion depth [mm]				
Part	Material	Material-thickness [mm]	Colour	PTI Test solution [A]	CTI	PTI Test solution [B]	Result	
Specimen plates	Wellamid PA66-GV30	2,7	grey	400	--	--	P	
Specimen plates	Wellamid PA66-GV30	2,7	orange	400	--	--	P	
Supplementary information:								

0.3.2	TABLE: IEC 60695-2-11 / Glow-wire-test [60 s]								
	Specimen				Flame				
Part	Material	Material-thickness [mm]	Colour	[°C]	Start [s]	End [s]	Height [mm]	Ignition of tissue paper	Result
BCF 3.81	Wellamid PA66-GV30	div.	grey	850	0	28	--	No	P
SC-SMT 3.81	Wellamid PA66-GV30	div.	orange	850	--	--	--	No	P
Supplementary information:									

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0.3.3		TABLE: IEC 89/336/CD / Ball-pressure test						
Specimen				Ball-pressure test				
Part	Material	Material-thickness [mm]	Colour	[C°]	Measured [mm]	Required [mm]	Result	
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Supplementary information:								

0.3.4		TABLE: IEC 60695-2-2 / Needle-flame test						
Specimen				Flame				
Part	Material	Material-thickness [mm]	Colour	Burning duration [s]	Start [s]	End [s]	Result	
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Supplementary information:								