

# MULTIVERT® 250A

Size 1, 690VAC

## 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® 250A are for installation on to 185mm bus bar systems.

MULTIVERT® 250A are designed for NH fuse-links in accordance with IEC/EN 60269-2, VDE 0636-2, size 1: 250A.

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)	250 A
Size per Standard	1
SCCR	Ue = AC 400 V; Ie = 250 A 120kA Ue = AC 500 V; Ie = 250 A 120kA Ue = AC 690 V; Ie = 250 A 120kA
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
- Integrated measuring transformer (optional) with unchanged installation depth
- Safe on load connection/disconnection in accordance with IEC 60947-3

## APPLICATIONS

- Feeder pillars
- Transformer substations
- Switch boards for industrial applications
- Residential and industrial distribution units
- Cable distribution cabinets

## STANDARDS

- IEC/EN 60 947-3  
For NH-fuse links size 1 in accordance with IEC/EN 60 269-2, VDE 0636-2



# MULTIVERT® 250A

Size 1, 690VAC

## PRODUCT RANGE



1.150.000 1.170.000

### MULTIVERT® 250 A size 1 185 mm 1 x triple pole switching

Catalog number	Item number	Cable termination components	Design	Package	Weight
1.150.000	L1002189	3 M10 bolts	-	1 piece	4.67 kg
1.160.000	S1023171	3 M10 insert nuts	-	1 piece	4.63 kg
1.170.000	H1023185	V-terminal for V-terminal clamps size 1,2,3	-	1 piece	4.55 kg
1.170.600	K1023187	V-terminal with 3 terminal clamps size 1,2,3	-	1 piece	4.6 kg
1.170.900	M1023189	V-terminal, 2 terminals per phase for V-terminal clamps size 1,2,3	-	1 piece	5.8 kg
1.150.100	P1002192	3 M10 bolts	MULTIVERT® 1.150.000 with cabling of instrument leads for indication facilities	1 piece	5.1 kg
1.150.083	R1023193	3 M10 bolts	MULTIVERT® 1.150.000 with integrated C.T. 250/5A, 3,75 VA, class 1 for single pole measurement (ready fitted in pole 1)	1 piece	4.8 kg
1.150.062	N1023190	3 M10 bolts	MULTIVERT® 1.150.000 with integrated C.T. 250/5A, 3,75 VA, class 0,5; calibrated, for single pole measurement (ready fitted in pole 1)	1 piece	4.8 kg
1.150.091	S1023194	3 M10 bolts	MULTIVERT® 1.150.000 with integrated C.T. 100/5A, 2,00 VA, class 1 for triple pole measurement	1 piece	5.4 kg
1.150.093	T1023195	3 M10 bolts	MULTIVERT® 1.150.000 with integrated C.T. 250/5A, 3,50 VA, class 1 for triple pole measurement	1 piece	5.4 kg
1.150.072	P1023191	3 M10 bolts	MULTIVERT® 1.150.000 with integrated C.T. 250/5A, 3,50 VA, class 0,5; calibrated, for triple pole measurement	1 piece	4.8 kg

### MULTIVERT® 250 A size 1 185 mm 3 x single pole switching



1.100.000

Catalog number	Item number	Cable termination components	Design	Package	Weight
1.100.000	H1002186	3 M10 bolts	-	1 piece	4.52 kg
1.110.000	J1023163	3 M10 insert nuts	-	1 piece	4.46 kg
1.120.000	K1023164	V-terminal for V-terminal clamps size 1,2,3	-	1 piece	4.38 kg
1.120.900	Q1023169	V-terminal, 2 terminals per phase for V-terminal clamps size 1,2,3	-	1 piece	5.5 kg
1.100.083	N1023167	3 M10 bolts	MULTIVERT® 1.100.000 with integrated C.T. 250/5A, 3,75 VA, class 1 for single pole measurement (ready fitted in pole 1)	1 piece	4.6 kg
1.100.062	L1023165	3 M10 bolts	MULTIVERT® 1.100.000 with integrated C.T. 250/5A, 3,75 VA, class 0,5; calibrated, for single pole measurement (ready fitted in pole 1)	1 piece	4.6 kg
1.100.093	P1023168	3 M10 bolts	MULTIVERT® 1.100.000 with integrated C.T. 250/5A, 3,50 VA, class 1 for triple pole measurement	1 piece	5.3 kg
1.100.072	M1023166	3 M10 bolts	MULTIVERT® 1.100.000 with integrated C.T. 250/5A, 3,50 VA, class 0,5; calibrated, for triple pole measurement	1 piece	4.6 kg

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# MULTIVERT® 250A

Size 1, 690VAC

## TECHNICAL DATA IN ACCORDANCE WITH EN / IEC 60947

	<b>250 A</b> <b>1 x triple pole switching</b>	<b>250 A</b> <b>3 x single pole switching</b>
Number of poles/phases	3	3
Size	1	1
Conventional free air thermal current with NH-fuse links $I_{th}$	250 A	250 A
Max. power dissipation of fuse links $P_n$	23 W	23 W
Conventional free air thermal current with solid links $I_{th}$	400 A	400 A
Max. power dissipation of solid links $P_n$	2,6 W	2,6 W
Rated operational voltage $U_e$	690 V	690 V
Utilization category to IEC/EN 60947-3 $U_e = AC 400 V; I_e = 250 A$ $U_e = AC 500 V; I_e = 250 A$ $U_e = AC 690 V; I_e = 250 A$	AC 23 B AC 23 B AC 22 B	AC 23 B AC 23 B AC 22 B
Rated insulation voltage $U_i$	1000 V	1000 V
Rated impulse withstand voltage $U_{imp}$	12 kV	12 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 short circuit making capacity with solid links $I_{cm}$	16 kA <sub>sw</sub>	16 kA <sub>sw</sub>
Rated short-time withstand current $I_{cw}$	8 kA / 1 s	8 kA / 1 s
Rated conditional short-circuit current with fuse links $U_e = AC 400 V; I_e = 250 A$ $U_e = AC 500 V; I_e = 250 A$ $U_e = AC 690 V; I_e = 250 A$	120 kA 120 kA 120 kA	120 kA 120 kA 120 kA
Power dissipation by $I_{th}$ without NH-fuse links	35 W	35 W
Power dissipation by $I_{th}$ 400A without solid links	90 W	90 W
<b>Cable terminal connection</b>		
Standard cable terminal	M10	M10
for cable lugs Cu max.	300 mm <sup>2</sup>	300 mm <sup>2</sup>
for cable lugs Al max.	300 mm <sup>2</sup>	300 mm <sup>2</sup>
for copper bars with max. dimensions	40 x 10 mm	40 x 10 mm
V-shaped lugs for V-terminal clamps	35 - 240 mm <sup>2</sup>	35 - 240 mm <sup>2</sup>
<b>Bus bar terminal connection</b>		
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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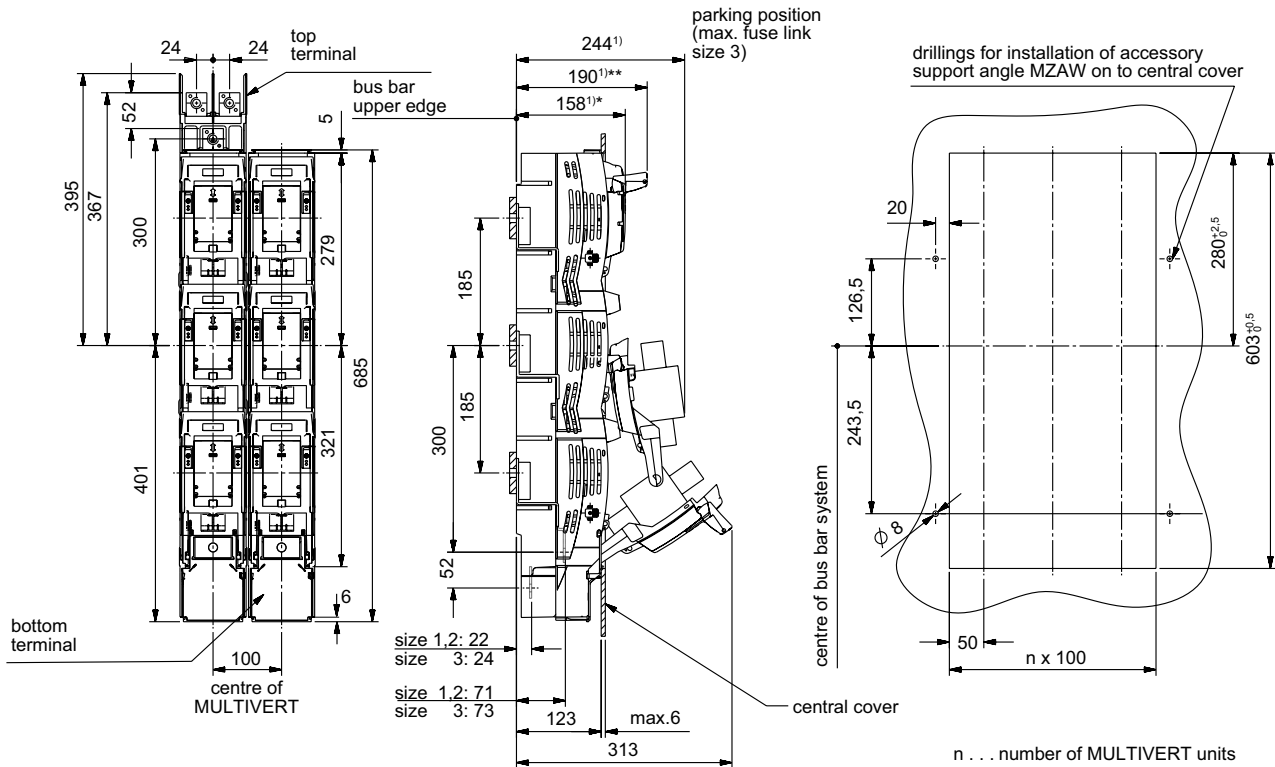
# MULTIVERT® 250A

Size 1, 690VAC

## DIMENSIONS

**MULTIVERT® 250A, 400A, 630A NH-vertical fuse switch disconnecter, 3 x single pole switching**  
**direct installation with screws on to 185mm bus bar system**

(M01152b)



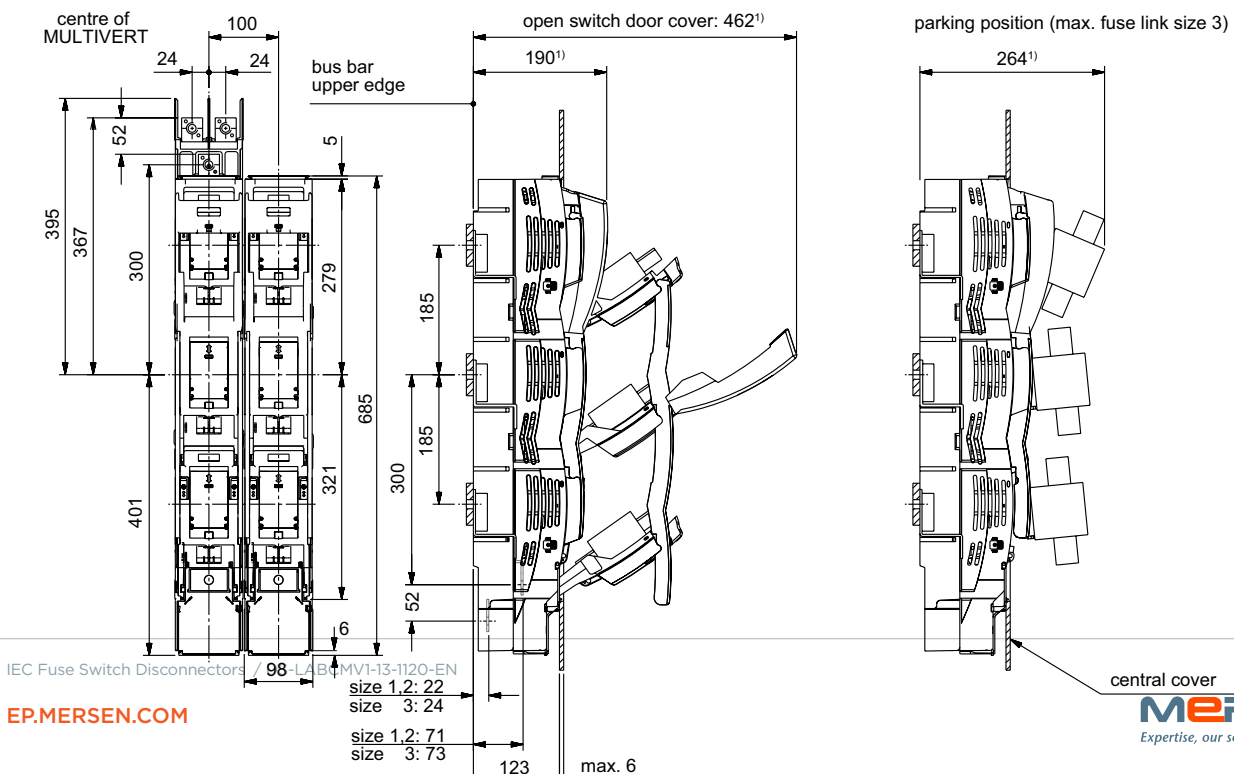
1) dimension from upper edge of bus bar

- \* 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® 250A, 400A, 630A NH-vertical fuse switch disconnecter, 1 x triple pole switching**  
**direct installation with screws on to 185mm bus bar system**

(M01153b)



IEC Fuse Switch Disconnectors 98-L4 B MV1-13-1120-EN

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size 1,2: 22  
 size 3: 24  
 size 1,2: 71  
 size 3: 73

central cover  
**MERSEN**  
 Expertise, our source of energy

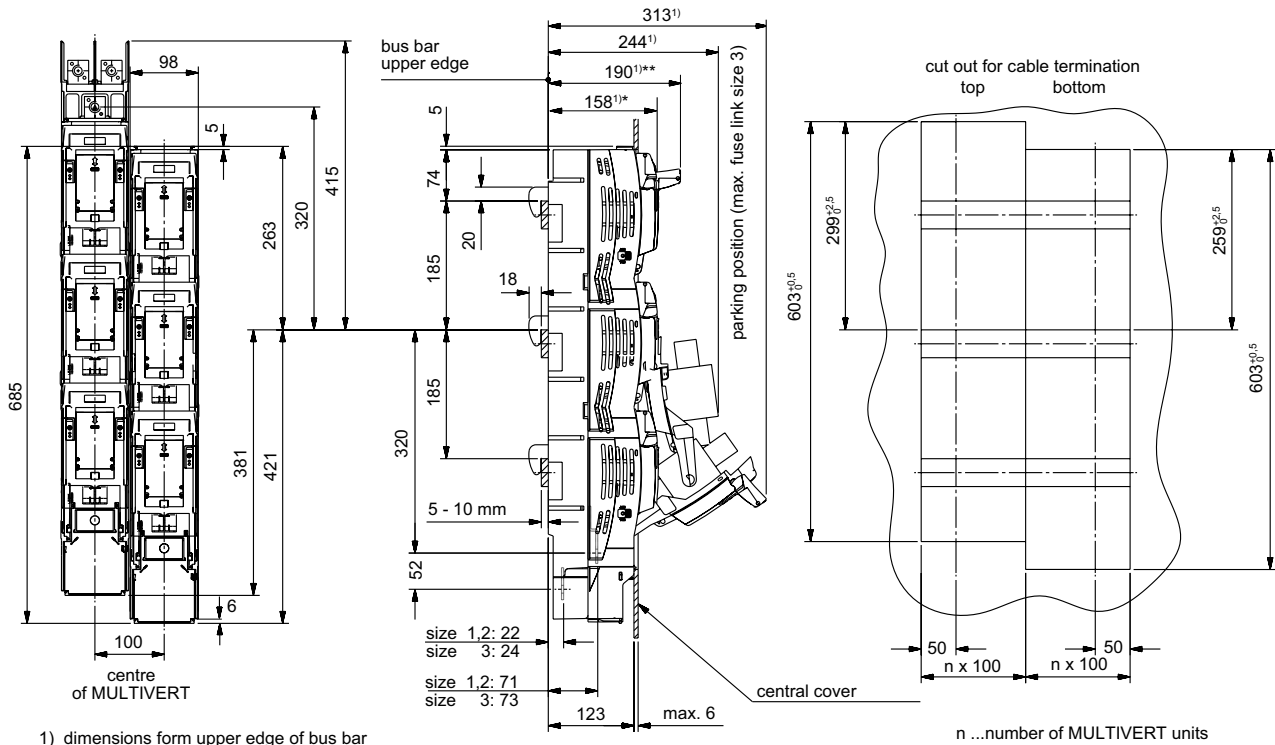
# MULTIVERT® 250A

Size 1, 690VAC

## DIMENSIONS

**MULTIVERT® 250A, 400A, 630A NH-vertical fuse switch disconnecter, 3 x single pole switching**  
**direct installation without drilling with hooked clamps on to 185mm bus bar system**

(M01154b)



1) dimensions form 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

n ...number of MULTIVERT units

Dimensions in mm

# MULTIVERT® 250A

Size 1, 690VAC

## DIMENSIONS

### Cable termination MULTIVERT® 250A, 400A, 630A (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 [mm²]	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

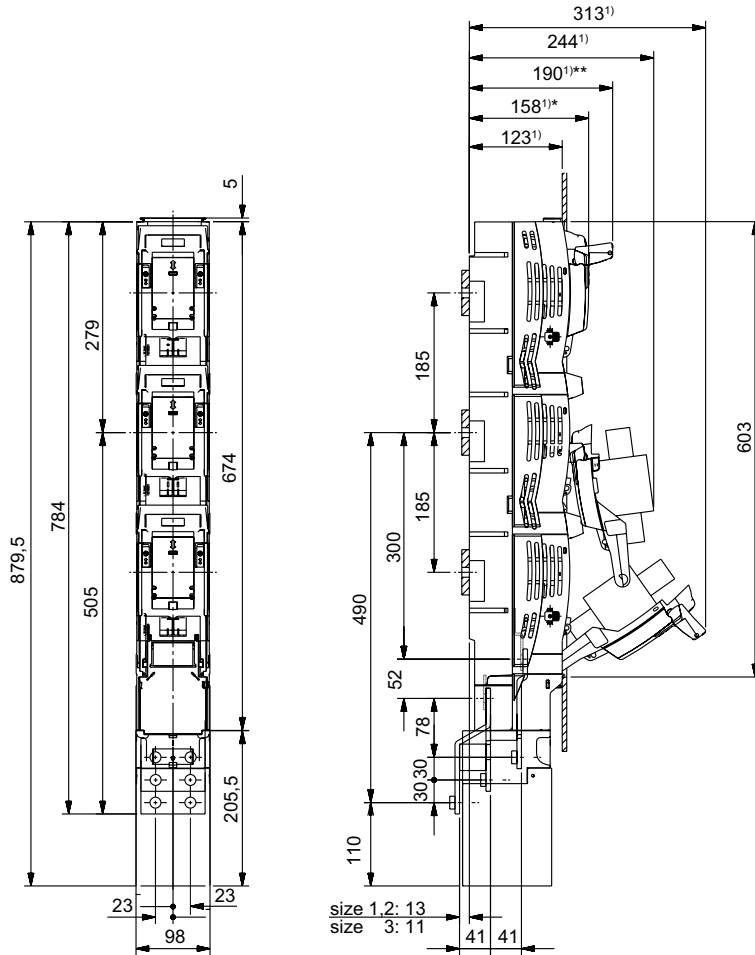
Dimensions in mm

# MULTIVERT® 250A

Size 1, 690VAC

## DIMENSIONS

Cable termination MULTIVERT® 250A, 400A, 630A multiple termination (M01156a)



1) dimensions form 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

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# MULTIVERT® 250A

Size 1, 690VAC

## DIMENSIONS

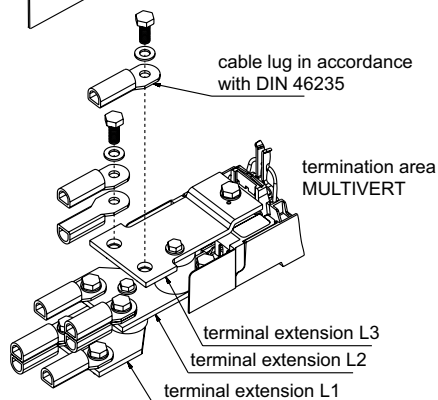
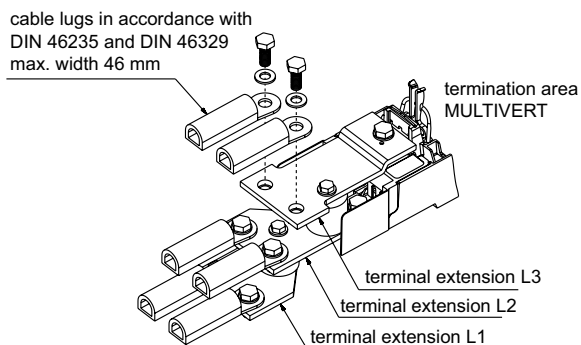
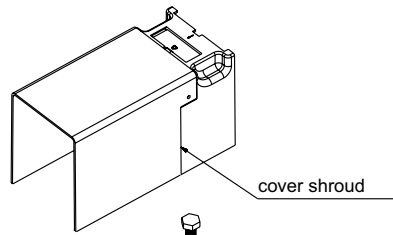
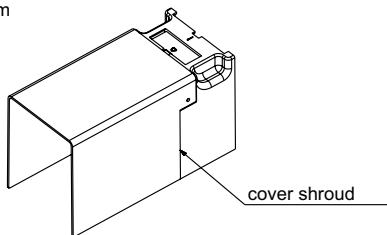
### Cable termination MULTIVERT® 250A, 400A, 630A multiple termination (MA88f)

terminal: 2 cable lugs

terminal: 3 cable lugs

Cu: up to max. 300 mm<sup>2</sup> round stranded, sectoral stranded cable lugs in accordance with DIN 46235  
 Al: up to max. 300 mm<sup>2</sup> round stranded, sectoral stranded cable lugs in accordance with DIN 46329  
 M: 32-38 Nm

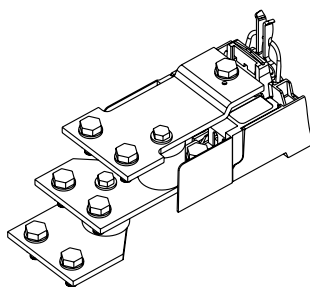
Cu: up to max. 150 mm<sup>2</sup> round stranded, sectoral stranded cable lugs in accordance with DIN 46235  
 M: 32-38 Nm



NOTE:  
 Due to safety precautions we suggest to insulate the cable lugs (185, 240 und 300 mm<sup>2</sup>).

NOTE:  
 Due to safety precautions we suggest to insulate the cable lugs (95, 120 und 150 mm<sup>2</sup>).

Position of terminals



tightening torque of screws: 32 - 38 Nm

Dimensions in mm

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# MULTIVERT® 250A

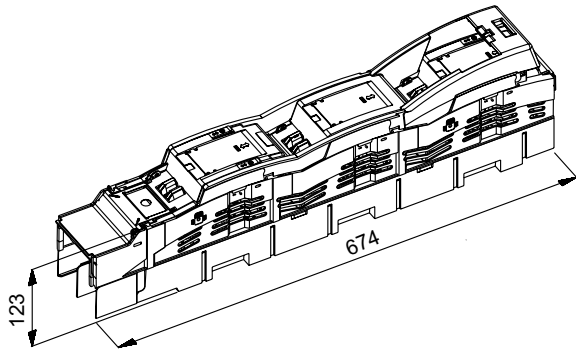
Size 1, 690VAC

## DIMENSIONS

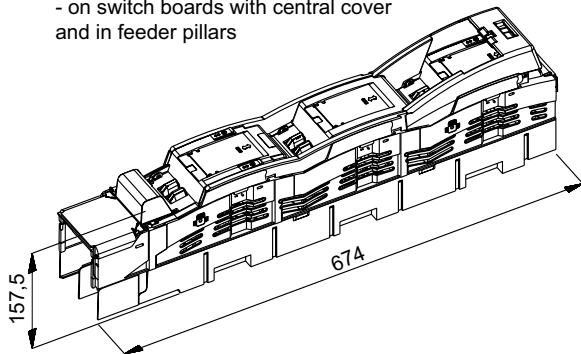
### Cover shrouds for cable termination bottom terminal MULTIVERT® 250A, 400A, 630A (M01160a-1)

#### standard design: integrated shroud for bottom cable termination

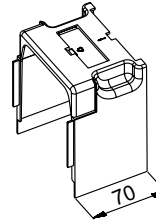
for terminal connections with cable lugs (bolt and insert nut)  
- on switch boards with central cover



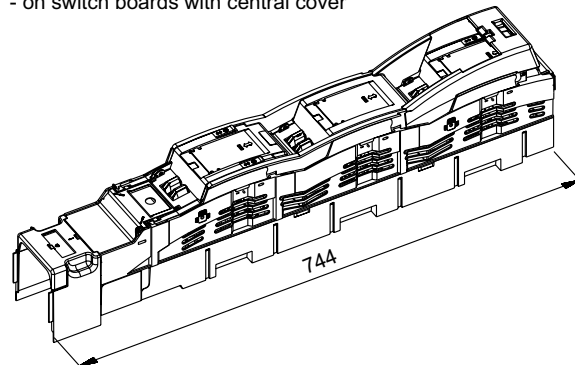
for clamp terminal connections (V-terminal)  
for special "high" clamp terminal connections (double V-clamps)  
- on switch boards with central cover  
and in feeder pillars



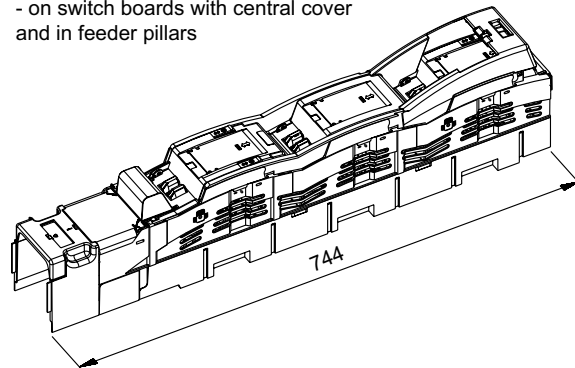
#### Extension shroud for bottom cable termination article number 1.002.095 (accessory)



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

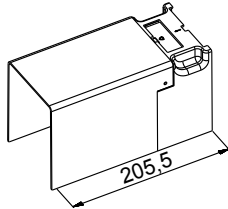
# MULTIVERT® 250A

Size 1, 690VAC

## DIMENSIONS

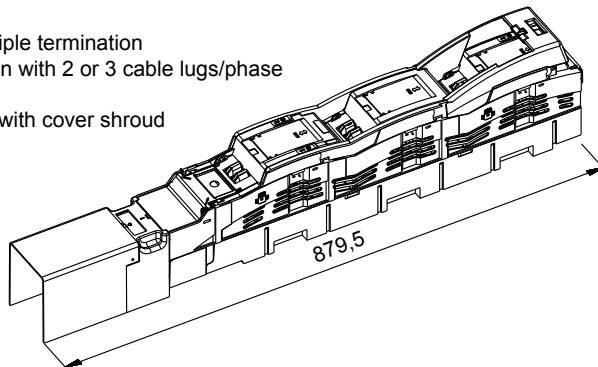
**Cover shrouds for cable termination bottom terminal MULTIVERT® 250A, 400A, 630A multiple termination**

(M01160b-2)

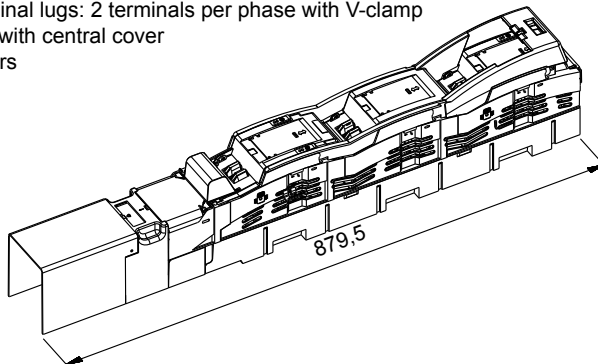


catalogue no. 1.002.458 - accessory

for application multiple termination  
for cable termination with 2 or 3 cable lugs/phase  
see MA 88  
- on switch boards with cover shroud



for application multiple termination  
for V-terminal: terminal lugs: 2 terminals per phase with V-clamp  
- on switch boards with central cover  
and in feeder pillars



Dimensions in mm

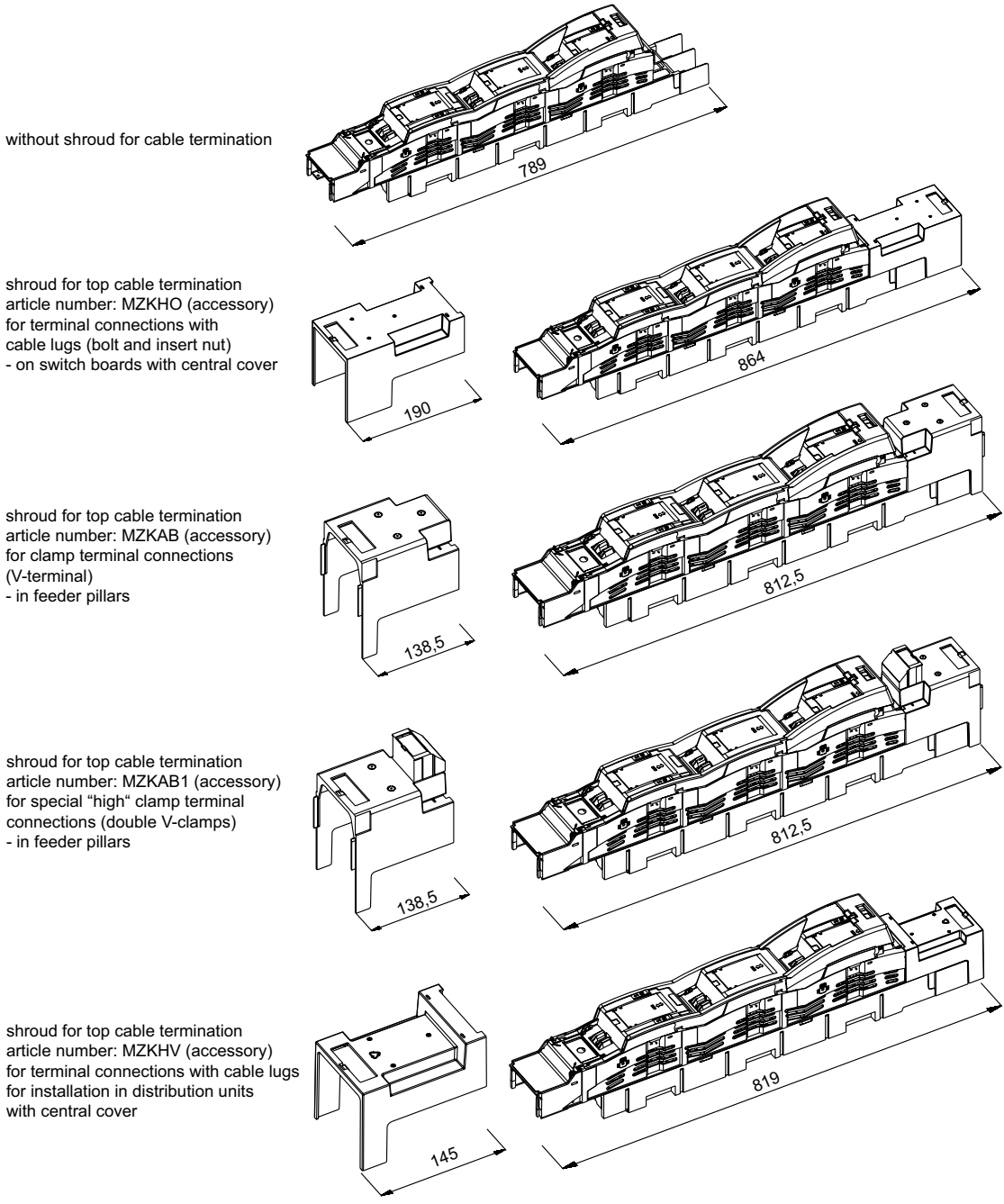
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# MULTIVERT® 250A

Size 1, 690VAC

## DIMENSIONS

Cover shrouds for cable termination top terminal MULTIVERT® 250A, 400A, 630A (M01160a-3)



Dimensions in mm

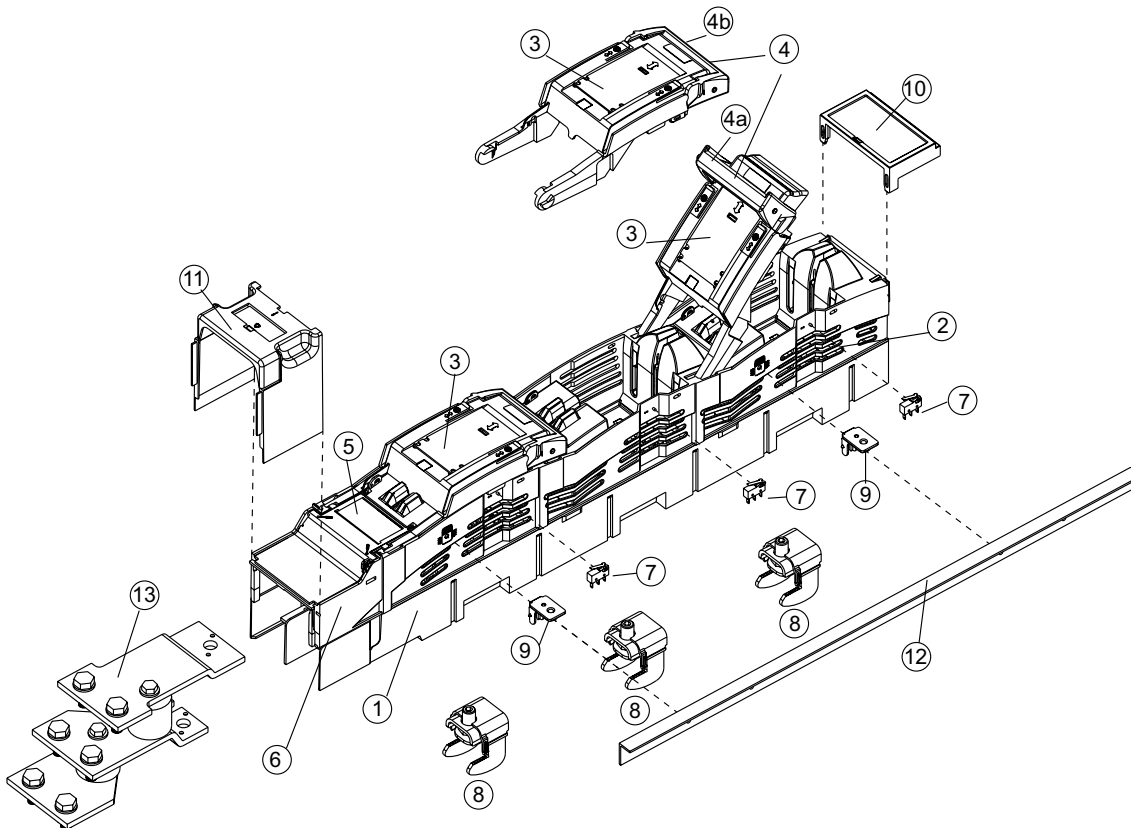
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# MULTIVERT® 250A

Size 1, 690VAC

## EXPLODED SKETCH

MULTIVERT® 250A, 400A, 630A 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

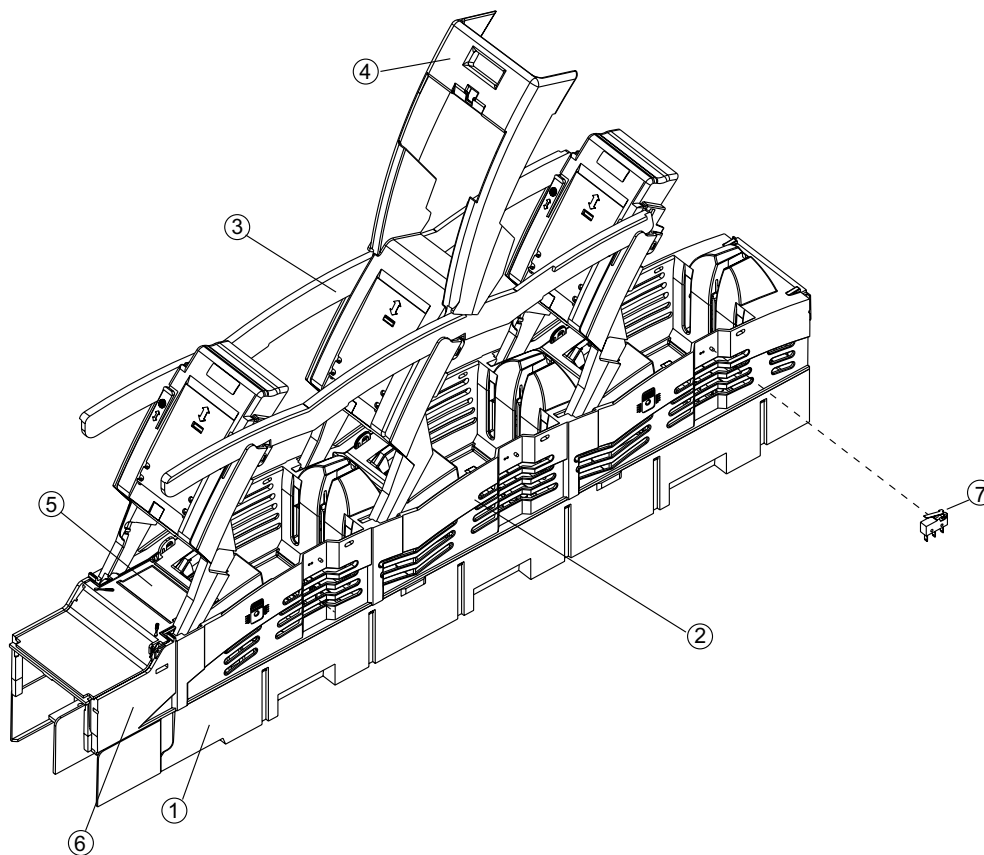
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# MULTIVERT® 250A

Size 1, 690VAC

## EXPLODED SKETCH

MULTIVERT® 250A, 400A, 630A 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

# MULTIVERT® 250A

Size 1, 690VAC

## ACCESSORIES



1.002.492 1.002.493 1.002.829



1.002.830 MZ01LPAP MZLPAP



1.000.192



1.002.647

### 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

### 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

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# MULTIVERT® 250A

Size 1, 690VAC

## ACCESSORIES



1.000.829



1.000.852



1.002.940



1.000.102



MZPR600



MZBT

### Indication facilities

Catalog number	Item number	Design	Package	Weight
1.000.829	L1023418	electro-mechanical fuse monitoring (galvanic isolation) MZS size 1,2,3 for MULTIVERT® 250 A, 400 A, 630 A with cabling of instrument leads	1 piece	0.31 kg
1.000.852	Q1002285	indicator for switch door position micro switch, 1 change-over contact 5 A, 250 V	1 piece	90 g
1.002.940	Z1023453	electronic fuse monitoring ESÜ size 1,2,3 for MULTIVERT® 250 A, 400 A, 630 A with cabling of instrument leads (rated voltage 525VAC)	1 piece	0.85 kg

### Amperemeter units

Catalog number	Item number	Design	Package	Weight
1.000.102	M1023281	size 1, 2, 3, 250 A, with drag indicator, single pole measurement	1 piece	83 g
1.000.108	T1023287	size 1, 2, 3, 250 A, with drag indicator, triple pole measurement (optional L1, L2, L3)	1 piece	83 g

### Current transformers/external current transformers

Catalog number	Item number	Design	Package	Weight
MZ1SW250	K1024567	current transformer up to 250/5A for single pole measurement, class 1 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	0.88 kg
MZ3SW250	M1024569	current transformer up to 250/5A for triple pole measurement, class 1 set = 3 pieces current transformer with distance tubes for level adjustment, 3 pieces installed in the current transformer	1 set	1.38 kg
MZPR600	S1024597	distance tube for level adjustment, up to 600/5A, supplementary set for neighbouring MULTIVERT® without measurement to obtain uniform profile in height 1 set = 3 pieces	1 set	0.62 kg
SZ1SW250	L1024568	current transformer up to 250/5A, class 1, for single pole measurement	1 piece	0.43 kg

### 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 <sup>2</sup> round stranded, sectoral stranded 3 cable lugs Cu: up to max. 150 mm <sup>2</sup> 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 <sup>2</sup> single solid, 10-300 mm <sup>2</sup> single stranded, 10-300 mm <sup>2</sup> round stranded, 10-300 mm <sup>2</sup> 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 <sup>2</sup> single solid, 70-240 mm <sup>2</sup> single stranded, 50-185 mm <sup>2</sup> round stranded, 70-240 mm <sup>2</sup> 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 <sup>2</sup> round stranded, sectoral stranded, 3 cable lugs Cu: up to max. 150 mm <sup>2</sup> 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 <sup>2</sup> single solid, 50-185 mm <sup>2</sup> single stranded, 50-185 mm <sup>2</sup> round stranded, 70-240 mm <sup>2</sup> round solid M = 23-27 Nm	1 piece	6.8 g