



DISCONNECT SWITCHES

DS 20-32-40A series
DS 50-63-80-100A series

TS series
TSC/TSD series



03



DS series TS series TSC/TSD series

■ Disconnect switches

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*Handles and plates for DS 20...100A series

Overview

Bremas disconnect switches range includes **DS 20-32-40A**, **DS 50-63-80-100A**, **TS** and **TSC/TSD** series with current ratings from 16A to 2500A.

The double break contacts have positive opening to guarantee high electrical efficiency and safety.

The terminals of the DS 20-32-40A and DS 50-63-80-100A series have IP20 protection degree and are provided with captive screws in open position to reduce the wiring time.

The new DS series have contact block designed to simplify the wiring: rear access to terminal connections for rear mounting versions and front access for base mounting versions.

TS and TSC/TSD series have bolt connections (screw terminals are available for TS rated 125°). Terminal covers and additional accessories are optionally available.

	DS	20A 32A 40A	<ul style="list-style-type: none"> • U_i/U_e 800V • 3P- 3P+N • Screw cage terminals with captive screws • Max 10/16 mm² (flex/solid wire) • Max AWG 8 • Rear mount with screws or Ø22mm (0,87") singl-hole and nut • Base mounting with screws or on DIN rail
			<ul style="list-style-type: none"> • U_i/U_e 690V • 3P- 3P+N • Screw cage terminals with captive screws • Max 35/50 mm² (flex/solid wire) • Max AWG 1 • Rear mount with screws or Ø22mm (0,87") singl-hole and nut • Base mount with screws or on DIN rail
	TS	125A 160A 200A 250A 400A 630A 800A 1000A	<ul style="list-style-type: none"> • U_i/U_e 1000V/690V • 690V AC 23A IEC 60947-3 • 600V DC 23A IEC 60947-3 • 3 - 4 pole • Bolt connection for ring lugs (also screw terminals for the 125A only) • Base mount
			On request <ul style="list-style-type: none"> • Current ratings up to 2500A • 6 and 8 pole • Rear mount
	TSC TSD	250A 400A 630A 800A 1000A 1250A 1600A	<ul style="list-style-type: none"> • U_i/U_e 1000V/600V • 500V AC 23A • 690 AC 22A IEC 60947-3 • 600V DC 22A IEC 60947-3 • 3 - 4 pole • Bolt connection for ring lugs • Base mount
			On request 6 and 8 pole

DS Disconnect switches range

Bremas disconnect switches range is designed for safety operations even under load. **DS disconnect switches** series ensure high performance in small spaces and are suitable both for switching resistive loads and inductive loads or motors. In only two sizes are available current rating from 20A to 100A.

■ 20-32-40A

- Rated current: 20A - 32A - 40A
- Rated insulation voltage 800V
- Protection degree IP20
- Rear mounting or Base mounting
- Padlockable handles and knobs

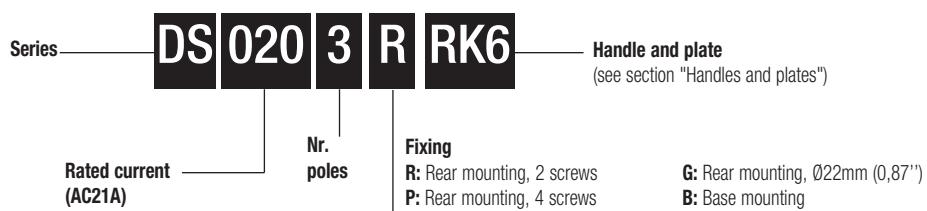


■ 50-63-80-100A

- Rated current: 50A - 63A - 80A - 100A
- Rated insulation voltage 690V
- Protection degree IP20
- Rear mounting or Base mounting
- Padlockable handles and knobs



Code structure



Range

The DS disconnect switches series are characterized by high performance and are suitable for installation in distribution circuits and power engines, in distribution boards or directly on the machine, with alternate current rating from 20 up to 100A.



20-32-40A



50-63-80-100A

Dimensions

The **DS series** has the most compact dimensions on the market that provide installation in reduced spaces also thanks to the many handles with IP66 protection degree.

35 mm



20-32-40A

Fixing types

It is possible to choose between different fixing types according to the needs:

■ Rear mounting

- 2 holes with vertical interaxis 28mm (1.10")
- 4 holes with interaxis 36mm / 48mm (1.42"/1.89")
- Single hole Ø 22 mm (0.87") holes with fixing nut

■ Base mounting with control shaft

- Snap mount on DIN rail
- 2 screws
- Plate fixed on panel with 2 or 4 screws or with single hole Ø 22mm (0.87") with fixing nut

■ Base mounting direct operation (with handle)

■ Base mounting for panel board - DDN



DDN version



Base mounting version

Adjustable depth for the control shaft

The base mounting version of the **DS** includes an ergonomic handle for direct command of the switch; the handle also incorporates a housing for the shaft with a fixing screw. The height of the shaft can be adjusted within an excursion of 20mm, therefore the need of cutting the shaft can be reduced. Base mounting switches are provided with 175mm. shaft.

In the 20-32-40A base mounting version, the shaft insertion dimension in the housing has a tolerance of about 20mm; this makes it possible to reduce the need to cut the shaft with a consequent reduction in installation times and costs.



Easy to wire

The terminals access depending on the fixing option:

- Rear mounting: rear access to terminals.
- Base mounting: front access to terminals.



Rear mounting version



Base mounting version

And also:

- The clamps are provided in open position and equipped with captive plus-minus screws.
- Protection against direct contacts assured even when the panel is opened.

Equipment

The DS disconnect switches series can be equipped with 2 additional poles and/or 2 auxiliary contact (max 1 per side).



Plates and knobs for every application**A complete IP66 range**

All the most common plates and knobs are available, for base and rear mounting, with or without padlocking. For all these plates and knobs the **IP66** degree of protection is guaranteed, allowing the installation even in difficult environments.

**Safety for the operator**

The base mounting plates and knobs are provided with door interlock mechanism in "I/ON" position to avoid door opening when the board is connected to the supply.





BREMAS



DISCONNECT SWITCHES

DS 20-32-40A series
DS 50-63-80-100A series



03

■ International Standards and approvals

Country	USA / Canada	Canada	China	UK	Germany	Switzerland	Denmark	Norway	Sweden	Finland	Austria	Great Britain	IEC
Authority	UL investigated according to CSA	CSA International	China Compulsory Certificate		Verband Deutscher Elektrotechiker	Schweizerischer Elektrotechiker Verein	Danmarks Elektriske Materielkontroll	Norges Elektriske Materielkontroll	Svenska Elektriska Materielkontroll-anstalten	Sähötar-kastuskeskus	Österreichischer Verband für Elektrotechnik	British Standards Institution	International electrical Commission
Mark of standard					VDE 0660 ⁽¹⁾							BS EN 60947 ⁽¹⁾	IEC 60947 ⁽²⁾
DS020	•	+		•	+	+	+	+	+	+	+	+	+
DS032	•	+		•	+	+	+	+	+	+	+	+	+
DS040	•	+		•	+	+	+	+	+	+	+	+	+
DS050	•	+	•	•	+	+	+	+	+	+	+	+	+
DS063	•	+	•	•	+	+	+	+	+	+	+	+	+
DS080	•	+	•	•	+	+	+	+	+	+	+	+	+
DS100	•	+	•	•	+	+	+	+	+	+	+	+	+

• Approved

+ Conforms to requirements

UL Approval File E101686

Notes:

- 1) It is not required to bear a symbol but switches must conform to requirements.
- 2) IEC does not operate an approval scheme

Technical specifications

disconnect switches

Technical data IEC/EN 60947-3

	DS020	DS032	DS040	DS050	DS063	DS080	DS100
Rated operating voltage	Ui V	800	800	800	690	690	690
Rated insulation voltage	Ue V	800	800	800	690	690	690
Rated impulse withstand voltage	Uimp kV	8	8	8	6	6	6
Rated thermal current for open switch	Ith A	25	32	40	50	63	80
Rated thermal current for enclosed switch	Ithe A	25	32	40	50	63	80
Rated operation frequency	Hz	50/60	50/60	50/60	50	50	50
Power dissipation for each pole	W	0,6	1,3	2,5	4,6	3,7	5,8
Rated operating current Ie							
AC-21A Switching resistive loads, including moderate overloads	690V Ie A	20	32	40	50	63	80
AC-22A Switching of mixed resistive and inductive loads, including moderate overloads	690V Ie A	20	32	40	50	63	80
Rated operating power							
AC-23A Switching of motor loads or other highly inductive loads	400V Kw (A)	9 (18)	11 (22)	15 (28)	22 (40)	25 (47)	30 (55)
	690V Kw (A)	9 (13)	11 (16)	15 (18)	18,5 (19)	18,5 (19)	25 (25)
AC-3 Squirrel cage motors: starting, switching off motors during running	400V Kw (A)	5,5 (10)	7,5 (14)	11 (21)	18,5 (33)	18,5 (33)	30 (54)
Rated breaking capability in category AC-23A ($\cos \varphi=0,45$)	690V A	5,5 (6)	7,5 (8)	11 (12)	15 (16)	15 (16)	22 (23)
	400V A	144	176	228	320	376	440
	690V A	104	128	144	-	-	-
Short circuit protection							
Rated short time withstand current (1s)	Icw A	300	400	500	1500	1500	1500
Rated short-circuit make capacity	Icm A	750	750	750	2000	2000	2500
Rated conditional short-circuit current	kA	10	10	10	15	15	15
With fuses class gG	500V A	20	32	40	63	63	100

Technical data UL/CSA (sec. UL508)

General use voltage	Ue V	600	600	600	600	600	600
General use current	600Vac Ie A	20	30	40	80	80	100
Rated operating power							
1 phase - 2 pole	120V Hp/FLA	- / -	- / -	-/-	3/34	3/34	5/56
	240V Hp/FLA	- / -	- / -	-/-	3/17	5/28	7,5/40
3 phase - 3 pole	200V Hp/FLA	- / -	- / -	-/-	7,5/25,3	10/32	15/48
	240V Hp/FLA	5 / 15,2	7,5 / 22	-/-	15/42	20/54	20/54
	480V Hp/FLA	10 / 14	15 / 21	-/-	20/27	25/34	40/52
	600V Hp/FLA	15 / 17	20 / 22	10-11	30/32	30/32	50/52
Line protection fuses	A	20	30	40	225	225	225
(DS size 1: Class RK5, 600Vac, 200kA A.I.C.), (DS size 2: Class J, 600Vac)							
Short Circuit Rating@600Vac	kA	5	5	5	10	10	10

Mechanical characteristics

Mechanical life (120 cycles/hour)	Mil.Man	0,03	0,03	0,03	0,1	0,1	0,1
Connecting capability with flexible wires	Min-Max mm ²	1,5 - 10	1,5 - 10	1,5 - 10	6-35	6-35	6-35
Connecting capability with solid wires	Min-Max mm ²	1,5 - 16	1,5 - 16	1,5 - 16	10-50	10-50	10-50
Connecting capability with flexible wires	Min-Max AWG	16/08	16/08	16/08	10/01	10/01	10/01
Connecting capability with solid wires	Min-Max AWG	16/06	16/06	16/06	08/01	08/01	08/01
Terminal screw		M4	M4	M4	M5	M5	M5
Screw tightening torque	Nm	1,7	1,7	1,7	2,8	2,8	2,8
	lb.in	12	12	12	24	24	24

Protection degree IEC 529 EN 60529

Terminals	IP20	IP20	IP20	IP20	IP20	IP20
Handles	IP66	IP66	IP66	IP66	IP66	IP66

Ambient conditions

Operational ambient temperature	°C	-25 ÷ +55		-25 ÷ +70
Storage ambient temperature	°C	-25 ÷ +55		-40 ÷ +85

Withstand to constant humid according to IEC 60068

sec. IEC 60068-2-78

Withstand to cycling humid according to IEC 60069

sec. IEC 60068-2-30

Auxiliary contacts

Rated insulation voltage	Ui V	800	800	800	690	690	12	12
Rated thermal current for open switch	Ith A	10	10	10	12	12	12	12
AC-15 Control of a.c electromagnetic loads	240V A	3	3	3	6	6	6	6

Rear-mount switches



Base mount switches



IP66 handles with screw fixing

Padlockable handles	poles	le AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 or 48x48*	Pack	Two-screw fixing	Pack
	3	20A	DS0203RRK6	1	DS0203PQK6S	1	DS0203BAK6	1
		32A	DS0323RRK6	1	DS0323PQK6S	1	DS0323BAK6	1
		40A	DS0403RRK6	1	DS0403PQK6S	1	DS0403BAK6	1
	3+N	20A	DS0204RRK6	1	DS0204PQK6S	1	DS0204BAK6	1
		32A	DS0324RRK6	1	DS0324PQK6S	1	DS0324BAK6	1
		40A	DS0404RRK6	1	DS0404PQK6S	1	DS0404BAK6	1
	3	20A	DS0203RRL6	1	DS0203PQL6S	1	DS0203BAL6	1
		32A	DS0323RRL6	1	DS0323PQL6S	1	DS0323BAL6	1
		40A	DS0403RRL6	1	DS0403PQL6S	1	DS0403BAL6	1
		20A	DS0204RRL6	1	DS0204PQL6S	1	DS0204BAL6	1
		32A	DS0324RRL6	1	DS0324PQL6S	1	DS0324BAL6	1
		40A	DS0404RRL6	1	DS0404PQL6S	1	DS0404BAL6	1
	3	20A	DS0203RQT6L	1	-	-	DS0203BAT6L	1
		32A	DS0323RQT6L	1	-	-	DS0323BAT6L	1
		40A	DS0403RQT6L	1	-	-	DS0403BAT6L	1
	3+N	20A	DS0204RQT6L	1	-	-	DS0204BAT6L	1
		32A	DS0324RQT6L	1	-	-	DS0324BAT6L	1
		40A	DS0404RQT6L	1	-	-	DS0404BAT6L	1
	3	20A	DS0203RQY6L	1	-	-	DS0203BAY6L	1
		32A	DS0323RQY6L	1	-	-	DS0323BAY6L	1
		40A	DS0403RQY6L	1	-	-	DS0403BAY6L	1
	3+N	20A	DS0204RQY6L	1	-	-	DS0204BAY6L	1
		32A	DS0324RQY6L	1	-	-	DS0324BAY6L	1
		40A	DS0404RQY6L	1	-	-	DS0404BAY6L	1
	3	20A	DS0203RQT4L	1	-	-	DS0203BAT4L	1
		32A	DS0323RQT4L	1	-	-	DS0323BAT4L	1
		40A	DS0403RQT4L	1	-	-	DS0403BAT4L	1
	3+N	20A	DS0204RQT4L	1	-	-	DS0204BAT4L	1
		32A	DS0324RQT4L	1	-	-	DS0324BAT4L	1
		40A	DS0404RQT4L	1	-	-	DS0404BAT4L	1
	3	20A	DS0203RQY4L	1	-	-	DS0203BAY4L	1
		32A	DS0323RQY4L	1	-	-	DS0323BAY4L	1
		40A	DS0403RQY4L	1	-	-	DS0403BAY4L	1
	3+N	20A	DS0204RQY4L	1	-	-	DS0204BAY4L	1
		32A	DS0324RQY4L	1	-	-	DS0324BAY4L	1
		40A	DS0404RQY4L	1	-	-	DS0404BAY4L	1

Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal

Four-screw fixing, distance between holes: 48x48mm (1.89"x1.89")

* Fixing 48x48 (1,89"x1,89") with adapter flange (included in the package)

Rear-mount switches



Base mount switches



■ IP66 handles with screw fixing

Padlockable handles		poles	le AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 or 48x48*	Pack	Four-screw fixing 36x36 or 48x48*	Pack
	3	20A	-	-	-	-	-	DS0203BAK6S	1
		32A	-	-	-	-	-	DS0323BAK6S	1
		40A	-	-	-	-	-	DS0403BAK6S	1
	3+N	20A	-	-	-	-	-	DS0204BAK6S	1
		32A	-	-	-	-	-	DS0324BAK6S	1
		40A	-	-	-	-	-	DS0404BAK6S	1
	3	20A	-	-	-	-	-	DS0203BAL6S	1
		32A	-	-	-	-	-	DS0323BAL6S	1
		40A	-	-	-	-	-	DS0403BAL6S	1
	3+N	20A	-	-	-	-	-	DS0204BAL6S	1
		32A	-	-	-	-	-	DS0324BAL6S	1
		40A	-	-	-	-	-	DS0404BAL6S	1

Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal

Four-screw fixing, distance between holes: 36x36mm (1.42"x1.42") or 48x48mm (1.89"x1.89")

* Fixing 48x48 (1.89"x1.89") with adapter flange (included in the package)



DS 20-32-40A series

Rear-mount switches



Base mount switches



IP66 handles with Ø22mm (0,87") single-hole and nut fixing

Padlockable handles	poles	Ie AC21	Ø22mm (0,87") single-hole and nut fixing	Pack	Ø22mm (0,87") single-hole and nut fixing	Pack
	3	20A	DS0203GDK6	1	DS0203BFK6	1
		32A	DS0323GDK6	1	DS0323BFK6	1
		40A	DS0403GDK6	1	DS0403BFK6	1
	3+N	20A	DS0204GDK6	1	DS0204BFK6	1
		32A	DS0324GDK6	1	DS0324BFK6	1
		40A	DS0404GDK6	1	DS0404BFK6	1
	3+N	20A	DS0203GDL6	1	DS0203BFL6	1
		32A	DS0323GDL6	1	DS0323BFL6	1
		40A	DS0403GDL6	1	DS0403BFL6	1
		20A	DS0204GDL6	1	DS0204BFL6	1
		32A	DS0324GDL6	1	DS0324BFL6	1
		40A	DS0404GDL6	1	DS0404BFL6	1
	3	20A	DS0203GDT6L	1	DS0203BFT6L	1
		32A	DS0323GDT6L	1	DS0323BFT6L	1
		40A	DS0403GDT6L	1	DS0403BFT6L	1
	3+N	20A	DS0204GDT6L	1	DS0204BFT6L	1
		32A	DS0324GDT6L	1	DS0324BFT6L	1
		40A	DS0404GDT6L	1	DS0404BFT6L	1
	3+N	20A	DS0203GDY6L	1	DS0203BFY6L	1
		32A	DS0323GDY6L	1	DS0323BFY6L	1
		40A	DS0403GDY6L	1	DS0403BFY6L	1
		20A	DS0204GDY6L	1	DS0204BFY6L	1
		32A	DS0324GDY6L	1	DS0324BFY6L	1
		40A	DS0404GDY6L	1	DS0404BFY6L	1
	3	20A	DS0203GDT4L	1	DS0203BFT4L	1
		32A	DS0323GDT4L	1	DS0323BFT4L	1
		40A	DS0403GDT4L	1	DS0403BFT4L	1
	3+N	20A	DS0204GDT4L	1	DS0204BFT4L	1
		32A	DS0324GDT4L	1	DS0324BFT4L	1
		40A	DS0404GDT4L	1	DS0404BFT4L	1
	3+N	20A	DS0203GDY4L	1	DS0203BFY4L	1
		32A	DS0323GDY4L	1	DS0323BFY4L	1
		40A	DS0403GDY4L	1	DS0403BFY4L	1
		20A	DS0204GDY4L	1	DS0204BFY4L	1
		32A	DS0324GDY4L	1	DS0324BFY4L	1
		40A	DS0404GDY4L	1	DS0404BFY4L	1



■ Direct operation

poles	Ie AC21	Code	Pack	Code	Pack	Code	Pack	Code	Pack	Code	Pack
3	20A	DS0203BFCD	1	DS0203BDDN	1	DS0203R	1	DS0203P	1	DS0203G	1
	32A	DS0323BFCD	1	DS0323BDDN	1	DS0323R	1	DS0323P	1	DS0323G	1
	40A	DS0403BFCD	1	DS0403BDDN	1	DS0403R	1	DS0403P	1	DS0403G	1
3+N	20A	DS0204BFCD	1	DS0204BDDN	1	DS0204R	1	DS0204P	1	DS0204G	1
	32A	DS0324BFCD	1	DS0324BDDN	1	DS0324R	1	DS0324P	1	DS0324G	1
	40A	DS0404BFCD	1	DS0404BDDN	1	DS0404R	1	DS0404P	1	DS0404G	1

■ Accessories and spare parts

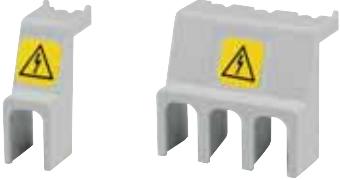
	Code	Description	Pack
	DSC040PAR	DS020/040 4th pole early make/late break (for Neutral) rear mounting	5
	DSC040PSR	DS020/040 4th pole rear mounting	5
	DSC040PAB	DS020/040 4th pole early make/late break (for Neutral) base mounting	5
	DSC040PSB	DS020/040 4th pole base mounting	5
	DSC040PENR	DS020/040 4th pole poleEN rear mounting	5
	DSC040OPENB	DS020/040 4th pole poleEN base mounting	5
	DSC040NOR	DS020/040 auxiliary contact NO rear mounting	5
	DSC040NOB	DS020/040 auxiliary contact NO base mounting	5
	DSC040NCR	DS020/040 auxiliary contact NC rear mounting	5
	DSC040NCB	DS020/040 auxiliary contact NC base mounting	5
Additional poles			



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DS 20-32-40A series

■ Accessories and spare parts

Code	Description	Pack
	<u>DS040PAD</u> DS020/040 Transparent Padlockable plate for DS_FC	5
Padlockable plate for DS_FCD		
	<u>DS040PR1</u> <u>DS040PR3</u>	 DS020/040 Pair of one-pole terminal covers DS020/040 Pair of three-pole terminal covers
Terminal covers		

disconnect switches

Part no.	Description	Pack
PALBL055	Shaft L=55mm - Square section 5 mm	5
PALBL075	Shaft L=75mm - Square section 5 mm	5
PALBL095	Shaft L=95mm - Square section 5 mm	5
PALBL115	Shaft L=115mm - Square section 5 mm	5
PALBL135	Shaft L=135mm - Square section 5 mm	5
PALBL155	Shaft L=155mm - Square section 5 mm	5
PALBL175	Shaft L=175mm - Square section 5 mm	5
PALBL300	Shaft L=300mm - Square section 5 mm	5
PALBL500	Shaft L=500mm - Square section 5 mm	5



Shafts

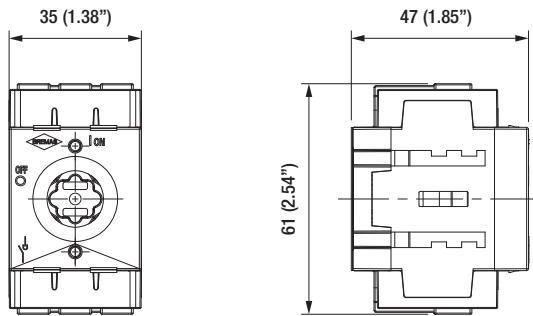


DS 20-32-40A series - Dimensions

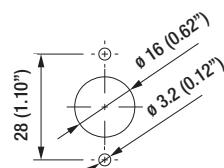
Rear mounting

Measures in mm (in)

2 holes with screws

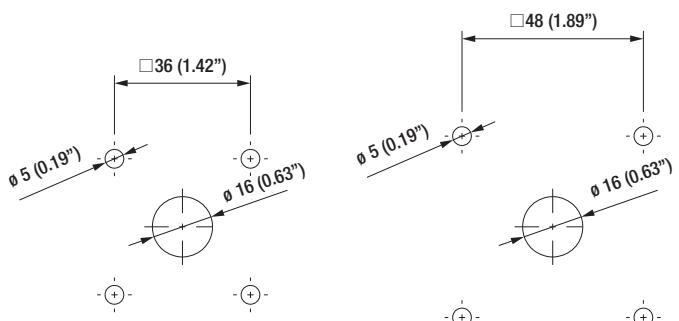
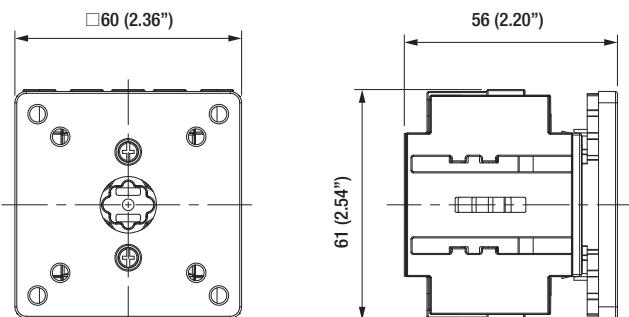


Drilling templates



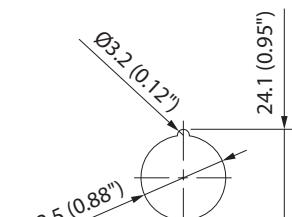
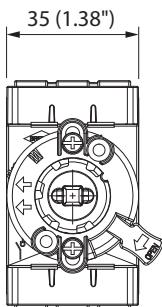
Two-screws fixing

4 holes with screws



Four-screws fixing

Ø 22mm (0,87") single hole with locking nut

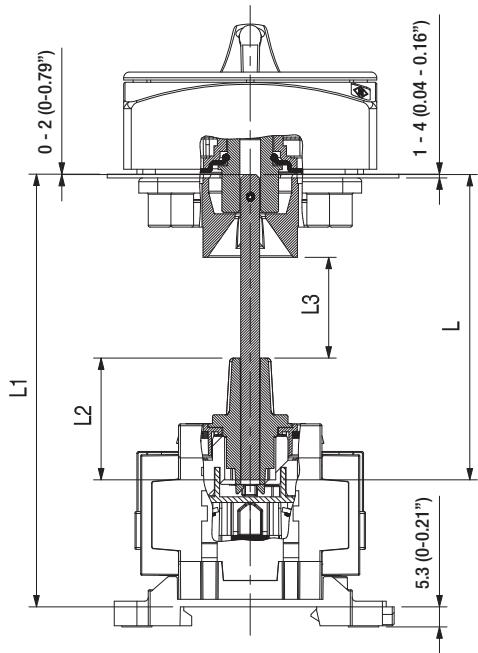


Handles fixing with
Ø 22mm (0,87") single hole
and locking nut

■ Base mounting

Measures in mm (in)

Screw-fixed handles



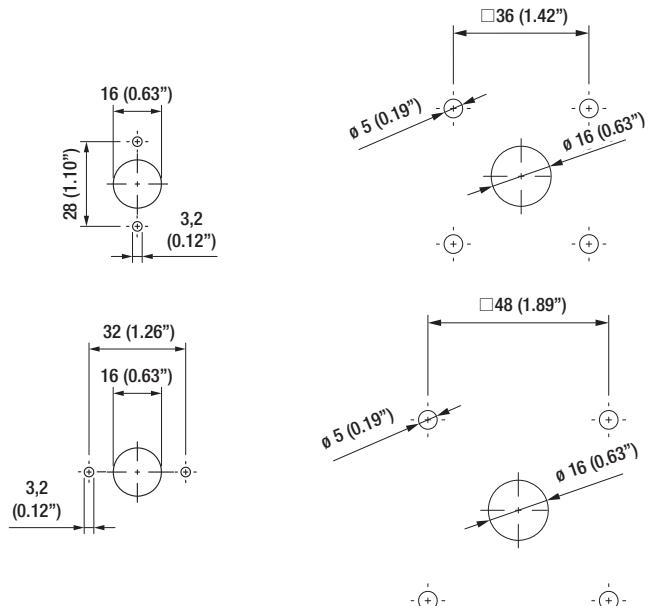
Cutting length of the extension shaft

The base mounting execution is provided with integrated control knob and includes the housing for the shaft and the fixing screw. The depth of insertion of the shaft in the housing has a tolerance of about 20mm, this allows to reduce the need and the precision of the cutting to size (dimension L) of the shaft.

To determine the cut length L of the shaft, consider the following guidelines:

$L_3 \geq 1\text{mm}$
 $12\text{mm} \leq L_2 \leq 32\text{mm}$

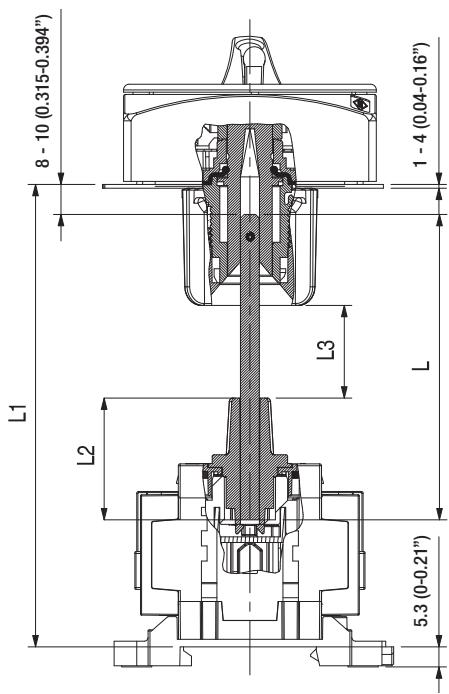
In practice: $L_1 - 53\text{mm} \leq L \leq L_1 - 33\text{mm}$



Two-screw handle fixing

Four-screw handle fixing

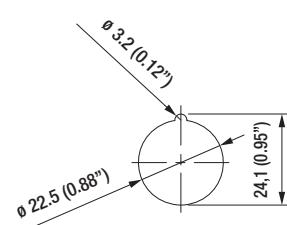
$\varnothing 22\text{mm (0,87")}$ single-hole handle fixing



To determine the cut length L of the shaft, consider the following guidelines:

$L_3 \geq 1\text{mm}$
 $12\text{mm} \leq L_2 \leq 32\text{mm}$

In practice: $L_1 - 61\text{mm} \leq L \leq L_1 - 41\text{mm}$

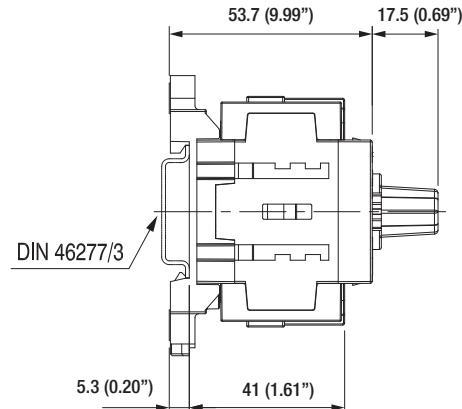
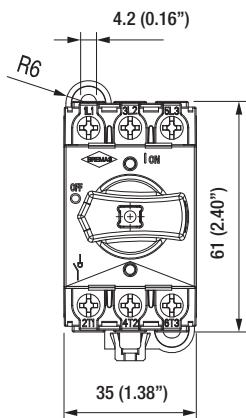


$\varnothing 22\text{mm (0,87")}$
single-hole handle fixing

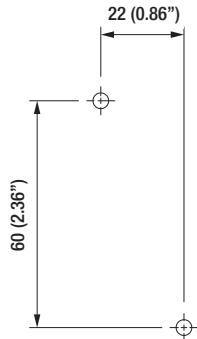
■ Base mounting

Measures in mm (in)

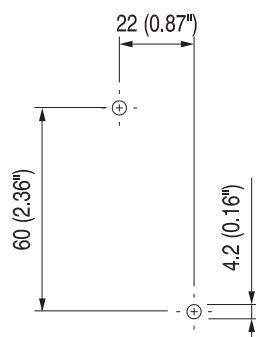
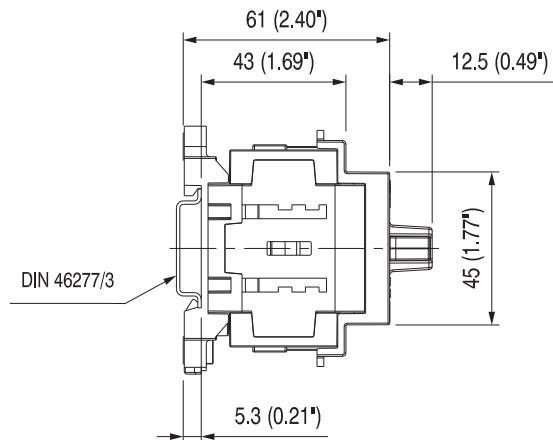
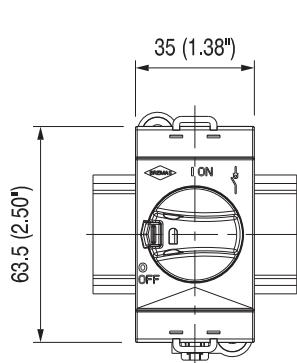
Direct command

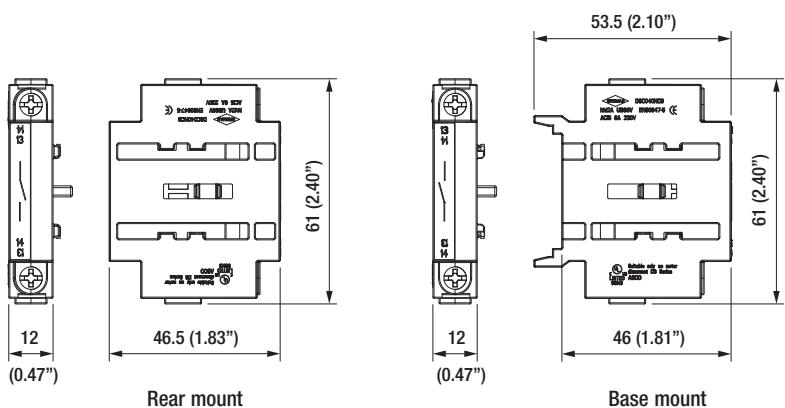


Drilling templates - Base mount



DDN version - For panel board



Fourth pole (additonal/auxiliary)

Rear-mount switches



Base mount switches



IP66 handles with screw fixing

Padlockable handles		poles	le AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 o 48x48*	Pack	Two-screw fixing	Pack
	Grey plate 67x67mm padlockable, black knob	3	50A	DS0503RQK6	1	DS0503PQK6S	1	DS0503BAK6	1
			63A	DS0633RQK6	1	DS0633PQK6S	1	DS0633BAK6	1
			80A	DS0803RQK6	1	DS0803PQK6S	1	DS0803BAK6	1
			100A	DS1003RQK6	1	DS1003PQK6S	1	DS1003BAK6	1
		3+N	50A	DS0504RQK6	1	DS0504PQK6S	1	DS0504BAK6	1
			63A	DS0634RQK6	1	DS0634PQK6S	1	DS0634BAK6	1
			80A	DS0804RQK6	1	DS0804PQK6S	1	DS0804BAK6	1
			100A	DS1004RQK6	1	DS1004PQK6S	1	DS1004BAK6	1
	Yellow plate 67x67mm padlockable, red knob	3	50A	DS0503RQL6	1	DS0503PQL6S	1	DS0503BAL6	1
			63A	DS0633RQL6	1	DS0633PQL6S	1	DS0633BAL6	1
			80A	DS0803RQL6	1	DS0803PQL6S	1	DS0803BAL6	1
			100A	DS1003RQL6	1	DS1003PQL6S	1	DS1003BAL6	1
		3+N	50A	DS0504RQL6	1	DS0504PQL6S	1	DS0504BAL6	1
			63A	DS0634RQL6	1	DS0634PQL6S	1	DS0634BAL6	1
			80A	DS0804RQL6	1	DS0804PQL6S	1	DS0804BAL6	1
			100A	DS1004RQL6	1	DS1004PQL6S	1	DS1004BAL6	1
	Grey plate 67x67 mm, black knob padlockable	3	50A	DS0503RQT6L	1	-	-	DS0503BAT6L	1
			63A	DS0633RQT6L	1	-	-	DS0633BAT6L	1
			80A	DS0803RQT6L	1	-	-	DS0803BAT6L	1
			100A	DS1003RQT6L	1	-	-	DS1003BAT6L	1
		3+N	50A	DS0504RQT6L	1	-	-	DS0504BAT6L	1
			63A	DS0634RQT6L	1	-	-	DS0634BAT6L	1
			80A	DS0804RQT6L	1	-	-	DS0804BAT6L	1
			100A	DS1004RQT6L	1	-	-	DS1004BAT6L	1
	Yellow plate 67x67 mm, red knob padlockable	3	50A	DS0503RQY6L	1	-	-	DS0503BAY6L	1
			63A	DS0633RQY6L	1	-	-	DS0633BAY6L	1
			80A	DS0803RQY6L	1	-	-	DS0803BAY6L	1
			100A	DS1003RQY6L	1	-	-	DS1003BAY6L	1
		3+N	50A	DS0504RQY6L	1	-	-	DS0504BAY6L	1
			63A	DS0634RQY6L	1	-	-	DS0634BAY6L	1
			80A	DS0804RQY6L	1	-	-	DS0804BAY6L	1
			100A	DS1004RQY6L	1	-	-	DS1004BAY6L	1

Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal

Four-screw fixing, distance between holes: 48x48mm (1.89"x1.89")

* Fixing 48x48 (1.89"x1.89") with adapter flange (included in the package)

Rear-mount switches



Base mount switches



■ IP66 handles with screw fixing

Padlockable handles		poles	le AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 or 48x48	Pack	Two-screw fixing	Pack
	Grey plate 48x48 mm, black knob padlockable	3	50A	DS0503RQT4L	1	-	-	DS0503BAT4L	1
			63A	DS0633RQT4L	1	-	-	DS0633BAT4L	1
			80A	DS0803RQT4L	1	-	-	DS0803BAT4L	1
			100A	DS1003RQT4L	1	-	-	DS1003BAT4L	1
		3+N	50A	DS0504RQT4L	1	-	-	DS0504BAT4L	1
			63A	DS0634RQT4L	1	-	-	DS0634BAT4L	1
			80A	DS0804RQT4L	1	-	-	DS0804BAT4L	1
			100A	DS1004RQT4L	1	-	-	DS1004BAT4L	1
	Yellow plate 48x48 mm, red knob padlockable	3	50A	DS0503RQY4L	1	-	-	DS0503BAY4L	1
			63A	DS0633RQY4L	1	-	-	DS0633BAY4L	1
			80A	DS0803RQY4L	1	-	-	DS0803BAY4L	1
			100A	DS1003RQY4L	1	-	-	DS1003BAY4L	1
		3+N	50A	DS0504RQY4L	1	-	-	DS0504BAY4L	1
			63A	DS0634RQY4L	1	-	-	DS0634BAY4L	1
			80A	DS0804RQY4L	1	-	-	DS0804BAY4L	1
			100A	DS1004RQY4L	1	-	-	DS1004BAY4L	1
Padlockable handles		poles	le AC21	Two-screw fixing	Pack	Four-screw fixing 36x36 or 48x48	Pack	Four-screw fixing 36x36 or 48x48*	Pack
	Grey plate 67x67 mm black knob padlockable	3	50A	-	-	-	-	DS0503BAK6S	1
			63A	-	-	-	-	DS0633BAK6S	1
			80A	-	-	-	-	DS0803BAK6S	1
			100A	-	-	-	-	DS1003BAK6S	1
		3+N	50A	-	-	-	-	DS0504BAK6S	1
			63A	-	-	-	-	DS0634BAK6S	1
			80A	-	-	-	-	DS0804BAK6S	1
			100A	-	-	-	-	DS1004BAK6S	1
	Yellow plate 67x67 mm red knob padlockable	3	50A	-	-	-	-	DS0503BAL6S	1
			63A	-	-	-	-	DS0633BAL6S	1
			80A	-	-	-	-	DS0803BAL6S	1
			100A	-	-	-	-	DS1003BAL6S	1
		3+N	50A	-	-	-	-	DS0504BAL6S	1
			63A	-	-	-	-	DS0634BAL6S	1
			80A	-	-	-	-	DS0804BAL6S	1
			100A	-	-	-	-	DS1004BAL6S	1

Two-screw fixing, distance between holes: 28mm (1.10") Vertical or 32mm (1.26") Horizontal

* Fixing 48x48 (1,89"x1,89") with adapter flange (included in the package)

Rear-mount switches



Base mount switches



IP66 handles with Ø22mm (0,87") single-hole and nut fixing

Padlockable handles	poles	le AC21	Ø22mm (0,87") single-hole and nut fixing	Pack	Ø22mm (0,87") single-hole and nut fixing	Pack
	3	50A	DS0503GDK6	1	DS0503BFK6	1
		63A	DS0633GDK6	1	DS0633BFK6	1
		80A	DS0803GDK6	1	DS0803BFK6	1
		100A	DS1003GDK6	1	DS1003BFK6	1
	3+N	50A	DS0504GDK6	1	DS0504BFK6	1
		63A	DS0634GDK6	1	DS0634BFK6	1
		80A	DS0804GDK6	1	DS0804BFK6	1
		100A	DS1004GDK6	1	DS1004BFK6	1
	3	50A	DS0503GDL6	1	DS0503BFL6	1
		63A	DS0633GDL6	1	DS0633BFL6	1
		80A	DS0803GDL6	1	DS0803BFL6	1
		100A	DS1003GDL6	1	DS1003BFL6	1
	3+N	50A	DS0504GDL6	1	DS0504BFL6	1
		63A	DS0634GDL6	1	DS0634BFL6	1
		80A	DS0804GDL6	1	DS0804BFL6	1
		100A	DS1004GDL6	1	DS1004BFL6	1
	3	50A	DS0503GDT6L	1	DS0503BFT6L	1
		63A	DS0633GDT6L	1	DS0633BFT6L	1
		80A	DS0803GDT6L	1	DS0803BFT6L	1
		100A	DS1003GDT6L	1	DS1003BFT6L	1
	3+N	50A	DS0504GDT6L	1	DS0504BFT6L	1
		63A	DS0634GDT6L	1	DS0634BFT6L	1
		80A	DS0804GDT6L	1	DS0804BFT6L	1
		100A	DS1004GDT6L	1	DS1004BFT6L	1
	3	50A	DS0503GDY6L	1	DS0503BFY6L	1
		63A	DS0633GDY6L	1	DS0633BFY6L	1
		80A	DS0803GDY6L	1	DS0803BFY6L	1
		100A	DS1003GDY6L	1	DS1003BFY6L	1
	3+N	50A	DS0504GDY6L	1	DS0504BFY6L	1
		63A	DS0634GDY6L	1	DS0634BFY6L	1
		80A	DS0804GDY6L	1	DS0804BFY6L	1
		100A	DS1004GDY6L	1	DS1004BFY6L	1

disconnect switches

Rear-mount switches



Base mount switches



■ IP66 handles with Ø22mm (0,87") single-hole and nut fixing

Padlockable handles	poles	le AC21	Ø22mm (0,87") single-hole and nut fixing	Pack	Ø22mm (0,87") single-hole and nut fixing	Pack
Grey plate 48x48 mm, black knob padlockable	3	50A	DS0503GDT4L	1	DS0503BFT4L	1
		63A	DS0633GDT4L	1	DS0633BFT4L	1
		80A	DS0803GDT4L	1	DS0803BFT4L	1
		100A	DS1003GDT4L	1	DS1003BFT4L	1
	3+N	50A	DS0504GDT4L	1	DS0504BFT4L	1
		63A	DS0634GDT4L	1	DS0634BFT4L	1
		80A	DS0804GDT4L	1	DS0804BFT4L	1
		100A	DS1004GDT4L	1	DS1004BFT4L	1
Yellow plate 48x48 mm, red knob padlockable	3	50A	DS0503GDY4L	1	DS0503BFY4L	1
		63A	DS0633GDY4L	1	DS0633BFY4L	1
		80A	DS0803GDY4L	1	DS0803BFY4L	1
		100A	DS1003GDY4L	1	DS1003BFY4L	1
	3+N	50A	DS0504GDY4L	1	DS0504BFY4L	1
		63A	DS0634GDY4L	1	DS0634BFY4L	1
		80A	DS0804GDY4L	1	DS0804BFY4L	1
		100A	DS1004GDY4L	1	DS1004BFY4L	1

Base mounting



Direct operation
Black knob

For standard cabinets
45mm (1.77") slots
Black knob

Rear mounting



2 screw fixing
at 28mm
vertical distance



4 screw fixing
36x36mm (1.42"x1.42")
or 48x48mm (1.89"x1.89")



Ø 22mm (Ø 0.87")
single hole
and nut fixing

■ Direct operation

poles	Ie AC21	Code	Pack	Code	Pack	Code	Pack	Code	Pack	Code	Pack
3	50A	DS0503BFCD	1	DS0503BDDN	1	DS0503R	1	DS0503P	1	DS0503G	1
	63A	DS0633BFCD	1	DS0633BDDN	1	DS0633R	1	DS0633P	1	DS0633G	1
	80A	DS0803BFCD	1	DS0803BDDN	1	DS0803R	1	DS0803P	1	DS0803G	1
	100A	DS1003BFCD	1	DS1003BDDN	1	DS1003R	1	DS1003P	1	DS1003G	1
3+N	50A	DS0504BFCD	1	DS0504BDDN	1	DS0504R	1	DS0504P	1	DS0504G	1
	63A	DS0634BFCD	1	DS0634BDDN	1	DS0634R	1	DS0634P	1	DS0634G	1
	80A	DS0804BFCD	1	DS0804BDDN	1	DS0804R	1	DS0804P	1	DS0804G	1
	100A	DS1004BFCD	1	DS1004BDDN	1	DS1004R	1	DS1004P	1	DS1004G	1

■ Additional poles and auxiliary contacts



Code	Description	Pack
XC012AB	Auxiliary contact NO for DS50-63-80-100 base mounting	5
XC012CB	Auxiliary contact NC for DS50-63-80-100 base mounting	5
XC050PB	DS50 4th pole early make/late break (for Neutral) base mounting	5
XC063PB	DS63 4th pole early make/late break (for Neutral) base mounting	5
XC100PB	DS80/DS100 4th pole early make/late break (for Neutral) base mounting	5
XC100GB	Earth pole for DS50-63-80-100 base mounting	5
XC012AR	Auxiliary contact NO for DS50-63-80-100 rear mounting	5
XC012CR	Auxiliary contact NC for DS50-63-80-100 rear mounting	5
XC050PR	DS50 4th pole early make/late break (for Neutral) rear mounting	5
XC063PR	DS63 4th pole early make/late break (for Neutral) rear mounting	5
XC100PR	DS80/DS100 4th pole early make/late break (for Neutral) rear mounting	5
XC100GR	Earth pole for DS50-63-80-100 rear mounting	5

■ Shafts

Part no.	Description	Pack
PALBL055	Shaft L=55mm - Square section 5 mm	5
PALBL075	Shaft L=75mm - Square section 5 mm	5
PALBL095	Shaft L=95mm - Square section 5 mm	5
PALBL115	Shaft L=115mm - Square section 5 mm	5
PALBL135	Shaft L=135mm - Square section 5 mm	5
PALBL155	Shaft L=155mm - Square section 5 mm	5
PALBL175	Shaft L=175mm - Square section 5 mm	5
PALBL300	Shaft L=300mm - Square section 5 mm	5
PALBL500	Shaft L=500mm - Square section 5 mm	5



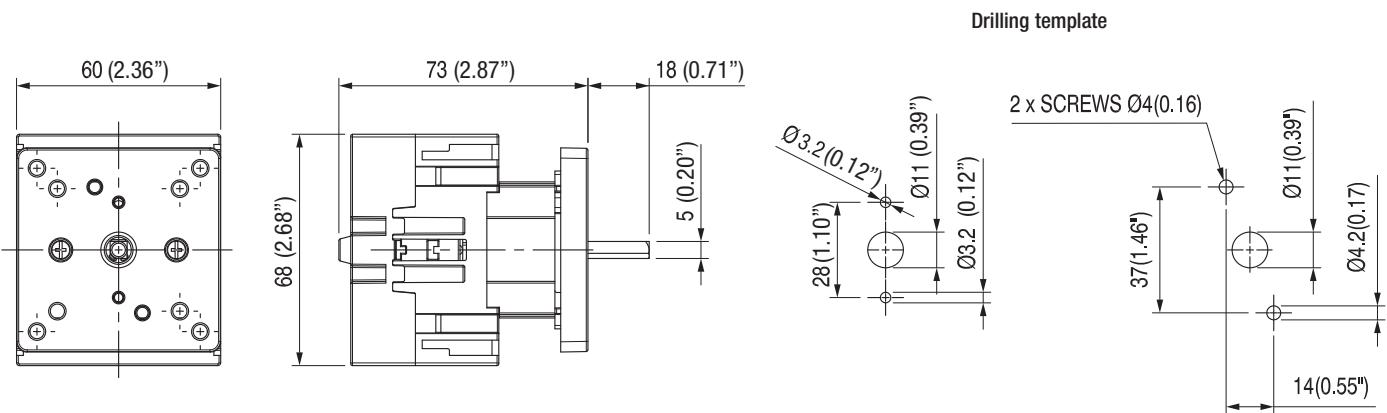
■ Terminal covers

Code	Description	Pack
DS100PR3B	Couple of terminal covers for DS 50-63-80-100A (base mounting)	5
DS100PR1B	Couple of terminal covers for additional pole DS 50-63-80-100A (base mounting)	5
DS100PR3R	Couple of terminal covers for DS 50-63-80-100A (rear mounting)	5
DS100PR1R	Couple of terminal covers for additional pole DS 50-63-80-100A (rear mounting)	5



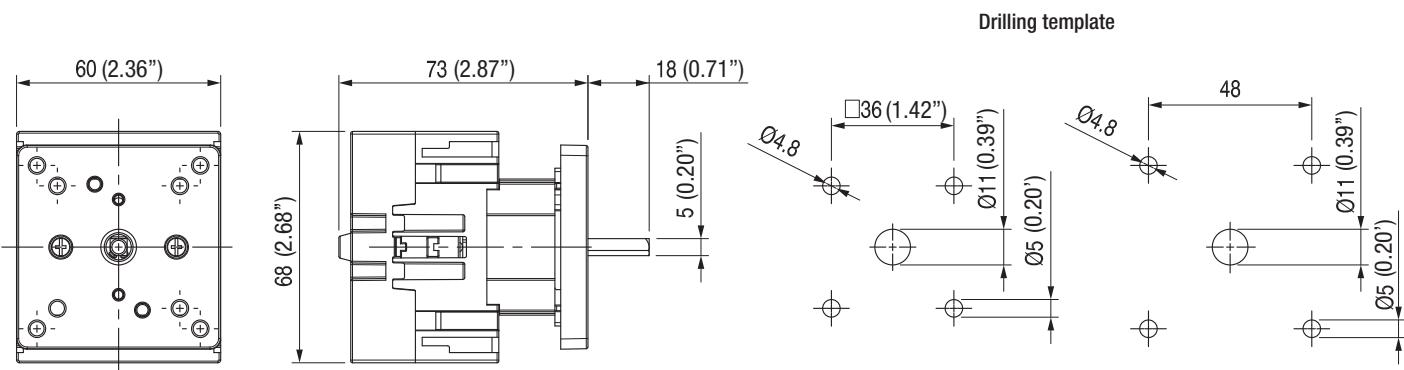
■ Rear mounting - 2 holes with screws

Measures in mm (in)



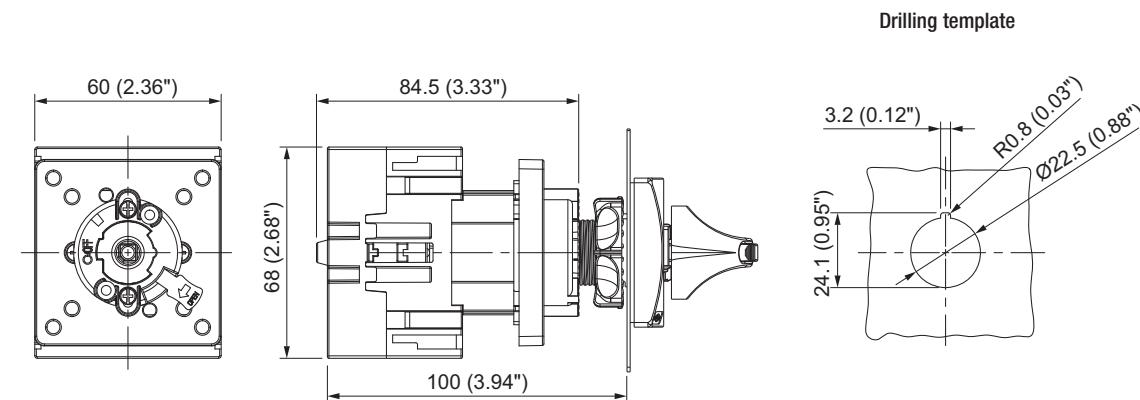
■ Rear mounting - 4 holes with screws

Measures in mm (in)



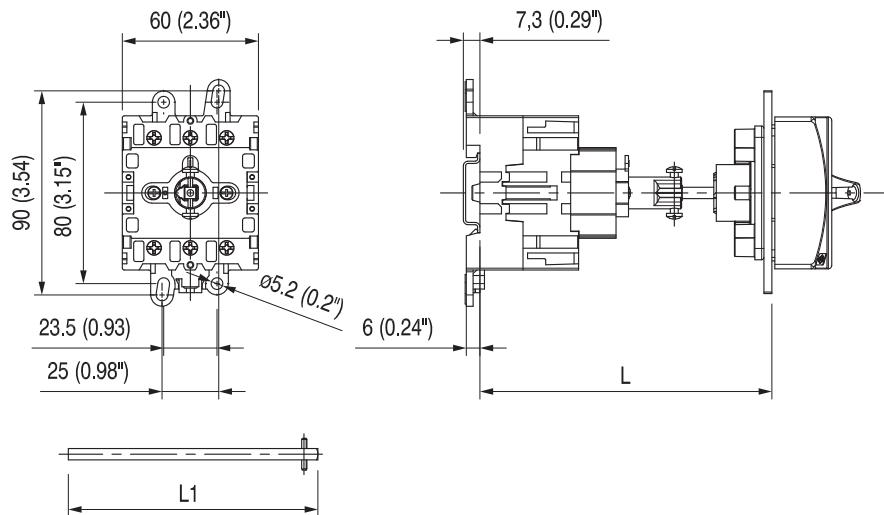
■ Rear mounting - Ø 22mm (0,87") single hole with locking nut

Measures in mm (in)



■ Base mounting

(DS 50-63-80-100A) - Measures in mm (in)

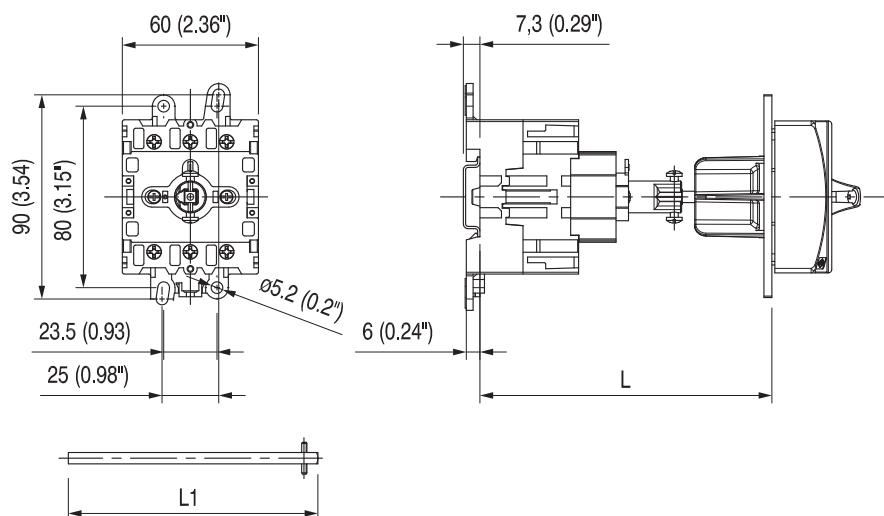


Overall length (min-max)**
for different shaft length (L1):

L1		
175*	L (mm)	114 - 258
6.89*	L (in)	4.49" - 10.15"
300	L (mm)	114 - 383
11.81	L (in)	4.49" - 15.07"
500	L (mm)	114 - 258
19.68	L (in)	4.49" - 22.95"

* Standard shaft, bundled

** Minimum length obtainable by cutting the shaft.



Overall length (min-max)**
for different shaft length (L1):

L1		
175*	L (mm)	125 - 262
6.89*	L (in)	4.92" - 10.31"
300	L (mm)	125 - 387
11.81	L (in)	4.92" - 15.23"
500	L (mm)	125 - 587
19.68	L (in)	4.92" - 23.11"

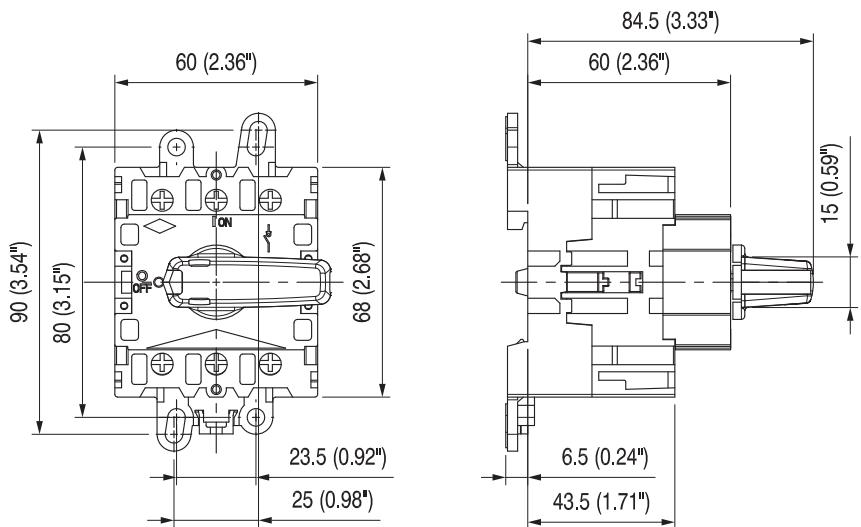
* Standard shaft, bundled

** Minimum length obtainable by cutting the shaft.

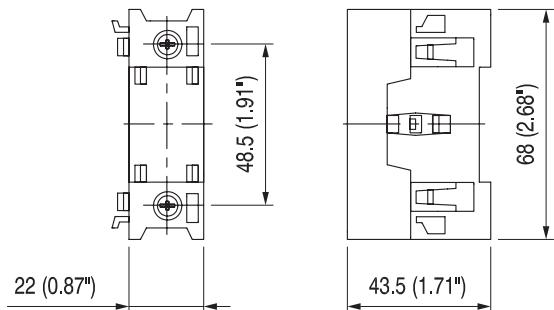
■ Base mounting

Measures in mm (in)

Direct command



Fourth pole (additonal/auxiliary)





DISCONNECT SWITCHES

TS series



03

Overview

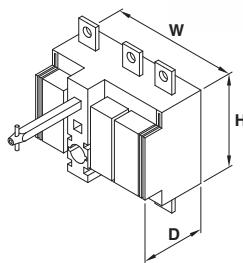
The switches **series TS** have the following main design features:

- Polyester self-extinguishing and anti-trace insulating housing
- Silver plated electrolytic copper fix and moving contacts
- Double breaking for pole.
- High closing and opening speed, independent from the operator
- Feeder connection is possible either in the upper in on the lower side

- Size S1 (125A) and
Size S2 (160A; 200A; 250A)



- Size S3 (400A; 630A) and
Size S4 (800A; 1000A)



Measures * in mm (in)		H	W	D
Size S1	3 pole 4 pole	100 (3.94")	129 (5.08") 160 (3.30")	88 (3.46")
Size S2	3 pole 4 pole	125 (4.92")	174 (6.85") 204 (8.03")	105 (4.13")

Measures * in mm (in)		H *	W	D
Size S3	3-4 pole	161 ÷ 187 (6.34" ÷ 7.36")	251 (9.88")	125 (4.92")
Size S4	3-4 pole	238 (9.37")	325 (12.79")	145 (5.71")

Note: * dimension H depends on the extension of the current bars, which may change with the rating.

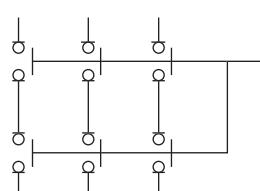
Shaft or other installed accessories are not considered.

- The actuator always respects the real position of the contacts. This type of control is called "positive operation". The auxiliary contacts are directly acted from the operating mechanism.
- 4 pole switch-disconnectors are suitable for all-phase breaking (the Neutral contact closes before and opens after the phases)
- **TS** series switch-disconnectors are suitable for polluted ambient and tropical climates according to IEC 68-2 Standards

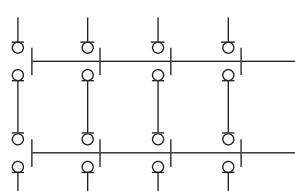


Two contact blocks in series result in 4 breaking points per phase

3 pole

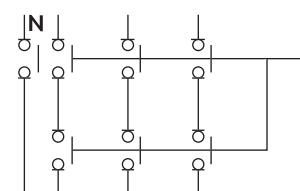


4 pole

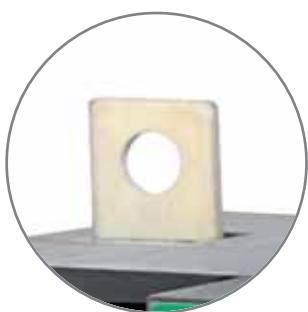


TS all Sizes

TS Size S1 (125A) and
Size S2 (160A; 200A; 250A)



TS Size S3 (400A; 630A) and
Size S4 (800A; 1000A)



Bolt connection
is standard on
all the TS range



Screw connection
available with 125A
rating (TS_S execution)



Visible isolation
available
(TS_V execution)

A complete range of optional accessories allows the use of TS switch-disconnectors in several installations.

Standard bundle handle with door interlock in closed position and possibility to install a legend with 0-1 positions (IEC Standard) or ON-OFF positions (BS Standard).

Standard handle is IP54 (IP55 using an optional handle washer) and can be locked in open position with max 3 padlocks. Optional handles are available that are padlockable both in open and closed position (door interlock override optional as well).



Handle M801 for TS switches in Size S1 and Size S2.



Handle M1201 for TS switches in Size S3.



Handle M1301 for TS switches in Size S4.

Note: several additional current ratings are available on request up to 2500A.

TS switch-disconnectors are also available on request in 6-8 pole versions, with the same dimensions of the 3-4 pole executions.



TS Series

Technical data IEC 947-3 EN 60947-3

SIZE			
Rated insulation voltage	Ui	V	
Rated impulse withstand voltage	Uimp	kV	
Rated thermal current for open switch	Ith	A	
Rated thermal current for enclosed switches	Ithe	A	
Number of poles			
Power dissipation each pole	W		
Rated operating current le			
AC-22A Switching of mixed resistive loads, including moderate overloads	le	690V	A
		1000V	A
Rated operating power			
AC-23A Switching of motor loads or other highly inductive loads 3 phase - 3 pole	le	415V	Kw (A)
		500V	Kw (A)
		690V	Kw (A)
DC-23A Switching of motor loads or other highly inductive loads	le	220V	Kw (A)
		440V	Kw (A)
		600V	Kw (A)
Reactive power ¹		380V	kVA
Rated short time withstand current (1s)	lcw		KA
Rated short-circuit make capacity	lcm		KA
Mechanical life	operations		nr.
Electrical life	operations		nr.
Weight			
3 pole with link bar covers			Kg
4 pole with link bar covers (4° leaning pole)			Kg
3 pole with visible isolation			Kg
4 pole with visible isolation (4° leaning pole)			Kg
3 pole			Kg
4 pole			Kg

Note:

¹ = due to the presence of harmonics and to the tolerances of capacitors, nominal values must be reduced by 33%

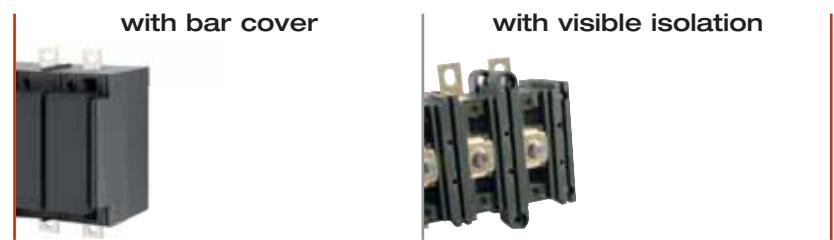
² = data about the 6 and 8 pole versions are available on request

Normal service, mounting and transportation conditions

- storage and transport ambient temperature -25° C + 55° C
 - operative ambient temperature -5° C + 45° C
 - relative humidity max 95%
 - rated frequency 50-60 Hz
 - altitude max 2000 m a.s.l.
 - mounting in enclosure:
In case of utilisation at full load and without adequate ventilation, ensure a volume of about 5 time the volume of the switch.
Performances shall be derated up to 40% according to the environmental temperature.
- For other operating conditions please contact Bremas Ersce.

disconnect switches

TS125 S1	TS160 S2	TS200 S2	TS250 S2	TS400 S3	TS630 S3	TS800 S4	TS1000 S4
1000	1000	1000	1000	1000	1000	1000	1000
6	6	6	6	8	8	8	8
125	160	200	250	400	630	800	1000
100	125	160	200	340	550	630	800
3-4 ²							
6	6	7,5	16	20	50	50	55
<hr/>							
125	-	-	250	-	-		
	160	200		400	630	800	1000
<hr/>							
55 (125)	75 (160)	96 (200)	132 (250)	200 (400)	355 (630)	400 (800)	500 (1000)
75 (125)	100 (125)	120 (200)	150 (220)	280 (400)	425 (630)	560 (800)	670 (1000)
90 (125)	140 (125)	175 (200)	175 (200)	375 (400)	375 (400)	710 (800)	710 (800)
28 (125)	35 (160)	44 (200)	55 (250)	88 (400)	139 (630)	176 (800)	220 (1000)
55 (125)	70 (160)	88 (200)	97 (220)	176 (400)	277 (630)	352 (800)	440 (1000)
75 (125)	96 (125)	96 (160)	150 (210)	240 (400)	378 (630)	480 (800)	600 (1000)
55	70	80	110	250	315	350	400
6	10	10	10	18	20	25	40
15	25	25	25	44	50	63	84
8000	8000	8000	8000	5000	5000	3000	3000
1000	1000	1000	1000	1000	1000	500	500
<hr/>							
-	-	-	-	4,7	5,1	9,5	10,6
-	-	-	-	4,9	5,6	10	11,2
-	-	-	-	4,5	-	8,4	9,8
-	-	-	-	4,7	-	8,9	10,4
1,3	2,1	2,1	2,1	-	-	-	-
1,4	2,5	2,5	2,5	-	-	-	-



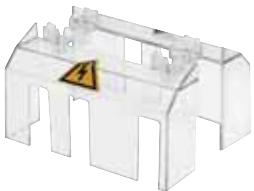
■ Switch-disconnectors

	Size	Ie AC21	poles	Code	Model	Pack	Code	Model	Pack.
	S1	125	3	VC522100	TS1253M801	1	-	-	1
			4	VC523900	TS1254M801	1	-	-	1
	S2	160	3	VC524700	TS1603M801	1	-	-	1
			4	VC525400	TS1604M801	1	-	-	1
		200	3	VC853800	TS2003M801	1	-	-	1
			4	VC854600	TS2004M801	1	-	-	1
		250	3	VC855400	TS2503M801	1	-	-	1
			4	VC856200	TS2504M801	1	-	-	1
	S3	400	3	VC416600	TS4003M1201	1	VC437200	TS4003VM1201	1
			4	VC417400	TS4004M1201	1	VC438000	TS4004VM1201	1
		630	3	VC418200	TS6303M1201	1	VC439800	TS6303VM1301	1
			4	VC419000	TS6304M1201	1	VC440600	TS6304VM1301	1
	S4	800	3	VC420800	TS8003M1301	1	VC441400	TS8003VM1301	1
			4	VC421600	TS8004M1301	1	VC442200	TS8004VM1301	1
		1000	3	VC422400	TS10003M1301	1	VC443000	TS10003VM1301	1
			4	VC423200	TS10004M1301	1	VC444800	TS10004VM1301	1

■ Switch-disconnectors with screw terminals

	Size	Ie AC21	poles	Code	Model	Pack
	S1	125	3	VC526200	TS1253SM801	1
			4	VC527000	TS1254SM801	1

disconnect switches

Code	Model	Description	Pack
	VC822500	S55 protection shield 3 pole o 4 pole add. for TS Size S3	1
	VC824100	S555 protection shield 3 pole o 4 pole add. for TS Size S4	1
	VC723500	S31C upper terminal cover 3 pole for TF / TS Size S1	1
	VD692100	I31 lower terminal cover 3 pole for TF / TS Size S1	1
	VC724300	S41 upper terminal cover 4 pole for TF / TS Size S1	1
	VD693900	I41 lower terminal cover 4 pole for TF / TS Size S1	1
	VD696200	I32 lower terminal cover 3 pole for TS Size S2	1
	VD697000	I42 lower terminal cover 4 pole for TS Size S2	1
	VD694700	S32 upper terminal cover 3 pole for TS Size S2	1
	VD695400	S42 upper terminal cover 4 pole for TS Size S2	1
	VC804300	S123 upper terminal cover 3 pole and 4 pole add. for TF / TS Size S3	1
	VC805000	I123 lower terminal cover 3 pole and 4 pole add. for TF / TS Size S3	1
	VC806800	S203 upper terminal cover 3 pole and 4 pole add. for TF / TS Size S4	1
	VC807600	I203 lower terminal cover 3 pole and 4 pole add. for TF / TS Size S4	1

Code	Model	Description	Pack
	VC728400	T8 standard extension shaft L=180mm Q8 for TF / TS Sizes S1-S2	1
	VD700200	T8/1 extension shaft L=280mm Q8 for TF / TS Sizes S1-S2	1
	VC797900	T12 standard extension shaft L=180mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1
	VC798700	T12/1 standard extension shaft L=280mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1



TS Series

	Code	Model	Description	Pack
	VC733400	M801	long black handle 0-1 standard for TF / TS Size S1- S2	1
	VC735900	M801DS	long black handle 0-1 with door-interlock override for TF / TS Size S1 - S2	1
	VC742500	M801R	long red handle 0-1 standard for TF / TS Size S1 - S2	1
	VC744100	M801RDS	long red handle 0-1 with door-interlock override for TF / TS Size S1 - S2	1
	VC756500	M1201	short black handle 0-1 standard for TF / TS Size S3	1
	VC757300	M12C01	short black handle 0-1 with key lock for TF / TS Size S3	1
	VC758100	M12DS01	short black handle 0-1 with door-interlock override for TF / TS Size S3	1
	VC768000	M12R01	short red handle 0-1 standard for TF / TS Size S3	1
	VC770600	M12RDS01	short red handle 0-1 with door-interlock override for TF / TS Size S3	1
	VC771400	M1301	long black handle 0-1 standard for TF / TS Size S4	1
	VC772200	M13C01	short black handle 0-1 with key lock for TF / TS Size S4	1
	VC773000	M13DS01	short black handle 0-1 with door-interlock override for TF / TS Size S4	1
	VC783900	M13R01	short red handle 0-1 standard for TF / TS Size S4	1
	VC785400	M13RDS01	long red handle 0-1 with door-interlock override for TF / TS Size S4	1

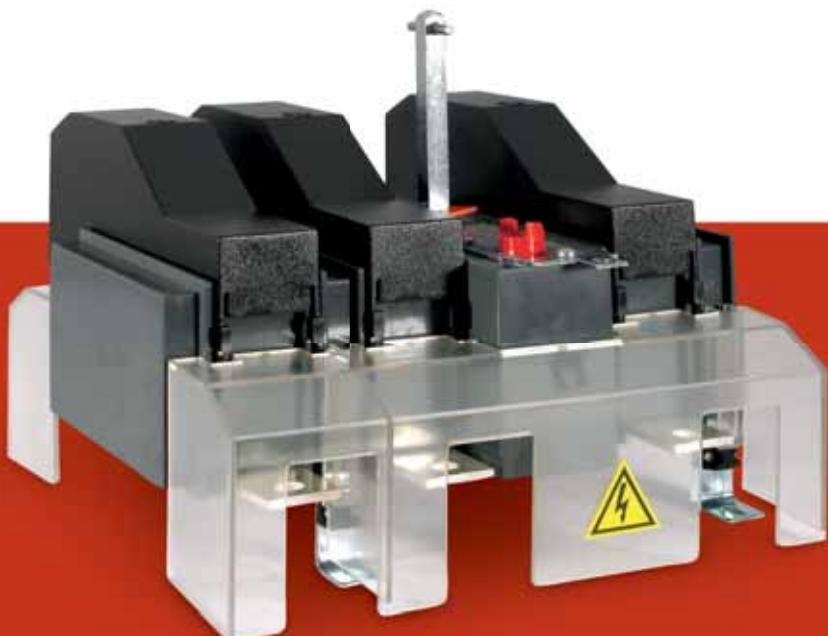
	Code	Model	Description	Pack
	VC792000	G12	handle washer IP55 for TF / TS (S3-S4); TSC / TSD (S1-S2)	1
	VC748200	G8	handle washer IP55 for TF (S0-S1-S2); TS (S1-S2)	1

	Code	Model	Description	Pack
	C10B	C10B	auxiliary contact 1NO for TS size S1-S2	5
	C01B	C01B	auxiliary contact 1NC for TS size S1-S2	5
	VC846400	AU1	auxiliary contacts 1NO for TF / TS / TSC / TSD size S3-S4	1
	VC847200	AU2	auxiliary contacts 1NC for TF / TS / TSC / TSD size S3-S4	1
	VC848000	AU3	auxiliary contacts 1NO+1NC for TF / TS / TSC / TSD size S3-S4	1
	VC849800	AU4	auxiliary contacts 1NO+1NO for TF / TS / TSC / TSD size S3-S4	1
	VC851400	AU6	auxiliary contacts 2NO+2NC for TF / TS / TSC / TSD size S3-S4	1
	VC852200	AU7	auxiliary contacts 2NO+2NO for TF / TS / TSC / TSD size S3-S4	1
	VC853000	AU8	auxiliary contacts 2NC+2NC for TF / TS / TSC / TSD size S3-S4	1



CHANGE-OVER AND DEVIATOR SWITCHES

TSC series
TSD series



03

Change-over and deviator switches **TSC/TSD** Series

Main features

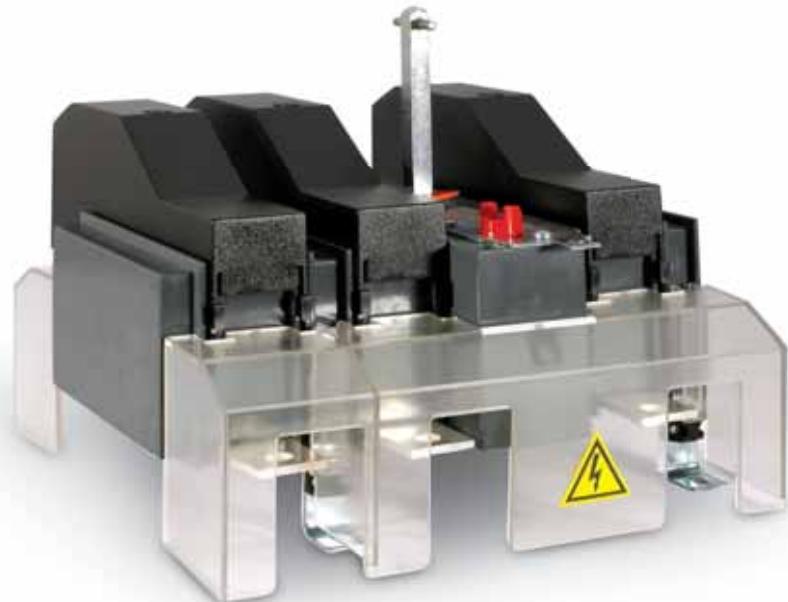
TSC / TSD are respectively change-over switches (II-0-I POSITIONS) and deviator switches (II-I POSITIONS) with manual operation.

Typical applications are:

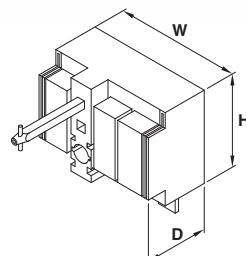
- a) change-over
- b) network inversion
- c) on-load change over of two circuits
- d) safety isolation

Main features and characteristics are:

- Reduced dimensions
- Polyester self-extinguishing and anti-trace insulating housing
- Fix and moving contacts in silver-plated electrolytic copper
- Manual operating device fitted in the insulating case in central position
- High thermal and dynamic performances
- Padlocking facility up to 3 padlocks
- 3 and 4 pole versions
- 4 pole switch-disconnectors suitable for all-phase breaking (the Neutral contact closes before and opens after the phases)



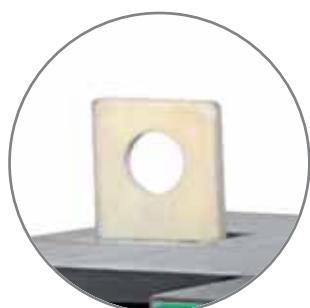
Two contact blocks in series result in 4 breaking per phase



Measures * in mm (in)		H	W	D
Size S1 250A÷630A	3 pole	218	260 (10.24")	121 ÷ 123
	4 pole	(8.58")	307 (12.09")	(4.76" ÷ 4.84")
Size S2 800A÷1600A	3 pole	292	320 (12.60")	137 ÷ 139
	4 pole	(11.5")	392 (15.43")	(5.39" ÷ 5.47")

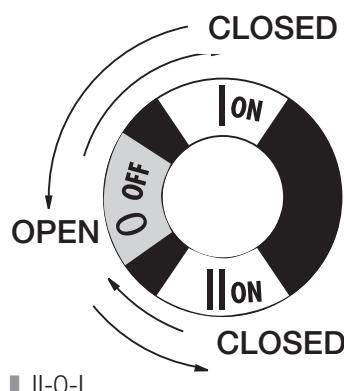
Note: * dimensions H and D depend on the extension and position of the current bars. They may change with the rating.
Shaft or other installed accessories are not considered.

- The actuator always respects the real position of the contacts. This type of control is called "positive operation". The auxiliary contacts are directly acted from the operating mechanism.
- Suitable for polluted ambient and tropical climates according to IEC 68-2 Standards

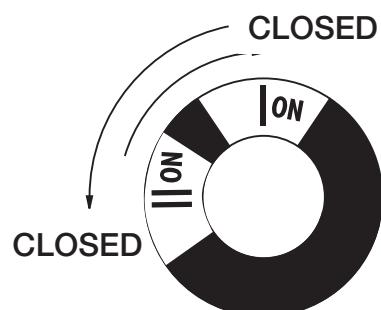


TSC / TSD
Bolt connection

TSC
change-over



TSD
deviator



A complete range of optional accessories allows the use of TSC / TSD in several installations. Standard handle handle with door interlock in closed position. Standard handle is IP54 (IP55 using an optional handle washer) and can be locked in open position with max 3 padlocks.



Handle M1203
for TSC in Size S1



Handle size M1205
for TSD in Size S1



Handle size M1303
for TSC in Size S2



Handle size M1305
for TSD in Size S2

Note: 6-8 pole versions are available on request.



BREMAS

TSC/TSD Series

Technical data IEC/EN 60947-3

SIZE

Rated insulation voltage	Ui	V
Rated impulse withstand voltage	Uimp	kV
Rated thermal current for open switch	Ie	A
Number of poles		
Power dissipation each pole	W	

Rated operating current Ie

AC-21A Switching of resistive loads, including moderate overloads	690V	A
AC-22A Switching of mixed resistive loads, including moderate overloads	690V	A
AC-23A Switching of motor loads or other highly inductive loads 3 phase - 3 pole	415V	A
	690V	A
DC-21A Switching of resistive loads, including moderate overloads	500V	A
DC-22A Switching of mixed resistive loads, including moderate overloads	500V	A
DC-23A Switching of motor loads or other highly inductive loads	400V	A
Reactive power ¹	380V	kVar
Rated short time withstand current (1s)	Icw	KA
Rated short-circuit make capacity	Icm	KA
Mechanical life (no. of operations)		nr.
Electrical life (no. of operations)		nr.
Switching time I-O-II or II-O-I (for TSC series)		s

Weight

3 pole with link bar covers	Kg
4 pole with link bar covers (4° leaning pole)	Kg

Note:

¹ = due to the presence of harmonics and to the tolerances of capacitors, nominal values must be reduced by 33%

² = data about the 6 and 8 pole versions are available on request

Normal service, mounting and transportation conditions

- storage and transport ambient temperature -25° C + 55° C
 - operative ambient temperature -5° C + 40° C
 - relative humidity max 95%
 - rated frequency 50-60 Hz
 - altitude max 2000 m a.s.l.
 - mounting in enclosure:
In case of utilisation at full load and without adequate ventilation, ensure a volume of about 5 times the volume of the switch.
Performances shall be derated up to 40% according to the environmental temperature.
- For other operating conditions please contact Bremas.

Reference Standards

Change-over switches and deviators are designed, manufactured and tested in compliance with EN 60947-6-1.

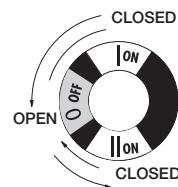
disconnect switches

TSC0250 TSD0250	TSC0400 TSD0400	TSC0630 TSD0630	TSC0800 TSD0800	TSC1000 TSD1000	TSC1250 TSD1250	TSC1600 TSD1600
S1	S1	S1	S2	S2	S2	S2
1000	1000	1000	1000	1000	1000	1000
8	8	8	12	12	12	12
250	400	630	800	1000	1250	1600
3-4 ²						
4,7	11	25	22,5	34	53	65
<hr/>						
250	400	630	800	1000	1250	1600
250	400	630	800	1000	1250	1600
250	400	630	800	1000	1250	1600
125	160	200	250	315	400	500
250	400	630	800	1000	1250	1600
250	400	630	800	1000	1250	1600
200	250	400	630	800	1000	1000
100	150	250	300	375	450	550
12,5	15	16	30	32	35	35
25	30	32	60	70	73,5	73,5
8000	5000	5000	3000	3000	3000	3000
1000	1000	1000	500	500	500	500
2,5	2,5	2,5	2,5	2,5	2,5	2,5
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7	7	7,5	11	15	19	19
7,8	7,8	8,3	17	18,5	20,5	20,5

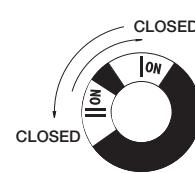


TSC/TSD Series

Change-over switches



Deviator switches



■ Disconnect switches

	Size	Ie AC21	poles	Code	Model	Pack	Code	Model	Pack
	S1	250	3	VC540300	TSC02503M1203	1	VD555000	TSD02503M1205	1
			4	VC541100	TSC02504M1203	1	VD556800	TSD02504M1205	1
		400	3	VC542900	TSC04003M1203	1	VD559200	TSD04003M1205	1
			4	VC543700	TSC04004M1203	1	VD560000	TSD04004M1205	1
		630	3	VC544500	TSC06303M1203	1	VD563400	TSD06303M1205	1
			4	VC545200	TSC06304M1203	1	VD564200	TSD06304M1205	1
		800	3	VC546000	TSC08003M1303	1	VD567500	TSD08003M1305	1
			4	VC547800	TSC08004M1303	1	VD568300	TSD08004M1305	1
	S2	1000	3	VC548600	TSC10003M1303	1	VD571700	TSD10003M1305	1
			4	VC549400	TSC10004M1303	1	VD572500	TSD10004M1305	1
		1250	3	VC550200	TSC12503M1303	1	VD575800	TSD12503M1305	1
			4	VC551000	TSC12504M1303	1	VD576600	TSD12504M1305	1
		1600	3	VC857000	TSC16003M1303	1	VC858600	TSD16003M1305	1
		1600	4	VC857800	TSC16004M1303	1	VC859400	TSD16004M1305	1

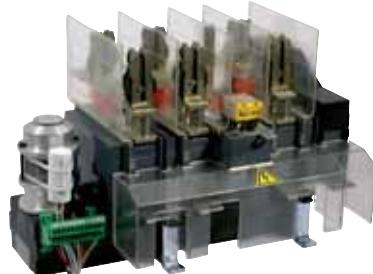
	Code	Model	Description	Pack
	VC844900	K4	link bar cover for TSC / TSD Size S1	1
	VC845600	K5	link bar cover for TSC / TSD Size S2	1
	VD718400	S09	upper terminal cover 3 pole for TSC / TSD Size S1	1
	VD719200	I09	lower terminal cover 3 pole for TSC / TSD Size S1	1
	VD720000	S09NL	upper terminal cover 4 pole for TSC / TSD Size S1	1
	VD721800	I09NL	lower terminal cover 4 pole for TSC / TSD Size S1	1
	VD722600	S99	upper terminal cover 3 pole for TSC / TSD Size S2	1
	VD723400	I99	lower terminal cover 3 pole for TSC / TSD Size S2	1
	VD724200	S99NL	upper terminal cover 4 pole for TSC / TSD Size S2	1
	VD725900	I99NL	lower terminal cover 4 pole for TSC / TSD Size S2	1

disconnect switches

Code	Model	Description	Pack
	VC728400 T8	standard extension shaft L=180mm Q8 for TF / TS Sizes S1-S2	1
	VD700200 T8/1	extension shaft L=280mm Q8 for TF / TS Sizes S1-S2	1
	VC794600 T10	standard extension shaft L=180mm Q10 for TSC / TSD Size S1	1
	VC795300 T10/1	standard extension shaft L=280mm Q10 for TSC / TSD Size S1	1
	VC797900 T12	standard extension shaft L=180mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1
	VC798700 T12/1	standard extension shaft L=280mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1
Code	Model	Description	Pack
	VC762300 M1203	short black handle II-0-I standard for TSC / TSD Size S1-S2	1
	VC763100 M12C03	short black handle II-0-I with key lock for TSC / TSD Size S1-S2	1
	VC764900 M12DS03	short black handle II-0-I with door-interlock override for TSC / TSD Size S1-S2	1
	VC777100 M1303	long black handle II-0-I standard for TSC / TSD Size S2	1
	VC778900 M13C03	short black handle II-0-I with key lock for TSC / TSD Size S2	1
	VC779700 M13DS03	long black handle II-0-I with door-interlock override for TSC / TSD Size S2	1
Code	Model	Description	Pack
	VC792000 G12	handle washer IP55 for TF / TS (S3-S4); TSC / TSD (S1-S2)	1
	VC748200 G8	handle washer IP55 for TF (S0-S1-S2); TS (S1-S2)	1
Code	Model	Description	Pack
	VC846400 AU1	auxiliary contacts 1NO for TF / TS / TSC / TSD	1
	VC847200 AU2	auxiliary contacts 1NC for TF / TS / TSC / TSD	1
	VC848000 AU3	auxiliary contacts 1NO+1NC for TF / TS / TSC / TSD	1
	VC849800 AU4	auxiliary contacts 1NO+1NO for TF / TS / TSC / TSD	1
	VC851400 AU6	auxiliary contacts 2NO+2NC for TF / TS / TSC / TSD	1
	VC852200 AU7	auxiliary contacts 2NO+2NO for TF / TS / TSC / TSD	1
	VC853000 AU8	auxiliary contacts 2NC+2NC for TF / TS / TSC / TSD	1

On request

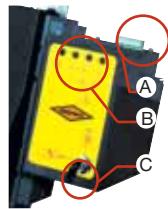
Motor driven change-overs and deviators



Range: 125A ÷ 1600A
3-4 pole
Operation directions: II-0-I or II-I
500V AC 23A 690V AC 22A CEI EN 60947-6-1
600V DC 22A CEI EN 60947-6-1
Isolation voltage U_i 1000 V

Electronic control unit

Remotely controls the switch and warnings about possible faults through a local visible signalisation and a remote output.

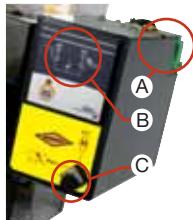


- Abnormal condition signalling LED
- LED to indicate the Main / generator position
- Manual-automatic selector key
- 220V a.c. or 24V d.c. supply voltage

A – Terminal block
B – Signalling LED
C – Manual-automatic selector key

Microprocessor unit MNS

This unit continuously monitors the Main line and automatically switches to the auxiliary generator when the line voltage drops low. It also switches back to the line when its voltage rises back to a normal value.



- Abnormal condition signalling LED
- LED to indicate the Main / generator position
- Manual-automatic selector key
- 220V a.c. or 24V d.c. supply voltage

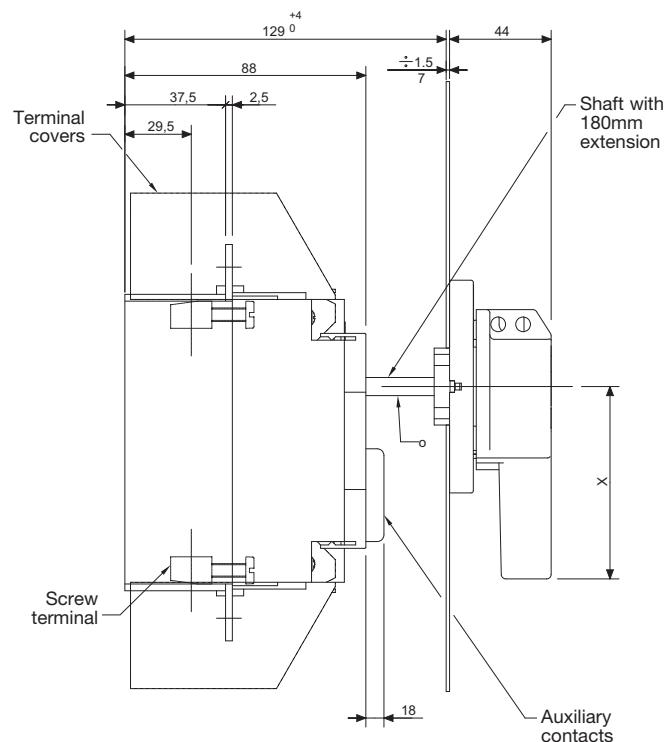
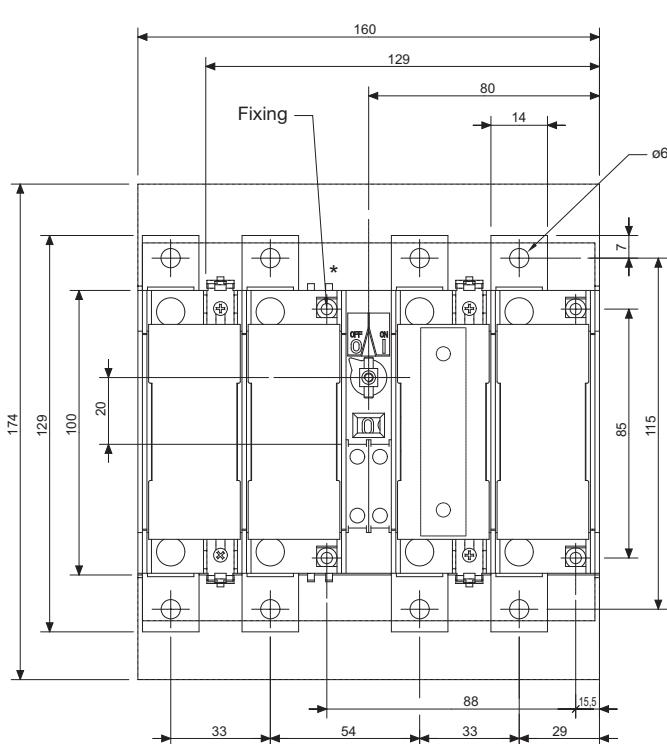
A – Terminal block
B – Signalling LED
C – Manual-automatic selector key

TS, TSC/TSD Series - Dimensions

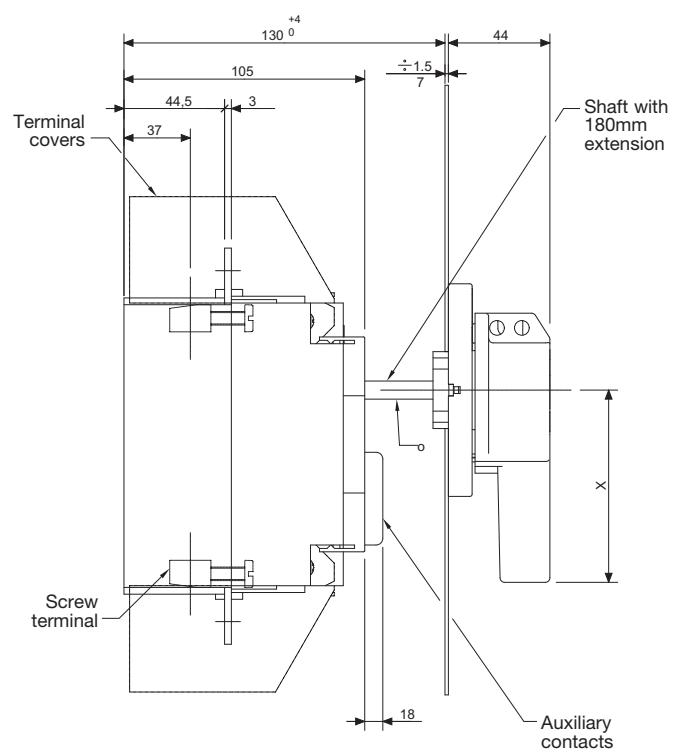
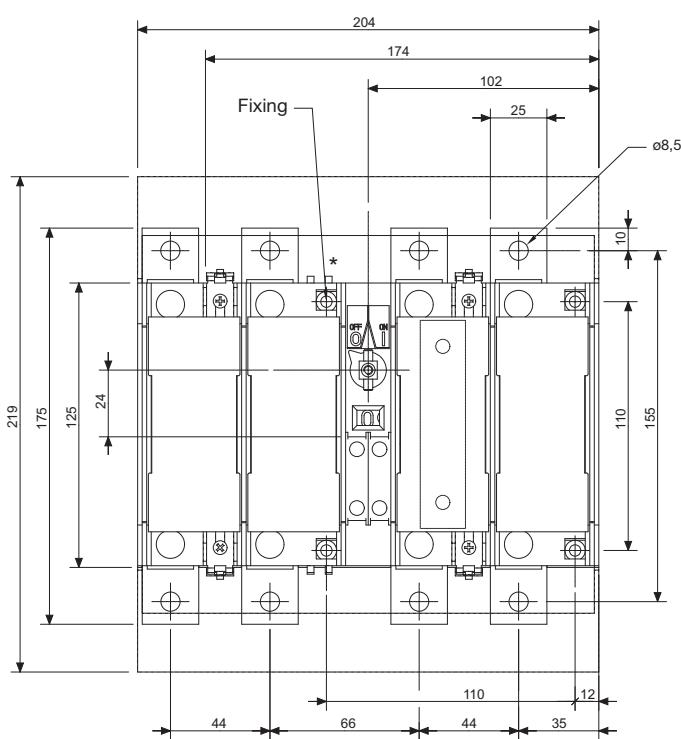
disconnect switches

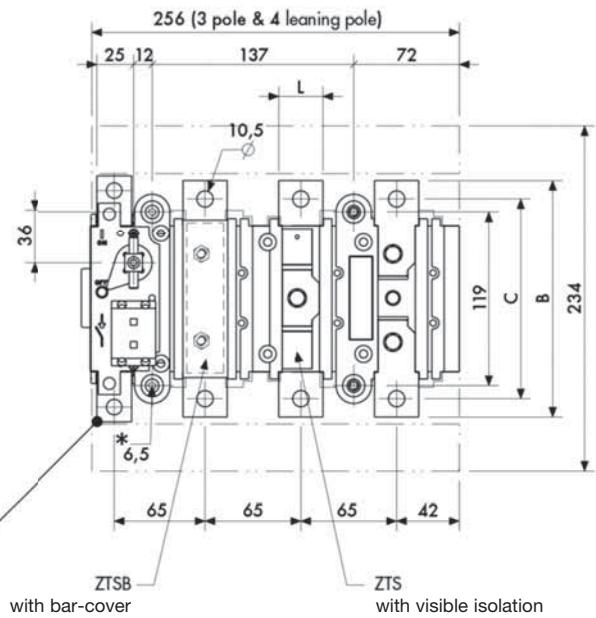
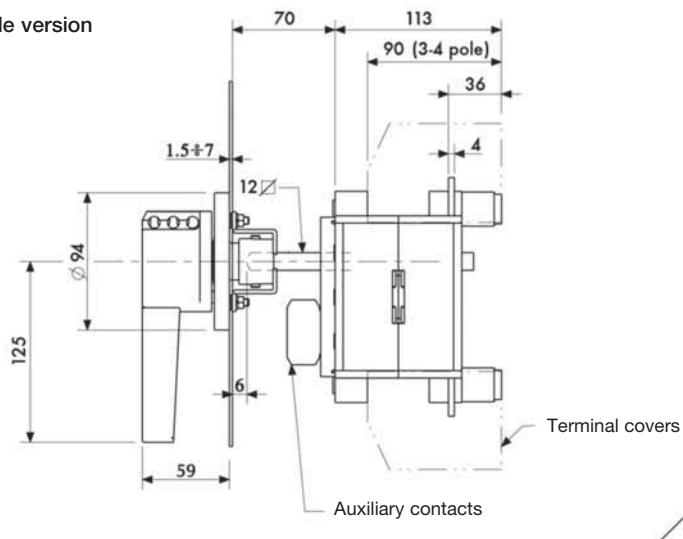
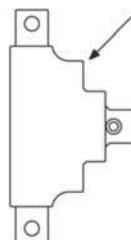
TS 125A - Measures in mm

TS Size S1

**TS 160A÷250A - Measures in mm**

TS Size S2

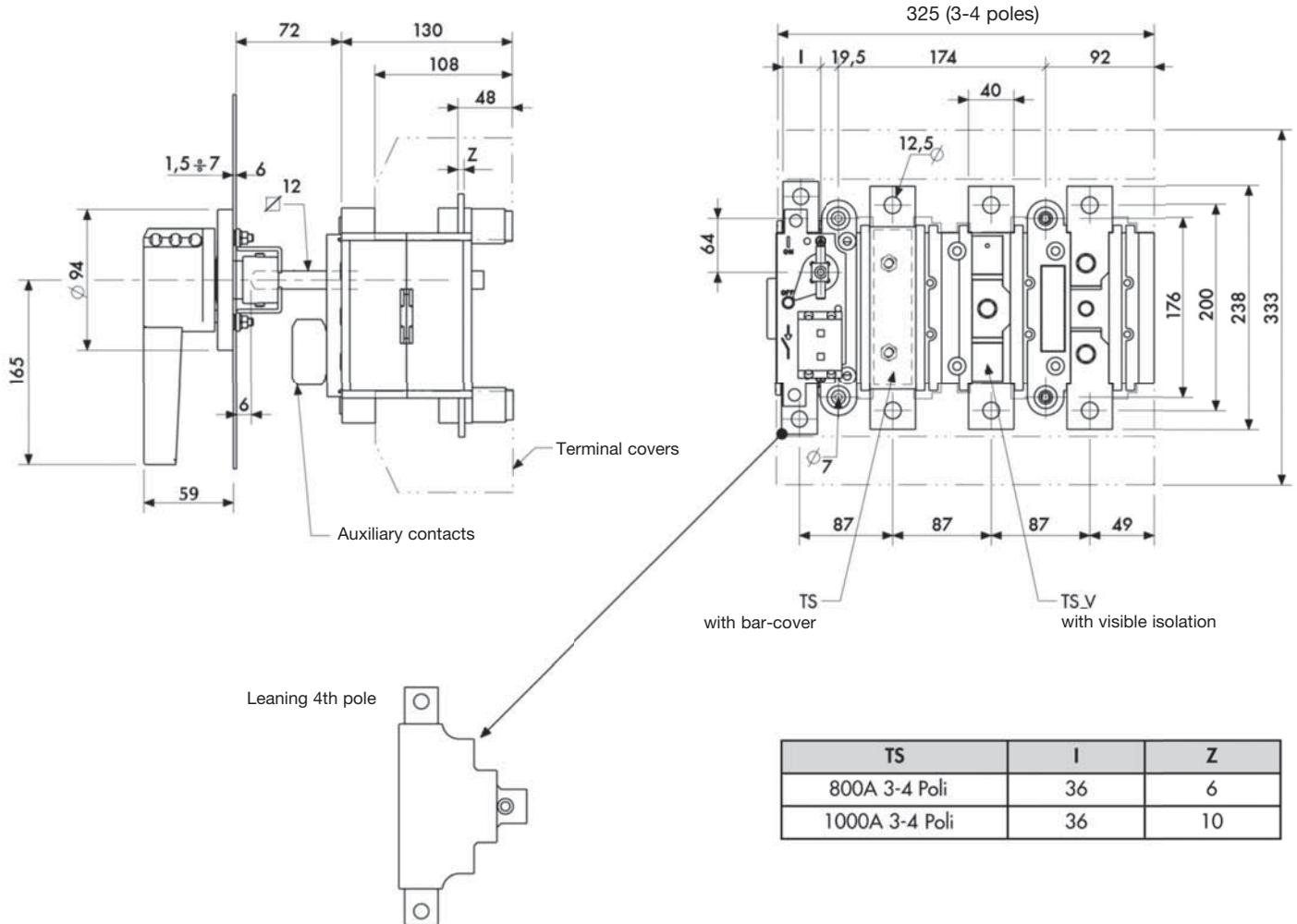


TS 400A÷630A 3-4 pole - Measures in mm
TS Size S3
3-4 pole version

Leaning 4th pole


TS	B	C	L
250A	161	136	25
400A	161	136	30
630A	187	156	35

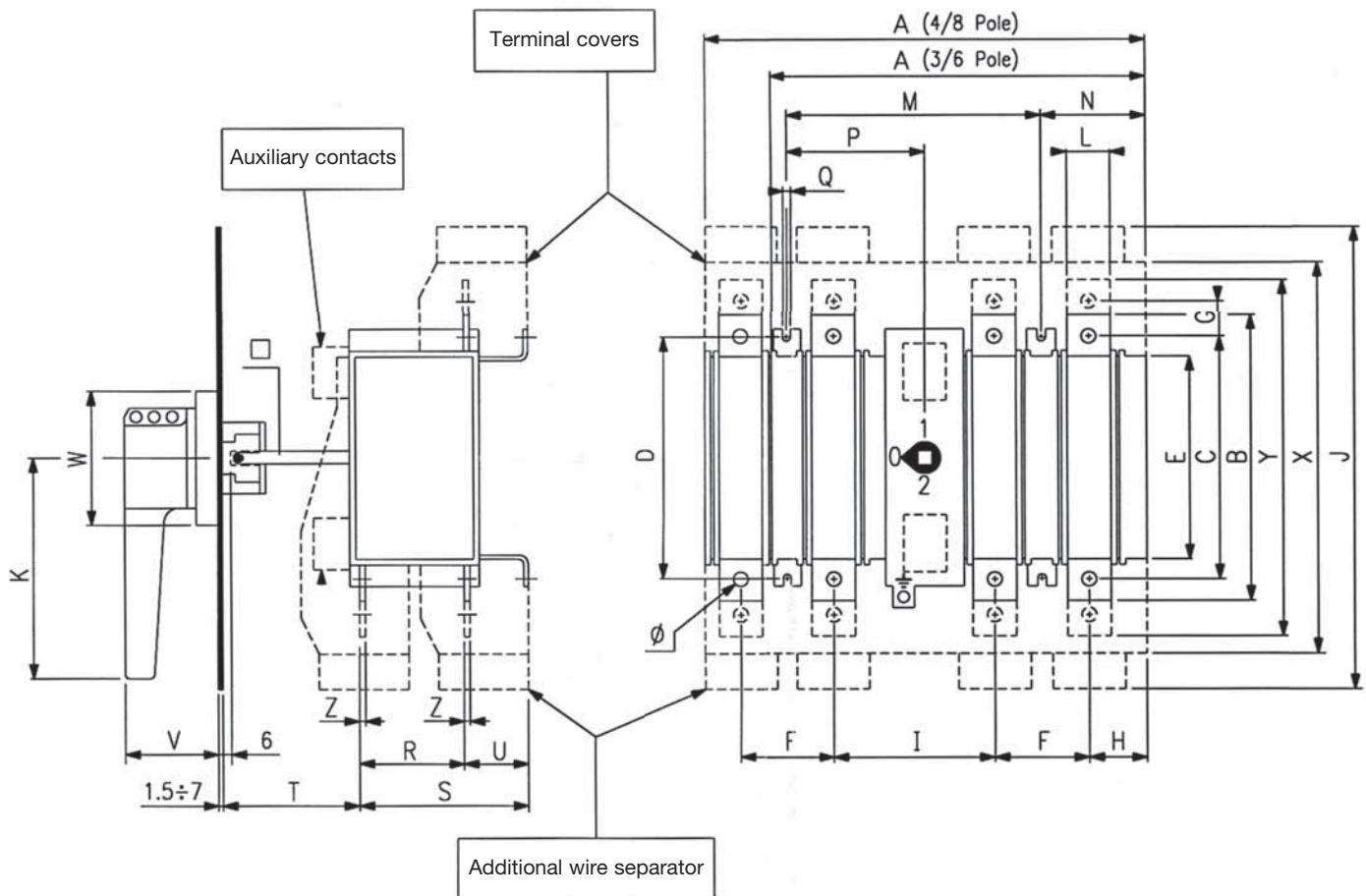
TS 800A÷1000A 3-4 pole - Measures in mm

TS Size S4



■ Change-over and deviator switches

TSC / TSD - Measures in mm



	TYPE	A 3 pole	A 4 pole	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	□	Ø	
Size S1	250A	260	307	218	193	168	142	65	-	39.5	112.3	320	125	25	177	72	96	6.5	77	121						4				
	400A													30					78	122	115	43	59	94	274	-	5	10	10.5	
	630A													35					79	123							6			
Size S2	800A																		86	137							8			
	1000A																		88	139	107	48	59	94	384	-	10	12	13	
	1250A																		352								12			
	1600A																													



DISCONNECT SWITCHES WITH FUSE-HOLDERS

XNF series
TF series



04



XNF series TF series

■ Disconnect switches with fuse-holders

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■ XNF 16A and 32A series **195**

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■ TF 63A...630A series **203**

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■ Handles and plates*

Base mounting handles IP66	124
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* Handles and plates for XNF 16A and 32A series

Overview

The range of Bremas disconnect switches with fuse holders includes the **XNF and TF series** with current ratings from 16A to 630A.

The double break contacts, have positive opening to guarantee high electrical efficiency and security. The terminals of the XNF series have IP20 protection degree and are provided with captive screws in open position to reduce wiring time.

TF have bolt connection for ring lugs, but a specific version TF_S is available with screw terminals. Terminal covers and additional accessories are optionally available.

**XNF**16A
32A

- U_i/U_e 690V
- 3 - 4 pole
- Max 10/16 mm² (flex/solid wire)
- Screw cage terminals with captive screws
- Base mount
- 1 additional pole and/or 1 auxiliary contact can be added
- For cylindrical fuses type gG or aM
 - size 10,3x38 for series XNF16
 - size 14x51 for series XNF32

**TF**63A
80A
100A
125A
160A
250A
400A
630A

- U_i/U_e 1000V/690V
- 690V AC 23A IEC 60947-3
- 600V DC 23A IEC 60947-3
- 3 - 4 pole
- Bolt connection for ring lugs or screw terminals
- Base mount





BREMAS



**DISCONNECT SWITCHES
WITH FUSE-HOLDERS**
XNF series



04

Main features

The **XNF series** allows to add the protection of fuses to the operative functionality of a switch disconnector. The double break contacts, have positive opening to guarantee high electrical efficiency and security. The terminals of the XNF series are provided with captive screws in open position to reduce wiring time. The terminals have IP20 protection degree.



- 1 additional pole and/or 1 auxiliary contact can be added

Fuses are not included

The fuse holders are suitable for cylindrical fuses type gG or aM:

- size 10,3x38mm for series XNF16
- size 14x51mm for series XNF32

Plates and knobs



BL6

Yellow plate 67x67mm (2.64x2.64"), red padlockable knob (max 3 padlocks), door interlock in "ON" position, IP66



BK6

Grey plate 67x67mm (2.64x2.64"), black padlockable knob (max 3 padlocks), door interlock in "ON" position, IP66

■ International Standards and approvals

Country	Germany	UK	Switzerland	Denmark	Norway	Sweden	Finland	Austria	Great Britain	IEC International electrical Commission
Authority	Verband Deutscher Elektrotechiker		Schweizerischer Elektrotechnischer Verein	Danmarks Elektriske Materielkontroll	Norges Elektriske Materielkontroll-anstalten	Svenska Elektriska Materielkontroll-anstalten	Sähkötar-kästuskeskus	Österreichischer Verband für Elektrotechnik	British Standards Institution	
Mark of standard	VDE 0660 ⁽¹⁾								BS EN 60947 ⁽¹⁾	IEC 60947 ⁽²⁾
XNF016	+	+	+	+	+	+	+	+	+	+
XNF032	+	+	+	+	+	+	+	+	+	+

+ Conforms to requirements

Notes:

- 1) It is not required to bear a symbol but switches must conform to requirements.
- 2) IEC does not operate an approval scheme

Technical data IEC/EN 60947-3**Main characteristics**

			XNF16	XNF32
Rated operating voltage	Ue	V	690	690
Rated insulation voltage	Ui	V	690	690
Rated impulse withstand voltage	Uiimp	kV	6	6
Rated thermal current for open switch	Ith	A	16	32
Rated thermal current for enclosed switch	Ithe	A	16	32
Rated operation frequency	Hz		50	50
Power dissipation for each pole	W		1,8*	3,5*

Rated operating current le

AC-21A Switching resistive loads, including moderate overloads	690V	A	16	32
AC-22A Switching of mixed resistive and inductive loads, including moderate overloads	690V	A	16	32

Rated operating power

AC-23A Switching of motor loads or other highly inductive loads	230V	Kw (A)	7,5 (24)	10 (33)
	400V	Kw (A)	13 (24)	18,5 (33)
	500V	Kw (A)	13 (16)	18,5 (32)
	690V	Kw (A)	15 (16)	22 (23)
AC-3 Squirrel cage motors: starting, switching off motors during running	230V	Kw (A)	16 (19)	9 (28)
	400V	Kw (A)	10 (18)	15 (27)
	500V	Kw (A)	10 (14)	15 (27)
	690V	Kw (A)	12 (13)	18,5 (23)
Rated breaking capability in category AC-23A ($\cos \varphi = 0.45$)	230V	A	192	256
	400V	A	240	330

Short circuit protection

Rated short time withstand	lcw	A	400	800
Rated conditional short-circuit		KA	10	10
With fuses class gG	500V	A	16	32

Mechanical characteristics

Mechanical life (120 cycles/hour)	Mil.Man		2	2
Connecting capability with flexible wires	Min-Max	mm ²	1,5-10	1,5-10
Connecting capability with solid wires	Min-Max	mm ²	1,5-16	1,5-16
Connection terminal screw type			M4	M4
Screw tightening torque		Nm	1,4	1,4

Protection degree IEC 529 EN 60529

Terminals		IP20
Handle		IP66

Ambient conditions

Operating ambient temperature		°C	-25 /+ 55
Storage ambient temperature		°C	-30 /+70
Withstand to constant humid according to IEC 60068			sec. IEC 60068 2-78
Withstand to cyclic humid according to IEC 60068			sec. IEC 60068 2-30

Auxiliary contacts

Rated insulation voltage	Ui	V	690	
Rated thermal current for open switch	Ith	A	20	40
AC-21A Switching resistive loads, including moderate overloads	690V	A	6	6
AC-15 Control of a.c. electromagnetic loads	230V	A	20	40

* power dissipated from each fuse

Base mounting *

BL6

BK6

■ XNF

Rated nom. current	Pole	Part no.	Pack	Part no.	Pack
16A	3	XNF0163BL6	1	XNF0163BK6	1
	4	XNF0164BL6	1	XNF0164BK6	1
32A	3	XNF0323BL6	1	XNF0323BK6	1
	4	XNF0324BL6	1	XNF0324BK6	1

* Base mounting switches are supplied with standard 175mm (6.89") shaft.

■ Additional pole and auxiliary contacts for XNF 16-32A

Part no.	Description	Pack
	XC16AN 4th pole / NO auxiliary contact for 16A base mounting	5
XC16CN	4th pole / NC auxiliary contact for 16A rear mounting	5
XC32AN	4th pole / NO auxiliary contact for 32A base mounting	5
XC32CN	4th pole / NC auxiliary contact for 32A rear mounting	5
XC32GN	Earth pole for XNF 16-32A rear mounting	5

■ Optional extension shafts

	Part no.	Description	Pack
Shafts	<u>PALBL055</u>	Shaft L=55mm - Square section 5 mm	5
	<u>PALBL075</u>	Shaft L=75mm - Square section 5 mm	5
	<u>PALBL095</u>	Shaft L=95mm - Square section 5 mm	5
	<u>PALBL115</u>	Shaft L=115mm - Square section 5 mm	5
	<u>PALBL135</u>	Shaft L=135mm - Square section 5 mm	5
	<u>PALBL155</u>	Shaft L=155mm - Square section 5 mm	5
	<u>PALBL175</u>	Shaft L=175mm - Square section 5 mm	5
	<u>PALBL300</u>	Shaft L=300mm - Square section 5 mm	5
	<u>PALBL500</u>	Shaft L=500mm - Square section 5 mm	5

■ Terminal covers

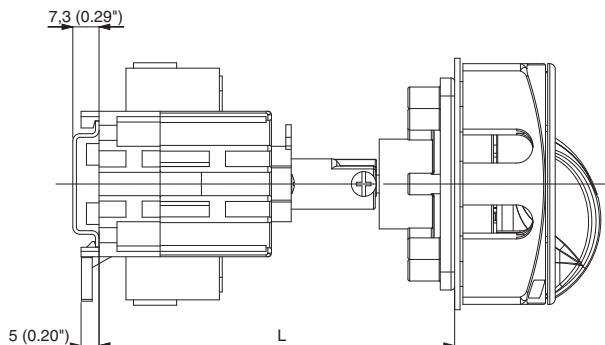
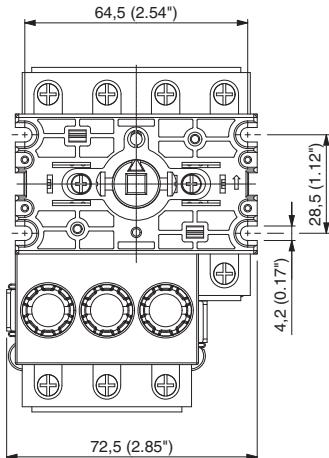
	Part no.	Description	Pack.
XNF G813	<u>XNAG813</u>	Couple of terminal covers for XNF 16-32A 3 or 4 pole	5



XNF series - Dimensions

Base mounting

(XNF 16A) - Measures in mm (in)

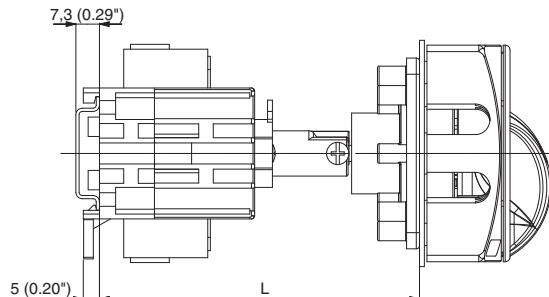
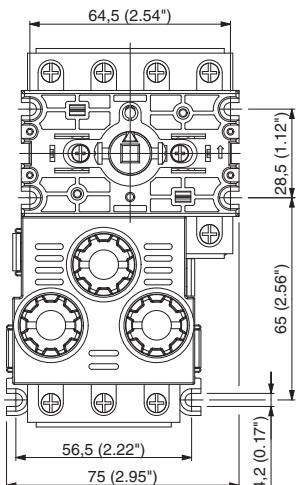


Overall length (min-max)**
for different shaft length (L1):

L1	L (mm)	L (in)
175*	99 - 243	3.90 - 9.57
6.89*	3.90 - 9.57	3.90 - 9.57
300	99 - 368	3.90 - 14.49
11.81	3.90 - 14.49	3.90 - 14.49
500	99 - 568	3.90 - 22.36
19.68	3.90 - 22.36	3.90 - 22.36

* Standard shaft, bundled
** Minimum length obtainable
by cutting the shaft.

(XNF 32A)



Overall length (min-max)**
for different shaft length (L1):

L1	L (mm)	L (in)
175*	99 - 243	3.90 - 9.57
6.89*	3.90 - 9.57	3.90 - 9.57
300	99 - 368	3.90 - 14.49
11.81	3.90 - 14.49	3.90 - 14.49
500	99 - 568	3.90 - 22.36
19.68	3.90 - 22.36	3.90 - 22.36

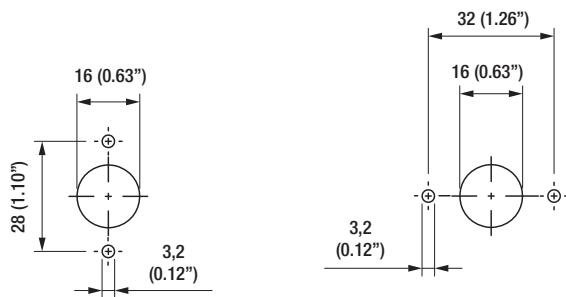
* Standard shaft, bundled
** Minimum length obtainable
by cutting the shaft.

Drilling templates

disconnect switches

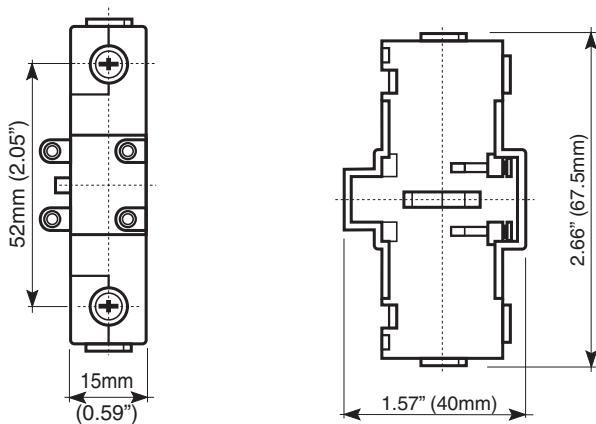
(BL6 - BK6) - Measures in mm (in)

Escutcheon plate



■ Additional pole and auxiliary contacts for XNF 16-32A

Measures in mm (in)





DISCONNECT SWITCHES WITH FUSE-HOLDERS

TF series



04

Overview

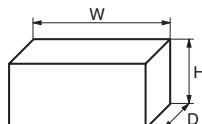
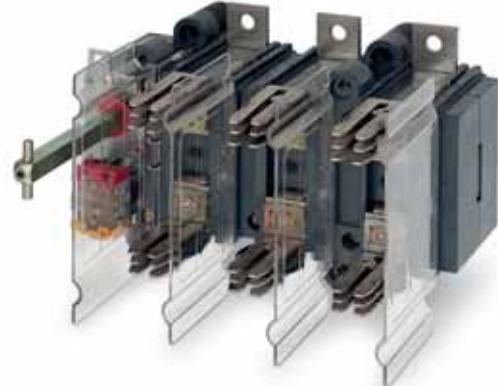
The switches **series TF** have the following main design features:

- Polyester self-extinguishing and anti-trace insulating housing
- Silver plated electrolytic copper fix and moving contacts
- Double breaking for pole.
- High closing and opening speed, independent from the operator
- Feeder connection is possible either in the upper in on the lower side

Size S0 (63A), Size S1 (80A; 100A)
and Size S2 (125A; 160A)



Size S3 (250; 400A) and
Size S4 (630A)



Measures * in mm (in)		H	W	D
Size S0	3 pole	86 (3.39")	100 (3.94") 126 (4.96")	103 (4.06")
	4 pole			
Size S1	3 pole	100 (3.94")	129 (5.08") 160 (6.30")	136 (5.35")
	4 pole			
Size S2	3 pole	125 (4.92")	174 (6.85") 204 (8.03")	157 (6.18")
	4 pole			

Measures * in mm (in)		H	W	D
Size S3	3 - 4 pole	161 (6.34")	251 (9.88")	197 (7.76")
Size S4	3 - 4 pole	238 (9.37")	325 (12.79")	230 (9.05")

Note: * dimension D is compressive of the fuse separators, does not consider the shaft or other installed accessories

Fuses are not
included

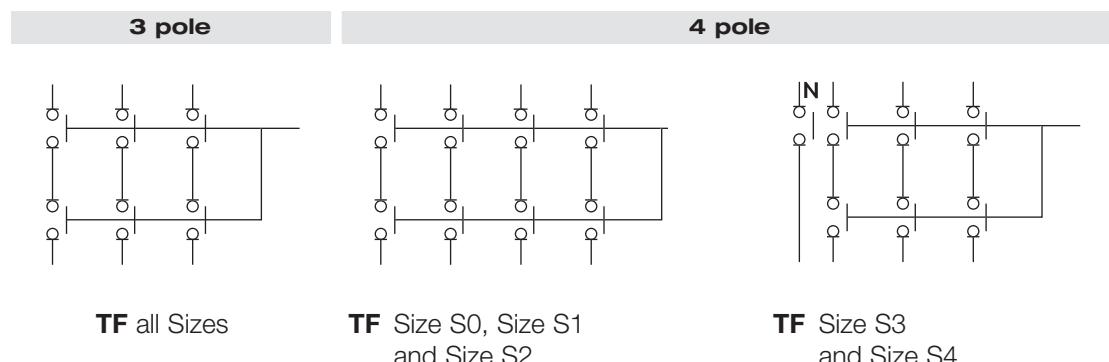
Suitable DIN type fuses* for the different ratings:

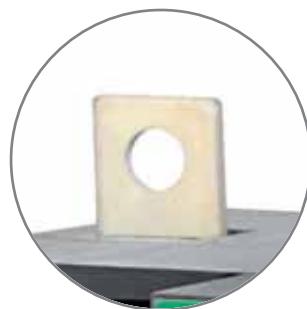
- 63A: DIN/NH00C
- 80A, 100A, 125A, 160A : DIN/NH00
- 250A: size DIN/NH1-2
- 400A: size DIN/NH1-2
- 630A: size DIN/NH3

Versions for BS and NFC type fuses are available on request.



Two contact
blocks in series
result in
4 breaking
for phase





Bolt connection
is standard on
all the TS range



Screw connection
available up to 100A
rating (TS_S execution)

A complete range of optional accessories allows the use of TF switch-disconnectors with fuse-holders in several installations.

Standard bundle handle with door interlock in closed position and possibility to install a legend with 0-1 positions (IEC Standard) or ON-OFF positions (BS Standard).

Standard handle is IP54 (IP55 using an optional handle washer) and can be locked in open position with max 3 padlocks. Optional handles are available that are padlockable both in open and closed position (door interlock override optional as well).



Handle M601 for TF switches in Size S0.



Handle M801 for TF switches in Size S1 and S2.



Handle M1201 for TF switches in Size S3.



Handle M1301 for TF switches in Size S4.



TF series

Technical data IEC/EN 60947-3

SIZE		Ui	V (a.c.)
		Ui	V (d.c.)
		Uimp	kV
		Ith	A
		Ithe	A
		W	
Rated operating current Ie			
AC-22A Switching of mixed resistive loads, including moderate overloads		690V	A
		1000V	A
Rated operating power			
AC-23A Switching of motor loads or other highly inductive loads 3 phase - 3 pole		415V	Kw (A)
		500V	Kw (A)
		690V	Kw (A)
DC-23A Switching of motor loads or other highly inductive loads		220V	Kw (A)
		440V	Kw (A)
		600V	Kw (A)
		380V	kVar
Reactive power ¹		Icw	kA
Rated short-circuit make capacity		operations	nr.
Mechanical life (no. of operations)		operations	nr.
Electrical life (no. of operations)		DIN 43620	
Fuse type			
Weight			
3 pole		DIN 43620	Kg
4 pole		DIN 43620	Kg

Note:

¹ = due to the presence of harmonics and to the tolerances of capacitors, nominal values must be reduced by 33%

Normal service, mounting and transportation conditions

- storage and transport ambient temperature -25° C + 55° C
- operative ambient temperature -5° C + 40° C
- relative humidity max 95%
- rated frequency 50-60 Hz
- altitude max 2000 m a.s.l.
- mounting in enclosure:

In case of utilisation at full load and without adequate ventilation, ensure a volume of about 5 time the volume of the switch.

Performances shall be derated up to 40% according to the environmental temperature.

For other operating conditions please contact Bremas.

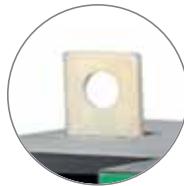
disconnect switches

TF063	TF080	TF100	TF125	TF160	TF250	TF400	TF630
S0	S1	S1	S2	S2	S3	S3	S4
1000	1000	1000	1000	1000	1000	1000	1000
600	600	600	1000	1000	1000	1000	1000
6	6	6	8	9	10	11	12
63	80	100	125	160	250	400	630
50	80	80	110	150	200	340	550
3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4
2,2	3,5	5,5	4,8	6,6	12	28	40
<hr/>							
63	80	100	-	-	-	-	-
-	-	-	125	160	250	400	630
<hr/>							
30 (63)	35 (80)	45 (100)	55 (125)	75 (160)	132 (250)	200 (400)	355 (630)
40 (63)	40 (80)	63 (100)	75 (125)	100 (160)	160 (250)	280 (400)	425 (630)
45 (63)	55 (80)	80 (100)	90 (125)	140 (160)	220 (250)	375 (400)	560 (630)
14(63)	18(80)	22(100)	28(125)	35(160)	55(250)	88(400)	139(630)
28(63)	35(80)	44(100)	55(125)	70(160)	110(250)	176(400)	277(630)
30(50)	48(80)	48(80)	75(125)	96(160)	150(250)	240(400)	378(630)
31	40	50	60	75	125	250	315
100	100	100	100	100	100	100	100
10000	10000	10000	8000	8000	8000	5000	5000
1500	1500	1500	1000	1000	1000	1000	1000
00-C	0	0	00-0	00-0	1-2	1-2	3
<hr/>							
0,8	1,4	1,4	2,1	2,1	5	5,2	9,5
0,9	1,5	1,5	2,8	2,8	5,2	5,4	10,2



TF series

with bolt connections



with bolt connections



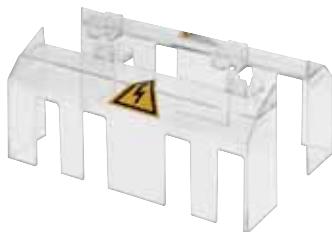
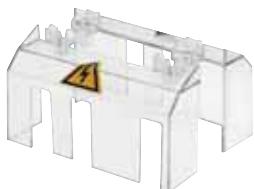
■ Disconnect switches with fuse-holders

	Size	Ie AC21	poles	Code	Model	Pack	Code	Model	Pack
	S0	63	3	VC307700	TF0633M6010C	1	VC315000	TF0633SM6010C	1
			4	VC308500	TF0634M6010C	1	VC316800	TF0634SM6010C	1
	S1	80	3	VC309300	TF0803M80102	1	VC317600	TF0803SM80102	1
			4	VC310100	TF0804M80102	1	VC318400	TF0804SM80102	1
		100	3	VC311900	TF1003M80102	1	VC319200	TF1003SM80102	1
			4	VC312700	TF1004M80102	1	VC320000	TF1004SM80102	1
	S2	125	3	VD500600	TF1253M80102	1	-	-	-
			4	VD501400	TF1254M80102	1	-	-	-
		160	3	VD502200	TF1603M80102	1	-	-	-
			4	VD503000	TF1604M80102	1	-	-	-
	S3	250	3	VC357200	TF2503M120102	1	-	-	-
			4	VC358000	TF2504M120102	1	-	-	-
	400	3	VC359800	TF4003M120103	1	-	-	-	-
			4	VC360600	TF4004M120103	1	-	-	-
	S4	630	3	VC361400	TF6303M120104	1	-	-	-
			4	VC362200	TF6304M120104	1	-	-	-

	Code	Model	Description	Pack
	VC714400	SD3F	fuse protection shield DIN 3 pole for TF Size S0	1
	VC715100	SD4F	fuse protection shield DIN 4 pole for TF Size S0	1
	VC718500	SD31	fuse protection shield DIN 3 pole for TF Size S1	1
	VD689700	SD41	fuse protection shield DIN 4 pole for TF Size S1	1
	VD690500	SD32	fuse protection shield DIN 3 pole for TF Size S2	1
	VD691300	SD42	fuse protection shield DIN 4 pole for TF Size S2	1
	VC815900	S33	fuse protection shield 3 pole o 4 pole add. for TF Size S3	1
	VC816700	S333	fuse protection shield 3 pole o 4 pole add. for TF Size S4	1

disconnect switches

Code	Model	Description	Pack
VC719300	S03	upper terminal cover 3 pole for TF Size S0	1
VC720100	S04	upper terminal cover 4 pole for TF Size S0	1
VC721900	I03	lower terminal cover 3 pole for TF Size S0	1
VC722700	I04	lower terminal cover 4 pole for TF Size S0	1
VC723500	S31	upper terminal cover 3 pole for TF / TS Size S1	1
VD692100	I31	lower terminal cover 3 pole for TF / TS Size S1	1
VC724300	S41	upper terminal cover 4 pole for TF / TS Size S1	1
VD693900	I41	lower terminal cover 4 pole for TF / TS Size S1	1
VD694700	S32	upper terminal cover 3 pole for TF / TS Size S2	1
VD696200	I32	lower terminal cover 3 pole for TF / TS Size S2	1
VD695400	S42	upper terminal cover 4 pole for TF / TS Size S2	1
VD697000	I42	lower terminal cover 4 pole for TF / TS Size S2	1
VC804300	S123	upper terminal cover 3 pole and 4 pole add. for TF / TS Size S3	1
VC805000	I123	lower terminal cover 3 pole and 4 pole add. for TF / TS Size S3	1
VC806800	S203	upper terminal cover 3 pole and 4 pole add. for TF / TS Size S4	1
VC807600	I203	lower terminal cover 3 pole and 4 pole add. for TF / TS Size S4	1



Code	Model	Description	Pack
VC727600	T6	standard extension shaft L=180mm Q6 for TF Size S0	1
VD699600	T6/1	extension shaft L=280mm Q6 for TF Size S0	1
VC728400	T8	standard extension shaft L=180mm Q8 for TF / TS Sizes S1-S2	1
VD700200	T8/1	extension shaft L=280mm Q8 for TF / TS Sizes S1-S2	1
VC797900	T12	standard extension shaft L=180mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1
VC798700	T12/1	standard extension shaft L=280mm Q12 for TF / TS Sizes S3-S4 and TSC / TSD Size S2	1





TF series

	Code	Model	Description	Pack
	VC730000	M601	short black handle 0-1 standard for TF Size S0	1
	VC732600	M601DS	short black handle 0-1 with door-interlock override for TF Size S0	1
	VC741700	M601RDS	short red handle 0-1 with door-interlock override for TF Size S0	1
	VC733400	M801	long black handle 0-1 standard for TF/ TS Size S1-S2	1
	VC735900	M801DS	long black handle 0-1 with door-interlock override for TF / TS Size S1-S2	1
	VC739100	M601R	short red handle 0-1 standard for TF Size S0	1
	VC742500	M801R	long red handle 0-1 standard for TF / TS Size S1-S2	1
	VC744100	M801RDS	long red handle 0-1 with door-interlock override for TF / TS Size S1-S2	1
	VC756500	M1201	short black handle 0-1 standard for TF / TS Size S3	1
	VC757300	M12C01	short black handle 0-1 with key lock for TF / TS Size S3	1
	VC758100	M12DS01	short black handle 0-1 with door-interlock override for TF / TS Size S3	1
	VC768000	M12R01	short red handle 0-1 standard for TF / TS Size S3	1
	VC770600	M12RDS01	short red handle 0-1 with door-interlock override for TF / TS Size S3	1
	VC771400	M1301	long black handle 0-1 standard for TF / TS Size S4	1
	VC772200	M13C01	short black handle 0-1 with key lock for TF / TS Size S4	1
	VC773000	M13DS01	short black handle 0-1 with door-interlock override for TF / TS Size S4	1
	VC783900	M13R01	short red handle 0-1 standard for TF / TS Size S4	1
	VC785400	M13RDS01	long red handle 0-1 with door-interlock override for TF / TS Size S4	1

	Code	Model	Description	Pack
	VC822500	S55	protection shield 3 pole o 4 pole add. for TS / TF Size S3	1
	VC824100	S555	protection shield 3 pole o 4 pole add. for TS / TF Size S4	1

disconnect switches



Code	Model	Description	Pack
VC792000	G12	handle washer IP55 for TF / TS (S3-S4); TSC / TSD (S1-S2)	1
VC748200	G8	handle washer IP55 for TF (S0-S1-S2); TS (S1-S2)	1

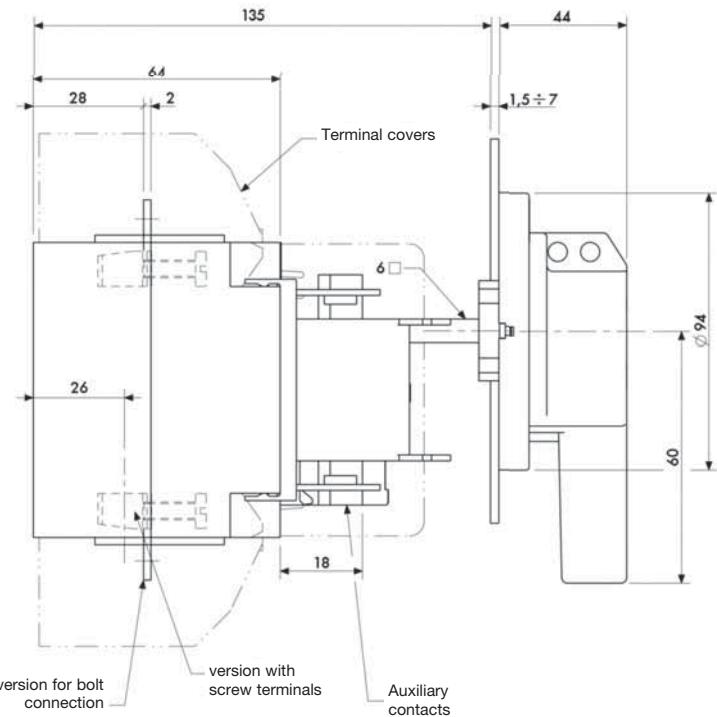
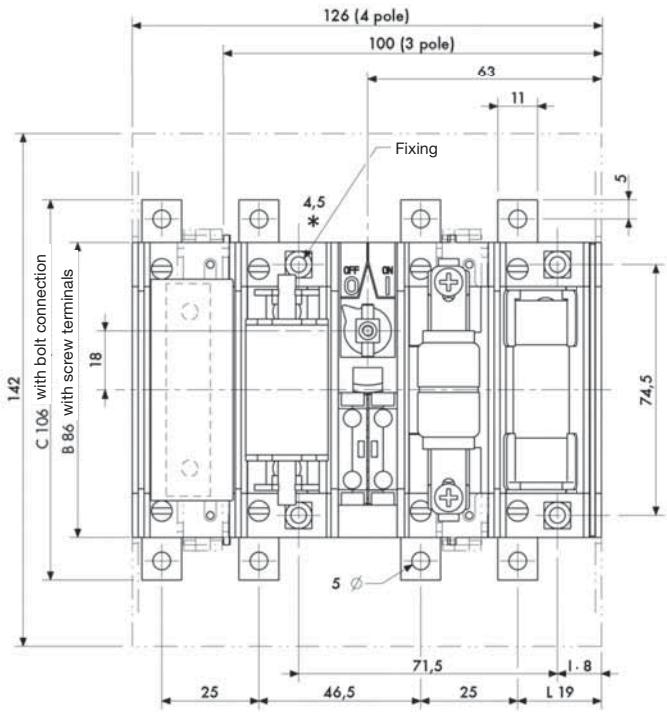


Code	Model	Description	Pack
C10B	C10B	auxiliary contact 1NO for TF size S0-S1-S2	5
C01B	C01B	auxiliary contact 1NC for TF size S0-S1-S2	5
VC846400	AU1	auxiliary contacts 1NO for TF / TS / TSC / TSD size S3-S4	1
VC847200	AU2	auxiliary contacts 1NC for TF / TS / TSC / TSD size S3-S4	1
VC848000	AU3	auxiliary contacts 1NO+1NC for TF / TS / TSC / TSD size S3-S4	1
VC849800	AU4	auxiliary contacts 1NO+1NO for TF / TS / TSC / TSD size S3-S4	1
VC851400	AU6	auxiliary contacts 2NO+2NC for TF / TS / TSC / TSD size S3-S4	1
VC852200	AU7	auxiliary contacts 2NO+2NO for TF / TS / TSC / TSD size S3-S4	1
VC853000	AU8	auxiliary contacts 2NC+2NC for TF / TS / TSC / TSD size S3-S4	1

TF series - Dimensions

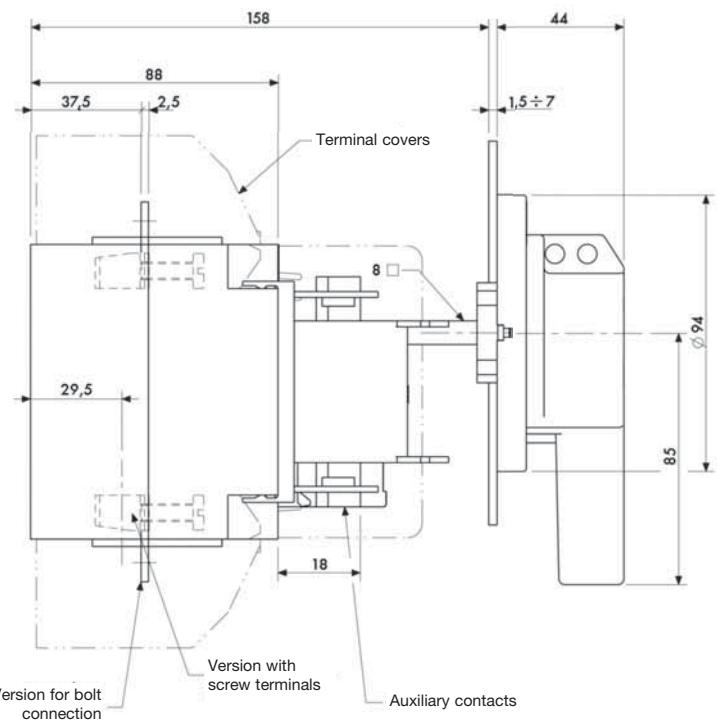
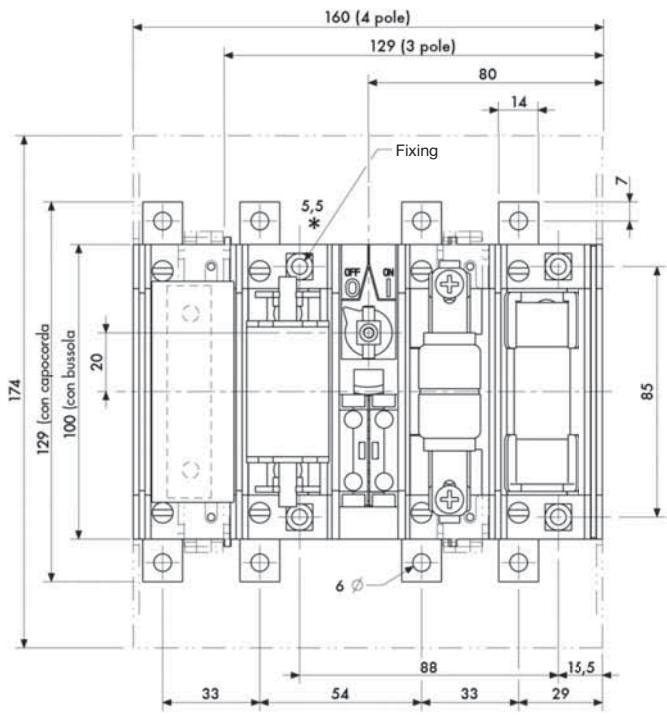
TF 63A - Measures in mm

TF Size S0

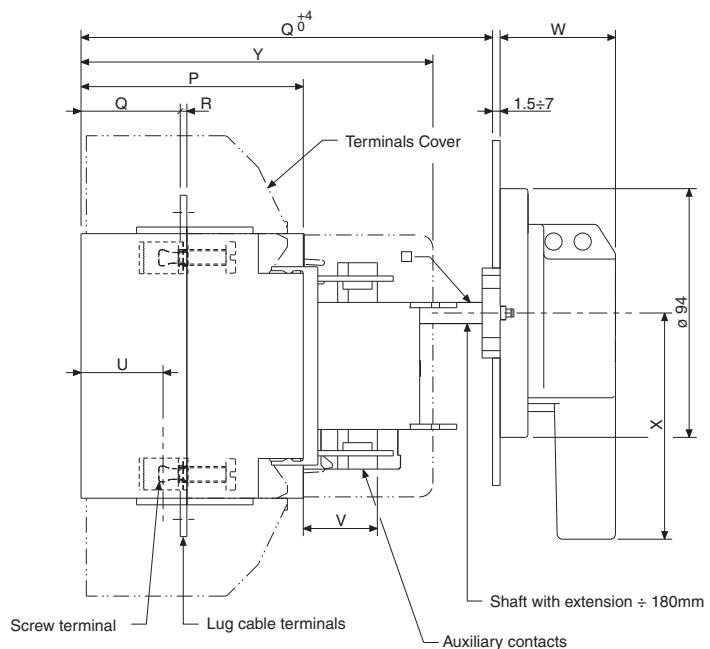
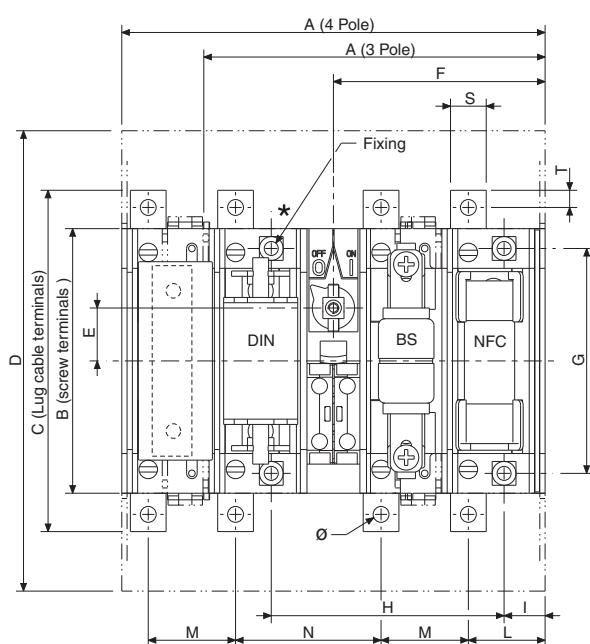


TF 80A ÷ 100A - Measures in mm

TF Size S1

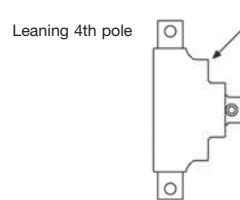
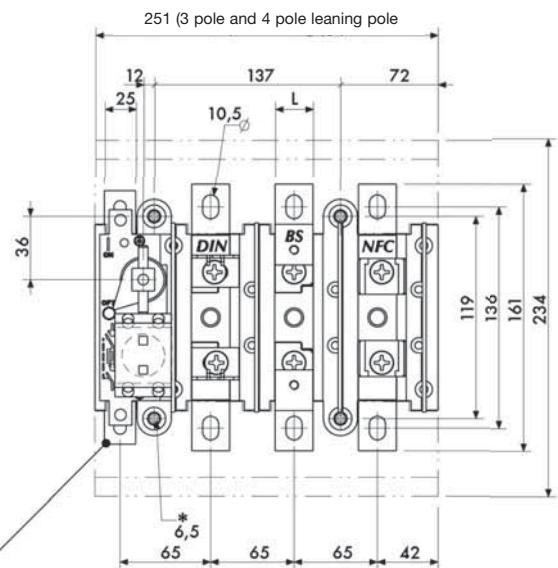
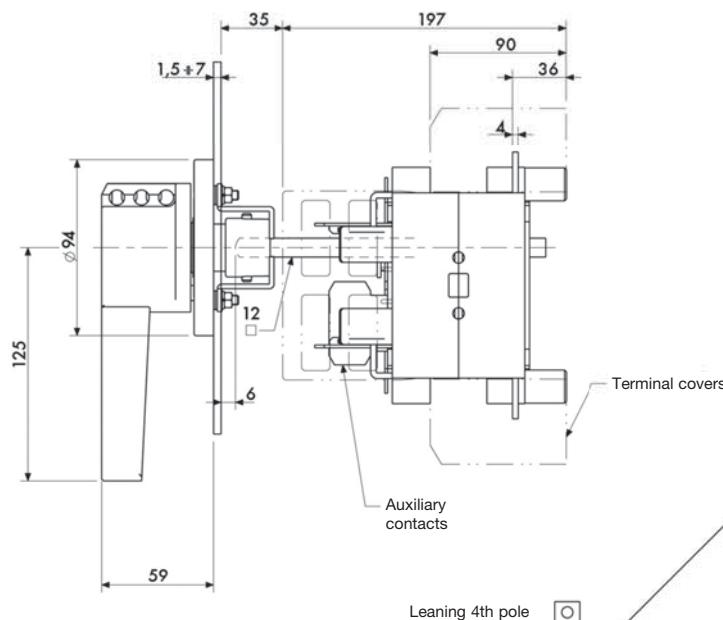


TF 125A ÷ 160A - Measures in mm
TF Size S2



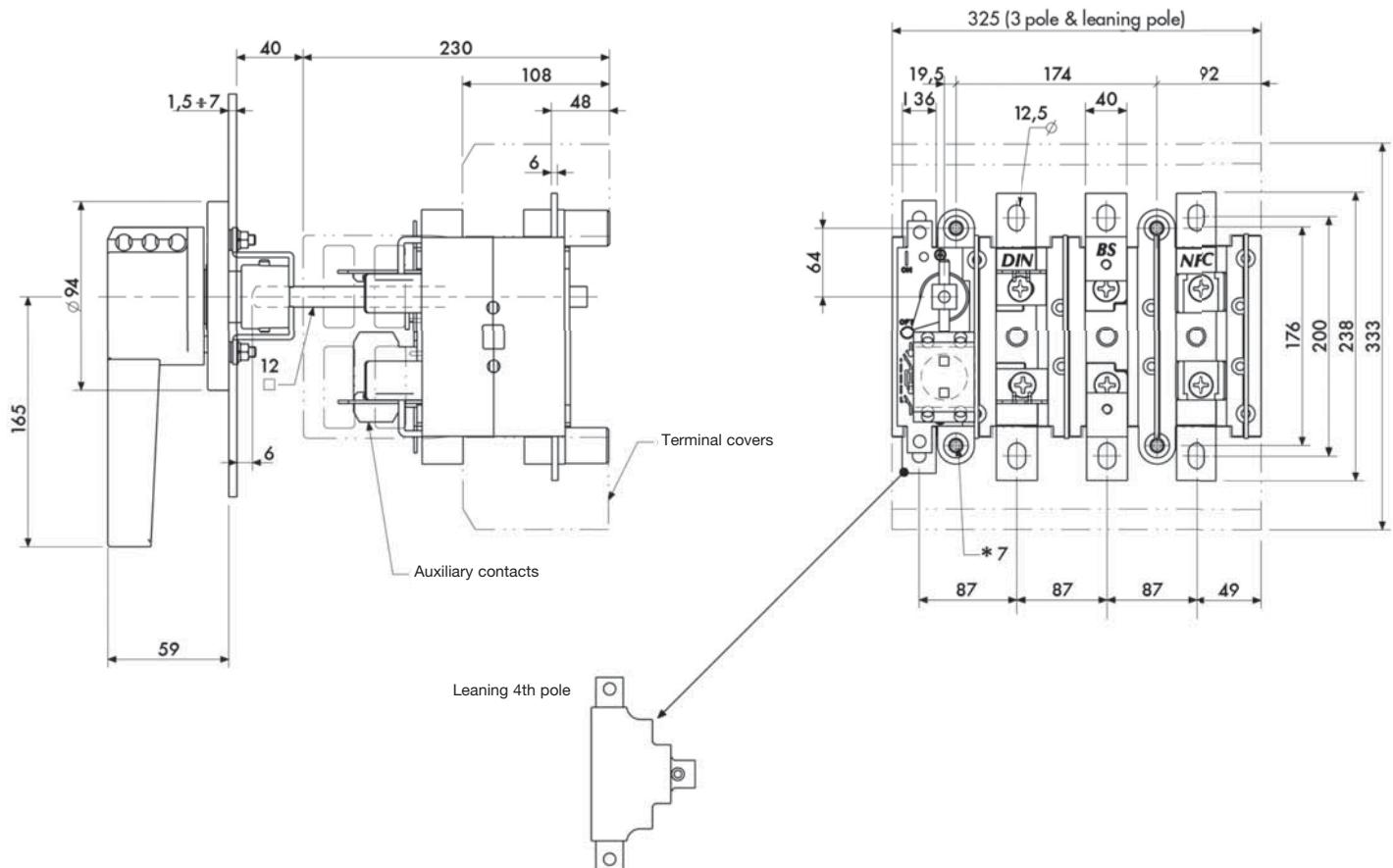
A 3 pole	A 4 pole	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	*	Ø	□
174	204	125	175	219	24	102	110	110	12	35	44	66	186	105	44.5	3	25	10	37	18	44	85	157	5.5	8.5	8

TF 250A ÷ 400A - Measures in mm
TF Size S3



TF	L
250A	25
400A	30

TF 630A - Measures in mm TF Size S4





ENCLOSED SOLUTIONS



04

BREMAS offers a complete range of enclosed solutions with cutting-edge construction details and in line with market needs, which guarantee suitability in multiple applications: motor control, line sectioning, commutation. All boxes are made with ABS material and offer IP65 degree of protection. Versions with front drive or lateral lever drive are available.



- Protection degree up to IP65
- Front or Lateral lever drive
- Double insulated thermoplastic enclosures
- Terminals for 4 wires systems
- Padlockable handle in "OFF" position and Cover interlock in "ON" position for the Front drive operated versions
- Trace and knock-outs to easy the wiring in the installation

Thermoplastic enclosures

	Type	Dimensions	Handle type	Additional Characteristics				2xM20 knock-outs on two sides, 2xPg16 on one side and on the base of the enclosure
				ABS IP65 Double insulated	Cover interlock in "ON" position	Terminals for 4 wires systems (3 phase+PE)		
	B95	120 x 95 x 78 mm 4.72 x 3.74 x 3.07 in	Front drive. Padlockable handle in "OFF" position	ABS IP65 Double insulated	Cover interlock in "ON" position	Terminals for 4 wires systems (3 phase+PE)		2xM20 knock-outs on two sides, 2xPg16 on one side and on the base of the enclosure
	B110	125 x 110 x 78 mm 4.92 x 4.33 x 3.07 in	Front drive. Padlockable handle in "OFF" position	ABS IP65 Double insulated	Cover interlock in "ON" position	Terminals for 4 wires systems (3 phase+PE)		2xM20 knock-outs on two sides, 2xPg16/M20 on the lower and upper sides of the enclosure
	B140	140x165x80,5 mm 5.51 x 6.50 x 3.17 in	Front drive. Padlockable handle in "OFF" position	ABS IP65 Double insulated	Cover interlock in "ON" position	Terminals for 4 wires systems (3 phase+PE)		2xPg 16 /21 traces on each side of the enclosure
	S31	120 x 95 x 78 mm 4.72 x 3.74 x 3.07 in	Lateral lever drive	ABS IP65 Double insulated	-	Terminals for 4 wires systems (3 phase+PE)		2xM20 knock-outs on two sides, 2xPg16 on one side and on the base of the enclosure


B95

 120 x 95 x 78 mm
 4.72 x 3.74 x 3.07 in

Plate type

RL6

 Yellow plate 67x67mm (2.64x2.64"),
 red padlockable knob (max 3 padlocks)

■ IP65, ABS enclosures with front drive, padlockable handle

	Circuit diagram	Function	I_e	Part no.	Pack
00G3		ON-OFF switch 3 pole with padlockable handle	12A	CA01200G3B95RL6	1
			16A	CA01600G3B95RL6	1
			20A	CA02000G3B95RL6	1
			25A	CA02500G3B95RL6	1
			32A	CA03200G3B95RL6	1
00G4		ON-OFF switch 4 pole with padlockable handle	12A	-	-
			16A	CA01600G4B95RL6	1
			20A	CA02000G4B95RL6	1
			25A	-	-
			32A	CA03200G4B95RL6	1
0007		Change-over switch with padlockable handle	12A	CA0120007B95RL6	1
			16A	CA0160007B95RL6	1
			20A	CA0200007B95RL6	1
			25A	-	-
			32A	-	-
0008		Reversing switch with padlockable handle	12A	CA0120008B95RL6	1
			16A	CA0160008B95RL6	1
			20A	CA0200008B95RL6	1
			25A	-	-
			32A	-	-

disconnect switches

Plate type

**B110**

125 x 110 x 78mm (4.92 x 4.33 x 3.07 in)

**AL6**Yellow plate 67x67mm (2.64 x 2.64"),
red padlockable knob
(max 3 padlocks)**AK6**Grey plate 67x67mm (2.64 x 2.64"),
black padlockable knob
(max 3 padlocks)

■ IP65, ABS enclosures with front drive, padlockable handle and cover interlock

	Circuit diagram	Poles	I_e	Part no.	Pack	Part no.	Pack	
 		3	20A	SB0203B110AL6	1	SB0203B110AK6	1	
			32A	SB0323B110AL6	1	SB0323B110AK6	1	
			40A	SB0403B110AL6	1	SB0403B110AK6	1	
			20A	SB0204B110AL6	1	SB0204B110AK6	1	
			32A	SB0324B110AL6	1	SB0324B110AK6	1	
			40A	SB0404B110AL6	1	SB0404B110AK6	1	

Plate type

**B140**

140 x 165 x 80,5 mm (5.51 x 6.50 x 3.17 in)

**AL6**Yellow plate 67x67mm (2.64 x 2.64"),
red padlockable knob
(max 3 padlocks)**AK6**Grey plate 67x67mm (2.64 x 2.64"),
black padlockable knob
(max 3 padlocks)

■ IP65, ABS enclosures with front drive, padlockable handle and cover interlock

	Circuit diagram	Poles	I_e	Part no.	Pack	Part no.	Pack	
 		3	63A	SB0633B140AL6	1	SB0633B140AK6	1	
			100A	SB1003B140AL6	1	SB1003B140AK6	1	
			63A	SB0634B140AL6	1	SB0634B140AK6	1	
			100A	SB1004B140AL6	1	SB1004B140AK6	1	
			63A	SB0633B140AL6	1	SB0633B140AK6	1	
			100A	SB1003B140AL6	1	SB1003B140AK6	1	

**S31**120 x 95 x 78 mm
4.72 x 3.74 x 3.07 in

■ IP40, ABS enclosures with lateral lever drive

	Circuit diagram	Function	I_e	Part no.	Pack
0003		ON-OFF switch 3 pole	12A	CA0120003S31	1
			16A	CA0160003S31	1
			20A	CA0200003S31	1
			25A	CA0250003S31	1
			32A	CA0320003S31	1
			40A	CA0400003S31	1
0007		Change-over switch 3 pole	12A	CA0120007S31	1
			16A	CA0160007S31	1
			20A	CA0200007S31	1
			25A	CA0250007S31	1
			32A	CA0320007S31	1
0008		Reversing switch 3 pole	12A	CA0120008S31	1
			16A	CA0160008S31	1
			20A	CA0200008S31	1
			25A	CA0250008S31	1
			32A	CA0320008S31	1
0009		Changing switch Dahlander pole	12A	CA0120009S31	1
			16A	CA0160009S31	1
			20A	CA0200009S31	1
			25A	CA0250009S31	1
			32A	CA0320009S31	1

**S31**120 x 95 x 78 mm
4.72 x 3.74 x 3.07 in

■ IP65, ABS enclosures with lateral lever drive

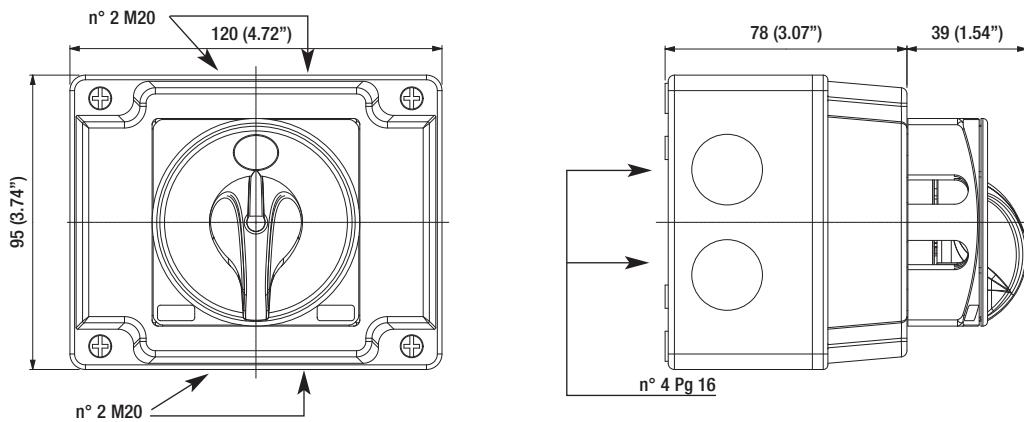
	Circuit diagram	Function	I _e	Part no.	Pack
0010		STAR-DELTA Starter	12A	CA0120010S31	1
			16A	CA0160010S31	1
			20A	CA0200010S31	1
			25A	CA0250010S31	1
			32A	CA0320010S31	1
0036		Reversing switch 3 pole with spring return to "off"	16A	CA0160036S31	1
			20A	CA0200036S31	1
			25A	CA0250036S31	1
0039		Change-over switch 4 pole	12A	CA0120039S31	1
			16A	CA0160039S31	1
			20A	CA0200039S31	1
			25A	CA0250039S31	1
			32A	CA0320039S31	1

■ Plastic enclosures, with handles

Code	Description	Pack
S31	ABS enclosure, IP65 with lateral lever drive	120 x 95 x 78 mm (4,72 x 3,74 x3,07 in)
B95	ABS enclosure, IP65 with front drive and RL6 padlockable	120 x 95 x 78 mm (4,72 x 3,74 x3,07 in)

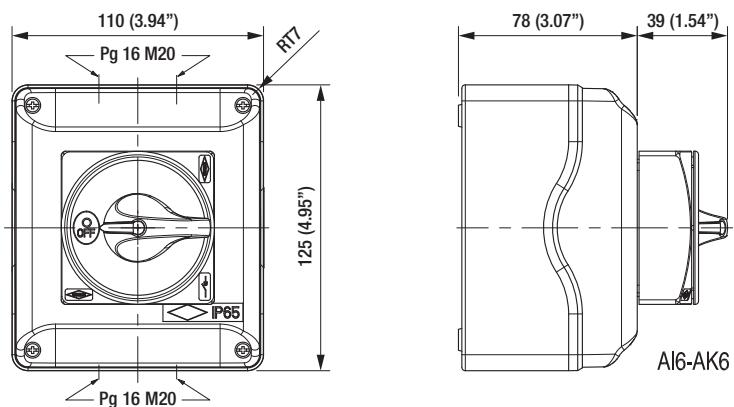
■ B95

Measures in mm (in)



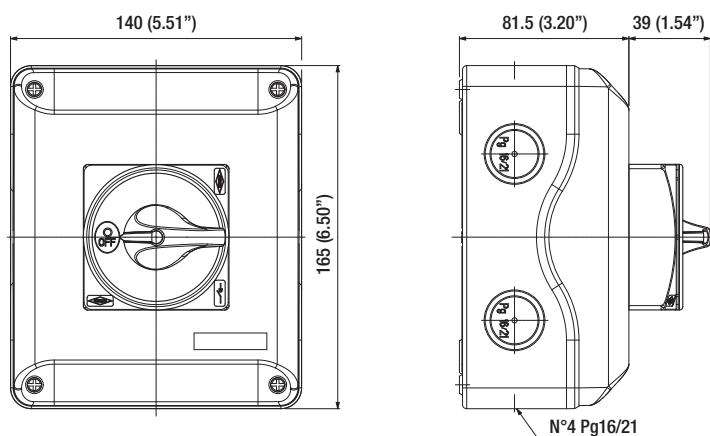
■ B110

Measures in mm (in)



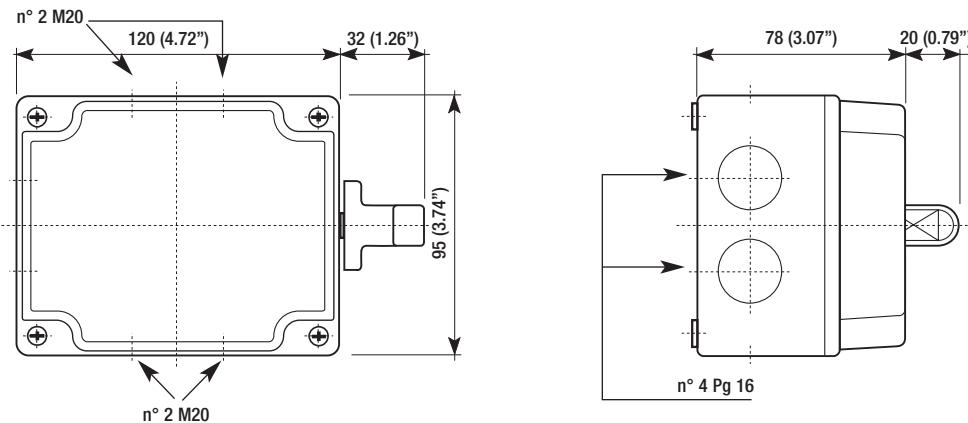
■ B140

Measures in mm (in)



S31

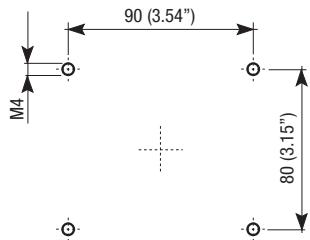
Measures in mm (in)



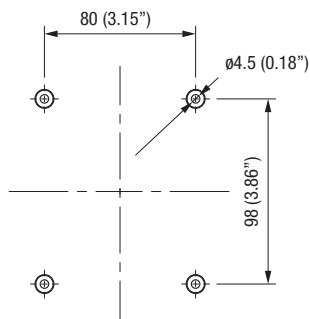
■ Drilling templates

Measures in mm (in)

S31 - B95



B110



B140

