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HIGH
POWER
LABORATORY

E-COPY

12 - 006

ZKUŠEBNICTVÍ, a.s.

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Podnikatelská 547, 190 11 Praha 9, Běchovice, Czech Republic

TEST REPORT

No. 12 - 006

Test object : Indoor and outdoor High Voltage Maintenance Aperture's (HVMA) devices installed in the rear doors of ABB HV switchgear and controlgear

Type of switchgear panel : Univer C
Serial No. of switchgear panel : N/A

Ratings (of switchgear panel)

Rated voltage : 24 kV
Rated normal current : 1600 A
Rated frequency : 50 / 60 Hz

Manufacturer : S.P.C. Fabrications Ltd.
Henderson Street, Off Whitelees Road, Littleborough
Lancashire, OL15 8DT, United Kingdom

Test performed : Arcing due to an internal fault

Customer : LMR Technologies Ltd.
The Courtyard, Green Lane, Heywood
Lancashire, OL10 2EX, United Kingdom

Date of test : 24.01. 2012

THIS TEST REPORT IS CONFIDENTIAL AND SHALL NOT BE PASSED OVER OR TRANSFERRED TO ANY THIRD PARTY WITHOUT WRITTEN APPROVAL OF THE CUSTOMER.
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Praha 9, Běchovice

Copy No.: E

Tested by: 07.03.2012

Stangler
Jan Štangler



Robert Jech
Robert Jech
Head of the Laboratory



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Description of the test object

The High Voltage Maintenance Aperture (HVMA) devices intended for installation in the doors of HV switchgear and controlgear to be used in indoor and/or outdoor applications. The HVMA devices serve for inspecting and maintaining electrical equipment and switchgear.

The test object consists of four HVMA units, two units in the "locked" position, and two units equipped with two maintenance slides, the first one represents Observational Maintenance Slide and the second one represents Partial Discharge Maintenance Slide.

The test objects were installed in the rear doors of three-phase metal-enclosed air insulated HV switchgear and controlgear (hereinafter switchgear). The switchgear consists of one functional unit consisting of busbar compartment, circuit-breaker compartment and circuit compartment (cable compartment) equipped with current transformers. The top of the functional unit is covered by riveted blow-out covers.

The test object was identified according to the manufacturer's brochure – High Voltage Maintenance Aperture and drawing No. LMR M100007.

Ratings assigned by the manufacturer

Type	: HVMA Indoor, HVMA Outdoor
Serial No.	: N/A
Manufacturer	: S.P.C. Fabrications Ltd., United Kingdom
Year of manufacture	: 2011
Represent maintenance slide	: Observational Maintenance Slide Partial Discharge Maintenance Slide

HV switchgear and controlgear

Type	: Univer C
Serial No.	: N/A
Manufacturer	: ABB, Germany
Year of manufacture	: 2001
Standard of construction	: IEC 289 (IEC 62271-200)
Rated voltage	: 24 kV
Rated frequency	: 50 / 60 Hz
Rated normal current	: 1600 A
Rated short-time withstand current	: --- kA
Rated duration of short circuit	: --- s
Rated peak withstand current	: --- kA
Dimensions (w x h x d)	: 600 x 2330 x 1939 mm

Test specification

The test was carried out according to the customer's instructions. The test procedure, parameters and test assessment criteria are based on IEC 62271-200:2003, cl. 6.106 and Annex A, accessibility type A (authorized personnel).

Test parameters

Specified peak current	: 50 kA
Specified short-circuit current of internal arc	: 20 kA
Specified arc duration	: 0,1 s
Classification IAC	: AFR

Summary

The test was carried out as required by the test specification with **satisfactory result** – the test under conditions of arcing due to an internal fault on the cable terminals in the cable compartment. All the assessment criteria have been fulfilled.

More details of the test performed are given in the enclosed table and oscillograms.