

Certificate



for European Product Safety

Reference No. 817635

Miniature fuse-link

Type designation 179200

Certificate holder
SIBA GmbH & Co. KG
Bereich ELU-Geraeteschutz
POSTFACH 1940
DE-44509 LÜNEN
GERMANY

The product complies with the standard(s) EN 60127-2:2003+A1

Date of expiry 27 January 2014

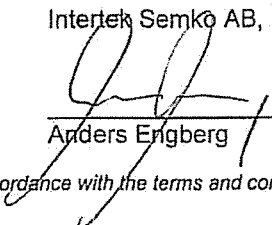
EU Directive information The product satisfies the provisions for CE marking according to the Low Voltage Directive 2006/95/EC.

Additional information in Appendix.

Certification Body Intertek Semko AB, Product Certification

Place Kista - Stockholm

Signed


Anders Engberg

Date 27 January 2009
Page 1 of 2

This certificate is issued in accordance with the terms and conditions set out in the Appendix.

A small, handwritten mark or signature in the bottom right corner of the page.



Appendix

Reference No. 817635

Technical data

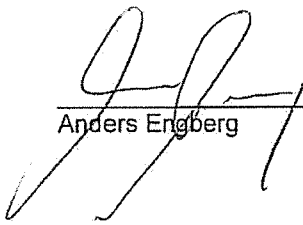
Type designation	179200
Rated voltage (V)	AC 250 V
Rated current (A)	1 A; 1.25 A; 1.6 A; 2 A; 2.5 A
Standard sheet	5
Brand name:	ELU
Product information	Time-lag, high-breaking capacity. Size 5 x 20 mm.

Manufacturing site(s)	SIBA GmbH & Co. KG Bereich ELU-Geräteschutz Borker Strasse 20-22 DE-44534 Lünen GERMANY
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This certificate, which includes production control, is considered to constitute sufficient support for an EC Declaration of Conformity and CE marking of the product according to the Low Voltage Directive 2006/95/EC.

Certification Body	Intertek Semko AB, Product Certification	Place	Kista - Stockholm
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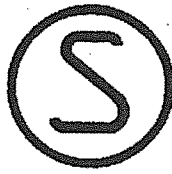
Signed



Anders Engberg

Date 27 January 2009

This Certificate is for the exclusive use of Intertek's Client and is provided pursuant to the Certification agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this certificate. Only the Client is authorized to permit copying or distribution of this certificate and then only in its entirety. Use of Intertek's Certification mark is restricted to the conditions laid out in the agreement. Any further use of the Intertek name for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. Initial Factory Assessments and Follow up Services are for the purpose of assuring appropriate usage of the Certification mark in accordance with the agreement, they are not for the purposes of production quality control and do not relieve the Client of their obligations in this respect.



Certificate

Product Safety
- with the right to S marking

Reference No / Referensnr. 204882

Miniature fuse-link

Type designation /
Typbeteckning

179200.3,15, 179200.4, 179200.5, 179200.6,3

Manufacturer /
Certifikatsinnehavare

SIBA SICHERUNGEN-BAU GMBH
Bereich ELU-Geraeteschutz
POSTFACH 1940
DE-44509 LÜNEN
GERMANY

The product complies with
the standard(s) /
Produkt uppfyller standard

EN 60127-2:1991 and A1

Date of expiry /
Giltigt längst t o m

31 December 2013

LVD Information

The product satisfies the provisions for CE marking according to the Low Voltage Directive 73/23/EEC and 93/68/EEC.

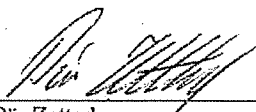
Terms in SEMKO's Agreement on certification. Additional information in Appendix.

Certification Body /
Certifieringsorgan

SEMKO AB, Product Certification

Place / Kista - Stockholm
Ort

Signed /
Underskrift


Pär Zetterberg

Date / 3 February 2003
Datum

 Intertek Testing Services
ETL SEMKO





Appendix

Reference No / Referensnr. 204882

Technical data / Tekniska data

Type designation / Typbeteckning 179200.3,15
Rated Voltage (V) / Märkspänning 250
Rated Current (A) / Märkström 3,15
Standard sheet / Normblad 5
Product information / Produktinformation Time-lag, high-breaking capacity. 5x20 mm

Type designation / Typbeteckning 179200.4
Rated Voltage (V) / Märkspänning 250
Rated Current (A) / Märkström 4
Standard sheet / Normblad 5
Product information / Produktinformation Time-lag, high-breaking capacity. 5x20 mm

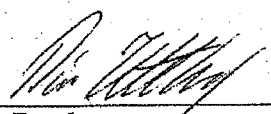
Type designation / Typbeteckning 179200.5
Rated Voltage (V) / Märkspänning 250
Rated Current (A) / Märkström 5
Standard sheet / Normblad 5
Product information / Produktinformation Time-lag, high-breaking capacity. 5x20 mm

Type designation / Typbeteckning 179200.6,3
Rated Voltage (V) / Märkspänning 250
Rated Current (A) / Märkström 6,3
Standard sheet / Normblad 5
Product information / Produktinformation Time-lag, high-breaking capacity. 5x20 mm

Manufacturing site(s) / Tillverkningsställe(n) SIBA SICHERUNGEN-BAU GMBH
Borke Strasse 20-22
DE-44534 LÜNEN
GERMANY

This certificate, which includes production control, is considered to constitute sufficient support for an EC Declaration of Conformity and CE marking of the products according to the Low Voltage Directive 73/23/EEC and 93/68/EEC.

Kista/Stockholm
3 February 2003


Pär Zetterberg

Page / Sid 1 (1)

DESCRIPTION

PRODUCT COVERED:

USR, CNR - Component - Miniature (5 by 20 mm) fuse, Type 179200 and 179200.SMD, rated 0.05-6.3 A, 250 V ac, rated 1.0-4.0 A, 300 V dc.

GENERAL:

These fuses have been evaluated to the requirements of UL and to Canadian National Standards, CSA C22.2 No. 248.1 and CSA C22.2 No. 248.14, First Edition.

CNR - Indicates investigation to Canadian National Standards C22.2 No. 248.1 and C22.2 No. 248.14.

Note: CNR = Canadian National Standards - Recognized.
USR = United States Standards - Recognized.

ELECTRICAL CHARACTERISTICS:

These fuses have the following clearing time characteristics:

Rating	210%		275%		400%		1000%	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
0.05-0.8 A	30 min.	250 ms	80 s	50 ms	5 s	5 ms	150 ms	
1.0-3.15 A	30 min.	1 s	80 s	95 ms	5 s	10 ms	100 ms	
4.0-6.3 A	30 min.	1 s	80 s	150 ms	5 s	20 ms	100 ms	

INTERRUPTING ABILITY RATINGS:

These fuses, rated 0.05-6.3, have interrupting ratings of 1500 A at 250 V ac, power factor 0.75-0.80. These fuses, rated 1.0-4.0, have interrupting ratings of 1500 A at 300 V dc, resistive time constant.

*

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

Use - Fuses covered by this report are intended for supplementary overcurrent protection where branch circuit or equivalent applications are not involved.

These fuses are for use only in equipment where the acceptability of the combination has been determined by Underwriters Laboratories Inc.

Conditions of Acceptability - The above restrictions arise because of the following variations from the Standard for Fuses for Supplementary Overcurrent Protection, UL248-14.

1. Consideration should be given to checking operating temperatures during end-product evaluation, with regard to thermal index of surrounding materials and components.

2. Clearing time current tests were conducted at 210%, 275%, 400% and 1000% of ampere rating rather than at 135% and 200%. Consideration should be given to performing abnormal and/or overload tests during end-product evaluation when overload protection less than 210% of fuse ampere rating may be required.
- * 3. Interrupting ratings are not in accordance with Section 22 of **UL248-14**.
4. 200% clearing at rated voltage test was only conducted on models rated 1.0-4.0 at 300 V dc.

MARKING:

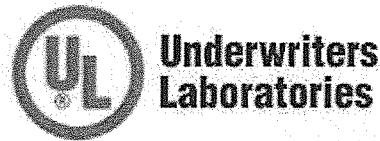
Company name or trademark, amp rating and voltage rating marked on fuse. Also, the smallest package in which the fuses are packed is marked to include interrupting ratings and "AC" and/or "DC". Type No. or Cat. No. shall be marked on fuse or smallest package.

Canadian Marking Requirements - See Section General for details.

Certificate of Compliance

Certificate Number 20100322-E167295
Report Reference E167295, 1995 June 28
Issue Date 2010 March 22

Page 1 of 1



Issued to: SIBA GMBH & CO KG

BORKER STR 20-22
44534 LUNEN GERMANY

*This is to certify that
representative samples of*

FUSES, SUPPLEMENTAL

USR - Miniature; Cat. Nos. 70 followed by 065 63, followed by 0.16 to 6.3, Cat. Nos. 70 followed by 065 65, followed by 0.1 to 16, Cat. Nos. 70 followed by 007 65 by 8, or 10, RS Stock Nos. 413-197, 413-204, 413-210, 247-3961, 413-226, 247-3977, 414-409, 414-415, 414-027, 247-4009, 414-033, 414-049, 414-055, 247-4059, 247-4043, 414-061.

USR, CNR - Miniature; Cat. Nos. 189020, 179200, 189140 and 189140 SMD.

*Have been investigated by Underwriters Laboratories in accordance with
the Standard(s) indicated on this Certificate.*

Standard(s) for Safety:



UL 248-1 and UL 248-14, Second Edition
CSA-C22.2 No. 248.1-00 and CSA-C22.2 No. 248.14-00, Second Editions

Additional Information:

See UL On-line Certification Directory at WWW.UL.COM for additional information.

Look for the UL Recognized Component Mark on the product

Only those products bearing the UL Recognized Component Marks for the U.S. and Canada should be considered as being covered by UL's Recognition and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Recognized Component Mark for the U.S. generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark:  may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions. The UL Recognized Component Mark for Canada consists of the UL Recognized Mark for Canada:  and the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory.

William R. Carney
Director, North American Certification Programs

Underwriters Laboratories Inc.

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

For questions, please contact a local UL Customer Service Representative at <http://www.ul.com/global/eng/pages/corporate/contactus/>

DESCRIPTION

PRODUCT COVERED:

USR - Component - Miniature Fuses; Cat. Nos. 70 followed by 065 63, followed by 0.16 to 6.3, Cat. Nos. 70 followed by 065 65, followed by 0.1 to 16, Cat. Nos. 70 followed by 007 65 by 8, or 10, RS Stock Nos. 413-197, 413-204, 413-210, 247-3961, 413-226, 247-3977, 414-409, 414-415, 414-027, 247-4009, 414-033, 414-049, 414-055, 247-4059, 247-4043, 414-061, **209-9305, 209-9311.**

* USR, CNR - Component - Miniature Fuses; Cat. Nos. 189020, 179200, **189140, 189140 SMD and 70 065 65 SMD.**

ELECTRICAL RATINGS:

<u>Catalog Number</u>	<u>Voltage Rating</u>	<u>Continuous Current Ratings Ampere Ratings of Range</u>
70 065 63	500 V ac	0.16 to 6.3
70 007 65	250 V ac	8 to 10
70 065 65	500 V ac	0.1 to 16
189020	500 V ac	0.16 to 6.3
179200	250 V ac	8 to 10
189140	500 V ac	0.1 to 16
189140 SMD	500 V ac	0.1 to 16
70 065 65 SMD	500 V ac	0.1 to 16

INTERRUPTING RATINGS:

<u>Catalog Number</u>	<u>Maximum Interrupting Current</u>	<u>Voltage</u>	<u>Time Constant or Power Factor</u>
70 065 63, 189020	50,000 A	500 V ac	Resistive
70 007 65, 179200 70 065 65, 189140, 70 065 65 SMD, 189140 SMD	4,000 A 1,500 A	250 V ac 500 V ac	Resistive Resistive

MINIMUM BREAKING CAPACITY:

The Minimum Breaking Capacity Ratio, "MBC", of these fuses is reported below. This Ratio is the RMS available circuit current of the lowest overload circuit that is allowable for a particular fuse divided by the Current Rating of that particular fuse.

<u>Fuse Type</u>	<u>Minimum Breaking Capacity Ratio</u>
All	2.0
All	2.0

TECHNICAL CONSIDERATIONS (NOT FOR UL REPRESENTATIVE'S USE):

These products are intended for use in Listed or Recognized equipment, only where the acceptability of the application has been determined by Underwriters Laboratories Inc.

CONDITIONS OF ACCEPTABILITY:

1. Time Current Calibration Performance at 135 and 200 percent of rated current and temperature has not been determined.
2. Interrupting tests were performed with Resistive Circuits. These fuses can not be used in applications where there will be a substantial influence of circuit magnetic elements, unless additional short circuit tests are performed with circuits providing time constants or power factors representative of the application.
- *3. Clearing times for fuses Cat. Nos. 70 065 65, 189140 and 189140 SMD rated 2.5 A maximum have been verified to be 30 minutes maximum at 200% of rating. Consideration shall be given to conducting overload and/or abnormal tests during end product evaluation when overload protection less than 210 percent of fuse ampere rating may be required.

ZEICHENGENEHMIGUNG MARKS APPROVAL

SIBA GmbH & Co. KG
Borker Strasse 20-22
44534 Lünen

ist berechtigt, für ihr Produkt /
is authorized to use for their product

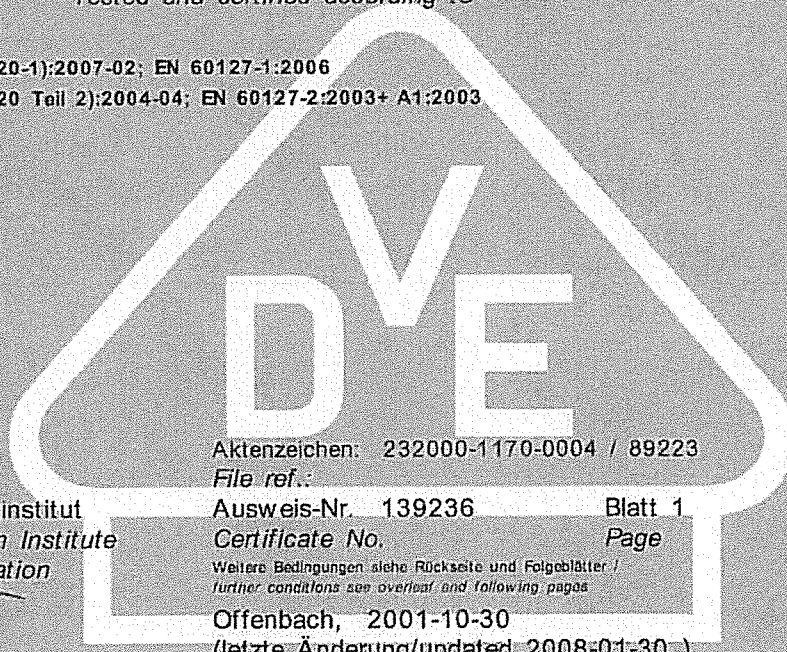
G-Sicherungseinsatz
Cartridge fuse-link

die hier abgebildeten markenrechtlich geschützten Zeichen
für die ab Blatt 2 aufgeführten Typen zu benutzen /
the legally protected Marks as shown below for the types referred to on page 2 ff.



Geprüft und zertifiziert nach /
Tested and certified according to

DIN EN 60127-1 (VDE 0820-1);2007-02; EN 60127-1:2006
DIN EN 60127-2 (VDE 0820 Teil 2);2004-04; EN 60127-2:2003+ A1:2003
IEC 60127-1(ed.2)
IEC 60127-2(ed.2);am1



VDE Prüf- und Zertifizierungsinstitut
VDE Testing and Certification Institute
Zertifizierungsstelle / *Certification*

Dr. Schipper

VDE Zertifikate sind nur gültig bei Veröffentlichung unter:
VDE certificates are valid only when published on:

Aktenzeichen: 232000-1170-0004 / 89223
File ref.:

Ausweis-Nr. 139236 Blatt 1
Certificate No. Page

Weitere Bedingungen siehe Rückseite und Folgebblätter /
further conditions see overleaf and following pages

Offenbach, 2001-10-30
(letzte Änderung/updated 2008-01-30)

<http://www.vde.com/zertifikat>
<http://www.vde.com/certificate>



VDE Prüf- und Zertifizierungsinstitut Zeichengenehmigung

Ausweis-Nr. / Blatt /
Certificate No. page
139236 2

Name und Sitz des Genehmigungs-Inhabers / *Name and registered seat of the Certificate holder*
SIBA GmbH & Co. KG, Borker Strasse 20-22, 44534 Lünen

Aktenzeichen / *File ref.*
232000-1170-0004 / 89223 / FG31 / LL

letzte Änderung / *updated* Datum / *Date*
2008-01-30 2001-10-30

Dieses Blatt gilt nur in Verbindung mit Blatt 1 des Zeichengenehmigungsausweises Nr. 139236.
This supplement is only valid in conjunction with page 1 of the Certificate No. 139236.

G-Sicherungseinsatz Cartridge fuse-link

Typ(en) / *Type(s)*:

179200

Bemessungsspannung <i>Rated voltage</i>	AC 250 V
Bemessungsstrom <i>Rated current</i>	1A; 1,25 A; 1,6 A; 2 A; 2,5 A; 3,15 A; 4 A; 5 A; 6,3 A
Normblatt <i>Standard sheet</i>	5
Maße in mm <i>Dimension in mm</i>	5mm x 20mm
Kennzeichnung der Charakteristik <i>Characteristic symbol</i>	T
Kennzeichnung des Ausschaltvermögens <i>Breaking capacity symbol</i>	H
Bemessungsausschaltvermögen <i>Rated breaking capacity</i>	1500 A
Anmerkung <i>Remark</i>	Die Prüfspannung in Abschnitt 9.2 war DC 125 V <i>The test voltage in clause 9.2 was DC 125 V</i>

Fortsetzung siehe Blatt 3 /
continued on page 3

VDE Testing and Certification Institute * Institut VDE d'Essais et de Certification

VDE Prüf- und Zertifizierungsinstitut Zeichengenehmigung

Ausweis-Nr. / Blatt /
Certificate No. page
139236 3

Name und Sitz des Genehmigungs-Inhabers / *Name and registered seat of the Certificate holder*
SIBA GmbH & Co. KG, Borker Strasse 20-22, 44534 Lünen

Aktenzeichen / *File ref.*
232000-1170-0004 / 89223 / FG31 / LL

letzte Änderung / *updated* Datum / *Date*
2008-01-30 2001-10-30

Dieses Blatt gilt nur in Verbindung mit Blatt 1 des Zeichengenehmigungsausweises Nr. 139236.
This supplement is only valid in conjunction with page 1 of the Certificate No. 139236.

Dieser Zeichengenehmigungs-Ausweis bildet die Grundlage für die EG-Konformitätserklärung und CE-Kennzeichnung durch den Hersteller oder dessen Bevollmächtigten und bescheinigt die Konformität mit den genannten Normen im Sinne der **EG-Niederspannungsrichtlinie 2006/95/EG**.

This Marks Approval is the basis for the EC Declaration of Conformity and the CE Marking by the manufacturer or his agent and shows the conformity with the said standards as defined by the EC Low-Voltage Directive 2006/95/EC.

VDE Prüf- und Zertifizierungsinstitut
VDE Testing and Certification Institute
Fachgebiet FG31
Section FG31