

Certificate No. **11837**

# ASTA CERTIFICATION SERVICES

(Incorporated in the year 1938)

23/24 Market Place, Rugby, CV21 3DU, England

Laboratory Ref. No. **3969/774/774A**  
**774, 774A, LM-8****CERTIFICATE OF****COMPLETE COMPLIANCE**

APPARATUS: SCREWLESS CONNECTING DEVICES FOR 2,3,4,5 OR 8 RIGID SOLID COPPER CONDUCTORS.

DESIGNATION: SERIES 273 PUSHWIRE CONNECTOR

MANUFACTURER: WAGO KONTAKTECHNIK GmbH, POSTFACH 2880, D-4950 MINDEN, HANSASTRASSE 27, GERMANY.

TESTED BY: ERA TECHNOLOGY LTD, CLEEVE ROAD, LEATHERHEAD, SURREY KT22 7SA

DATE(S) OF TESTS: SEPTEMBER & NOVEMBER 1990

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this Certificate has been subjected to the series of proving tests in accordance with

ASTA Standard No. 108 : September 1990.

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 stated below.

For details of assigned ratings see Page A.

The record of Proving Tests apply only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

This Certificate comprises 39 pages, - diagrams, - oscillograms, - photographs,  
12 drawings and - other sheets as detailed on page B

Only integral reproduction of this Certificate, or reproductions of this page accompanied by any page(s) on which are stated the assigned rated characteristics of the apparatus tested, are permitted without written permission from ASTA, 23/24 Market Place, Rugby CV21 3DU England. (see overleaf).

*D. C. Long*

Inspector

ASTA Observer

*M. J. Swan*

Director

*2nd July 1992*

Date

ASSIGNED RATINGSMain Characteristics

Type Ref.	Rated Ins. Voltage	Rated Current	Connecting Capacities	Number of Conductors	Temp. Rating
273-101	380V a.c.	20A	0.5-1.5mm <sup>2</sup>	5	+40°C
273-108	380V a.c.	20A	0.5-1.5mm <sup>2</sup>	8	+40°C
273-104	380V a.c.	27A	0.75-2.5mm <sup>2</sup>	3	+40°C
273-102	380V a.c.	27A	0.75-2.5mm <sup>2</sup>	4	+40°C
273-105	380V a.c.	27A	0.75-2.5mm <sup>2</sup>	5	+40°C
273-103	380V a.c.	27A	0.75-2.5mm <sup>2</sup>	8	+40°C
273-112	380V a.c.	27A	0.75-2.5mm <sup>2</sup>	2	+40°C
273-403	380V a.c.	36A	1.5-4.0mm <sup>2</sup>	3	+40°C

Classification

- i. Single Terminal Devices
- ii. Junction Devices
- iii. Devices without Protection
- iv. Devices without means of fixing
- v. Devices without T marking for ambient temperatures not higher than +40°C
- vi. Degree of protection : IP20
- vii. Devices with screwless type terminals

Inspector  
ASTA Observer

# RECORD OF PROVING TESTS

# ASTA

Laboratory Reference No. 3969/774/774A  
774, 774A, LM-89

Page No. B

Date of Test Sept. & Nov. 1990

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## RECORD OF PROVING TESTS

# ASTA

Laboratory Reference No. 3969/774/774A  
774, 774A, LM-89

Page No. C

Date of Test Sept. & Nov. 1990

### Apparatus Tested

380V ac, Screwless connecting devices for 2,3,4,5 or 8 rigid, solid copper conductors designated series 273 and manufactured by Wago Kontakttechnik GmbH, Postfach 2880, D-4950 Minden, Hansastrasse 27, Germany.

### Test Specification

The tests were conducted in accordance with the requirements of ASTA Standard No. 108 : Sept. 1990.

### Certification Process

The results of tests contained within ERA Report 92-0161 Issue 3 are divided into four parts, as detailed on Page B and below; (Note: Clause numbers in brackets [] relate to the original clauses of ASTA Standard 108 : 1st Draft : 1989)

### Test Work Conducted Against ASTA Standard No. 108 : 1st Draft : Dec. 1989

The test work detailed within Part 4 of ERA Report 92-0161 Issue 3 was commissioned by ASTA Certification Services on behalf of Wago Kontakttechnik GmbH, following receipt of an application for an ASTA marks licence and covers full type tests against the requirements of ASTA Standard 108 : 1st Draft : December 1989. Three failures were noted against the requirements of Clause 7.1(b), Clause 7.1(d) and Clause 16, the details of which are given within Appendix III, Page 34 of the report.

### Assessment Conducted Against ASTA Standard No. 108 : 3rd Draft : Sept. 1990 Clause 20 : Short-Time Withstand Current Test

The assessment described within Part 3 of ERA Report 92-0161 Issue 3 was commissioned by ASTA Certification Services on behalf of Wago Kontakttechnik GmbH and details an evaluation of the test work conducted in accordance with ASTA Standard No. 108 : 1st Draft : December 1989; Clause 19 against the requirements detailed within ASTA Standard No. 108 : 3rd Draft : September 1990; Clause 20.



Inspector  
ASTA ~~0551101~~

## RECORD OF PROVING TESTS

# ASTA

Laboratory Reference No. 3969/774/774A  
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Date of Test Sept. & Nov. 1990

Assessment Conducted Against ASTA Standard No. 108 :  
3rd Draft : Sept. 1990  
IEC 685-1 and IEC 685-2-1

The assessment described within Part 2 of ERA Report 92-0161 Issue 3 was commissioned by ASTA Certification Services on behalf of Wago Kontakttechnik GmbH and details an evaluation of the test work conducted in accordance with ASTA Standard No. 108 : 1st Draft : December 1989 against the requirements detailed within ASTA Standard No. 108 : 3rd Draft : September 1990 with respect to IEC 685-2-1. Two failures were noted against the requirements of Clause 7.1 [7.1(b)] and Clause 7.3 [7.1(d)], the details of which are given on Page 12 of the report.

Assessment Conducted Against ASTA Standard No. 108 :  
3rd Draft : Sept. 1990 IEC 998-1

The assessment described within Part 1 of ERA Report 92-0161 Issue 3 was commissioned by ASTA Certification Services on behalf of Wago Kontakttechnik GmbH and details an evaluation of the test work conducted in accordance with ASTA Standard No. 108 : 1st Draft : December 1989 together with the assessment conducted in accordance with ASTA Standard No. 108 : 3rd Draft : September 1990 with respect to IEC 685-2-1 against the requirements detailed within ASTA Standard No. 108 : 3rd Draft : September 1990 with respect to IEC 998-1. Two failures were noted against the requirements of Clause 8.1 [7.1(b)] and Clause 8.4 [7.1(d)], the details of which are given on Page 6 of the report.

### Marking

With reference to the failures identified within Page 6 of ERA Report 92-0161 Issue 3 against the requirements of Clauses 8.1 [7.1(b)] and 8.4 [7.1(d)] relating to marking, further examination of the samples submitted for test was conducted at ASTA with the following results:

In accordance with the requirements of ASTA Standard No. 108 : 3rd Draft : September 1990 (IEC 998-1) Clause 8.1 [7.1(b)], devices shall be marked with their type reference. As all the devices identified within this report carry the manufacturer's type reference 273, the samples identified on Page 6 of ERA Report 92-0161 Issue 3 are deemed to comply. The manufacturer has also provided samples of the smallest packaging units which have been examined and are deemed to comply with the requirements of Clauses 8.1 [7.1(b)] and 8.4 [7.1(d)] of ASTA Standard No. 108 : 3rd Draft : September 1990. The samples of the packaging units submitted by the manufacturer have been retained by ASTA for identification purposes.



Inspector  
ASTA Observer

# RECORD OF PROVING TESTS

# ASTA

Laboratory Reference No. 3969/774/774A  
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Page No. E

Date of Test Sept. & Nov. 1990

## Drawings

The manufacturer has supplied the following drawings, copies of which have been retained by ASTA for identification purposes.

<u>Drawing No.</u>	<u>Description</u>	<u>Issue</u>	<u>Date</u>
273-101	Verbindungs-dosenklemme 1.5 <sup>0</sup>	-	07.02.92
101-273	Gehäuse 5 x 1.5 <sup>0</sup>	m	30.01.92
132-273	Deckel 1.5 <sup>0</sup>	d	30.11.90
103-273	Kontaktblech	f	30.01.92
104-273	Flachfeder	-	05.06.73
901-273	Kontakteinsatz 5 x 1.5 <sup>0</sup>	f	06.02.92
162-273	Gehäuse	m	30.01.92
163-273	Kontaktblech	f	30.01.92
164-273	Flachfeder	a	13.02.80
909-273	Kontakteinsatz 8 x 1.5 <sup>0</sup>	e	06.02.92
273-103	Verteilerdosenklemme 8x2.5 <sup>0</sup>	-	04.02.92
127-273	Gehäuse	l	09.10.89
128-273	Deckel	e	23.01.92
129-273	Kontaktblech	i	11.03.91
906-273	Kontakteinsatz 8 x 2.5 <sup>0</sup>	g	06.02.92
273-112	Verbindungs-dosenklemme 2.5 <sup>0</sup>	-	07.02.92
112-273	Deckel 2.5 <sup>0</sup>	g	10.12.90
152-273	Gehäuse 2 x 2.5 <sup>0</sup>	e	10.10.89
154-273	Kontaktblech	b	11.03.91
155-273	Flachfeder	-	18.12.86
908-273	Kontakteinsatz 2 x 2.5 <sup>0</sup>	a	06.02.92
137-273	Gehäuse 3 x 2.5 <sup>0</sup>	e	28.07.88
076-273	Gehäuse	p	02.10.91
138-273	Kontaktblech	g	24.06.91
139-273	Flachfeder	c	24.06.91
907-273	Kontakteinsatz 3 x 2.5 <sup>0</sup>	e	06.02.92
111-273	Gehäuse 4 x 2.5 <sup>0</sup>	-	10.02.88
075-273	Gehäuse 4 x 2.5 <sup>0</sup>	z	03.02.92
113-273	Kontaktblech	h	31.01.92
114-273	Flachfeder	a	11.12.76
903-273	Kontakteinsatz 4 x 2.5 <sup>0</sup>	i	06.02.92
172-273	Gehäuse 5 x 2.5 <sup>0</sup>	q	03.02.92
080-273	Gehäuse 5 x 2.5 <sup>0</sup>	-	24.11.88
173-273	Kontaktblech	d	11.03.91
174-273	Flachfeder	a	24.06.91
910-273	Kontakteinsatz 5 x 2.5 <sup>0</sup>	e	06.02.92
273-403	Verteilerdosenklemme 3 x 4 <sup>0</sup>	-	03.02.92
181-273	Gehäuse 3 x 4 <sup>0</sup>	a	24.08.88
078-273	Gehäuse 3 x 4 <sup>0</sup>	n	29.07.91
182-273	Deckel 4 <sup>0</sup>	b	30.07.91
183-273	Kontaktblech 4 <sup>0</sup>	d	11.03.91
184-273	Flachfeder 4 <sup>0</sup>	-	09.01.80
911-273	Kontakteinsatz	e	06.02.92

*D. E. L.*

Inspector

ASTA Observer