



Accredited by BMWA, No. BMWA-92.714/0532-I/12/2006 as test- and inspection body
and according to BGBl. II, No. 244/2005 as certification body for personnel

Test Report

Project Designation

**TYPE TEST
AT D-TYPE FUSE-LINKS
DII
(500VAC/500VDC / gG)**

Client

ETI Elektroelement d.d.
1411 Izlake, Obrezija 5
SLOVENIA

Order from / No 10/2006 / ---

Project number 2.03.00938.1.0/DII/500/gG Test Engineer Ing. J. Ainetter

| | |
|-----------------------------|--|
| Date of issue | 17.07.2008 |
| Total number of issues / No | 1 / 1 |
| Number of pages | 5 |
| Annex | CB/CCA - Test Report No. 2.03.00938.1.0/DII/500/gG/CB/CCA (84 pages) |

The results relate exclusively to the terms tested.

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Test item

Identification:

D-type fuse-links DII

Manufacturer: ETI Elektroelement d.d.

Trademark: ETI

Rated operational voltage(s): 500VAC and 500VDC

Rated operational current(s): 2A, 4A, 6A, 10A, 13A, 16A, 20A and 25A

Rated frequency: 45Hz to 62Hz and DC

Utilization category: gG

Technical data and description:

See page 4

Testing location, Period of testing

Testing location:

Österreichisches Forschungs- und Prüfzentrum Arsenal Ges.m.b.H.

Business Unit Monitoring, Energy and Drive Technologies

Power Service Center

1210 Wien, Giefinggasse 2

AUSTRIA

Period of testing:

08/2007 to 02/2008

Test(s)

Test(s) performed:

Type test

Test standard(s):

IEC 60269-1 Ed. 4.0:2006 and EN 60269-1:2007

IEC 60269-3 Ed. 3.0:2006 and HD 60269-3:2007

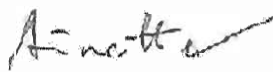
Test procedure(s):

CB-Scheme and CCA-Scheme

Result

The D-type fuse-links DII (500VAC/500VDC / gG) have passed the type test successfully.

Test Engineer



Ing. J. Ainetter

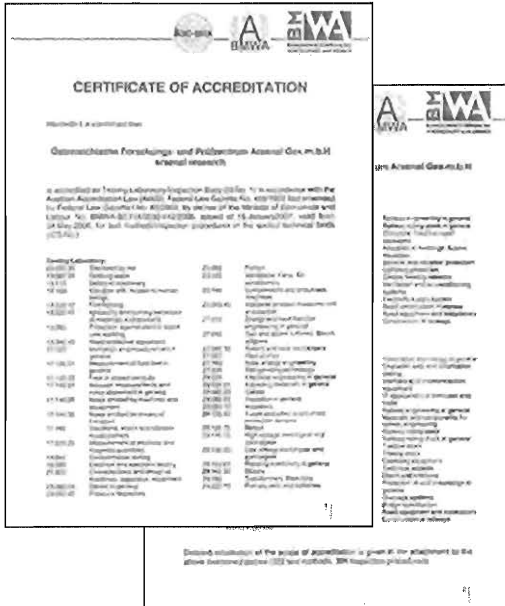


Project Engineer,
technical responsibility



Ing. K. Farthofer

Testing laboratory



CERTIFICATE OF ACCREDITATION

Österreichisches Forschungs- und Prüfzentrum Arsenal Ges.m.b.H.

is accredited as Testing Laboratory (Type 02) by its competence with the Austrian Accreditation Law (No. 19/2002), Federal Law Gazette No. 49/2002 (not amended) by Federal Law Gazette No. 40/2003, by the law of the 10th state of February 1992 (GZ 1992/10) and by the 10th state of February 1992 (GZ 1992/10) and by the 10th state of February 1992 (GZ 1992/10) for each methodological procedure of the special technical standards (ZNS) 2002.

| Testing Laboratory | 2008 | 2009 | 2010 |
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SQS
The Swiss Association for Quality and Management Systems

Österreichisches Forschungs- und Prüfzentrum Arsenal Ges.m.b.H.
AT-1030 Wien

Whole Company

Research, Testing and Development Services

SQS Certificate ISO 9001:2000

CERTIFICATED according to ISO 9001 Reg. No. 12769-03



CERTIFICATE OF ACCEPTANCE
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has been accepted and approved by fully comply with the requirements of IEC/IEC 61010-1:2001, IEC/IEC 61010-2:2001, IEC/IEC 61010-3:2001, IEC/IEC 61010-4:2001, IEC/IEC 61010-5:2001, IEC/IEC 61010-6:2001, IEC/IEC 61010-7:2001, IEC/IEC 61010-8:2001, IEC/IEC 61010-9:2001, IEC/IEC 61010-10:2001, IEC/IEC 61010-11:2001, IEC/IEC 61010-12:2001, IEC/IEC 61010-13:2001, IEC/IEC 61010-14:2001, IEC/IEC 61010-15:2001, IEC/IEC 61010-16:2001, IEC/IEC 61010-17:2001, IEC/IEC 61010-18:2001, IEC/IEC 61010-19:2001, IEC/IEC 61010-20:2001, IEC/IEC 61010-21:2001, IEC/IEC 61010-22:2001, IEC/IEC 61010-23:2001, IEC/IEC 61010-24:2001, IEC/IEC 61010-25:2001, IEC/IEC 61010-26:2001, IEC/IEC 61010-27:2001, IEC/IEC 61010-28:2001, IEC/IEC 61010-29:2001, IEC/IEC 61010-30:2001, IEC/IEC 61010-31:2001, IEC/IEC 61010-32:2001, IEC/IEC 61010-33:2001, IEC/IEC 61010-34:2001, IEC/IEC 61010-35:2001, IEC/IEC 61010-36:2001, IEC/IEC 61010-37:2001, IEC/IEC 61010-38:2001, IEC/IEC 61010-39:2001, IEC/IEC 61010-40:2001, IEC/IEC 61010-41:2001, IEC/IEC 61010-42:2001, IEC/IEC 61010-43:2001, IEC/IEC 61010-44:2001, IEC/IEC 61010-45:2001, IEC/IEC 61010-46:2001, IEC/IEC 61010-47:2001, IEC/IEC 61010-48:2001, IEC/IEC 61010-49:2001, IEC/IEC 61010-50:2001, IEC/IEC 61010-51:2001, IEC/IEC 61010-52:2001, IEC/IEC 61010-53:2001, IEC/IEC 61010-54:2001, IEC/IEC 61010-55:2001, IEC/IEC 61010-56:2001, IEC/IEC 61010-57:2001, IEC/IEC 61010-58:2001, IEC/IEC 61010-59:2001, IEC/IEC 61010-60:2001, IEC/IEC 61010-61:2001, IEC/IEC 61010-62:2001, IEC/IEC 61010-63:2001, IEC/IEC 61010-64:2001, IEC/IEC 61010-65:2001, IEC/IEC 61010-66:2001, IEC/IEC 61010-67:2001, IEC/IEC 61010-68:2001, IEC/IEC 61010-69:2001, IEC/IEC 61010-70:2001, IEC/IEC 61010-71:2001, IEC/IEC 61010-72:2001, IEC/IEC 61010-73:2001, IEC/IEC 61010-74:2001, IEC/IEC 61010-75:2001, IEC/IEC 61010-76:2001, IEC/IEC 61010-77:2001, IEC/IEC 61010-78:2001, IEC/IEC 61010-79:2001, IEC/IEC 61010-80:2001, IEC/IEC 61010-81:2001, IEC/IEC 61010-82:2001, IEC/IEC 61010-83:2001, IEC/IEC 61010-84:2001, IEC/IEC 61010-85:2001, IEC/IEC 61010-86:2001, IEC/IEC 61010-87:2001, IEC/IEC 61010-88:2001, IEC/IEC 61010-89:2001, IEC/IEC 61010-90:2001, IEC/IEC 61010-91:2001, IEC/IEC 61010-92:2001, IEC/IEC 61010-93:2001, IEC/IEC 61010-94:2001, IEC/IEC 61010-95:2001, IEC/IEC 61010-96:2001, IEC/IEC 61010-97:2001, IEC/IEC 61010-98:2001, IEC/IEC 61010-99:2001, IEC/IEC 61010-100:2001

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CERTIFICATE

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AT-1030 Wien

Whole Company

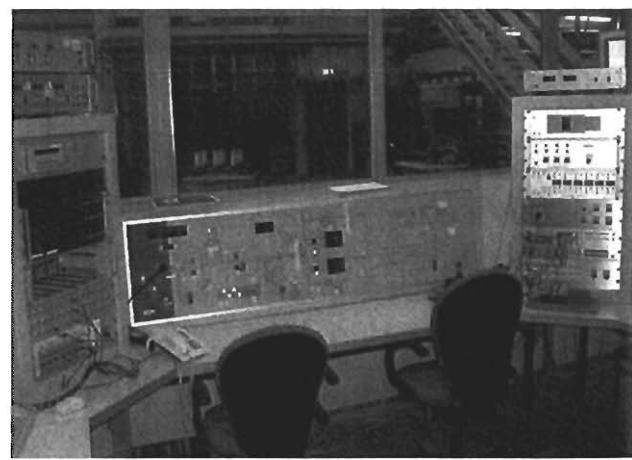
Research, Testing and Development Services

ISO 9001:2000

POWER SERVICE CENTER:



Control station for tests up to 15kA



Control station for tests above 15kA

Technical data and description

| | |
|--------------------------------|---|
| Test item | D-type fuse-links |
| Model/Type reference | DII |
| Identification reference | 2A: 002312401 4A: 002312402 6A: 002312403 10A: 002312404 13A: 002312409 16A: 002312405 20A: 002312406 25A: 002312407 |
| Manufacturer | ETI Elektroelement d.d. |
| Place of manufacture | Obrezija 5, 1411 Izlake, SLOVENIA |
| Size | II |
| Nature of supply | AC and DC |
| Utilization category | gG |
| Rated voltage | 500VAC and 500VDC |
| Rated current | 2A, 4A, 6A, 10A, 13A, 16A, 20A and 25A |
| Rated frequency | 45Hz to 62Hz and DC |
| Rated breaking capacity | AC: 50kA DC: 8kA |
| Homogeneous series | 2A to 6A 10A to 16A 20A to 25A |
| Material of fuse-link contacts | Brass CuZn28 gal. Ni |
| Material of fuse-link body | Ceramic C111 |
| Material of melting elements | E-Cu |
| Extinguishing means | Quartzsand |

Measuring equipment

| Measured quantity | Device | Manufacturer | Code |
|---------------------------------------|--|----------------------------------|-----------------------------------|
| Voltage AC (up to 15kA) | Voltage divider 1:2000 Difference amplifier AM 502 Signal memory recorder TA 800 | ÖFPZ Arsenal Tektronix W&W | - AM 502/1 TRA800 |
| Current AC (up to 15kA) | Lin. current transformer LGSSO Burden 1Ω Signal memory recorder TA 800 | Ritz ÖFPZ Arsenal W&W | WLIN5000/1 - TRA800 |
| Voltage AC (above 15kA) | 3-channel insulating measuring amplifier Signal memory recorder SMR II | Rohrer W&W | T908D SMRII64/1 |
| Current AC (above 15kA) | Lin. current transformer LGSSO Burden 0,7mΩ Signal memory recorder SMR II | Ritz ÖFPZ Arsenal W&W | WLIN6000/1 - SMRII64/1 |
| Voltage DC | Voltage divider 1:2000 Difference amplifier AM 502 Signal memory recorder TA 800 | ÖFPZ Arsenal Tektronix W&W | - AM 502/1 TRA800 |
| Current DC | Measuring shunt 4000A/60mV Difference amplifier AM 502 Signal memory recorder TA 800 | Siemens Tektronix W&W | SH4000A60/1 AM 502/2 TRA800 |
| Current (tests at reduced voltage) | Current transformer GE 4461 Current transformer AETt10 True-RMS amperemeter Kl. 0,5 | Goerz Siemens Norma | WI600/1 WI4000/1 A0,5/1 |
| Voltage drop | Digital multimeter Fluke 185 | Fluke | FLUKE185/1 |
| Internal resistance | Resistance microhm meter 300/0 | Stetter | MICROHM |
| Time | Signal memory recorders Stopwatch | W&W Junghans | TRA800, SMRII64/1 938-2 |
| Temperature | Temp. recorder Polycomp SK 30 Temperature meter TESTO 901 | H & B Testoterm | SK 30 TESTO |
| Mechanical strength | Test apparatus | ÖFPZ Arsenal | - |
| Torque | Torque meter | Rahsol | - |
| Clearances, creepage distances | Digital slide gauge CD-20D | Mitutoyo | SCHUB |
| Dimensions | Digital slide gauge CD-20D | Mitutoyo | SCHUB |