

MULTIVERT® 800V

Size 1, 160A, 800VAC

IEC FUSE SWITCH DISCONNECTORS

NH VERTICAL FUSE SWITCH DISCONNECTOR



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® 800Vac range includes Size 1 Multivert rated at 160A and answers the specific needs of Photovoltaic application for using String inverters rated at 800Vac.

MULTIVERT® 800Vac are used for installation on to 185mm bus bar systems.

MULTIVERT® 800Vac are designed for NH fuse-links Size 1 in accordance with IEC/EN 60269, offered by Mersen for a complete fuse-system protection.

The system is a modular system, that allows the installation of the 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	800 VAC
Amper (A)	160 A
Size per Standard	1
SCCR	Ue=AC 800 V; Ie=160 A 10kA
Mounting	bus bar system 185 mm
Switchability	1 x triple pole, 3 x single pole
Number of poles	3

FEATURES & BENEFITS

- Installation on to 185mm bus bar system
Standard design with M 12 screws: M = 35 ±3Nm
Direct installation without drilling with hooked clamps possible
- Symmetrical switch - top/bottom cable terminal connection
- Touch protection IP 30 with central cover
- Varieties of cable termination: bolt, insert nut, V-terminal
Other terminations on demand
- Safe on load connection/disconnection in accordance with IEC 60947-3

APPLICATIONS

- Power distribution and Motor protection
- Photovoltaic application: Protection on lines of String inverters rated at 800Vac

STANDARDS

- IEC/EN 60 947-3
For NH-fuse links size 1 in accordance with IEC/EN 60269



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PRODUCT RANGE



8.150.000

MULTIVERT® 800VAC 160A size 1 185 mm 1 x triple pole switching

Catalog number	Item number	Cable termination components	Package	Weight
8.150.000	L1069372	3 M10 bolts	1 piece	4.67 kg
8.160.000	M1069373	3 M10 insert nuts	1 piece	4.63 kg
8.170.000	N1069374	V-terminal for V-terminal clamps size 1,2,3	1 piece	4.55 kg



8.170.000

MULTIVERT® 800VAC 160A size 1 185 mm 3 x single pole switching

Catalog number	Item number	Cable termination components	Package	Weight
8.100.000	H1069369	3 M10 bolts	1 piece	4.52 kg
8.110.000	J1069370	3 M10 insert nuts	1 piece	4.46 kg
8.120.000	K1069371	V-terminal for V-terminal clamps size 1,2,3	1 piece	4.38 kg



8.100.000



8.120.000

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TECHNICAL DATA IN ACCORDANCE WITH EN / IEC 60947

	160 A 1 x triple pole switching	160 A 3 x single pole switching
Number of poles/phases	3	3
Size	1	1
Conventional free air thermal current with NH-fuse links I_{th}	160 A	160 A
Max. power dissipation of fuse links P_n	23 W	23 W
Rated operational voltage U_e	800 V	800 V
Utilization category to IEC/EN 60947-3 $U_e = AC 800 V; I_e = 160 A$	AC 21 B	AC 21 B
Rated insulation voltage U_i	1000 V	1000 V
Rated impulse withstand voltage U_{imp}	8 kV	8 kV
Rated frequency	50 ... 60 Hz	50 ... 60 Hz
Degree of protection	IP 30	IP 30
Degree of pollution	3	3
Rated duty	uninterrupted duty	uninterrupted duty
Rated conditional short-circuit current with fuse links $U_e = AC 800 V; I_e = 160 A$	10 kA	10 kA
Power dissipation by I_{th} without NH-fuse links	15 W	15 W
Cable terminal connection		
Standard cable terminal	M10	M10
for cable lugs Cu max.	300 mm ²	300 mm ²
for cable lugs Al max.	300 mm ²	300 mm ²
for copper bars with max. dimensions	40 x 10 mm	40 x 10 mm
V-shaped lugs for V-terminal clamps	35 - 240 mm ²	35 - 240 mm ²
Bus bar terminal connection		
Standard bus bar terminal	M12	M12
Hooked clamp for bus bar with thickness	5 ... 10 mm	5 ... 10 mm
Bus bar system	185 mm	185 mm
Installation mode	bus bar installation	bus bar installation

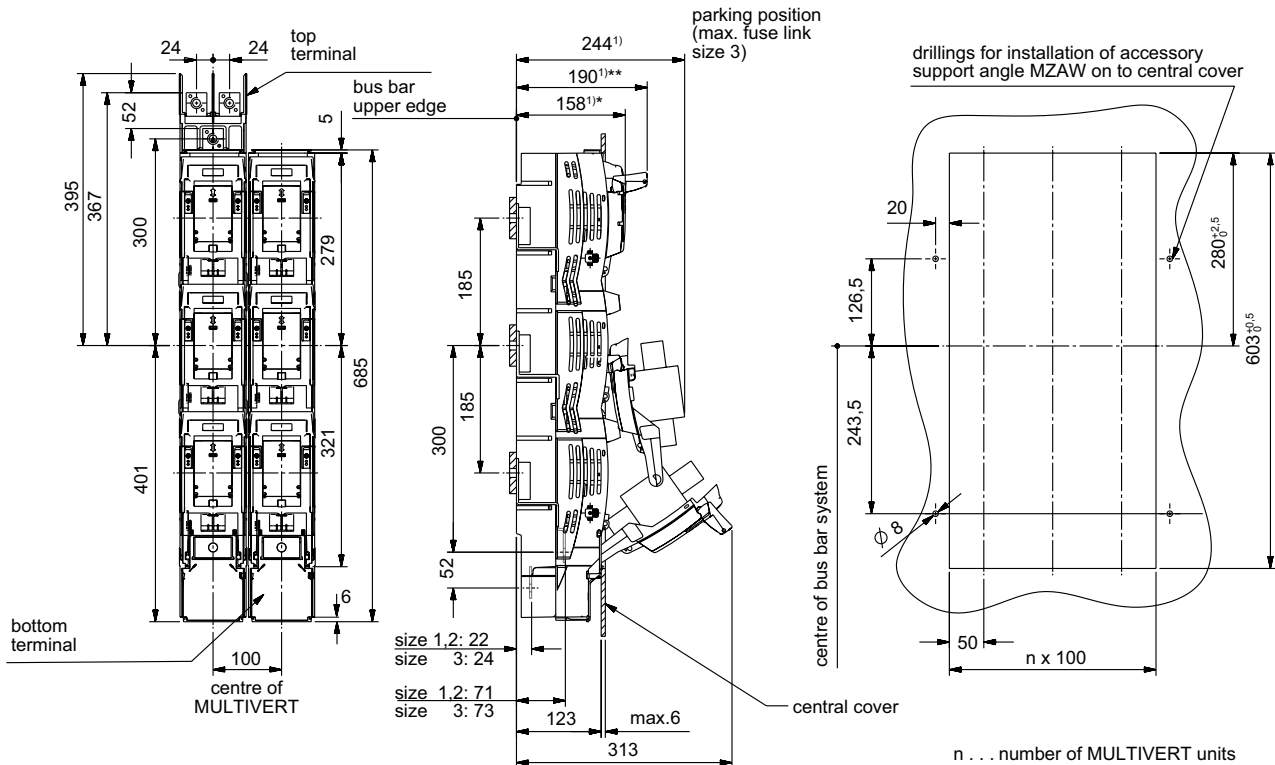
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DIMENSIONS

MULTIVERT® Size 1 NH-vertical fuse switch disconnecter, 3 x single pole switching direct installation with screws on to 185mm bus bar system (M01152b)

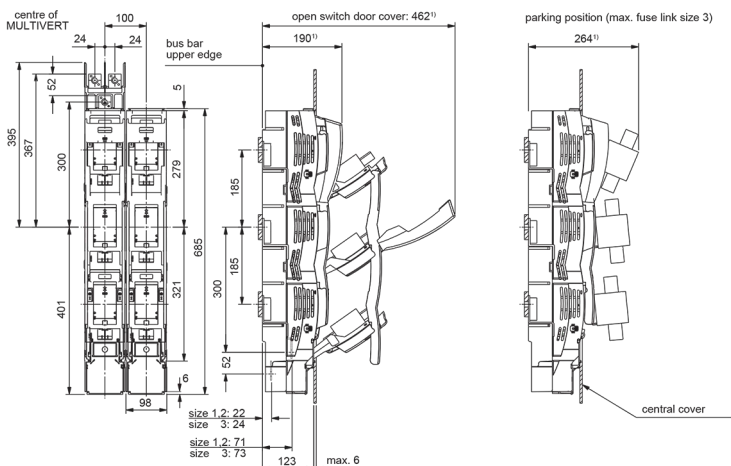


1) dimension from upper edge of bus bar

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

Dimensions in mm

MULTIVERT® Size 1 NH-vertical fuse switch disconnecter, 1 x triple pole switching direct installation with screws on to 185mm bus bar system (M01153b)



1) dimension from upper edge of bus bar

Dimensions in mm

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DIMENSIONS

Cable termination MULTIVERT® Size 1 (M01105b)

reference	B	E	V	
type of terminal	bolt	insert nut	V-terminal	
accessory	cable lug max. width 45 mm	cable lug max. width 45 mm	V-clamp (accessory)	
cross section [mm ²]	max. 300	max. 300	22SZVK4 50 - 240 sectoral solid 50 - 185 sectoral stranded 35 - 70 round stranded 35 - 50 round solid	22SZVK41 95 - 300 sectoral solid 70 - 240 sectoral stranded 50 - 185 round stranded 70 - 240 round solid
M [Nm]	35 ±3	35 ±3	25 ±2	25 ±2

Dimensions in mm

MULTIVERT® 800V

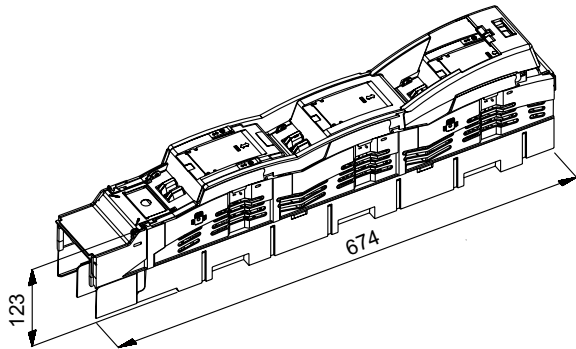
Size 1, 160A, 800VAC

DIMENSIONS

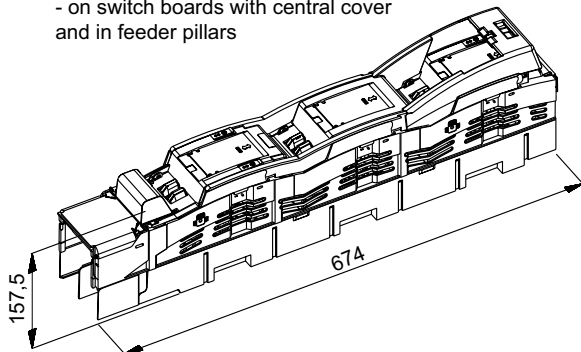
Cover shrouds for cable termination bottom terminal MULTIVERT® Size 1 (M01160a-1)

standard design: integrated shroud for bottom cable termination

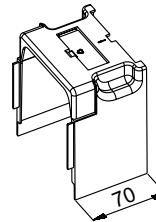
for terminal connections with cable lugs (bolt and insert nut)
- on switch boards with central cover



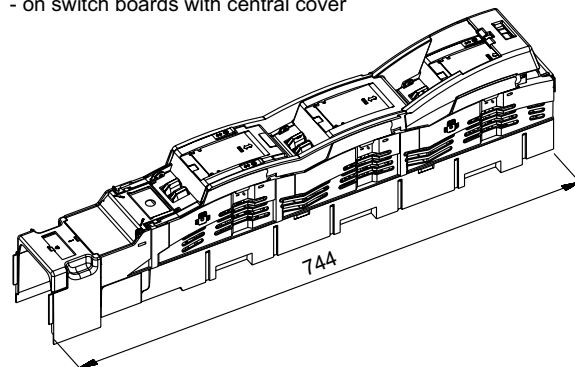
for clamp terminal connections (V-terminal)
for special "high" clamp terminal connections (double V-clamps)
- on switch boards with central cover
and in feeder pillars



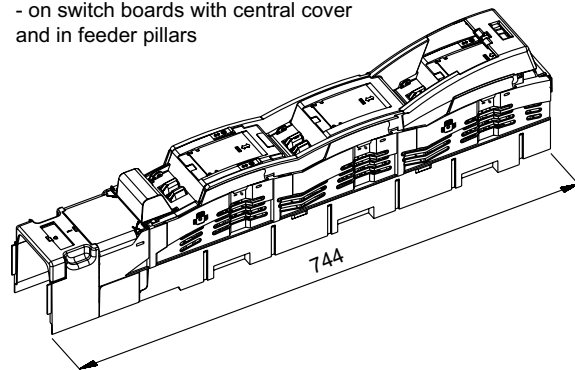
Extension shroud for bottom cable termination article number 1.002.095 (accessory)



for extended cover
for terminal connections with cable lugs (bolt and insert nut)
- on switch boards with central cover



for extended cover
for clamp terminal connections (V-terminal)
for special "high" clamp terminal connections (double V-clamps)
- on switch boards with central cover
and in feeder pillars



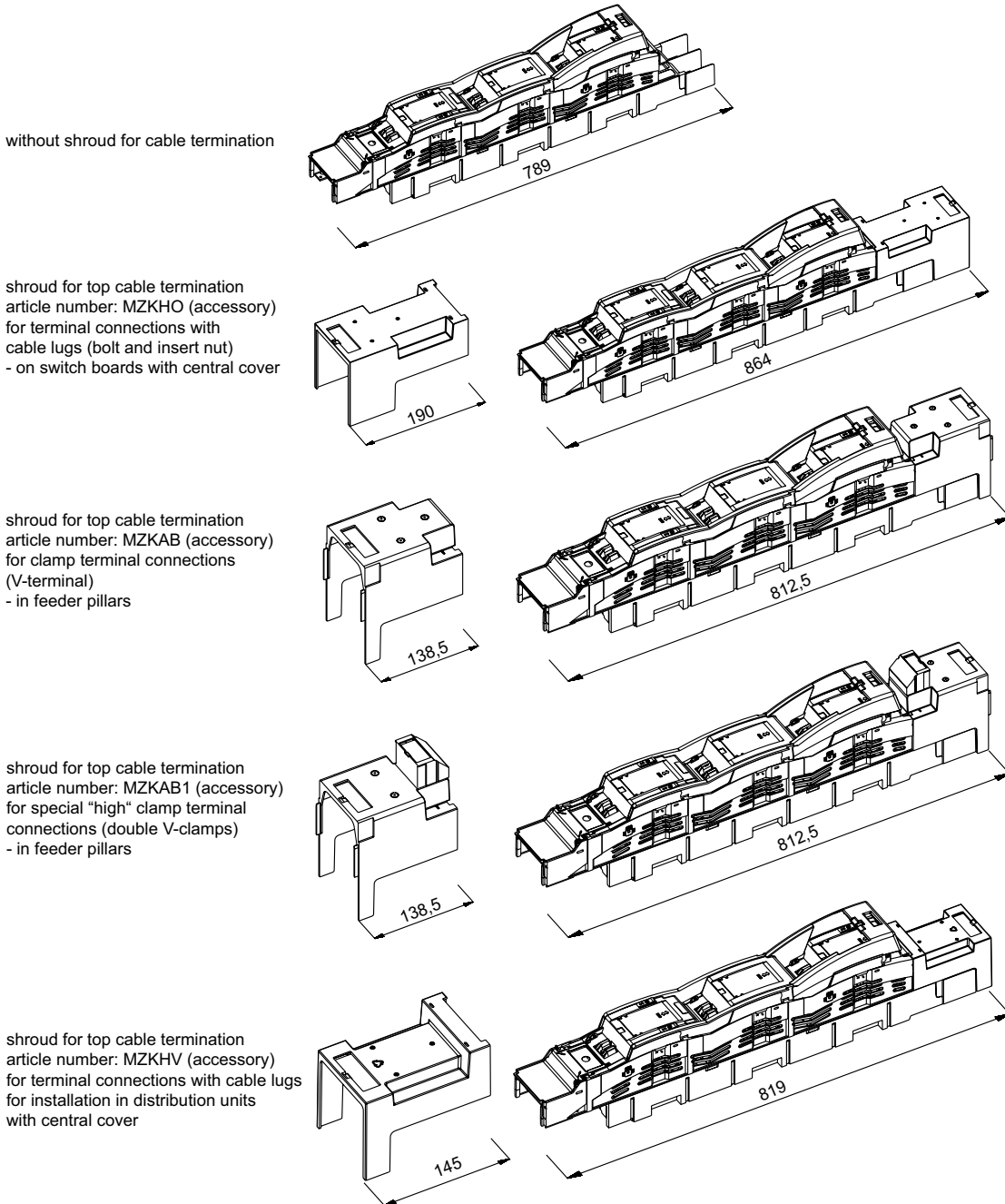
Dimensions in mm

MULTIVERT® 800V

Size 1, 160A, 800VAC

DIMENSIONS

Cover shrouds for cable termination top terminal MULTIVERT® Size 1 (M01160a-3)



Dimensions in mm

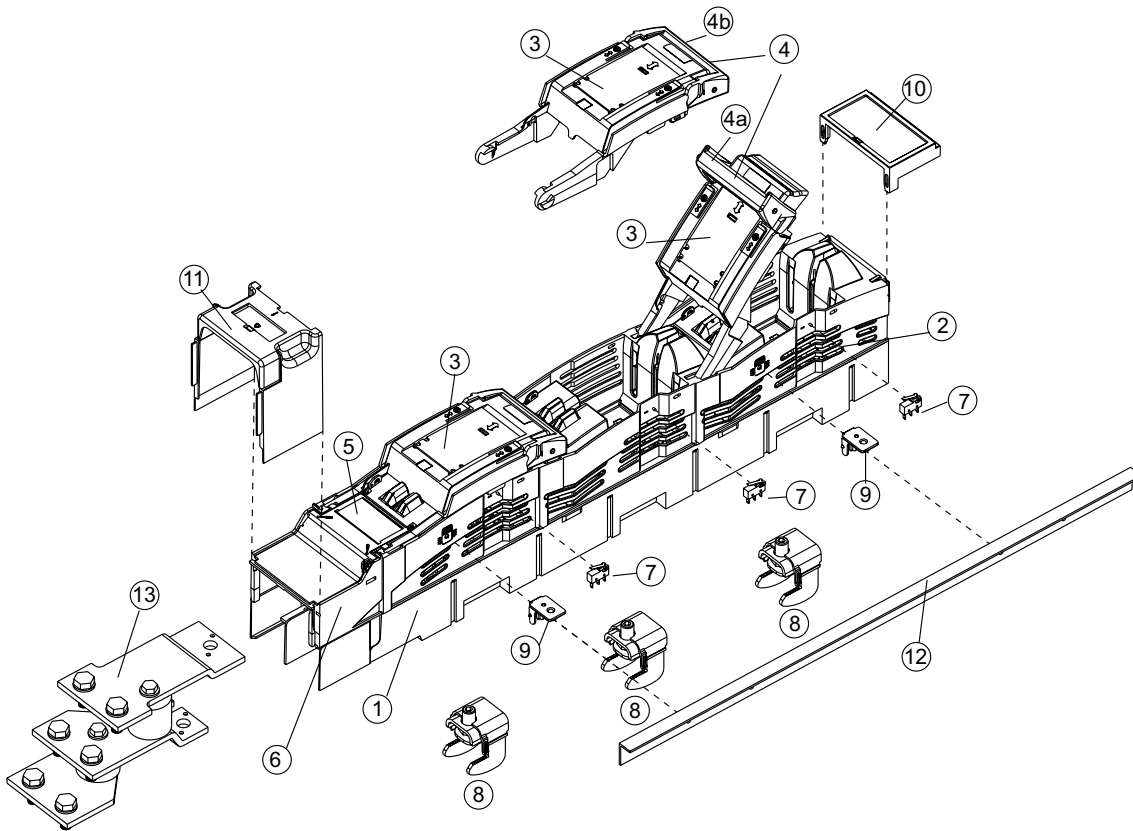
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MULTIVERT® 800V

Size 1, 160A, 800VAC

EXPLODED SKETCH

MULTIVERT® Size 1 3x single pole switching (E 1.002.265a)



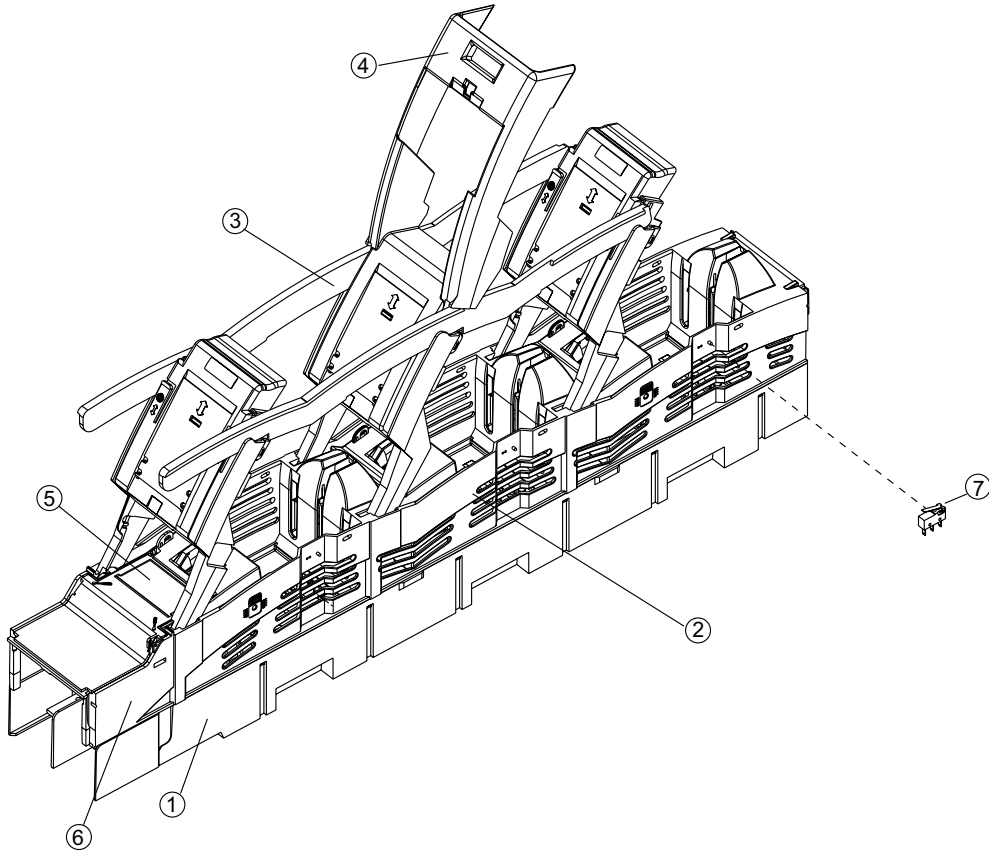
no.	articlenumber	short Description
1		Main base
2		Protection cover (removable)
3		Switch operating cover triple pole
4		Combination handle: 4a. open - switching position; 4b. Closed - installation depth 158mm
5		Labelling area (label)
6		Integrated cover shroud
7	1.000.852	indicator for switch door position
8	1.000.192	Hooked clamp, 1 set = 3 pieces
9	MZAW	Support angle, 1 set = 4 pieces
10	MZBT	Label holder
11	1.002.095	Cover shroud, bottom terminal, 70mm
12	1.001.510	cover shield, length 605mm, set=2 pieces
13	1.002.255	Supplementary set for multiple terminal

MULTIVERT® 800V

Size 1, 160A, 800VAC

EXPLODED SKETCH

MULTIVERT® Size 1 1x triple pole switching (E 1.002.266)



no.	articlenumber	short Description
1		Main base
2		Protection cover (removable)
3		Switch operating cover triple pole
4		Handle
5		Labelling area (label)
6		Integrated cover shroud
7	1.000.852	indicator for switch door position

ACCESSORIES



1.002.095



1.002.458



MZKAB



MZKAB1



MZKHO



MZKHV



MZVHB



1.001.510



MZAW

Covers/shrouds for cable termination

Catalog number	Item number	Application	Design	Package	Weight
1.002.095	J1002279	bottom terminal	cover shroud for extended cover length 70 mm	1 piece	0.12 kg
1.002.458	N1023305	bottom terminal	cover shroud for multiple termination length 205,5mm	1 piece	0.16 kg
MZKAB	J1023301	top terminal	cover shroud for clamp terminal connection in feeder pillars length 138,5 mm	1 piece	0.10 kg
MZKAB1	K1023302	top terminal	cover shroud for special (high) clamp terminal connection in feeder pillars length 138,5 mm	1 piece	0.12 kg
MZKHO	G217655	top terminal	cover shroud for cable terminal connections with cable lugs on switchboards with central cover length 190 mm	1 piece	0.13 kg
MZKHV	A1002202	top terminal	cover shroud for installation in distribution units with central cover (height of supporting edge reduced by 16 mm) length 145 mm	1 piece	85 g
MZVHB	L1023303	top terminal	extended cover shroud length 257 mm	1 piece	0.23 kg

Covers/level & system adjustment covers

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

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Size 1, 160A, 800VAC

ACCESSORIES



1.002.492 1.002.493 1.002.829



1.002.830 MZ01LPAP MZLPAP

Covers/spare way covers

Catalog number	Item number	Application	Design	Package	Weight
1.002.492	M1002282	bus bar system 185 mm	spare way cover width 100 mm, length 630 mm for covering of open installation spaces in distribution units with central cover	1 piece	0.20 kg
1.002.493	N1002283	bus bar system 185 mm	spare way cover width 50 mm, length 630 mm for covering of open installation spaces in distribution units with central cover	1 piece	0.14 kg
1.002.829	F1023413	bus bar system 185 mm	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)	1 set	0.27 kg
1.002.830	E1023412	bus bar system 185 mm	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)	1 set	0.20 kg
MZ01LPAP	C1023410	bus bar system 185 mm	spare way cover without level adjustment width 50 mm, length 500 mm including fixing material	1 piece	60 g
MZLPAP	D1023411	bus bar system 185 mm	spare way cover width 100 mm, length 612 mm including 2 pieces M12 fixing screws (distance of fixing holes 185 mm)	1 piece	0.56 kg



1.000.192



1.002.647

Installation devices/bus bar installation

Catalog number	Item number	Design	Package	Weight
1.000.192	P1002284	hooked clamp size 1, 2, 3, M = 15–20 Nm hexagon socket connection (inbus) for MULTIVERT®/BSL with top or bottom terminal 1 set = 3 pieces	1 set	0.47 kg
1.002.647	S1023447	M10 insert nut, size 1 1 set = 30 pieces	1 set	0.19 kg

Indication facilities

Catalog number	Item number	Design	Package	Weight
1.000.852	Q1002285	indicator for switch door position micro switch, 1 change-over contact 5 A, 250 V	1 piece	90 g



1.000.852

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ACCESSORIES



MZBT

Labelling facilities

Catalog number	Item number	Design	Package	Weight
MZBT	B222181	label holder size 1, 2, 3	1 piece	30 g

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ACCESSORIES



1.000.099



1.001.667



1.002.255



1.003.377



22SZVK42



1.003.286



1.002.909



1.002.910

Varieties of cable termination

Catalog number	Item number	Design	Package	Weight
1.000.099	E1023436	insulation cap for V-terminal clamp size 1,2,3	1 piece	0.1 g
1.001.667	F1023275	adapter for double terminal L3	1 piece	0.25 kg
1.002.255	B1024582	supplementary set for multiple termination, bottom terminal 2 cable lugs Cu/Al: up to max. 300 mm ² round stranded, sectoral stranded 3 cable lugs Cu: up to max. 150 mm ² round stranded, sectoral stranded M = 32-38 Nm	1 set	1.68 kg
1.002.909	K1024613	V-terminal clamp size 1,2,3, 10-300 mm ² single solid, 10-300 mm ² single stranded, 10-300 mm ² round stranded, 10-300 mm ² round solid, Opening width: 26.5 mm M = 23 -27 Nm 1 set = 3 pieces	1 set	0.24 kg
1.002.910	L1024614	V-terminal clamp size 1,2,3, 95-300 mm ² single solid, 70-240 mm ² single stranded, 50-185 mm ² round stranded, 70-240 mm ² round solid, Opening width: 26.5 mm M = 23 -27 Nm 1 set = 3 pieces	1 set	0.26 kg
1.003.286	Q1024595	supplementary set for V-terminal size 1,2,3 set = 3 pieces V-clamps, cover shroud and labels for size 1, 2 and 3	1 set	0.23 kg
1.003.377	Y1024579	supplementary set for multiple termination, top terminal 2 cable lugs Cu/Al: up to max. 300 mm ² round stranded, sectoral stranded, 3 cable lugs Cu: up to max. 150 mm ² round stranded, sectoral stranded, M = 32-38 Nm	1 set	1.74 kg
22SZVK42	Q1024618	V-terminal clamp size 1,2,3 for 2 conductors 50-240 mm ² single solid, 50-185 mm ² single stranded, 50-185 mm ² round stranded, 70-240 mm ² round solid M = 23-27 Nm	1 piece	6.8 g