

Control and protection components

Catalogue

2010/2011



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fuse protection

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TeSys protection components
Mini-VARIO and VARIO switch disconnectors

Applications

Mini-Vario and Vario rotary switch disconnectors from 12 to 175 A are suitable for on-load making and breaking of resistive or mixed resistive and inductive circuits where frequent operation is required. They can also be used for direct switching of motors in utilisation categories AC-3 and DC-3 specific to motors. Vario switch disconnectors are suitable for isolator applications with fully visible breaking (since the handle cannot indicate the “open” position unless all the contacts are actually open and separated by the appropriate isolating distance) and it is possible to padlock the handles in the open position.

Mini-Vario and Vario rotary switch disconnectors from 12 to 175 A are suitable for on-load making and breaking of resistive or mixed resistive and inductive circuits where frequent operation is required. They can also be used for direct switching of motors in utilisation categories AC-3 and DC-3 specific to motors. Vario switch disconnectors are suitable for isolator applications with fully visible breaking (since the handle cannot indicate the “open” position unless all the contacts are actually open and separated by the appropriate isolating distance) and it is possible to padlock the handles in the open position.



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Switch type		Mini-VARIO for standard applications				VARIO for high performance applications		VARIO for high performance applications					
Thermal current		12 A	20 A	12 A	20 A	25 A	32 A	40 A	63 A	80 A	125 A	175 A	
Operational current AC-23 A at 400 Volts		8.1 A	11 A	8.1 A	11 A	14.5 A	21.8 A	29 A	41.5 A	57 A	68.5 A	83 A	
Number of poles		3...5		3...6			3...6					3 + N + PE	
Number of auxiliary contacts		1 or 2		1...4			1...4						
Switch fixing		Screw fixing, 1 or 4 holes					Screw fixing, 1 or 4 holes						
		Fixing: 1 x Ø 22.5 hole or 4 x Ø 5.5 screws					Fixing: 1 x Ø 22.5 hole or 4 x Ø 5.5 screws			Fixing 4 x Ø 5.5 screws			
From the front		Clip-on mounting on  rail		Clip-on mounting on  rail or screw fixing			Clip-on mounting on  rail or screw fixing					Screw fixing	
From the back													
Reversible terminal blocks		Yes					Yes						
Door mounting, direct operator		Yes					Yes						
Mounting at back of enclosure, indirect operator with door interlock		Yes					Yes						
Enclosure reference		V●DN 12	V●DN 20	V●D 02 V●F 02	V●D 01 V●F 01	V●D 0 V●F 0	V●D 1 V●F 1	V●D 2 V●F 2	V●F 3	V●F 4	V●F 5	V●F 6	
Product reference		VCFN 12GE	VCFN 20GE	V●F 02GE	V●F 01GE	V●F 0GE	V●F 1GE	V●F 2GE	V●F 3GE	V●F 4GE	V●F 5GE	V●F 6GE	
Pages		2/4 and 4/8		4/12 and 4/13			2/4, 4/8 and 4/12						

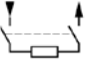
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Characteristics																								
Environment																								
Switch type (bare type)				VN 12 VZN 12	V02 VZ 02	VN 20 VZN 20	V01 VZ 01	V0 VZ 0	VVD 0 VVE 0	V1 VZ 1	VVD 1 VVE 1	V2 VZ 2	VVD 2 VVE 2	V3 VZ 3	VVD 3 VVE 3	V4 VZ 4	VVD 4 VVE 4	V5	V6	VZ7 VZ2 0	VZN 05 VZN 06			
Conforming to standards					IEC 60947-3								IEC 60947-3										IEC 60947-5	
Product certifications					UL, CSA, GL								UL, CSA, GL											
Protective treatment					"TC"								"TC"											
Degree of protection with protection shroud					IP 20 conforming to IEC 60529								IP 20 conforming to IEC 60529											
Ambient air temperature				° C	- 20... + 50								- 20... + 50											
Flame resistance				° C	960 conforming to IEC 60695-2-1								960 conforming to IEC 60695-2-1											
Shock resistance 1/2 sine wave = 11ms conforming to IEC60068-2-27				gn	15	30	15	30					30										—	
Vibration resistance 10...150 Hz conforming to IEC 60068-2-6				gn	5	1					1										—			
Electrical characteristics, a.c. operation																								
Switch type (bare type)				VN 12 VZN 12	V02 VZ 02	VN 20 VZN 20	V01 VZ 01	V0 VZ 0	VVD 0 VVE 0	V1 VZ 1	VVD 1 VVE 1	V2 VZ 2	VVD 2 VVE 2	V3 VZ 3	VVD 3 VVE 3	V4 VZ 4	VVD 4 VVE 4	V5	V6	VZ7 VZ2 0	VZN 05 VZN 06			
Rated operational voltage (Ue)				V	690								690											
Rated impulse withstand voltage (Uimp)				kV	6	8	6	8					8										6	
Conventional thermal currents in free air (Ith) and rated uninterrupted (Iu)				A	12	20		25		32		40	63		80		125	175	12	6				
Conventional thermal current in enclosure (Ithe)				A	10	16		20		25		32	50		63		100	140	10	4				
Rated operational power and current	AC-21A/22A	230...690 V	A	12	20		25		32		40	63		80		125	160	Ie/AC-15						
		AC-23A	230 V	A/kW	10.6/3	14/4		19.7/5.5		25.8/7.5		50.3/15		61.2/18.5		71.9/22	96.6/30	6 A						
		240 V	A/kW	10.6/3	14/4		19.9/5.5		18.9/5.5		24.8/7.5		48.2/15		58.5/18.5		68/22	92.7/30	6 A					
		400 V	A/kW	8.1/4	11/5.5		14.5/7.5		21.8/11		29/15		41.5/22		57/30		68.5/37	83/45	4 A					
		415 V	A/kW	8.1/4	11/5.5		14/7.5		21/11		28/15		40/22		55/30		66/37	80/45	4 A					
		500 V	A/kW	8.9/5.5	11.9/7.5		16.7/11		28.5/18.5		44/30		54/37		64.5/45		79/55	2 A						
		690 V	A/kW	8.6/7.5	12.3/11		17.5/15		17.5/15		25/22		33/30		42/37		49/45	1 A						
Rated operational power	AC -3	230/240 V	kW	1.5	3		4		5.5		11		5.5	11		15		22	30	—				
		400/415 V	kW	3	4		5.5		7.5		11	18.5		22		30	37	—						
		500 V	kW	4	5.5		7.5		15		22		30		37	45	—							
		690 V	kW	4	5.5	7.5		11		11		18.5		30		37	—							
Intermittent duty class					30								30										—	
Characteristics in normal operating conditions	Rated making capacity AC-21A/22A/23A (I rms)		A/ 400 V	120	200		250		320		400	630		800		1250	1750	—						
	Rated breaking capacity AC-21A/22A/23A (I rms)		A/ 400 V	120	200		250		320		320	500		640		1000	1400	—						
Short-circuit characteristics	Permissible rms short time rating (Icw)		A/ 400V/1s	140	300	140	300	384				480	756		960		1500	2100	—					
	Rated making capacity under short-circuit conditions (Icm) I peak		kA/ 400 V	0.5	1	0.5	1	1				1	2.1		2.8		—							
	Rated conditional short-circuit current (I rms) with aM/gG fuses		kA/ 400 V	6	10	6	10	10				10										1		
			A	12	20		25		35		50	63		80		125	200	16	1.6					

Characteristics

Electrical characteristics, d.c. operation

Switch type (bare type)

			VN 12 VZN 12	V02 VZ 02	VN 20 VZN 20	V01 VZ 01	V0 VZ 0	VVD 0 VVE 0	V1 VZ 1	VVD 1 VVE 1	V2 VZ 2	VVD 2 VVE 2	V3 VZ 3	VVD 3 VVE 3	V4 VZ 4	VVD 4 VVE 4	V5	V6	VZ7 VZ2 0	VZN 05 VZN 06
  	Rated operational current DC-1 (L/R = 1ms)	24 V	1 contact	A	12	20	25		32		40		63		80		125	175	8 (le/DC-11)	
			2 contacts	A	12	20	25		32		40		63		80		125	175	—	
			3 contacts	A	12	20	25		32		40		63		80		125	175	—	
		48 V	1 contact	A	12	20	25		32		40		63		80		125	175	8 (le/DC-11)	
			2 contacts	A	12	20	25		32		40		63		80		125	175	—	
			3 contacts	A	12	20	25		32		40		63		80		125	175	—	
		60 V	1 contact	A	12	20	25		32		35		40		50		60	70	4 (le/DC-11)	
			2 contacts	A	12	20	25		32		40		63		80		125	175	—	
			3 contacts	A	12	20	25		32		40		63		80		125	175	—	
		110 V	1 contact	A	1.5	2	9		10		12		20		25		30	12	2 (le/DC-11)	
			2 contacts	A	8	10	12		16		20		63		80		125	175	—	
			3 contacts	A	12	20	25		32		40		63		80		125	175	—	
		220 V	1 contact	A	1.5	2	2.5		3		4		6		8		12	15	1 (le/DC-11)	
			2 contacts	A	7	8	10		12		14		25		30		40	50	—	
			3 contacts	A	10	14	16		20		25		30		40		80	100	—	
		250 V	1 contact	A	0.6	0.7	0.8		1		2		4		5		3	10	0.8 (le/DC-11)	
			2 contacts	A	3	4	6		8		12		20		25		30	40	—	
			3 contacts	A	8	10	12		16		20		30		40		50	61	—	
	Rated operational current DC-2 to DC-5 (L/R = 1ms)	24 V	1 contact	A	12	20	25		32		40		63		80		125	175	—	
			2 contacts	A	12	20	25		32		40		63		80		125	175	—	
			3 contacts	A	12	20	25		32		40		63		80		125	175	—	
		48 V	1 contact	A	12	20	25		32		40		63		80		125	175	—	
			2 contacts	A	12	20	25		32		40		63		80		125	175	—	
			3 contacts	A	12	20	25		32		40		63		80		125	175	—	
		60 V	1 contact	A	10	14	16		20		25		40		50		60	70	—	
			2 contacts	A	12	20	25		32		40		63		80		125	175	—	
			3 contacts	A	12	20	25		32		40		63		80		125	175	—	
		110 V	1 contact	A	1.5	2	2.5		3		5		6		8		10	12	—	
			2 contacts	A	3	4	5		6		8		10		20		22	24	—	
			3 contacts	A	12	20	25		32		40		50		63		70	80	—	
		220 V	1 contact	A	0.4	0.5	0.5		0.8		1		1.5		2		2.2	2.4	—	
			2 contacts	A	1.4	1.5	1.5		2		3		4		6		7	8	—	
			3 contacts	A	1	2	3		4		7		10		15		16	13	—	
		250 V	1 contact	A	0.3	0.4	0.5		0.8		1		1.2		1.5		1.6	1.8	—	
			2 contacts	A	0.4	0.6	0.8		1		2		3		6		7	8	—	
			3 contacts	A	1.2	2.4	1.6		2		6		8		10		12	14	—	

Other characteristics

Switch type (bare type)

			VN 12 VZN 12	V02 VZ 02	VN 20 VZN 20	V01 VZ 01	V0 VZ 0	VVD 0 VVE 0	V1 VZ 1	VVD 1 VVE 1	V2 VZ 2	VVD 2 VVE 2	V3 VZ 3	VVD 3 VVE 3	V4 VZ 4	VVD 4 VVE 4	V5	V6	VZ7 VZ2 0	VZN 05 VZN 06
Mechanical durability (millions of operating cycles)			0.05	0.1	0.05	0.1					0.1		0.03						0.1	0.05
Electrical durability in cat. AC-21 (millions of operating cycles)			0.05	0.1	0.05	0.1					0.1		0.03						0.1 (AC-15)	0.05
Electrical durability in cat. DC-1 to 5 (operating cycles)			30 000								30 000								30 000 (DC-11)	
Suitable for isolation			Yes								Yes								—	
Cabling	Flexible cable + cable end	mm²	4	6	4	6					6		16				70		2 x 0.75...1.5	
	Solid cable	mm²	4	10	4	10					10		25				95		2 x 1...2.5	
Tightening torque		N.m	0.7	2.1	0.7	2.1					2.1		4				22.6		0.7	

TeSys protection components
Mini-VARIO switch disconnectors
for standard applications
Complete units

- 3-pole rotary switch disconnectors, 12 to 20 A
- Marking on operator $\circ \downarrow$.
- Padlockable operating handle (padlocks not supplied).
- Degree of protection IP 65.

Main and Emergency stop switch disconnectors
for door mounting

Operator	lth	Reference	Weight
Handle	Front plate	Fixing	
	mm	mm	A
Red, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Yellow 60 x 60	Ø 22.5	12 VCDN 12 0.177
			20 VCDN 20 0.177

Main and Emergency stop switch disconnectors for mounting
at back of an enclosure (1)

Operator	lth	Reference	Weight
Handle	Front plate	Fixing	
	mm	mm	A
Red, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Yellow 60 x 60	Ø 22.5	12 VCCDN 12 0.334
			20 VCCDN 20 0.334

Main switch disconnectors for door mounting

Operator	lth	Reference	Weight
Handle	Front plate	Fixing	
	mm	mm	A
Black, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Black 60 x 60	Ø 22.5	12 VBDN 12 0.177
			20 VBDN 20 0.177

(1) Switches supplied with a shaft extension **VZN 17** and a door interlock plate **KZ 32**
(see page 4/11)



VCDN 20



VCCDN 20



VBDN 20

TeSys protection components
Mini-VARIO switch disconnectors
for standard applications
Switch bodies, add-on modules

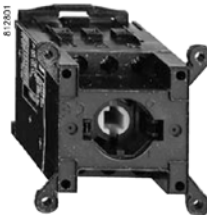
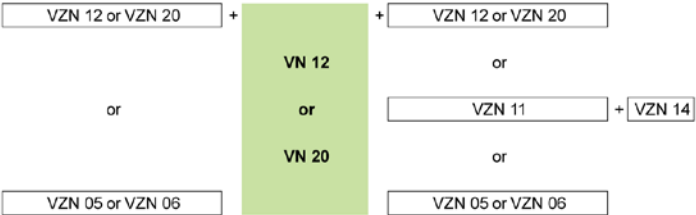
Switch bodies

Description	Rating A	Reference	Weight kg
3-pole switch disconnectors	12	VN 12	0.110
	20	VN 20	0.110

Add-on modules

Description	Rating A	Reference	Weight kg
Main pole modules	12	VZN 12	0.020
	20	VZN 20	0.020
Neutral pole module with early make and late break contacts	12 and 20	VZN 11	0.020
Earthing module	12 and 20	VZN 14	0.016
Auxiliary contact block modules	1 N/O late make contact	VZN 05	0.020
	1 N/C early break contact	VZN 06	0.020
Input terminal protection shrouds	For add-on pole modules or auxiliary contact block modules (single-pole shroud)	VZN 26	0.004
	For switch bodies (3-pole shroud)	VZN 08	0.007

Maximum number of add-on modules that can be fitted on
a switch body



VN 20



VZN 11



VZN 14



VZN 05



VZN 26



VZN 08

TeSys protection components
Mini-VARIO switch disconnectors
for standard applications
Operators and accessories

- Degree of protection IP 65.
- Marking on operator $\bigcirc$ J.
- Padlockable operating handle (padlocks not supplied).
- Operator fixing by 1 $\varnothing$ 22.5 hole; for other operators see pages 4/17 and 4/19.
- For other accessories and empty enclosures, see pages 4/20, 4/21 and 2/5.

Operators for main and Emergency stop switch disconnectors

Handle	Front plate mm	Reference	Weight kg
Red, padlockable with 1 padlock ($\varnothing$ 4 to $\varnothing$ 6)	Yellow 45 x 45	KCC 1YZ	0.050
Red, padlockable with up to 3 padlocks ($\varnothing$ 4 to $\varnothing$ 8)	Yellow 60 x 60	KCD 1PZ	0.084

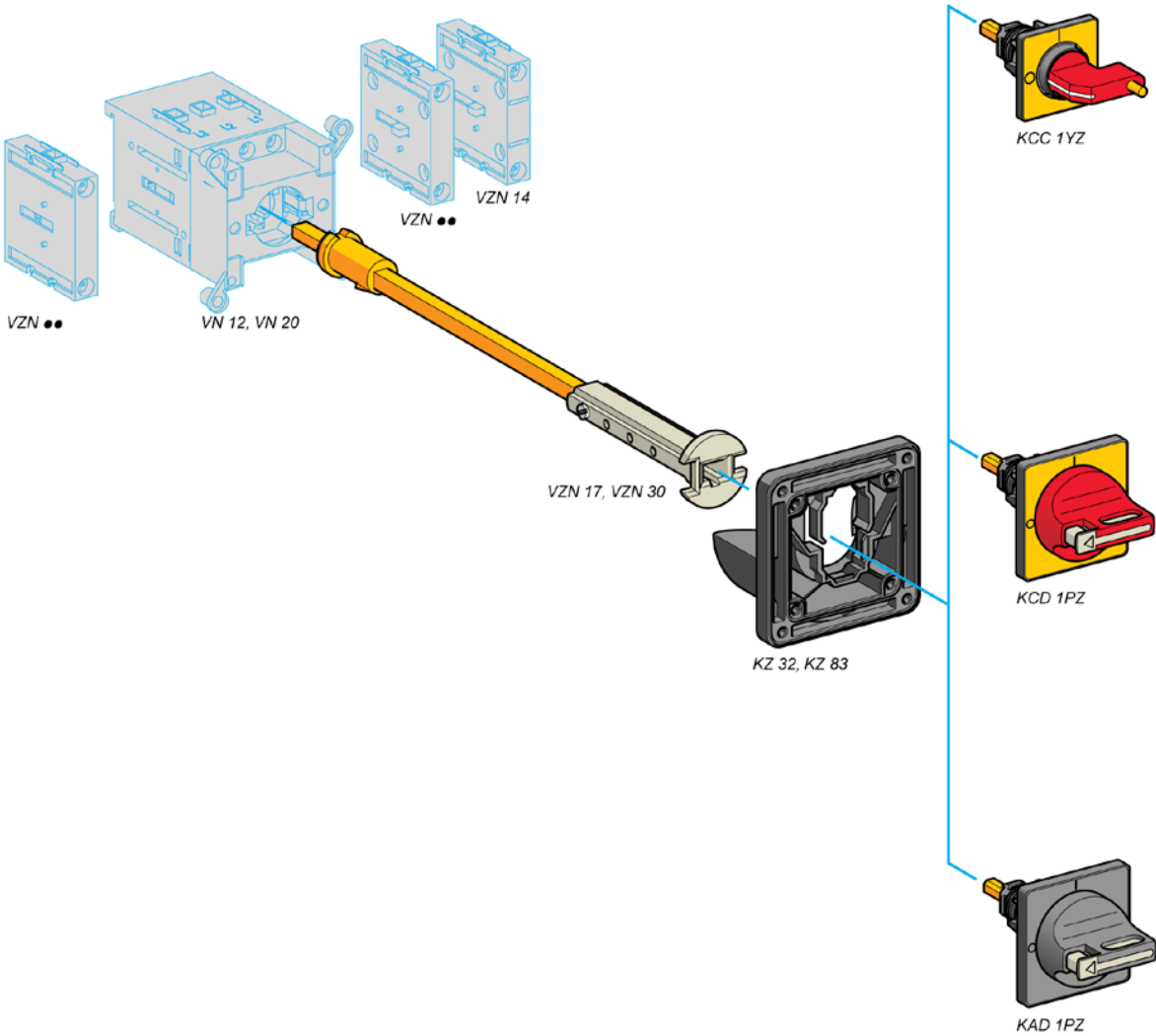
Operators for main switch disconnectors

Handle	Front plate mm	Reference	Weight kg
Black, padlockable with up to 3 padlocks ($\varnothing$ 4 to $\varnothing$ 8)	Black 60 x 60	KAD 1PZ	0.084

Accessories for door interlocking

For rear fixing switch disconnectors mounted at the back of an enclosure, in addition to a direct operator

Description	Front plate mm	Distance enclosure back/door mm	Sold in lots of	Unit reference	Weight kg
Shaft extensions	—	300...330	1	VZN 17	0.100
		400...430	1	VZN 30	0.130
Door interlock plate	45 x 45 or 60 x 60	—	5	KZ 32	0.170
Plate for door mounting	45 x 45 or 60 x 60	—	5	KZ 83	0.205



TeSys protection components
VARIO switch disconnectors
for high performance applications
Complete units



VCF 0



VCF 5



VCCF 0

- 3-pole rotary switch disconnectors, 12 to 175 A
- Marking on operator
- Padlockable operating handle (padlocks not supplied).
- Degree of protection IP 65.

Main and Emergency stop switch disconnectors
for door mounting

Handle	Front plate mm	Fixing	Rating A	Reference	Weight kg
Red, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Yellow 60 x 60	Ø 22.5	12	VCD 02	0.215
			20	VCD 01	0.215
			25	VCD 0	0.215
			32	VCD 1	0.215
			40	VCD 2	0.215
		4 screws	12	VCF 02	0.250
			20	VCF 01	0.250
			25	VCF 0	0.250
			32	VCF 1	0.250
			40	VCF 2	0.250
			63	VCF 3	0.560
			80	VCF 4	0.560
Red, long, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Yellow 90 x 90	4 screws	125	VCF 5	1.200
			175	VCF 6	1.200

Main and Emergency stop switch disconnectors
for mounting at back of an enclosure (1)

Handle	Front plate mm	Fixing	Rating A	Reference	Weight kg
Red, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Yellow 60 x 60	Ø 22.5	12	VCCD 02	0.392
			20	VCCD 01	0.392
			25	VCCD 0	0.392
			32	VCCD 1	0.392
			40	VCCD 2	0.392
		4 screws	12	VCCF 02	0.527
			20	VCCF 01	0.527
			25	VCCF 0	0.527
			32	VCCF 1	0.527
			40	VCCF 2	0.527
			63	VCCF 3	0.440
			80	VCCF 4	0.680
Red, long, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Yellow 90 x 90	4 screws	125	VCCF 5	1.320
			175	VCCF 6	1.320

(1) Unit supplied with a shaft extension **VZN 17** and a door interlock plate **KZ 32** or **KZ 74**
(see page 4/20).

TeSys protection components
VARIO switch disconnectors
for high performance applications
Complete units



VBD 0



VBF 4



VVE 1

- 3-pole rotary switch disconnectors, 12 to 175 A
- Marking on operator
- Padlockable operating handle (padlocks not supplied).
- Degree of protection IP 65.

Main switch disconnectors for door mounting

Handle	Front plate mm	Fixing	Rating A	Reference	Weight kg
Black, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Black 60 x 60	Ø 22.5	12	VBD 02	0.215
			20	VBD 01	0.215
			25	VBD 0	0.215
			32	VBD 1	0.215
			40	VBD 2	0.215
		4 screws	12	VBF 02	0.250
			20	VBF 01	0.250
			25	VBF 0	0.250
			32	VBF 1	0.250
			40	VBF 2	0.250
			63	VBF 3	0.560
			80	VBF 4	0.560
Red, long, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Black 90 x 90	4 screws	125	VBF 5	1.200
			175	VBF 6	1.200

Main and Emergency stop switch disconnectors
For mounting in an enclosure or for modular distribution boards

Handle	Front plate mm	Rating A	Reference	Weight kg
Red, padlockable with 1 padlock (Ø 4 to Ø 6)	Yellow 45 x 45	25	VVE 0	0.250
		32	VVE 1	0.250
		40	VVE 2	0.250
		63	VVE 3	0.530
		80	VVE 4	0.530

Main switch disconnectors

For mounting in an enclosure or for modular distribution boards				
Handle	Front plate mm	Rating A	Reference	Weight kg
Black, not padlockable	Black 45 x 45	25	VVD 0	0.250
		32	VVD 1	0.250
		40	VVD 2	0.250
		63	VVD 3	0.560
		80	VVD 4	0.560

TeSys protection components
VARIO switch disconnectors
for high performance applications
Switch bodies, add-on modules, auxiliary contacts
(for customer assembly)



V0



V5



VZ 0



VZ 11



VZ 15



VZ 20

Switch bodies

Description	Rating A	Reference	Weight kg
3-pole switch disconnectors (1)	12	V02	0.200
	20	V01	0.200
	25	V0	0.200
	32	V1	0.200
	40	V2	0.200
	63	V3	0.500
	80	V4	0.500
	125	V5	0.900
	175	V6	0.900

Add-on modules

Description	Rating A	Reference	Weight kg
Main pole modules	12	VZ 02	0.050
	20	VZ 01	0.050
	25	VZ 0	0.050
	32	VZ 1	0.050
	40	VZ 2	0.050
	63	VZ 3	0.100
	80	VZ 4	0.100
Neutral pole modules with early make and late break contacts (1)	12 to 40	VZ 11	0.050
	63 to 80	VZ 12	0.100
	125 and 175	VZ 13	0.250
Earthing modules	12 to 40	VZ 14	0.050
	63 and 80	VZ 15	0.100
	125 and 175	VZ 16	0.250

Auxiliary contact block modules

Description	Type	Reference	Weight kg
Auxiliary contact block modules with 2 auxiliary contacts	N/O + N/C (2)	VZ 7	0.050
	N/O + N/O	VZ 20	0.050

(1) Protection shrouds are available if required: see page 4/20.
(2) Late make N/O, early break N/C contacts

TeSys protection components
VARIO switch disconnectors
for high performance applications
Switch bodies, add-on modules, auxiliary contacts
(for customer assembly)

Maximum number of add-on modules that can be fitted on a switch body

1 add-on module on each side of the switch body

VZ 7 or VZ 20	+	V0●	+	VZ 7 or VZ 20	VZ 7	+		+	VZ 7
or				or	or		V5		or
VZ 11 or VZ 12	+	V0	+	VZ 11 or VZ 12	VZ 20	+		+	VZ 20
or				or	or		or		or
VZ 14 or VZ 15	+		+	VZ 14 or VZ 15	VZ 13	+		+	VZ 13
or				or	or		V6		or
VZ 0●/VZ 0 to VZ 4	+		+	VZ 0●/VZ 0 to VZ 4	VZ 16	+		+	VZ 16

2 add-on modules on each side of the switch body

VZ 0●	+	VZ 0●	+	V0●	+	VZ 0●	+	VZ 7	or	VZ 20	or	VZ 11	or	VZ 14
VZ 0	+	VZ 0	+	V0	+	VZ 0	+	VZ 7	or	VZ 20	or	VZ 11	or	VZ 14
VZ 1	+	VZ 1	+	V1	+	VZ 1	+	VZ 7	or	VZ 20	or	VZ 11	or	VZ 14
VZ 2	+	VZ 2	+	V2	+	VZ 2	+	VZ 7	or	VZ 20	or	VZ 11	or	VZ 14
VZ 3	+	VZ 3	+	V3	+	VZ 3	+	VZ 7	or	VZ 20	or	VZ 12	or	VZ 15
VZ 4	+	VZ 4	+	V4	+	VZ 4	+	VZ 7	or	VZ 20	or	VZ 12	or	VZ 15

Nota : The add-on modules mounted next to the switch body are main pole modules. Maximum of 3 main pole modules per switch body.

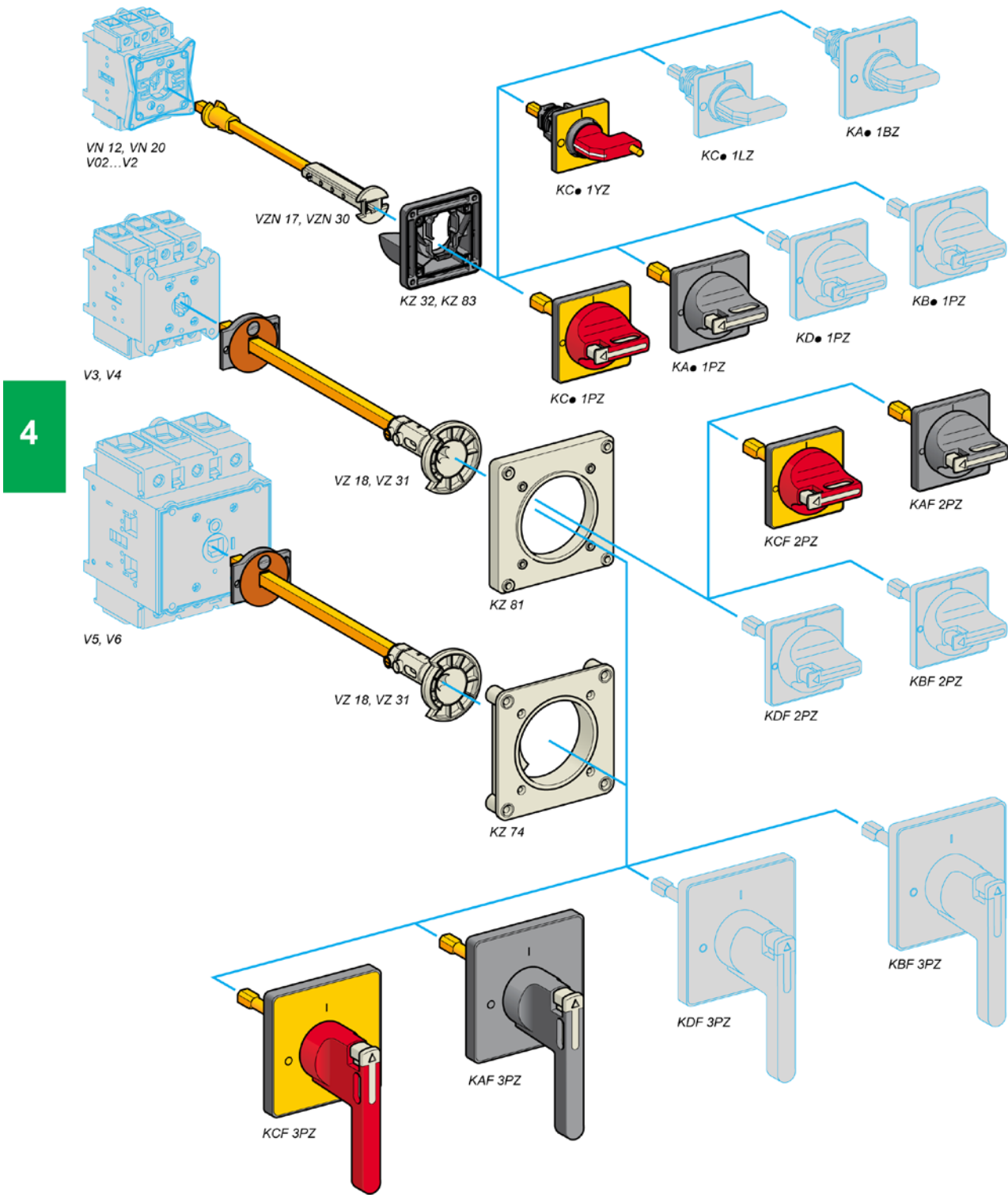
TeSys protection components
Mini-VARIO and VARIO switch disconnectors
Operators, handles and front plates
(for customer assembly)

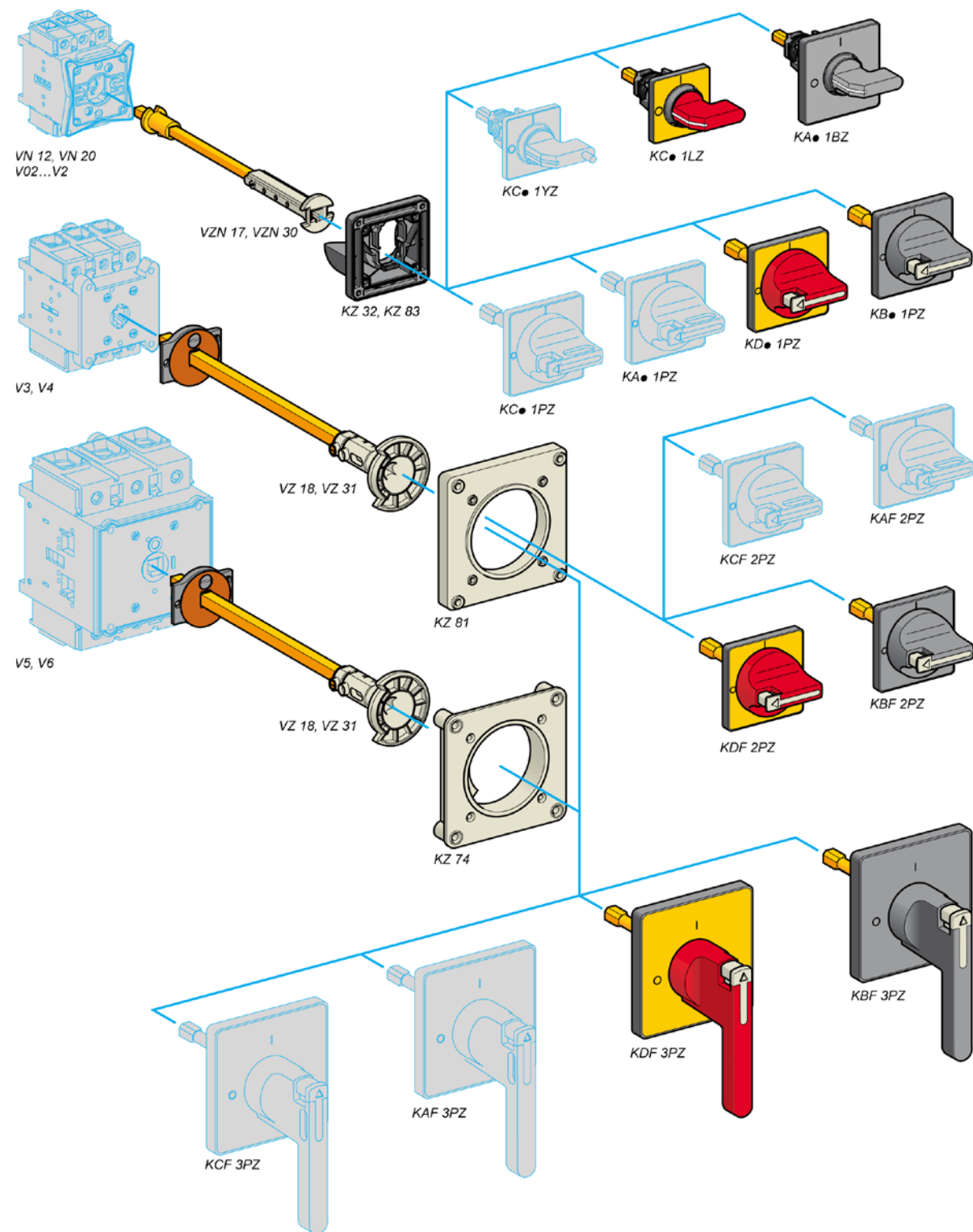
- Marking on operator
- Padlockable operating handle (padlocks not supplied).
- Degree of protection IP 65.

Handles and front plates for main and Emergency stop switch disconnectors					
For switch body	Operator Handle	Front plate		Reference	Weight
		Dimensions	Fixing		
		mm			kg
VN 12, VN 20 V02...V2	Red, padlockable with 1 padlock (Ø 4 to Ø 8)	Yellow 45 x 45	Ø 22.5	KCC 1YZ	0.050
			4 screws	KCE 1YZ	0.040
		Yellow 60 x 60	Ø 22.5	KCD 1PZ	0.082
V3 and V4	Red, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Yellow 60 x 60	4 screws	KCF 1PZ	0.075
				KCF 2PZ	0.070
V5 and V6	Red, long, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Yellow 90 x 90	4 screws	KCF 3PZ (1)	0.160

Handles and front plates for main switch disconnectors					
For switch body	Operator Handle	Front plate		Reference	Weight
		Dimensions	Fixing		
		mm			kg
VN 12, VN 20 V02...V2	Black, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Black 60 x 60	Ø 22.5	KAD 1PZ	0.082
			4 screws	KAF 1PZ	0.075
V3 and V4	Black, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Black 60 x 60	4 screws	KAF 2PZ	0.070
V5 and V6	Black, long, padlockable with up to 3 padlocks (Ø 4 to Ø 8)	Black 90 x 90	4 screws	KAF 3PZ (1)	0.160

(1) For door mounting of 63 and 80 A switch disconnectors, adapter plate **KZ 106** must be ordered separately (see page 4/20).





References (continued)

TeSys protection components
Mini-VARIO and VARIO switch disconnectors
Operators, handles and front plates
(for customer assembly)

- Marking on operator
- Degree of protection IP 65.

Handles and front plates for Emergency stop switch disconnectors					
For switch body	Operator	Front plate		Reference	Weight
	Handle	Dimensions	Fixing		
		mm			
VN 12, VN 20 V02...V2	Red, not padlockable	Yellow 45 x 45	Ø 22.5	KCC 1LZ	0.050
			4 screws	KCE 1LZ	0.040
		Yellow 60 x 60	Ø 22.5	KDD 1PZ	0.082
			4 screws	KDF 1PZ	0.075
V3 and V4	Red, long, not padlockable	Yellow 60 x 60	4 screws	KDF 2PZ	0.070
V5 and V6	Red, long, not padlockable	Yellow 90 x 90	4 screws	KDF 3PZ (1)	0.160

Handles and front plates for switch disconnectors					
For switch body	Operator	Front plate		Reference	Weight
	Handle	Dimensions	Fixing		
		mm			
VN 12, VN 20 V02...V2	Black, not padlockable	Black 45 x 45	Ø 22.5	KAC 1BZ	0.050
			4 screws	KAE 1BZ	0.040
		Black 60 x 60	Ø 22.5	KBD 1PZ	0.055
			4 screws	KBF 1PZ	0.045
V3 and V4	Black, not padlockable	Black 60 x 60	4 screws	KBF 2PZ	0.070
V5 and V6	Black, not padlockable	Black 90 x 90	4 screws	KBF 3PZ (1)	0.160

(1) For door mounting of 63 and 80 A switch disconnectors, adapter plate **KZ 106** must be ordered separately (see next page).

TeSys protection components
Mini-VARIO and VARIO switch disconnectors
Accessories



VZ 8



VZ 26

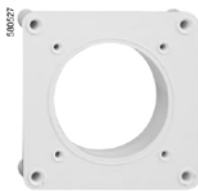
Input terminal protection shrouds				
Description	For use on	Reference	Weight	
For switch bodies (3-pole shroud)	V02... V2	VZ 8	0.015	
	V3 and V4	VZ 9	0.020	
	V5 and V6	VZ 10	0.060	
For add-on pole modules (single-pole shroud)	VZ 02...VZ 2, VZ 11, VZ 14	VZ 26	0.005	
	VZ 3, VZ 4, VZ 12, VZ 15	VZ 27	0.007	
	VZ 13, VZ 16	VZ 28	0.020	
	For contact blocks with 2 auxiliary contacts	VZ 29	0.005	

Components for door interlocking					
For rear fixing switch disconnectors mounted at the back of an enclosure, in addition to a direct operator					
Description	For use on	Distance enc. back/door	Sold in lots of	Unit reference	Weight
Shaft extensions	VN 12, VN 20 V02... V2	300...330	1	VZN 17 (1)	0.100
		400...430	1	VZN 30 (1)	0.130
	V02... V2	300...330	1	VZ 17	0.075
		400...430	1	VZ 30	0.125
	V3 and V4	300...320	1	VZ 18	0.170
		400...420	1	VZ 31	0.215
	V5 and V6	330...350	1	VZ 18	0.170
		430...450	1	VZ 31	0.215
	Door interlock plates	VN 12, VN 20 V02... V2	5	KZ 32	0.177
		V3...V6	5	KZ 74	0.020
Description	For use on	Front plate dimensions	Sold in lots of	Unit reference	Weight
Plates for door mounting of handles with 4 screw fixing	VN 12, VN 20 V02... V2	45 x 45 or 60 x 60	5	KZ 83	0.205
	V3...V6	60 x 60 or 90 x 90	5	KZ 81	0.010
Adapter plate for switch disconnectors	V3 and V4	90 x 90	5	KZ 106	0.075

(1) Can be used with V02 to V2 switches.

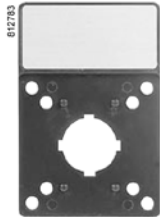


KZ 32

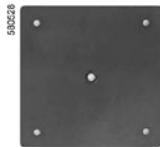


KZ 81

TeSys protection components
Mini-VARIO and VARIO switch disconnectors
Accessories



KZ 15



KZ 67



Z01

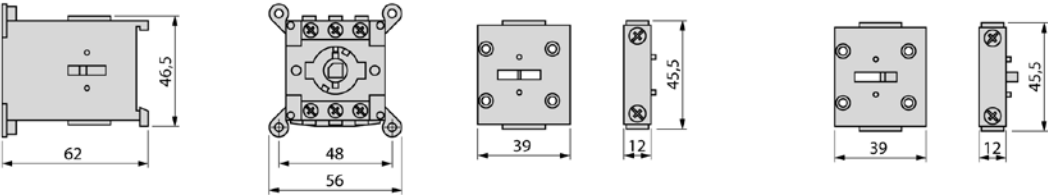
Accessories for operators					
Description	For use on	Front plate dimensions	Sold in lots of	Unit reference	Weight
Legend holder with silver coloured blank legend plate	Front plate	45 x 45	5	KZ 13	0.060
		60 x 60	5	KZ 15	0.065
		90 x 90	5	KZ 103	0.070
Legend holders without legend plate	Front plate	45 x 45	20	KZ 14	0.060
		60 x 60	10	KZ 16	0.065
		90 x 90	5	KZ 101	0.070
Silver coloured blank legend plates for engraving by customer	KZ 14	–	20	KZ 76	0.020
	KZ 16	–	10	KZ 77	0.010
	KZ 101	–	5	KZ 100	0.005
Seals	VN 12, VN 20	45 x 45	5	KZ 65	0.037
	V02... V2	60 x 60	5	KZ 66	0.033
	V3 and V4	60 x 60	5	KZ 62	0.033
	V3...V6	90 x 90	5	KZ 67	0.064
Tightening tool	For operators with Ø 22.5 fixing	–	5	Z01	0.050

Dimensions

Switch disconnectors
Switch bodies VN 12, VN 20

Add-on modules VZN 12, VZN 20

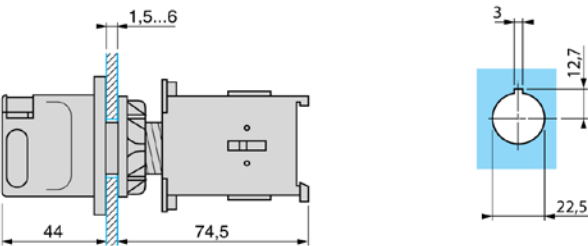
Add-on modules VZN 11, VZN 14 VZN 05
and VZN 06



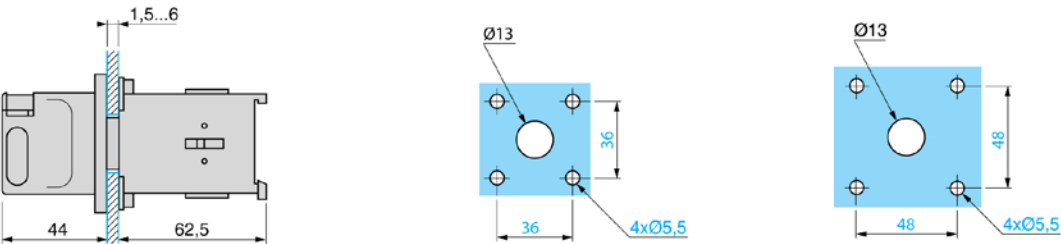
Mounting

Switch disconnector mounted on enclosure door

VN 12, VN 20
Single hole fixing



VN 12, VN 20
4 screw fixing



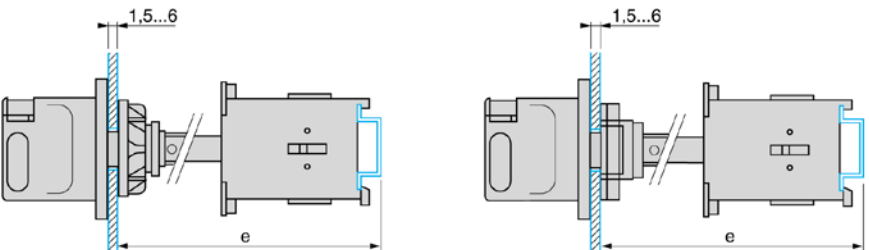
Mounting (continued)

Switch disconnector mounted at back of enclosure with shaft extension VZN 17 or VZN 30 (clip-on mounting on L rail)

VN 12, VN 20

Single hole fixing

4 screw fixing



	Shaft extension	Distance (e) enclosure back/door mm
VN 12, VN 20	VZN 17	300...330
	VZN 30	400...430

Schemes

Switch body
VN 12, VN 20

Main pole module
VZN 12, VZN 20

Neutral pole module
VZN 11

Auxiliary contact blocks
VZN 05

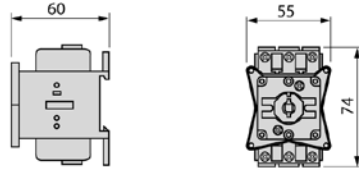
VZN 06



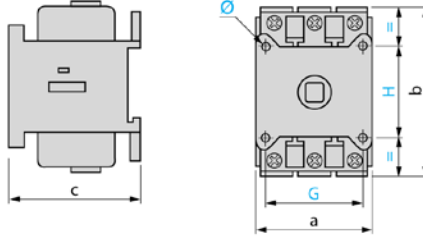
Dimensions

Switch disconnectors

Switch bodies V0, V0 to V2

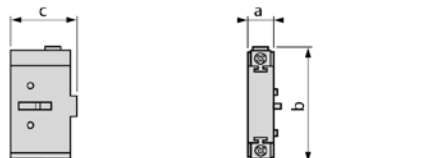


Switch bodies V3 to V6



	a	b	c	G	H	Ø
V3, V4	60	83	65	48	48	5.5
V5, V6	90	125	90	68	68	5.5

Add-on modules VZ 02 to VZ 4 and VZ 11 to VZ 16

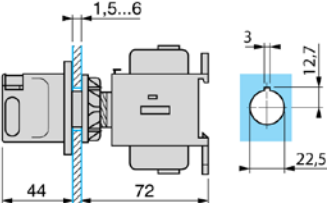


	a	b	c
VZ 02 and VZ 01, VZ 0 to VZ 2, VZ 11, VZ 14	16	74	35
VZ 3, VZ 4, VZ 12, VZ 15	20	83	46
VZ 13, VZ 16	30	125	63

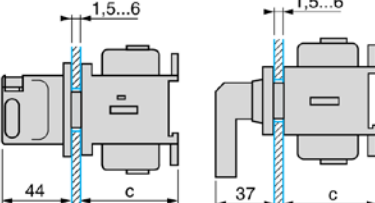
Mounting

Switch disconnector mounted on enclosure door

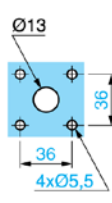
Single hole fixing V0, V0 to V4



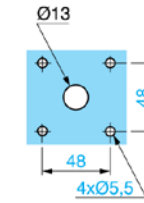
4 screw fixing V0, V0 to V4



4 screw fixing 45 x 45 front plate V0, V0 to V2



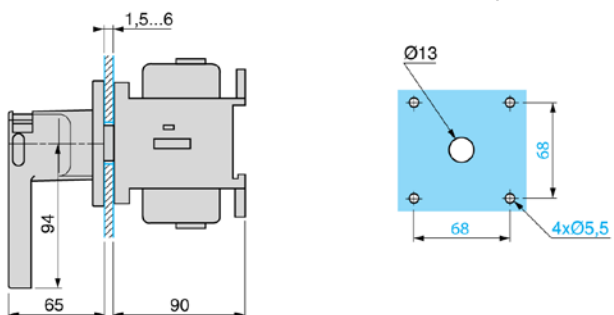
4 screw fixing 60 x 60 front plate V0, V0 to V4



	c
V0, V0 to V2	60
V3, V4	65

V5 and V6. 4 screw fixing

90 x 90 front plate



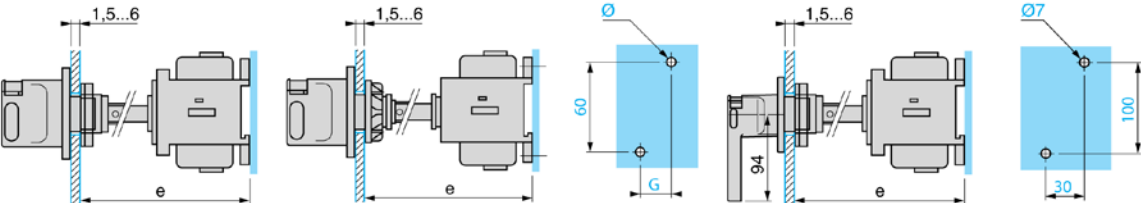
Mounting (continued)

Switch disconnector mounted at back of enclosure

4 screw fixing V0, V0 to V2 with shaft extension VZ 17 or VZ 30 (clip-on mounting on L rail possible for V0 to V2)

Single hole fixing V3 to V4 with shaft extension VZ 18 or VZ 31

V5 and V6 with shaft extension VZ 18 or VZ 31



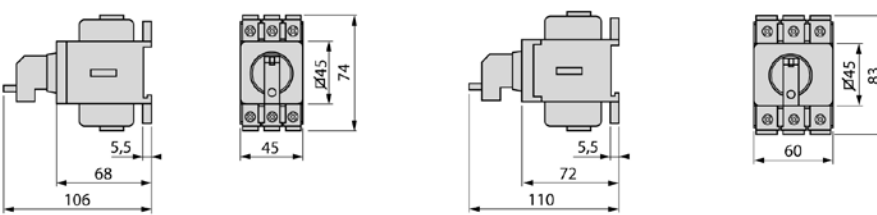
Shaft extension	Distance (e) enc.back/door mm	Ø	G	
V02 and V01	VZ 17	300...330	2 x 4.2	15
V0 to V2	VZ 30	400...430	2 x 4.2	15
V3 and V4	VZ 18	300...320	2 x 5	20
	VZ 31	400...420	2 x 5	20

Shaft extension	Distance (e) enc.back/door mm	
V5 and V6	VZ 18	300...350
	VZ 31	430...450

Switch disconnectors for modular distribution boards

VV 0 to VV 2

VV 3 to VV 4



Schemes

Switch body V02 and V01 V0 to V6

Main pole module VZ 02 and VZ 01 VZ 0 to VZ 4

Neutral pole module VZ 11 to VZ 13

Auxiliary contact blocks VZ 7

VZ 20

