

TESTROOF ENGINEERING AND CERTIFICATION CO.LTD
İnönü Mah. Kayışdağı Cad. No:150/3 Ataşehir , İstanbul,Turkey

TEST REPORT

No. 15-0248/03

Product: Connectors

Type designation: WPA-0310M10
IP68 3-poles Electrical Cable Splitter (1 to 9 Way) 10A -250 V DC/AC

Verification to: 2104/35/EU EN 60309-1:1999/A1:2007/AC:2014

Manufacturer: TTAF ELEKTRONİK SAN. VE TİC. LTD. ŞTİ.
Kavaklı Mah. İstanbul Cad. No:21 Beylikdüzü/İstanbul/TURKEY

Person responsible: Elec Eng Ergün CENGİZ

Date of issue: 2015-09-04

Distribution list: 1x TESTROOF
1x Producer



The tests have been carried out by virtue of the following documents:

- Order ev. Number LVD115372 at TESTROOF on 2015-08-21
- Contract Number LVD115372 dated 2015-08-21

I. Description of product

WPA-0310M10 - IP68 3-poles Electrical Cable Splitter (1 to 9 Way) 10A -250 V DC/AC



II. Tested sample

- number of samples: 1
- date of submission: 2015-04-09
- Model No.: WPA-0310M10

Inspection, tests and evaluations were performed in TESTROOF ENGINEERING AND CERTIFICATION CO.LTD., Inönü Mah. Kayışdağı Cad. No:150/3 Ataşehir, İstanbul,Turkey by testing engineer Elec. Eng. Ergün Cengiz

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



III. 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. 15-0248/03/T1
- Particular protocol No. 15-0248/03/T2
- Particular protocol No. 15-0248/03/T3
- Particular protocol No. 15-0248/03/T4
- Particular protocol No. 15-0248/03/T5

IV. The list of used basis

- Order ev. Number LVD115372 at TESTROOF on 2015-08-21
- Contract Number LVD115372 dated 2015-08-21
- Particular protocol No. 15-0248/03/T1
- Particular protocol No. 15-0248/03/T2
- Particular protocol No. 15-0248/03/T3
- Particular protocol No. 15-0248/03/T4
- Particular protocol No. 15-0248/03/T5
- EN 60309-1:1999/A1:2007/AC:2014 Plugs, socket-outlets and couplers for industrial purposes - Part 1: General requirements

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

Elec. Eng. Ergül CENGİZ
Test Engineer



Murat KOÇAŞ
Manager of Testing Department



TESTROOF ENGINEERING AND CERTIFICATION CO.LTD

İnönü Mah. Kayışdağı Cad. No:150/3 Ataşehir, İstanbul,Turkey

Particular protocol No:	15-0248/03/T1	Page1/1		
Inspection according to :	EN 60309-1:1999/A1:2007/AC:2014 art 19.2			
Product / Type / Serial Number :	WPA-0310M10			
Examination Engineer:	Ergün Cengiz			
Date of Inspection	2015-09-04			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
CE Multitester MI 2094	NFS1428001	14C01184	08.2016	

Requirement (*): EN 60309-1:1999/A1:2007/AC:2014 art 19.2 Insulation resistance test

The insulation resistance is measured with a d.c. voltage of approximately 500 V applied, the measurement being made 1 min after application of the voltage.

- The insulation resistance shall be not less than 5 MΩ.

Method:

For socket-outlets and connectors, the insulation resistance is measured consecutively:

- between all poles connected together and the body, the measurement being made with and also without a plug-in engagement;
- between each pole in turn and all others, these being connected to the body, with a plug-in engagement
- between any metal enclosure and metal foil in contact with the inner surface of its insulating lining, if any, a gap of approximately 4 mm being left between the metal foil and the edge of the lining

Test Results

Used On (500V DC)	Insulation Resistance		
	1	2	3
L-N	999.9	999.9	999.9
L-PE	999.9	999.9	999.9
N-PE	999.9	999.9	999.9

Status: The measured resistance between the PE terminal and the points of test not to exceed the values given in standard.

Uncertainty of measure: It was not required.

Examination Engineer:
Name : Elec. Eng. Ergün Cengiz
Signature:



Control:
Murat Koças

TESTROOF ENGINEERING AND CERTIFICATION CO.LTD

İnönü Mah. Kayışdağı Cad. No:150/3 Ataşehir, İstanbul,Turkey

Particular protocol No:	15-0248/03/T2	Page1/1		
Inspection according to :	EN 60309-1:1999/A1:2007/AC:2014 art 19.3			
Product / Type / Serial Number :	WPA-0310M10			
Examination Engineer:	Ergün Cengiz			
Date of Inspection	2015-09-04			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
CE Multitester MI 2094	NFS1428001	14C01184	08.2016	

Requirement (*): EN 60309-1:1999/A1:2007/AC:2014 art 19.3 Voltage Test

Method:

A voltage of substantially sine-wave form, having a frequency of 50 Hz/60 Hz and the value shown in table 5, is applied for 1 min between the parts indicated in 19.2.1 and 19.2.2.

Insulation voltage of the accessory ₁ (V)	Test Voltage (V)
Up to and including 50	500
over 50 up to and including 415	2 000 ₂
over 415 up to and including 500	2 500
over 500	3 000
1) The insulation voltage is at least equal to the highest rated operating voltage.	
2) This value is increased to 2 500 V for metal enclosures lined with insulating material	

Test Results :

Used On (2000V) R.I	Current in test circuit(mA) / Number of Measure					
	1	2	3	4	5	6
Plastic –Live	0.1	0.0	0.1	0.0	0.0	0.0
Plastic –Live	0.0	0.1	0.0	0.0	0.1	0.1

Status: No flashover or breakdown shall occur during the test

Uncertainty of measure: It was not required.

Examination Engineer:
Name : Elec. Eng. Ergün Cengiz
Signature:



Control:
Murat Koçuş

TESTROOF ENGINEERING AND CERTIFICATION CO.LTD

İnönü Mah. Kayışdağı Cad. No:150/3 Ataşehir, İstanbul,Turkey

Particular protocol No:	15-0248/03/T3	Page1/2		
Inspection according to :	EN 60309-1:1999/A1:2007/AC:2014 art 22			
Product / Type / Serial Number :	WPA-0310M10			
Examination Engineer:	Ergün Cengiz			
Date of Inspection	2015-09-04			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
CE Multitester MI 2094	NFS1428001	14C01184	08.2016	
Testo Thermometer 905-T2	NFS1428003	E 6102085	08.2016	

Requirement (*):EN 60309-1:1999/A1:2007/AC:2014 art 22

The temperature rise of terminals shall not exceed 50 K

Method:

The duration of the test is:

1 h for accessories having a rated current not exceeding 32 A;

2 h for accessories having a rated current exceeding 32 A but not exceeding 125 A;

3 h for accessories having a rated current exceeding 125 A.

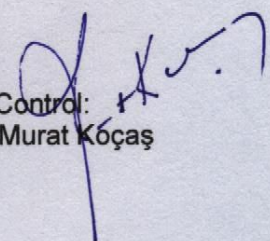
The temperature is determined by means of melting particles, colour-changing indicators, or thermocouples which are so chosen and positioned that they have negligible effect on the temperature being determined.

Preferred rated current A		Test current A	Cross-sectional area(s) of the conductors A	
Series I	Series II		Plugs, appliance inlets Connectors mm ²	Socket-outlets mm ²
16	20	22	2,5 ¹⁾	4 ¹⁾
32	30	42	6 ¹⁾	10
63	60	rated current	16	25
125	100	rated current	50	70
250	200	rated current	150	185 ²⁾

1) For accessories having a rated operating voltage not exceeding 50 V, the values are increased to 10.
2) 150 mm² for 200 A accessories of series II.

Examination Engineer:
Name : Elec. Eng. Ergün Cengiz
Signature:



Control: 
Murat Koças

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İnönü Mah. Kayışdağı Cad. No:150/3 Ataşehir, İstanbul,Turkey

Particular protocol No:	15-0248/03/T3	Page2/2		
Inspection according to :	EN 60309-1:1999/A1:2007/AC:2014 art 22			
Product / Type / Serial Number :	WPA-0310M10			
Examination Engineer:	Ergün Cengiz			
Date of Inspection	2015-09-04			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
CE Multitester MI 2094	NFS1428001	14C01184	08.2016	
Testo Thermometer 905-T2	NFS1428003	E 6102085	08.2016	

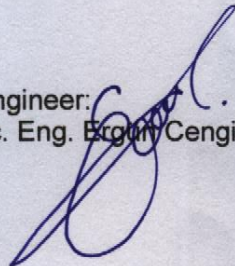
Test Results :

Used On	Before Operation Temperature (C)	After Operation Temperature (C)	Measured Temperature Rise (K)	Maximum Temperature Rise (K)
Thermoplastic Body	24.0	41.0	17.0	50

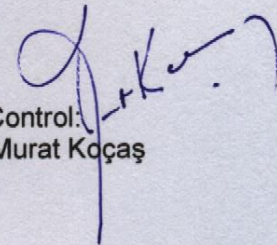
Status : The measured values was not exceed maximum temperature rise values.

Uncertainty of measure: It was not required

Examination Engineer:
Name : Elec. Eng. Ergün Cengiz
Signature:



Control:
Murat Koçuş



TESTROOF ENGINEERING AND CERTIFICATION CO.LTD

İnönü Mah. Kayışdağı Cad. No:150/3 Ataşehir, İstanbul,Turkey

Particular protocol No:	15-0248/03/T4	Page1/1		
Inspection according to :	EN 60309-1:1999/A1:2007/AC:2014 art 24.3			
Product / Type / Serial Number :	WPA-0310M10			
Examination Engineer:	Ergün Cengiz			
Date of Inspection	2015-09-04			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
Tape Measure	NFS0153002	15M150147	2016/07	

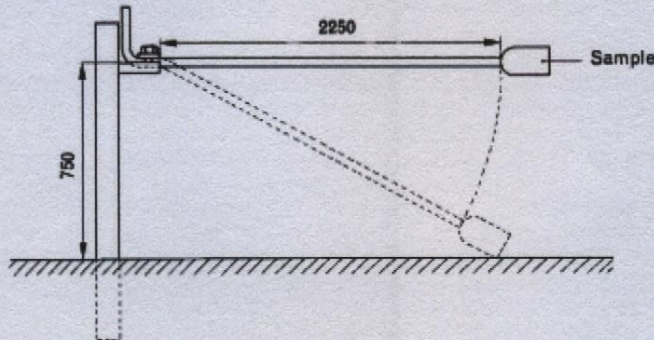
Requirement (*):EN 60309-1:1999/A1:2007/AC:2014 art 24.3
Arrangement for mechanical strength test for plugs and connectors

Method:

The free end of the cable, which is about 2,25 m long, is fixed to a wall at a height of 75 cm above the floor, as shown in figure 8.

The sample is held so that the cable is horizontal and then it is allowed to fall on to a concrete floor. This is done eight times, the cable being rotated through 45° at its fixing each time.

After the test, the samples shall show no damage within the meaning of this standard; in particular, no part shall have become detached or loosened



Test Results : No Damage

Status: No part shall have become detached or loosened

Uncertainty of test: It was not required

Examination Engineer:
Name : Elec. Eng. Ergün Cengiz
Signature:



Control:
Murat Koças

TESTROOF ENGINEERING AND CERTIFICATION CO.LTD

İnönü Mah. Kayışdağı Cad. No:150/3 Ataşehir, İstanbul,Turkey

Particular protocol No:	15-0248/03/T5	Page1/1		
Inspection according to :	EN 60309-1:1999/A1:2007/AC:2014 art 24.4			
Product / Type / Serial Number :	WPA-0310M10			
Examination Engineer:	Ergün Cengiz			
Date of Inspection	2015-09-04			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
Tape Measure	NFS0153002	15M150147	2016/07	

Requirement (*):EN 60309-1:1999/A1:2007/AC:2014 art 24.4
Non-rewirable accessories flexing test

Method:

The sample is fixed to the oscillating member of the apparatus so that, when this is at the middle of its travel, the axis of the flexible cable, where it enters the sample, is vertical and passes through the axis of oscillation.

The oscillating member is so positioned that the flexible cable makes the minimum lateral movement when the oscillating member of the test apparatus is moved over its full travel.

The cable is loaded with a weight such that the force applied is as shown in the following table 13

Preferred rated current A		Force N
Series I	Series II	
16	20	20
32	30	25

Test Results : No Damage

Status: No part shall have become detached or loosened

Uncertainty of test: It was not required

Examination Engineer:
Name : Elec. Eng. Ergün Cengiz
Signature:



Control
Murat Koçaş