

# MULTIVERT® 160A

Size 00, 690VAC, Triple Pole Switching

## 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® 160A triple pole switching are for installation on to 100 mm and 185 mm bus bar systems.

MULTIVERT® 160A are designed for NH fuse-links in accordance with IEC/EN 60269-2, VDE 0636-2, size 00: 160A.

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)	160 A
Size per Standard	00
SCCR	Ue = AC 400 V; Ie = 160 A 80kA Ue = AC 500 V; Ie = 160 A 80kA Ue = AC 690 V; Ie = 100 A 50kA
Mounting	bus bar system 100 mm and 185 mm
Switchability	1 x triple pole
Number of Poles	3

## FEATURES & BENEFITS

- Installation on to 100 and 185mm bus bar system
- Symmetrical switch - top/bottom cable terminal connection
- Touch protection IP 30 with central cover
- Parking position of switch operating cover even with fuse-links inserted
- Varieties of cable termination: screw, clamp strap, AlCu clamp, frame clamp, V-terminal
- Electronic fuse monitoring or indicator for switch door position - optional
- Safe on load connection/disconnection in accordance with IEC 60947-3

## APPLICATIONS

- House incoming units
- Meter distribution units
- Switch boards for industrial applications
- Residential and industrial distribution units
- Cable distribution cabinets
- Feeder pillars

## STANDARDS

- IEC/EN 60 947-3  
For NH-fuse links size 000/00 in accordance with IEC/EN 60 269-2, VDE 0636-2



# MULTIVERT® 160A

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## PRODUCT RANGE



1.000.900 1.000.903



1.000.905



1.001.339

### MULTIVERT® 160 A size 00 100 mm bus bar system 1 x triple pole switching

Catalog number	Item number	Cable termination components	Design	Package	Weight
1.000.900	F1002184	3 M8 terminal screws	with cover shroud MZ00KH	1 piece	1.12 kg
1.000.901	X1023129	3 clamp straps Cu 4-70 mm <sup>2</sup>	with cover shroud MZ00KH	1 piece	1.12 kg
1.000.902	Z1023131	3 Al/Cu clamps 1,5-70 mm <sup>2</sup>	with cover shroud MZ00KH	1 piece	1.12 kg
1.000.903	A1023132	with V-terminal für V-terminal clamps size 00	with cover shroud 1.000.915	1 piece	1.12 kg
1.000.904	B1023133	3 frame clamps Cu 2,5-70 mm <sup>2</sup>	with cover shroud MZ00KH	1 piece	1.1 kg
1.000.905	G1002185	3 M8 terminal screws	MULTIVERT® 1.000.900 with cabling of instrument leads	1 piece	1.47 kg
1.000.906	C1023134	3 clamp straps Cu 4-70 mm <sup>2</sup>	MULTIVERT® 1.000.901 with cabling of instrument leads	1 piece	1.47 kg
1.000.907	D1023135	3 Al/Cu clamps 1,5-70 mm <sup>2</sup>	MULTIVERT® 1.000.902 with cabling of instrument leads	1 piece	1.47 kg
1.000.908	E1023136	with V-terminal for V-terminal clamps size 00	MULTIVERT® 1.000.903 with cabling of instrument leads	1 piece	1.47 kg
1.002.437	Y1023130	3 frame clamps Cu 2,5-70 mm <sup>2</sup>	MULTIVERT® 1.000.904 with cabling of instrument leads	1 piece	1.18 kg

### MULTIVERT® 160 A size 00 185 mm bus bar system 1 x triple pole switching

Catalog number	Item number	Cable termination components	Design	Package	Weight
1.001.339	Y1023153	3 M8 terminal screws	including adjustment cover art.no. MZ00AAD and adapter 1.001.298	1 piece	1.8 kg

# MULTIVERT® 160A

Size 00, 690VAC, Triple Pole Switching

## TECHNICAL DATA IN ACCORDANCE WITH EN / IEC 60947

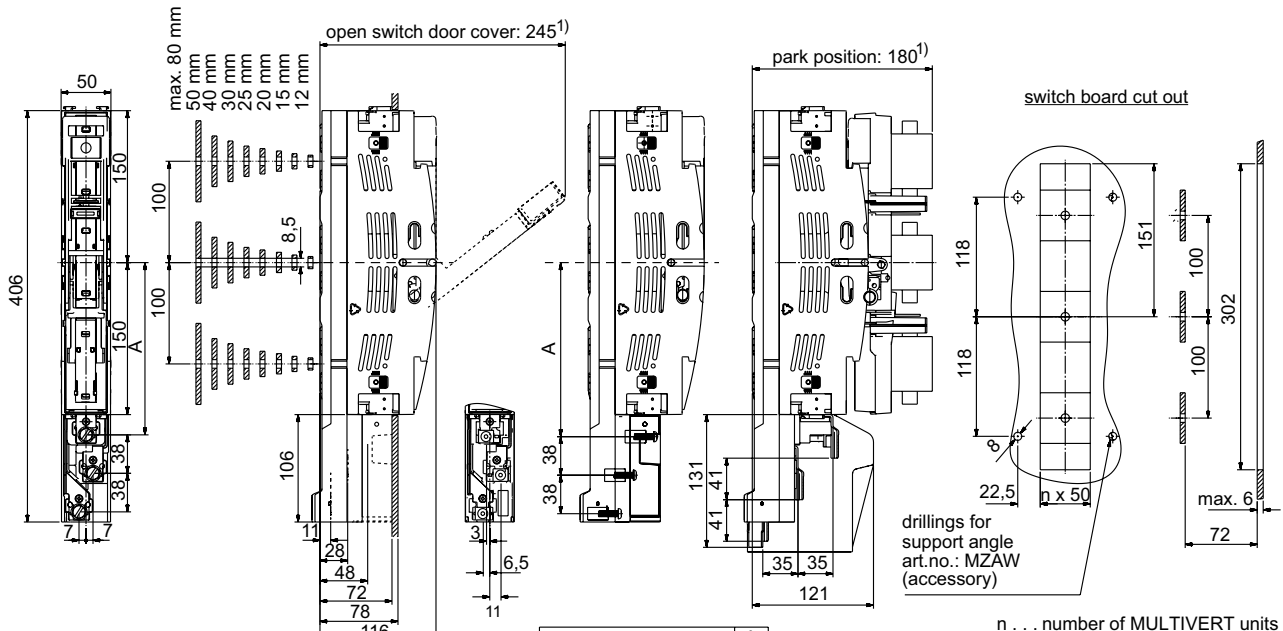
	160 A, 100 mm 1 x triple pole switching	160 A, 185 mm 1 x triple pole switching
Number of poles/phases	3	3
Size	00	00
Conventional free air thermal current with NH-fuse links $I_{th}$	160 A	160 A
Max. power dissipation of fuse links $P_n$	12 W	12 W
Conventional free air thermal current with solid links $I_{th}$	250 A	250 A
Max. power dissipation of solid links $P_n$	1,2 W	1,2 W
Utilization category to IEC/EN 60947-3 $U_e = AC 400 V; I_e = 160 A$ $U_e = AC 500 V; I_e = 160 A$ $U_e = AC 690 V; I_e = 100 A$	AC 23 B AC 22 B AC 22 B	AC 23 B AC 22 B AC 22 B
Rated operational voltage $U_e$	690 V	690 V
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 $U_e = AC 400 V; I_e = 160 A$ $U_e = AC 500 V; I_e = 160 A$ $U_e = AC 690 V; I_e = 100 A$	80 kA 80 kA 50 kA	80 kA 80 kA 50 kA
Rated short circuit making capacity with solid links $I_{cm}$	4.5 kAsw	4.5 kAsw
Rated short-time withstand current $I_{cw}$	4.5 kA / 1 s	4.5 kA / 1 s
Power dissipation by $I_{th}$ without NH-fuse links	18 W	18 W
Power dissipation by $I_{th}$ 250A without solid links	44 W	44 W
Installation mode	bus bar installation	bus bar installation
<b>Cable terminal connection</b>		
Standard cable terminal	M8	M8
for cable lugs Cu max.	70 mm <sup>2</sup>	70 mm <sup>2</sup>
for cable lugs Al max.	70 mm <sup>2</sup>	70 mm <sup>2</sup>
for copper bars with max. dimensions	20 x 5 mm	20 x 5 mm
V-shaped lugs for V-terminal clamps	10 - 95 mm <sup>2</sup>	10 - 95 mm <sup>2</sup>
<b>Bus bar terminal connection</b>		
Standard bus bar terminal	M8	clamp terminal via adapter
Hooked clamp for bus bar with thickness	5 ... 10 mm	5 ... 10 mm
Bus bar system	100 mm	185 mm

# MULTIVERT® 160A

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## DIMENSIONS

**MULTIVERT® NH-vertical fuse switch disconnecter 160A/100mm**  
**direct installation with screws on to 100mm bus bar system** (M01137c)



1) dimensions from upper edge of bus bar

Dimensions in mm

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

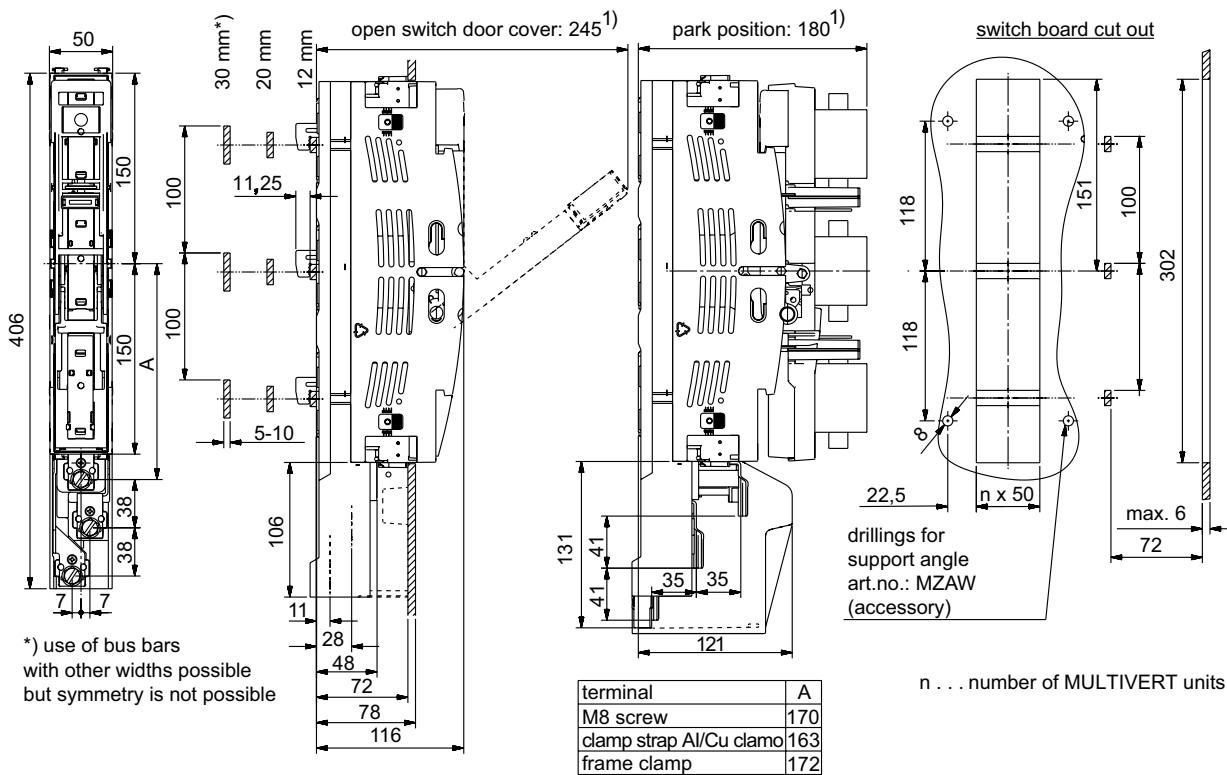
# MULTIVERT® 160A

Size 00, 690VAC, Triple Pole Switching

## DIMENSIONS

**MULTIVERT® NH-vertical fuse switch disconnecter 160A/100mm**  
**direct installation without drilling with hooked clamps**  
**on to 100mm bus bar system**

(M01138c)



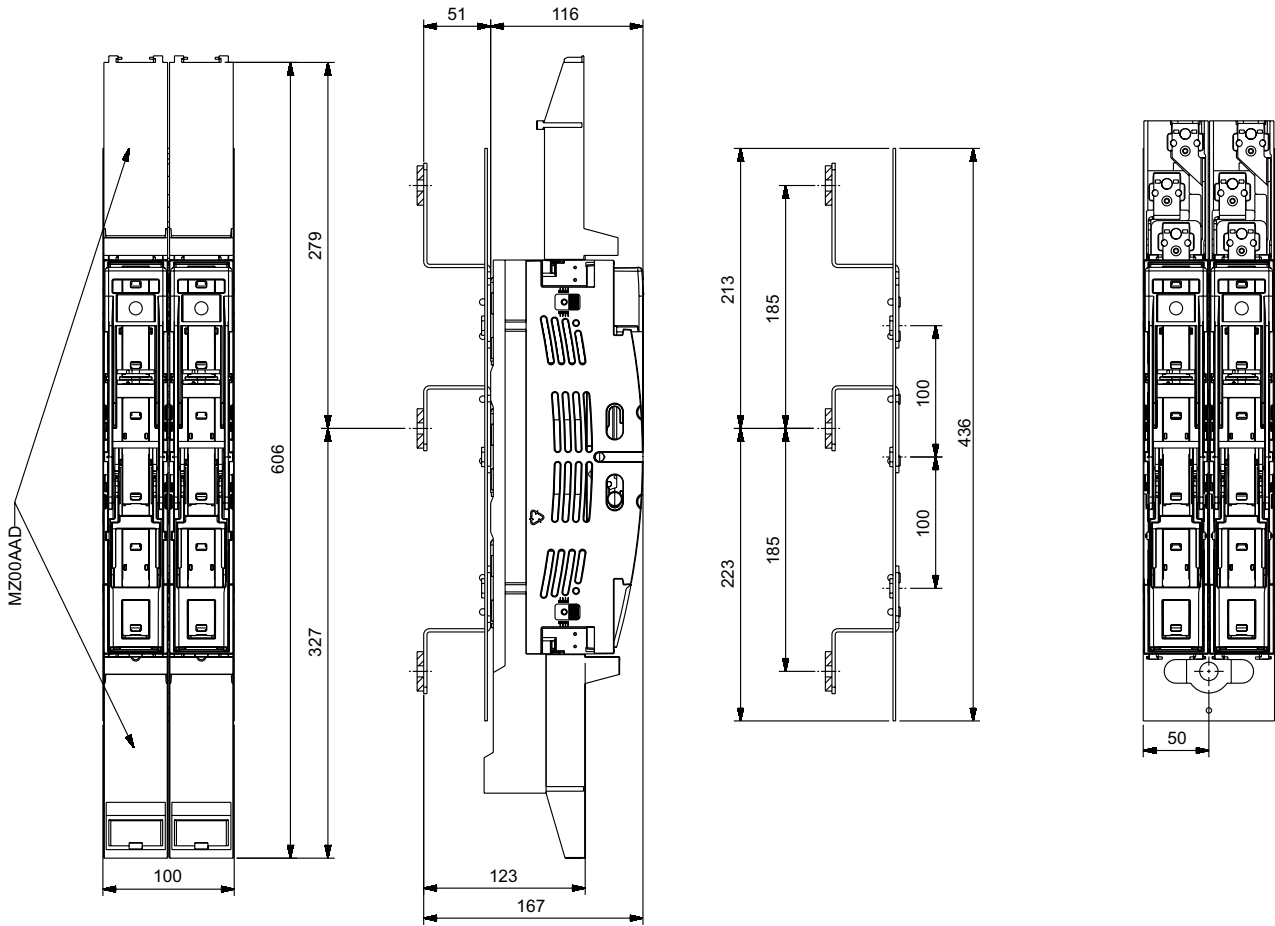
Dimensions in mm

# MULTIVERT® 160A

Size 00, 690VAC, Triple Pole Switching

## DIMENSIONS

**MULTIVERT® 160A/100mm NH-vertical fuse switch disconnector**  
**direct installation without drilling including adapter**  
**with hooked clamps for installation on to 185mm bus bar system (M01146)**



Dimensions in mm

# MULTIVERT® 160A

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## DIMENSIONS

### Cable termination MULTIVERT® 160A (MA107d)

reference	N	S	A	V	R	K
article number	00SZS	00SZESK	00SZA70	00SZVK1 ((accessory))	*	1.003.433
type of terminal	screw	clamp strap	Al/Cu clamp	V-clamp	frame clamp	clamping block
cross section	Cu 16-17	Cu 4-70	Cu 1,5-70	Cu 10-50	Cu 2,5-70	Cu 1,5-16
[mm <sup>2</sup> ]	Al 16-95	-	Al 1,5-70/95 se	Al 35-70/95 se	-	-
M [Nm]	15-17	3-4	3-4	5-6	6	3,4

\*) installed on to MULTIVERT 160A, 1x triple pole switching  
 art. no. 1.000.904 (for 100mm bus bar system) and art. no. 1.002.489 (for 60mm bus bar system)

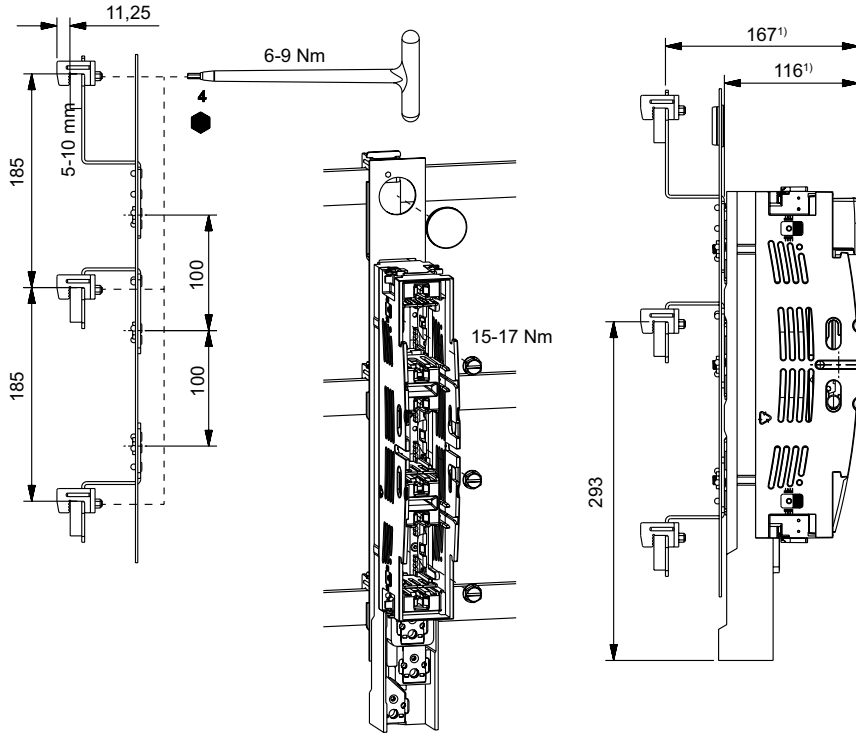
Dimensions in mm

# MULTIVERT® 160A

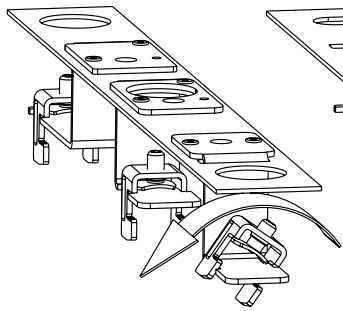
Size 00, 690VAC, Triple Pole Switching

## DIMENSIONS

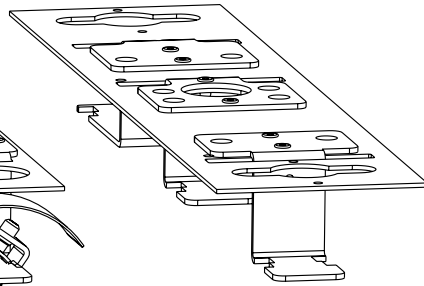
Adapter size 00 for direct installation  
without drilling on to 185mm bus bar system (MA112b)



1) dimensions from upper edge of bus bar



catalogue number 1.001.298



catalogue number 1.001.300

Dimensions in mm

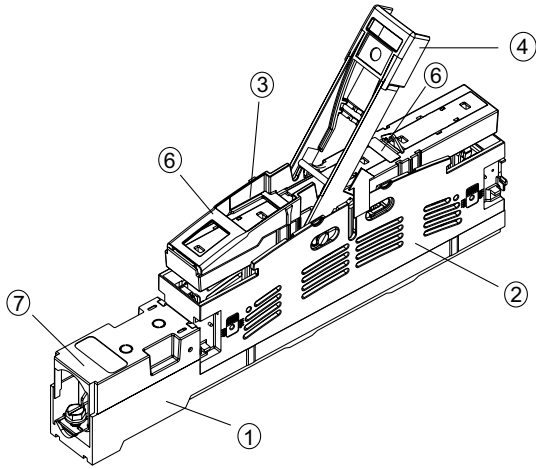


# MULTIVERT® 160A

Size 00, 690VAC, Triple Pole Switching

## EXPLODED SKETCH

MULTIVERT® 160A 1x triple pole switching (E 1.000.857)



no.	articlenumber	short Description
1		Main base
2		Protection cover
3		Switch operating cover
4		Handle
5		-
6		Labelling area/label
7	MZ00KH	Cover shroud 106mm

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# MULTIVERT® 160A

Size 00, 690VAC, Triple Pole Switching

## ACCESSORIES



MZ00KH



MZ00KA

### Cover/shrouds for cable termination

Catalog number	Item number	Design	Package	Weight
MZ00KH	F1023298	cover shroud length 106 mm for MULTIVERT®/BSL 160 A	1 piece	20 g
MZ00KA	L1023464	extended cover shroud for cover shroud MZ00KH	1 piece	40 g
1.000.915	H1023300	cover shroud for MULTIVERT®/BSL 160 A with V-terminal	1 piece	50 g



1.000.915

### Covers/level & system adjustment covers

Catalog number	Item number	Design	Package	Weight
MZ00AAD	X214081	2 piece adjustment, with integrated area for labeling to adapt to MULTIVERT® for 185 mm bus bar system	1 set	0.1 kg
MZAW	D218687	support angle for support of cover plate 1 set = 4 pieces	1 set	27 g



MZAW



MZ00AAD



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# MULTIVERT® 160A

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## ACCESSORIES



MZ00LPAP



MZ01LPAP



1.002.493

### Covers/spare way covers

Catalog number	Item number	Design	Application	Package	Weight
MZ00LPAP	B1023409	spare way cover without level adjustment width 50 mm, length 320 mm for single adapter MZ00ESA and double adapter MZ00DSA including fixing material	bus bar system 100 mm	1 piece	50 g
MZ01LPAP	C1023410	spare way cover without level adjustment width 50 mm, length 500 mm including fixing material	bus bar system 185 mm	1 piece	60 g
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	1 piece	0.14 kg
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	1 set	0.20 kg



1.002.830



00SZRK3



1.002.646

### Installation devices/bus bar installation

Catalog number	Item number	Design	Package	Weight
00SZRK3	K215105	hooked clamp size 00, M = 5 Nm 1 set = 3 pieces	1 set	0.10 kg
1.002.646	W1023450	M10 insert nut, size 00 1 set = 30 pieces	1 set	0.12 kg

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## ACCESSORIES



1.001.289

1.001.298

### Adapter für installation on to bus bars with clamp terminal

Catalog number	Item number	Design	Application	Package	Weight
1.001.289	C1023295	single adapter 100/185 mm with increased touch protection to obtain uniform profile in height for combined installation with MULTIVERT 250 A, 400 A, 630 A	MULTIVERT® 160 A/100 mm 1x3-pole	1 piece	0.56 kg
1.001.298	Y1023291	double adapter 100/185 mm with increased touch protection to obtain uniform profile in height for combined installation with MULTIVERT 250 A, 400 A, 630 A	MULTIVERT® 160 A/100 mm 1x3-pole	1 piece	0.8 kg



MZ00DSA

MZ00ESA

MZ00ESAECO

### Adapter für installation on to bus bars with screw terminal

Catalog number	Item number	Design	Application	Package	Weight
MZ00DSA	C217145	double adapter 100/185 mm with increased touch protection to obtain uniform profile in height for combined installation with MULTIVERT®/BSL 250 A, 400 A, 630 A	MULTIVERT® 160 A/100 mm 1x3-pole	1 piece	0.71 kg
MZ00ESA	Q216628	single adapter 100/185 mm with increased touch protection to obtain uniform profile in height for combined installation with MULTIVERT®/BSL 250 A, 400 A, 630 A	MULTIVERT® 160 A/100 mm 1x3-pole	1 piece	0.51 kg
MZ00ESAECO	D1023296	Einfachadapter 100/185 mm to obtain uniform profile in height for combined installation with MULTIVERT®/BSL 250 A, 400 A, 630 A	MULTIVERT® 160 A/100 mm 1x3-pole	1 piece	0.19 kg



1.002.939

MZ00ESM

### Indication facilities

Catalog number	Item number	Design	Package	Weight
1.002.939	Y1023452	electronic fuse monitoring ESÜ size 00 for MULTIVERT® 160 A with cabling of instrument leads (rated voltage 525VAC)	1 piece	0.66 kg
MZ00ESM	D228761	Electronic System Monitor ESM size 00 for MULTIVERT® 160 A with cabling of instrument leads	1 piece	0.35 kg
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



1.000.106



1.000.107



1.000.100



1.000.101

### Amperemeter units

Catalog number	Item number	Design	Package	Weight
1.000.106	R1023285	size 00, 100 A, with drag indicator, triple pole measurement (optional L1, L2, L3)	1 piece	0.34 kg
1.000.107	S1023286	size 00, 150 A, with drag indicator, triple pole measurement (optional L1, L2, L3)	1 piece	0.34 kg
1.000.100	K1023279	size 00, 100 A, with drag indicator, single pole measurement	1 piece	0.34 kg
1.000.101	L1023280	size 00, 150 A, with drag indicator, single pole measurement	1 piece	0.34 kg



1.000.119 + 1.000.123



1.000.120 + 1.000.124

### Current transformers in combination with adapter

Catalog number	Item number	Design	Package	Weight
1.000.121	F1024609	current transformer for adapter for single pole measurement up to 100/5A, class 1 set = 1 piece current transformer + 3 pieces distance tubes art. no. 1.000.125 for level adjustment, 1 piece installed, 2 pieces additionally packed	1 set	0.51 kg
1.000.123	H1024611	current transformer for adapter for single pole measurement up to 150/5A, class 1 set = 1 piece current transformer + 3 pieces distance tubes art. no. 1.000.125 for level adjustment, 1 piece installed, 2 pieces additionally packed	1 set	0.52 kg
1.000.122	G1024610	current transformer for adapter for triple pole measurement up to 100/5A, class 1 set = 3 pieces current transformer with distance tubes art.no. 1.000.125 for level adjustment 3 pieces installed	1 set	0.78 kg
1.000.124	J1024612	current transformer for adapter for triple pole measurement up to 150/5A, class 1 set = 3 pieces current transformer with distance tubes art.no. 1.000.125 for level adjustment 3 pieces installed	1 set	0.81 kg
1.000.125	V1024599	distance tube for adapter for level adjustment supplementary set for neighbouring MULTIVERT® without measurement to obtain uniform profile in height 1 set = 3 pieces	1 set	0.37 kg
1.000.117	R1023446	single adapter 100/185 mm for circuit transformer	1 piece	0.34 kg
1.000.119	A1023293	double adapter 100/185 mm for circuit transformer	1 piece	0.58 kg
1.000.120	B1023294	double adapter 185/185 mm for circuit transformer	1 piece	0.56 kg

## ACCESSORIES



MZ003SW100



SZ1SW150



MZ00PR150



MZ00BT2

### Current transformers/external current transformers

Catalog number	Item number	Design	Package	Weight
MZ001SW100	C1024606	current transformer up to 100 A for single pole measurement between bus bar and MULTIVERT® set = 1 piece current transformer + 3 pieces distance tubes for level adjustment, 1 piece installed in the current transformer, 2 pieces additionally packed	1 set	0.55 kg
MZ001SW150	E1024608	current transformer up to 150 A for single pole measurement between bus bar and MULTIVERT® set = 1 piece current transformer + 3 pieces distance tubes for level adjustment, 1 piece installed in the current transformer, 2 pieces additionally packed	1 set	0.55 kg
MZ003SW100	B1024605	current transformer up to 100/5A for triple pole measurement between bus bar and MULTIVERT®, class 1 set = 3 pieces current transformer with distance tubes for level adjustment, 3 pieces installed in the current transformer	1 set	1.84 kg
MZ003SW150	D1024607	current transformer up to 150/5A for triple pole measurement between bus bar and MULTIVERT®, class 1 set = 3 pieces current transformer with distance tubes for level adjustment, 3 pieces installed in the current transformer	1 set	1.85 kg
SZ1SW100	H1024565	current transformer up to 100/5A for single pole measurement between bus bars, class 1 (incoming and outgoing bar)	1 piece	0.32 kg
SZ1SW150	J1024566	current transformer up to 150/5A for single pole measurement between bus bars, class 1 (incoming and outgoing bar)	1 piece	0.33 kg
MZ00PR150	R1024596	distance tube for level adjustment, up to 150/5A, supplementary set for neighbouring MULTIVERT® without measurement to obtain uniform profile in height 1 set = 3 pieces	1 set	0.4 kg

### Labelling facilities

Catalog number	Item number	Design	Package	Weight
MZ00BT2	K215611	label holder size 00	1 piece	10 g

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## ACCESSORIES



00SZS



00SZESK



00SZA70



1.003.571



1.003.433



00SZVK1



1.000.098

### Varieties of cable termination

Catalog number	Item number	Design	Package	Weight
00SZS	M229298	M8 terminal screw for switch gear size 00 1 set = 3 pieces	1 set	35 g
00SZESK	E214594	clamp strap Cu 4–70 mm <sup>2</sup> for switch gear size 00 1 set = 3 pieces	1 set	35 g
00SZA70	R211523	Al/Cu clamp 1,5–70 mm <sup>2</sup> for switch gear size 00 1 set = 3 pieces	1 set	75 g
1.003.571	V1033684	Al/Cu clamp 50–95 mm <sup>2</sup> round stranded for switch gear size 00 1 set = 3 pieces	1 set	88 g
1.003.433	L1022958	triple clamp per pole 1.5 up to 16 mm <sup>2</sup> 1 set = 3 pieces	1 set	0.14 kg
00SZVK1	D1023434	V-terminal clamp size 00, 10–70 mm <sup>2</sup> round stranded, 10–95 mm <sup>2</sup> round solid, 35–95 mm <sup>2</sup> single stranded, 50–95 mm <sup>2</sup> single solid, M = 12 Nm	30	0.4 kg
1.000.098	E1023435	insulation cap for V-terminal clamp size 00	12/120	2 g