



Testroof Engineering and Certification Co., Ltd.
İnönü Mah. Kayışdağı Cad. No: 150/3 Ataşehir / İstanbul / TURKEY

TEST REPORT

No. 20-0013/01

Product: Connector

Model(s): WPT-0303M20 IP 68 T Type Field Assembly Connector- Black 32 A 600 V
WPT-0303M20/14 IP 68 T Type Field Assembly Connector- Black 32 A 600 V

Verification to: 2014/35/EU

EN 61984:2009

Manufacturer: **TTAF ELEKTRONİK SAN. VE TİC. A.Ş.**
Kavaklı Mah. İstanbul Cad. No:21 Beylikdüzü/İstanbul/TURKEY

Person responsible: Elec Eng Ergün CENGİZ

Date of issue: 2020-01-13

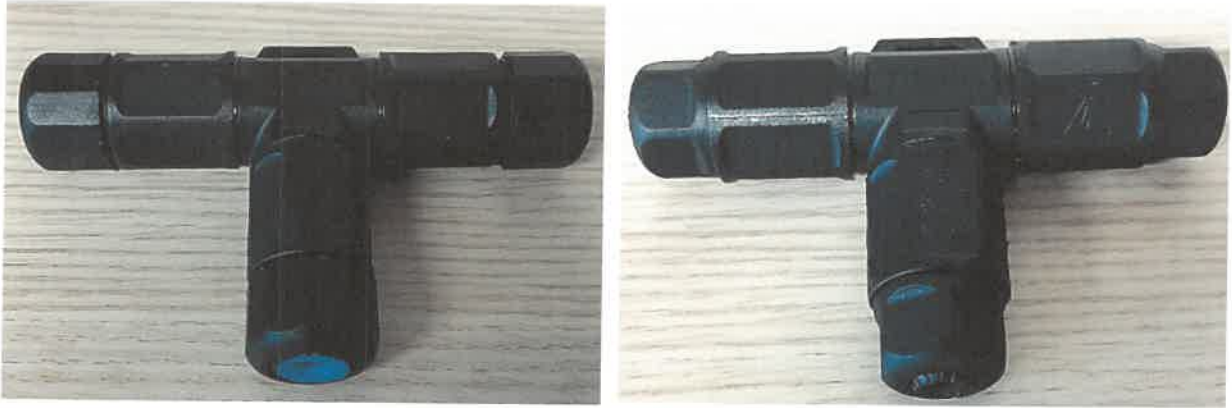
Distribution list:
1xTESTROOF
1x Producer
1x ECM





I. Description of product

WPT-0303M20 IP 68 T Type Field Assembly Connector- Black 32 A 600 V
WPT-0303M20/14 IP 68 T Type Field Assembly Connector- Black 32 A 600 V



II. Technical Characteristics

WPT-0303M20 & WPT-0303M20/14

Material: PA6
IP Class: IP68
Current Rating: 32 A max
Temperature Range: - 40°C #+85°C

III. Tested sample

- number of samples: 1
- date of submission: 2019-12-26
- Model No.: WPT-0303M20/14

Inspection, tests and evaluations were performed in **Testroof Mühendislik ve Belgelendirme Tic. Ltd. Şti.** İnönü Mah, Kayışdağı Cad. No:150-3, 34755 Ataşehir / İstanbul / TURKEY, by testing engineer Elec. Eng. Ergün Gengiz

Tests were carried out by means of the measuring equipment with the valid calibration.





IV. Results of tests and examination

The results of tests and examination are given in the Particular protocols which is the part of this Test report:

- Particular protocol No. 20-0013/01/T1
- Particular protocol No. 20-0013/01/T2
- Particular protocol No. 20-0013/01/T3
- Particular protocol No. 20-0013/01/T4
- Particular protocol No. 20-0013/01/T5
- Particular protocol No. 20-0013/01/T6
- Particular protocol No. 20-0013/01/T7

V. The list of used basis

- Particular protocol No. 20-0013/01/T1
- Particular protocol No. 20-0013/01/T2
- Particular protocol No. 20-0013/01/T3
- Particular protocol No. 20-0013/01/T4
- Particular protocol No. 20-0013/01/T5
- Particular protocol No. 20-0013/01/T6
- Particular protocol No. 20-0013/01/T7
- EN 61984:2009 Connectors. Safety requirements and tests

The persons stated below are accountable for the accuracy of the above-specified data:

Elec. Eng. Ergün CENGİZ
Test Engineer

Murat KOCAS
Manager of Testing Department





Testroof Engineering and Certification Co., Ltd.

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Particular protocol No:	20-0013/01/T1	Page1/2		
Inspection according to :	EN 61984:2009 Visual Examination Tests			
Product / Type :	WPT-0303M20/14			
Examination Engineer:	Ergün CENGİZ			
Date of Inspection	2019-12-26			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
-	-	-	-	

Requirement (*): EN 61984:2009 Visual Examination Tests

Connectors shall be identified and characterised by the following markings

6.2.2	Marking indelible and easily legible		
	Minimum marking on the connector a) trademark	TTAF	Pass
	Markings a) trademark and b) type identification on smallest unit of packaging	Trademark on product	Pass
	All other markings (c – k) given in the technical documentation or catalogue of the manufacturer		Pass
	c) Rated current	32 A max	Pass
	d) Rated voltage	600 VAC max	Pass
	e) Over voltage category	II / III	Pass
	f) Pollution degree	IV	Pass
	g) Protection degree	IP68	Pass
	h) Range of temperature	-40°C #+85°C	Pass
	i) Type of terminals	Screw	Pass
	j) Connectable conductors		Pass
	k) Reference to this standard or to the DS		Pass
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.	Marked	Pass
6.9.2	Fixing means not used to fix live parts.		Pass
6.9.3	Termination without damage possible.		Pass
6.10	CBC has adequate breaking capacity		N/A

Examination Engineer
Name : Eng. Ergün Cengiz
Signature :

Approved by
Name : Eng. M. Kocas
Signature:



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Particular protocol No:	20-0013/01/T1	Page2/2		
Inspection according to :	EN 61984:2009 Visual Examination Tests			
Product / Type :	WPT-0303M20/14			
Examination Engineer:	Ergün CENGİZ			
Date of Inspection	2019-12-26			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
-	-	-	-	

6.11	Free connector: Wires protected against shear and tensile stress at the termination and secured to prevent twisting.		Pass
	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
	b) free connectors in which the terminations are protected against pull and twisting by mounting provisions in the end-use product		Pass
DIMENSIONAL EXAMINATION: IEC 60512			
6.19	Clearances and creepage distances according to IEC 60664.		Pass
	Connector dimensions comply with the DS or manufacturer's specification.	manufacturer's specification	Pass
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“	IEC 60068-2-70 Test Xb „Abrasion of marking“ in the moulding	Pass
VISUAL EXAMINATION: IEC 60512 Test 1a			
	Visible with the naked eye		Pass

Examination Engineer

Name : Eng. Ergün Cengiz

Signature :

Approved by

Name : Eng. M. Kocas

Signature:



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Particular protocol No: 20-0013/01/T2 Page1/1
Inspection according to : EN 61984:2009 Art. 6.4.1
Product / Type : WPT-0303M20/14
Examination Engineer: Ergün CENGİZ
Date of Inspection 2019-12-26
Measuring instruments:

Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
-	-	-	-	

Requirement (*): EN 61984:2009 Art. 6.4.1

A connector shall be so designed that after mounting, its live parts are not accessible by the IEC test finger in accordance with Clause 5 of IEC 60529 using a test force of 20 N. All parts which are necessary to ensure protection against electric shock shall only be removable by the aid of a tool

All parts necessary to ensure protection against electric shock only removable with a tool.

Test Results :

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.	Pass
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Examination Engineer

Name : Eng. Ergün Cengiz

Signature :

Approved by

Name : Eng. M. Kocas

Signature:



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Particular protocol No:	20-0013/01/T3	Page1/1		
Inspection according to :	EN 61984:2009 Art. 6.4.2.2			
Product / Type :	WPT-0303M20/14			
Examination Engineer:	Ergün CENGİZ			
Date of Inspection	2019-12-26			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
-	-	-	-	

Requirement (*):EN 61984:2009 Art. 6.4.2.2

For a COC with protection against electric shock according to characteristic c2) of 5.4, protective provisions shall be tested by using the access probe -50 mm sphere- according to clause 5 of IEC 60529 with a test force of 20 N, without consideration of clearances and creepage distances.

Test Results :

5.4 c2) COC Hand back safety (IP1X or IPXXA) 50 mm sphere pressed with 20 N against mated specimen.	Pass
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Status : No live parts accessible

Examination Engineer
Name : Eng. Ergün Cengiz
Signature :

Approved by
Name : Eng. M. Kocas
Signature:



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Particular protocol No:	20-0013/01/T4	Page1/1		
Inspection according to :	EN 61984:2009 Art. 6.4.2.3			
Product / Type :	WPT-0303M20/14			
Examination Engineer:	Ergün CENGİZ			
Date of Inspection	2019-12-26			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
-	-	-	-	

Requirement (*): EN 61984:2009 Art. 6.4.2.3

For a COC and CBC with protection against electric shock respectively according to characteristic c3) and d) of 5.4, protective provisions shall be tested according to clause 5 of IEC 60529 by using the test finger with a test force of 20 N, without consideration of clearances and creepage distances.

Test Results :

5.4 c3) COC Finger safety (IP2X or IPXXB) Jointed test finger pressed with 20 N against mated specimen.	Pass
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Status : No live parts accessible

Examination Engineer

Name : Eng. Ergün Cengiz

Signature :

Approved by

Name : Eng. M. Kocas

Signature:



Testroof Engineering and Certification Co., Ltd.

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Particular protocol No:	20-0013/01/T5	Page1/1		
Inspection according to :	EN 61984:2009 Art. 6.5.3			
Product / Type :	WPT-0303M20/14			
Examination Engineer:	Ergün CENGİZ			
Date of Inspection	2019-12-26			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
CE Multitester MI 2094	NFS1428001	19011424	10/2020	

Requirement (*): EN 61984:2009 Art. 6.5.3

Accessible metal part of a connector with an earthing contact which may become live in the event of insulation fault shall be reliably connect to the earthing contact

In no case shall the resistance of this connection exceed 0,1 ohm

Test Results :

Contact Resistance (m ohm)		
1	2	3
0,93	0,90	0,89
0,93	0,90	0,89
0,93	0,90	0,89

Status : No live parts accessible Resistance between accessible metal parts and the earthing contact \leq 100 m ohm

Examination Engineer

Name : Eng. Ergün Cengiz

Signature :

Approved by

Name : Eng. M. Kocas

Signature:



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Particular protocol No:	20-0013/01/T6	Page1/1		
Inspection according to :	EN 61984:2009 Art. 6.5.4.1			
Product / Type :	WPT-0303M20/14			
Examination Engineer:	Ergün CENGİZ			
Date of Inspection	2019-12-26			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
-	-	-	-	

Requirement (*): EN 61984:2009 Art. 6.5.4.1 The protective conductor terminal shall be able to accept a conductor with a min. Cross sectional area as specified in Table

1	2	3
Nominal Cross sectional area of the current carrying conductor	Min. Cross sectional area for the protective conductor and accesible metal parts or covers used as protective conductors	Min. Cross sectional area for the connections between the protective conductor and accesible metal parts or covers not used as protective conductors
mm ²	mm ²	mm ²
Up to 1,5	Corresponding to the nominal cross sectional area of the current	
2,5	2,5	1,5
4	4	2,5
6	6	4
10	10	10
16, 25, 35	16	16
50	25	25
70	35	35
95	50	50
120, 150	70	50
185	95	50
240	120	50
300	150	50
400	185	50

Status:

The protective conductor terminal accepts a conductor with a minimum cross-section as specified in Table 1, Column 2:

Pass

Examination Engineer

Name : Eng. Ergün Cengiz

Signature :

Approved by

Name : Eng. M. Kocas

Signature:



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Particular protocol No:	20-0013/01/T7	Page1/1		
Inspection according to :	EN 61984:2009 Art. 6.13			
Product / Type :	WPT-0303M20/14			
Examination Engineer:	Ergün CENGİZ			
Date of Inspection	2019-12-26			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
CE Multitester MI 2094	NFS1428001	19011424	10/2020	

Requirement (*):EN 61984:2009 Art. 6.13

A connector shall withstand the specified test voltage preferably the impulse withstand voltage or the r.m.s withstand voltage alternatively The connector shall withstand the test voltage specified in Table 8 , in accordance with 7.3.12

Voltage proof test

The voltage proof test shall be performed by applying a r.m.s. withstand voltage with values as specified in table 8. Test duration shall be 1 minute.

Test Method:

Voltage Applied	r.m.s withstand voltage applied
Contact- Contact	2.95 kv
Contact - Earth	2.95 Kv

Test has been done according to manufacturer declaration.

Status: No breakdown or flashover occurred.

Examination Engineer
Name : Eng. Ergün Cengiz
Signature :

Approved by
Name : Eng. M. Kocas
Signature: