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**PS**ELECTRIC®

ПАПКА 14

ПРИЛОЖЕНИЕ 10 Други документи за  
Позиция 1 и Позиция 2

ПРИЛОЖЕНИЕ 10.5 Вертикални  
разединители 1000 А

Приложение 1

Приложение 2

Приложение 3

Приложение 4

Приложение 5

Приложение 6

Приложение 7

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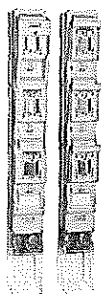
10.5.1

# MULTIVERT® 1000A

Main Incomer, 690VAC

IEC FUSE SWITCH DISCONNECTORS

NH VERTICAL FUSE SWITCH DISCONNECTOR



## FEATURES & BENEFITS

- Installation on to 185 mm bus bar system
- Suitable for top/bottom cable terminal connections
- With installed cover shroud
- Terminal lugs for cable terminations of large cross sections - multiple termination
- With ready fitted 1000 A solid links
- Safe on load connection/disconnection in accordance with IEC 60947-3

## APPLICATIONS

- Incoming (feeding) unit for high capacity power distributions
- Switch boards for industrial applications
- Residential and industrial distribution units
- Cable distribution cabinets

## STANDARDS

- IEC/EN 60 947-3

MULTIVERT® NH vertical fuse switch disconnectors meet all functions of NH fuse switch disconnectors. They are designed for installation on to bus bars in triple pole arrangements.

MULTIVERT® main incomers 1000A are for installation on to 185mm bus bar systems.

They are ready fitted with solid links 1000A.

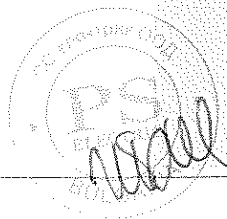
The system is a modular system, that allows the installation of individual components. MULTIVERT® offer the user the possibility of fast and easy installation as well as a high degree of protection during installation and maintenance.

## TECHNICAL DATA OVERVIEW

Voltage AC	690 VAC
Amper (A)	1000 A
Mounting	bus bar system 185 mm
Switchability	1 x triple pole, 3 x single pole
Number of Poles	3



ВЯРНО С  
ОРИГИНАЛА



MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

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# MULTIVERT® 1000A

Main Incomer, 690VAC

## PRODUCT RANGE



1.762.900

### MULTIVERT® main incomer 1000 A 1 x triple pole switching

Catalog number	Reference number	Cable termination components	Design	Weight kg <sup>1</sup>	Package
1.762.900	P1023122	M12 multiple termination Al/Cu max. 300 mm <sup>2</sup> round stranded, sectoral stranded (2 cable lugs), Cu max. 150 mm <sup>2</sup> round stranded, sectoral stranded (3 cable lugs), M = 32-38 Nm	with ready fitted NH-solid links 1000 A	11.80	1 piece

<sup>1</sup>weight in kg per piece or set including package



1.712.900

### MULTIVERT® main incomer 1000 A 3 x single pole switching

Catalog number	Reference number	Cable termination components	Design	Weight kg <sup>1</sup>	Package
1.712.900	N1023121	M12 multiple termination Al/Cu max. 300 mm <sup>2</sup> round stranded, sectoral stranded (2 cable lugs), Cu max. 150 mm <sup>2</sup> round stranded, sectoral stranded (3 cable lugs), M = 32-38 Nm	with ready fitted NH-solid links 1000 A	11.50	1 piece

<sup>1</sup>weight in kg per piece or set including package

**ВЯРНО С  
ОРИГИНАЛА**



# MULTIVERT® 1000A

Main Incomer, 690VAC

## TECHNICAL DATA IN ACCORDANCE WITH EN / IEC 60947

	1000 A 1 x triple pole switching	1000 A 3 x single pole switching
Number of poles/phases	3	3
Size	3	3
Conventional free air thermal current with solid links $I_{th}$	1000 A	1000 A
Max. power dissipation of solid links $P_n$	12 W	12 W
Utilization category to IEC/EN 60947-3 $U_e = AC 400 V; I_e = 1000 A$ $U_e = AC 690 V; I_e = 1000 A$	AC 21 B AC 20 B	AC 21 B AC 20 B
Rated operational voltage $U_e$	690 V	690 V
Rated insulation voltage $U_i$	1000 V	1000 V
Rated impulse withstand voltage $U_{<sub>imp</sub>}$	8 kV	8 kV
Rated frequency	50 ... 60 Hz	50 ... 60 Hz
Degree of protection	IP 20	IP 20
Degree of pollution	3	3
Rated duty	uninterrupted duty	uninterrupted duty
Rated short circuit making capacity with solid links $I_{cm}$	15 kAsw	15 kAsw
Power dissipation by $I_{th}$ , 1000 A without solid links	270 W	270 W
Installation mode	bus bar installation	bus bar installation
<b>Cable terminal connection</b>		
Standard cable terminal	2 x M12	2 x M12
for cable lugs Cu max.	2 x 300 mm <sup>2</sup> /phase 3 x 150 mm <sup>2</sup> /phase	2 x 300 mm <sup>2</sup> /phase 3 x 150 mm <sup>2</sup> /phase
for cable lugs Al max.	2 x 300 mm <sup>2</sup>	2 x 300 mm <sup>2</sup>
for copper bars with max. dimensions	80 x 10 mm	80 x 10 mm

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ОРИГИНАЛА



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# MULTIVERT® 1000A

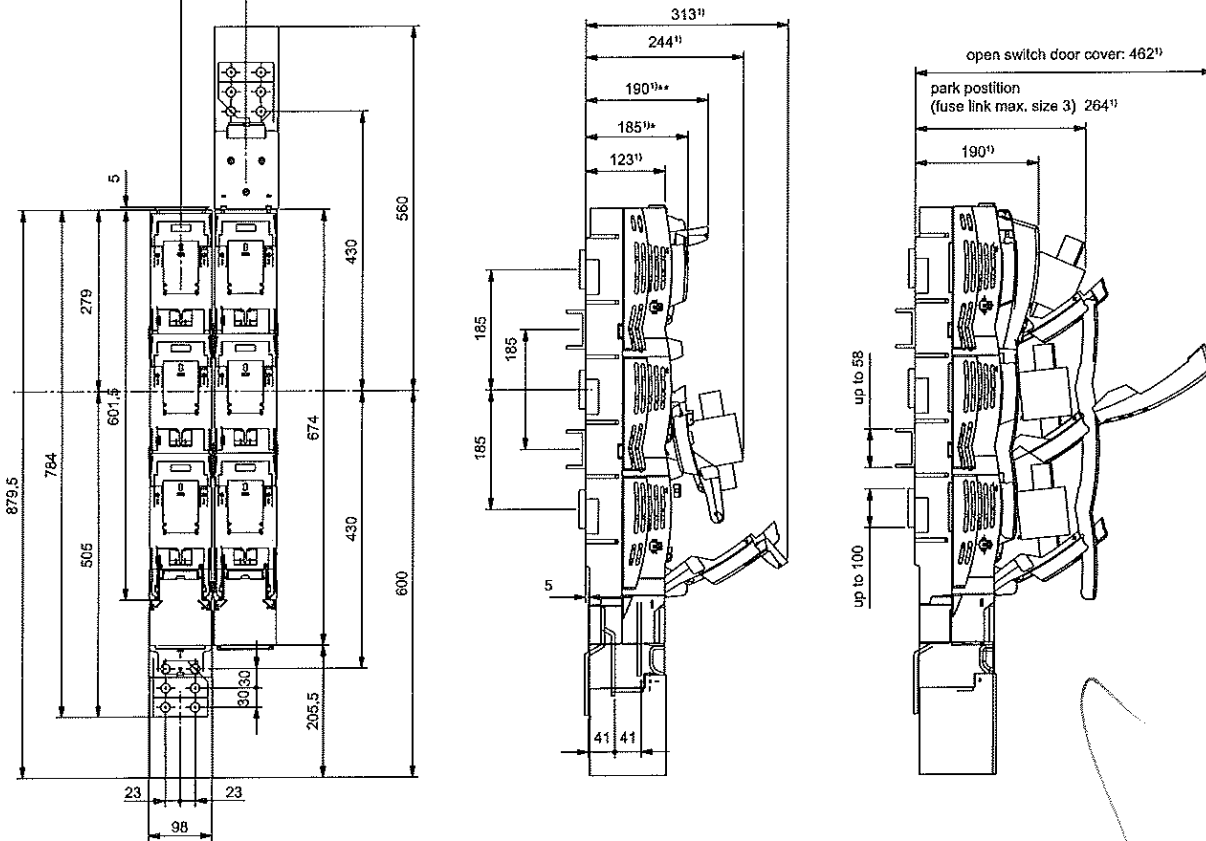
Main Incomer, 690VAC

10.5.2

## DIMENSIONS

### MULTIVERT® main incomer 1000A (M01163a)

centre to centre (partition) 100 mm

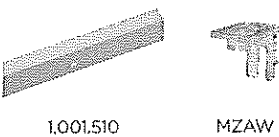


1) dimensions from upper edge of bus bar

- \* 158mm handle in closed position (folded) = total installation depth of MULTIVERT
- \*\* 158mm handle in open position (fixed) - switching position

Dimensions in mm

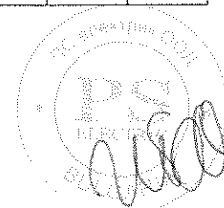
## ACCESSORIES



### Covers/level & system adjustment covers

Catalog number	Reference number	Description	Weight	Package
1.001.510	K1002280	cover shield to support central cover 1 set = 2 pieces	0.15 kg	1 set
MZAW	D218687	support angle for support of cover plate 1 set = 4 pieces	27 g	1 set

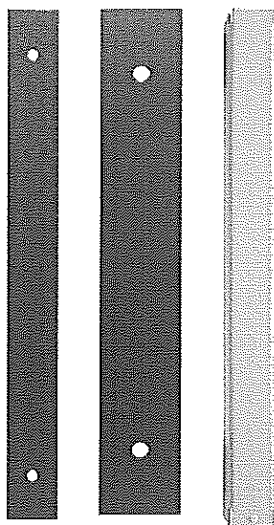
ВЯРНО С  
ОРИГИНАЛА



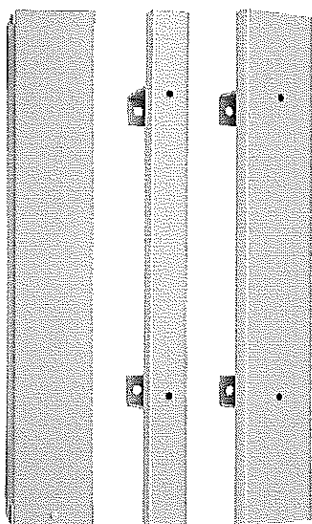
# MULTIVERT® 1000A

Main Incomer, 690VAC

## ACCESSORIES



MZ01LPAP MZLPAP 1.002.493

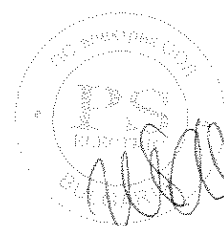


1.002.492 1.002.830 1.002.829

### Covers/spare way covers

Catalog number	Reference number	Design	Application	Weight	Package
MZ01LPAP	C1023410	spare way cover without level adjustment width 50 mm, length 500 mm including fixing material	bus bar system 185 mm	60 g	1 piece
MZLPAP	D1023411	spare way cover width 100 mm, length 612 mm including 2 pieces M12 fixing screws (distance of fixing holes 185 mm)	bus bar system 185 mm	0.56 kg	1 piece
1.002.493	N1002283	spare way cover width 50 mm, length 630 mm for covering of open installation spaces in distribution units with central cover	bus bar system 185 mm	0.136 kg	1 piece
1.002.492	M1002282	spare way cover width 100 mm, length 630 mm for covering of open installation spaces in distribution units with central cover	bus bar system 185 mm	0.202 kg	1 piece
1.002.830	E1023412	spare way cover width 50 mm, length 630 mm with level adjustment 123 mm for bus bar installation, set = cover + fixing set (2 distance pieces, 2 screw rivets)	bus bar system 185 mm	0.203 kg	1 set
1.002.829	F1023413	spare way cover width 100 mm, length 630 mm with level adjustment 123 mm for bus bar installation set = cover + fixing set (2 distance pieces, 2 screw rivets)	bus bar system 185 mm	0.27 kg	1 set

ВЯРНО С  
ОРИГИНАЛА



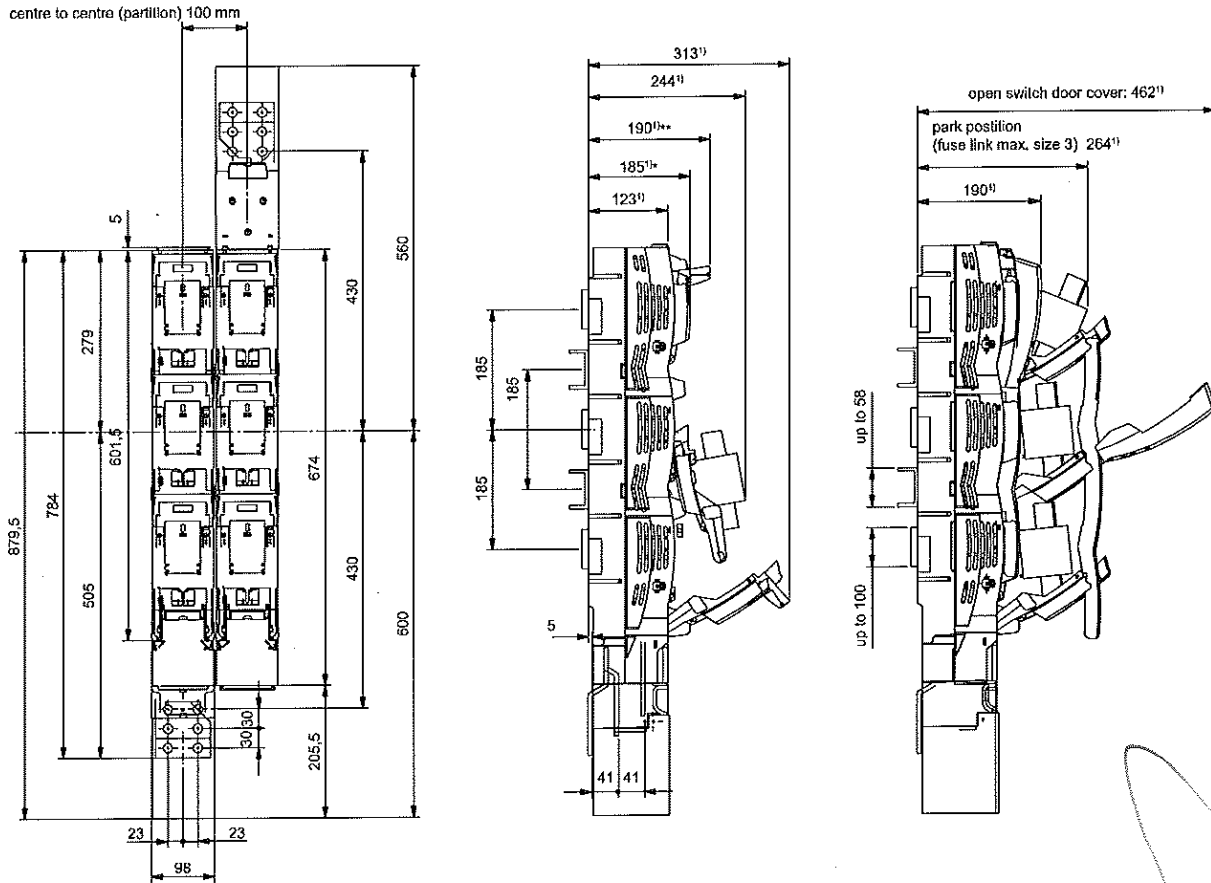
# MULTIVERT® 1000A

Main Incomer, 690VAC

10.52

## DIMENSIONS

### MULTIVERT® main incomer 1000A (M01163a)

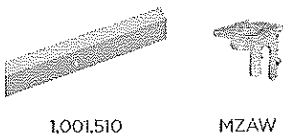


1) dimensions from upper edge of bus bar

- \* 158mm handle in closed position (folded) = total installation depth of MULTIVERT
- \*\* 158mm handle in open position (fixed) - switching position

Dimensions in mm

## ACCESSORIES



### Covers/level & system adjustment covers

Catalog number	Reference number	Design	Weight	Package
1.001.510	K1002280	cover shield to support central cover 1 set = 2 pieces	0.15 kg	1 set
MZAW	D218687	support angle for support of cover plate 1 set = 4 pieces	27 g	1 set

ВЯРНО С  
ОРИГИНАЛА



Списък на отделните изпитания

Вертикален разединител 1000 A Mersen

**8.3.3 Тест I: Характеристики при нормален режим на работа.**

8.3.3.1 Проверка при нарастване на температурата.

8.3.3.2 Тест на диелектричните свойства.

8.3.3.3 Включвателна и изключвателна способност при ток на късо съединение.

8.3.3.3.5 Поведение на апаратурата по време на тестовете за включвателна и изключвателна способност при ток на късо съединение

8.3.3.3.6 Състояние на апаратурата след приключване на тестовете за включвателна и изключвателна способност при ток на късо съединение

8.3.3.4 Диелектрична проверка

8.3.3.5 Ток на утечка

8.3.3.6 Проверка при нарастване на температурата

8.3.3.7 Издръжливост на задвижващия механизъм

8.2.5.2.1 Зависимо и независимо ръчно управление

8.2.5.2.2 Зависимо моторно задвижване

8.2.5.2.3 Независимо моторно задвижване

**8.3.4 Тест II: Издръжливост при номинални условия**

8.3.4.1 Тест при номинални условия

8.3.4.2 Диелектрична проверка

8.3.4.3 Ток на утечка

8.3.4.4 Проверка при нарастване на температурата

**8.3.5 Тест III: Издръжливост в режим на късо съединение**

8.3.5.1 Тест за издръжливост при кратковременно късо съединение

8.3.5.2 Включвателна способност при късо съединение

8.3.5.3 Диелектрична проверка

8.3.5.4 Ток на утечка

8.3.5.5 Проверка при нарастване на температурата

**8.3.6 Тест IV: Условен ток на късо съединение**

8.3.6.2 Условия за проверка за условен ток на късо съединение

8.3.6.3 Диелектрична проверка

8.3.6.4 Ток на утечка

8.3.6.5 Проверка при нарастване на температурата

**8.3.7 Тест V: Издръжливост в режим на претоварване**

8.3.7.1 Тест при претоварване

8.3.7.2 Диелектрична проверка

8.3.7.3 Ток на утечка

8.3.7.4 Проверка при нарастване на температурата

**8.4 Тест V: Тестове за електромагнитна съвместимост**

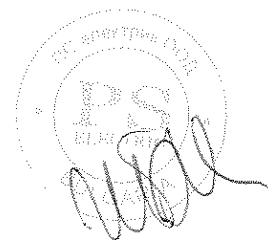
8.4.1 Имунитет

8.4.2 Емисии

Дата: 28.12.2017 г

Съставил: Н. Николов

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ОРИГИНАЛА





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Clause Requirement - Test Result - Remark Verdict

**8.3.3 TEST SEQUENCE I: GENERAL PERFORMANCE CHARACTERISTICS**

- 8.3.3.1 Temperature-rise
- 8.3.3.2 Test of dielectric properties
- 8.3.3.3 Making and breaking capacity
- 8.3.3.3.5 Behaviour of the equipment during making and breaking capacity tests

8.3.3.3.6 Condition of the equipment after making and breaking capacity tests

- 8.3.3.4 Dielectric verification
- 8.3.3.5 Leakage current
- 8.3.3.6 Temperature-rise verification
- 8.3.3.7 Strength of actuator mechanism
- 8.2.5.2.1 Dependent and independent manual operation
- 8.2.5.2.2 Dependent power operation
- 8.2.5.2.3 Independent power operation

**8.3.4 TEST SEQUENCE II: OPERATIONAL PERFORMANCE CAPABILITY**

- 8.3.4.1 Operational performance test
- 8.3.4.2 Dielectric verification
- 8.3.4.3 Leakage current
- 8.3.4.4 Temperature-rise verification

**8.3.5 TEST SEQUENCE III: SHORT-CIRCUIT PERFORMANCE CAPABILITY**

- 8.3.5.1 Short-time withstand current test
- 8.3.5.2 Short-circuit making capacity
- 8.3.5.3 Dielectric verification
- 8.3.5.4 Leakage current
- 8.3.5.5 Temperature-rise verification

**8.3.6 TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT**

- 8.3.6.2 Test conditions for conditional short-circuit current test
- 8.3.6.3 Dielectric verification
- 8.3.6.4 Leakage current
- 8.3.6.5 Temperature-rise verification

**8.3.7 TEST SEQUENCE V: OVERLOAD PERFORMANCE CAPABILITY**

- 8.3.7.1 Overload test
- 8.3.7.2 Dielectric verification
- 8.3.7.3 Leakage current
- 8.3.7.4 Temperature-rise verification

**8.4 ELECTROMAGNETIC COMPATIBILITY TESTS**

- 8.4.1 Immunity
- 8.4.2 Emission

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Accredited by BMWA, number GZ 92714/237-IV/0/00

**arsenal research**  
Ein Unternehmen der Austrian Research Centers

# Test Report

Project Designation

## TYPE TEST AT A VERTICAL MAIN INCOMING DISCONNECTOR TYPE MULTIVERT 1000

Client

M.Schneider  
Lienfeldergasse 31  
A-1160 Wien

На основание чл. 2  
от ЗЗЛД

Order from / No. 02/2002 / ---

Project number 2.03.00169.1.0/MV1000 Test Engine

Date of issue	06.05.2002
Total number of issues / No	1 / 1
Number of pages	1
Annex: number of pages	CCA Report 2.03.00169.1.0/MV1000/CCA

The results relate exclusively to the terms tested.

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Български: БВВК, ИЛЗ: 14000, Конс. №: 04910-777-101 | DVR: 0037532 | ИД-№: АТУ 4084/208 I-8/12; der Gesellschaft: Wien, Gerichtsstand: Wien

TEST REPORT

EN 60 947-3

Low-voltage switchgear and controlgear

Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units

Report

Reference No. ....  
 Tested by (+ signature) .....  
 Approved by (+ signature) .....  
 Date of issue .....  
 Contents .....

На основание чл. 2  
от ЗЗЛД

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

Testing laboratory

Name .....: ÖFPZ Arsenal Ges.m.b.H.  
 Address .....: 1030 Wien, Faradaygasse 3  
 Testing location .....: As above

Client

Name .....: M.Schneider  
 Address .....: A-1160 Wien, Lienfeldergasse 31

Test specification

Standard .....: EN 60 947-1:1999 + A1:2000 + A2:2001  
 EN 60 947-3:1999 + A1:2001  
 Test procedure .....: CCA-scheme  
 Procedure deviation .....: N.A.  
 Non-standard test method .....: N.A.

Test Report Form/blank test report

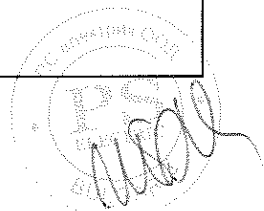
Test Report Form No. ....: 60947-3B/98-09  
 TRF originator .....: KEMA  
 Master TRF .....: Dated 98-05

Copyright reserved to the bodies participating in the Committee of Certification Bodies (CCB) and/or the bodies participating in the CENELEC Certification Agreement (CCA).

Test item

Description .....: VERTICAL MAIN INCOMING DISCONNECTOR  
 Trademark .....: MULTIVERT 1000  
 Model and/or type reference .....: MULTIVERT 1000 → 1 x 3pole → size 3  
 MULTIVERT 1000 → 3 x 1pole → size 3  
 Manufacturer .....: M.Schneider  
 Rating(s) .....: See page 2  
 Copy of marking plate and/or picture of test item .....: See page 3

ВЯРНО С  
ОРИГИНАЛА



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**Particulars: test item vs. test requirements**

- method of operation .....	Dependent manual operation
- switching positions .....	ON / OFF
- number of poles .....	3
- variants .....	1 x 3pole; 3 x 1pole
- size .....	3
- kind of current .....	AC
- number of phases .....	3
- rated frequency (Hz) .....	50 - 60
- number of positions of the main contacts .....	2

**Rated and limiting values, main circuit**

- rated operational voltage $U_e$ (V) .....	400
- rated insulation voltage $U_i$ (V) .....	1000
- rated impulse withstand voltage $U_{imp}$ (kV) .....	8
- rated operational current $I_e$ (A) .....	1000
- conventional free air thermal current $I_{th}$ (A) .....	1000
- conventional enclosed thermal current $I_{the}$ (A) .....	-
- rated uninterrupted current $I_u$ (A) .....	1000
- utilization category .....	AC-21B

**Short-circuit characteristic**

- rated short-time withstand current $I_{cw}$ (kA) .....	12 / 1s
- rated short-circuit making capacity $I_{cm}$ (kA) .....	15 peak
- rated conditional short-circuit current (kA) .....	-

**Rated and limiting values, auxiliary circuit(s)**

- rated operational voltage (V) .....	-
- rated operational current $I_e$ (A) .....	-
- rated frequency (Hz) .....	-
- number of circuits .....	-
- number and kind of contact elements .....	-

**Co-ordination of short-circuit protective devices**

- kind of protective device .....	-
-----------------------------------	---

**Test case verdicts**

Test case does not apply to the test object .....	N(.A.)
Test item does meet the requirement .....	P(ass)
Test item does not meet the requirement .....	F(all)

**ВЯРНО С  
ОРИГИНАЛА**

**Testing**

Date of receipt of test item .....	03/2002
Date(s) of performance of test(s) .....	03/2002

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**General remarks**

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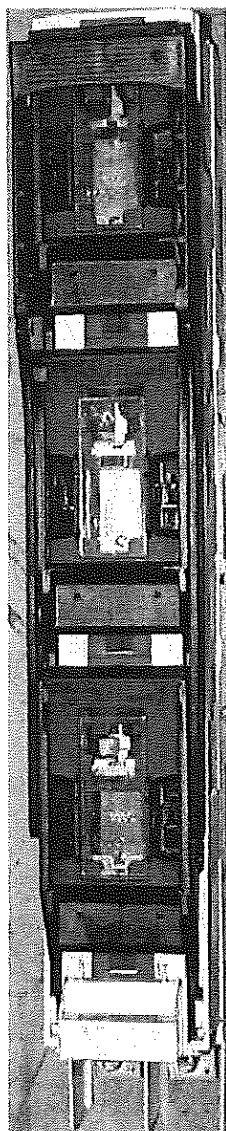
The test results presented in this report relate only to the item tested.

"(see remark #)" refers to a remark appended to the report.

"(see appended table)" refers to a table appended to the report.

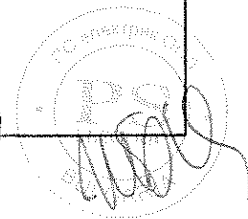
Throughout this report a comma is used as the decimal separator.

**Copy of marking plate and/or picture of test item**



Handwritten signature or mark.

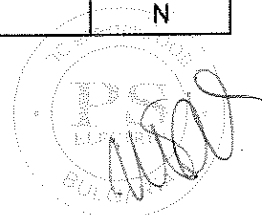
ВЯРНО С  
ОРИГИНАЛА



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EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
5.2	MARKING		P
	Marking on equipment itself or on nameplate or nameplates attached to the equipment and legible from the front after mounting:		P
	- indication of the open and closed position	Visible open and closed position	P
	- suitability for isolation	Open position	P
	- disconnectors AC-20 and DC-20 only: marked "Do not open under load"		N
	Marking on equipment not needed to be visible after mounting:		P
	- manufacturer's name or trademark	M.Schneider	P
	- type designation or serial number	MULTIVERT 1000	P
	- rated operational current	1000A	P
	- rated operational voltage	400V~	P
	- utilization category	AC-21B	P
	- rated frequency	50-60Hz	P
	- compliance with EN 60 947-3	EN60947-3	P
	- degree of protection	IP2Lx	P
	Marking on fuse-combination units:		N
	- fuse type	-	N
	- maximum rated current	-	N
	- power loss of the fuse-link	-	N
	Identification of terminals:		P
	- line terminals		P
	- load terminals		P
	- neutral pole terminal		N
	- protective earth terminal		N
	Data in the manufacturer's published information:		P
	- rated insulation voltage	Catalogue	P
	- rated impulse withstand voltage		P
	- pollution degree, if different from 3		P
	- rated duty		P
	- rated short-time withstand current and duration		P
	- rated short-circuit making capacity		P
	- rated conditional short-circuit current		N

ВЯРНО С  
ОРИГИНАЛА



EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
2.1	CONSTRUCTION		P
2.1.1	Current-carrying parts and their connection		P
2.1.3	Clearances and creepage distances:		P
	Pollution degree .....	3	—
	Comparative tracking index (V) .....	400	—
	Material group .....	II	—
	Clearances:		P
	Rated impulse withstand voltage (kV) .....	8	—
	Minimum clearances (mm) .....	8	—
	Measured clearances (mm) .....	> 8	P
	In case Uimp is not indicated		N
	Creepage distances:		P
	Rated insulation voltage Ui (V) .....	1000	—
	Minimum creepage distances (mm) .....	14	—
	Measured creepage distances (mm) .....	> 14	P
2.1.4	Actuator:		P
2.1.4.1	Insulation	Insulating material	P
2.1.4.2	Direction of movement	According to IEC 60447	P
2.1.5	Indication of contact position:		P
2.1.5.1	Indicating means	Actuator	P
2.1.5.2	Indication by the actuator	Yes	P
2.1.6	Additional safety requirements for equipment suitable for isolation:		P
2.1.6.1	Additional constructional requirements for equipment suitable for isolation (Ue > 50 V):		P
	- marking according to 5.2b		P
	- indication of the position of the contacts		P
	- construction of the actuating mechanism		P
	- minimum clearances across open contacts (see Table XIII, Part 1) (mm) .....	8	—
	- measured clearances (mm) .....	> 8	P
	- test Uimp across gap (kV) .....	12,3	P

ВЯРНО С  
ОРИГИНАЛА



EN 60 947-3

Clause	Requirement – Test	Result - Remark	Verdict
7.5.2	Supplementary requirements for equipment with provision for electrical interlocking with contactors or circuit-breakers:		N
	auxiliary switch shall be rated according to IEC 60 947-5-1		N
	minimum time interval between opening of the contacts of the auxiliary contact and the contacts of the main poles (ms) .....	-	—
	measured time interval (ms) .....	-	—
	During the closing operation the contacts of the auxiliary switch shall close after or simultaneously with the contacts of the main poles.		N
7.5.3	Supplementary requirements for equipment provided with means for padlocking the open position:		N
	the locking means shall be designed in such a way that it cannot be removed with the appropriate padlock(s) installed		N
	test force F applied to the actuator in an attempt to operate to the closed position (N) .....	-	—
	rated impulse withstand voltage (kV) .....	-	—
	test U <sub>imp</sub> on open main contacts at the test force		N
7.7	Terminals:		P
7.7.1	All parts of terminals which maintain contact and carry current shall be of metal having adequate mechanical strength	See 8.2.4 below	P
	Terminal connections shall be such that necessary contact pressure is maintained	See 8.2.4 below	P
	Terminals shall be so constructed that the conductor is clamped between suitable surfaces without damage to the conductor and terminal	See 8.2.4 below	P
	Terminal shall not allow the conductor to be displaced or to be displaced themselves in a manner detrimental to the operator of equipment and the insulation voltage shall not be reduced below the rated value	See 8.2.4 below	P

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EN 60 947-3

Requirement – Test	Result - Remark	Verdict
Mechanical properties of terminals:		P
Mechanical strength of terminals:		P
maximum cross-sectional area of conductor (mm <sup>2</sup> ) .....: 2 x 300		—
diameter of thread (mm) .....: 12		—
torque (Nm) .....: 14,0		—
5 times on 2 separate clamping units		P
Testing for damage to and accidental loosening of conductor (flexion test):		N
conductor of the smallest cross-sectional area (mm <sup>2</sup> ) .....: -		—
number of conductor of the smallest cross section .....: -		—
diameter of bushing hole (mm) .....: -		—
height between the equipment and the platen .....: -		—
mass at the conductor(s) (kg) .....: -		—
135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		N
Pull-out test:		N
force (N) .....: -		—
1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		N
conductor of the largest cross-sectional area (mm <sup>2</sup> ) .....: -		—
number of conductor of the largest cross section : -		—
diameter of bushing hole (mm) .....: -		—
height between equipment and platen (mm).....: -		—
mass at the conductor(s) (kg) .....: -		—
135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		N
Pull-out test:		N
force (N) .....: -		—
1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		N

ВЯРНО С  
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EN 60 947-3

Requirement - Test	Result - Remark	Verdict
conductor of the largest and smallest cross-sectional area (mm <sup>2</sup> ) .....	-	—
number of conductor of the smallest cross section, number of conductor of the largest cross section .....	-	—
diameter of bushing hole (mm) .....	-	—
height between the equipment and the platen .....	-	—
mass at the conductor(s) (kg) .....	-	—
135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		N
Pull-out test:		N
force (N) .....	-	—
1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		N
Connection capacity:		P
type of conductors .....	Rigid and flexible	—
minimum cross-sectional area of conductor (mm <sup>2</sup> ) .....	2 x 150	—
maximum cross-sectional area of conductor (mm <sup>2</sup> ) .....	2 x 300	—
number of conductors simultaneously connectable to the terminal .....	2	—
Connection:		P
terminals for connection to external conductors shall be readily accessible during installation		P
clamping screws and nuts shall not serve to fix any other component		P

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EN 60 947-3

Requirement – Test	Result - Remark	Verdict
Terminal identification and marking:		P
terminal intended exclusively for the neutral conductor		N
protective-earth terminal		N
other terminals		P
Additional requirements for equipment provided with a neutral pole:		N
Marking of neutral pole		N
The switched neutral pole shall not break before and shall not make after the other poles		N
Conventional thermal current of neutral pole		N
Provisions for protective earthing:		N
The exposed conductive parts shall be electrically interconnected and connected to a protective earth terminal		N
The protective earth terminal shall be readily accessible		N
The protective earth terminal shall be suitably protected against corrosion		N
The electrical continuity between the exposed conductive parts of the protective earth terminal and the metal sheathing of connecting conductors		N
The protective earth terminal shall have no other functions		N
Protective earth terminal marking and identification		N
Enclosure for equipment:		N
Design:		N
The enclosure, when it is opened: all parts requiring access for installation and maintenance are readily accessible		N
Sufficient space shall be provided inside the enclosure		N
The fixed parts of a metal enclosure shall be electrically connected to the other exposed conductive parts of the equipment and connected to a terminal which enables them to be earthed or connected to a protective conductor		N

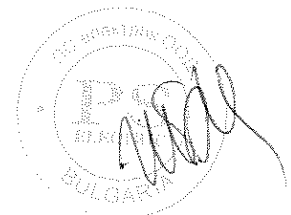
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EN 60 947-3		
Requirement – Test	Result - Remark	Verdict
Under no circumstances shall a removable metal part of the enclosure be insulated from the part carrying the earth terminal when the removable part is in place		N
The removable parts of the enclosure shall be firmly secured to the fixed parts by a device such that they cannot be accidentally loosened or detached owing to the effects of operation of the equipment or vibrations		N
When an enclosure is so designed as to allow the covers to be opened without the use of tools, means shall be provided to prevent loss of the fastening devices		N
If the enclosure is used for mounting push-buttons, it shall not be possible to remove the buttons from the outside of the enclosure		N
Insulation:		N
If, in order to prevent accidental contact between a metallic enclosure and live parts, the enclosure is partly or completely lined with insulating material, then this lining shall be securely fixed to the enclosure		N
Degree of protection of enclosed equipment:		P
Degree of protection .....	IP2Lx	P

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EN 60 947-3

Requirement - Test	Result - Remark	Verdict
<b>TEST SEQUENCE I: GENERAL PERFORMANCE CHARACTERISTICS</b>		
Temperature-rise:		P
<b>MULTIVERT 1000 → 1 x 3pole</b>		
ambient temperature 10-40 °C .....	23,2	—
test enclosure W x H x D (mm x mm x mm) .....	-	—
material of enclosure .....	-	—
Main circuits, test conditions:		P
- conventional thermal current Ith (A) .....	1000	—
- conventional enclosed thermal current Ithe (A) ..	-	—
- cable/busbar cross-section (mm²) / (mm) .....	See appended table 1	—
Fuse-link details (fuse-combination units only):		N
- manufacturer's name, trademark or identification mark .....	-	—
- manufacturer's model or type reference .....	-	—
- rated current (A) .....	-	—
- power loss (W) .....	-	—
- rated breaking capacity (kA) .....	-	—
Temperature-rise	See appended table 1	P
Auxiliary circuits: temperature rise of connecting terminals (K) .....	-	N
- idem, requirement (K) .....	-	—
- rated operation current (A) .....	-	—
- cross-section (mm²) .....	-	—
Test of dielectric properties, impulse withstand voltage (Uimp indicated):		P
- rated impulse withstand voltage (kV) .....	8	—
- test Uimp main circuits (kV) .....	9,8	P
- test Uimp auxiliary circuits (kV) .....	-	N
- test Uimp on open main contacts (equipment suitable for isolating) (kV) .....	12,3	P
Test of dielectric properties, dielectric withstand voltage (Uimp not indicated):		P
- rated insulation voltage (V) .....	1000	—
- main circuits, test voltage for 1 min (V) .....	3500	P
- control and auxiliary circuits, test voltage for 1 min (V) .....	-	N

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EN 60 947-3

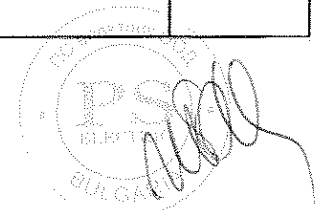
Clause	Requirement – Test	Result - Remark	Verdict
23.3.1	Temperature-rise:		P
	<b>MULTIVERT 1000 → 3 x 1 pole</b>		
	ambient temperature 10-40 °C .....	23,5	—
	test enclosure W x H x D (mm x mm x mm) .....	-	—
	material of enclosure .....	-	—
	Main circuits, test conditions:		P
	- conventional thermal current Ith (A) .....	1000	—
	- conventional enclosed thermal current Ithe (A) .....	-	—
	- cable/busbar cross-section (mm <sup>2</sup> ) / (mm) .....	See appended table 2	—
	Fuse-link details (fuse-combination units only):		N
	- manufacturer's name, trademark or identification mark .....	-	—
	- manufacturer's model or type reference .....	-	—
	- rated current (A) .....	-	—
	- power loss (W) .....	-	—
	- rated breaking capacity (kA) .....	-	—
	Temperature-rise	See appended table 2	P
	Auxiliary circuits: temperature rise of connecting terminals (K) .....	-	N
	- idem, requirement (K) .....	-	—
	- rated operation current (A) .....	-	—
	- cross-section (mm <sup>2</sup> ) .....	-	—
23.3.2	Test of dielectric properties, impulse withstand voltage (Uimp indicated):		P
	- rated impulse withstand voltage (kV) .....	8	—
	- test Uimp main circuits (kV) .....	9,8	P
	- test Uimp auxiliary circuits (kV) .....	-	N
	- test Uimp on open main contacts (equipment suitable for isolating) (kV) .....	12,3	P
	Test of dielectric properties, dielectric withstand voltage (Uimp not indicated):		P
	- rated insulation voltage (V) .....	1000	—
	- main circuits, test voltage for 1 min (V) .....	3500	P
	- control and auxiliary circuits, test voltage for 1 min (V) .....	-	N

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EN 60 947-3			
Cause	Requirement – Test	Result - Remark	Verdict
13.3.3	Making and breaking capacity:		P
	<b>MULTIVERT 1000 → 1 x 3pole</b>		
	utilization category .....	AC-21B	—
	rated operational voltage Ue (V) .....	400	—
	rated operational current Ie (A) or power (kW) ....	1000	—
	Conditions, make/break operations or make operation AC-23A and AC-23B only:		P
	- test voltage U/Ue = 1,05 (V) .....	L1: 423 L2: 425 L3: 424	—
	- test current I/Ie = 1,5 (A) .....	L1: 1509 L2: 1512 L3: 1511	—
	- power factor/time constant .....	L1: 0,94 L2: 0,93 L3: 0,94	—
	Conditions, break operation AC-23A and AC-23B only:		N
	- test voltage U/Ue = (V) .....	L1: - L2: - L3: -	—
	- test current I/Ie = (A) .....	L1: - L2: - L3: -	—
	- power factor .....	L1: - L2: - L3: -	—
	recovery voltage (V) .....	L1: 423 L2: 425 L3: 424	—
	current duration (ms) .....	350	—
	time interval between operations (s) .....	30	—
	Number of make/break operations .....	5	P
	Characteristic of transient recovery voltage for AC-22 and AC-23 only:		N
	oscillatory frequency (kHz) .....	-	—
	Measured oscillatory frequency (kHz) .....	L1: - L2: - L3: -	N
	Factor y .....	L1: 1,1 L2: 1,1 L3: 1,1	P

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EN 60 947-3

Clause	Requirement – Test	Result - Remark	Verdict
3.3.3.5	Behaviour of the equipment during making and breaking capacity tests		P
3.3.3.6	Condition of the equipment after making and breaking capacity tests		P
3.3.4	Dielectric verification:		P
	test voltage (2 Ui) for 1 min (V) .....	2000	—
	No flashover or breakdown		P
3.3.5	Leakage current (switch-disconnectors and Ue > 50 V only):		P
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA .....	-	N
	Leakage current (other utilization categories) ≤ 2 mA) .....	< 2	P
	test voltage (1,1 Ue) (V) .....	440	—
3.3.6	Temperature-rise verification:		P
	Temperature rise of main circuit terminals ≤ 80 K :	< 80	P
	conductor cross-sectional area (mm²) .....	See clause 8.3.3.1	—
	test current Ie (A) .....	1000	—
3.3.7	Strength of actuator mechanism (switch-disconnectors and Ue > 50 V only):		P
	actuator type (fig.) .....	One hand operated (e)	—
	actuating force for opening (N) .....	155	—
	test force with blocked main contacts (N) .....	400	—
	Lockability of driving mechanism in OFF-position at test force and blocked main contacts .....	-	N
	Position indicator does not show OFF-position after capture of test force at blocked main contacts		P

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EN 60 947-3			
Cause	Requirement – Test	Result - Remark	Verdict
3.3.3.3	Making and breaking capacity:		P
	<b>MULTIVERT 1000 → 3 x 1pole (L1 and L2 closed, L3 operated)</b>		
	utilization category .....	AC-21B	—
	rated operational voltage Ue (V) .....	400	—
	rated operational current Ie (A) or power (kW) .....	1000	—
	Conditions, make/break operations or make operation AC-23A and AC-23B only:		P
	- test voltage U/Ue = 1,05 (V) .....	L1: 424 L2: 425 L3: 424	—
	- test current I/Ie = 1,5 (A) .....	L1: 1510 L2: 1512 L3: 1511	—
	- power factor/time constant .....	L1: 0,94 L2: 0,94 L3: 0,94	—
	Conditions, break operation AC-23A and AC-23B only:		N
	- test voltage U/Ue = (V) .....	L1: - L2: - L3: -	—
	- test current I/Ie = (A) .....	L1: - L2: - L3: -	—
	- power factor .....	L1: - L2: - L3: -	—
	recovery voltage (V) .....	L1: 424 L2: 425 L3: 424	—
	current duration (ms) .....	360	—
	time interval between operations (s) .....	30	—
	Number of make/break operations .....	5	P
	Characteristic of transient recovery voltage for AC-22 and AC-23 only:		N
	oscillatory frequency (kHz) .....	-	—
	Measured oscillatory frequency (kHz) .....	L1: - L2: - L3: -	N
	Factor y .....	L1: 1,1 L2: 1,1 L3: 1,1	P

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EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
8.3.3.3.5	Behaviour of the equipment during making and breaking capacity tests		P
8.3.3.3.6	Condition of the equipment after making and breaking capacity tests		P
8.3.3.4	Dielectric verification:		P
	test voltage (2 U <sub>I</sub> ) for 1 min (V) .....	2000	—
	No flashover or breakdown		P
8.3.3.5	Leakage current (switch-disconnectors and U <sub>e</sub> > 50 V only):		P
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA .....	-	N
	Leakage current (other utilization categories) ≤ 2 mA) .....	< 2	P
	test voltage (1,1 U <sub>e</sub> ) (V) .....	440	—
8.3.3.6	Temperature-rise verification:		P
	Temperature rise of main circuit terminals ≤ 80 K :	< 80	P
	conductor cross-sectional area (mm <sup>2</sup> ) .....	See clause 8.3.3.1	—
	test current I <sub>e</sub> (A) .....	1000	—
8.3.3.7	Strength of actuator mechanism (switch-disconnectors and U <sub>e</sub> > 50 V only):		P
	actuator type (fig.) .....	One hand operated (e)	—
	actuating force for opening (N) .....	205	—
	test force with blocked main contacts (N) .....	400	—
	Lockability of driving mechanism in OFF-position at test force and blocked main contacts .....	-	N
	Position indicator does not show OFF-position after capture of test force at blocked main contacts		P

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EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
§ 3.4	TEST SEQUENCE II: OPERATIONAL PERFORMANCE CAPABILITY		P
§ 3.4.1	Operational performance test:		P
	<b>MULTIVERT 1000 → 1 x 3pole</b>		
	utilization category .....	AC-21B	—
	rated operational voltage (V) .....	400	—
	rated operational current (A) .....	1000	—
	Test conditions electrical operation cycles:		P
	test voltage (V) .....	L1: 404 L2: 406 L3: 404	—
	test current (A) .....	L1: 1010 L2: 1012 L3: 1009	—
	power factor/time constant .....	L1: 0,94 L2: 0,94 L3: 0,95	—
	Number of cycles with current .....	100	P
	Number of cycles without current .....	500	P
	First test sequence (with/without current) .....	With	—
	Second test sequence (with/without current) .....	Without	—
	time interval between first and second test sequence .....	No time interval	—
	current duration (ms) .....	350	—
	time interval between operations (s) .....	180	—
	Factor y .....	1,1	—
§ 3.4.2	Dielectric verification:		P
	test voltage (2 Ui) for 1 min (V) .....	2000	—
	No breakdown or flashover		P
§ 3.4.3	Leakage current (switch-disconnectors and $U_e > 50$ V only):		P
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA .....	-	N
	Leakage current (other utilization categories) $\leq 2$ mA .....	< 2	P
	test voltage (1,1 $U_e$ ) (V) .....	440	—
§ 3.4.4	Temperature-rise verification:		P
	Temperature rise of main circuit terminals $\leq 80$ K :	< 80	P
	conductor cross-sectional area (mm <sup>2</sup> ) .....	See clause 8.3.3.1	—
	test current $I_e$ (A) .....	1000	—

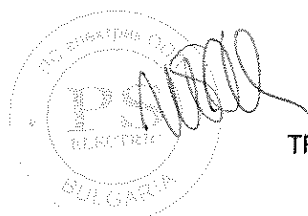
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EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
8.3.4.1	Operational performance test:		P
	<b>MULTIVERT 1000 → 3 x 1pole (L1 and L3 closed, L2 operated)</b>		
	utilization category .....	AC-21B	—
	rated operational voltage (V) .....	400	—
	rated operational current (A) .....	1000	—
	Test conditions electrical operation cycles:		P
	test voltage (V) .....	L1: 405 L2: 406 L3: 404	—
	test current (A) .....	L1: 1011 L2: 1012 L3: 1009	—
	power factor/time constant .....	L1: 0,94 L2: 0,94 L3: 0,95	—
	Number of cycles with current .....	100	P
	Number of cycles without current .....	500	P
	First test sequence (with/without current) .....	With	—
	Second test sequence (with/without current) .....	Without	—
	time interval between first and second test sequence .....	No time interval	—
	current duration (ms) .....	360	—
	time interval between operations (s) .....	180	—
	Factor y .....	1,1	—
8.3.4.2	Dielectric verification:		P
	test voltage (2 Ui) for 1 min (V) .....	2000	—
	No breakdown or flashover		P
8.3.4.3	Leakage current (switch-disconnectors and Ue > 50 V only):		P
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA .....	-	N
	Leakage current (other utilization categories) ≤ 2 mA .....	< 2	P
	test voltage (1,1 Ue) (V) .....	440	—
8.3.4.4	Temperature-rise verification:		P
	Temperature rise of main circuit terminals ≤ 80 K :	< 80	P
	conductor cross-sectional area (mm <sup>2</sup> ) .....	See clause 8.3.3.1	—
	test current Ie (A) .....	1000	—

TRF No.: 60947-3B

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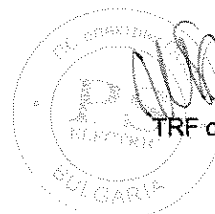


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Clause	Requirement – Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III: SHORT-CIRCUIT PERFORMANCE CAPABILITY		P
	Short-circuit performance capability test		P
	<b>MULTIVERT 1000 → 1 x 3pole</b>		
8.3.5.1	Short-time withstand current test:		P
	Rated short-time withstand current low (kA) .....	12 / 1s	P
	test voltage (V) .....	L1: 428 L2: 430 L3: 429	—
	r.m.s. test current (A) .....	L1: 12050 L2: 12200 L3: 12150	—
	peak test current (A) .....	L1: 24300 L2: 25740 L3: 17600	—
	power factor/time constant .....	L1: 0,28 L2: 0,28 L3: 0,28	—
	test duration (ms) .....	1010	—
	Equivalent with .....	12,2 kA / 1s	P
8.3.5.1.5	Behaviour of the equipment during the test		P
8.3.5.1.6	Conditions of the equipment after the test		P
8.3.5.2	Short-circuit making capacity:		P
	Rated short-circuit making capacity I <sub>cm</sub> (kA) .....	15 peak	P
	test voltage (V) .....	L1: 429 L2: 430 L3: 429	—
	r.m.s. test current (A) .....	L1: 8160 L2: 8400 L3: 8210	—
	peak test current (A) .....	L1: 13860 L2: 15100 L3: 12200	—
	power factor/time constant .....	L1: 0,49 L2: 0,49 L3: 0,49	—
	current duration (ms) .....	65	—
	number of making cycles .....	2	—
8.3.5.2.5	Behaviour of the equipment during the test		P
8.3.5.2.6	Conditions of the equipment after the test		P

TRF No.: 60947-3B

**ВЯРНО С  
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EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
8.3.5.3	Dielectric verification:		P
	test voltage (2 Ui) for 1 min (V) .....	2000	—
	No flashover or breakdown		P
8.3.5.4	Leakage current (switch-disconnectors and Ue > 50 V only):		P
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA .....	-	N
	Leakage current (other utilization categories) ≤ 2,0 mA .....	< 2	P
	test voltage (1,1 Ue) (V) .....	440	—
8.3.5.5	Temperature-rise verification:		P
	Temperature rise of main circuit terminals ≤ 80 K :	< 80	P
	cross-sectional area (mm²) .....	See clause 8.3.3.1	—
	test current Ie (A) .....	1000	—

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EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
	Short-circuit performance capability test		P
	<b>MULTIVERT 1000 → 3 x 1pole (L1 and L2 closed, L3 operated)</b>		
8.3.5.1	Short-time withstand current test:		P
	Rated short-time withstand current $I_{cw}$ (kA) .....	12 / 1s	P
	test voltage (V) .....	L1: 428 L2: 430 L3: 429	—
	r.m.s. test current (A) .....	L1: 12050 L2: 12200 L3: 12160	—
	peak test current (A) .....	L1: 24300 L2: 25740 L3: 17620	—
	power factor/time constant .....	L1: 0,28 L2: 0,28 L3: 0,28	—
	test duration (ms) .....	1010	—
	Equivalent with .....	12,2 kA / 1s	P
8.3.5.1.5	Behaviour of the equipment during the test		P
8.3.5.1.6	Conditions of the equipment after the test		P
8.3.5.2	Short-circuit making capacity:		P
	Rated short-circuit making capacity $I_{cm}$ (kA) .....	15 peak	P
	test voltage (V) .....	L1: 428 L2: 430 L3: 429	—
	r.m.s. test current (A) .....	L1: 8150 L2: 8400 L3: 8210	—
	peak test current (A) .....	L1: 13850 L2: 15100 L3: 12200	—
	power factor/time constant .....	L1: 0,49 L2: 0,49 L3: 0,49	—
	current duration (ms) .....	68	—
	number of making cycles .....	2	—
8.3.5.2.5	Behaviour of the equipment during the test		P
8.3.5.2.6	Conditions of the equipment after the test		P

TRF No.: 60947-3B

ВЯРНО С  
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PS REPORT  
BULGARIA  
TRF originator: KEMA

EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
8.3.5.3	Dielectric verification:		P
	test voltage (2 UI) for 1 min (V) .....	2000	—
	No flashover or breakdown		P
8.3.5.4	Leakage current (switch-disconnectors and Ue > 50 V only):		P
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA .....	-	N
	Leakage current (other utilization categories) ≤ 2,0 mA .....	< 2	P
	test voltage (1,1 Ue) (V) .....	440	—
8.3.5.5	Temperature-rise verification:		P
	Temperature rise of main circuit terminals ≤ 80 K :	< 80	P
	cross-sectional area (mm²) .....	See clause 8.3.3.1	—
	test current Ie (A) .....	1000	—

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**ВЯРНО С  
ОРИГИНАЛА**



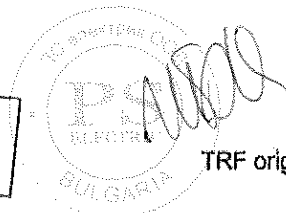
TRF originator: KEMA



EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT		N
	Conditional short-circuit current test:		N
	Protective device details:		N
	- manufacturer's name, trademark or identification mark .....	-	—
	- manufacturer's model or type reference .....	-	—
	- rated voltage (V) .....	-	—
	- rated current (A) .....	-	—
	- rated breaking capacity (kA) .....	-	—
8.3.6.2	Conditional short-circuit test values:		N
	test voltage (1,05 Ue) (V) .....	L1: - L2: - L3: -	—
	test current (A) .....	L1: - L2: - L3: -	—
	rated frequency (Hz) .....	-	—
	power factor .....	-	—
	factor n .....	-	—
	Fuse protected short-circuit withstand:		N
	- max. let-through current (A) .....	L1: - L2: - L3: -	—
	- Joule Integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: - L2: - L3: -	—
	Fuse protected short-circuit making:		N
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	-	—
	- point at which the measurement is made .....	-	—
	- test speed during the fuse protected short-circuit making (m/s) .....	-	—
	- max. let-through current (A) .....	L1: - L2: - L3: -	—
	- Joule Integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: - L2: - L3: -	—

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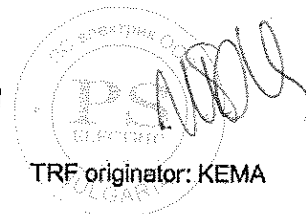
EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		N
8.3.6.2.6	Conditions of the equipment after the test		N
8.3.6.3	Dielectric verification:		N
	test voltage (2 Ui) for 1 min (V) .....: -		—
	No flashover or breakdown		N
8.3.6.4	Leakage current (switch-disconnectors and Ue > 50 V only):		N
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA .....: -		N
	Leakage current (other utilization categories) ≤ 2,0 mA .....: -		N
	test voltage (1,1 Ue) (V) .....: -		—
8.3.6.5	Temperature-rise verification:		N
	Temperature rise of main circuit terminals ≤ 80 K : -		N
	cross-sectional area (mm²) .....: -		—
	test current Ie (A) .....: -		—

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EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict
8.3.7	TEST SEQUENCE V: OVERLOAD PERFORMANCE CAPABILITY		N
8.3.7.1	Overload test:		N
	ambient temperature 10-40 °C .....	-	—
	test enclosure W x H x D (mm x mm x mm) .....	-	—
	material of enclosure .....	-	—
	test current 1,6 lth or 1,6 lth (A) .....	-	—
	cable/busbar cross-section (mm²) / (mm) .....	-	—
	Fuse-link details:		N
	- manufacturer's name, trademark or identification mark .....	-	—
	- manufacturer's model or type reference .....	-	—
	- rated voltage (V) .....	-	—
	- rated current (A) .....	-	—
	- power loss (W) .....	-	—
	- rated breaking capacity (kA) .....	-	—
	Time duration of the overload test (s) .....	-	N
	Within 3 min after the fuse(s) has(have) operated (or 1 h), the equipment shall be operated once, i.e. opened and closed		N
	The equipment shall not have undergo any impairment hindering such operation		N
8.3.7.2	Dielectric verification:		N
	test voltage (2 UI) for 1 min (V) .....	-	—
	No flashover or breakdown		N
8.3.7.3	Leakage current (switch-disconnectors and Ue > 50 V only):		N
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA .....	-	N
	Leakage current (other utilization categories) ≤ 2 mA) .....	-	N
	test voltage (1,1 Ue) (V) .....	-	—
8.3.7.4	Temperature-rise verification:		N
	Temperature rise of main circuit terminals ≤ 80 K (K) .....	-	N
	cross-sectional area (mm²) .....	-	—
	test current Ie (A) .....	-	—

ВЯРНО С  
ОРИГИНАЛА



EN 60 947-3			
Clause	Requirement – Test	Result - Remark	Verdict

TABLE 1: Temperature rise measurements MULTIVERT 1000 → 1 x 3pole			P
Temperature rise dT of part:	Phase	dT (K)	Required dT (K)
Cable terminals (copper bars 2 x 60mm x 5mm)	L1	55	60
	L2	58	
	L3	54	
Busbar terminals (copper bars 60mm x 10mm)	L1	51	60
	L2	52,5	
	L3	50,5	
Manual operating means (non-metallic)	---	8,5	25
Parts intended to be touched but not hand-held (non-metallic)	---	23	40
Parts which need not be touched during operation (non-metallic)	---	42	50

TABLE 2: Temperature rise measurements MULTIVERT 1000 → 3 x 1pole			P
Temperature rise dT of part:	Phase	dT (K)	Required dT (K)
Cable terminals (copper bars 2 x 60mm x 5mm)	L1	54	60
	L2	58,5	
	L3	56	
Busbar terminals (copper bars 60mm x 10mm)	L1	51	60
	L2	53	
	L3	52	
Manual operating means (non-metallic)	---	10	25
Parts intended to be touched but not hand-held (non-metallic)	---	23,5	40
Parts which need not be touched during operation (non-metallic)	---	43	50

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Remarks

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TRF No.: 60947-3B

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TRF originator: KEMA

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10.5.4



Die Nationale Akkreditierungsstelle / *The National Accreditation Body*

## AKKREDITIERUNG AUSTRIA

bestätigt die Akkreditierung der Rechtsperson / *confirms the accreditation of*

### AIT Austrian Institute of Technology GmbH

Donau-City-Straße 1, A-1220 Wien

Identifikationsnummer / *ID-number*: **0001**

als / as

**Prüfstelle / Testing Laboratory**  
gemäß / *according to* **EN ISO/IEC 17025:2005**

Datum der Erstakkreditierung / *Initial date of accreditation*: **01.12.1993**

Standorte/Organisationseinheiten / *sites/units*:  
**Standort Tulln, Konrad-Lorenz-Straße 24, A-3430 Tulln**  
**Standort Wien, Giefinggasse 2, A-1210 Wien**

Informationen zum Akkreditierungsumfang und zu Akkreditierung Austria / *Information about the accreditation scope and Akkreditierung Austria* <http://www.bmwfw.gv.at/akkreditierung>

Die Akkreditierung wurde mittels Bescheid erteilt und damit bestätigt, dass die Konformitätsbewertungsstelle die Anforderungen der **EN ISO/IEC 17025:2005** erfüllt. Diese Bestätigung der Akkreditierung darf nur unverändert weiterverbreitet werden.

*The accreditation was granted by a decree which confirms, that the Conformity Assessment Body fulfills the requirements of EN ISO/IEC 17025:2005. This confirmation of accreditation may not be reproduced other than in full.*

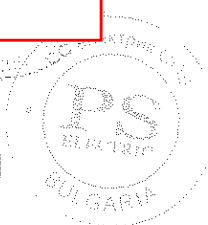
На основание чл. 2  
от ЗЗЛД

11.02.2016

Datum / *Date*

Abteilung 1/12 - Akkreditierung Austria  
1010 Wien | Stubenring 1 | Tel.: +43 (0)1 711 00 - 8236 | Fax: +43 (0)1 711 00 93 - 8236 | DVR 0037257  
E-Mail: [akkreditierung@bmwfw.gv.at](mailto:akkreditierung@bmwfw.gv.at) | [www.bmwfw.gv.at/akkreditierung](http://www.bmwfw.gv.at/akkreditierung)

ВЯРНО С  
ОРИГИНАЛА





10.5.5

**EU DECLARATION OF CONFORMITY / DECLARATION DE CONFORMITE UE**

We / Nous **Mersen France SB** sas 15, Rue Jacques Vaucanson 69720 Saint Bonnet de Mure France  
Website / Site web **ep-fr.mersen.com** (this declaration is downloadable / cette déclaration est téléchargeable)

Certify that products with the registered trade mark / Certifions que les produits de la marque Mersen ® ,

- **NH vertical fuse switch disconnectors type Multivert 690V AC 1-pole and 3-pole switching**
- **Size 00 - Multivert 160A, 100mm, 185mm bus bar distance**
- **Size 1 - Multivert 250A**
- **Size 2 - Multivert 400A, 800A, 1260A with neutral links.**
- **Size 3 - Mutlivert 630A, 1000A with neutral links, 1260A, 1600A with neutral links 630 kVA/910A.**

Provided that they are installed, maintained and used as intended and in accordance with the current installation standards according to manufacturer's recommendations, comply with the following Directives

Sous réserve d'installations, d'entretien et d'utilisation conformes à leur destination, aux normes d'installations applicables et aux instructions du constructeur, satisfont aux exigences des Directives suivantes:

Low Voltage 2014/35/EU  
RoHS 2011/65/EU

Basse Tension 2014/35/UE  
RoHS 2011/65/UE

And are in compliance with the following standards / et sont conformes aux normes suivantes:

IEC 60947-1 Ed.2007 / AMD1 : 2010 / AMD2 : 2014  
IEC 60947-3 Ed.2008 / AMD1 : 2012 / AMD2 : 2015

ВЯРНО  
ОРИГИНАЛ



Saint Bonnet de Mure le 12 Octobre 2017 Name / Nom

Position / Fonction

Signature / Signature

На основание чл. 2  
от ЗЗЛД

DECLARATION CE N° 0 1 6 7 G

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Декларация за съответствие

Ние, Мерсен, Франция

Интернет страница [fr.mersen.com](http://fr.mersen.com)

Декларираме, че продуктите с регистрирана търговска марка

Mersen


-NH вертикални разединители с предпазители Multivert 690 V AC-1-полюсно и 3-полюсно изключване

-Размер 00-Multivert 160 A, 100 mm, 185 mm разстояние м/у шините

-Размер 1-Multivert 250A

-Размер 2-Multivert 400A, 800A, 1260A с неутрални вложки

-Размер 3-Multivert 630A, 1000A с неутрални вложки, 1260A, 1600A с неутрални вложки, 630 kVA/910A



При условие, че са инсталирани, поддържани и използвани по предназначение и в съответствие с настоящите стандарти за инсталиране съгласно препоръките на производителя, да отговорят на следните директиви:

Low voltage 2014/35/EU

ROHS 2001/65/EU

И са в съответствие със следните стандарти: IEC 60947-1 Ed.2007/AMD1:2010/  
AMD2:2014, IEC 60947-3 Ed.2008/ AMD1:2012/ AMD2:2015

Дата:12.10.2017

Подписи, печат

На основание чл. 2  
от ЗЗЛД



**ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ**

Долуподписаният, “ПС ЕЛЕКТРИК” ООД,

(име на производителя или неговия упълномощен представител, наименование на дружеството /фирмата производител или негов представител)

**9700 гр. Шумен, бул. “Мадара” № 12,**  
(адрес)

декларирам на собствена отговорност, че продуктът

**Триполюсен вертикален разединител с предпазители размер NH3 1000A тип Multivert 1000A**  
(наименование и търговска марка, тип или модел, предназначение)

произведен от

**Mersen Osterreich Wien GMBH**

(място на производство на разглеждания продукт)

за който се отнася тази декларация, е произведен в условията на въведена и поддържана от производителя система за производствен контрол и е в съответствие със следния(те) стандарт(и), Българско техническо одобрение (БТО) или друг(и) нормативен(ни) акт(актове):

- БДС EN 60947-1:2007 – Комутационни апарати за ниско напрежение. Част 1; Общи правила (IEC 60947-1:2007)
- БДС EN 60947-3:2002 – Комутационни апарати за ниско напрежение. Част 3; Товарови прекъсвачи, разединители, товарив прекъсвач-разединители и апарати, комбинирани с предпазители (IEC 60947-3:1999+ Поправка юли 1999 )

(наименование и/или номер и дата на издаване на стандарта(тите), БТО или друг(и) нормативен(ни) акт (актове))

и е оценен положително по реда и условията на Наредбата за съществените изисквания и оценяване на съответствието на електрически съоръжения, предназначени за използване в определени граници на напращението, приета с ПСМ№182 от 06.07.2001г., обн. ДВ, бр.62 от 13.07.2001г.

гореописаният продукт съответства на предлаганото изпълнение с изискванията на техническата спецификация на стандарт за материал 20 16 8301, вкл. на параграфи „Характеристика на материала“ и „Съответствие на предложеното изпълнение с нормативно-техническите документи“.

Декларирам, че ми е известна отговорността, която нося съгласно чл. 313 от НК.

03.08.2018 год.

гр. Шумен

(място и дата на издаване)

На основание чл. 2  
от ЗЗЛД

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FERRAZ SHAWMUT IS NOW MERSEN



*W*

10.5.7

Saint Bonnet de Mure, 2017 January 23rd

### PRODUCT DECLARATION LETTER

MERSEN FRANCE SB  
15, Rue de Vaucanson  
69720 Saint Bonnet de Mure Cedex  
FRANCE

Since the m.Schneider company has been fully acquired by Mersen in 2010, all products manufactured by m.Schneider are now branded Mersen and are strictly identical in characteristics.

Therefore all type tests under m.Schneider brand are fully valid for Mersen branded products.

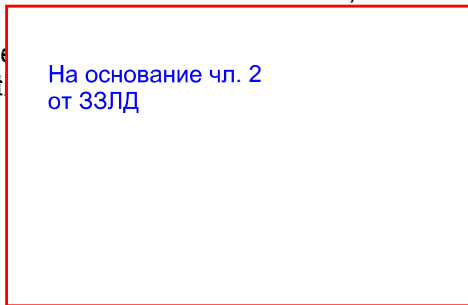
The name of the apparels remains the same: Multivert, Multibloc and BSL.

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For and on behalf of MERSEN FRANCE SB,

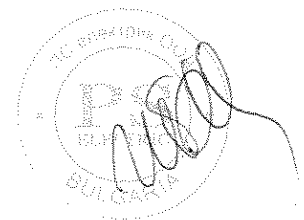
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от ЗЗЛД



**MERSEN France SB S.A.S.**  
FORMERLY FERRAZ SHAWMUT S.A.S.  
HEAD OFFICE AND PLANT : 15, RUE JACQUES DE VAUCANSON - F-69720 SAINT BONNET DE MURE  
T +33(0)4 72 22 66 11 F +33(0)4 72 22 66 12  
MERSEN FRANCE SB, S.A.S. 40 936 000 EURGS OF CAPITAL - 955 511 217 RCS LYON  
www.mersen.com

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Писмо- декларация за продукт

Мерсен, Франция

След като компанията М Шнайдер е напълно придобита от Мерсен, Франция през 2010 година, всички продукти произвеждани от М Шнайдер са вече с марка Мерсен и са напълно идентични по характеристики.

Следователно, всички типови изпитания направени за продукти М Шнайдер, са приложими за продуктите на Мерсен.

Името на продуктите си остава непроменено: Multivert, Multibloc, BSL.

За и от името на Мерсен, Франция:

Име

На основание чл. 2  
от ЗЗЛД

Пози

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Подп

31.07.2018

