

Verschienungssysteme ☐ individuell ☐ perfekt ☐ zukunftsorientiert



EL-NE Elektrotechnik Ges.m.b.H. - Kalkofenweg 8 - A-5400 Hallein-Gamp

An
Richard Lesonitzky GmbH Verteilerbau
z. Hd. Hrn. Lesonitzky
Lacknergasse 65 u. 78

1180 WIEN



Ihre Zeichen, Ihre Nachricht vom

Unser Zeichen, unsere Nachricht vom

Telefon

Datum

Ing. FSn/ 01_07

0043 6245 83370-27

2007-11-27

Betreff: **Infomaterial über Einspeiseklemme AK 95 Si Kurz**

Sehr geehrter Herr Lesonitzky!

Wie in unserem Telefonat von vergangener Woche besprochen, darf ich Ihnen einen Auszug aus den Prüfberichten der NH-Trennerverschienenung zusenden.

Es wurde bei dieser Prüfung die Verschienenung mit der dazu passenden Einspeiseklemme Type Ak 95 NH geprüft und hat die Prüfung einwandfrei bestanden (ÖVE Zeichen wurde erteilt).

Man kann daraus ableiten, dass baugleiche Typen mit jedoch anders geformter Anschlusszunge als so genannte Nebentypen zu bewerten sind.

Bei der von Ihnen angefragten Klemme der Type Ak 95 Si kurz handelt es sich ebenfalls um eine Einspeiseklemme für einen ähnlichen Einsatzbereich.

Die Bauweise der Klemme ist - außer von der Form der Anschlusszunge - völlig gleich der bei der Prüfung verwendeten Anschlussklemme (Querschnitt, Klemmbereich, Klemmenmaterialien). Die Form der Anschlusszunge richtet sich nach dem jeweiligen Einsatzbereich und ist daher unterschiedlich.

Eine Prüfung der einzelnen Klemme ist nur in Verbindung mit dem jeweiligen Anwendungsfall vorgesehen und sinnvoll. Da wir jedoch nicht wissen wie unsere Kunden die Klemme tatsächlich verwenden, kann eine Prüfung der Klemme als einzelner Bauteil nicht durchgeführt werden.

Ich hoffe mit diesen Informationen gedient zu haben und verbleibe

Mit freundlichen Grüßen
EL-NE Elektrotechnik GmbH

Fritz Schinwald

Beilagen: Auszug aus Prüfberichten
Produktdatenblatt
Produktzeichnung

Telefon: +43 (0) 62 45/83 3 70-0, 82 3 24-0
Fax: +43 (0) 62 45/82 3 24-22
E-mail: mail@el-ne.at
Internet: www.el-ne.at
FN: 56179t - LG Salzburg
UID: ATU 34635703

Qualitätssicherungssystem
nach EN ISO 9001:2000

Banken: Volksbank Hallein, Kto. 020134540, BLZ 45010
IBAN: AT79 4501 0000 2013 4540
SWIFT/BIC: VBOEATWWSAL
Raika Hallein, Kto. 3490-0, BLZ 35 022
IBAN: AT77 3502 2000 0003 4900
SWIFT/BIC: RVSAAT25022

Produktdatenblatt

Einspeiseklemmen



Erstellt und geprüft von:
FSn / EL-NE

Version 1 vom:
2002-11-08

Blatt 1

Kalkofenweg 8
A-5400 HALLEIN

Type: **Ak 95 Si kurz**
Artikel-Nr.: **0006018**
Kundenbezeichnung:

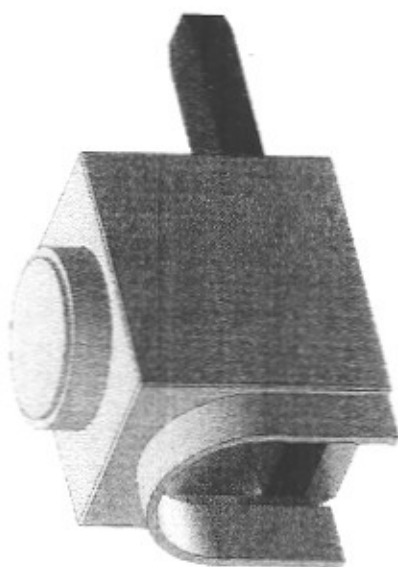
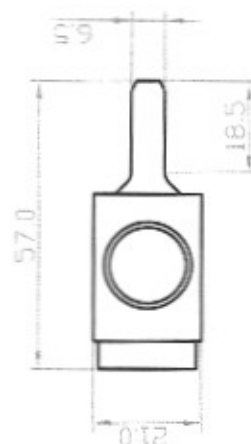
Bezugsnormen: EN 60439-2:2000

Technische Merkmale:

Bemessungs-Anschlussvermögen:	
eindräftig/mehrdrähtig	min. 25mm ² max. 95mm ²
feindräftig mit Aderendhülse	min. 16mm ² max. 70mm ²
Bemessungsisolationsspannung U _i :	690 V
Bemessungsstrom I _n :	≤ 220 A
Bemessungsstoßspannung U _{imp} :	---
Bemessungsbetriebsspannung U _e :	400/690 V
Werkstoffe:	
Klemmgehäuse	CuZn39F37
Anschlusszunge	E-Cu 58 F 25
Isolierkappe	Ultramid A3K
Klemmschrauben	Stahl weißchromatiert M14x14mm bzw. 10mm
Wärmeformbeständigkeit:	135 °C
Brandverhalten nach:	UL V-0
Farbe:	grau RAL 7035
Länge der Anschlussfahne:	18,5 mm
Breite der Anschlussfahne:	6,5 mm
Gewicht d. fertigen Teil:	77,0 g
Verpackungseinheit:	3 Stück

Allgemeine technische Beschreibung:

Bei diesem Produkt handelt es sich um eine Anschlussklemme die als Einspeiseklemme für NH-Sicherungslasttrenner, Sicherungslastschalter sowie LS-Schalter mit hohen Dauerströmen dient. Als anschließbare Leiter dürfen starre und/oder flexible Leiter zum Einsatz kommen, wobei bei Verwendung von feindräftigen Leitern diese nur mit Aderendhülsen geklemmt werden dürfen. Je nach Querschnitt muss für die Klemmung die längere bzw. kürzere Schraube verwendet werden.

[illegible]

**Sicherungslasttrennschalter 3NP3530 mit Einspeiseschienen 3NY1237/38/63
und Einspeiseklemmen 3NY1236**

Technische Daten

Bestimmungen				DIN VDE 0680 Teil 107, IEC 947-3				
Bernimmungsisolationsspannung U_i				690 V				
Bernimmungsstoßspannung U_{imp}				6 kV				
Bernimmungsbetriebsspannung U_e 50/60 Hz				690 V a.c.				
Bernimmungsdauerstrom I_n für Einspeiseschienen u. Einspeiseklemmen				225 A				
Schutzart				IP20 von der Bedienseite her				
Anschlußquerschnitt für Einspeiseklemmen einadrähtig / mehradrähtig einadrähtig mit Adernumhüllen				min. 25 mm ² max. 95 mm ² min. 16 mm ² max. 70 mm ²				
Konventioneller thermischer Strom in freier Luft I_{th} (Anwendungsbeispiele)								
Trenner- zahl	E-Klemme 3NY1236 am Trenner N_t	E-Schiene	Belastungs- strom E-Klemme (A)	Sicherungs-nennströme / Belastungsströme in den Trennern				
				Tr.Nr.1 (A)	Tr.Nr.2 (A)	Tr.Nr.3 (A)	Tr.Nr.4 (A)	Tr.Nr.5 (A)
2	1 od.2	3NY1237	200	100	100	-	-	-
3	1 od.2 od.3	3NY1238	189	63	63	63	-	-
	1		208	80	83	63	-	-
	1		223	80	80	63	-	-
	1		225	100	63	63/62	-	-
4	1 od.4	3NY1237 / 68 / 37	200	50	50	50	50	-
	1		213	63	50	50	50	-
	1		220	80	50	50	40	-
	1		220	100	40	40	40	-
5	2 od.5	3NY1238 / 68 / 37	200	40	40	40	40	40
	2		220	50	50	40	40	40
	2		223	40	63	40	40	40
	2		220	35	80	35	35	35
	2		224	35	100	32	32	25

Aufgrund der Ergebnisse der Erwärmungsversuche mit Zu.3 Sicherungslasttrennschalter konnten

TEST REPORT
EN 60 439-2:2000

Low-voltage switchgear and controlgear assemblies
Part 2: Particular requirements for busbar trunking systems (busways)

Report Reference No. CTI-PA 2330-3

Compiled by (+ signature) M.SCHNÖTZINGER

Approved by (+ signature) J.WOLF

Date of issue 09.08.2007

Contents 17 pages

This report is based on a blank test report that was prepared by ASTA using information obtained from the TRF originator (see below).

CB Testing Laboratory CTI-Vienna

Address A-1210-Vienna, Einzingerasse 4

Testing location/procedure CBTL ☒ SMT ☐ TMP ☐

Address

Applicant's name EL-NE Elektrotechnik Ges.m.b.H.

Address Kalkofenweg 8
A-5400 Hallein-Gamp

Test specification:

Standard EN 60439-2:2000

Test procedure ÖVE-mark

Non-standard test method ... N/A

Test Report Form No. IECEN60439_2A/2002-03

TRF Originator ASTA Certification Services

Master TRF Dated 2002-05

Copyright © 2002 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test item description Busbar trunking unit for use inside enclosure (comb-rail-system)

Trade Mark el-ne ELEKTROTECHNIK

Model/Type reference NHT00/35-3-3 (further details see type-spectrum included in test report CTI-PA 1744)

Ratings $U_e = 400/690V$

I_n central connection: 220A

I_{cc} : 100kA

Rated operational voltage	(U ₀) : 1 ph system	--
Rated operational voltage	(U ₀) : 2/3 ph system	400/690V
Rated insulation voltage	(U _i) : all systems	690V
Rated impulse withstand voltage	(U _{imp}) : all systems	6kV
Rated current :	I _n	central connection: 220A
Rated short-time withstand current :	I _{sw}	---
Rated peak withstand current	I _{pk}	---
Rated conditional short-circuit current	I _{cc}	100kA
Rated fused short-circuit current I _{cf}	VOID *)	--- *) replace by : acc. EN 60439-1/A1:2004
Rated diversity factor		--
Rated frequency	f	50Hz
Resistance and reactance values :		
	R:	Due to the special purpose of this comb-rail-system no such values are given by the manufacturer.
	X :	For calculated values see 8.2.13
Rating factors		
-	k ₁ __°C: to determine allowable rating at __°C	---
-	k ₁ 25°C: to determine allowable rating at 25°C	---
-	k ₁ 30°C: to determine allowable rating at 30°C	---
-	k ₁ 35°C: to determine allowable rating at 35°C	---
-	k ₁ 40°C: to determine allowable rating at 40°C	---
-	k ₁ 45°C: to determine allowable rating at 45°C	---
-	k ₁ __°C: to determine allowable rating at __°C	---
-	k _{2H} : to determine the allowable rating (horizontal mounting)	---
-	k _{2V} : to determine the allowable rating (vertical mounting)	
-	k ₂ __ : to determine the allowable rating (____ mounting)	
Copy of marking plate and summary of test results (information/comments):		
Copy of marking plate see CTI-PA 1744-1		
Summary of testing see CTI-PA 2330-1		

Test item particulars	
External design.....	busbar trunking system
Place of installation	indoor and outdoor
Service conditions	indoor installation: +40°C - -5°C outdoor installation: +40°C - -25°C
Mobility	stationary
Degree of protection.....	IP00 (IP10 from the front)
Method of mounting	
- fixed parts	parts fixed
- removable and withdrawable parts	
Protection against electric shock (direct contact)	Protection by obstacles
Protection against electric shock (indirect contact)	---
Form of internal separation	---
Types of electrical connections of functional units	---
Mechanical loads.....	normal mechanical load
Resistance to fire and flame propagation	resistance of insulating materials to abnormal heat (7.1.1.4)
Mounting attitude	---
Pollution degree	2
Classification of installation and use	
For interconnection of various switchgear in distribution boards (disconnectable connections), normally mounted behind front-panels	
Supply Connection	
Via connected switchgear terminals	
Possible test case verdicts:	
- test case does not apply to the test object	
N/A	
- test object does meet the requirement.....	
P(Pass)	
- test object does not meet the requirement.....	
F(Fail)	
Testing	
Date of receipt of test item	
2007-05	
Date (s) of performance of tests	
2007-05 to 2007-08	

General remarks:

The present Test Report is not valid as a Test Report according to a Mutual Recognition Agreement (i.e. IECCE-CB, CCA, ENEC, KEYMARK,...) unless appended to a corresponding Certificate issued by a National Certification Body, signatory to the relevant Scheme.

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Throughout this report a comma (point) is used as the decimal separator.

1) CTI-PA 2330-3 is an additional report to CTI-PA 2330-1.

2) *Sections written bold and in italic type have been added/modified to reflect all additional requirements of EN 60439-1:1999/A1:2004 and EN 60439-2:2000/A1:2005*

3) All tests included in CTI-PA 2330-3 have been performed to cover following modifications:

- .) additional requirements of EN 60439-2:2000/A1:2005 and EN 60439-1:1999/A1:2004
- .) new insulation material, used for endcaps

4) To cover the additional requirements of EN 60439-1/A1:2004 and EN60439-2/A1:2005 only subclauses 8.2.3 verification of the short-circuit withstand strength and 8.2.9 verification of the resistance of insulating materials to abnormal heat and fire have been tested.

TEST REPORT
EN 60 439-2:2000
Low-voltage switchgear and controlgear assemblies
Part 2: Particular requirements for busbar trunking systems (busways)

Report Reference No.: CTI-PA 1744-3

Compiled by (+ signature): SCHNÖTZINGER

Approved by (+ signature): ING. BACHL

Date of issue: 7.5.2003

Contents: 50 pages



This report is based on a blank test report that was prepared by ASTA using information obtained from the TRF originator (see below).

CB Testing Laboratory

Address

Testing location/procedure: CBTL ☒ SMT ☐ TMP ☐

Address

Applicant's name: EL-NE Elektrotechnik Ges.m.b.H.

Address: Kalkofenweg 8
A-5400 Hallein-Gamp

Test specification:

Standard: EN 60439-2:2000

Test procedure: ÖVE-mark

Non-standard test method: N/A

Test Report Form No.: IECEN60439_2A/2002-03 (modified)

TRF Originator: ASTA Certification Services

Master TRF: Dated 2002-05

Copyright © 2002 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test item description: Busbar trunking unit for use inside enclosure

Trade Mark: el-ne ELEKTROTECHNIK

Model/Type reference: NHT00/35-3-3
(further details see type-spectrum in CTI-PA 1744-1)

Ratings: $U_n = 400/690V$

I_n central connection: 220A

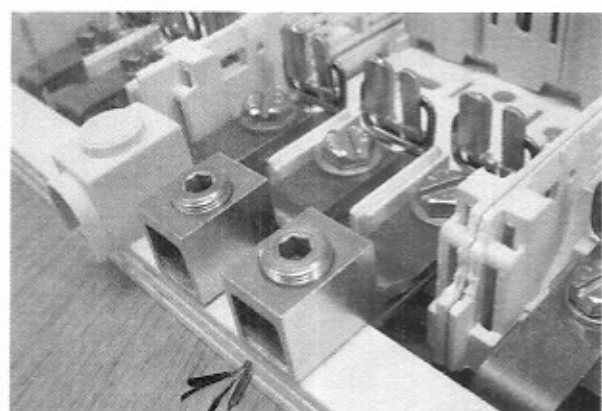
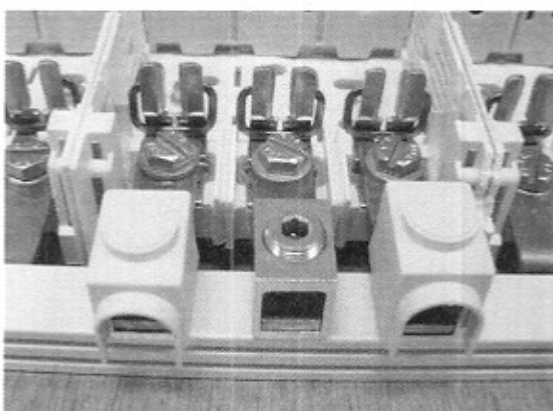
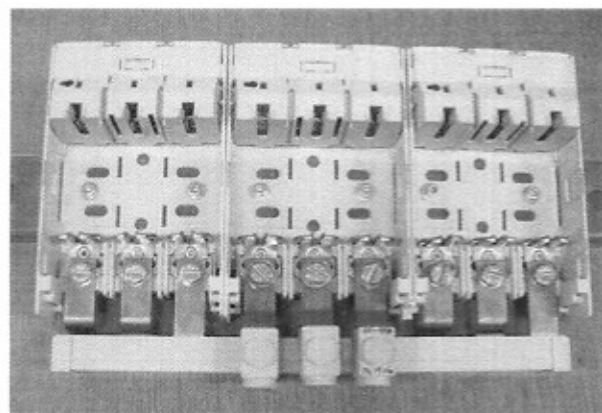
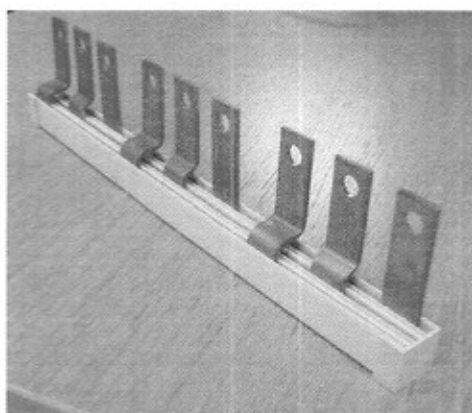
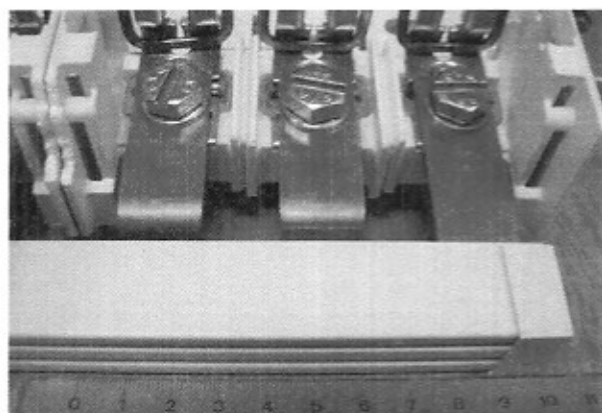
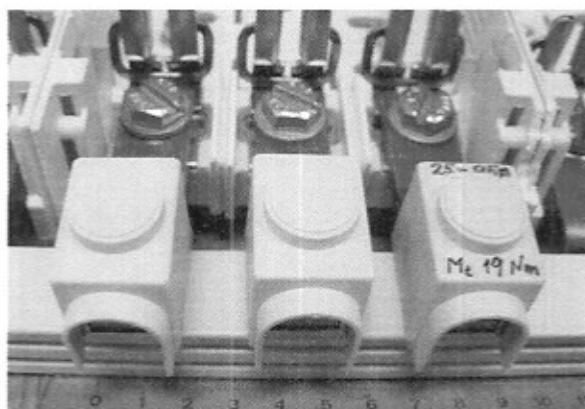
I_{cc} : 100kA

Rated operational voltage	(U_e) : 1 ph system	--
Rated operational voltage	(U_e) : 2/3 ph system	400/690V
Rated insulation voltage	(U_i) : all systems	690V
Rated impulse voltage	(U_{imp}) : all systems	--
Rated current :	I_n	central connection: 220A
Rated short-time withstand current :	I_{cw}	---
Rated peak withstand current	I_{pk}	---
Rated conditional short-circuit current	I_{cc}	100kA
Rated fused short-circuit current I_{cf}		---
Rated diversity factor		--
Rated frequency	f	50Hz
Resistance and reactance values :		
	R :	Due to the special purpose of this comb-rail-system no such values are given by the manufacturer.
	X :	For calculated values see 8.2.9
Rating factors		
-	$k_{1_}^{\circ C}$: to determine allowable rating at $_\circ C$	---
-	$k_{1\ 25^{\circ C}}$: to determine allowable rating at 25°C	---
-	$k_{1\ 30^{\circ C}}$: to determine allowable rating at 30°C	---
-	$k_{1\ 35^{\circ C}}$: to determine allowable rating at 35°C	---
-	$k_{1\ 40^{\circ C}}$: to determine allowable rating at 40°C	---
-	$k_{1\ 45^{\circ C}}$: to determine allowable rating at 45°C	---
-	$k_{1_}^{\circ C}$: to determine allowable rating at $_\circ C$	---
-	$k_{2\ H}$: to determine the allowable rating (horizontal mounting)	---
-	$k_{2\ V}$: to determine the allowable rating (vertical mounting)	
-	$k_{2_}$: to determine the allowable rating (_____ mounting)	

EN 60 439-2				
Clause	Requirement + Test		Result - Remark	Verdict
7.1.2.3.4	Clearances are dimensioned to withstand impulse voltage			P
	Clearances are:			
	- sufficient (see 7.1.2.3.2 and 7.1.2.3.3)		measured > 5,5 mm	P
	- in accordance with table 14, case B			N
	- clearances need not be tested, if they are higher than given in table 14, case A		Minimum clearance ..5,5 mm, In accordance with Case A Yes/no	P
7.1.2.3.5	Creepage distances			
	a) Dimensioning			
	- for pollution degrees 1 and 2 distances are not allowed to be less than associated clearances according to 7.1.2.3.4;			P
	- for pollution degrees 3 and 4 creepage distances $\geq$ the case A clearances;			N
	Creepage distances are required to correspond to the pollution degree (see 6.1.2.3) and to the material group (I / II / IIIa / IIIb);		pollution degree 2 material group: insulation of copper-bars: Cyclopy(grey): II endcaps: II	P
	Creepage distances dimensioned to the rated insulation voltage of the system stated by the manufacturer.		rated insulation voltage: 690V	P
	b) Use of ribs			P
	- ribs height $\geq$ 2 mm, if creepage distances reduced to 0,8 mm of the value from table 16;			P
	c) Special applications			N
	- circuits for applications where severe results of insulation fault have to take into account: one or more influencing factors of table 15 is applied;			N
7.1.2.3.6	Spacing between separate circuits			N
	The highest voltage ratings have to be used for dimensioning clearances, creepage distances and solid insulation ($U_e = \dots V$, $U_{imp} = \dots kV$);		$U_{test} = \dots kV/\dots s$	N
7.1.3	Terminals for external conductors			P
7.1.3.1	Manufacturer indicates whether terminals are for aluminium or copper conductors or both;		only for copper conductors	P
	- a reliable connection for Cu conductors and/or for Al conductors is required;			P
7.1.3.2	Dimensioning of terminals per circuit: terminals are required to be suitable for:			N
	Circuit	I_n / A	S (Al/Cu) required mm ²	N
			 mm ²	

EN 60 439-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- agreement between manufacturer and user;	25mm ² -95mm ² (sectional strand) rigid stranded 16mm ² -70mm ² flexible conductor (wire ferrules have to be used)	P
	- terminals for external conductors with low currents ($I_n < 1 \text{ A}$; $U_e < 50 \text{ V a.c. or } < 120 \text{ V d.c.}$)		N
7.1.3.3	The available wiring space is required to permit proper connection of the external conductors;		P
7.1.3.4	Terminals for neutral conductors is required to allow the connection of Cu-conductor;		N
	- $S_{\text{neutr}} \geq \frac{1}{2} \times S_{\text{phase}}$, if $S_{\text{phase}} > 10 \text{ mm}^2$;		N
	- $S_{\text{neutr}} = S_{\text{phase}}$, if $S_{\text{phase}} \leq 10 \text{ mm}^2$;		N
7.1.3.5	Terminals for incoming / outgoing N-, PE- and PEN-conductors have to be in the vicinity of the associated phase conductor terminals;		N
7.1.3.6	Openings are required to be such that the stated degree of protection against contact are obtained after cables are properly installed;		N
	Openings: amount and type (cable glands/ membranes/pre-pressed etc.):		N
	Manufacturer's instructions for sealing/tightening		N
7.1.3.7	Identification of terminals; compliance with IEC60445;		N
7.1.4	Incorrect assembly of system or tap off units prevented.		N
7.1.5	Multi-circuit systems designed to prevent failures, faults and wrong connections between circuits.		N
7.2	Enclosure and degree of protection		P
7.2.1	Degree of protection is required to:		P
7.2.1.1	- be indicated by IP Code (IEC 60529);		P
	- preferred IP for indoor (IP00, -2X, -3X, -4X, -5X)	IP00 (IP10 is covered from the front)	P
7.2.1.2	- be at least IP2X for enclosed assembly;		N
7.2.1.3	- be at least IPX3 for outdoor assembly;	not applicable because busbar trunking unit will be mounted in external enclosure	N
7.2.1.4	- apply to the complete assembly, unless otherwise specified;		N
	- manufacturer's instructions, if needed;		N
7.2.1.5	Possible different IP-degrees of parts of the assembly;		N
7.2.1.6	IP code is not allowed for PTTA without the verifications;		N
7.2.2	Measures to take account of atmospheric humidity		P

EN 60 439-2			
Clause	Requirement + Test	Result - Remark	Verdict

Photo documentation:

TRF No. IECEN60439_2A

TRF originator: ASTA