

## Type Test Certificate

### of Short-Circuit Performance

Test object	Polymer-housed metal-oxide surge arresters
Designation	PA-DM Rated voltage 3 kV to 54 kV ; Rated short-circuit current 20 kA; Rated frequency 50/60 Hz
Manufacturer	JSC "Polymer-Apparat" Ak. Konstantinova Str.,1 195427 Saint-Petersburg – Russia Federation
Tested for	JSC "Polymer-Apparat" Ak. Konstantinova Str.,1 195427 Saint-Petersburg – Russia Federation
Date(s) of tests	October 21, 2016
Tested by	CESI S.p.A. Via Rubattino 54 20134 Milano - Italy

The test object, constructed in accordance with the description, drawings and photographs incorporated in this document has been subjected to the series of proving tests in accordance with STL Guides and:

IEC 60099-4 (2014-06)  
Sub-clause 10.8.10

This Type Test Certificate has been issued by CESI following exclusively the STL Guides.  
The results are shown in the record of Proving Tests and the oscillograms attached hereto. The values obtained and the general performance are considered to comply with the above Standard(s) and to justify the ratings assigned by the Manufacturer as listed on the ratings page.  
The Certificate applies only to the test object. The responsibility for conformity of any equipment having the same designations with that tested rests with the Manufacturer.

This Certificate comprises 5 sheet in total.

January 23, 2017

Beccarini Pierangelo  
B7001207 2925 AUT

The Manager - Arcidiaco Lorenzo  
B7001207 821814 APP

Date of issue

STL Member Laboratory

STL Member Document Digitally Signed

Only integral reproduction of this Certificate, or reproductions of this page accompanied by any page(s) on which are stated the endorsed ratings of the test object, are permitted without written permission from CESI.  
The authenticity of this document is guaranteed by the integrity of hologram.



## STL

The Short-Circuit Testing Liaison (STL) provides a forum for voluntary international collaboration between testing organisations. The basic aim is the harmonised application of IEC and Regional Standards to the type testing of electrical high-voltage power equipment

### LIST OF STL MEMBERS AND RELATED CERTIFICATION BODIES

<u>STL Member</u>	<u>Related Certification Body</u>
<b>CESI *</b> Centro Elettrotecnico Sperimentale Italiano S.p.a. Via Rubattino 54, 20134 Milano MI, Italy	CESI Via Rubattino 54, 20134 Milano MI, Italy
<b>CPRI</b> Central Power Research Institute Post Box No 8066, Prof. Sir C. V. Raman Road Bangalore – 560 080, India	
<b>ESEF</b> Ensemble des Stations d'Essais à Grande Puissance Françaises, EDF-R&D, Avenue des Renardières, 77818 Moret-Sur-Loing Cedex, France	ASEFA 33 avenue du General Leclerc Fontenay aux Roses, France
<b>Intertek (ASTA)</b> Suite 6, 2nd Floor, Hilton House Corporation Street, Rugby, CV21 2DN, England	Intertek Suite 6, 2 <sup>nd</sup> Floor, Hilton House Corporation Street, Rugby, CV21 2DNL, England.
<b>JSTC</b> Japan Short-Circuit Testing Committee c/o The Japan Electrical Manufacturers' Association, 17-4, Ichiban-cho, Chiyoda-ku, Tokyo 102-0082, Japan	
<b>KEMA</b> KEMA Testing, Inspections & Certification Utrechtseweg 310, 6812 AR Arnhem, The Netherlands	KEMA, Certification Business Unit Utrechtseweg 310, 6812 AR Arnhem, The Netherlands.
<b>KERI</b> Korea Electrotechnology Research Institute 12, Bulmosan-ro 10 beon-gil, Seongsan-gu, Changwon-si, Gyeongsangnam-do, 642-120, South Korea	KERI Certification Korea Electrotechnology Research Institute 12, Bulmosan-ro 10 beon-gil, Seongsan-gu, Changwon-si, Gyeongsangnam-do, 642-120, South Korea
<b>PEHLA</b> Gesellschaft für elektrische Hochleistungsprüfungen Hallenweg 40, 68219 Mannheim, Germany	PEHLA Product Certification Hallenweg 40, D-68219 Mannheim, Germany.
<b>SATS</b> Scandinavian Association for Testing of Electric Power Equipment, c/o SINTEF Energy Research AS 7465 Trondheim, Norway	SATS Certification c/o SINTEF Energy Research, 7465, Trondheim, Norway
<b>STLNA</b> Short-Circuit Testing Liaison of the Nations of the Americas, c/o NEMA, 1300 North 17th Street, Suite 1847 Rosslyn, VA 22209 USA	

### Certificates

STL as a collaboration does not itself issue Type Test Certificates. Each STL Member issuing a Type Test Certificate is responsible for the validity and contents of that Certificate. A Type Test Certificate is issued by STL Members based on tests performed by an STL Member Laboratory within their accredited scope to ISO/IEC 17025. If the Type Test Certificate is issued under accreditation of ISO/IEC 17065 the name of the issuing body is the one of the Certification Body related to the STL Member.

### STL Guides

STL Members pledge that when testing for certification to a Standard in respect of which an STL Guide has been issued they will test only in accordance with the agreed interpretation of the Standard as given in the STL Guide. In addition, STL Members have agreed to present Certificates in the form given in the STL General Guide.

For further information contact your local STL Member from the list above. Detailed contact data are available also at [www.stl-liaison.org](http://www.stl-liaison.org), or contact the Secretariat of STL at: Hilton House, Corporation Street, Rugby, Warwickshire, CV21 2DN, England.

\* for additional information on CESI and his Member Laboratories IPH and FGH link to the Members site of STL homepage.

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## 1 RATINGS ASSIGNED BY THE MANUFACTURER AS PROVED BY THE TESTS

<b>Polymer-housed metal-oxide surge arresters</b>	
Manufacturer	JSC "Polymer-Apparat"
Type / Designation	PA-DM
Serial Number	5401-5402-5403-5404
Rated voltage - $U_r$	3 kV to 54 kV
Rated frequency	50/60 Hz
Rated short circuit current – $I_s$	20 kA
- Design	B

## 2 ADDITIONAL TYPE TESTS

Not applicable.

## 3 REFERENCE DOCUMENTS

The following reference documents are integral part of this Certificate:

No.	Description	CESI registration
1	Test report	B6022563
2	Drawing	B6019249

## 4 ADDITIONAL REFERENCES

Not applicable.

## 5 RECORD OF PROVING TESTS

The table below lists all the tests performed and the references to the relevant Test Reports containing the test values.

No. Standard and clause	Description of tests	Reference documents
IEC 60099-4 clause 10.8.10	Short-circuit tests	B6022563

## 6 IDENTIFICATION OF THE APPARATUS

The Manufacturer guarantees that the tested apparatus is manufactured according to the submitted drawing. CESI checked that this drawing adequately represents in shape and dimensions the essential details and the main parts of the tested apparatus.

This drawing, identified by CESI and numbered B6019249 No. 1, has been returned to the Client.