ATTESTATION OF CONFORMITY

Issued to:

Wago-Kontakttechnik GmbH & Co. KG

Hansastrasse 27

32423 Minden/Westfalen

Germany

For the product:

tap-off connectors

Trade name:

WAGO

Type/Model:

730

Ratings:

500 V. 10 A

Manufactured by:

Wago-Kontakttechnik GmbH & CockG

Hansastrasse 27

32423 Minden/Westfalen

Germany

test report no 2174149.50/and/2174149.51

Requirements:

EN 60664-1:2007

: clause 5.2 for type 730-116

EN 60998-1:2004//

:/all/types/

EN 60998-2-2:2004 EN 60998-2-3:2004 /, type 730-113, except clause 17 type 730-116 , types 730-103, 730-123, 730-106, 730-126

This Attestation is granted on account of an examination by DEKRA, the results of which are laid down in a

The examination has been carried out on one single specimen or several specimens of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

Arnhem, 4 February 2015 / / / / / / / / / Number: 217/4149/01A

DEKRA Certification B.V.

F.S. Strikwerda Certification Manager

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DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem, The Netherlands T +31 88 96 83000 F +31 88 96 83100 www.dekra-certification.com Company registration 09085396

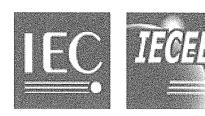


OD ECS 040-1 ed. May 2013



| 1 | TEST REPORT SUMMARY | | |
|---|---|--|--|
| Report Reference No | 2174149.50 | | |
| Date of issue: | 2015-02-04 | | |
| Tested by (name + signature): | B. Veenvliet | | |
| Witnessed by (name + signature): | | | |
| Approved by (name + signature): | H.L. Schendstok | | |
| Supervised by (name + signature): | | | |
| Testing Laboratory | DEKRA Certification B.V. | | |
| Address: | Meander 1051, 6825 MJ Arnhem, The Netherlands | | |
| Testing procedure: | ☑ ENEC/CCA-TL ☐ IECEE-CBTL ☐ TMP ☐ WMT ☐ SMT | | |
| Testing location | DEKRA Certification B.V. | | |
| Address | Meander 1051, 6825 MJ Arnhem, The Netherlands | | |
| Applicant | WAGO Kontakttechnik GmbH | | |
| Address | Hansastraße 27, 32423 Minden, Germany | | |
| Manufacturer | WAGO Kontakttechnik GmbH | | |
| Address: | Hansastraße 27, 32423 Minden, Germany | | |
| Product | tap-off connectors | | |
| Model/Type reference | 730 | | |
| Trademark: | WAGO | | |
| Ratings: | 10 A, 400 V | | |
| Certification Scheme: | ☐ ENEC ☐ CCA ☐ Other: | | |
| Standard(s) | IEC 60998-2-2 (see also IEC 60998-1:2002) | | |
| ☐ The text of the a.m. European Star Procedure and is identical with the | ndard was approved by CENELEC under the Unique Acceptance corresponding IEC Publication. | | |
| | ndard was approved by CENELEC with agreed common ith the corresponding IEC Publication. | | |
| This EN test report consists of the follo | wing parts: | | |
| ☐ IEC TRF No.: IEC60998_2_2B | Report Reference No | | |
| CENELEC-Addendum Form No. | Report Reference No. or Annex No: | | |
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This ECS document together with the test report is only valid if signed by an approved ENEC or CCA Testing Laboratory and accompanied by the associated ENEC Licence or CCA Notification of Test Results, issued by a Certification Body member of ECS.





TEST REPORT IEC 60998-2-2

Connecting devices for low voltage circuits for household and similar purposes

Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units

Report Number.....: 2174149.50

Date of issue: 2015-02-04

Total number of pages 19

Applicant's name.....: WAGO Kontakttechnik GmbH & Co. KG

Address Hansastrasse 27, Minden, Germany

Test specification:

Standard IEC 60998-2-2 (see also IEC 60998-1:2002)

Test procedure...... CB Scheme

Non-standard test method...... N/A

Test Report Form No...... IEC60998 2 2B

Test Report Form(s) Originator: DEKRA certification B.V.

Master TRF...... Dated 2013-02

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If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description..... tap-off connectors

Trade Mark WAGO

Manufacturer...... WAGO Kontakttechnik GmbH & Co. KG



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Report No. 2174149.50

| Testing procedure and testing location: | |
|---|---|
| | DEKRA Certification B.V. |
| Testing location/ address: | Meander 1051, 6825 MJ Arnhem, The Netherlands |
| Tested by (name + signature):: | B. Veenvliet |
| Approved by (name + signature) : | H.L. Schendstok |
| | |
| ☐ Testing procedure: TMP | |
| Testing location/ address: | |
| Tested by (name + signature):: | |
| Approved by (name + signature): | |
| | |
| Testing procedure: WMT | |
| Testing location/ address: | |
| Tested by (name + signature): | |
| Witnessed by (name + signature): | |
| Approved by (name + signature) : | |
| ☐ Testing procedure: SMT | |
| Testing location/ address | |
| . com.g .codioin addition | |
| Tested by (name + signature): | |
| Approved by (name + signature) : | |
| Supervised by (name + signature): | |

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| List of Attachments (including a total number of pages in each attachment): | | | |
|--|--|--|--|
| | | | |
| | | | |
| Summary of testing: | | | |
| Tests performed (name of test and test clause): | Testing location: DEKRA Certification B.V. | | |
| EN 60664-1:2007 : clause 5.2 for type 730-116 EN 60998-1:2004 : all types | Meander 1051, 6825 MJ Arnhem, | | |
| EN 60998-2-2:2004 : type 730-113, except clause 17 type 730-116 | The Netherlands | | |
| | | | |
| | | | |
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| | | | |
| | | | |
| Summary of compliance with National Differences List of countries addressed: | | | |
| | | | |
| ☐ The product fulfils the requirements of (insert standard number and edition and delete the text in parenthesis or delete the whole sentence if not applicable) | | | |



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| 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. |
|--|
| WAGO 730 |
| 500 V |
| 2,5 mm ² |
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| Test item particulars: | | |
|---|---|--|
| Number of terminals: | ☐single ⊠multiway | |
| Protection against electric shock: | □with ⊠without | |
| Means of fixing: | ⊠with □without | |
| Rated temperature: | ⊠without T marking | |
| IP number: | IP- | |
| Type of terminals, screwless-type: | ⊠universal non-universal □push wire | |
| Conductor type: | ⊠rigid ⊠flexible | |
| Rated connecting capacity: | ☐ 0,5mm² ☐ 0,75mm² ☐ 1,5mm² ☐ 2,5mm² ☐ 4mm² ☐ 6mm² ☐ 10mm² ☐ 10mm² ☐ 35 mm² | |
| Conductor insulation: | | |
| Rated voltage (V ac / V dc) | ⊠ AC □ DC | |
| Classification of installation and use: | | |
| Supply Connection: | | |
| | | |
| Possible test case verdicts: | | |
| - 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: | 10-2014 | |
| Date (s) of performance of tests: | 10-2014 | |
| | | |
| General remarks: | | |
| The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(see Enclosure #)" refers to additional information appended to the report. | | |
| "(see appended table)" refers to a table appended to the report. | | |
| Throughout this report a 🗵 comma / 🗌 point is u | sed as the decimal separator. | |



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| Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02: | | | |
|---|---|--|--|
| 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 | ☐ Yes ☐ Not applicable | | |
| When differences exist; they shall be identified in t | he General product information section. | | |
| Name and address of factory (ies) | ul. Piekna 58 a, 50-506, Wrocław Poland | | |
| | Wago & Controls (India) Ltd. C-27, Sector-58, Phase III, 201 301, Noida Gautam Bugh Nagar India | | |
| | Wago Electronic (Tianjin) Co. Ltd. No. 5 Quanhui Road, 301700, Tianjin China | | |
| | Wago-Kontakttechnik GmbH & Co. KG Hansastrasse 27, 32423, Minden/westfalen Germany | | |
| | WAGO Kontakttechnik GmbH &Co. KG, Werk Sondershausen Waldstrasse 1, 99706, Sondershausen Germany | | |
| | WAGO Contact S.A. Route de l'Industrie 19, 1564, Domdidier Switzerland | | |
| General product information: | | | |
| see page 17 | | | |
| | | | |



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| | Page 7 of 19 | Report No. | 2174149.5 |
|----------|---|-------------------------|-----------|
| | IEC 60998-2-2 | | |
| Clause | Requirement + Test | Result - Remark | Verdict |
| | BAADIZING | | |
| 8 | MARKING | | |
| 8.1 | On main part: | | |
| | a) rated connecting capacity (mm²) | 2,5 mm ² | P |
| | b) rated insulation voltage (V) | 500 V | P |
| | c) T marking (°C) (if > 40 °C or < -5 °C): | | N/A |
| | d) type reference: | 730 | Р |
| | e) manufacturer's or responsible vendor's name, trademark or identification mark | WAGO | Р |
| | f) IP if > IP20 | | N/A |
| | Small devices: only d) and e) indicated on device | | Р |
| | All marks visible on smallest package unit | | Р |
| 8.101 | Type of acceptable conductor "s" "r" or "f" | | N/A |
| 8.102 | Marking indicating the length of insulation to be removed before insertion of the conductor | | Р |
| 8.2 | Multiway terminal devices: at least two adjacent | | Р |
| 8.3 | When symbols are used they shall be as follow: V for volts mm² or ☐ for square millimetres T for T-rating | | P |
| 8.4 | Marking: durable and easily legible; 15 s water; 15 s hexane | | N/A |
| 9 | PROTECTION AGAINST ELECTRIC SHOCK | | |
| <u> </u> | Live parts not accessible | | Р |
| 40 | | | |
| 10 | CONNECTION OF CONDUCTORS | | |
| 10.1 | Connecting devices allow correct connection of conductors | | Р |
| 10.101 | Connection or disconnection: use a general tool or simple insertion | | Р |
| | Disconnection operation other than a pull | | N/A |
| 10.102 | Terminals accept two or more conductors of same or different nominal cross-sectional areas; see table 101 (as specified by manufacturer): | | |
| | Universal terminals shall accept rigid(solid or stranded) and flexible unprepared conductors | | Р |
| | Non-universal terminals shall accept the types of cormanufacturer | ductors declared by the | N/A |
| | Rated connecting capacity (mm²) | 2,5 mm ² | P |



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| IEC 60998-2-2 | | | | |
|---------------|--------------------|--|-----------------|---------|
| Clause | Requirement + Test | | Result - Remark | Verdict |

| | Suitable for connecting cross-sectional areas (mm²) | 0,5 mm² - 2,5 mm² rigid and flexible | Р |
|----------|--|---|---|
| 10.103 | Terminals accept rigid and flexible conductors (table 101), unless otherwise specified (see 8.1) | | Р |
| | Smallest diameter (mm); largest diameter (mm): | smallest 0,9 mm largest 2,3 mm | Р |
| | During the test: terminals show no damage | | Р |
| 10.104 | Terminals clamp the conductor without undue damage | e: | |
| 10.104.1 | Connection/disconnection 5 times: smallest diameter (mm) | 0,9 mm | Р |
| | Connection/disconnection 5 times: largest diameter (mm) | 2,3 mm | Р |
| | After the test, terminal not damaged | | Р |
| 10.104.2 | Rated cross-sectional area (mm²): | 2,5 mm² | Р |
| | Туре: | rigid and flexible | Р |
| | After the test, no wire of conductor escaped outside the terminal | | Р |
| 10.105 | Secureness test: | | |
| | during the test: the conductor does not slip out, no break near clamping unit and no damage | See appended table 10.105 | Р |
| 10.106 | Pull test: | | |
| | - during the test the conductor does not come out | See appended table 10.106 | Р |

| 11 | CONSTRUCTION | |
|--------|---|---|
| 11.101 | Contact pressure not transmitted via insulating material, unless there is sufficient resiliency | Р |
| 11.102 | Insertion and disconnection, in accordance with manufacturer's instructions | Р |
| | Openings clearly distinguishable | Р |
| 11.103 | Terminals so constructed that: | |
| | - each conductor is clamped individually | Р |
| | - conductors can be connected or disconnected at same time or separately | Р |
| | Possible to clamp maximum number of conductors | Р |
| 11.104 | Inadequate insertion of conductor avoided | Р |
| 11.2 | Clamping units clamp conductors reliably and between metal surfaces | Р |



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| | IEC 60998-2-2 | 4444 | |
|--------|---|-------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | | | |
| 11.3 | Connecting devices: insulation of conductors not in contact with live parts of different polarity | | P |
| 11.4 | Insulating lining: adequate mechanical strength and secured in a reliable manner | | Р |
| 11.5 | Current-carrying parts: adequate mechanical strength, electrical conductivity and resistance to corrosion; type of metal | | P |
| | Current-carrying parts not made with electroplated coating if subjected to mechanical wear | | Р |
| 11.6 | Terminals: possible to connect number of conductors manufacturer: | as specified by the | |
| | - number of conductors: | 1 | Р |
| | - rigid, cross-sectional area (mm²): | 0,5 mm² - 2,5 mm² | Р |
| | - flexible, cross-sectional area (mm²): | 0,5 mm² - 2,5 mm² | Р |
| 11.7 | Fixing means of bases do not serve any other purpose | | P |
| 12 | RESISTANCE TO AGEING, TO HUMIDITY CONDITIONS, TO INGRESS OF SOLID OBJECTS AND TO HARMFUL INGRESS OF WATER | | |
| 12.1 | Connecting devices resistant to ageing; after the test (168 h): no cracks visible, not sticky or greasy, no damage; test temperature (°C) | | Р |
| 12.2 | After humidity test (91-95%): no damage; test duration (168 h for connecting devices > IPx2, 48 h for all other) | 48 h | Р |
| 12.3 | IP test (IEC 60529) | IP | N/A |
| | After the test, electric strength test as 13.4, and by inspection | IP | N/A |
| | no appreciable entry of water | | N/A |
| 13 | INSULATION RESISTANCE AND ELECTRIC STRE | NGTH | |
| 13.1 | Insulated connecting devices provided with adequate insulation resistance and electric strength | | P |
| 13.2 | Insulation between the connected conductors and the external surface is adequate for all the combinations of conductors | | Р |
| 13.3 | Insulation resistance measured 1 min after application of 500 V d.c. | See appended table 13.3 | Р |
| 13.4 | Electric strength test | See appended table 13.4 | Р |



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| | IEC 60998-2-2 | | |
|--------|---|---------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | | | · |
| 14 | MECHANICAL STRENGTH | | |
| 14.101 | the test conductor, properly inserted into a clamping unit of the connection devices shall be allowed to be bent (deflected) in all 12 directions each of them differing from the adjacent directions by $30^{\circ} \pm 5^{\circ}$ | | |
| | Deflection test (principle of test apparatus shown in fi | gure 103a): | · |
| | - requirement: ≤ 2,5 mV | See appended table 14.101 | Р |
| | max measured voltage drop (mV) | | Р |
| 14.2 | Tumbling barrel (for < 50 g): 50 falls; after the test no damage | | Р |
| 14.3 | Impact test (for > 50 g): 10 blows: | | N/A |
| | - height of fall: 7,5 cm | | N/A |
| | - height of fall: 10 cm | | N/A |
| | - height of fall: 20 cm | | N/A |
| | - height of fall: 25 cm | | N/A |
| | After the test, no damage and live parts shall not become accessible | | N/A |
| 15 | TEMPERATURE RISE | | |
| | requirement: ≤ 45K | | P |
| | max measured temperature rise (K) | See appended table 15 | Р |
| 15.101 | 192 temperature cycles test, each cycle with a duration of 1 h, with the test current as defined in Table 2 of Part I | | P |
| | Cabinet temperature (°C) | □ T-marking:°C | P |
| | Maximum voltage drop did not exceed 22,5 mV or 1,5 times 24 th cycle value | See appended table 15.101 | Р |
| 16 | RESISTANCE TO HEAT | | |
| 16.1 | Connecting devices are sufficiently resistant to heat | | Р |
| 16.2 | Heating cabinet test | See appended table 16.2 | P |
| | After the test: no changes impairing further use and markings still legible | | Р |
| 16.3 | Ball-pressure test (IEC 60695-10-2) for parts necessary to retain current-carrying parts and parts of the earthing circuit in position | See appended table 16.3A | Р |
| | Impression diameter not exceed 2 mm | | Р |
| | Ball-pressure test (IEC 60695-10-2) for parts not necessary to retain current-carrying parts and parts of the earthing circuit in position | See appended table 16.3B | N/A |



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| | IEC | C 60998-2-2 | |
|--------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | Impression diameter not exceed 2 mm | | N/A |
|----|---|-----------------------|-----|
| 17 | CLEARANCES AND CREEPAGE DISTANCES | | |
| | Creepage distances, clearances and distances through sealing compound | See appended table 17 | Р |

| 17a | CLEARANCES AND CREEPAGE DISTANCES (acc | cording IEC 60664-1 clause 5.2) | |
|-----|--|---------------------------------|---|
| | Clearances (type 730-116) | | |
| , | Rated impulse withstands voltage, Uimp (kV): | 4 kV | |
| | Pollution degree | 3 | |
| | Case A (mm): | 3 mm | |
| | Case B (mm): | 1,2 mm | |
| | Measured (mm): | 5,07 mm | Р |
| | Creepage distances: | | |
| | Rated insulation voltage, U i (V): | 500 V | |
| | Comparative tracking index (V) | 600 V | |
| , | Material group | | |
| | Pollution degree | 3 | |
| | Minimum creepage distances (mm): | 6,3 mm | |
| | Measured creepage distances (mm): | 7,76 mm | Р |



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| | | | 1 | |
|--------|--------------------|---------------|-----------------|---------|
| | | IEC 60998-2-2 | | 1 |
| Clause | Requirement + Test | | Result - Remark | Verdict |

| 18 | RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT AND FIRE | | | | | |
|----|---|---|---|--|--|--|
| | Glow-wire test (clauses 4 to 10 of IEC 60695-2-10) No visible flames and no sustained glowing or flame and glowing extinguished within 30 s No ignition of the tissue paper or scorching of the | Р | | | | |
| | | Р | | | | |
| | No ignition of the tissue paper or scorching of the board | | Р | | | |

| 19 | RESISTANCE OF INSULATING MATERIAL TO TR | RACKING | |
|----|--|-----------------------|---|
| | Tracking test (IEC 60112): PTI 175 V, 50 drops, solution A | See appended table 19 | Р |

| 10.105 | TABLE: Clamping securement and damage to the conductor test | | | | | | | |
|-------------|---|--|-------------------|-----|----------------------------|---------------|-------------------------------------|---|
| | Мо | del/type refere | nce | : | 730-116 | | | Р |
| No of samp | le | Conductor cross- sectional area (mm²) | Conductor type | cor | ass for nductor (kg) | Height H (mm) | Diameter of bushing hole (mm) | |
| 1 | | 0,5 | solid/flexible | | 0,3 | 260 | 6,5 | Р |
| 2 | | 0,5 | solid/flexible | | 0,3 | 260 | 6,5 | Р |
| 3 | | 0,5 | solid/flexible | | 0,3 | 260 | 6,5 | Р |
| 4 | | 2,5 | solid/flexible | | 0,7 | 280 | 6,5 | Р |
| 5 | | 2,5 | solid/flexible | | 0,7 | 280 | 6,5 | Р |
| 6 | | 2,5 | solid/flexible | | 0,7 | 280 | 6,5 | Р |
| Supplementa | ary i | nformation: | | | | | | |



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| | | IEC 60998-2-2 | | |
|--------|--------------------|---------------|-----------------|---------|
| Clause | Requirement + Test | | Result - Remark | Verdict |

| 10.106 | TA | NBLE: Pull-out test | | | | |
|-----------|------|--------------------------------------|-------|----------------|----------------|---|
| | Mo | odel/type reference | : | 730-116, 730-1 | 113 | Р |
| No of san | nple | Conductor cross-sectional area (mm²) | Cond | uctor type | Pull force (N) | |
| 1 | | 0,5 | solic | l/flexible | 0,2 | Р |
| 2 | | 0,5 | solic | l/flexible | 0,2 | Р |
| 3 | | 0,5 | solic | l/flexible | 0,2 | Р |
| 4 | | 2,5 | solic | l/flexible | 0,5 | Р |
| 5 | | 2,5 | solic | l/flexible | 0,5 | Р |
| 6 | | 2,5 | solic | l/flexible | 0,5 | Р |

| 13.3 | TABLE: Insulation resistance | | |
|--|--------------------------------------|--------------------------------------|---------------|
| | Model/type reference | 730-116 (6-pole) 730-113 (3-pole) | Р |
| | Smallest cross-sectional area (mm²): | 0,5 | Р |
| | Largest cross-sectional area (mm²) : | 2,5 | |
| | Test voltage applied between | Measured (GΩ) | Required (MΩ) |
| All clamp | ing units together and the body | 1,94: 730-113 16,0: 730-116 | 500 |
| Each clamping unit and all others together | | 4,62: 730-113 8,9: 730-116 | 500 |
| Suppleme | entary information: | .1 | |

| 13.4 | TABLE: Electric strength test | | | |
|-----------|-------------------------------------|--------------------------------------|------------------------|---|
| , | Model/type reference | 730-116 (6-pole) 730-113 (3-pole) | | Р |
| | Rated insulation voltage (V): | 500 V | | Р |
| | Test voltage applied between | Test voltage (V) | Flashov breakdown (| |
| All clamp | ping units together and the body | 3000 | No | |
| Each cla | amping unit and all others together | 3000 | No | |
| Supplem | nentary information: | | I | |

| 14.101 | TABLE: Mechanical strength | | |
|--------|---|-----|---|
| | 0,1 times the test current (A) | 0,6 | Р |
| | smallest cross-sectional area (mm²) 10.103: | 0,5 | Р |



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| | IEC 60998-2-2 | | | | |
|--------|---|--|-------|---|---------|
| Clause | Requirement + Test | Result - R | emark | | Verdict |
| | | T | | | T |
| | force (N) (table 104) | 0,09 | | Р | |
| | Distance (mm) (table 104) | 100 | r | r | Р |
| | -screwless terminal number | 1 | 2 | 3 | - |
| | - voltage drop measured (mV) (1 st deflection): | 0,66 | 0,65 | 0,66 | Р |
| | - voltage drop measured (mV) (2 nd deflection): | 0,68 | 0,64 | 0,66 | Р |
| | - voltage drop measured (mV) (3 rd deflection): | 0,69 | 0,65 | 0,69 | Р |
| 1 | - voltage drop measured (mV) (4 th deflection): | 0,69 | 0,65 | 0,71 | Р |
| | - voltage drop measured (mV) (5 th deflection): | 0,67 | 0,63 | 0,73 | P |
| | - voltage drop measured (mV) (6 th deflection): | 0,66 | 0,62 | 0,79 | Р |
| | - voltage drop measured (mV) (7 th deflection): | 0,66 | 0,62 | 0,83 | P |
| | - voltage drop measured (mV) (8 th deflection): | 0,66 | 0,62 | 0,80 | Р |
| | - voltage drop measured (mV) (9 th deflection): | 0,67 | 0,62 | 0,80 | Р |
| | - voltage drop measured (mV) (10 th deflection): | 0,66 | 0,63 | 0,79 | Р |
| | - voltage drop measured (mV) (11 th deflection): | 0,65 | 0,62 | 0,78 | Р |
| | - voltage drop measured (mV) (12 th deflection): | 0,65 | 0,62 | 0,77 | Р |
| | - requirement: ≤ 2,5 mV | | | <u> </u> | |
| | 0,1 times the test current (A) | 2,4 | | | Р |
| | Largest cross-sectional area (mm²) 10.103: | 2,5 | | *************************************** | Р |
| | force (N) (table 104): | 1,0 | | | Р |
| | Distance (mm) (table 104) | 100 | | *************************************** | P |
| | - screwless terminal number: | 1 | 2 | 3 | |
| | - voltage drop measured (mV) (1 st deflection): | 0,81 | 0,79 | 0,82 | Р |
| | - voltage drop measured (mV) (2 nd deflection): | 0,86 | 0,79 | 0,81 | Р |
| | - voltage drop measured (mV) (3 rd deflection): | 0,90 | 0,79 | 0,79 | Р |
| | - voltage drop measured (mV) (4 th deflection): | 0,85 | 0,78 | 0,79 | Р |
| | - voltage drop measured (mV) (5 th deflection): | 0,88 | 0,78 | 0,82 | Р |
| | - voltage drop measured (mV) (6 th deflection): | 0,89 | 0,78 | 0,82 | Р |
| | - voltage drop measured (mV) (7 th deflection): | 0,88 | 0,80 | 0,82 | Р |
| | - voltage drop measured (mV) (8 th deflection): | 0,84 | 0,78 | 0,82 | Р |
| | - voltage drop measured (mV) (9 th deflection): | 1,0 | 0,80 | 0,81 | P |
| | - voltage drop measured (mV) (10 th deflection): | 0,93 | 0,79 | 0,80 | P |
| | - voltage drop measured (mV) (11 th deflection): | 0,90 | 0,79 | 0,82 | Р |
| | - voltage drop measured (mV) (12 th deflection): | 0,94 | 0,79 | 0,80 | P |
| | - requirement: ≤ 2,5 mV | | 1 | 1 , , , , | 1 |



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| | | • | | • | |
|----------|--------------------------------|---|------------|--------------------------|----------|
| | | IEC 60998-2-2 | | | |
| Clause | Requirement + Test | | Result - F | Remark | Verdict |
| | | | | | |
| 15 | TABLE: Temperature rise | *************************************** | | | |
| | Model/type reference | | 730-116 (| 6-pole) | Р |
| | Terminal | | single | e⊠multiway | |
| | T marking (°C) | : | Yes | (°C): | ******* |
| | Largest cross-sectional area (| mm²): | 2,5 | | P |
| | Conductors | | 1 m | | Р |
| | Rated connecting capacity (m | m²):: | 0,5 - 2,5 | | Р |
| | Test current (A) | : | 10 | | Р |
| The | ermocouple Locations | max. tempera measured (°C) | | max. temperature (°C) | e limit, |
| On condu | ctor in the terminal T1 | 20,8 K | | 45 K | |
| On condu | ctor in the terminal T2 | 19,5 K | | 45 K | |
| On condu | ctor in the terminal T3 | 21,5 K | | 45 K | |
| Suppleme | ntary information: | | | | |
| 15.101 | TABLE: Temperature-cycling | n toet | | | |
| 10.101 | | | 730-116 | (6-nole) | |
| | Model/type reference | | 1.00 .10 | (~ h~.~) | Р |

| 15.101 | TABLE: Tem | perature-cycling test | | | | | |
|--------------|-----------------|-------------------------------------|----------|-----|----------------|----------|-----|
| | Model/type re | eference | * | 73 | 0-116 (6-pole | •) | Р |
| | Smallest cros | s-sectional area (mm²) | | 0,5 | 5 | | Р |
| | Test current (| Table 2) (A) | | 6 | | | Р |
| | Moogurady | altaga drap of: | Me | asu | red voltage di | rop (mV) | |
| | wieasureu v | oltage drop of: | Sample 1 | | Sample 2 | Sample 3 | |
| Solid condu | ctors | (after 24 cycles) | 3,27 | | 3,48 | 6,51 | Р |
| Stranded co | onductors | (after 24 cycles) | | | ** | - | N/A |
| Flexible cor | nductors | (after 24 cycles) | 3,45 | | 6,17 | 8,74 | Р |
| Solid condu | ctors (1,5 t | imes 24 th cycle value) | 4,9 | | 5,22 | 9,77 | Р |
| Stranded co | onductors (1,5 | times 24 th cycle value) | _ | | - | | N/A |
| Flexible cor | nductors (1,5 t | imes 24 th cycle value) | 5,18 | | 9,26 | 13,11 | Р |
| Solid condu | ictors | (after 192 cycles) | 3,32 | | 3,55 | 6,09 | Р |
| Stranded co | onductors | (after 192 cycles) | - | | - | ** | N/A |
| Flexible cor | nductors | (after 192 cycles) | 3,55 | | 6,85 | 9,66 | Р |



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| | | IEC 609 | 98-2-2 | | | | |
|--------------------|---|---|--|---|--------------------------|--------------|---------|
| Clause | Requirement + T | est | | Re | esult - Remark | | Verdict |
| 2011 | | | | | | | |
| **** | Largest cross-se | ctional area (mm²) | * | 2,5 | 5 | | Р |
| | Test current (Tab | ole 2) (A) | | 24 | | | Р |
| | Measured volta | ae drop of: | Me | easu | red voltage dro | op (mV) | |
| | | | Sample 1 | | Sample 2 | Sample 3 | |
| Solid condu | uctors | (after 24 cycles) | 7,97 | | 15,03 | 10,1 | Р |
| Stranded c | onductors | (after 24 cycles) | | | | | N/A |
| Flexible co | nductors | (after 24 cycles) | 6,3 | | 12,56 | 20,17 | Р |
| Solid condu | Solid conductors (1,5 times 24 th cycle value) | | 11,96 | | 22,55 | 15,15 | Р |
| Stranded c | onductors (1,5 time | es 24 th cycle value) | | | | | N/A |
| Flexible co | nductors (1,5 time | s 24 th cycle value) | 9,45 | | 18,84 | 30,25 | Р |
| Solid cond | Solid conductors (after 192 cycles) | | 8,07 | *************************************** | 17,58 | 9,75 | Р |
| Stranded c | onductors | (after 192 cycles) | | | | | N/A |
| Flexible co | nductors | (after 192 cycles) | 6,48 | | 13,04 | 21,96 | Р |
| Supplemer | ntary information: | | | | | | |
| 16.2 | TABLE: Heating | cabinet test | ····· | | | | |
| | | re (°C) | | | ⊠ 85°C □ T | + 45 = | |
| | Model/type re | | Sample | 1 | Sample 2 Sample 3 | | |
| | 730-1 | *************************************** | Р | • | | | |
| | 730-1 | | P | | P | P | |
| Supplemer | ntary information: | 10 | <u> </u> | l | Г | <u> </u> | |
| | | | | | | | |
| 16.3A | TABLE: Ball pre | essure test of insulating | materials | | | | |
| | Test temperatu | re (°C) | ********** | | | T + 45 = | |
| Par | t under test | Material designation / n | nanufactur | er | Impression d | iameter (mm) | |
| Housing 730-113 PA | | PA 6.6 | 6 0,94 | | 94 | Р | |
| | sing 730-116 | PA 6.6 | | | 0, | 83 | • |
| Supplemer | ntary information: | | ************************************** | | | | |
| 16.3B | TABLE: Ball pre | essure test of insulating | materials | ; | | | N/A |



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| | | IEC 60998-2-2 | 1 | |
|--------|--------------------|---------------|-----------------|---------|
| Clause | Requirement + Test | | Result - Remark | Verdict |

| 17 TABLE | : Clearances and cre | epage distance | s | | | | |
|---|-----------------------|------------------------------|---------------|-------|---|-------------------|---|
| Rated i | nsulation voltage (V) | ***** | | 500 V | <i>I</i> | ~~~ | Р |
| Clearance cl, creepage distance cr and distance through sealing compound tsc at/of: | | Required cl, cr, tsc (mm) | Measur (mm | | Measured cr (mm) | Measured tsc (mm) | |
| Between clamping | units type 730-113 | 6 | 8,38 | 3 | > 8,38 | | N/A |
| Supplementary infor | mation: | | L | | I , , , , , , , , , , , , , , , , , , , | <u> </u> | *************************************** |

| 18 | TABLE: Glov | v-wire test | | |
|--------------------------|-----------------|-------------------------------------|-----------------------------|--|
| Part ι | under test | Material designation / manufacturer | Test temperature (°C) | Time of extinguish of flames and glowing, if any |
| Housing 73 Housing 73 | | PA 6.6 PA 6.6 | 850 850 | flame extinguished immediately after removal. |
| Supplementa | ary information | ղ: | <u> </u> | |

| 19 | TABLE: Tracking | | | |
|------------|------------------|-------------------------------------|---------------------|---------|
| Part | under test | Material designation / manufacturer | Test voltage (V) | Remarks |
| Housing 73 | 0-113 | PA 6.6 | 175 V | |
| Housing 73 | 0-116 | PA 6.6 | 175 V | |
| Supplement | ary information: | | <u> </u> | |

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Remarks

Product data

product : tap-off connectors

trade name(s) : WAGO

type(s) : 730-103, 730-106, 730-113, 730-116, 730-123, 730-126

rated voltage : 500 V
rated current : 10 A
Insulation material : PA 6.6 V0
stripping length : 8-9 mm

Additional information

Markings: trademark, type designation are embossed on the thermoplastic material.

Product data - type 730-103

rated cross section : 1,5 mm²

rated connection capacity : 0,75 mm² - 1,5 mm²

type of connectable cable : flexible

description : 3-pole female socket, insulation-piercing clamping unit

Product data - type 730-106

rated cross section : 1,5 mm²

rated connection capacity : 0,75 mm² - 1,5 mm²

type of connectable cable : flexible

description : 6-pole female socket, insulation-piercing clamping unit

Product data - type 730-113

rated cross section : 2.5 mm²

rated connection capacity : 0,5 mm² - 2,5 mm² type of connectable cable : flexible and rigid

description : 3-pole plug, screwless clamping unit

Product data - type 730-116

rated cross section : 2,5 mm²

rated connection capacity : 0,5 mm² - 2,5 mm² type of connectable cable : flexible and rigid

description : 6-pole plug, screwless clamping unit

Product data - type 730-123

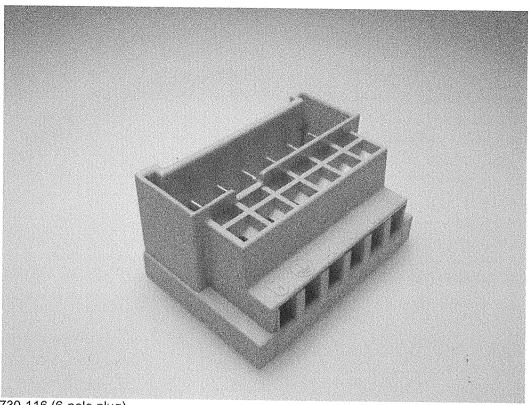
rated cross section : 1,5 mm²

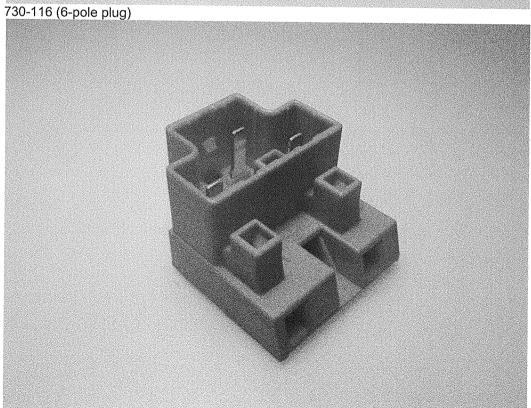
rated connection capacity : 0,75 mm² - 1,5 mm²

type of connectable cable : flexible

description : 3-pole female socket with fixing flanges, insulation-piercing

clamping unit





730-113 (3-pole plug)



TEST REPORT

EN 60998-2-3:2004 and IEC 60998-2-3:2002

Connecting devices for low-voltage circuits for household and similar purposes Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units

| Report Reference No | 2174149.51 |
|--|---|
| Tested by (name + signature): | B. Veenvliet |
| | |
| Witnessed by (name+ signature): | |
| Supervised by (name+ signature): | |
| Approved by (name+ signature): | H.L. Schendstok |
| Date of issue: | 2015-02-04 |
| Number of pages | 18 |
| CB Testing Laboratory | |
| Address | |
| Testing location/ procedure: | CBTL ⊠ SMT □ WMT □ TMP □ |
| Testing location/ address: | |
| Applicant's name | WAGO Kontakttechnik GmbH & Co. KG |
| Address: | Hansastrasse 27, 32423 Minden, Germany |
| Test specification: | |
| Standard: | IEC 60 998-2-3:2002 (see also IEC 60 998-1:2002) |
| | EN 60 998-2-3:2004 (see also EN 60 998-1:2004) |
| Test procedure: | |
| | СВ |
| Non-standard test method: | N/A |
| Test Report Form No | IECEN60998_2_3A |
| TRF originator | IMQ |
| Master TRF | 2005-03 |
| Copyright © 2005 IEC System for Co (IECEE), Geneva, Switzerland. All ri | onformity Testing and Certification of Electrical Equipment ghts reserved. |
| acknowledged as copyright owner and so | ole or in part for non-commercial purposes as long as the IECEE is urce of the material. IECEE takes no responsibility for and will not assume der's interpretation of the reproduced material due to its placement and |
| Type item description | tap-off connectors |
| Trade Mark: | WAGO |
| 1 | WACO Kantal (L. J. M. O. J. D. O. J. V. |
| Manufacturer | WAGO Kontakttechnik GmbH & Co. KG |
| Manufacturer Model/type reference | |



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| Copy of marking plate: | *************************************** |
|------------------------|---|
| | |
| WAGO 730 | |
| 500 V | |
| 0,751,5 ,,f | |
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| Summary of testing: | |
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| complete examination | |
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| Test item particulars: | |
|--|---|
| Number of terminals | single Smultiway |
| Function | junction ⊠tappingjunction and tapping |
| Protection against electric shock[| withwithout |
| Means of fixing: | ⊠with ⊠without |
| Rated temperature: | ⊠without T marking |
| IP number: I | P - |
| Reusability and removability[| ☑reusable ☐non-reusable ☐non-removable |
| Method of making the connection | general purpose tool special tool by hand |
| Conductor type | rigid solid rigid (solid or stranded) |
| | ∬flexible ☐rigid (solid and/or stranded) and flexible |
| Conductor insulation | conductors according to IEC 60227 |
| [| conductors according to IEC 60245 |
| | special conductors: |
| Number of cores in the conductor to be connected: | one core conductors 🔀 multicore cables or cords |
| Possible test case verdicts: | |
| - 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: | 10-2014 |
| Date (s) of performance of tests: | 10-2014 |
| General remarks: | |
| This report is not valid as a CB Test Report unless and appended to a CB Test Certificate issued by a | |
| The test results presented in this report relate only to the This report shall not be reproduced, except in full, with laboratory. | |
| "(see Enclosure #)" refers to additional information app "(see appended table)" refers to a table appended to the | |
| Throughout this report a 🗵 comma or 🗌 point is us | ed as the decimal separator. |
| General product information: | |
| see page 17 | |
| | |
| | |
| I . | |



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| | EN 60998-2-3:2004 and IEC 609 | 998-2-3:2002 | | | | |
|-------|--|---------------------|--------|--|--|--|
| CI. | Requirement - Test | Result - Remark | Verdic | | | |
| | | | | | | |
| 8 | MARKING | | | | | |
| 8.1 | On main part: | | | | | |
| | a) rated connecting capacity (mm²) | 1,5 mm² | Р | | | |
| | b) rated insulation voltage (V) | 500 V | Р | | | |
| | c) T marking (°C) (if > 40 °C) | | N/A | | | |
| | d) type reference | 730 | Р | | | |
| | e) manufacturer's or responsible vendor's name or trade mark or identification mark | | Р | | | |
| | f) IP (if > IP20) | | N/A | | | |
| | Very small devices: only d) and e) need to be indicated on the device (all marks specified are visible on the smallest package unit) | | Р | | | |
| 8.2 | Multiway terminal devices: required marking is complete on at least two adjacent devices | | Р | | | |
| 8.3 | Correct symbols | | Р | | | |
| 8.4 | Marking: durable and easily legible; 15 s water; 15 s petroleum spirit | Marking is embossed | N/A | | | |
| 8.101 | Marking indicated on the smallest package unit: | | | | | |
| | IPCD non-reusable | | Р | | | |
| | IPCD non-removable | | N/A | | | |
| | Connection and disconnection procedure | | Р | | | |
| | Combinations of cross-sectional areas and types of conductors | | Р | | | |
| 8.102 | IPCDs classified according to 7.103: | | | | | |
| | Type of acceptable conductor "s" or "sol", "r", "f": | "f" | Р | | | |
| | This marking appear on the end product or on the smallest package unit or in technical information | end product | Р | | | |

| 9 | PROTECTION AGAINST ELECTRIC SHOCK | |
|---|--|---|
| | Live parts of connecting devices with protection against electric shock are not accessible | Р |

| 1 | 10 | CONNECTION OF CONDUCTORS | | |
|---|----|---|--|---|
| | | Connecting devices allow correct connection of conductors | | Р |

TRF No.: IECEN60998_2_3A

and/or catalogues

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| | EN 60998-2-3:2004 and IEC 609 | 790-2-3.2002 | |
|----------|--|-------------------------------|-------------|
| CI. | Requirement - Test | Result - Remark | Verdict |
| 10.101 | IPCD accept one or more unprepared conductors, as declared by the manufacturer | | Р |
| 10.102 | Relationship between rated connecting capacity of conductors (Table 101): | lamping units and connectable | |
| | Rated connecting capacity (mm²) | 1,5 mm² | 0.20 |
| | Solid connectable conductor (mm²) | | |
| | Stranded connectable conductor (mm²) | | |
| | Flexible connectable conductor (mm²): | | <u> </u> |
| 10.103 | Disconnection of a conductor from a reusable or non-reusable IPCD requires an operation other than a pull on the conductor only | | P |
| | Deliberate action to disconnect the conductor by hand or with a suitable tool is necessary to take | | Р |
| 10.104 | IPCD is adequately locked against unintended loosening | | Р |
| 10.105 | Test for IPCD where screws for wire connection are used | See appended table 10.105 | N/A |
| | During the test reusable IPCD is not damaged | | N/A |
| 10.106 | Test for IPCD designed for use with single-core conductors (apparatus shown in Figure 101) | See appended table 10.106 | Р |
| | During the test: conductor neither slip out nor break near the clamping unit | | Р |
| | During the test reusable and non-reusable IPCD did not damage the conductor | | P |
| 10.107 | Pull-out test: | | |
| 10.107.1 | IPCDs designed for single-core conductors | See appended table 10.107.1 | Р |
| . 1 | During the test: conductor did not slip out of the IPCD | | Р |
| 10.107.2 | IPCDs designed for multi-core conductors | See appended table 10.107.2 | N/A |
| | During the test: cable or cord did not slip out of the IPCD | | N/A |
| 11 | CONSTRUCTION | | |
| 11.1 | Constructional requirements given in Part 2-3 | | Р |
| 11.2 | Clamping units clamp the conductors reliably and between metal surfaces, with exception of specific cases subject to requirements of the relevant Part 2-3 | | Р |
| 11.3 | Subclause 11.3 of IEC/EN 60998-1 not applicable | | |



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| | EN 60998-2-3:2004 and IEC 609 | 998-2-3:2002 | |
|--------|---|-------------------------|---------|
| CI. | Requirement - Test | Result - Remark | Verdict |
| 11.4 | Insulating lining, barriers and the like have adequate mechanical strength and are secured in a reliable manner | | Р |
| 11.5 | Current-carrying parts are of metal having adequate characteristics for their intended use; type of metal: | | Р |
| | Current-carrying parts subjected to mechanical wear are not made of steel provided with an electroplated coating | | N/A |
| | Metals showing a large difference of electrochemical potential are not used under moist conditions | | N/A |
| 11.6 | Terminals accept the connection of conductors as specified by the manufacturer | See appended table 11.6 | Р |
| 11.7 | Fixing means of bases do not serve any other purpose | | Р |
| 11.101 | IPCDs where the contact pressure is transmitted via insulating material other than ceramic are stable under normal conditions of use | | N/A |
| | IPCDs transmitting contact pressure via metal parts: compliance checked by test of 15.101 | | Р |
| | IPCDs using material other than metal for the transmission of contact-pressure: compliance checked by test of 15.102 | | N/A |
| 11.102 | Screws for making contact-pressure do not serve to fix any other component, although they may hold the IPCD in place or prevent it from turning | | N/A |
| | Screws are not of soft metal or liable to creep | | N/A |
| 11.103 | Non-reusable IPCD is designed and constructed that it is automatically destroyed when removed from the conductor and the damage is obvious | | Р |
| 11.104 | IPCD makes a reliable mechanical connection | | р |
| 12 | RESISTANCE TO AGEING, TO HUMIDITY COND SOLID FOREIGN OBJECTS AND TO HARMFUL | | |
| 12.1 | Connecting devices with insulating material other than ceramic and thermosetting material are resistant to ageing (168 h) | | Р |
| | Ageing temperature (°C) | 70 T + 30 = | _ |
| | Samples show no cracks visible nor the material have become sticky or greasy; no damage | | Р |



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| *************************************** | EN 60998-2-3:2004 and IEC 609 | 998-2-3:2002 | |
|---|---|--------------------------------|----------|
| CI. | Requirement - Test | Result - Remark | Verdict |
| | | | |
| 12.2 | Connecting devices protected against humid conditions (umidity treatment with a relative umidity between 91 % and 95 %) | | Р |
| | Test duration (h) | | _ |
| - | After the test samples show no damage | | Р |
| 12.3 | IP test (IEC 60529) | | N/A |
| | Electric strength test as specified in 13.4 | | N/A |
| | Water has not entered to any appreciable extent and has not reached live parts | | N/A |
| 13 | INSULATION RESISTANCE AND ELECTRIC STR | ENGTH | |
| 13.1 | Insulated connecting devices provided with adequate insulation resistance and electric strength | | Р |
| 13.2 | Insulation between the connected conductors and the external surface is adequate for all the combinations of conductors | | Р |
| 13.3 | Insulation resistance measured 1 min after application of 500 V d.c. | See appended table 13.3 | Р |
| 13.4 | Electric strength test | See appended table 13.4 | Р |
| 14 | MECHANICAL STRENGTH | | |
| 14.1 | Connecting devices have adequate mechanical strength | | P |
| 14.2 | Tumbling barrel according to IEC 60068-2-32 for co < 50 g (50 falls) | nnecting devices having a mass | Р |
| | Test torque for screws, if any (Nm) | | |
| | After the test samples show no damage | | Р |
| | Samples show no damage | | Р |
| 14.3 | Pendular hammer according to IEC 60068-2-75 for mass ≥ 50 g (10 blows) | connecting devices having a | N/A |
| | Test torque for fixing screws of bases and covers: | | |
| | - height of fall: 7,5 cm | | N/A |
| | - height of fall: 10 cm | | N/A |
| | - height of fall: 20 cm | | N/A |
| | - height of fall: 25 cm | | N/A |
| - | After the test: samples show no damage and live parts have not become accessible | | N/A |



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| | EN 60998-2-3:2004 and IEC 609 | 998-2-3:2002 | |
|--------------|--|---------------------------------------|---------|
| CI. | Requirement - Test | Result - Remark | Verdict |
| 15 | TEMPERATURE RISE AND ELECTRICAL PERFO | PRMANCES | |
| 15.1 to 15.4 | Temperature rise test | See appended table 15 | Р |
| 15.101 | Test for IPCDs transmitting contact pressure via me | <u> </u> | Р |
| | - solid types of conductors only (6 samples) | | N/A |
| | - rigid types of conductors only (6 samples) | | N/A |
| | - flexible conductors only (6 samples) | | Р |
| | - all types of conductors (12 samples) | | N/A |
| | After the test: inspection show no changes impairing further use | | Р |
| 15.101.1 | Test A: 192 temperature cycles test, each cycle with a duration of 1 h, with the test current as defined in Table 2 of Part I | See appended table 15.101.1 | Р |
| | Cabinet temperature (°C) | | _ |
| | Maximum voltage drop did not exceed 22,5 mV or 1,5 times 24 th cycle value | | Р |
| 15.101.2 | Test B (alternative): 192 temperature cycles test, each cycle with a duration of 1 h, with a current to obtain an adequate temperature environment | See appended table 15.101.2 | N/A |
| | Temperature as close as possible to the clamping unit and the conductor interface (°C) | 40 >40: | - |
| | Maximum voltage drop did not exceed 22,5 mV or 1,5 times 24 th cycle value | | N/A |
| 15.102 | Tests for IPCDs transmitting contact pressure via in: | sulating parts, which can accept: | |
| | - solid types of conductors only (6 samples) | | N/A |
| | - rigid types of conductors only (6 samples) | | N/A |
| | - flexible conductors only (6 samples) | | N/A |
| | - all types of conductors (12 samples) | | N/A |
| | After the test: inspection show no changes impairing further use | | N/A |
| 15.102.1 | Test A: 384 temperature cycles test, each cycle with a duration of 1 h, with the test current as defined in Table 2 of Part I | See appended table 15.102 (Test A) | N/A |
| | Cabinet temperature (°C) | 40 T-marking: | |
| | Maximum voltage drop did not exceed 22,5 mV or 1,5 times 48 th cycle value | | N/A |
| | Test B (alternative): 384 temperature cycles test, each cycle with a duration of 1 h, with a current to obtain an adequate temperature environment | See appended table 15.102 (Test B) | N/A |



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| *************************************** | EN 60998-2-3:2004 and IEC 609 | 998-2-3:2002 | ······································ |
|---|--|-----------------------------|--|
| CI. | Requirement - Test | Result - Remark | Verdict |
| | | | |
| | Temperature as close as possible to the clamping unit and the conductor interface (°C) | 40 | |
| | Maximum voltage drop did not exceed 22,5 mV or 1,5 times 48 th cycle value | | N/A |
| 15.102.2 | Short-time withstand current test | See appended table 15.102.2 | Р |
| | Voltage drop after short-time withstand current test did not exceed 1,5 times the value measured before the test | | Р |
| | After the test: inspection show no changes impairing further use | | P |
| 16 | RESISTANCE TO HEAT | | |
| 16.1 | Connecting devices are sufficiently resistant to heat | | Р |
| 16.2 | Heating cabinet test | See appended table 16.2 | Р |
| | After the test: no changes impairing further use and markings still legible | | Р |
| 16.3 | Ball-pressure test (IEC 60695-10-2) for parts necessary to retain current-carrying parts and parts of the earthing circuit in position | See appended table 16.3A | Р |
| | Impression diameter not exceed 2 mm | | Р |
| | Ball-pressure test (IEC 60695-10-2) for parts not necessary to retain current-carrying parts and parts of the earthing circuit in position | See appended table 16.3B | P |
| | Impression diameter not exceed 2 mm | | Р |
| 17 | CLEARANCES AND CREEPAGE DISTANCES | | |
| : | Creepage distances, clearances and distances through sealing compound | See appended table 17 | P |
| 18 | RESISTANCE OF INSULATING MATERIAL TO A | BNORMAL HEAT AND FIRE | |
| | Glow-wire test (clauses 4 to 10 of IEC 60695-2-10) | See appended table 18 | Р |
| | No visible flames and no sustained glowing or flame and glowing extinguished within 30 s | | Р |
| | No ignition of the tissue paper or scorching of the board | | Р |
| 19 | RESISTANCE OF INSULATING MATERIAL TO TI | BACKING | |
| 13 | Tracking test (IEC 60112): PTI 175 V, 50 drops, solution A | See appended table 19 | P |
| L | | | 1 |



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| EN 60998-2-3:2004 and IEC 60998-2-3:2002 | | | | | | |
|--|--------------------|-----------------|---------|--|--|--|
| CI. | Requirement - Test | Result - Remark | Verdict | | | |
| 20 | EMC REQUIREMENTS | | | | | |
| 20.1 | Immunity | | N/A | | | |
| 20.2 | Emission | | N/A | | | |



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| | | EN 60998 | 3-2-3:2004 and | IEC 609 | 98- | -2-3:2002 | | ···· |
|----------------------|---|-------------------|-------------------------|-------------|-----------------|---------------------------|-------------------------------------|---------|
| CI. | Requirement - T | est | | ,,,,,, | Result - Remark | | | Verdict |
| 10.105 | 0.105 TABLE: Test on screws for wire connection | | | | | | N/A | |
| 10.106 | TABLE: Clamp | ing securen | nent and dam | age to t | he (| conductor | test | |
| Model/type reference | | | | | | | | |
| N. of sample | Conductor cross- sectional area (mm²) | Conductor type | Mass for conductor (kg) | Height (mm) | | Applied torque (Nm) | Diameter of bushing hole (mm) | |
| 1 | 1,5 | flexible | 0,4 | 260 | | = | 6,5 | Р |
| 2 | 1,5 | flexible | 0,4 | 260 | ********** | - | 6,5 | Р |
| 3 | 1,5 | flexible | 0,4 | 260 | | - | 6,5 | Р |
| 4 | 0,75 | flexible | 0,4 | 260 | | - | 6,5 | Р |
| 5 | 0,75 | flexible | 0,4 | 260 | | - | 6,5 | Р |
| 6 | 0,75 | flexible | 0,4 | 260 | | - | 6,5 | Р |
| | | | - | | | _ | | - |

| 10.107.1 | TABLE: Pull-out test on IPCI | Os designed for sing | gle-core conductors | |
|--------------|--------------------------------------|----------------------|---------------------|---|
| | Model/type reference | | 730-103, 730-106 | |
| N. of sample | Conductor cross-sectional area (mm²) | Conductor type | Pull force (N) | |
| 1 | 1,5 | flexible | 40 | Р |
| 2 | 1,5 | flexible | 40 | Р |
| 3 | 1,5 | flexible | 40 | Р |
| 4 | 0,75 | flexible | 30 | Р |
| 5 | 0,75 | flexible | 30 | Р |
| 6 | 0,75 | flexible | 30 | Р |



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| ······ | EN 6 | 60998-2-3:2004 and IEC 609 | 998-2-3:200 | 2 | | - |
|---|--------------------------------|----------------------------|-------------------|---|---|--|
| CI. | Requirement - Test | | Result - Re | emark | | Verdict |
| 10.107.2 | TABLE: pull-out test of | n IPCDs designed for mu | lti-core con | ductors | | N/A |
| 11.6 | TABLE: Connectable | conductors specified by t | he manufa | cturer | | |
| *************************************** | Model/type reference | : | 730-103, 7 | 30-106 | *************************************** | _ |
| | Rated connecting capac | city (mm²): | 0,75 mm² | - 1,5 mm² | MINOR MARKET | _ |
| Conduct | tor cross-sectional area (mm²) | Conductor type | , | Num | ber of con | ductors |
| | 1,5 | flexible | | | 1 | |
| | 0,75 | flexible | | | 1 | |
| | | | | | | |
| 13.3 | TABLE: Insulation resi | stance | | | | |
| Model/type reference | | : | 730-103, 730-106 | | | _ |
| | Smallest cross-sectiona | l area (mm²): | 0,75 | 0,75 | | |
| | Largest cross-sectional | area (mm²): | 1,5 | | * | |
| | Test voltage applied | l between: | Measured (GΩ) Req | | Requ | ired (MΩ) |
| all clampi | ng units and body | | 730-10 | 3: 1,94 | | 500 |
| | | | 730-10 | 6: 16,0 | | |
| each clan | nping unit, other clampin | g units and body | 730-10 | 3: 4,62 | | 500 |
| | | | 730-10 | 6: 8,90 | | |
| Suppleme | ntary information: | | | | | |
| 13.4 | TABLE: Electric streng | yth test | | *************************************** | | |
| ε. | Model/type reference | | 730-103, 7 | 730-106 | | <u> </u> |
| | Rated insulation voltage | e (V): | 500 V | | | _ |
| | Test voltage applied | l between: | Test vol | ltage (V) | , | shover / wn (Yes/N |
| all clampi | ing units and body | | 30 | 000 | | No |
| each clan | nping unit, other clampin | g units and body | 30 | 000 | | No |
| Suppleme | ntary information: | | | | | *************************************** |



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| | EN 60998-2-3:2 | 004 and IEC 609 | 998-2-3:2002 | | | |
|---|---|------------------|-----------------|----------|------------|--|
| CI. | Requirement - Test | | Result - Remark | (| Verdict | |
| | | | | | | |
| 15 | TABLE: Temperature rise test | | | | | |
| | Model/type reference | : | 730-106 (6-pole | e) | - | |
| | Connection according to Figure | | □ 1 □ 1 | 2 | | |
| | Conductor length | | 1 m | | - | |
| | Measurement made at temperature | (°C): | 22 | | _ | |
| | Largest cross-sectional area (mm²). | | 1,5 | | | |
| ······································ | Test current (Table 2) (A) | | 10 | 0 | | |
| | Temperature rise dT of part/at: | | Measured dT (K) | | Allowed | |
| *************************************** | remperature rise of or parvat. | Sample 1 | Sample 2 | Sample 3 | dT (K) | |
| termin | als of the socket and plug connected | 20,8 | 19,5 | 21,5 | 45 | |
| Supple | mentary information: | | | | | |
| | | | | | | |
| 15 | TABLE: Temperature rise test | | | | | |
| | Model/type reference | | 730-103 (3-pole | e) | : | |
| *************************************** | Connection according to Figure | | □ 1 | | | |
| *** | Conductor length | | : 22 : 1,5 | | _ | |
| | Measurement made at temperature | (°C): | | | | |
| | Largest cross-sectional area (mm²) | | | | | |
| | Test current (Table 2) (A) | | | | | |
| | | | Measured dT (K) | | Allowed | |
| | | | Sample 2 | Sample 3 | dT (K) | |
| | Temperature rise dT of part/at: | Sample 1 | Sample 2 | Campico | 1 4, (1,4) | |
| termina | Temperature rise dT of part/at: als of the socket and plug connected | Sample 1 16,7 | 16,4 | 19,1 | 45 | |



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| CI. | Requirement - Test | | | Result - Remarl | Verdict | |
|---|--|---------------------------------------|----------|-----------------|----------|------|
| | <u> </u> | | | | | 1 |
| 15.101.1 | TABLE: Temperature-cycling test (Test A) | | | | | |
| | Model/type reference | | | | | |
| Test torque for screws, if any (10.10 Smallest cross-sectional area (mm²) Test current (Table 2) (A) | | | | | | |
| | | | | | | _ |
| | | | | | | |
| Measured voltage drop of: | | | Meas | 4 | | |
| modeling vollage grop of. | | Sample 1 | Sample 2 | Sample 3 | | |
| Solid condu | | (after 24 cycles) | - | - | - | |
| Stranded conductors (after 24 cycles) | | | *** | - | - | |
| Flexible conductors (after 24 cycles) | | | 20,87 | 16,32 | 17,79 | _ |
| Solid conductors (1,5 times 24 th cycle value) | | | - | - | - | |
| Stranded conductors (1,5 times 24 th cycle value) | | | - | - | | |
| Flexible conductors (1,5 times 24 th cycle value) | | | 31,3 | 24,48 | 26,96 | |
| Solid conductors (after 192 cycles) | | - | - | • | N/A | |
| Stranded conductors (after 192 cycles) | | | - | - | ** | N/A |
| Flexible cor | nductors | (after 192 cycles) | 17,96 | 16,11 | 15,56 | Р |
| | Largest cro | ss-sectional area (mm²). | | | | . ja |
| | Test curren | t (Table 2) (A) | | 17,5 | | |
| Measured voltage drop of: | | | Meas | | | |
| | | | Sample 4 | Sample 5 | Sample 6 | |
| Solid condu | uctors | (after 24 cycles) | - | - | - | |
| Stranded conductors (after 24 cycles) | | - | - | - | - | |
| Flexible conductors (after 24 cycles) | | 18,68 | 21,67 | 19,22 | | |
| Solid conductors (1,5 times 24 th cycle value) | | | - | - | ••• | _ |
| Stranded conductors (1,5 times 24 th cycle value) | | - | - | *** | _ | |
| Flexible cor | nductors (1,5 | 5 times 24 th cycle value) | 28,02 | 32,5 | 28,83 | |
| Solid conductors (after 192 cycles) | | | - | - | | N/A |
| Stranded conductors (after 192 cycles) | | - | - | | N/A | |
| | Flexible conductors (after 192 cycles) | | 20,44 | 22,46 | 13,83 | Р |



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| | EN 60998-2-3:2 | 004 and IEC 609 | 998-2-3:2002 | | | |
|--|---|---|-------------------|---|--------------|--|
| CI. | Requirement - Test | Result - Remark | Verdict | | | |
| | | | | | | |
| 15.101.2 | TABLE: Temperature-cycling test | (Test B) | | | N/A | |
| | | *************************************** | | | | |
| 15.102.1 | TABLE: Temperature-cycling test (Test A) | | | | | |
| | | | | | | |
| 15,102.1 | .102.1 TABLE: Temperature-cycling test (Test B) | | | *************************************** | | |
| | | | | | | |
| 15.102.2 | TABLE: Short-time withstand cu | rrent test | | | | |
| Model/type reference | | | 730-106 (6-pol | - | | |
| | Maximum cross-sectional area (mm | n ²): | 1,5 | | - | |
| Test torque for screws, if any (10.105) (I Test current (120 A/mm² of the cross-secarea of the connected conductor) (A) | | | flexible | | | |
| | | 05) (Nm): | - | | | |
| | | | <u> </u> | | - | |
| | Duration of the test current (s) | | | | • | |
| | Test current for measuring the volta and after the test (1/10 of Table 2) (| | 1,75 | | | |
| | Magazirad valtaga dian | Meas | ured voltage drop | | | |
| Measured voltage drop: | | Sample 1 | Sample 2 | Sample 3 | | |
| Before the | test | 1,9 | 2,3 | 2,1 | | |
| 1,5 times the value before the test | | 2,85 | 3,45 | 3,15 | - | |
| After the test | | 2,0 | 2,2 | 2,32 | | |
| Supplemen | ntary information: | | | | | |
| | | | | | | |
| 16.2 | TABLE: Heating cabinet test | | | | | |
| | Test temperature (°C) | : | ⊠ 85 □ T | + 45 = | | |
| | Model/type reference | Sample 1 | Sample 2 | Sample 3 | | |
| | 730 | Р | Р | Р | Р | |
| Supplemer | ntary information: | | | | | |



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no flame or glowing

| | | EN 60998-2- | 3:2004 and IEC | 6099 | 8-2-3:2002 | | | | |
|---|---|----------------------------------|------------------------------|--|---|---|--|---------------|---------------------|
| CI. | Requirement - Te | | F | Result - Remark | | | Verdict | | |
| 16.3A | TABLE: Ball pre | ssure test of i | nsulating mater | ials | | *************************************** | | T | |
| | Test temperature | | | ······································ | | T + 4 | 5 = | | |
| *************************************** | Part under test | Mat | erial designation | / ma | nufacturer | lm | pression o | iam | neter (mm) |
| Housing PA 6.6 | | 6 | | | 0,94 | | | | |
| supplem | entary information: | | | | | | | | |
| | | | | | | ····· | | | |
| 16.3B | TABLE: Ball pre | ssure test of i | nsulating mater | ials | | ····· | | | N/A |
| | | | | | | | | | |
| 17 | TABLE: Clearan | ces and creep | age distances | | *************************************** | | | | |
| | Rated insulation v | voltage (V) | | : 8 | 500 | | | | <u></u> |
| | ance cl, creepage dista through sealing comp | | Required cl, cr, tsc (mm) | Мє | easured cl (mm) | | sured cr mm) | М | easured tsc (mm) |
| socket (| 6-pole | | 6 | | 6,8 | > | 6,8 | | - |
| socket 3 -pole | | | 6 | | 6,22 | > 6,22 | | - | |
| Supplem | nentary information: | | | | | | | | |
| | | | | | | | | | |
| 18 | TABLE: Glow-w | ire test | | | *************************************** | | | | |
| | | ial designation / anufacturer | | | | and | extinguish of nd glowing, if any | | |
| Housing | g 730-103 | PA 6.6 | | | 850 | | no flan | ne c | r glowing |

| 19 TABLE: Resist | ance to tracking | | |
|----------------------------|-------------------------------------|---------------------|---------|
| Part under test | Material designation / manufacturer | Test voltage (V) | Remarks |
| Housing 730-103 | PA 6.6 | 175 V | |
| Housing 730-106 | PA 6.6 | 175 V | |
| Supplementary information: | | | |

850

PA 6.6

TRF No.: IECEN60998_2_3A

Housing 730-106

Supplementary information:



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Product data

product : tap-off connectors

trade name(s) : WAGO

type(s) : 730-103, 730-106, 730-113, 730-116, 730-123, 730-126

rated voltage : 500 V
rated current : 10 A
Insulation material : PA 6.6 V0
stripping length : 8-9 mm

Additional information

Markings: trademark, type designation are embossed on the thermoplastic material.

Product data - type 730-103

rated cross section : 1,5 mm²

rated connection capacity : 0,75 mm² - 1,5 mm²

type of connectable cable : flexible

discription : 3-pole female socket, insulation-piercing clamping unit

Product data - type 730-106

rated cross section : 1.5 mm²

rated connection capacity : 0,75 mm² - 1,5 mm²

type of connectable cable : flexible

discription : 6-pole female socket, insulation-piercing clamping unit

Product data - type 730-113

rated cross section : 2,5 mm²

rated connection capacity : 0,5 mm² - 2,5 mm² type of connectable cable : flexible and rigid

discription : 3-pole plug, screwless clamping unit

Product data - type 730-116

rated cross section : 2,5 mm²

rated connection capacity : $0.5 \text{ mm}^2 - 2.5 \text{ mm}^2$ type of connectable cable : flexible and rigid

discription : 6-pole plug, screwless clamping unit

Product data - type 730-123

rated cross section : 1,5 mm²

rated connection capacity : 0,75 mm² - 1,5 mm²

type of connectable cable : flexible

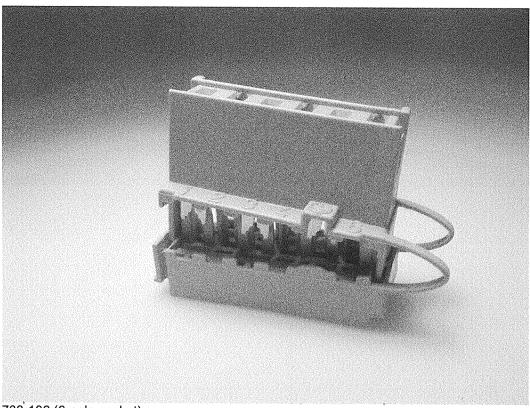
discription : 3-pole female socket with fixing flanges, insulation-piercing

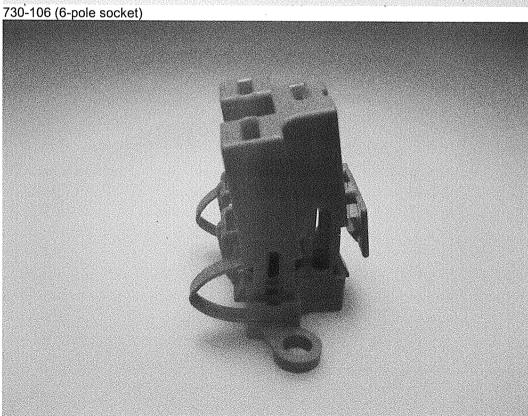
clamping unit



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730-123 (3-pole socket)