Test Report issued under the responsibility of:

DEKRA

# TEST REPORT
# IEC 61008-1
# Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)
# Part 1: General rules

| | |
|---|---|
| **Report Number.....:** | 2247906.50 |
| **Date of issue .....:** | 2020-07-09 |
| **Total number of pages.....:** | 144 |
| **Name of Testing Laboratory preparing the Report.....:** | DEKRA Certification B.V. |
| **Applicant's name .....:** | ETI Elektroelement d.o.o. |
| **Address .....:** | Obrezija 5, SI-1411 Izlake, Slovenia |
| **Test specification:** | |
| **Standard.....:** | IEC 61008-1:2010 (Third Edition) +A1:2012 +A2:2013<br>used in conjunction with<br>IEC 61008-2-1:1990 (First Edition) or<br>IEC 61008-2-2:1990 (First Edition) |
| **Test procedure.....:** | CB Scheme |
| **Non-standard test method…….:** | N/A |
| **Test Report Form No. .....:** | IEC61008_1H |
| **Test Report Form(s) Originator....:** | OVE |
| **Master TRF .....:** | Dated 2015-11 |

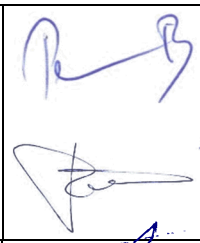
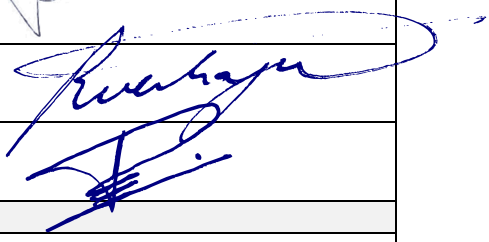


**This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.**

**General disclaimer:**

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 CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

| | |
|---|---|
| **Test item description** ..... : | Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) |
| **Trade Mark** ..... : | ETI |
| **Manufacturer** ..... : | ETI Elektroelement d.o.o., Obrezija 5, SI-1411 Izlake, Slovenia |
| **Model/Type reference** ..... : | EFI-P2, EFI-P2R |
| **Ratings** ..... : | 16 A, 25 A, 32 A, 40 A, 63 A, 80 A / 30 mA, 100 mA, 300 mA, 500 mA / Type A, AC / 230 V, 240 V / 2p (1p+N) / 50/60 Hz |

| | | |
|---|---|---|
| **Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):** | | |
| ☒ **CB Testing Laboratory:** | DEKRA Certification B.V. | |
| **Testing location/ address** ..... : | Meander 1051, 6825 MJ Arnhem, The Netherlands | |
| ☐ **Associated CB Testing Laboratory:** | | |
| **Testing location/ address** ..... : | | |
| **Tested by (name, function, signature)** ..... : | | |
| **Approved by (name, function, signature)** .. : | | |
| ☐ **Testing procedure: CTF Stage 1:** | | |
| **Testing location/ address** ..... : | | |
| **Tested by (name, function, signature)** ..... : | | |
| **Approved by (name, function, signature)** .. : | | |
| ☒ **Testing procedure: CTF Stage 2:** | | |
| **Testing location/ address** ..... : | **ETI Elektroelement d.o.o.**, Obrezija 5, SI-1411 Izlake, Slovenia | |
| **Tested by (name + signature)** ..... : | Branko Pesan<br>Urban Majdič<br>Andjelko Petrušič |  |
| **Witnessed by (name, function, signature)** . : | R. Verhagen |  |
| **Approved by (name, function, signature)** .. : | F.S. Strikwerda | |
| ☐ **Testing procedure: CTF Stage 3:** | | |
| ☐ **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):**

European group differences and national differences test report: 35 pages

EMC test report (issued by SIQ Slovenia): 47 pages

**Summary of testing:**

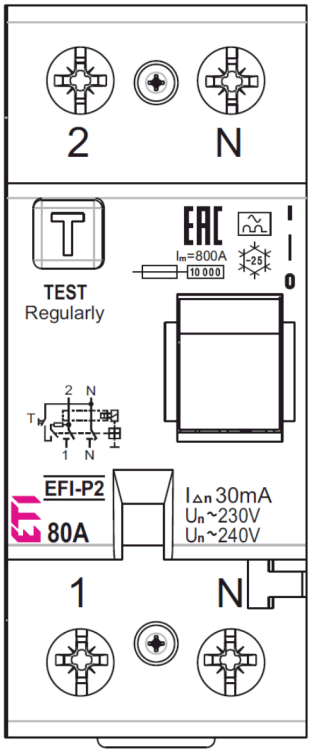
| **Tests performed (name of test and test clause):** | **Testing location:** |
|---|---|
| Type test according to<br>IEC 61008-1:2010+A1:2012+A2:2013<br>(Simplified test procedure).<br>For details see page 10, 11. | Test laboratory 1:<br>**DEKRA Certification B.V.**<br>Meander 1051<br>6825 MJ, Arnhem<br>The Netherlands<br><br>Test laboratory 2:<br>**ETI Elektroelement d.o.o.**<br>Obrezija 5<br>SI-1411 Izlake<br>Slovenia<br><br>Test laboratory 3:<br>**ICEM-TC**<br>Celovška cesta 1<br>SI-2351 Kamnica<br>Slovenia<br><br>Test laboratory 4:<br>**SIQ Ljubljana**<br>**Varnost in elektromagnetika**<br>Mašera-Spasićeva ulica 10<br>SI-1000 Ljubljana<br>Slovenia |

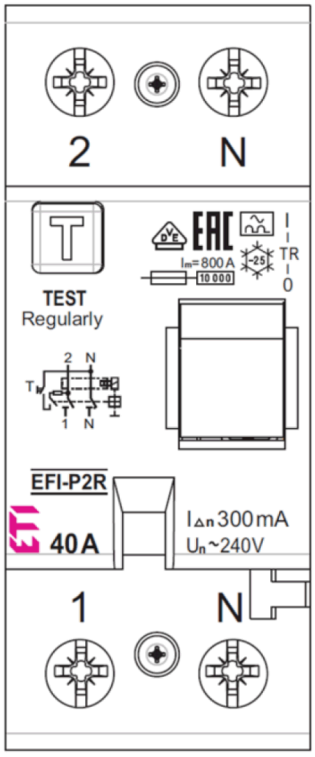
**Summary of compliance with National Differences (List of countries addressed):**

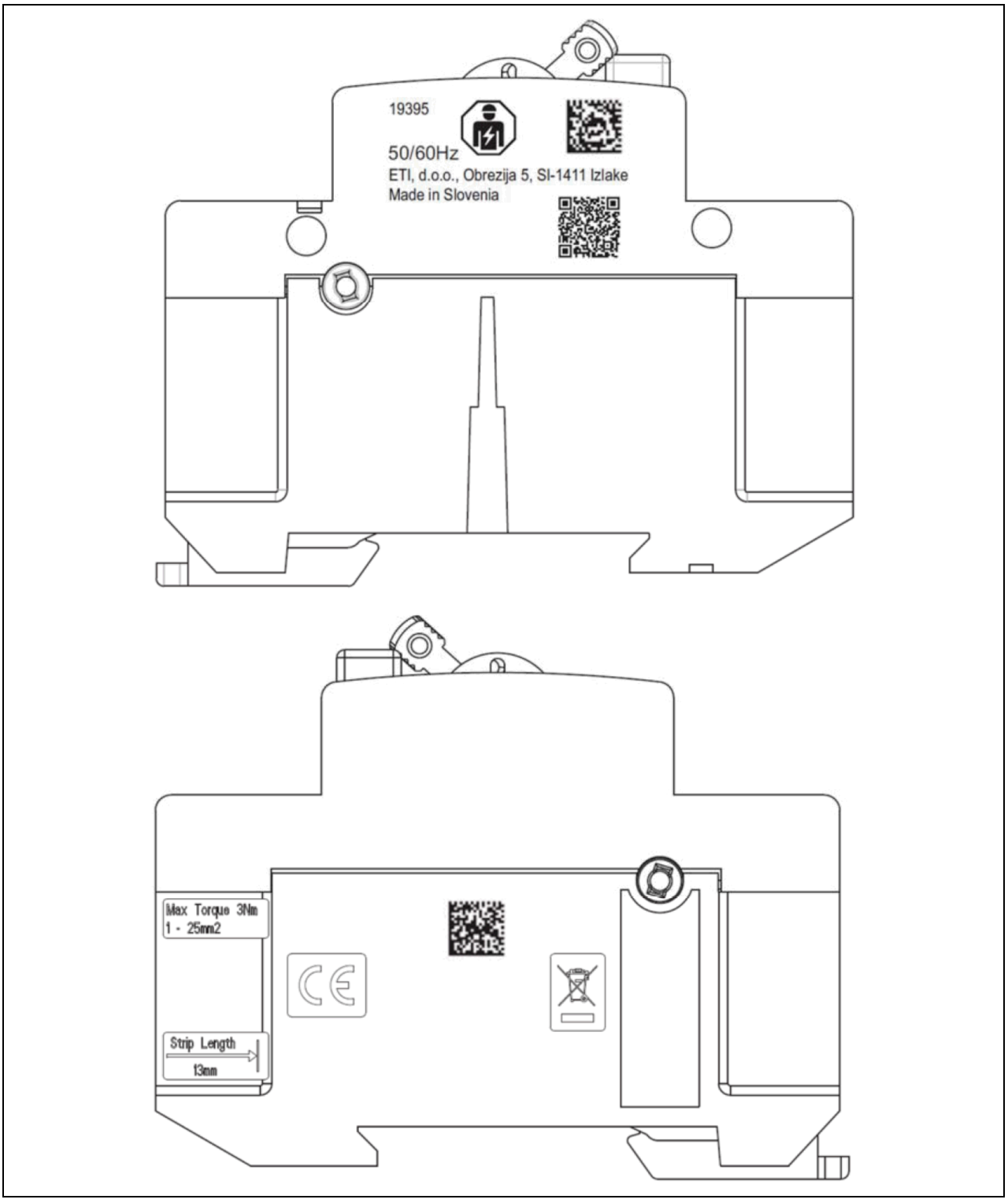
☒ **The product fulfils the requirements of IEC 61008-1:2010 + A1:2012 + A2:2013,**
**EN 61008-1:2012 + A1:2014 + A2:2014 + A11:2015 + A12:2017 used in conjunction with**
**EN 61008-2-1:1994 + A11:1998 and AS/NZS 61008.1:2015**

**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.**




19395
50/60Hz
ETI, d.o.o., Obrezija 5, SI-1411 Izlake
Made in Slovenia
Max Torque 3Nm
1 - 25mm2
Strip Length
13mm

| **Test item particulars** .....: | |
|---|---|
| Classification of RCCBs functionally dependent on the line voltage .....: | / |
| Opening automatically in case of failure of the line voltage.....: | / |
| - reclosing automatically when the line voltage is restored .....: | No |
| - not reclosing automatically when the line voltage is restored .....: | Yes |
| Not opening automatically in case of failure of the line voltage.....: | |
| - able to trip in a hazardous situation arising on failure of line voltage.....: | No |
| - not able to trip in a hazardous situation arising on failure of line voltage .....: | Yes |
| Type of RCCB .....: | |
| - type AC .....: | Yes |
| - type A.....: | Yes |
| - independent of the line voltage .....: | Yes |
| - dependent on the line voltage.....: | No |
| - without time delay .....: | Yes |
| - with time delay: type S .....: | No |
| - enclosed.....: | No |
| - unenclosed.....: | Yes |
| - IP number.....: | IP 20 |
| - for fixed installation .....: | Yes |
| - for mobile installation.....: | No |
| Number of poles.....: | 2 |
| Ambient air temperature (°C).....: | |
| Method of mounting .....: | On DIN rail (panel board / distribution board) |
| Method of connection.....: | Not associated with mechanical mounting |
| Rated residual operating current (A).....: | 30 mA, 100 mA, 300 mA, 500 mA |
| Rated current (A) .....: | 16 A, 25 A, 32 A, 40 A, 63 A, 80 A |
| Rated voltage (V).....: | 230 V / 240 V |
| Rated impulse withstand voltage ($U_{imp}$) | 4 kV |
| Nature of supply.....: | a.c. |
| Rated frequency (Hz).....: | 50/60 Hz |

| | |
|---|---|
| Rated making and breaking capacity (A)..... : | 800 A |
| Rated residual making and breaking capacity (A)..... : | 800 A |
| Rated conditional short-circuit current (A) ..... : | 10000 A |
| Rated conditional residual short-circuit current (A) ... : | 10000 A |
| Type of terminal..... : | Cage |
| **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..... :** | 06/2018 – 07/2019, 06/2020 |
| **Date (s) of performance of tests ..... :** | 06/2018 – 07/2019, 06/2020 - 07/2020 |

**General remarks:**

"(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 used as the decimal separator.**

RCCB's EFI-P2 type AC are the same as RCCB's EFI-P2 type A, only marking plate is different in symbol for type AC or A – test results of EFI-P2 type A also applies for EFI-P2 type AC.

This TRF replaces TRF 2224145.50 issued on 2019-10-03. The EFI-P2R types with reset position have been added in this TRF.

N.B.: Projects performed under the IECEE CB-Scheme CTF procedure, are fully in line with the procedures and requirements of the IECEE CB-Scheme, but do not fall under DEKRA Netherland's laboratory accreditation, according to ISO/IEC 17025, by the Dutch Accreditation Council.

**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<br>☒ Not applicable |

**When differences exist; they shall be identified in the General product information section.**

| | |
|---|---|
| **Name and address of factory (ies)..... :** | ETI Elektroelement d.o.o.<br>Obrezija 5<br>SI-1411 Izlake<br>Slovenia |

**General product information:**

EFI-P2 reference list:

| Rated current (A) | Rated $I_{\Delta n}$ (A) | ETI Code number | |
|---|---|---|---|
| | | Type A | Type AC |
| | | | |
| 16 | 0,03 | 002061110 | 002061210 |
| 25 | 0,03 | 002061111 | 002061211 |
| 40 | 0,03 | 002061112 | 002061212 |
| 63 | 0,03 | 002061113 | 002061213 |
| 80 | 0,03 | 002061114 | 002061214 |
| | | | |
| 16 | 0,1 | 002061120 | 002061220 |
| 25 | 0,1 | 002061121 | 002061221 |
| 40 | 0,1 | 002061122 | 002061222 |
| 63 | 0,1 | 002061123 | 002061223 |
| 80 | 0,1 | 002061124 | 002061224 |
| | | | |
| 16 | 0,3 | 002061130 | 002061230 |
| 25 | 0,3 | 002061131 | 002061231 |
| 40 | 0,3 | 002061132 | 002061232 |
| 63 | 0,3 | 002061133 | 002061233 |
| 80 | 0,3 | 002061134 | 002061234 |
| | | | |
| 16 | 0,5 | 002061140 | 002061240 |
| 25 | 0,5 | 002061141 | 002061241 |
| 40 | 0,5 | 002061142 | 002061242 |
| 63 | 0,5 | 002061143 | 002061243 |
| 80 | 0,5 | 002061144 | 002061244 |

EFI-P2R reference list:

| Rated current (A) | Rated $I_{\Delta n}$ (A) | ETI Code number | |
|---|---|---|---|
| | | Type A | |
| | | | |
| 16 | 0,03 | 002061460 | |
| 25 | 0,03 | 002061461 | |
| 40 | 0,03 | 002061462 | |
| 63 | 0,03 | 002061463 | |
| 80 | 0,03 | 002061464 | |
| | | | |
| 16 | 0,1 | 002061470 | |
| 25 | 0,1 | 002061471 | |
| 40 | 0,1 | 002061472 | |
| 63 | 0,1 | 002061473 | |
| 80 | 0,1 | 002061474 | |
| | | | |
| 16 | 0,3 | 002061480 | |
| 25 | 0,3 | 002061481 | |
| 40 | 0,3 | 002061482 | |
| 63 | 0,3 | 002061483 | |
| 80 | 0,3 | 002061484 | |
| | | | |
| 16 | 0,5 | 002061490 | |
| 25 | 0,5 | 002061491 | |
| 40 | 0,5 | 002061492 | |
| 63 | 0,5 | 002061493 | |
| 80 | 0,5 | 002061494 | |

EFI-P2R has a handle with reset position. In all other aspects the products are identical to the EFI-P2.

| | |
|---|---|
| OD ECS 040-1<br>January 2019 | Responsible CB<br>DEKRA |

# TEST REPORT SUMMARY

| | |
|---|---|
| **Report Number** ..... : | **2247906.50** |
| Date of issue ..... : | 2020-07-09 |
| Tested by (name, function, signature): | B. Pesan<br>(R&D Laboratory Manager) |
| Witnessed by (name, function, signature): | R. Verhagen<br>(Project Manager Industrial Safety) |
| Approved by (name, function, signature): | F.S. Strikwerda<br>(Project Manager Industrial Safety) |
| Supervised by (name, function, signature): | - |

| | |
|---|---|
| **Testing Laboratory** ..... : | **DEKRA Certification B.V.** |
| Address ..... : | Meander 1051, 6825 MJ Arnhem, The Netherlands |
| Testing procedure ..... : | ☐ ENEC ☒ CCA NTR |
| | ☐ ENEC based on IECEE CBTC with number: ……. |
| Customer Testing Procedure..... : | ☐ TMP/CTF Stage 1 ☒ WMT/CTF Stage 2 ☐ SMT/CTF Stage 3 |
| **Applicant** ..... : | **ETI Elektroelement d.o.o.** |
| Address ..... : | Obrezija 5, SI-1411 Izlake, Slovenia |
| **Manufacturer** ..... : | **ETI Elektroelement d.o.o.** |
| Address ..... : | Obrezija 5, SI-1411 Izlake, Slovenia |
| **Product** ..... : | **Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)** |
| Model/Type reference ..... : | EFI-P2, EFI-P2R |
| Trademark ..... : | ETI |
| Ratings ..... : | 16 A, 25 A, 32 A, 40 A, 63 A, 80 A / 30 mA, 100 mA, 300 mA, 500 mA / Type A, AC / 230 V, 240 V / 2p (1p+N) / 50/60 Hz |
| **Certification Scheme** ..... : | ☐ ENEC ☒ CCA ☐ Other: _____ |
| **Standard(s)** ..... : | EN 61008-1:2012+A1:2014+A2:2014 used in conjunction with EN 61008-2-1:1994 + A11:1998 |

☐ The text of the a.m. European Standard was approved by CENELEC is equivalent with the corresponding IEC Publication.

☒ The text of the a.m. European Standard was approved by CENELEC with agreed common modifications and is not equivalent with the corresponding IEC Publication. An EU Deviation Addendum has to be issued.

**This EN test report consists of the following parts:**

| | | |
|---|---|---|
| ☒ IEC Test Report Number..... : | IEC61008_1H | 2247906.50 |
| ☒ EU Deviation Addendum..... : | EU_GD_IEC61008_1H | 2247906.50 |