REPORT OF PERFORMANCE

Report No.
603117701-24
Revision 0

Test object	Switching compartment of HV switchgear and controlgear (from Siemens) in HV/LV transformer prefabricated substation
Designation	KN1830 **Serial No.** 2410903 22/0,4 kV - 630 kVA - 50 Hz - 20 kA
Manufacturer	MK Beton s.r.o., Dobronice u Chýnova, 391 55 Chýnov, the Czech Republic (location as declared by the manufacturer)
Client	MK Beton s.r.o., Petrská 1426/1, 110 00 Praha 1 the Czech Republic
Date(s) of tests	August 6 and 7, 2024
Tested by	Zkušebnictví, a.s. - KEMA Labs ("KEMA Labs"), Podnikatelská 547, Prague 9, the Czech Republic
Test specification	The tests have been carried out in accordance with IEC 62271-202:2022, subclause 7.102, Annex A (Internal arc test)
Conclusion	The object has complied with the relevant requirements of the standard.

This report applies only to the individual object tested. KEMA Labs makes no representations or warranties with respect to any device other than the object tested. It is the responsibility of the applicable device manufacturer to ensure that any other devices or units having the same name and descriptions as the test object are identical.

This report comprises 61 pages in total.

Issued by Zkušebnictví, a.s.

Shankar Subramany
Director,
High Power Labs

Prague, July 11, 2025

L 1035

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INFORMATION SHEET

The type of documents presented below can be issued by test laboratories which are part of KEMA Labs.
Details of these and all other types of certificates and reports issued by KEMA Labs are given on the website, which can be accessed through the QR code on the front sheet. The title on the front sheet of the document indicates which type of document is under review. All documents comprise a record of the (type) tests carried out. Mandatory requirements for items 1, 2, 3, 4 and 5 are that the object tested is clearly identified and verified by technical description, drawings and/or additional specifications. The condition of the object after testing is assessed and recorded, if applicable.

1 Certificate
A Certificate is issued when the object tested has fulfilled the requirements of (the named (sub)clauses of) a recognized standard. The relevant ratings assigned by the manufacturer are endorsed by KEMA Labs. All relevant test results and observations are given in the records of proving tests (items 3, 4, 5 and 6) which form the basis of a Certificate and are referred to in this Certificate.

2 Calibration Certificate
A Calibration Certificate is issued when a calibration program has been successfully executed. The calibration program refers to an accredited calibration procedure that is according to recognized standards, manufacturer's specifications or validated internal methods.

3 Type Test Report
A Type Test Report is issued for products in the segments of low voltage, railway applications, automotive, metering and protection & substation automation when the object tested has successfully passed the requested type tests (of the named (sub)clauses) in accordance with a recognized standard. The tests required in these (sub)clauses could cover a complete or partial set of type tests.
The sentence on the front sheet of a Type Test Report will state that the tests have been carried out in accordance with …… The object has complied with the relevant requirements of the standard and justify the relevant ratings assigned by the manufacturer as listed in chapter 1.

4 Design Verification Report
A Design Verification Report is issued when the object tested has successfully passed the requested design verification tests of the named (sub)clauses in accordance with IEC 61439. The tests series required in these (sub)clauses could cover a complete or selected set of design verification tests.
The sentence on the front sheet of a Design Verification Report will state that the tests have been carried out in accordance with IEC 61439. The object has complied with the relevant requirements of the standard and justify the relevant ratings assigned by the manufacturer as listed in chapter 1.

5 Report of Performance or Type Test Report
A Report of Performance or Type Test Report is issued for products in the segments of MV and HV transmission and distribution when the object tested has successfully passed the requested (type) tests of the named (sub)clauses in accordance with a recognized standard. The tests required in these (sub)clauses could cover a complete or partial set of (type) tests.
The sentence on the front sheet of a Report of Performance or Type Test Report will state that the tests have been carried out in accordance with …… The object has complied with the relevant requirements of the standard.
However, a Report of Performance or Type Test Report does not confirm any assigned rating.

6 Test Report
A Test Report is issued in all other cases.

7 Identification of official test documents
The official test documents of KEMA Labs are issued in digital form through .pdf files. Only integral reproduction of this document is permitted without written permission from KEMA Labs. A sealed and bound version of the test document may be available for the convenience of the client and has the status 'for information only'. The copyright must be respected.
Items 1 and 2 are identified by a gold watermark and a gold seal with red ribbon on its front sheet. Items 3, 4 and 5 are identified by a silver watermark and a silver seal with green ribbon on its front sheet. Item 6 is identified by a blue watermark on its front sheet.

8 Disclaimers
No certificate or other report issued by KEMA Labs for the purpose of confirming the performance of a test object in relation to the testing requirements of a national or international standard, or in relation to any other testing specification, shall constitute a warranty as to the adequacy or quality of the design or construction of the test object. No other document issued by KEMA Labs for the purpose of reporting, explaining or describing any engineering or consulting services performed by KEMA Labs shall constitute a warranty as to the adequacy or quality of the design or construction of any apparatus or system that is the subject of the document. Information provided by the client or manufacturer can affect the validity of results. KEMA Labs is not responsible for the consequences in such cases.

9 Accreditation
All laboratories which are part of KEMA Labs are accredited in accordance with ISO/IEC 17025 by the respective national accreditation bodies. Detailed information on these accreditations can be found on the last page of this document.

REVISION OVERVIEW

The edition with the highest revision number always replaces the earlier issued editions.

Rev. No.	Date of issue	Page no. and changes
0	July 11, 2025	First issue

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1 IDENTIFICATION OF THE OBJECT TESTED

All data mentioned in this chapter are provided by a client.

1.1 Ratings/characteristics assigned by the manufacturer

HV/LV substation:

Designation	KN1830
Voltage	22/0,4 kV
Number of poles	3
Frequency	50 Hz
Maximum power	630 kVA
Earthing circuit	
• peak withstand current	25 kApeak
• short-time withstand current	10 kA
• duration of short-circuit	1 s
Internal arc classification	
• three-phase arc fault current	20 kA
• arc fault duration	1 s
• accessibility type	AB
Year of manufacture	2024

1.2 Description of the object tested

Switching compartment of HV switchgear and controlgear (from Siemens) in HV/LV transformer prefabricated substation.

The HV/LV transformer prefabricated substation (hereinafter referred as HV/LV substation) is operated from outside, equipped with a dry air-insulated metal-enclosed HV switchgear and controlgear (hereinafter referred as HV switchgear), LV switchgear and controlgear and a mock-up of the transformer.

HV/LV substation is intended to use in systems with isolated neutral, with maximum system voltage U_m = 24 kV.

The HV/LV substation with removable concrete roof consists of three compartments – a HV switchgear compartment, a transformer compartment and LV switchgear and controlgear compartment. Below the HV switchgear is placed cable duct.

HV/LV substation is intended to use HV insulated earth-shielded interconnections with insulated earth-shielded connections (on HV switchgear side) and cable lugs without insulation (on transformer side). Interconnections protected by HV current-limiting fuses.

The HV switchgear consists of three functional units (left-hand unit, middle unit and right-hand unit). Left-hand and middle unit consist of a connection compartment and a switching compartment. The right -hand unit consists of fuse-protected connection compartment and switching compartment (with casings for fuses).
The switching compartments of all functional units create a common space – gas tank.

The connection compartments include terminal bushings.
The switching compartments include terminal bushings, busbars and three-position switch-disconnector (closed, open, earthed).

Equipment inside HV/LV substation:

HV switchgear

Manufacturer	Siemens AG, Germany
Type	8DJH 24 RRT ***)**
Serial No.	CV 570389-000030/001 (for accessibility A)
Serial No.	CV 570389-000020/001 (for accessibility B)

Voltage	24 kV
Number of poles	3
Frequency	50 Hz
Continuous current	
• busbar	630 A
• feeder circuits	630 A
• transformer circuit	200 A
Main circuit	
• peak withstand current	50 kApeak
• short-time withstand current	20 kA
• duration of short-circuit	1 s
Internal arc classification (IAC)	
• three-phase arc fault current	20 kA
• arc fault duration	1 s
• accessibility type	A
• classified sides	FL

Type of gas for insulation	clean air 0543
Filling pressure for insulation (at 20°C)	190 kPa (abs.)

Year of manufacture	2024

Note *): construction design related to serial number.

Transformer (mock-up)

Type	aT0V374/22
Serial No.	306749
Power	630 kVA
Overall dimensions (width x depth x height)	500 x 1330 x 1300 mm

LV switchgear and controlgear

Manufacturer	MK Chýnov s.r.o., Praha 3, the Czech Republic
Type	RST10P4/4a806
Serial No.	2422103
Voltage	400/231 V
Number of poles	3
Frequency	50 Hz
Normal current	1000 A

1.3 List of drawings

HV/LV substation:

The manufacturer has guaranteed that the object submitted for tests has been manufactured in accordance with the following drawings and/or documents, supplied by them. KEMA Labs has verified that these drawings and/or documents adequately represent the object tested. The manufacturer is responsible for the correctness of these drawings and/or documents and the technical data presented. KEMA Labs makes no representations or warranties regarding the accuracy of the drawings or that the drawings meet any applicable industry standards or legal or regulatory requirements.

Only the following drawings and/or documents have been included in this report upon request of the client/manufacturer:

Drawing no./document no.	Revision
KIOSKOVÁ TRAFOSTANICE BUŇKA NZO-KN1830 ks	5.4.2025

The following drawings and/or documents are only listed for reference and are kept in KEMA Labs' files:

Drawing no./document no.	Revision
Výpis materiálu (list 2/6)	9.4.2025
Rámy dveří ALU (list 3/6)	9.4.2025
Dveře se žaluzii NN oddíl (list 4/6)	9.4.2025
Dveře s plnou výplní VN oddíl (list 5/6)	9.4.2025
Dveře se žaluzií TR oddíl (list 6/6)	9.4.2025
Vnitřní zemní okruh 1 (list 2/1)	12.4.2025
Vnitřní zemní okruh 2 (list 3/1)	12.4.2025
Vnitřní zemní okruh půdorys (list 4/1)	12.4.2025
00422	0001
Katalog TREMIS (strana 29 – Podpěra vedení na konstrukce, PV 44)	-
Katalog TREMIS (strana 14 – Svorka páska – páska, SR 2b)	-
Katalog TREMIS (strana 9 – Svorka křížová, SK)	-

On request of the client/manufacturer the following drawings and/or documents are listed for reference.

KEMA Labs has not verified these drawings and/or documents.

Katalog HEA Systém pro utěsnění zemnění (HEA ISS M16/75)	-

HV switchgear:
The manufacturer has guaranteed that the object submitted for tests has been manufactured in accordance with the following drawings and/or documents, supplied by them. KEMA Labs has verified that these drawings and/or documents adequately represent the object tested. The manufacturer is responsible for the correctness of these drawings and/or documents and the technical data presented. KEMA Labs makes no representations or warranties regarding the accuracy of the drawings or that the drawings meet any applicable industry standards or legal or regulatory requirements.

Only the following drawings and/or documents have been included in this report upon request of the client/manufacturer:

Drawing no./document no.	Revision
50681219 (variant 1400 mm, without “6 busbar extension”)	04

The following drawings and/or documents have been verified by KEMA Labs and have been identified by a checksum (CRC32-code) to identify the digital versions of drawings and/or documents (instead of stamped by KEMA Labs and returned to the manufacturer):

Drawing no./document no.	Revision	CRC32-code
50600403	11	4DC7A81E
50600413	12	48B1BB54
95305303	6	98FC7BB5
95305343	10	A3999640
50600373	12	D3F39C96
50620513	3	F4B06F10
50610593	1	D3F33484
50610583	2	644B22A4
50620863	1	9874ED65
50610353	8	94072DAA
50620873	3	A8B3750E
50601623	3	3E39CA5D
50620343	9	DA1E8C12
50610083	24	D8E9467A
50630103	24	EF435044
50630503	8	991389EE
50630683	2	6562ADCB
50003343	3	714BD524
50602383	2	5CB802BF
50611023	4	88A99EAD
50650823	7	2F0CF707
50650873	3	48A9D91A
50650893	2	63FEEF70
50650123	15	449DD7D5
50650543	5	444BCE0A
50650973	8	7A79814E
50650963	6	8B677F1A
50650983	8	8FF6DE7B
50653633	4	46B0624E
50652113	2	D6768D54
50650583	6	CC6577CC
50654250	3	B55E6765

2 GENERAL INFORMATION

2.1 The tests were witnessed by

Name	Company
Milan Kadleček	MK Chýnov s.r.o., Praha 3, the Czech Republic

2.2 The tests were carried out under responsibility of

Name	Company
Jan Štangler	Zkušebnictví, a.s., Prague, the Czech Republic
The report was authorized by	
Martin Vaniš	Zkušebnictví, a.s., Prague, the Czech Republic

2.3 Accuracy of measurement and decision rule

The decision rule in conformity assessment is based on the 'simple acceptance method' according to ILAC-G8:09/2019.

The guaranteed uncertainty for the measured voltages and currents during short-circuit, making and breaking tests, taking into account the total measuring system, is less than 5%, unless mentioned otherwise.

The reported expanded uncertainties of measurements are stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a probability of approximately 95%. Determination is based on JCGM 100:2008.

2.4 Notes

Laboratory activities site: Zkušebnictví, a.s. - KEMA Labs, Podnikatelská 547, Prague 9, the Czech Republic.
The results apply to the sample as received.

The test was recorded on regular-speed video and on high-speed video.

3 TESTS CARRIED OUT

Tests carried out	Specification	(Sub)clause
Internal Arc Test (accessibility A) 20 kA / 1 s	IEC 62271-202:2022	subclause 7.102, Annex A
Internal Arc Test (accessibility B) 20 kA / 1 s	IEC 62271-202:2022	subclause 7.102, Annex A

4 LEGEND

Phase indications

If more than one phase is recorded on oscillogram, the phases are indicated by the digits 1, 2 and 3. These phases 1, 2 and 3 correspond to the phase values in the columns of the accompanying table, respectively from left to right.

Explanation of the letter symbols and abbreviations on the oscillograms

pu	Per unit (the reference length of one unit is represented by the black bar on the oscillogram)
I1TO	Current through test object
I2TO	Current through test object
I3TO	Current through test object
U1TO	Voltage across test object
U2TO	Voltage across test object
U3TO	Voltage across test object

5 CHECKING OF THE TEST CURRENT

Standard and date

Standard	IEC 62271-202, subclause 7.102, Annex A
Test date	August 6, 2024

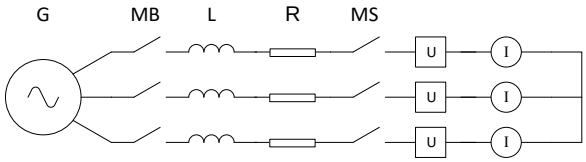
Serial No.

-

5.1 Condition before test

-

5.2 Test circuit S01



G	= Generator	L	= Reactor	U	= Voltage Measurement to earth
MB	= Master Breaker	R	= Resistor	I	= Current Measurement
MS	= Make Switch				

Supply		
Power	MVA	460,73
Frequency	Hz	50
Phase(s)		3
Voltage	kV	13,3
Current	kA	20
Impedance	Ω	0,384
Power factor		< 0,1
Neutral		not earthed

Load	
Short-circuit point	not earthed

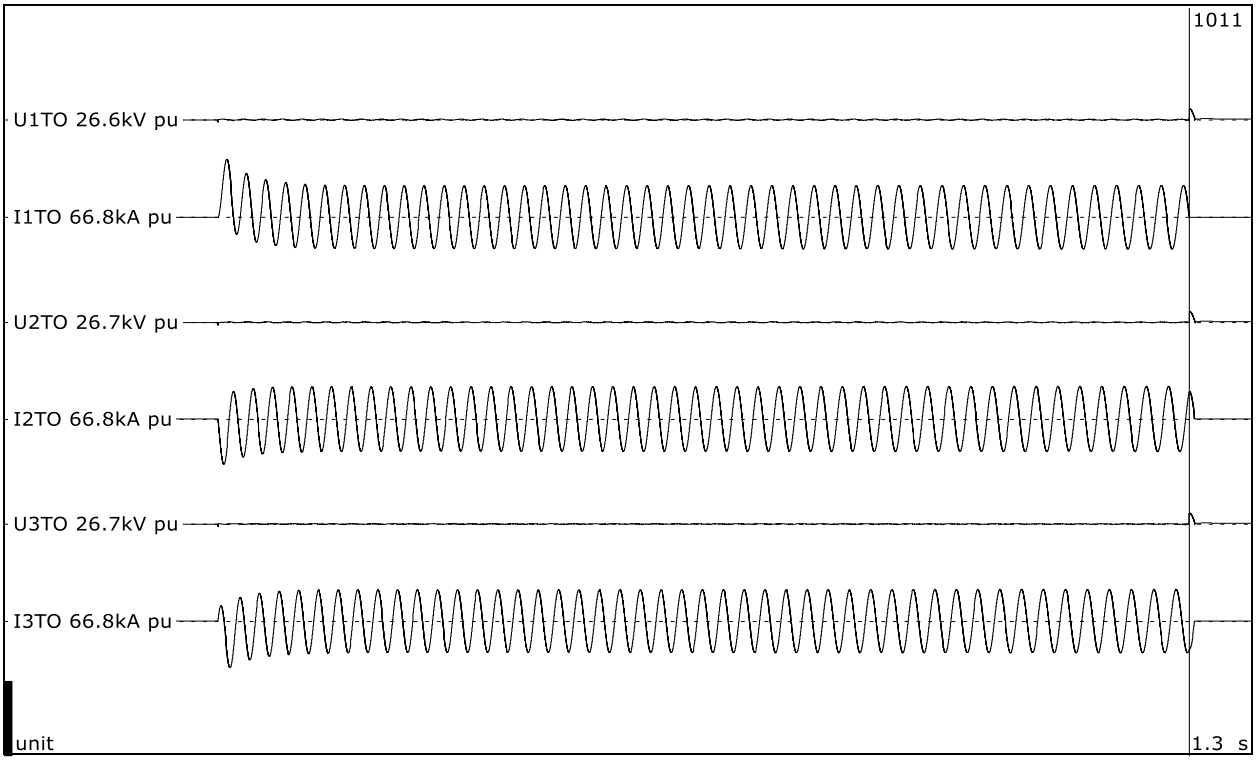
Remarks: -

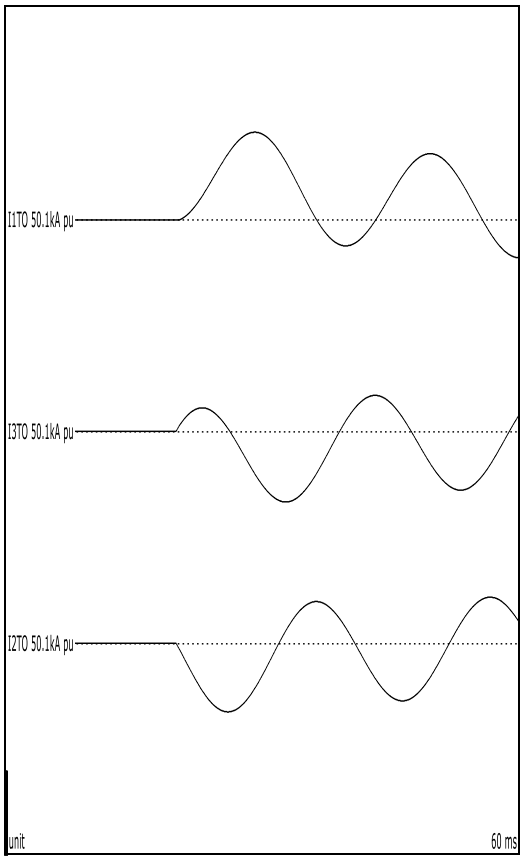
5.3 Test results and oscillograms

Overview of test numbers
240806-1011

Remarks
-

Checking of the test current





Test number: **240806-1011**

Phase		R	S	T
Applied voltage, phase-to-ground	kV_{RMS}	-	-	-
Applied voltage, phase-to-phase	kV_{RMS}	13,3		
Current	kA_{peak}	51,7	-40,4	-41,6
Current, a.c. component, the first three half-cycles	kA_{RMS}	21,4	21,9	20,9
Current, a.c. component, middle	kA_{RMS}	20,0	20,5	19,9
Current, a.c. component, the last three half-cycles	kA_{RMS}	20,1	20,6	20,0
Current, a.c. component, average	kA_{RMS}	20,3	20,8	20,1
Current, a.c. component, three-phase average	kA_{RMS}	20,4		
Duration	s	1,01	1,01	1,01
Arc energy	MJ	-		
Ratio of I×t		-		

Observations: -

6 INTERNAL ARC TEST (ACCESSIBILITY A)

Standard and date

Standard	IEC 62271-202, subclause 7.102, Annex A
Test date	August 6, 2024

Serial No.
2410903 (HV/LV substation) and CV 570389-000030/001 (HV switchgear)

6.1 Condition before test

Test object (HV/LV substation) after short-time withstand current and peak withstand current test on earthing circuits. HV switchgear new.

Supply through bottom of the HV/LV substation to the middle unit of HV switchgear.
Connection to the test circuit by one Cu cable per phase, each with a cross-section of 240 mm2.

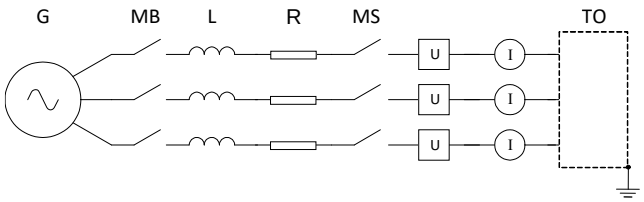
Pole L1 connected to the phase T of the laboratory.
Pole L2 connected to the phase S of the laboratory.
Pole L3 connected to the phase R of the laboratory.

Enclosure earthed.

Indicators:
Accessibility type A. Black cretonne (cotton 150 g/m²) used for the indicators.
Indicators placed at the front side (classified sides: F).
The vertical indicators placed up to the height of 2000 mm above the floor at the distance of 300 mm in front of switchgear assembly.
The horizontal indicators placed at the height of 2000 mm above the floor, at the distance between 300 mm and 800 mm from the switchgear assembly.

Arc initiation point:
Bushing terminals in the switching compartment (left-hand unit).
Three-phase arc initiation by means of a copper wire of 0,5 mm in diameter, placed at the manufacturer's site.

6.2 Test circuit S02



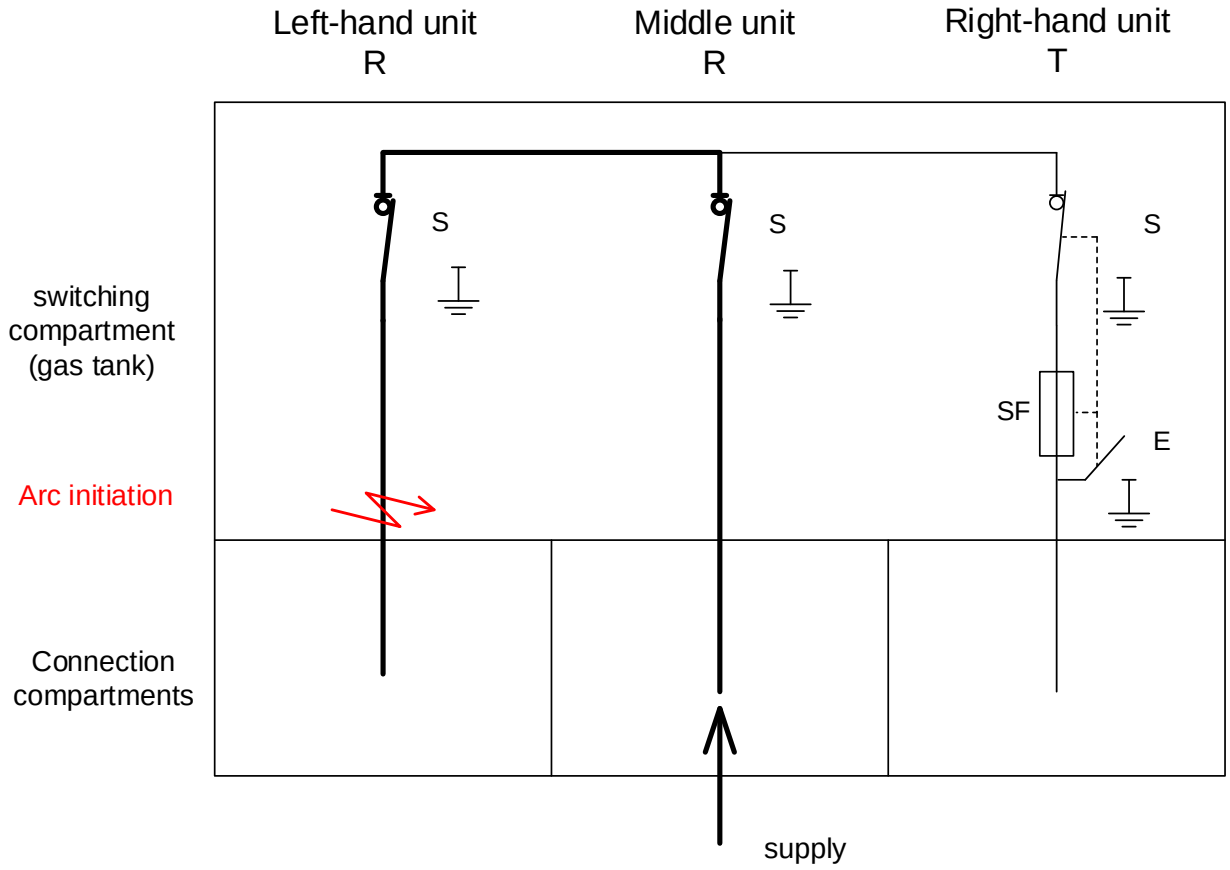
G	= Generator	TO	= Test Object	U	= Voltage Measurement to earth
MB	= Master Breaker	L	= Reactor	I	= Current Measurement
MS	= Make Switch	R	= Resistor		

Supply		
Power	MVA	464,19
Frequency	Hz	50
Phase(s)		3
Voltage	kV	13,4
Current	kA	20
Impedance	Ω	0,387
Power factor		< 0,1
Neutral		not earthed

Load	
Short-circuit point	earthed

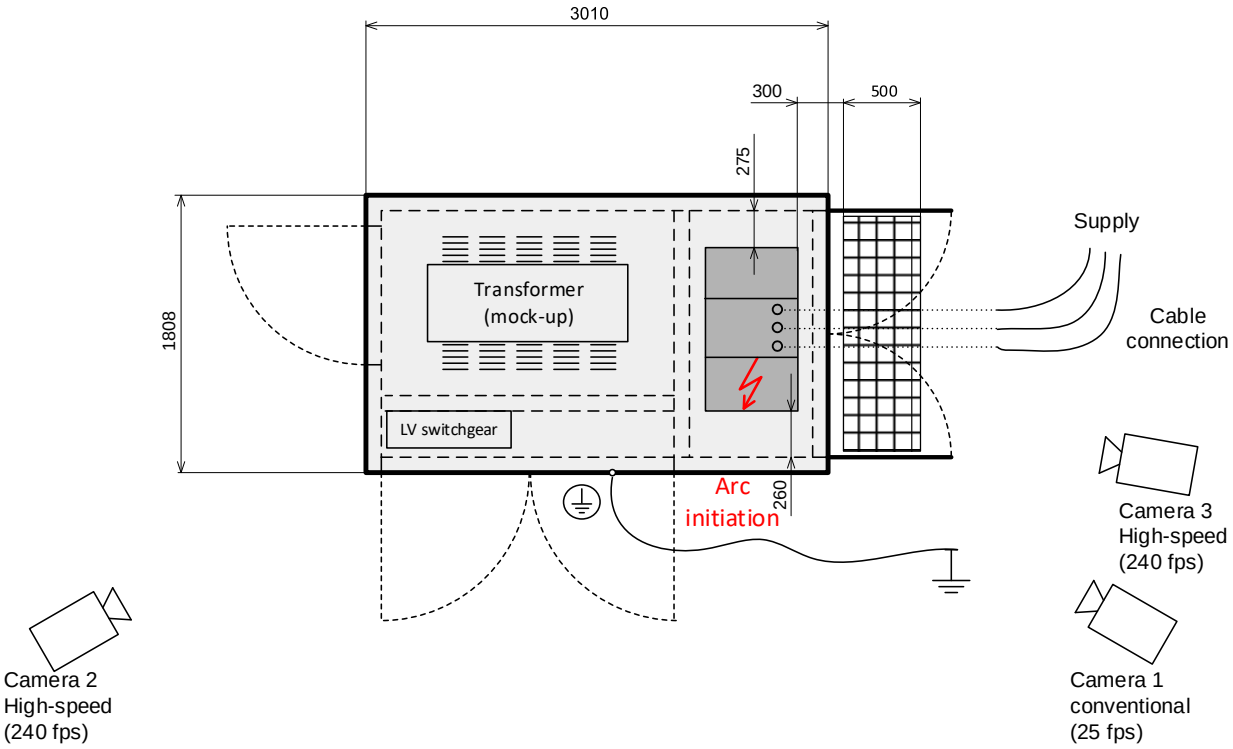
Remarks: -

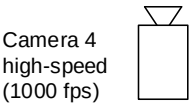
6.3 Test arrangement



S – Switch-disconnector (positions – closed, open, earthed)
SF – Switch-fuse combination
E – Earthing switch

Top view





LEGEND

HV/LV substation

HV switchgear

Indicators (vertical and horizontal) - black cretonne cotton (approximately 150 g/m^2)

6.4 Photographs before test





Arc initiation on bushing terminals in the switching compartment (left-hand unit)



LV compartment



Mock-up of the transformer



Sealing above the doors





Left lateral side and front side



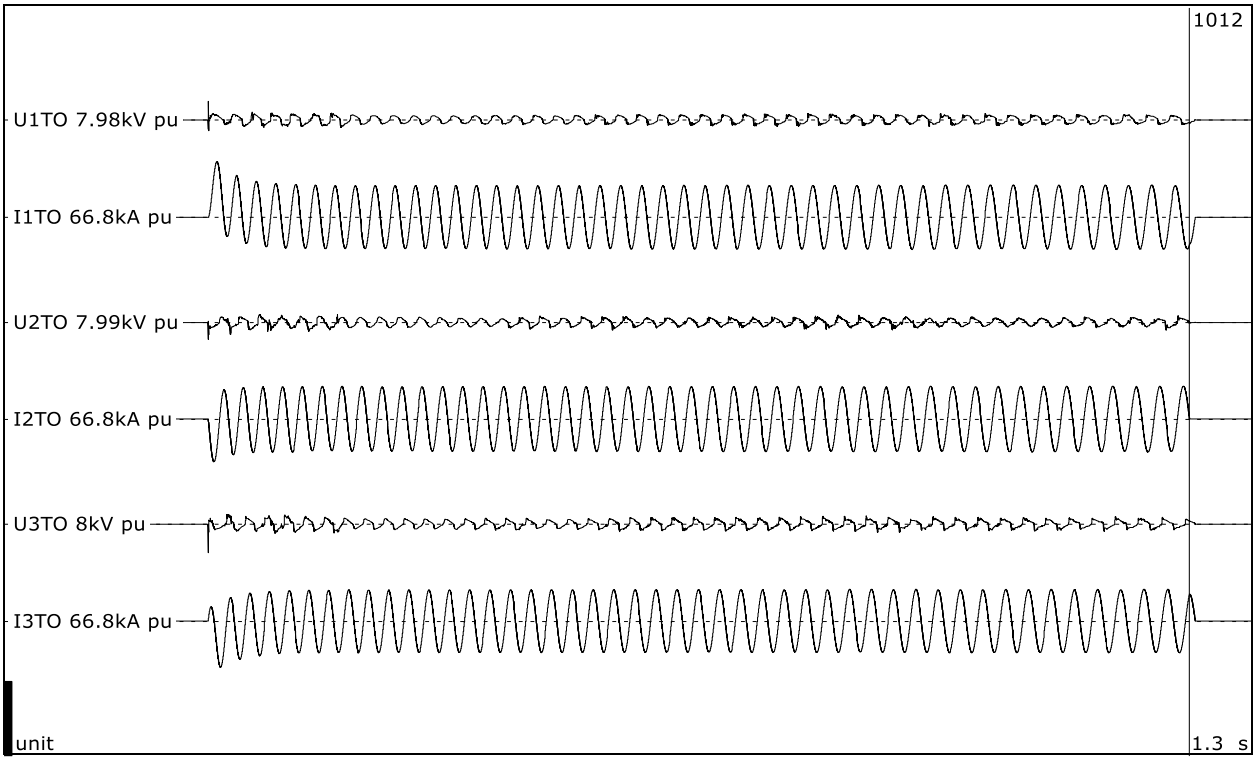
Right lateral side and rear side

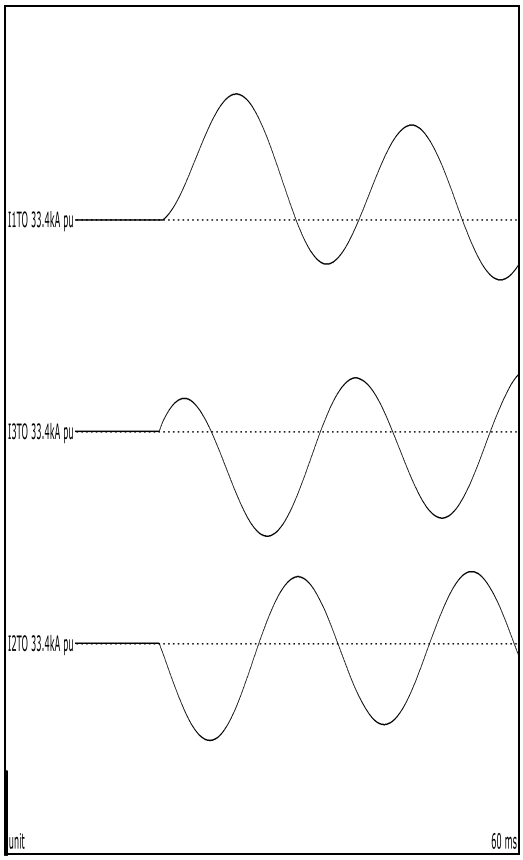
6.5 Test results and oscillograms

Overview of test numbers
240806-1012

Remarks
-

Internal arc test (accessibility A)





Test number: **240806-1012**

Phase		R	S	T
Applied voltage, phase-to-ground	kV_{RMS}	-	-	-
Applied voltage, phase-to-phase	kV_{RMS}	13,4		
Current	kA_{peak}	49,5	-38,2	-41,2
Current, a.c. component, the first three half-cycles	kA_{RMS}	21,5	21,7	20,6
Current, a.c. component, middle	kA_{RMS}	20,1	20,6	19,8
Current, a.c. component, the last three half-cycles	kA_{RMS}	20,2	20,6	20,0
Current, a.c. component, average	kA_{RMS}	20,3	20,7	20,0
Current, a.c. component, three-phase average	kA_{RMS}	20,3		
Duration	s	1,02	1,02	1,02
Arc energy	MJ	20,2		
Ratio of I×t		1,04		

Observations: Emission of flames and gas observed towards front side, left lateral side, rear side, right lateral side and bottom of the substation (around the cables).
The arc moved to right-hand unit and the fuse-links operated to open the switch-disconnector.

6.6 Condition/inspection after test

Criterion 1: Fulfilled.
Criterion 2: Fulfilled.
Criterion 3: Fulfilled.
Criterion 4: Fulfilled.
Criterion 5: Fulfilled.

Visual inspection:
No visible deformation of HV switchgear.

6.7 Photographs after test





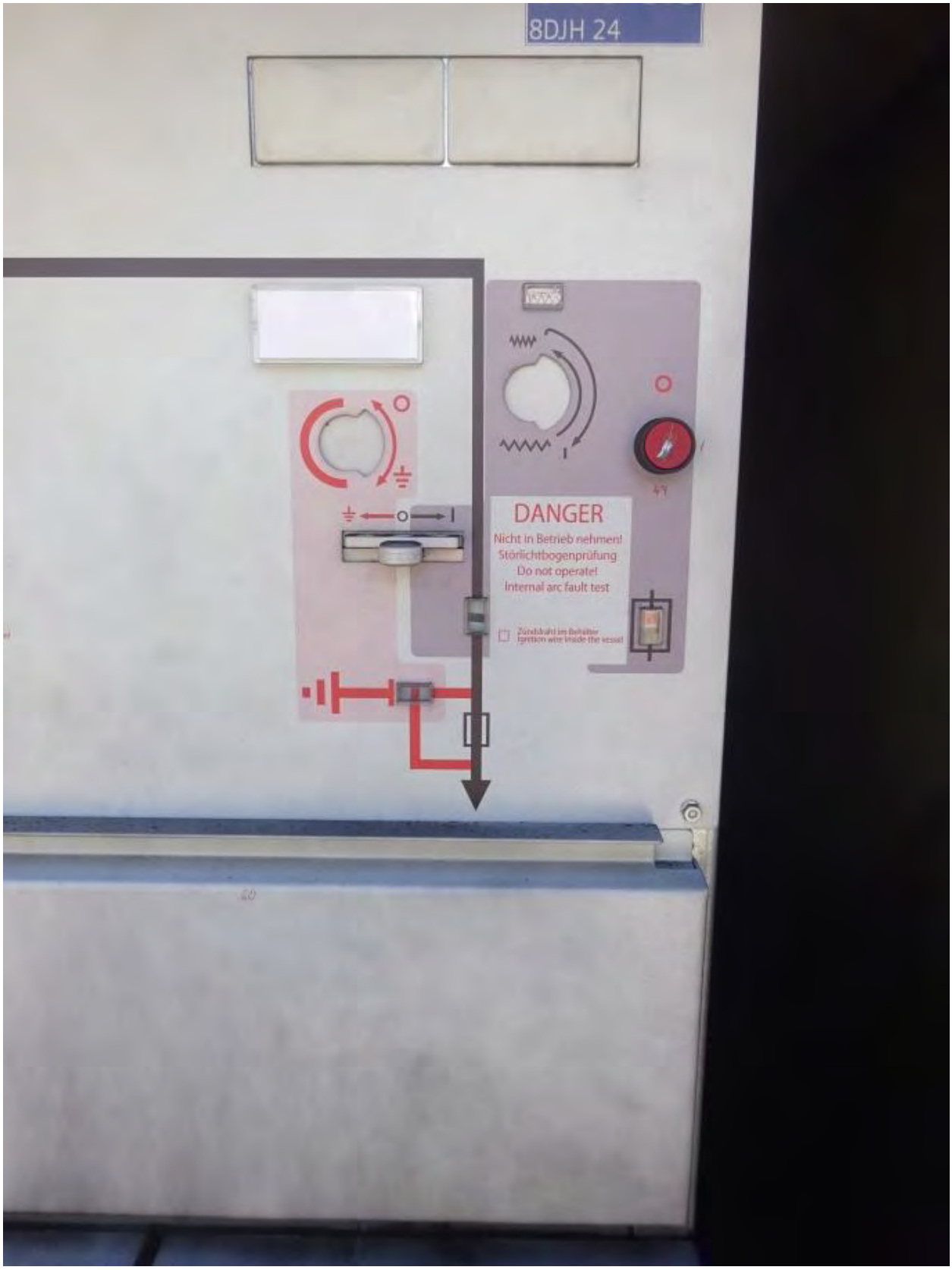
Rear side and left lateral side



Right lateral side and rear side



HV switchgear after test



Fuse links operated to open switch-disconnector

7 INTERNAL ARC TEST (ACCESSIBILITY B)

Standard and date

Standard	IEC 62271-202, subclause 7.102, Annex A
Test date	August 7, 2024

Serial No.
2410903 (HV/LV substation) and CV 570389-000020/001 (HV switchgear)

7.1 Condition before test

Test object (HV/LV substation) in same condition. HV switchgear new.
Fuse-links not inserted in the fuse casings.

Supply through bottom of the HV/LV substation to the middle unit of HV switchgear.
Connection to the test circuit by one Cu cable per phase, each with a cross-section of 240 mm2.

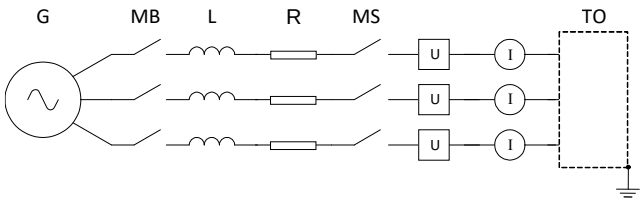
Pole L1 connected to the phase T of the laboratory.
Pole L2 connected to the phase S of the laboratory.
Pole L3 connected to the phase R of the laboratory.

Enclosure earthed.

Indicators:
Accessibility type B. Black cretonne (cotton 40 g/m²) used for the indicators.
Indicators placed around the prefabricated substation.
The vertical indicators placed up to a height of 100 mm above the substation at a distance of 100 mm from substation.
The horizontal indicators placed at a height of 100 mm above the substation.

Arc initiation point:
Bushing terminals in the switching compartment (left-hand unit).
Three-phase arc initiation by means of a copper wire of 0,5 mm in diameter, placed at the manufacturer's site.

7.2 Test circuit S02



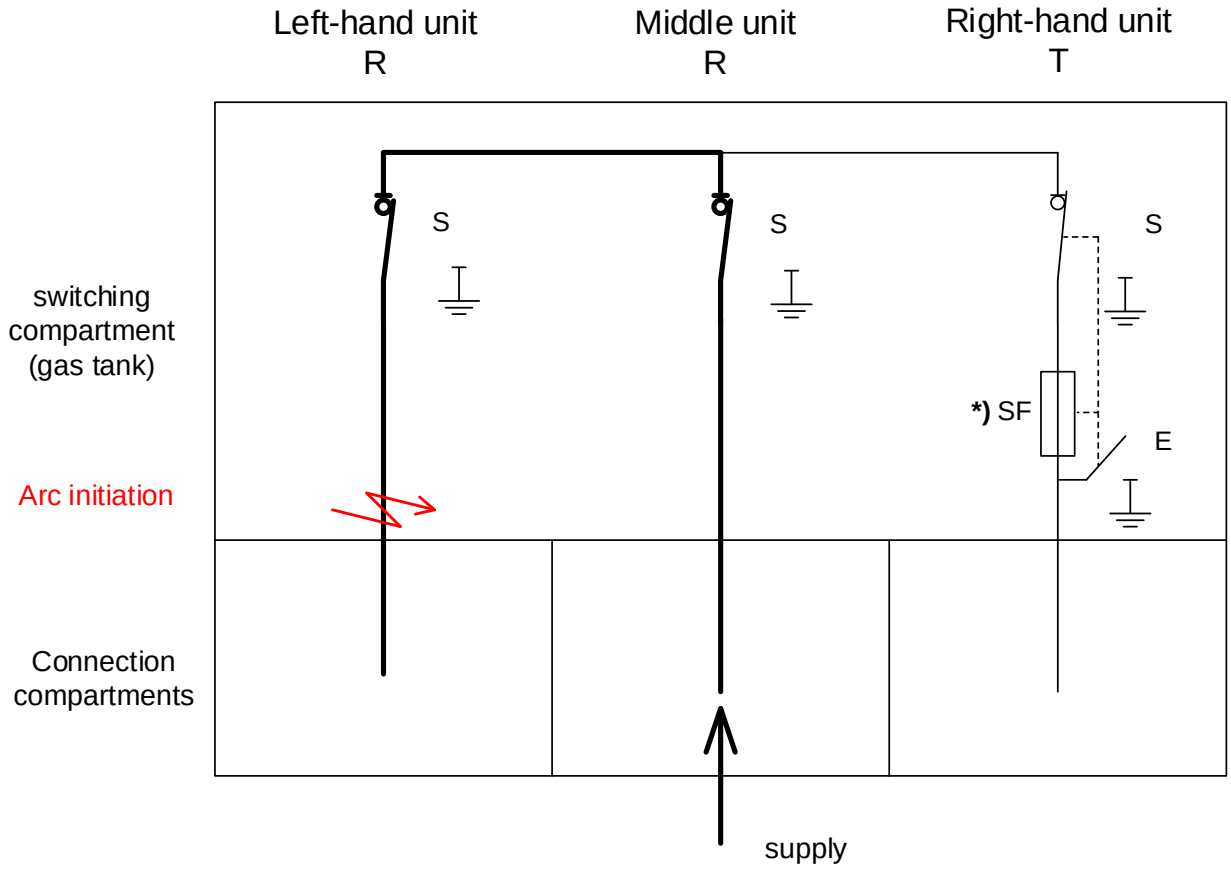
G	= Generator	TO	= Test Object	U	= Voltage Measurement to earth
MB	= Master Breaker	L	= Reactor	I	= Current Measurement
MS	= Make Switch	R	= Resistor		

Supply		
Power	MVA	464,19
Frequency	Hz	50
Phase(s)		3
Voltage	kV	13,4
Current	kA	20
Impedance	Ω	0,387
Power factor		< 0,1
Neutral		not earthed

Load	
Short-circuit point	earthed

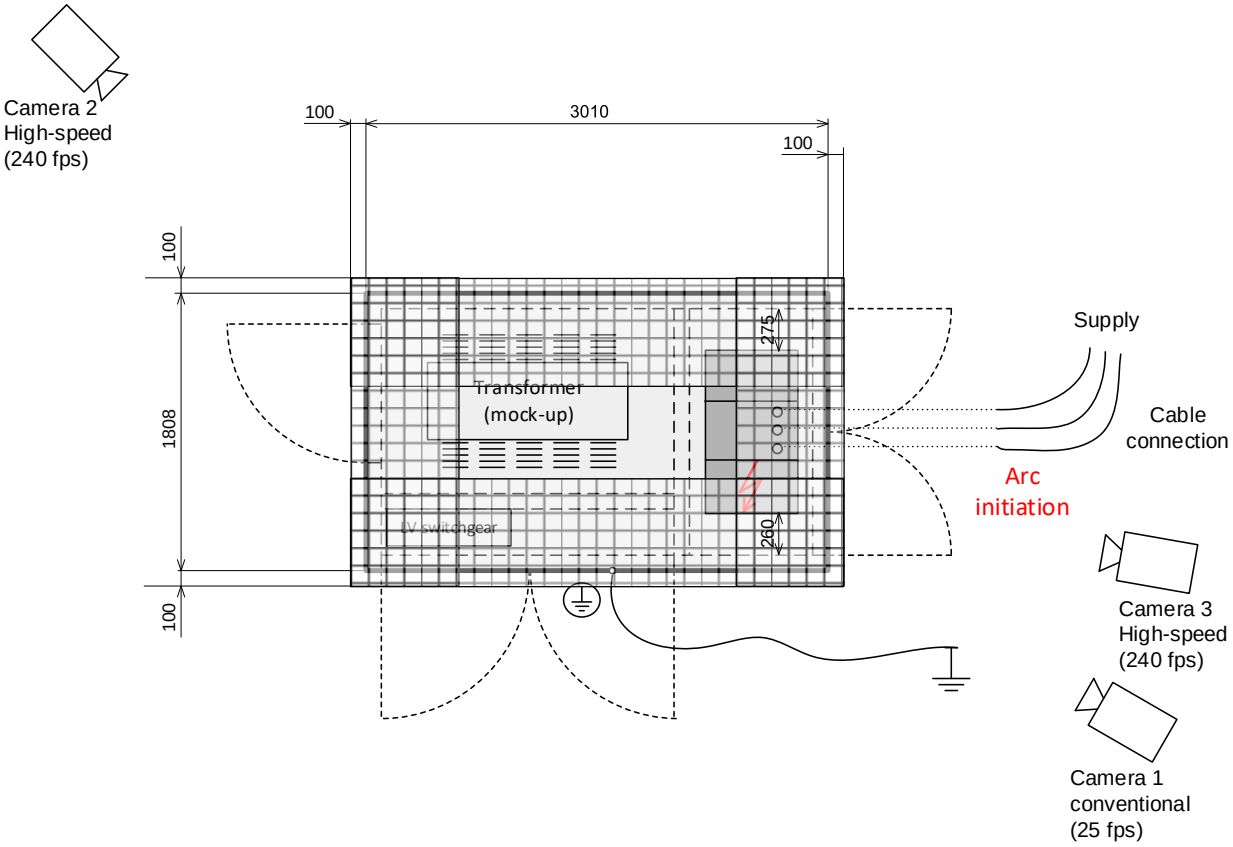
Remarks: -

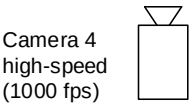
7.3 Test arrangement



S – Switch-disconnector (positions – closed, open, earthed)
SF – Switch-fuse combination, ***)** without inserted fuse links
E – Earthing switch

Top view





LEGEND

HV/LV substation

HV switchgear

Indicators (vertical and horizontal) - black cretonne cotton (approximately 40 g/m^2)

7.4 Photographs before test





Arc initiation on bushing terminals in the switching compartment (left-hand unit)



Left lateral side and front side



Right lateral side and rear side



Left lateral side and front side indicators



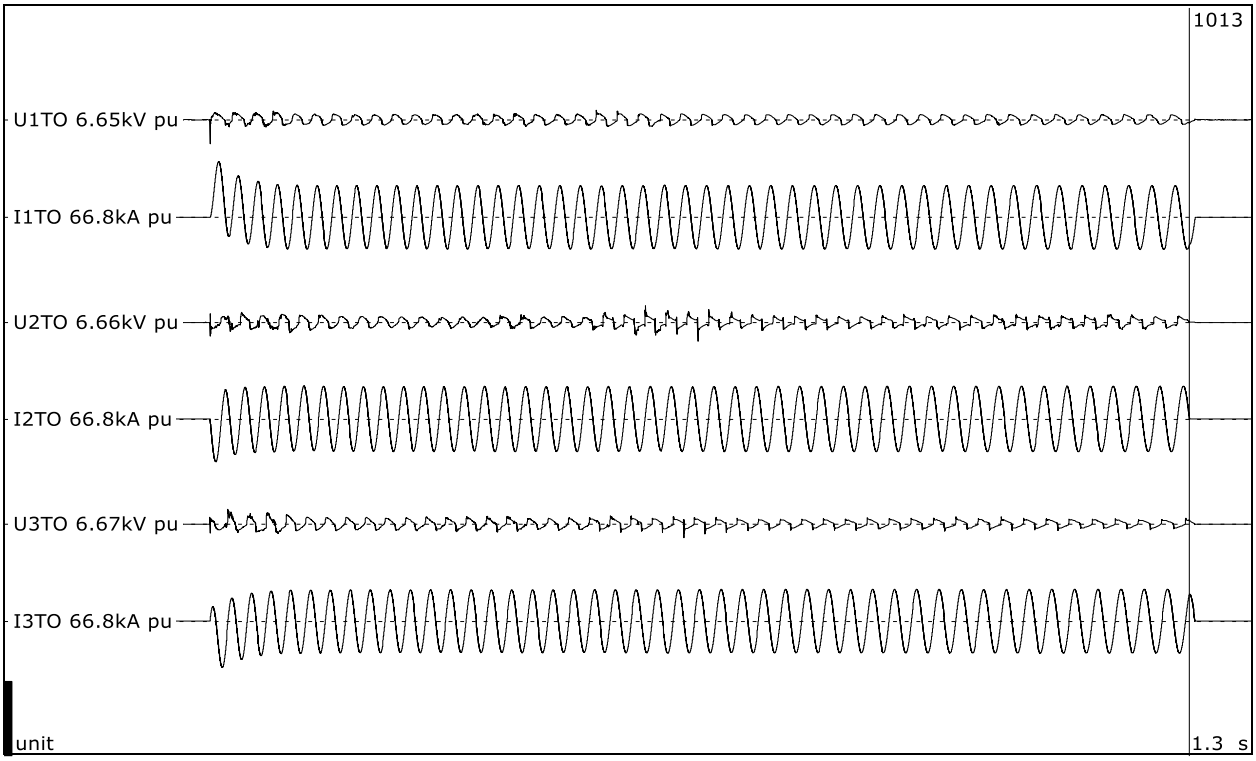
Right lateral side and rear side indicators

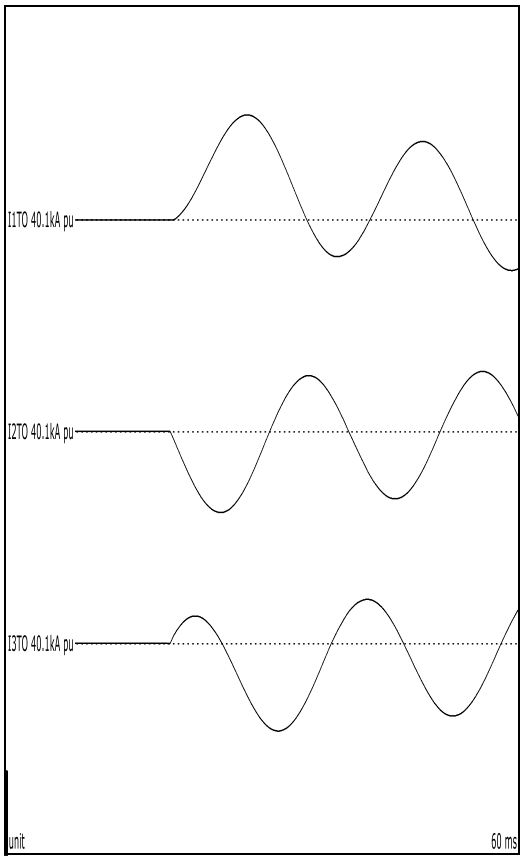
7.5 Test results and oscillograms

Overview of test numbers
240807-1013

Remarks
-

Internal arc test (accessibility B)





Test number: **240807-1013**

Phase		R	S	T
Applied voltage, phase-to-ground	kV_{RMS}	-	-	-
Applied voltage, phase-to-phase	kV_{RMS}	13,4		
Current	kA_{peak}	49,5	-38,2	-41,3
Current, a.c. component, the first three half-cycles	kA_{RMS}	21,4	21,7	20,6
Current, a.c. component, middle	kA_{RMS}	20,1	20,6	20,0
Current, a.c. component, the last three half-cycles	kA_{RMS}	20,2	20,7	20,2
Current, a.c. component, average	kA_{RMS}	20,3	20,7	20,1
Current, a.c. component, three-phase average	kA_{RMS}	20,4		
Duration	s	1,02	1,02	1,02
Arc energy	MJ	18,3		
Ratio of I×t		1,04		

Observations: Emission of flames and gas observed towards front side, left lateral side, rear side and right lateral side.
The arc moved to right-hand unit.

7.6 Condition/inspection after test

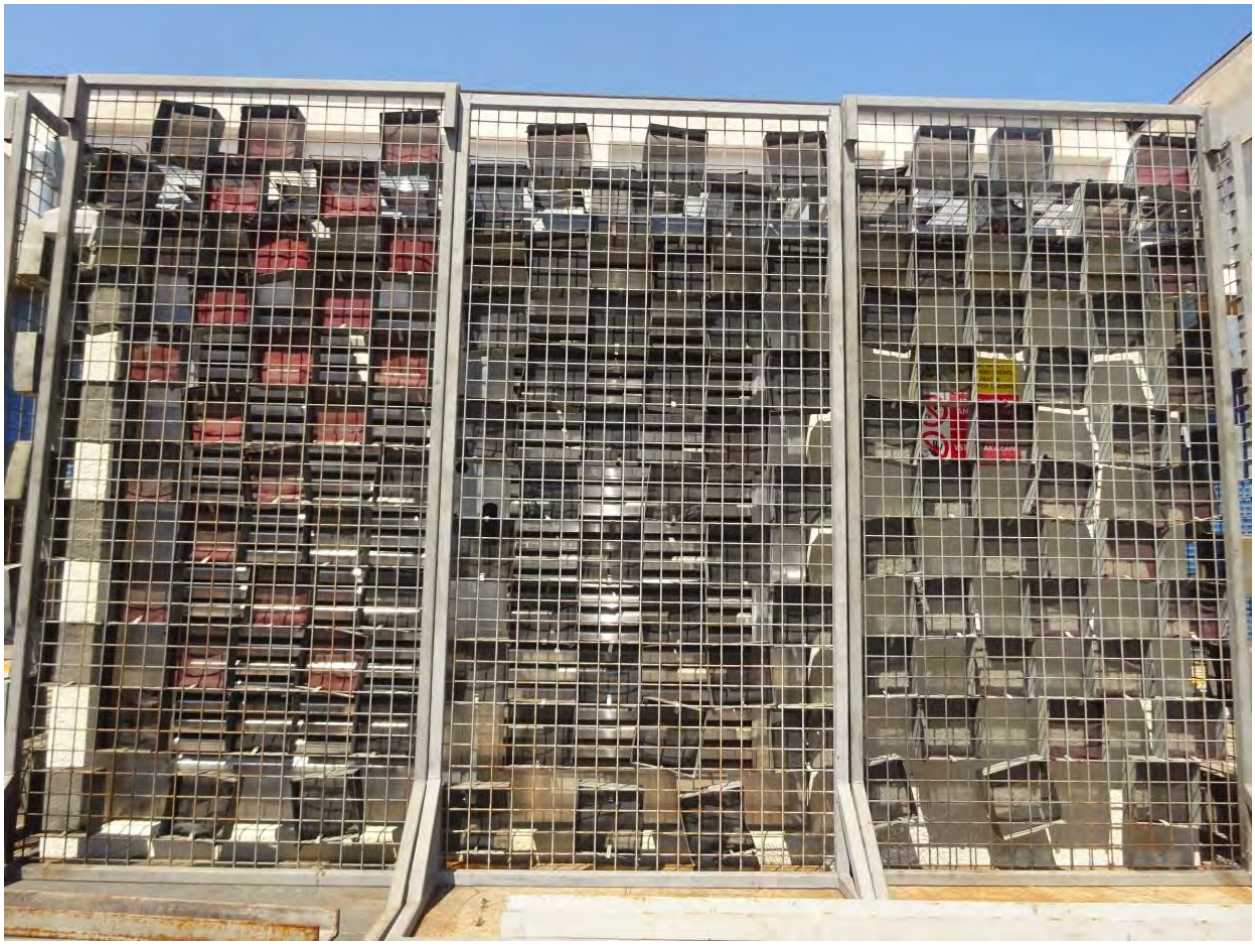
Criterion 1: Fulfilled.
Criterion 2: Fulfilled.
Criterion 3: Fulfilled.
Criterion 4: Fulfilled.
Criterion 5: Fulfilled.

Visual inspection:
Deformations of the front side doors of the HV/LV substation.

7.7 Photographs after test



Front side indicators



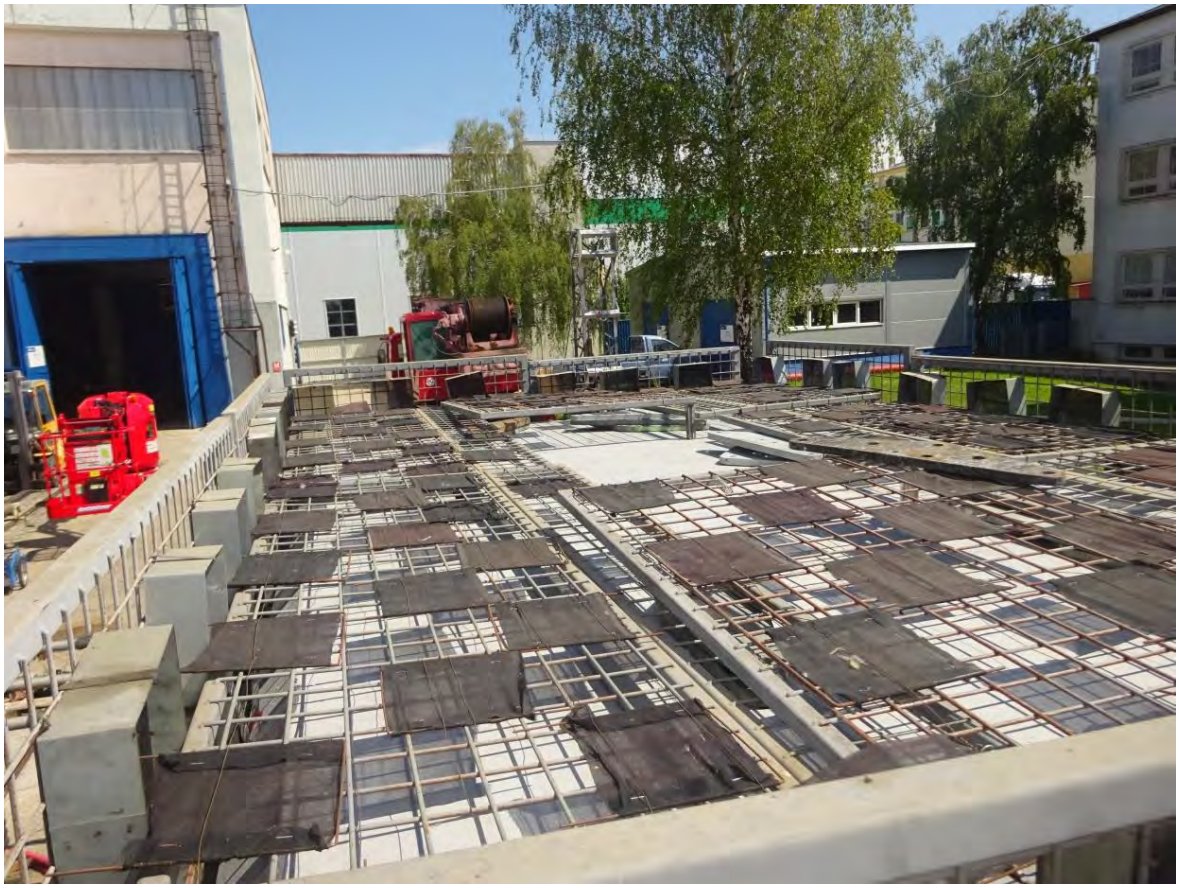
Left lateral side indicators



Rear side indicators



Right lateral side indicators





Horizontal indicators



Front side – deformations of the doors



Left lateral side


VYSOKÉ NAPĚTÍ
ŽIVOTU NEBEZPEČNÉ
DOTÝKAT SE
ELEKTRICKÝCH ZAŘÍZENÍ !
NEHAS VODOU
ANI PĚNOVÝMI
PŘÍSTROJI !
VSTUP ZAKÁZÁN !

Rear side

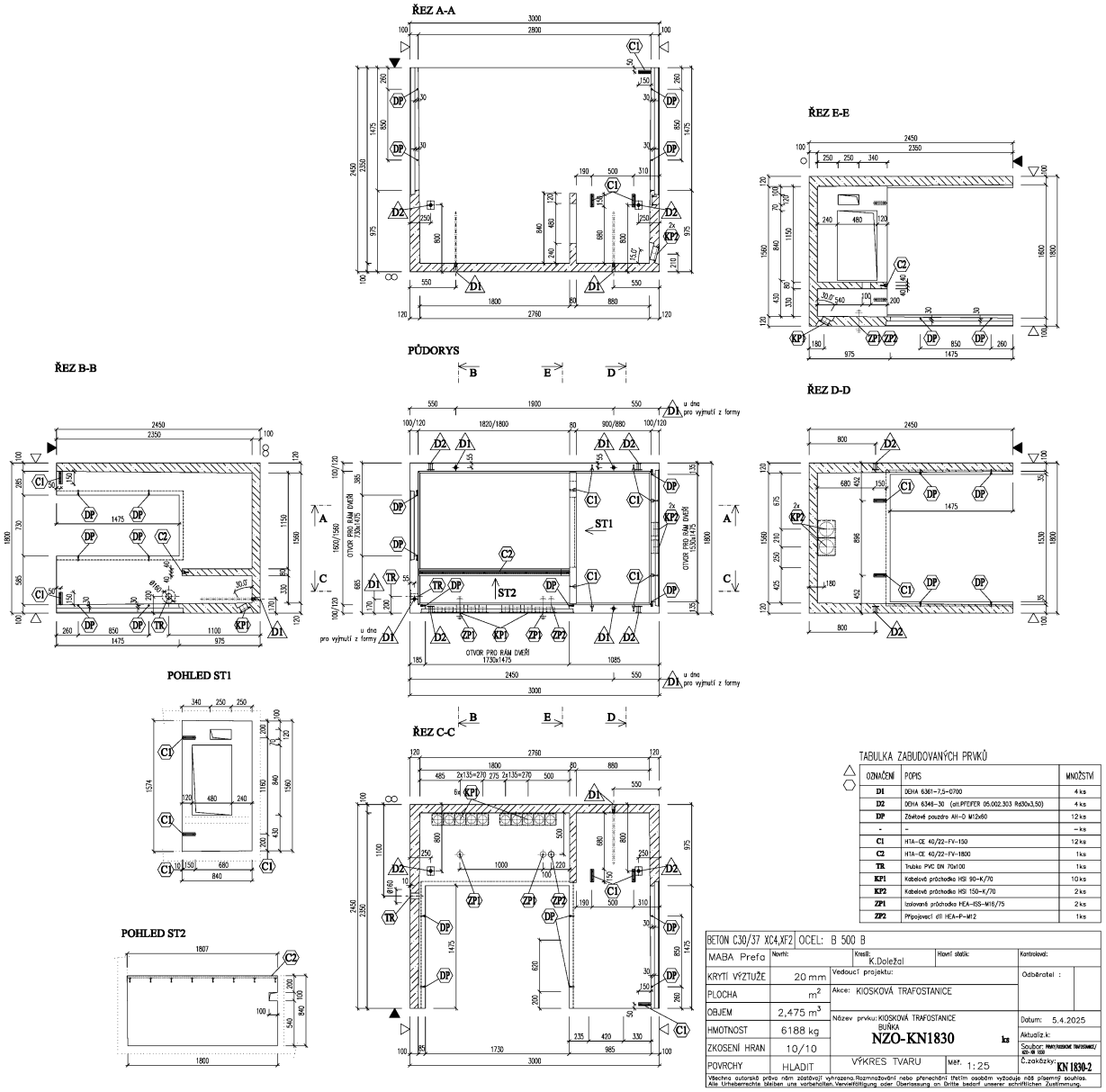


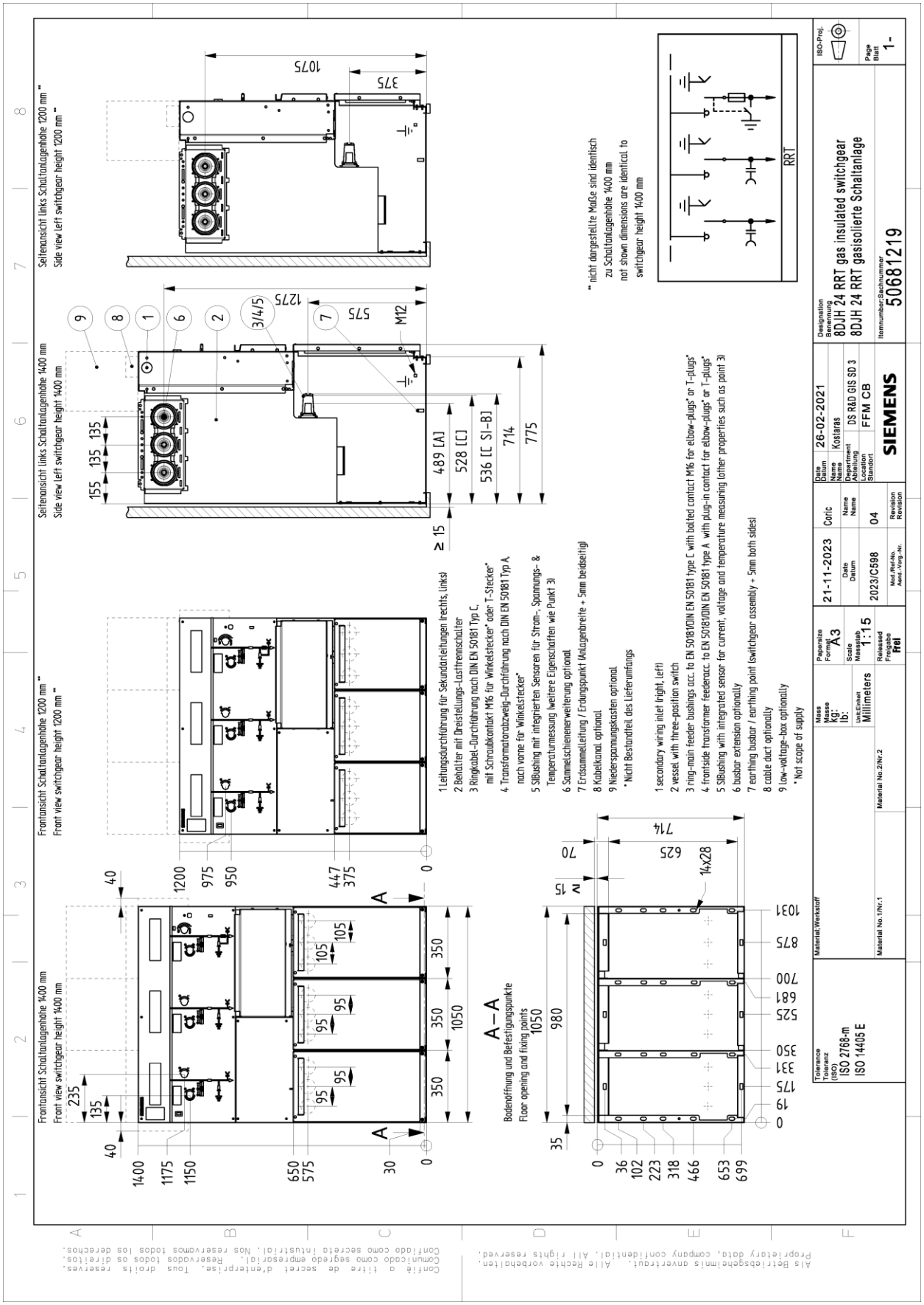
Right lateral side



HV switchgear after test

8 DRAWINGS


ŘEZ A-A
ŘEZ E-E
ŘEZ B-B
PŮDORYS
ŘEZ D-D
POHLED ST1
ŘEZ C-C
POHLED ST2
TABULKA ZABUDOVANÝCH PRVKŮ
OZNAČENÍ | POPIS | MNOŽSTVÍ
D1 | DOHA 6361-7,5-0700 | 4 ks
D2 | DOHA 6348-30 (alt.PFEIFER 05.002.303 R630x3,50) | 4 ks
DP | Závitové pouzdro AH-D M12x60 | 12 ks
- | - | - ks
C1 | HTA-CE 40/22-FV-150 | 12 ks
C2 | HTA-CE 40/22-FV-1800 | 1 ks
TR | Trubka PVC DN 70x100 | 1 ks
KP1 | Kabelová průchodka HSI 90-K/70 | 10 ks
KP2 | Kabelová průchodka HSI 150-K/70 | 2 ks
ZP1 | Izolovaná průchodka HEA-ESS-M16/75 | 2 ks
ZP2 | Připojovací díl HEA-P-M12 | 1 ks
BETON C30/37 XC4,XF2 | OCEL: B 500 B
MABA Prefa
KRYTÍ VÝZTUŽE 20 mm
PLOCHA m²
OBJEM 2,475 m³
HMOTNOST 6188 kg
ZKOSENÍ HRAN 10/10
POVRCHY HLADIT
Navrhl:
Kreslil: K.Doležal
Hlavní statik:
Kontroloval:
Vedoucí projektu:
Odběratel :
Akce: KIOSKOVÁ TRAFOSTANICE
Název prvku: KIOSKOVÁ TRAFOSTANICE BUŇKA
NZO-KN1830
Datum: 5.4.2025
Aktualiz.k:
VÝKRES TVARU
Měř. 1:25
Č.zakázky: KN 1830-2


Seitenansicht links Schaltanlagenhöhe 1200 mm *
Side view left switchgear height 1200 mm *
Seitenansicht links Schaltanlagenhöhe 1400 mm
Side view left switchgear height 1400 mm
Frontansicht Schaltanlagenhöhe 1200 mm *
Front view switchgear height 1200 mm *
Frontansicht Schaltanlagenhöhe 1400 mm
Front view switchgear height 1400 mm
A–A
Bodenöffnung und Befestigungspunkte
Floor opening and fixing points
* nicht dargestellte Maße sind identisch zu Schaltanlagenhöhe 1400 mm
not shown dimensions are identical to switchgear height 1400 mm
1 Leitungsdurchführung für Sekundärleitungen (rechts, links)
2 Behälter mit Dreistellungs-Lasttrennschalter
3 Ringkabel-Durchführung nach DIN EN 50181 Typ C, mit Schraubkontakt M16 für Winkelstecker* oder T-Stecker*
4 Transformatorabzweig-Durchführung nach DIN EN 50181 Typ A, nach vorne für Winkelstecker*
5 SIBushing mit integrierten Sensoren für Strom-, Spannungs- & Temperaturmessung (weitere Eigenschaften wie Punkt 3)
6 Sammelschienenerweiterung optional
7 Erdsammelleitung / Erdungspunkt (Anlagenbreite + 5mm beidseitig)
8 Kabelkanal optional
9 Niederspannungskasten optional
* Nicht Bestandteil des Lieferumfangs
1 secondary wiring inlet (right, left)
2 vessel with three-position switch
3 ring-main feeder bushings acc. to EN 50181/DIN EN 50181 type C with bolted contact M16 for elbow-plugs* or T-plugs*
4 frontside transformer feederacc. to EN 50181/DIN EN 50181 type A with plug-in contact for elbow-plugs* or T-plugs*
5 SIBushing with integrated sensor for current, voltage and temperature measuring (other properties such as point 3)
6 busbar extension optionally
7 earthing busbar / earthing point (switchgear assembly + 5mm both sides)
8 cable duct optionally
9 low-voltage-box optionally
* Not scope of supply
RRT
Tolerance
Toleranz
(ISO)
ISO 2768-m
ISO 14405 E
Material/Werkstoff
Material No.1/Nr.1
Material No.2/Nr.2
Mass
Masse
Kg:
lb:
Unit/Einheit
Millimeters
Papersize
Format
A3
Scale
Massstab
1:15
Released
Freigabe
rel
21-11-2023
Date
Datum
2023/C598
Mod./Ref.-No.
Aend.-Vorg.-Nr.
Coric
Name
04
Revision
Revision
Date
Datum
26-02-2021
Name
Name
Kostaras
Department
Abteilung
DS R&D GIS SD 3
Location
Standort
FFM CB
SIEMENS
Designation
Benennung
8DJH 24 RRT gas insulated switchgear
8DJH 24 RRT gasisolierte Schaltanlage
Itemnumber/Sachnummer
50681219
ISO-Proj.
Page
Blatt
1-
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- CESI S.p.A., Milan, Italy, accredited by ACCREDIA in accordance with ISO/IEC 17025:2017 under no. 0030L.
- FGH Engineering & Test GmbH, Mannheim, Germany, accredited by DAkkS in accordance with DIN EN ISO/IEC 17025:2018 under no. D-PL-12110-01-00.
- IPH Institut "Prüffeld für elektrische Hochleistungstechnik" GmbH, Berlin, Germany accredited by DAkkS in accordance with DIN EN ISO/IEC 17025: 2018 under nos. D-PL-12107-01-00 and D-K-12107-01-00.
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