



Panel mounting switchgear IEC 60947-3

Product Guide

- Fused combination switches S-line
- Flexible fused combination switches O-line
- Load break switches D-line
- Knobs & handles K-line

Flexible solutions
for isolating and
switching resistive
or inductive loads

Eaton has earned a worldwide reputation for reliable, high quality switch and fuse gear – an area in which we are clear market leaders. Incorporating the latest technological advances, our switchgear is the result of a comprehensive ongoing development programme and complies with the industry's most rigorous standards. This all serves to make Eaton an industry benchmark, with unsurpassed quality and performance guaranteed.

Our extensive product range, together with our lengthy experience and specialist knowledge serves to make Eaton the only source for your installation needs.



S-line

Page 4 to 6



D-line

Page 7



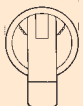
Q-line

Page 8 to 11



K-line

Page 12 to 15



Technical information & dimensional drawings

Page 16 to 32

Switchgear for any application

This product guide contains high quality switchgear ideally suited to manufacturers of switchboards and motor control centres. Eaton's switchgear for panel mounting can be used for any type of load, including motor loads and capacitive loads. They can be applied for:

- All isolating and disconnecting applications such as incoming and outgoing feeders;
- Bus couplers in switchgear and control gear assemblies;
- Safety switches with interlocking facilities;
- Motor emergency switches in motor starter units.



Highly reliable

Eaton's panel mounting switchgear has been designed and tested for the following operation utilisation categories:

AC21 – Switching of resistive loads including moderate overloads;

AC22 – Switching of mixed resistive and inductive loads including moderate overloads;

AC23 – Switching of motor, or other high inductive loads.

One-Call
Customer Service

08700 545 333

for everything you need to know on
Eaton's MEM, Cutler-Hammer & Holec Brands

Dedicated technical support

It is recognised that connectivity and operation of the standard switch range will sometimes require that special or unique application considerations will be necessary, to meet your needs. To help you select the right equipment and discuss your own particular application Eaton offers the back up of a dedicated and experienced technical team to work with you.



Quality

Quality assurance is of paramount importance to all at Eaton. The quality and reliability demanded by the electrical installation industry is reflected both in the design of products as well as the level of customer service that is provided. Our manufacturing sites have stringent quality systems and are independently assessed and accredited to **BS** and **ISO 9000** standards.



One-stop-shop

With a comprehensive breadth of circuit protection, control, automation and power management products Eaton provides panel builders a genuine 'one-stop-shop' facility. We deliver solutions for:

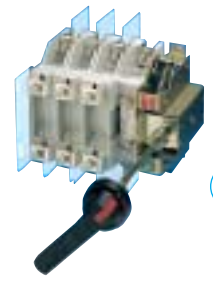
- Circuit protection;
- Motor control gear;
- Automation control;
- Metering, protection & power quality;
- Enclosure systems;
- Limit switches and sensors;
- Plugs and sockets.



Fused combination switches

32-800 A

S-line



Product range

The S-line fused combination switches (FCS) represents a complete range of standard and special switches. Six compact frame sizes cover nominal ratings from 32 to 800 A in double, triple and four pole configurations.

The product range comprises:

- Standard operation switches; see **table A**
- Switches with side operation; see **table B**
- Changeover switches; see **table C**
- Standard operation test switches; see **table D**.

Additional accessories (see **table E** on page 6) include safety handles, extended shafts, auxiliary switches, push in terminal plugs, etc.

Application Area

All distribution and motor control applications.

Technical standards

The range complies with BS EN 60947-3, VDE 0660 and is both ASTA and KEMA certified.

Each fused combination switch and switch disconnecter has been designed to provide a high performance switch rating in both distribution (AC22) and motor control (AC 23) applications. Units will accommodate BS 88 and DIN fuselinks.

Extended warranty

The exclusive use of Eaton fuselinks will extend the warranty period for S-Line FCS to 3 years.

Technical characteristics

- All switches are designed for base mounting;
- Switches are available in 3 pole (TP), 3 pole and bolted neutral (TPN) and switched neutral (TPSN);
- Operating mechanisms are on the right side of the switch;
- Each S-line FCS switch is provided as standard with an IP 54 black handle and operating shaft; Clear 'ON' and 'OFF' is provided and up to 3 padlocks may be fitted in the 'OFF' position;
- IP 65 handles are available on request.

Handles and shafts

Door interlocking in the 'ON' position is defeatable to enable access in emergencies; Operating shafts have flexible arrowheads to aid handle alignment and panel depth adjustment; Special handles with "test" position indication are available.

Neutrals

Solid or switched neutrals are situated next to the switch mechanism. Units can be supplied with neutrals positioned at the furthest pole position from the mechanism. Suffix order references /D1. Neutrals on the left side.

Figure locking device

Special cam to be mounted to the shaft for adaptation to Castell or Fortress figure locks.

Mechanism padlocking device

To lock switch in "OFF" position when enclosure is open.

Fused combination switches

Standard operation - BS fuse version

table A

frame size	enclosed rating I _{th}	open rating I _{th}	AC22	AC23	BS fuse	Single Pole and bolted Neutral (SPN)	Single Pole and Switched Neutral (SPSN)	Triple Pole, (TP)	Triple Pole and bolted Neutral (TPN)	Triple Pole and Switched Neutral (TPSN)
Order references										
1	32 A	32 A	32 A	32 A	BS A1	32S1N32	32S1SN32	32S332	32S3N32	32S3SN32
1	63 A	63 A	63 A	63 A	BS A2	63S1N63	63S1SN63	63S363	63S3N63	63S3SN63
2	63 A	63 A	63 A	45 A	BS A3	63S1N45	63S1SN45	63S345	63S3N45	63S3SN45
2	100 A	100 A	100 A	63 A	BS A3	100S1N63	100S1SN63	100S363	100S3N63	100S3SN63
2	100 A	100 A	100 A	100 A	BS A3	100S1N100	100S1SN100	100S3100	100S3N100	100S3SN100
3	125 A	125 A	125 A	125 A	BS A4	125S1N125	125S1SN125	125S3125	125S3N125	125S3SN125
3	160 A	200 A	200 A	160 A	BS A4	200S1N160	200S1SN160	200S3160	200S3N160	200S3SN160
4	200 A	200 A	200 A	200 A	BS B2	200S1N200	200S1SN200	200S3200	200S3N200	200S3SN200
4a	220 A	250 A	250 A	250 A	BS B3			250S3250	250S3N250	250S3SN250
4b	315 A	315 A	315 A	315 A	BS B4			315S3315	315S3N315	315S3SN315
5	400 A	400 A	400 A	400 A	BS B4			400S3400	400S3N400	400S3SN400
6	630 A	630 A	630 A	630 A	BS C3			630S3630	630S3N630	630S3SN630
6	800 A	800 A	800 A	710 A	BS C3			800S3710	800S3N710	800S3SN710

For technical details and dimensional drawings see page 17.



Fused combination switches

32-800 A

S-Line



Side operation - BS fuse version table B

frame size	enclosed rating I _{th}	open rating I _{th}	AC22	AC23	BS fuse	Triple Pole (TP)	Triple Pole and bolted Neutral (TPN)	Triple Pole and Switched Neutral (TPSN)
						Order references		
1	32 A	32 A	32 A	32 A	BS A1	32SM332	32SM3N32	32SM3SN32
1	63 A	63 A	63 A	63 A	BS A2	63SM363	63SM3N63	63SM3SN63
2	63 A	63 A	63 A	45 A	BS A3	63SM345	63SM3N45	63SM3SN45
2	100 A	100 A	100 A	63 A	BS A3	100SM363	100SM3N63	100SM3SN63
2	100 A	100 A	100 A	100 A	BS A3	100SM3100	100SM3N100	100SM3SN100
3	125 A	125 A	125 A	125 A	BS A4	125SM3125	125SM3N125	125SM3SN125
3	160 A	200 A	200 A	160 A	BS A4	200SM3160	200SM3N160	200SM3SN160

Changeover switches - BS fuse version table C

frame size	enclosed rating I _{th}	open rating I _{th}	AC22	AC23	BS fuse	Triple Pole (TP)	Triple Pole and bolted Neutral (TPN)	Triple Pole and Switched Neutral (TPSN)
						Order references		
1	32 A	32 A	32 A	32 A	BS A1	32SC332	32SC3N32	32SC3SN32
1	63 A	63 A	63 A	63 A	BS A2	63SC363	63SC3N63	63SC3SN63
2	63 A	63 A	63 A	45 A	BS A3	63SC345	63SC3N45	63SC3SN45
2	100 A	100 A	100 A	63 A	BS A3	100SC363	100SC3N63	100SC3SN63
2	100 A	100 A	100 A	100 A	BS A3	100SC3100	100SC3N100	100SC3SN100
3	125 A	125 A	125 A	125 A	BS A4	125SC3125	125SC3N125	125SC3SN125
3	160 A	200 A	200 A	160 A	BS A4	200SC3160	200SC3N160	200SC3SN160
4	200 A	200 A	200 A	200 A	BS B2	200SC3200	200SC3N200	200SC3SN200
4a	220 A	250 A	250 A	250 A	BS B3	250SC3250	250SC3N250	250SC3SN250
4b	315 A	315 A	315 A	315 A	BS B4	315SC3315	315SC3N315	315SC3SN315
4b	345 A	400 A	400 A	400 A	BS B4	400SC3400	400SC3N400	400SC3SN400

Standard operation test switches - BS fuse version table D

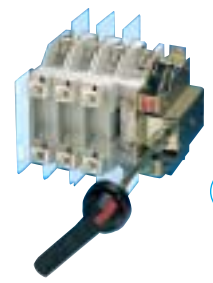
frame size	enclosed rating I _{th}	open rating I _{th}	AC22	AC23	BS fuse	Triple Pole (TP)	Triple Pole and bolted Neutral (TPN)	Triple Pole and Switched Neutral (TPSN)
						Order references		
1	32 A	32 A	32 A	32 A	BS A1	32ST332	32ST3N32	32ST3SN32
1	63 A	63 A	63 A	63 A	BS A2	63ST363	63ST3N63	63ST3SN63
2	63 A	63 A	63 A	45 A	BS A3	63ST345	63ST3N45	63ST3SN45
2	100 A	100 A	100 A	63 A	BS A3	100ST363	100ST3N63	100ST3SN63
2	100 A	100 A	100 A	100 A	BS A3	100ST3100	100ST3N100	100ST3SN100
3	125 A	125 A	125 A	125 A	BS A4	125ST3125	125ST3N125	125ST3SN125
3	160 A	200 A	200 A	160 A	BS B2	200ST3160	200ST3N160	200ST3SN160
4	200 A	200 A	200 A	200 A	BS B2	200ST3200	200ST3N200	200ST3SN200
4a	220 A	250 A	250 A	250 A	BS B3	250ST3200	250ST3N200	250ST3SN200
4b	315 A	315 A	315 A	315 A	BS B4	315ST3315	315ST3N315	315ST3SN315
4b	345 A	400 A	400 A	400 A	BS B4	400ST3400	400ST3N400	400ST3SN400

For technical details and dimensional drawings see page 17, 18 & 19.

Fused combination switches

32-800 A

S-line



Accessories for BS type switches														table E			
Frame size	Poles	Safety handles	Extended shafts	Auxiliary switch 1)								Auxiliary switch mounting pack	Push in terminal plugs	Terminal shrouds BS type	Figure locking device	Fuse covers BS type	Mechanism padlocking device
				Pack 2 N/O	Pack 1 C/O	Pack 2 C/O	Pack 3 C/O	Pack 4 C/O	Pack 6 C/O	Pack 8 C/O							
Order references																	
1	SPN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	1TS4	32TS2	3FLD	1FC2	3PLD	
	SPSN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	1TS4	32TS2	3FLD	1FC2	3PLD	
	TP	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	1TS4	32TS3	3FLD	1FC3	3PLD	
	TPN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	1TS4	32TS4	3FLD	1FC4	3PLD	
	TPSN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	1TS4	32TS4	3FLD	1FC3	3PLD	
	FP	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	-	-	-	-	
1a	SPN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	1TS4	1ATS2	3FLD	N1FC2	3PLD	
	SPSN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	1TS4	1ATS2	3FLD	N1FC2	3PLD	
	TP	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	1TS4	1ATS3	3FLD	N1FC3	3PLD	
	TPN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	1TS4	1ATS4	3FLD	N1FC4	3PLD	
	TPSN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	1TS4	1ATS4	3FLD	N1FC3	3PLD	
	FP	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	-	3FLD	-	3PLD	
2	SPN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	2TS2	3FLD	2FC2	3PLD	
	SPSN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	2TS2	3FLD	2FC2	3PLD	
	TP	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	2TS3	3FLD	2FC3	3PLD	
	TPN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	2TS4	3FLD	2FC4	3PLD	
	TPSN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	2TS4	3FLD	2FC3	3PLD	
2a	TP	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	-	3FLD	-	3PLD	
	TPSN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	-	3FLD	-	3PLD	
	FP	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	-	3FLD	-	3PLD	
3	SPN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	3TS2	3FLD	3FC2/D3FC2 ²⁾	3PLD	
	SPSN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	3TS2	3FLD	3FC2/D3FC2 ²⁾	3PLD	
	TP	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	3TS3	3FLD	3FC3/D3FC3 ²⁾	3PLD	
	TPN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	3TS4	3FLD	3FC4/D3FC4 ²⁾	3PLD	
	TPSN	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	3TS4	3FLD	3FC3/D3FC3 ²⁾	3PLD	
	FP	3SHN	3XS	ASP	1ASP	2ASP	3ASP	4ASP	-	-	3MP	-	-	3FLD	-	3PLD	
4	SPN	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	4TS2	4FLD	4FC2	4PLD	
	SPSN	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	4TS2	4FLD	4FC2	4PLD	
	TP	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	4TS3	4FLD	4FC3	4PLD	
	TPN	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	4TS4	4FLD	4FC4	4PLD	
	TPSN	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	4TS4	4FLD	4FC3	4PLD	
4a	TP	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	D4TS3	4FLD	4FC3E	4PLD	
	TPN	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	D4TS4	4FLD	4FC4E	4PLD	
	TPSN	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	D4TS4	4FLD	4FC3E	4PLD	
	FP	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	-	4FLD	-	4PLD	
4b	TP	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	D4TS3E	4FLD	D4FC3E	4PLD	
	TPN	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	D4TS4E	4FLD	D4FC4E	4PLD	
	TPSN	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	D4TS4E	4FLD	D4FC3E	4PLD	
	FP	4SHN	4XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	4MP	-	-	4FLD	-	4PLD	
5	TP	5SHN	6XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	6MP	-	5TS3	6FLD	5FC3	6PLD	
	TPN	5SHN	6XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	6MP	-	5TS4	6FLD	5FC4	6PLD	
	TPSN	5SHN	6XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	6MP	-	5TS4	6FLD	5FC3	6PLD	
5a	TP	5SHN	6XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	6MP	-	-	6FLD	-	6PLD	
	TPSN	5SHN	6XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	6MP	-	-	6FLD	-	6PLD	
	FP	5SHN	6XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	6MP	-	-	6FLD	-	6PLD	
6	TP	6SHN	6XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	6MP	-	6TS4	6FLD	6FC3	6PLD	
	TPN	6SHN	6XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	6MP	-	6TS4	6FLD	6FC4	6PLD	
	TPSN	6SHN	6XS	ASP	1ASP	2ASP	3ASP	4ASP	6ASP	8ASP	6MP	-	6TS4	6FLD	6FC3	6PLD	

1) Always order mounting pack with auxiliary switch.

2) Fuse covers for BS type units 160/200 A

For technical details and dimensional drawings see page 20.

Load break switches

Dumeco type DMV, 40-1600 A

D-line



Product range

D-line tpe DMV Dumeco load-break switches have excellent short-circuit making capacities, due to its parallel knife contacts with double break per phase. Rated currents range from 40 A up to 1600 A

Application area

The switches are especially capable to switch motor loads or other highly inductive loads. Dumeco load-break switches cover a broad field of application, ranging from motor emergency switches in MCC's to incoming feeders in heavy duty switchboards.

Technical standards

The load break switches range has been tested to the following specifications:
BS EN 609754-3 and IEC 60947-3

Technical characteristics

- Dumeco load-break switches are available in 3-pole (TP), 3-pole with solid neutral (TPSN) and in 4-pole design for a rated operational voltage of 690 V~;
- Totally enclosed compact housing, made of non-tracking, heat-resistant insulation material;

- Independent manual operation;
- Centrally located, interchangeable operating shaft;
- Heat resistant stainless steel contact springs;
- Parallel knife-contacts with double break per phase;
- Visible contact separation;
- Forced breaking within 90 degrees;
- Easy to install and connect in any position;
- Various lengths of operating shafts and knobs or handles with escutcheon and door coupling and locking facilities in "ON" and "OFF" switch position are available.

Accessories

Additional accessories include auxiliary switches, protective terminal covers, shafts, etc.

See page 14 for shafts with various lengths for Dumeco load break switches.

Load break switches

Dumeco type DMV, 40 - 1600 A

Nominal rating ¹⁾ I _e	Incorporating door mounting, interlocking operating handle and shaft.	
	TP	TPSN
	Order references	
40 A	34LBV	44LBV
63 A	36LBV	46LBV
160 A	316LBV	416LBV
250 A	325LBV	425LBV
400 A	340LBV	440LBV
630 A	363LBV	463LBV
1000 A	3100LBV	4100LBV
1600 A	3160LBV	4160LBV

¹⁾ Other ratings on request.

For technical details and dimensional drawings see page 22.



Flexible fused combination switches

Type QSA, 40-800 A



Q-line

Product range

Q-line flexible fused combination switches are different from S-line FCS in regards to specifications, dimensions, flexibility features and benefits. This chapter gives information on **standard Q-line switches**.

Information on **special QSA switches** is available on request. The special switch program contains plug units, side termination left or right or a combination of plug units and side termination.

Technical Standards

- The range complies with EN IEC 60947-3 and has KEMA approval;
- Switches will accommodate BS 88 or DIN fuselinks.

Technical Characteristics

Q-line type QSA switch-fuses are characterized by the following features:

- All standard switches have a 3 pole frame. Separate switched or bolted neutrals can be mounted to the switch on location;
- Totally enclosed compact housing made of creepage-proof, heat-resistant, insulation material;
- Spring-loaded silver-plated roller contacts;
- Independent manual operation;
- Double current interruption;
- Easy to install in any position;

- Optional solid or switched neutral pole;
- Optional side termination, left, right or both sides;
- Optional 3 or 4-pole plug-unit for direct mounting on busbars.

Locking facilities.

- Locking to the switch mechanism possible on frame size 1 switches;
- Extended locking facilities possible in combination with K-line handles;
- Figure locking is possible with a special adaptor device. Ask for the details;

Accessories

Additional accessories include safety handles with standard interlocking and padlocking facility, auxiliary switches, protective terminal covers and changeover mechanisms.

Shielding

Wide range of terminal covers, front and rear covers as well as fuse cassettes are available.

Knobs & handles

To optimise the application of different switch and handle mechanisms, without the burden of high inventories, the switches and handles are packaged and ordered as separate items.

A wide range of K-line handles is available for any application (see page 12).

See page 15 for shafts with various lengths for QSA switches.

Flexible fused combination switches

Type QSA switch-disconnector-fuses frame size 0 - BS version

3-pole, 690 V-; suitable for BS (bolted connections type) fuse-links

thermal current I_{the}	type	packing quantity	Order references
40 A	QSA 40N0-A3/3	1	1320 200
63 A	QSA 63N0-A3/3	1	1320 202
With pillar terminals			
40 A	QSA 40N0-A3/3	1	1320 204
63 A	QSA 63N0-A3/3	1	1320 206

For technical details and dimensional drawings see page 23, 24 & 25.



Flexible fused combination switches

Type QSA, 40-800 A

Q-line



Flexible fused combination switches

Type QSA switch-disconnector-fuses frame size 1- BS version

3-pole, 690 V~; suitable for BS (bolted connections type) fuse-links

thermal current I_{the}	type	packing quantity	Order references
63 A	QSA 63N1-A3/3	1	1318 011
100 A	QSA 100N1-A4/3	1	1318 016
125 A	QSA 125N1-B2/3	1	1318 020
160 A	QSA 160N1-B2/3	1	1318 023



Type QSA switch-disconnector-fuses frame size 2 - BS version

3-pole, 690 V~; suitable for BS (bolted connections type) fuse-links

thermal current I_{the}	type	packing quantity	Order references
160 A	QSA 160N-B2/3	1	1319 056
200 A	QSA 200N-B2/3	1	1319 065
250 A	QSA 250N-B4/3	1	1319 074
315 A	QSA 315N-B4/3	1	1319 095
400 A ¹⁾	QSA 400N-B4/3	1	1319 103



¹⁾ In ventilated enclosure.

Type QSA switch-disconnector-fuses frame size 3 - BS version

3-pole, 690 V~; suitable for BS (bolted connections type) fuse-links

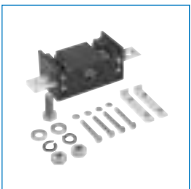
thermal current I_{the}	type	packing quantity	Order references
400 A	QSA 400-C3/3	1	1318 537
630 A	QSA 630-C3/3	1	1318 544
800 A	QSA 800-C3/3	1	1319 175



Accessories

Switched neutral

for switch-disconnector-fuse type	thermal current I_{the}	packing quantity	Order references
QSA 40N0 - QSA 63N0 - QSA 63N1	40/63 A	1	1319 462
QSA 100N1 - QSA125N1	100/125 A	1	1319 467
QSA 160N1	160 A	1	1319 474
QSA 160N - QSA200N	160/200 A	1	1319 476
QSA 250N - QSA 315N - QSA 400N	250/315/400 A	1	1319 482
QSA 400 - QSA 630 - QSA 800	400/630/800 A	1	1319 662



For technical details and dimensional drawings see page 26, & 27.

Flexible fused combination switches

Type QSA, 40-800 A

Q-line



Accessories

Solid neutral

for switch-disconnector-fuse type	thermal current I_{the}	packing quantity	Order references
QSA 40N0 - QSA 63N0 - QSA 63N1	40/63 A	1	1319 460
QSA 100N1 - QSA 125N1	100/125 A	1	1319 466
QSA 160N1	160 A	1	1319 472
QSA 160N - QSA 200N	160/200 A	1	1319 473
QSA 250N - QSA 315N - QSA 400N	250/315/400 A	1	1319 480
QSA 400 - QSA 630 - QSA 800	400/630/800 A	1	1319 486

For technical details and dimensional drawings see page 28.

Auxiliary switches ¹⁾

For mounting (max. 3) switches on top of each other (for more than 3 auxiliary switches please contact Eaton).

Auxiliary switches including adaptor

for switch-disconnector-fuse type	number of contacts	packing quantity	Order references
all QSA types	1 NC + 1 NO	1	1319 667
all QSA types	1 NO	1	1319 666
all QSA types	1 NC	1	1319 665

¹⁾ For use with adaptor.

Auxiliary switches without adaptor

Adaptors to be ordered separately

for switch-disconnector-fuse type	number of contacts	packing quantity	Order references
all QSA types ¹⁾	1 NO	1	1319 446
all QSA types ¹⁾	1 NC	1	1319 444

¹⁾ For auxiliary switches mounted on frame size 3 switch-disconnector-fuses, an actuator is needed (adaptor not required).

Adaptor

for switch-disconnector-fuse type	packing quantity	Order references
for auxiliary switches (bag of 25 pcs)	1	1318 362

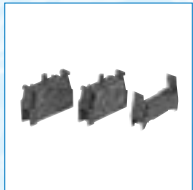
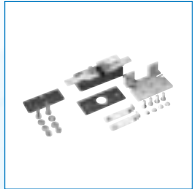
Auxiliary switch actuator

To be added for auxiliary switches for direct mounting in combination with adaptor

for switch-disconnector-fuse type	packing quantity	Order references
for auxiliary switches ^{1) 2)}	1	1319 796

¹⁾ To be used in combination with shaft 1319 331

²⁾ For auxiliary switches on switch-disconnectors frame size 3 an actuator is needed.



Flexible fused combination switches

Type QSA, 40-800 A

Q-line



Terminal cover, 1-pole for switch-disconnector-fuse

For cable lugs on connection terminals of QSA types

type	bolt	packing quantity	Order references
QSA 40N0 - QSA 63N0, QSA 100N1 - QSA 125N1	M6	1	1319 409
QSA 160N1, QSA 160N - QSA 200N (BS) QSA 200N (DIN) - QSA 250N,	M8	1	1319 411
QSA 315N - QSA 400N	M10	1	1319 413
QSA 400 - QSA 630 - QSA 800	M12	1	1319 415

Rear cover, 1-pole for switch-disconnector-fuse

To shield live parts on rear of switch-disconnector-fuse

type	packing quantity	Order references
QSA 63/N1-A3/3; QSA 100N1-A4/3; QSA 125N1-B2/3 QSA 160N1-B2/3	3	1319 439
QSA 160N-B2/3; QSA 200N-B2/3 QSA 250N-B4/3; QSA 315N-B4/3, QSA 400N-B4/3	3	1319 441

Terminal cover, 3-pole for switch-disconnector-fuse

type	packing quantity	Order references
QSA 40N0, QSA 63N0	1	1320 239
QSA 63N1, QSA 100N1, QSA 125N1, QSA 160N1	1	1319 432
QSA 160N, QSA 200N, QSA 250N, QSA 315N, QSA 400N	1	1319 418

Front cover (transparent) for switch-disconnector-fuse

To shield live parts on front of switch-disconnector-fuse

type	packing quantity	Order references
QSA 100N1-A4/3)	1	1319 423
QSA 125N1-B2/3, QSA 160N1-B2/3	1	1319 438

Rear cover for switch-disconnector-fuse type

To shield live parts on rear of switch-disconnector-fuse

type	packing quantity	Order references
QSA 400-C3/3, QSA 630-C3/3, QSA 800-C3/3	1	1319 417

Knobs and handles

Universally applicable,
shaft size 6-14 sq mm



K-line

Product range

In low voltage switchboards, various makes of switches and their associated knobs or handles are applied. The result is a switchboard with a wide variety of operating knobs with all sorts of shapes and methods of locking. Therefore Eaton designed a range of versatile knobs and handles called K-line that can be applied **universally**.

The K-Line range of knobs and handles is suitable for switches with shaft sizes of 6, 8, 10, 12 and 14 sq. mm.

Application area

The knobs and handles of the new K-Line are suitable for operating a large number and various types and makes of switch disconnectors, switch disconnector-fuses and MCCB's. It is possible to use the K-line operating knobs and handles throughout the switchboard.

Product types

The programme comprises four types of handles and shafts (with legend plate) suitable for a variety of interlocks:

- Direct mounting (**type A**);
- Cover mounting (**type C**);
- Door mounting padlock (**type D/P**);
- Door mounting cylinder lock (**type D/C**).

Technical characteristics

- For switches with shafts of 6, 8 10, 12 and 14 sq. mm;
- Knobs & handles with legend plate, degree of protection IP 65;
- Position of handle fixed when door is open.

Safety above all

With the K-Line knobs & handles, switches can be interlocked (feeder and sectionalizer switches), doors can be locked and the switch position fixed by means of padlocks or cylinder locks.

Features and benefits

- Universal / versatile application for almost all types and makes of switches;
- Higher degrees of safety are achieved because all switches are operated and locked in identical and familiar fashion;
- Modern design of K-line creates an aesthetical looking installation;
- Exceptionally compact design that complies with all market demands. For example the legend plate of the smallest type of knob is only 50 x 50 mm which makes it ideally suited for application in combination with ever increasing compact switches;
- By limiting the number of knobs and handles to only six different sizes, that can be applied on a wide range of switches, stocks can be kept to a minimum. In this way, costly storage space can be saved whilst the required knob or handle is always available.

Furthermore the legend plate can be provided with a "test position", so that the circuit can be tested by means of auxiliary contacts.

Knobs and Handles

universally applicable,
shaft size 6-14 sq mm



K-line

How to select a knob or handle

Step 1: Choose the application

1. Type A: Direct mounting.
2. Type C: A cover mounting handle mounted directly to the shaft.
3. Type D: Door mounting (handle complete with door coupling). Select padlock or cylinder lock facility.

Step 2: Select shaft square.

Step 3: Select colour.

Step 4: Select order reference.

Other types on request.



K1 Cover mounting type C



K2 Door mounting type D



K3 Cover mounting type C



K4 Door mounting type D



K5 Door mounting type D



K6 Door mounting type D

Knobs and handles K-line

Switch type	Handle type	Shaft	Direct mounting Type A		Cover mounting Type C		Door mounting padlock Type D/P			Door mounting cylinder lock Type D/C		
			Blue	Red	Blue	Red	Blue	Red	Grey	Blue	Red	Grey
Order references												
S frame 1	K1	8	1818 001	1818 002	1818 015	1818 016	1818 032	1818 033	1818 034			
S frame 2	K2	8	1818 005	1818 006	1818 019	1818 020	1818 035	1818 036	1818 037	1818 041	1818 042	1818 043
S frame 3	K3	10	1818 110	1818 111	1818 068	1818 022	1818 113	1818 096	1818 069	1818 114	1818 097	1818 070
S frame 4a	K4	12	1818 009	1818 010	1818 023	1818 024	1818 050	1818 051	1818 052	1818 053	1818 054	1818 055
S frame 4b	K4	12	1818 009	1818 010	1818 023	1818 024	1818 050	1818 051	1818 052	1818 053	1818 054	1818 055
S frame 5	K5	14	1818 011	1818 012	1818 025	1818 026	1818 056	1818 057	1818 058	1818 059	1818 060	1818 061
S frame 6	K6	14	1818 013	1818 014	1818 027	1818 028	1818 062	1818 063	1818 064	1818 065	1818 066	1818 067
OSA40N0	K1	6	1818 001	1818 002	1818 015	1818 016	1818 032	1818 033	1818 034			
OSA63N0	K1	6	1818 001	1818 002	1818 015	1818 016	1818 032	1818 033	1818 034			
OSA100N1	K2	8	1818 005	1818 006	1818 019	1818 020	1818 035	1818 036	1818 037	1818 041	1818 042	1818 043
OSA125N1	K2	8	1818 005	1818 006	1818 019	1818 020	1818 035	1818 036	1818 037	1818 041	1818 042	1818 043
OSA160N1	K2	8	1818 005	1818 006	1818 019	1818 020	1818 035	1818 036	1818 037	1818 041	1818 042	1818 043
OSA200N1	K2	8	1818 005	1818 006	1818 019	1818 020	1818 035	1818 036	1818 037	1818 041	1818 042	1818 043
OSA160N	K3	10	1818 110	1818 111	1818 068	1818 022	1818 113	1818 096	1818 069	1818 114	1818 097	1818 070
OSA200N	K3	10	1818 110	1818 111	1818 068	1818 022	1818 113	1818 096	1818 069	1818 114	1818 097	1818 070
OSA250N	K3	10	1818 110	1818 111	1818 068	1818 022	1818 113	1818 096	1818 069	1818 114	1818 097	1818 070
OSA315N	K3	10	1818 110	1818 111	1818 068	1818 022	1818 113	1818 096	1818 069	1818 114	1818 097	1818 070
OSA400N	K3	10	1818 110	1818 111	1818 068	1818 022	1818 113	1818 096	1818 069	1818 114	1818 097	1818 070
OSA630	K4	12	1818 009	1818 010	1818 023	1818 024	1818 050	1818 051	1818 052	1818 053	1818 054	1818 055
OSA800	K4	12	1818 009	1818 010	1818 023	1818 024	1818 050	1818 051	1818 052	1818 053	1818 054	1818 055
DCM 40	K1	6	1818 001	1818 002	1818 015	1818 016	1818 032	1818 033	1818 034			
DCM 63	K1	6	1818 001	1818 002	1818 015	1818 016	1818 032	1818 033	1818 034			
DMM 40	K1	6	1818 001	1818 002	1818 015	1818 016	1818 032	1818 033	1818 034			
DMM 63	K1	6	1818 001	1818 002	1818 015	1818 016	1818 032	1818 033	1818 034			
DMM 125	K2S	6	1818 003	1818 004	1818 017	1818 018	1818 032	1818 033	1818 034	1818 038	1818 039	1818 040
DMV 40	K1	6	1818 001	1818 002	1818 015	1818 016	1818 032	1818 033	1818 034			
DMV 63	K1	6	1818 001	1818 002	1818 015	1818 016	1818 032	1818 033	1818 034			
DMV 160	K2S	6	1818 003	1818 004	1818 017	1818 018	1818 032	1818 033	1818 034	1818 038	1818 039	1818 040
DMVS 160	K3	10	1818 110	1818 111	1818 068	1818 022	1818 113	1818 096	1818 069	1818 114	1818 097	1818 070
DMV 250	K3	10	1818 110	1818 111	1818 068	1818 022	1818 113	1818 096	1818 069	1818 114	1818 097	1818 070
DMV 400	K3	10	1818 110	1818 111	1818 068	1818 022	1818 113	1818 096	1818 069	1818 114	1818 097	1818 070
DMV 630	K5	14	1818 011	1818 012	1818 025	1818 026	1818 056	1818 057	1818 058	1818 059	1818 060	1818 061
DMV 1000	K5	14	1818 011	1818 012	1818 025	1818 026	1818 056	1818 057	1818 058	1818 059	1818 060	1818 061
DMV 1250	K6	14	1818 013	1818 014	1818 027	1818 028	1818 062	1818 063	1818 064	1818 065	1818 066	1818 067
DMV 1600	K6	14	1818 013	1818 014	1818 027	1818 028	1818 062	1818 063	1818 064	1818 065	1818 066	1818 067

For technical details and dimensional drawings see page 29, 30 & 31.

Operating shafts

for Dumeco, shaft size 10-14 sq mm



Shafts

Shafts

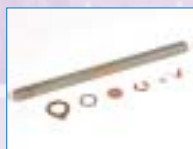
Operating shafts, special for Dumeco switch disconnectors

Description	Shaft square (mm)	Height H ¹⁾ (mm)	Type for handle	Order references
For type DMVS 160, DMV 250 and 400				
Shaft	10	135	K3	1050 240
Shaft	10	185	K3	1050 241
Shaft	10	245	K3	1050 242
Shaft	10	400	K3	1050 243
For type DMV 630 and 1000				
Shaft	14	200	K5	1050 244
Shaft	14	235	K5	1050 245
Shaft	14	300	K5	1050 246
Shaft	14	400	K5	1050 247
For type DMV 1250, 1600 and 2000				
Shaft	14	200	K6	1050 248
Shaft	14	280	K6	1050 249
Shaft	14	400	K6	1050 250
For type DMV 250 and 400 in combination with change-over mechanism				
Shaft	10	185	K3	1050 251
Shaft	10	400	K3	1050252
For type DMV 630 and 1000 in combination with change-over mechanism				
Shaft	14	230	K5	1050 253
Shaft	14	400	K5	1050 254
For type DMV 1250 and 1600 in combination with change-over mechanism				
Shaft	14	200	K6	1050 255

Extension shafts, special for Dumeco switch disconnectors

For type DMV 1250 and 1600				
Extension shaft	14	100	K6	1050 256
Extension shaft	14	200	K6	1050 257

¹⁾ H = Height bottom of the switch till top of shaft.



Operating shafts

universally applicable & QSA type,
shaft size 6-12 sq mm

Shafts



Universal operating shafts (including QSA type)

Description	Shaft square (mm)	Length of shaft L ¹⁾ (mm)	Type for knob/handle	Order references
Shaft	6	180	K1/K2S	1319 830
Shaft	6	300	K1/K2S	1319 831
Shaft	6	600	K1/K2S	1319 832
Shaft	8	115	K2	1319 303
Shaft	8	140	K2	1319 306
Shaft	8	180	K2	1319 307
Shaft	8	300	K2	1319 311
Shaft	8	600	K2	1319 301
Shaft	10	135	K3	1319 314
Shaft	10	180	K3	1319 315
Shaft	10	300	K3	1319 319
Shaft	10	600	K3	1319 322
Shaft	12	300	K4	1319 326
Shaft (tempered steel)	12	300	K4	1319 328
Shaft	12	600	K4	1319 329

¹⁾ L = Length of the shaft from top till bottom.



Shaft reducing couplings for universal shafts (including QSA type)

Description	Order references
For shafts 8 x 8 mm square to 12 x 12 mm square	1319 397
For shafts 10 x 10 mm square to 12 x 12 mm square	1319 398
For shafts 12 x 12 mm square to 14 x 14 mm square	1318 685



Coupling links for extension of universal shafts (including QSA type)

Description	Order references
For shafts 6 x 6 mm square	1319 833
For shafts 8 x 8 mm square	1319 332
For shafts 10 x 10 mm square	1319 334
For shafts 12 x 12 mm square	1319 336

For technical details and dimensional drawings see page 29, 30 & 31.

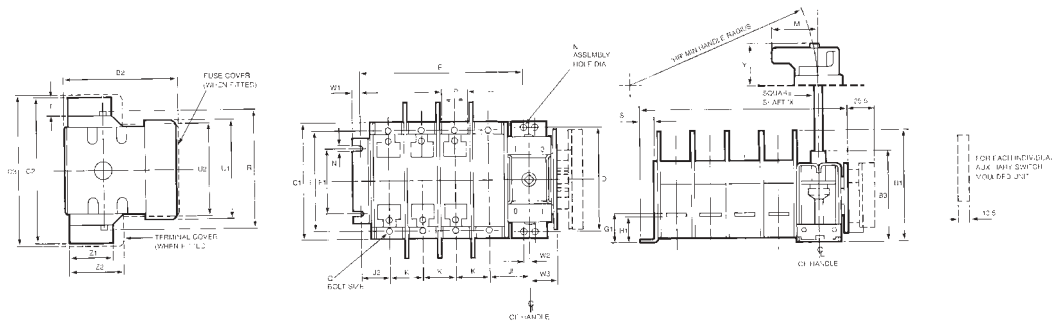
Technical information S-line

Fused combination switches 32-800 A

Dimensions (mm) Standard operation - BS Fuse version

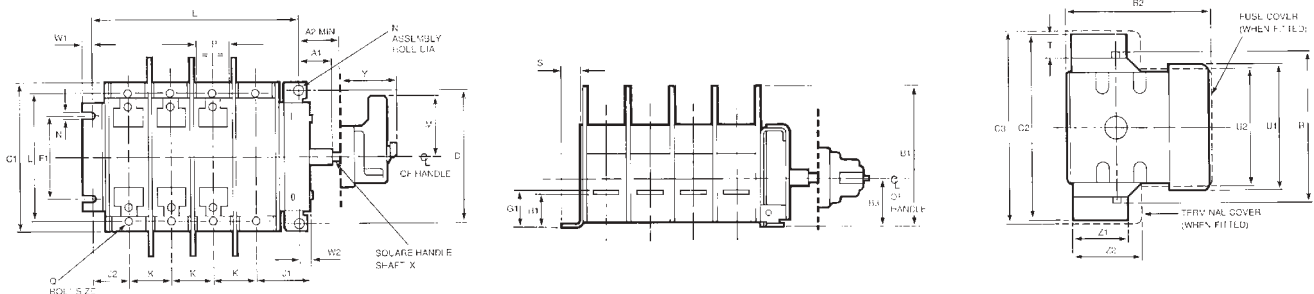
Frame Size	List Number	A (mm)	B1 (mm)	B2 (mm)	B3 (mm)	C1 (mm)	C2 (mm)	C3 (mm)	D (mm)	E (mm)	F1 (mm)	F2 (mm)	G1 (mm)	G2* (mm)	H1 (mm)	H2* (mm)	HR (mm)	J1 (mm)	J2 (mm)	K (mm)	L (mm)	M (mm)	N (mm)	P (mm)	Q (mm)	R (mm)	S (mm)	T (mm)	U1 (mm)	U2 (mm)	W1 (mm)	W2 (mm)	X (mm)	Y (mm)	Z1 (mm)	Z2 (mm)	
1	32S1N32, 32S1SN32	88.5	91	93	81	98	126	-	83.5	67.5	56	-	-	-	16.7	-	175	32.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	6	6.3 SQ	55	38	-	
	32S332	109.5																																			
	32S3N32, 32S3SN32	130.5																																			
1	63S1N63, 63S1SN63	88.5	91	93	81	98	126	-	83.5	67.5	56	-	-	-	16.7	-	175	32.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	6	6.3 SQ	55	38	-	
	63S363	109.5																																			
	63S3N63, 63S3SN63	130.5																																			
2	63S1N45, 63S1SN45	110	107	109	86	107	145	166	95	88.5	72	-	27	-	25.5	-	175	36.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	5.5	6.3 SQ	55	45	47	
	63S345	141																																			
	63S3N45, 63S3SN45	172																																			
2	100S1N63, 100S1SN63	110	107	109	86	107	145	166	95	88.5	72	-	27	-	25.5	-	175	36.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	5.5	6.3 SQ	55	45	47	
	100S363	141																																			
	100S3N63, 100S3SN63	172																																			
2	100S1N100, 100S1SN100	110	107	109	86	107	145	166	95	88.5	72	-	27	-	25.5	-	175	36.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	5.5	6.3 SQ	55	45	47	
	100S3100	141																																			
	100S3N100, 100S3SN100	172																																			
3	125S1N125, 125S1SN125	129	124	135.5	86	142	181	209.5	120	104.5	80	-	23	-	21	-	175	41	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	125.5	7.5	7	6.3 SQ	55	45	47	
	125S3125	169																																			
	125S3N125, 125S3SN125	209																																			
3	200S1N160, 200S1SN160	129	137.5	139.5	86	142	181	209.5	120.5	104.5	80	-	23	-	21	-	175	41	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	114	7.5	7	6.3 SQ	55	39	47	
	200S3160	169																																			
	200S3N160, 200S3SN160	209																																			
4	200S1N200, 200S1SN200	182	168	190	141	196	286	307	182.5	131	120	-	34	-	31.5	-	250	63.5	37.5	45	167	130	6.5	32	10	266	22	45	154	159	10	15	9.5 SQ	55	57	69	
	200S3200	227																																			
	200S3N200, 200S3SN200	272																																			
4a	250S3250	278	168.5	170.5	141	196	319	324	182.5	225.5	120	-	34	-	31.5	-	250	74.3	66.8	50.5	58	167	130	6.5	32	10	266	22	61.5	160	157	10	15	9.5 SQ	55	68	70
	250S3N250, 250S3SN250	276																																			
4b	315S3315	311	202.5	204.5	141	196	319	367	182.5	258.5	120	-	34	-	31.5	-	250	79.8	74.3	56	69	167	130	6.5	32	10	266	22	61.5	160	157	10	15	9.5 SQ	55	68	70
	315S3N315, 315S3SN315	322																																			
5	400S3400	335	196	206	165	225	359	365	164	259	95	139	43	-	43	18	40	350	64	53.2	72	188	210	8.5	45	14	-	26.5	67	174	179	9.5	2.5	14.5 SQ	52	65	83
	400S3N400	407																																			
	400S3SN400	407																																			
6	630S3630	395	257.5	268	183	320	464.5	472.5	164	319.5	140	180	60.3	60.3	32.3	54	-	350	74.5	63	92	266.5	210	8.5	64	20	-	26.5	72	240	245.5	9.5	2	14.5 SQ	60	85	133
	630S3N630	485																																			
	630S3SN630	485																																			
6	800S3710	395	257.5	268	183	320	464.5	472.5	164	319.5	140	180	60.3	60.3	32.3	54	-	350	74.5	63	92	266.5	210	8.5	64	20	-	26.5	72	240	245.5	9.5	2	14.5 SQ	60	85	133
	800S3N710	485																																			
	800S3SN710	485																																			

- Note: 1) 'R' = Dimension represents the maximum width across mechanism spring guides.
 2) 'T' = Additional height of connecting barrier.
 3) First auxiliary pack adds 24.5mm to side of the switch when attached. Each additional auxiliary pack adds a further 10.5mm.



Dimensions (mm) Side operation - BS fuse version

Frame Size	List Number	A (mm)	A2 (mm)	B1 (mm)	B2 (mm)	B3 (mm)	C1 (mm)	C2 (mm)	C3 (mm)	D (mm)	E (mm)	F1 (mm)	G1 (mm)	H1 (mm)	J1 (mm)	J2 (mm)	K (mm)	L (mm)	M (mm)	N (mm)	P (mm)	Q (mm)	R (mm)	S (mm)	T (mm)	U1 (mm)	U2 (mm)	W1 (mm)	W2 (mm)	X (mm)	Y (mm)	Z1 (mm)	Z2 (mm)
1	32SM332	21.5	45	91	93	31	98	126	-	83.5	88.5	56	-	16.7	34.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	8	6.3 SQ	55	38	-
	32SM3N32, 32SM3SN32										109.5																						
1	63SM363	21.5	45	91	93	31	98	126	-	83.5	88.5	56	-	16.7	34.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	8	6.3 SQ	55	38	-
	63SM3N63, 63SM3SN63										109.5																						
2	63SM345	21	45	107	109	36.5	107	145	166	95	119.5	72	27	25.5	38.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	7.5	6.3 SQ	55	45	47
	63SM3N45, 63SM3SN45										150.5																						
2	100SM363	21	45	107	109	36.5	107	145	166	95	119.5	72	27	25.5	38.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	7.5	6.3 SQ	55	45	47
	100SM3N63, 100SM3SN63										150.5																						
2	100SM3100	21	45	107	109	36.5	107	145	166	95	119.5	72	27	25.5	38.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	7.5	6.3 SQ	55	45	47
	100SM3N100, 100SM3SN100										150.5																						
3	125SM3125	21	45	124	135.5	36.5	142	181	209.5	120.5	144.5	80	23	21	43	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	125.5	7.5	9	6.3 SQ	55	45	47
	125SM3N125, 125SM3SN125										184.5																						
3	200SM3160	21	45	137.5	139.5	36.5	142	181	209.5	120.5	144.5	80	23	21	43	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	114	7.5	9	6.3 SQ	55	39	47
	200SM3N160, 200SM3SN160										184.5																						

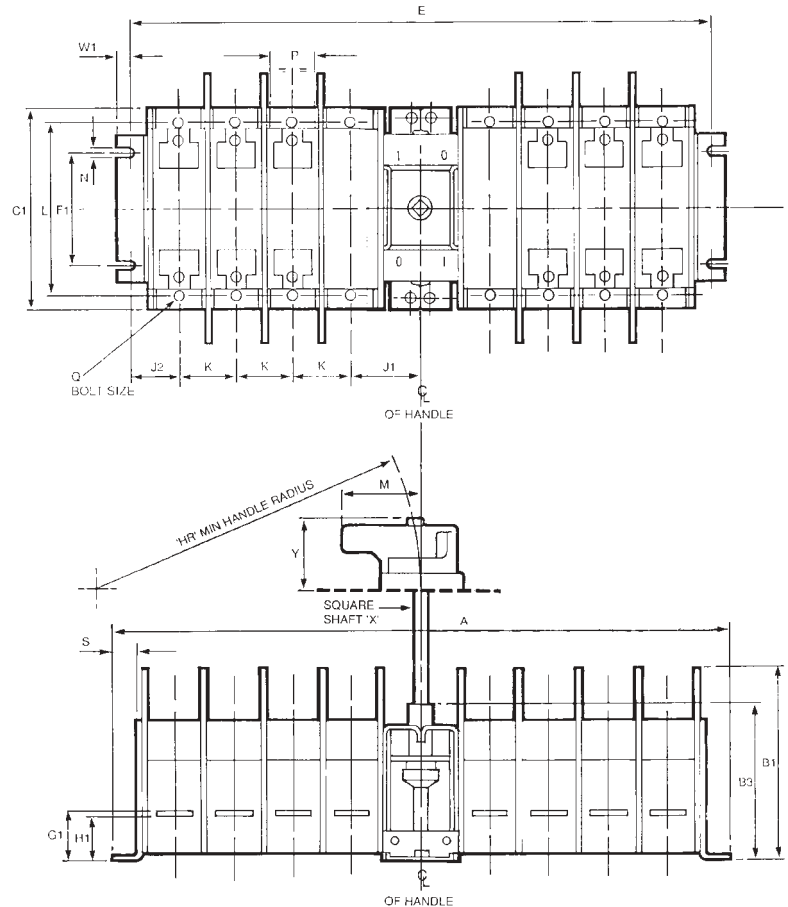
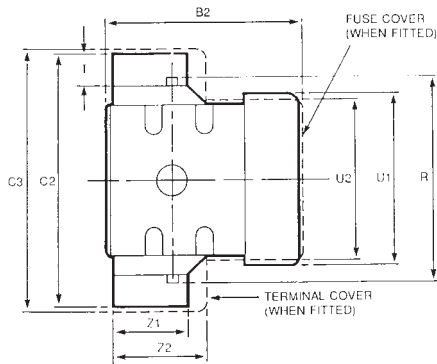


- Note: 1) 'R' = Dimension represents the maximum width across mechanism spring guides.
 2) 'T' = Additional height of connecting barrier.
 3) First auxiliary pack adds 24.5mm to side of the switch when attached. Each additional auxiliary pack adds a further 10.5mm.

Technical information S-line

Fused combination switches 32-800 A

Dimensions (mm)		Changeover switches - BS fuse version																													
Frame Size	List Number	A (mm)	B1 (mm)	B2 (mm)	B3 (mm)	C1 (mm)	C2 (mm)	C3 (mm)	E (mm)	F1 (mm)	G1 (mm)	H1 (mm)	HR (mm)	J1 (mm)	J2 (mm)	K (mm)	L (mm)	M (mm)	N (mm)	P (mm)	Q (mm)	R (mm)	S (mm)	T (mm)	U1 (mm)	U2 (mm)	W1 (mm)	X (mm)	Y (mm)	Z1 (mm)	Z2 (mm)
1	32SC332 32SC3N32 32SC3SN32	203 245 245	91	93	81	98	126	-	191 233 233	56	-	16.7	175	33.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	6.3 SQ	55	38	-
1	63SC363 63SC3N63 63SC3SN63	203 245 245	91	93	81	98	126	-	191 233 233	56	-	16.7	175	33.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	6.3 SQ	55	38	-
2	63SC345 66SC3N45 63SC3SN45	265.5 327.5 327.5	107	109	86	107	145	166	252 314 314	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.3 SQ	55	45	47
2	100SC363 100SC3N63 100SC3SN63	265.5 327.5 327.5	107	109	86	107	145	166	252 314 314	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.3 SQ	55	45	47
2	100SC3100 100SC3N100 100SC3SN100	265.5 327.5 327.5	107	109	86	107	145	166	252 314 314	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.3 SQ	55	45	47
3	125SC3125 125SC3N125 125SC3SN125	320 400 400	124	135.5	86	142	181	209.5	305 385 385	80	23	21	175	42	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	125.5	7.5	6.3 SQ	55	45	47
3	200SC3160 200SC3N160 200SC3SN160	320 400 400	137.5	139.5	86	142	181	209.5	305 385 385	80	23	21	175	42	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	114	7.5	6.3 SQ	55	39	47
4	200SC3200 200SC3N200 200SC3SN200	402 492 492	168	190	141	196	286	297	382 472 472	120	34	31.5	250	63.5	37.5	45	167	130	6.5	32	10	266	22	45	154	159	10	9.5 SQ	55	57	69
4a	250SC3250 250SC3N250 250SC3SN250	501 602 602	168.5	170.5	141	196	319	324	481 582 582	120	34	31.5	250	74.3 66.8 66.8	50.5	58	167	130	6.5	32	10	266	22	61.5	160	157	10	9.5 SQ	55	68	70
4b	315SC3315 315SC3N315 315SC3SN315	567 694 694	202.5	204.5	141	196	319	324	547 674 674	120	34	31.5	250	79.8 74.3 74.3	56	69	167	130	6.5	32	10	266	22	61.5	160	157	10	9.5 SQ	55	68	70
4b	400SC3400 400SC3N400 400SC3SN400	567 694 694	202.5	204.5	141	196	319	324	547 674 674	120	34	31.5	250	79.8 74.3 74.3	56	69	167	130	6.5	32	10	266	22	61.5	160	157	10	9.5 SQ	55	68	70



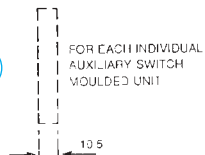
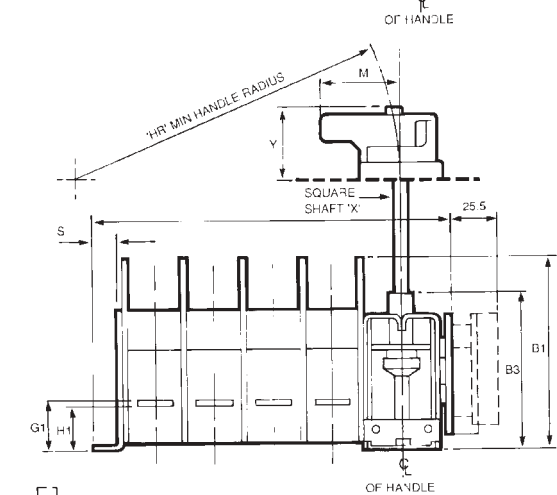
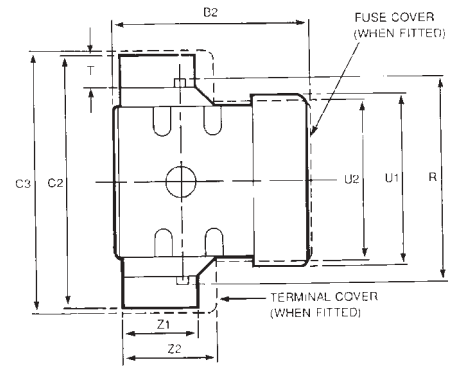
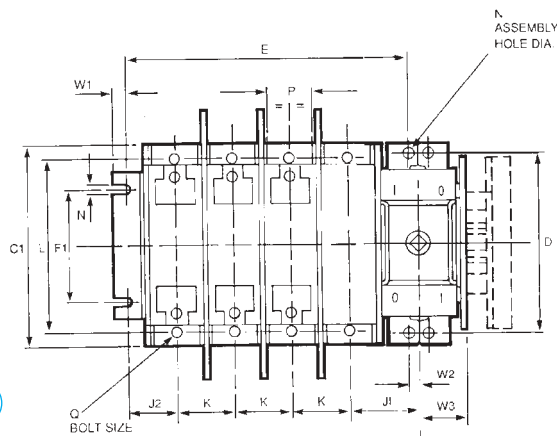
- Note: 1) 'R' = Dimension represents the maximum width across mechanism spring guides.
 2) 'T' = Additional height of connecting barrier.
 3) First auxiliary pack adds 24.5mm to side of the switch when attached. Each additional auxiliary pack adds a further 10.5mm.

Technical information S-line

Fused combination switches 32-800 A

Dimensions (mm) Standard operation test switches - BS fuse version

Frame Size	List Number	A (mm)	B1 (mm)	B2 (mm)	B3 (mm)	C1 (mm)	C2 (mm)	C3 (mm)	E (mm)	F1 (mm)	G1 (mm)	H1 (mm)	HR (mm)	J1 (mm)	J2 (mm)	K (mm)	L (mm)	M (mm)	N (mm)	P (mm)	Q (mm)	R (mm)	S (mm)	T (mm)	U1 (mm)	U2 (mm)	W1 (mm)	W2 (mm)	W3 (mm)	X (mm)	Y (mm)	Z1 (mm)	Z2 (mm)
1	32ST332	126	91	93	81	98	126	-	88.5	56	-	16.7	175	33.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	7	25.5	6.3	55	38	-
	32ST3N32	146.5	91	93	81	98	126	-	109.5	56	-	16.7	175	33.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	7	25.5	6.3	55	38	-
	32ST3SN32	146.5	91	93	81	98	126	-	109.5	56	-	16.7	175	33.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	7	25.5	6.3	55	38	-
1	63ST363	126	91	93	81	98	126	-	88.5	56	-	16.7	175	33.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	7	25.5	6.3	55	38	-
	63ST3N63	146.5	91	93	81	98	126	-	109.5	56	-	16.7	175	33.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	7	25.5	6.3	55	38	-
	63ST3SN63	146.5	91	93	81	98	126	-	109.5	56	-	16.7	175	33.5	20	21	81.5	65	5.5	-	-	121	13	14	78	83	6	7	25.5	6.3	55	38	-
2	63ST345	157.5	107	109	86	107	145	166	119.5	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.5	25.5	6.3	55	45	47
	63ST3N45	188.5	107	109	86	107	145	166	150.5	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.5	25.5	6.3	55	45	47
	63ST3SN45	188.5	107	109	86	107	145	166	150.5	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.5	25.5	6.3	55	45	47
2	100ST363	157.5	107	109	86	107	145	166	119.5	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.5	25.5	6.3	55	45	47
	100ST3N63	188.5	107	109	86	107	145	166	150.5	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.5	25.5	6.3	55	45	47
	100ST3SN63	188.5	107	109	86	107	145	166	150.5	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.5	25.5	6.3	55	45	47
2	100ST3100	157.5	107	109	86	107	145	166	119.5	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.5	25.5	6.3	55	45	47
	100ST3N100	188.5	107	109	86	107	145	166	150.5	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.5	25.5	6.3	55	45	47
	100ST3SN100	188.5	107	109	86	107	145	166	150.5	72	27	25.5	175	37.5	26.5	31	95.5	65	5.5	18	6	125	15	19	94	99	6.7	6.5	25.5	6.3	55	45	47
3	125ST3125	185.5	124	135.5	86	142	181	209.5	144.5	80	23	21	175	42	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	125.5	7.5	8	25.5	6.3	55	45	47
	125ST3N125	225.5	124	135.5	86	142	181	209.5	184.5	80	23	21	175	42	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	125.5	7.5	8	25.5	6.3	55	45	47
	125ST3SN125	225.5	124	135.5	86	142	181	209.5	184.5	80	23	21	175	42	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	125.5	7.5	8	25.5	6.3	55	45	47
3	200ST3160	188.5	137.5	139.5	86	142	181	209.5	144.5	80	23	21	175	42	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	114	7.5	8	25.5	6.3	55	39	47
	200ST3N160	225.5	137.5	139.5	86	142	181	209.5	184.5	80	23	21	175	42	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	114	7.5	8	25.5	6.3	55	39	47
	200ST3SN160	225.5	137.5	139.5	86	142	181	209.5	184.5	80	23	21	175	42	30.5	40	123.5	65	5.5	22	8	125	15	19.5	120	114	7.5	8	25.5	6.3	55	39	47
4	200ST3200	251.5	168	190	141	196	286	297	176	120	34	31.5	250	63.5	37.5	45	167	130	6.5	32	10	266	22	45	154	159	10	15	52	9.5	55	57	69
	200ST3N200	296.5	168	190	141	196	286	297	221	120	34	31.5	250	63.5	37.5	45	167	130	6.5	32	10	266	22	45	154	159	10	15	52	9.5	55	57	69
	200ST3SN200	296.5	168	190	141	196	286	297	221	120	34	31.5	250	63.5	37.5	45	167	130	6.5	32	10	266	22	45	154	159	10	15	52	9.5	55	57	69
4a	250ST3250	302.5	168.5	170.5	141	196	319	324	225.5	120	34	31.5	250	74.3	50.5	58	167	130	6.5	32	10	266	22	61.5	160	157	10	15	52	9.5	55	68	70
	250ST3N250	353	168.5	170.5	141	196	319	324	276	120	34	31.5	250	66.8	50.5	58	167	130	6.5	32	10	266	22	61.5	160	157	10	15	52	9.5	55	68	70
	250ST3SN250	353	168.5	170.5	141	196	319	324	276	120	34	31.5	250	66.8	50.5	58	167	130	6.5	32	10	266	22	61.5	160	157	10	15	52	9.5	55	68	70
4b	315ST3315	335.5	202.5	204.5	141	196	319	324	258.5	120	34	31.5	250	79.8	56	69	167	130	6.5	32	10	266	22	61.5	160	157	10	15	52	9.5	55	68	70
	315ST3N315	399	202.5	204.5	141	196	319	324	322	120	34	31.5	250	74.3	56	69	167	130	6.5	32	10	266	22	61.5	160	157	10	15	52	9.5	55	68	70
	315ST3SN315	399	202.5	204.5	141	196	319	324	322	120	34	31.5	250	74.3	56	69	167	130	6.5	32	10	266	22	61.5	160	157	10	15	52	9.5	55	68	70
4b	400ST3400	335.5	202.5	204.5	141	196	319	324	258.5	120	34	31.5	250	79.8	56	69	167	130	6.5	32	10	266	22	61.5	160	157	10	15	52	9.5	55	68	70
	400ST3N400	399	202.5	204.5	141	196	319	324	322	120	34	31.5	250	74.3	56	69	167	130	6.5	32	10	266	22	61.5	160	157	10	15	52	9.5	55	68	70
	400ST3SN400	399	202.5	204.5	141	196	319	324	322	120	34	31.5	250	74.3	56	69	167	130	6.5	32	10	266	22	61.5	160	157	10	15	52	9.5	55	68	70



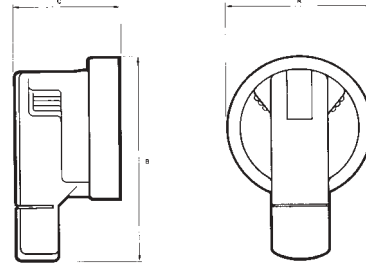
- Note: 1) 'R' = Dimension represents the maximum width across mechanism spring guides.
 2) 'T' = Additional height of connecting barrier.
 3) First auxiliary pack adds 24.5mm to side of the switch when attached. Each additional auxiliary pack adds a further 10.5mm.

Technical information S-line

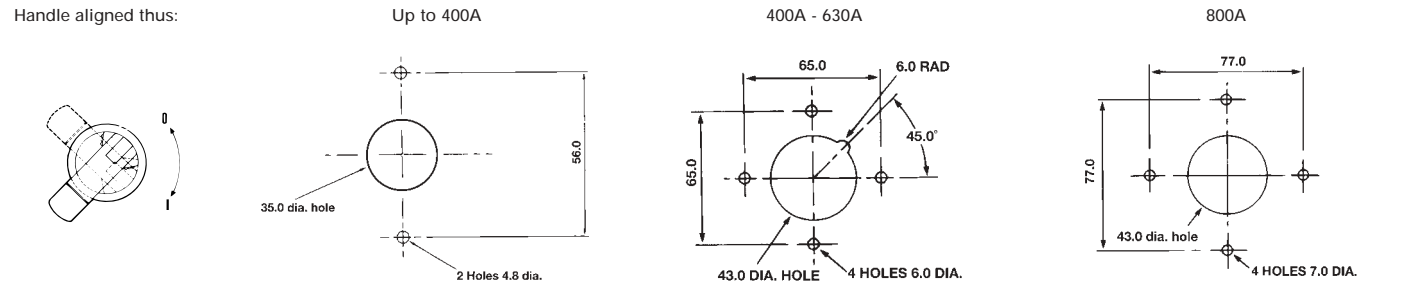
Fused combination switches 32-800 A

Dimensions (mm)		Handles			
Frame Size	Fused combination switch rating, A	Switch - Disconnecter rating, A	A	B	C
1 - 3	32 - 200 A	45 - 160 A	67	96.5	54
4 - 4b	200 - 400 A	200 - 315 A	67	159.5	54
5 - 6	400 - 630 A	600 A	76	245	52.4
6	800 A	1000 A	90	260/365 ¹⁾	58.9

1) Extended length



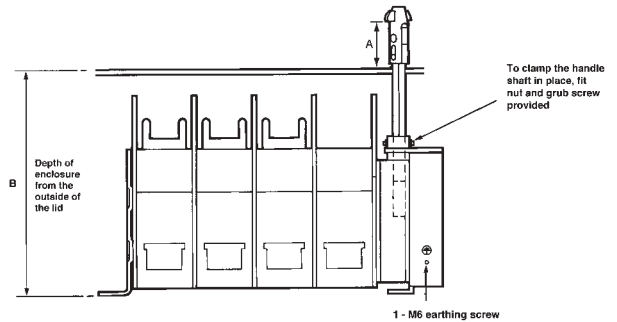
Dimensions (mm) Operating handle fixing apertures



Dimensions (mm) Handle operating shaft

The cut length of the handle operating shaft must allow a distance of 'A' when the door is firmly closed and any gasket is fully compressed. Dimension 'A'; distance from outside of door to underside of interlock lug, is shown below.

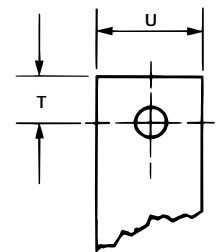
Frame Size	1	2	3	4	5	6
A	14.0	14.0	14.0	14.0	17.0	18.0
Shaft length mm	200	200	200	300	200	200
B						
Max. depth of enclosure with standard shaft (mm)	235	240	240	375	320	337



- Note: 1) 'R' = Dimension represents the maximum width across mechanism spring guides.
 2) 'T' = Additional height of connecting barrier.
 3) First auxiliary pack adds 24.5mm to side of the switch when attached. Each additional auxiliary pack adds a further 10.5mm.

Termination information

Fused combination switches - termination information										
Frame Size	Switch range 'BS'	DIN	NFC	ISOLATOR	Terminal Size 'BS' Fusesupply/Load		MAX CABLE SQmm	MAXCONNECTOR SIZE DIM T mm	DIM U mm	
1	32 A/32 A, 63A/63 A	-	25 A	45 A	M4	M5	25	-	-	
1a	-	63 A	50 A	-	M4	M5	25	-	-	
2	100 A/63 A, 100 A/100 A	-	-	100 A	M5	M6	35	10	19	
2a	-	100 A, 125 A	100 A	-	-	M6	35	10	19	
3	125 A/125 A, 200 A/160 A	160 A	-	160 A	M5/M6	M8	70	12	23	
4	200 A/200 A	-	-	315 A	M8	M10	150	22	32	
4a	250 A/250 A	250 A	-	-	M8	M10	150	22	32	
4b	315 A/315 A, 400 A/400 A	315 A, 400 A	-	-	M8	M10	240	22	40	
5	400 A/400 A	-	-	630 A	M8	M14	500	22	58	
5a	-	630 A	-	-	-	M14	500	22	58	
6	630 A/500 A, 630 A/630 A	-	-	1000 A	M10	M16	630	26	70	
6	800 A/710 A	-	-	-	M10	M20	630	40	70	
Auxiliary Switches - ASP to 8ASP					-	M3	2.5	-	-	



Technical information D-line

Dumeco load break switches type DMV, 40-1600 A

Table 1

RATED THERMAL CURRENT I _{th} (AC21)	A	40	63	125	160	250	400	630	1000	1600
Insulation Voltage	V	690	690	800	800	1000	1000	1000	1000	1000
Operating Voltage	Vac	690	690	690	690	690	690	690	690	690
	Vdc	-	-	440	440	440	440	440	440	440
Breaking Capacity AC23 415V cos Ø=0.35	A	320	504	1000	1232	2000	2440	4944	5520	10000
Breaking Capacity AC3 415V cos Ø=0.35	A	-	-	-	-	-	-	-	-	-
Making Capacity AC23 415V cos Ø=0.35	A	400	630	1250	1540	2500	3050	6180	6900	12500
Making Capacity AC3 415V cos Ø=0.35	A	-	-	-	-	-	-	-	-	-
Short time rating	kA sec	0.756 0.75	0.756 0.75	8 0.2	8 0.2	10 0.2	12 0.3	36 0.3	36 0.3	50 1
Short circuit making capacity 415V (peak)	kA	13	13	17.6	17.6	26.5	26.5	76	76	110
Rated fused short circuit current 415V RMS	kA	100	100	100	100	100	100	100	100	110

Table 2

Rated operational current AC21: Resistive loads including moderate overloads.

NOMINAL RATING	A	40	63	125	160	250	400	630	1000	1600
at 380/415V	A	40	63	125	160	250	400	630 ¹⁾	1000 ¹⁾	1600
at 500V	A	40	63	125	160	250	400	630 ¹⁾	1000 ¹⁾	1600
at 690V	A	40	63	125	125	250	400	630 ¹⁾	1000 ¹⁾	1600

1) switching category B according to IEC947

Table 3

Rated operational current AC22

NOMINAL RATING	A	40	63	125	160	250	400	630	1000	1600
at 380/415V	A	40	63	125	160	250	400	630 ¹⁾	1000 ¹⁾	1600
at 500V	A	40	63	125	160	250	400	630 ¹⁾	1000 ¹⁾	1600
at 690V	A	40	63	125	125	250	315	630 ¹⁾	1000 ¹⁾	1600

1) switching category B according to IEC947

Table 4

Rated operational current AC23 Loads generated by 3-phase motors or other highly inductive loads.

NOMINAL RATING	A	40	63	125	160	250	400	630	1000	1600
at 415V	A	40	63	105	154	250	305	618 ¹⁾	690 ¹⁾	1250
	kW	22	30	59	90	147	180	375 ¹⁾	425 ¹⁾	750
at 500V	A	40	63	106	106	250	254	575 ¹⁾	575 ¹⁾	850
	kW	25	40	75	75	160	180	425 ¹⁾	425 ¹⁾	630
at 690V	A	40	63	-	-	138	138	437 ¹⁾	437 ¹⁾	630
	kW	37	59	-	-	132	132	425 ¹⁾	425 ¹⁾	630

1) switching category B according to IEC947

Table 5

NOMINAL RATING	A	40	63	125	160	250	400	630	1000	1600
at 220/240V	A	40	63	105	160	250	305	618 ¹⁾	690 ¹⁾	1250
	kW	15	18	30	48	54	106	152 ¹⁾	245 ¹⁾	305
at 415V	A	40	55	80	125	150	300	460 ¹⁾	650 ¹⁾	800
	kW	22	30	45	75	85	165	225 ¹⁾	370 ¹⁾	455
at 550V	A	30	40	60	100	125	250	370 ¹⁾	540 ¹⁾	670
	kW	20	26	40	65	75	170	253 ¹⁾	320 ¹⁾	455

1) switching category B according to IEC947

Table 6

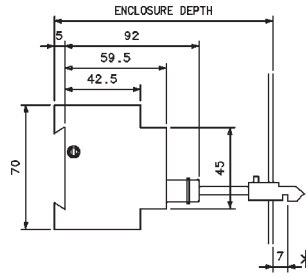
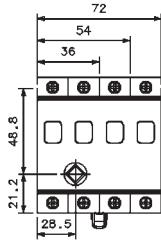
Direct Current: Resistive or moderate loads. Four pole switches.

NOMINAL RATING	A	40	63	125	160	250	400	630	1000	1600
at 250V	A	-	-	125	125	200	315	500	800	-

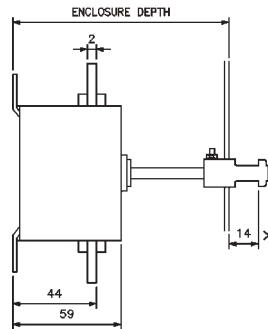
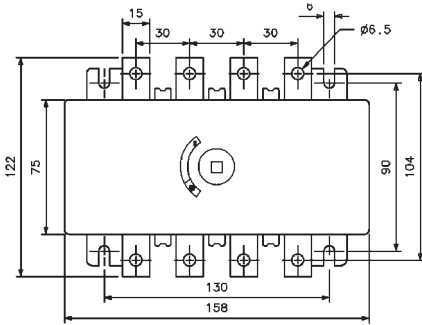
Technical information D-line

Dumeco load break switches type DMV, 40-1600 A

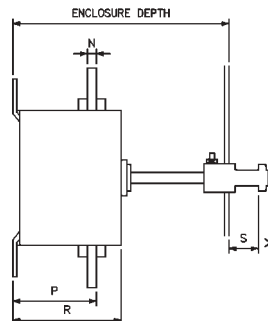
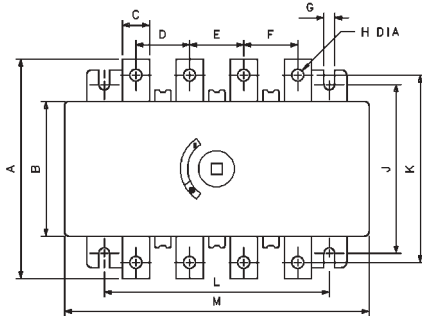
Dimensions (mm) ¹⁾ Type DMV 40 & 63 A



Dimensions (mm) ¹⁾ Type DMV 125 A & 160 A



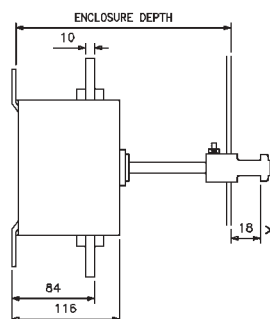
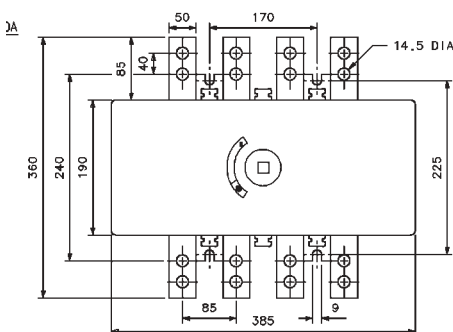
Dimensions (mm) ¹⁾ Type DMV 250 A – 1000 A



Rating	A	B	C	D	E	F	G	H DIA	J	K	L	M	N	P	R	S
250 A	135	90	20	45	45	45	7	9	110	115	170	205	3	47	63	14
400 A	146	90	25	45	45	45	7	11	110	122	170	205	3	47	63	14
630 A	192	130	30	65	65	65	7	11	145	162	240	292	6	71	96	17
1000 A	205	130	35	65	65	65	7	14	145	170	240	292	6	71	96	17

¹⁾ Operating shafts shown in 'on' position to show dimension for handle engagement

Dimensions (mm) ¹⁾ Type DMV 1600 A



¹⁾ Operating shafts shown in 'on' position to show dimension for handle engagement

Technical information Q-line

Flexible fused combination switches type QSA, 40-800 A

Technical data switch-disconnector-fuses type QSA, frame size 0 and 1

frame size:		0		0		frame size:		1		1		1		1	
type:		QSA 40N0		QSA 63N0		type:		QSA 63N1		QSA 100N1		QSA 125N1		QSA 160N1	
conventional free air thermal current:	I_{th}	40 A		63 A		conventional free air thermal current:	I_{th}	63 A		100 A		125 A		160 A	
conventional enclosed thermal current:	I_{the}	40 A		63 A		conventional enclosed thermal current:	I_{the}	63 A		100 A		125 A		160 A	
rated uninterrupted current:	I_u	40 A		63 A		rated uninterrupted current:	I_u	63 A		100 A		125 A		160 A	
rated operational voltage:	U_e	690 V		690 V		rated operational voltage:	U_e	690 V		690 V		690 V		690 V	
rated insulation voltage:	U_i	800 V		800 V		rated insulation voltage:	U_i	1000 V		1000 V		1000 V		1000 V	
rated impulse withstand voltage:	U_{imp}	8 kV		8 kV		rated impulse withstand voltage:	U_{imp}	8 kV		8 kV		8 kV		8 kV	
rated operational current						rated operational current									
at $U_e = 415$ V AC-21A:	I_e	40 A		63 A		at $U_e = 415$ V AC-21B:	I_e	63 A		100 A		125 A		160 A	
at $U_e = 415$ V AC-22A:	I_e	40 A		63 A		at $U_e = 415$ V AC-22B:	I_e	63 A		100 A		125 A		160 A	
at $U_e = 415$ V AC-23A:	I_e	40 A		63 A		at $U_e = 415$ V AC-23B:	I_e	63 A		100 A		125 A		125 A	
at $U_e = 500$ V AC-21A:	I_e	40 A		63 A		at $U_e = 500$ V AC-21B:	I_e	63 A		100 A		125 A		160 A	
at $U_e = 500$ V AC-22A:	I_e	40 A		63 A		at $U_e = 500$ V AC-22B:	I_e	63 A		100 A		125 A		160 A	
at $U_e = 500$ V AC-23A:	I_e	40 A		63 A		at $U_e = 500$ V AC-23B:	I_e	63 A		100 A		125 A		125 A	
at $U_e = 690$ V AC-21A:	I_e	40 A		63 A		at $U_e = 690$ V AC-21B:	I_e	63 A		100 A		125 A		160 A	
at $U_e = 690$ V AC-22A:	I_e	40 A		63 A		at $U_e = 690$ V AC-22B:	I_e	63 A		100 A		125 A		160 A	
at $U_e = 690$ V AC-23A:	I_e	40 A		63 A		at $U_e = 690$ V AC-23B:	I_e	63 A		63 A		63 A		63 A	
rated operational power						rated operational power									
at $U_e = 415$ V AC-23A:		22 kW		30 kW		at $U_e = 415$ V AC-23B:		30 kW		55 kW		59 kW		59 kW	
at $U_e = 500$ V AC-23A:		25 kW		45 kW		at $U_e = 500$ V AC-23B:		45 kW		59 kW		80 kW		80 kW	
at $U_e = 690$ V AC-23A:		37 kW		59 kW		at $U_e = 690$ V AC-23B:		59 kW		59 kW		59 kW		59 kW	
rated conditional short-circuit current						rated conditional short-circuit current									
fuse protected short-circuit withstand/making:	kA	50	100	50	100	fuse protected short-circuit withstand/making:	kA	50	100	50	100	50	100	50	100
max. cut-off current:	kA	14.5	11	14.5	11	max. cut-off current:	kA	27	23	27	23	27	23	27	23
max. joule integral:	kA ² s	140	18.4	140	18.4	max. joule integral:	kA ² s	820	143	820	143	820	143	820	143
fuse-link, max.:	I_n	125 A	63 A	125 A	63 A	fuse-link, max.:	I_n	315 A	160 A	315 A	160 A	315 A	160 A	315 A	160 A
suitable for fuse-link size:		00/A3		00/A3		suitable for fuse-link size:		00/A3		00/A4 max. Ø 30		00/B1-B2		00/B1-B2	
switched neutral conventional enclosed thermal current:	I_{the}	40 A		63 A		switched neutral conventional enclosed thermal current:	I_{the}	63 A		100 A		125 A		160 A	
rated operational current at $U_e = 500$ V AC-22B:	I_e	40 A		63 A		rated operational current at $U_e = 500$ V AC-22B:	I_e	63 A		100 A		125 A		160 A	
solid neutral conventional enclosed thermal current:	I_{the}	40 A		63 A		solid neutral conventional enclosed thermal current:	I_{the}	63 A		100 A		125 A		160 A	
auxiliary switch rated operational current						auxiliary switch rated operational current									
at $U_e = 400$ V AC-15:	I_e	4 A		4 A		at $U_e = 400$ V AC-15:	I_e	4 A		4 A		4 A		4 A	
at $U_e = 660$ V AC-12:	I_e	10 A		10 A		at $U_e = 660$ V AC-12:	I_e	10 A		10 A		10 A		10 A	
standards:		EN 60947-3, IEC 60947-3				standards:		EN 60947-3, IEC 60947-3							
approvals:		KEMA, Lloyd's, Veritas				approvals:		KEMA, Lloyd's, Veritas							

Rated operational current at 220 V and 440 V d.c. on request. Rated capacitor power on request.

Technical information Q-line

Flexible fused combination switches type QSA, 40-800 A

Technical data switch-disconnector-fuses type QSA, frame size 2 and 3																	
frame size:		2		2		2		2		2		3		3		3	
type:		QSA 160N		QSA 200N		QSA 250N		QSA 315N		QSA 400N		QSA 400		QSA 630		QSA 800	
conventional free air thermal current:	I_{th}	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
conventional enclosed thermal current:	I_{the}	160 A		200 A		250 A		315 A		355 A ¹⁾		400 A		630 A		800 A	
rated uninterrupted current:	I_u	160 A		200 A		250 A		315 A		355/400 A		400 A		630 A		800 A	
rated operational voltage:	U_e	690 V		690 V		690 V		690 V		690 V		690 V		690 V		690 V	
rated insulation voltage:	U_i	1000 V		1000 V		1000 V		1000 V		1000 V		1000 V		1000 V		1000 V	
rated impulse withstand voltage:	U_{imp}	12 kV		12 kV		12 kV		12 kV		12 kV		12 kV		12 kV		12 kV	
rated operational current																	
at $U_e = 415$ V AC-21B:	I_e	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
at $U_e = 415$ V AC-22B:	I_e	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
at $U_e = 415$ V AC-23B:	I_e	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
at $U_e = 500$ V AC-21B:	I_e	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
at $U_e = 500$ V AC-22B:	I_e	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
at $U_e = 500$ V AC-23B:	I_e	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
at $U_e = 690$ V AC-21B:	I_e	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
at $U_e = 690$ V AC-22B:	I_e	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
at $U_e = 690$ V AC-23B:	I_e	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
rated operational power																	
at $U_e = 415$ V AC-23B:		90 kW		110 kW		147 kW		184 kW		220 kW		220 kW		375 kW		500 kW	
at $U_e = 500$ V AC-23B:		110 kW		140 kW		160 kW		220 kW		257 kW		257 kW		475 kW		560 kW	
at $U_e = 690$ V AC-23B:		157 kW		184 kW		220 kW		295 kW		375kW		375kW		630 kW		900 kW	
rated making and breaking capacity in accordance with CSA																	
at $U_n = 600$ V		-		-		200 hp		-		300 hp		-		400 hp		-	
at $U_n = 600$ V	I_n	-		-		200 A		-		260 A		-		400 A		-	
rated conditional short-circuit current fuse protected short-circuit																	
withstand/making:	kA	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	80
max. cut-off current:	kA	57	43	57	43	57	43	57	43	64	43	64	62.5	65	62.5	65	67.5
max. joule integral:	kA ² s	13.000	986	13.000	986	13.000	986	13.000	986	13.000	986	13.000	3700	15.000	3700	15.000	8300
fuse-link, max.:	I_n	630 A	400 A	630 A	400 A	630 A	400 A	630 A	400 A	800 A	400 A	800 A	630 A	800 A	630 A	800 A	800 A
suitable for fuse-link size:		00/B1-B2		1-2/B1-B2		1-2/B1-B4		1-2/B1-B4		3/C1-C3		3/C1-C3		C1-C3		C1-C3	
switched neutral																	
conventional enclosed thermal current:	I_{the}	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
rated operational current																	
at $U_e = 500$ V AC-22B :	I_e	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
solid neutral																	
conventional enclosed thermal current:	I_{the}	160 A		200 A		250 A		315 A		400 A		400 A		630 A		800 A	
auxiliary switch																	
rated operational current																	
at $U_e = 400$ V AC-15:	I_e	4 A		4 A		4 A		4 A		4 A		4 A		4 A		4 A	
at $U_e = 660$ V AC-12:	I_e	10 A		10 A		10 A		10 A		10 A		10 A		10 A		10 A	
standards:		EN 60 947-3, IEC 60947-3, CSA C22.2 no. 14															
approvals:		KEMA, Lloyd's, Veritas, CSA															

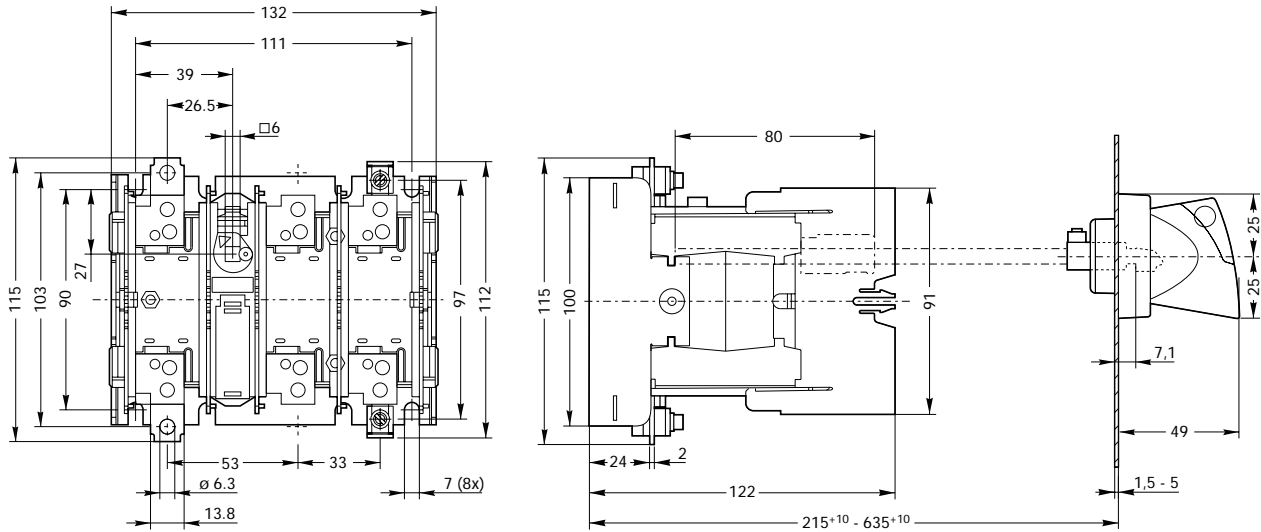
¹⁾ 400 A in ventilated enclosure.

Rated operational current at 220 V and 440 V d.c. on request. Rated capacitor power on request.

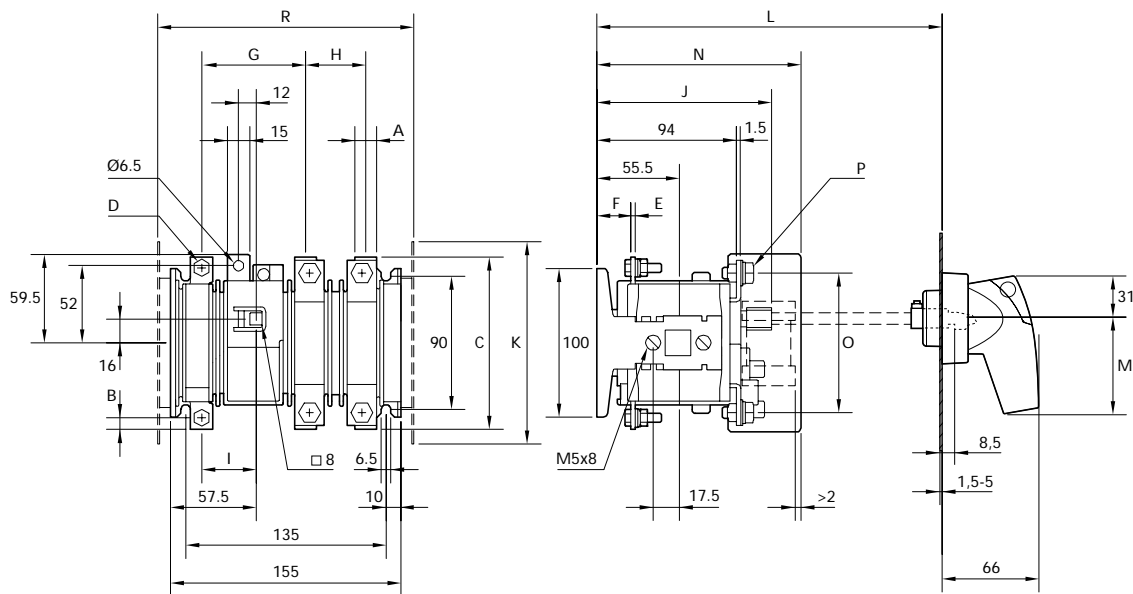
Technical information Q-line

Flexible fused combination switches type QSA, 40-800 A

Dimensions (mm) Type QSA 40N0 - QSA 63N0 (BS), frame size 0



Dimensions (mm) Type QSA 63N1 - QSA 160N1 (BS), frame size 1

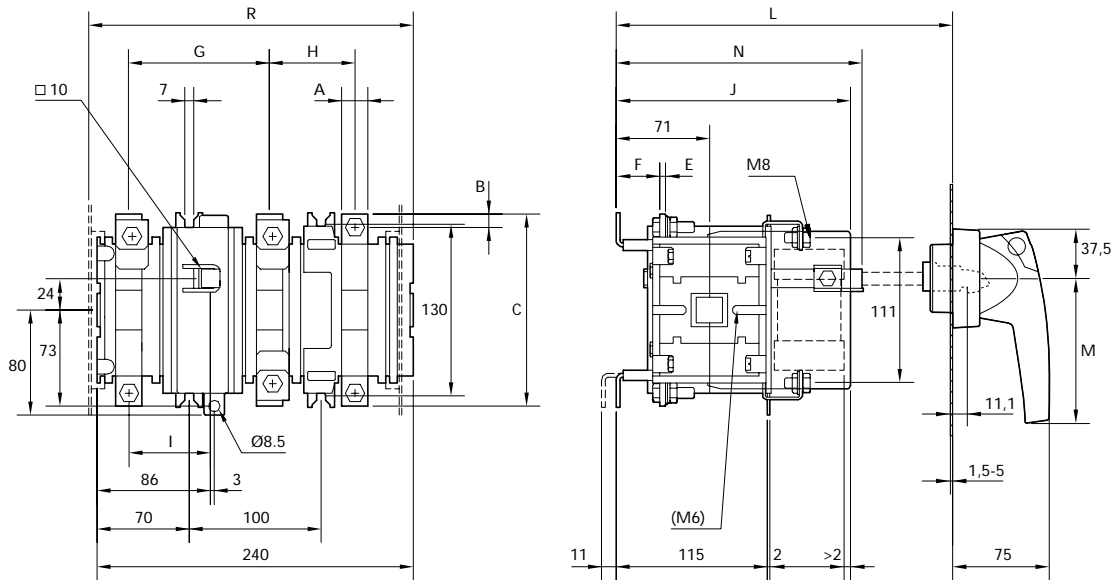


Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	R
QSA 63N1-A3	12	6	100	M5	2	24	72	38.5	38	118	95	200 ⁺¹⁰ -620 ⁺¹⁰	62	155.5	73	M5	-
QSA 100N1-A4	15	7.5	116	M6	3	23	70	40.5	37	118	120	200 ⁺¹⁰ -620 ⁺¹⁰	62	137.5	94	M8	-
QSA 125N1-B2	15	7.5	-	M6	3	23	70	40.5	37	118	150	200 ⁺¹⁰ -620 ⁺¹⁰	62	137.5	112	M8	184
QSA 160N1-B2	20	10	-	M8	3	23	65	45.5	35	118	150	200 ⁺¹⁰ -620 ⁺¹⁰	62	137.5	112	M8	184

Technical information Q-line

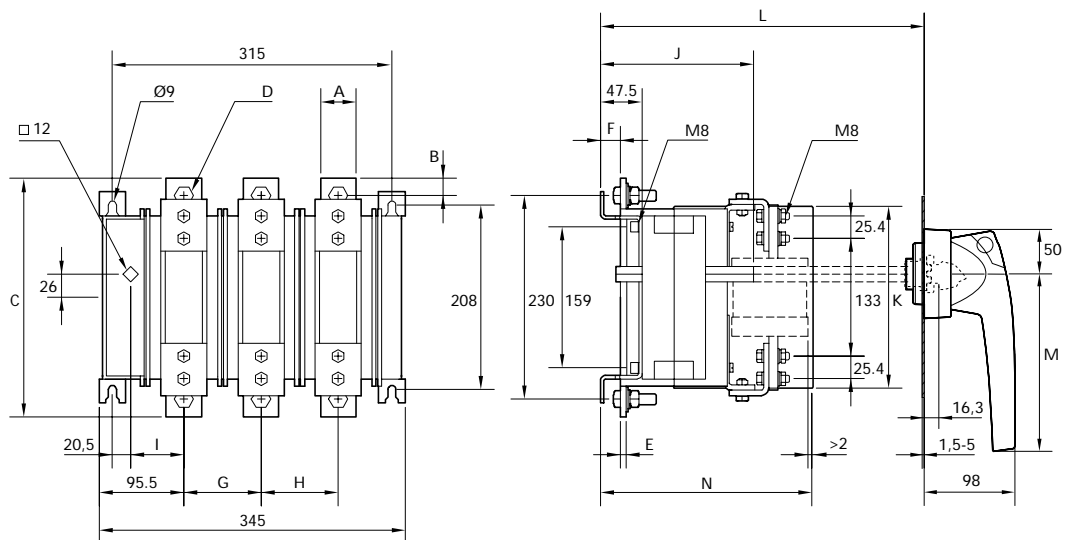
Flexible fused combination switches type QSA, 40-800 A

Dimensions (mm) Type QSA 160N - QSA 400N (BS), frame size 2



Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N	R
QSA 160N-B2	20	10	146	M8	4	33	107	65	62	188	120	205 ⁺¹⁵ .625 ⁺¹⁵	140	178	-
QSA 200N-B2	20	10	146	M8	4	33	107	65	62	188	120	205 ⁺¹⁵ .625 ⁺¹⁵	140	178	-
QSA 250N-B4	25	12.5	160	M10	4	29	107	65	59.5	188	160	205 ⁺¹⁵ .625 ⁺¹⁵	140	198	246.5
QSA 315N-B4	25	12.5	160	M10	6	27	107	65	59.5	188	160	205 ⁺¹⁵ .625 ⁺¹⁵	140	198	246.5
QSA 400N-B4	25	12.5	160	M10	6	27	107	65	59.5	188	160	205 ⁺¹⁵ .625 ⁺¹⁵	140	198	246.5

Dimensions (mm) Type QSA 400 - QSA 800 (BS), frame size 3

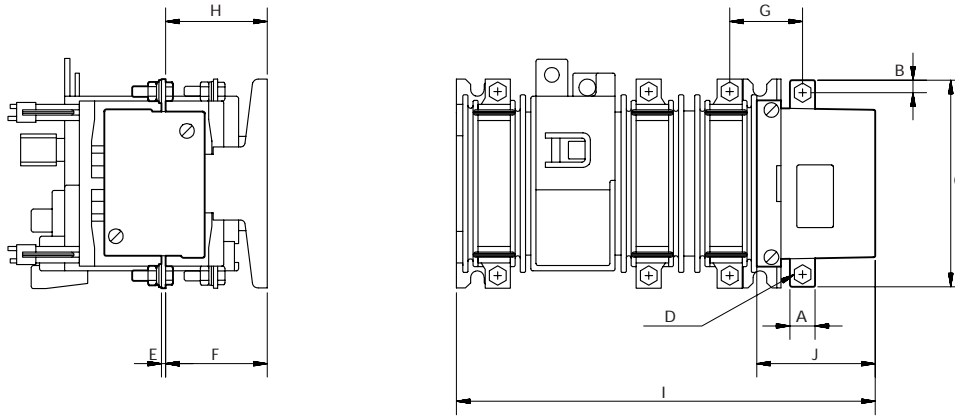


Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N
QSA 400-C3	40	20	270	M12	6	23	87	87	60	173	205	320 ⁺¹⁰ .620 ⁺¹⁰	200	240
QSA 630-C3	40	20	270	M12	6	23	87	87	60	173	205	320 ⁺¹⁰ .620 ⁺¹⁰	200	240
QSA 800-C3	40	20	270	M12	6	23	87	87	60	173	205	320 ⁺¹⁰ .620 ⁺¹⁰	200	240

Technical information Q-line

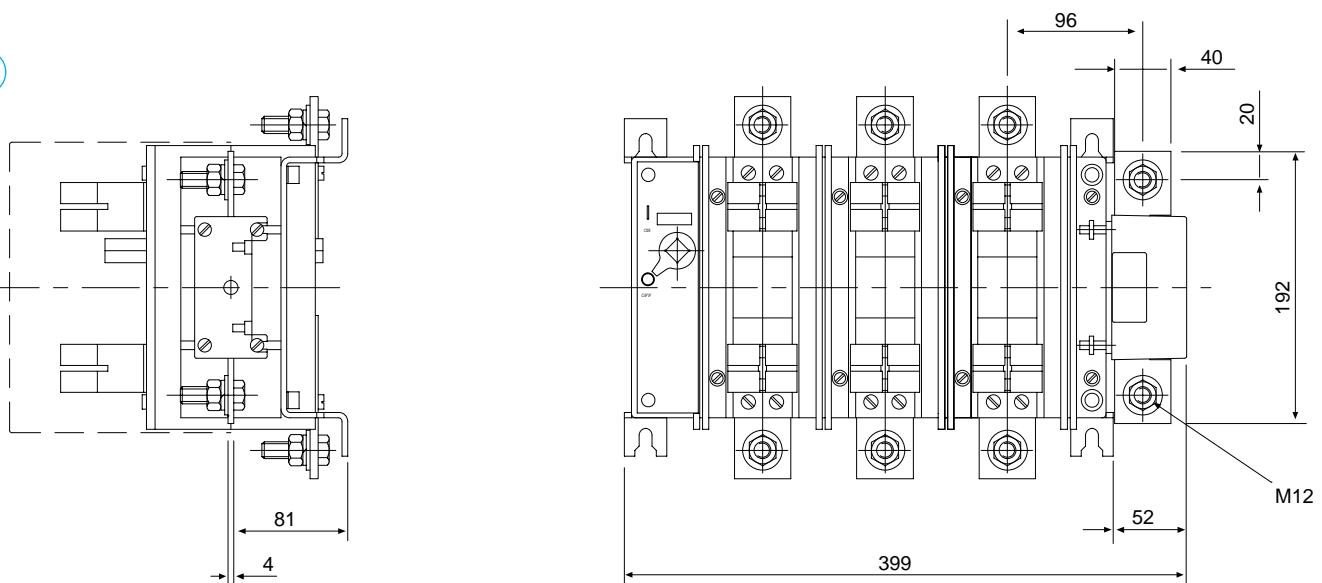
Flexible fused combination switches type QSA, 40-800 A

Dimensions (mm) Switched neutral for type 40 A - 400 A (BS), frame size 0, 1 and 2



Type	A	B	C	D	E	F	G	H	I	J
QSA 40NO/QSA63NO	12	6	99	M5	4.5	48	35	45.5	177	45
QSA 63N1	12	6	99	M5	2	48.5	36	48.5	200	45
QSA 100N1	15	7.5	105	M6	4.5	48.5	33.5	46	200	45
QSA 125N1	15	7.5	105	M6	4.5	48.5	33.5	46	200	45
QSA 160N1	20	10	115	M8	4.5	48.5	32	46	200	45
QSA 160N	20	10	146	M8	4	69	53	69	299	53
QSA 200N	20	10	146	M8	4	69	53	69	299	53
QSA 250N	25	12.5	160	M10	4	69	55.5	69	299	53
QSA 315N	25	12.5	160	M10	4	69	55.5	69	299	53
QSA 400N	25	12.5	160	M10	4	69	55.5	69	299	53

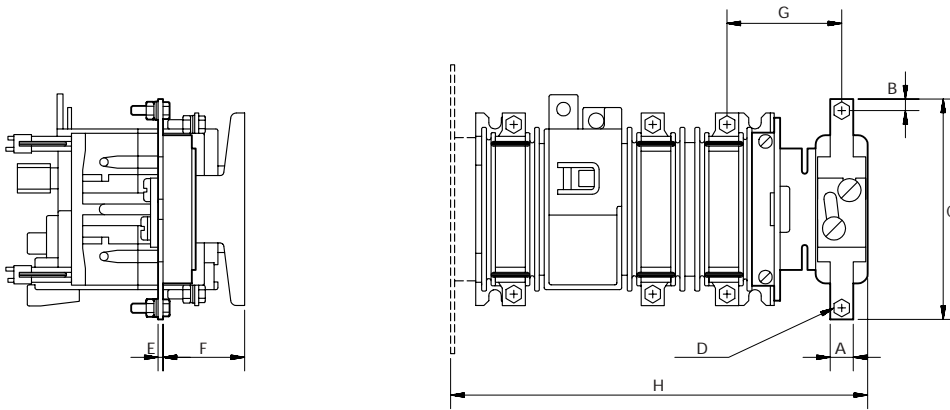
Dimensions (mm) Switched neutral type QSA 400 - QSA 800 (BS), frame size 3



Technical information Q-line

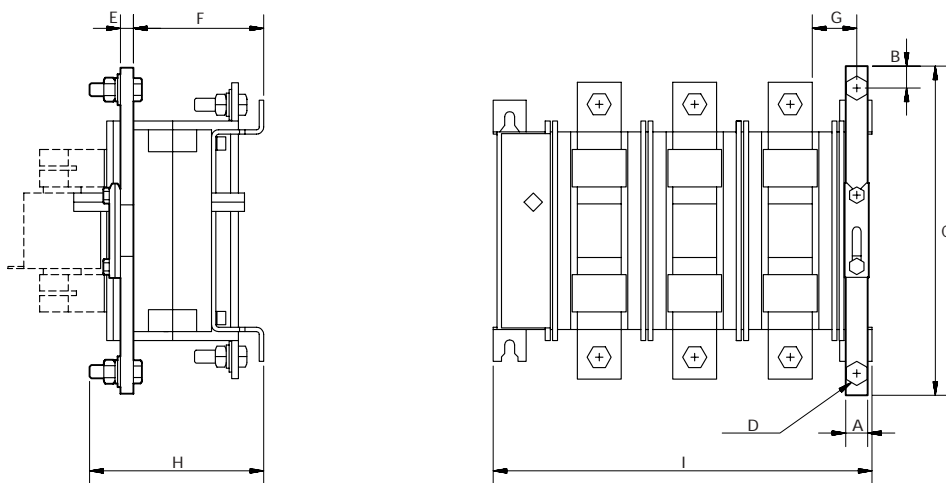
Flexible fused combination switches type QSA, 40-800 A

Dimensions (mm) Solid neutral for type QSA, 40 A - 400 A (BS), frame size 0, 1 and 2



Type	A	B	C	D	E	F	G	H
QSA 40N0/QSA63N0	12	6	99	M5	4.5	48	45.5	177
QSA 63N1	12	6	114	M5	2.5	41.5	57	203
QSA 100N1	15	7.5	116.5	M6	3	41.5	56	203
QSA 125N1	15	7.5	116.5	M6	3	41.5	56	216
QSA 160N1	20	10	127	M8	3	41.5	54	216
QSA 160N	20	10	146	M8	4	70	79	296.5
QSA 200N	20	10	146	M8	4	70	79	296.5
QSA 250N	25	12.5	160	M10	4	70	76.5	296.5
QSA 315N	25	12.5	160	M10	4	70	76.5	296.5
QSA 400N	25	12.5	160	M10	4	70	76.5	296.5

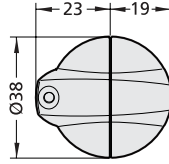
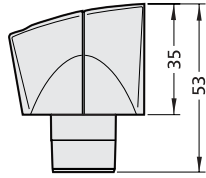
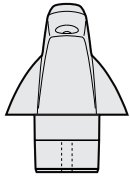
Dimensions (mm) Solid neutral type QSA 400 - QSA 800 (BS), frame size 3



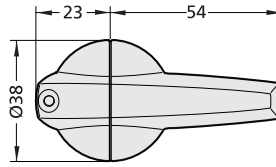
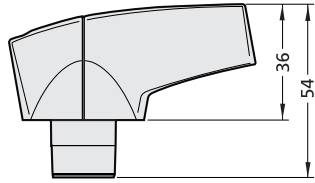
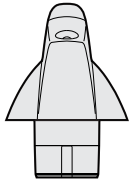
type	A	B	C	D	E	F	G	H	I
QSA 400	20	20	300	M12	12	118.5	60.5	158.5	345
QSA 630	20	20	300	M12	12	118.5	60.5	158.5	345
QSA 800	20	20	300	M12	12	118.5	60.5	158.5	345

Technical information Knobs and Handles

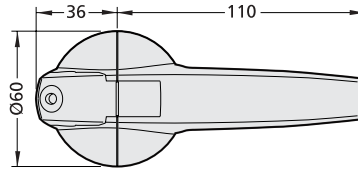
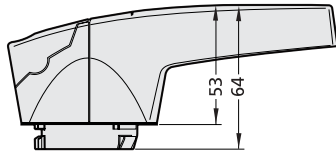
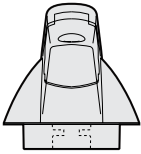
Dimensions (mm) Knobs and Handles, type A



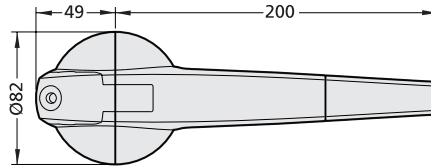
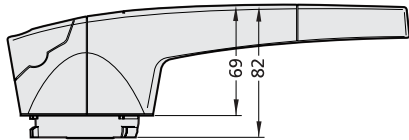
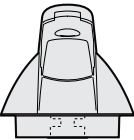
Type K1A



Type K2A en K2SA

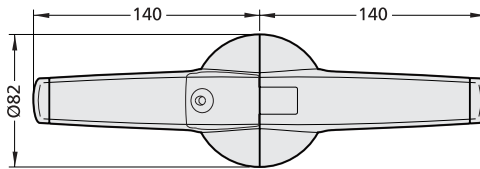
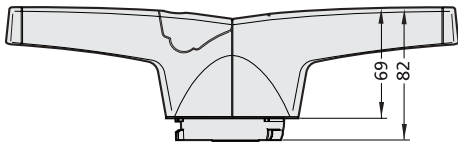
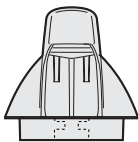


Type K3KA

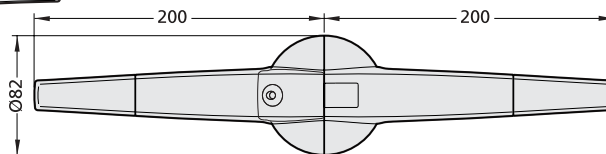
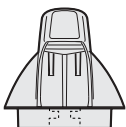
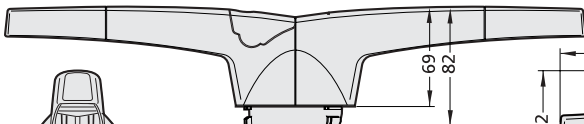


Type K4A

Dimensions (mm) Knobs and Handles, type A, T-handles



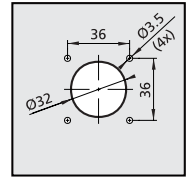
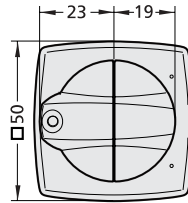
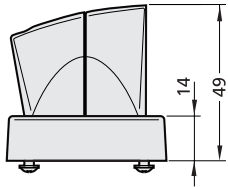
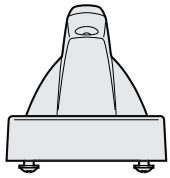
Type K5A



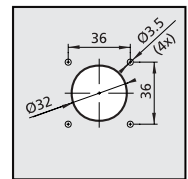
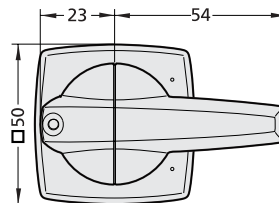
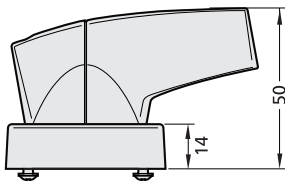
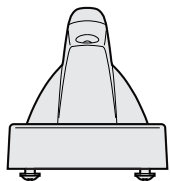
Type K6A

Technical information Knobs and Handles

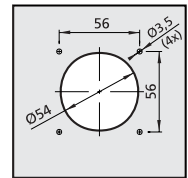
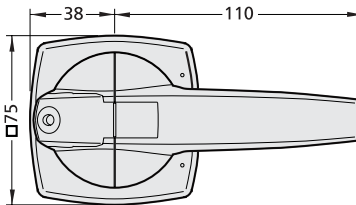
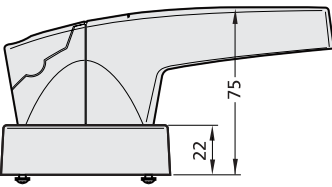
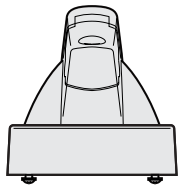
Dimensions (mm) Knobs and Handles, type C



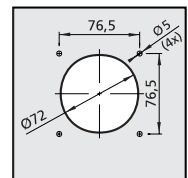
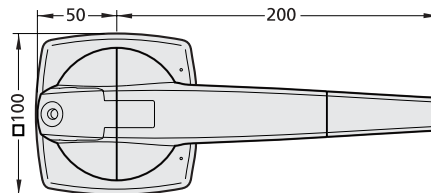
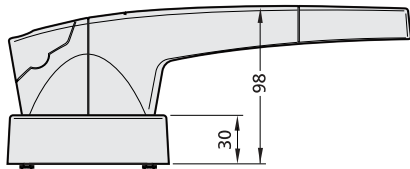
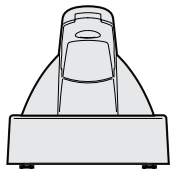
Type K1C



Type K2C en K2SC

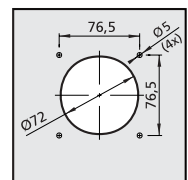
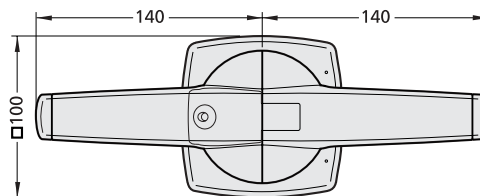
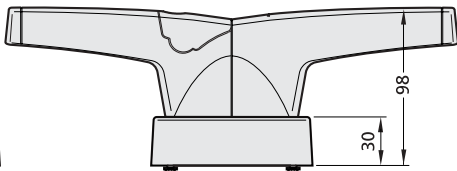
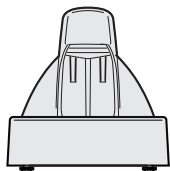


Type K3KC

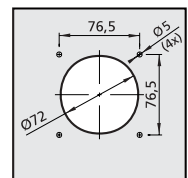
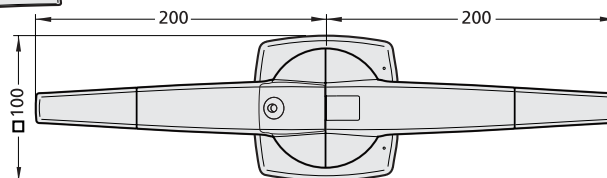
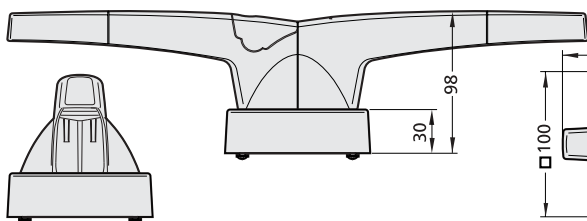


Type K4C

Dimensions (mm) Knobs and Handles, type C, T-handles



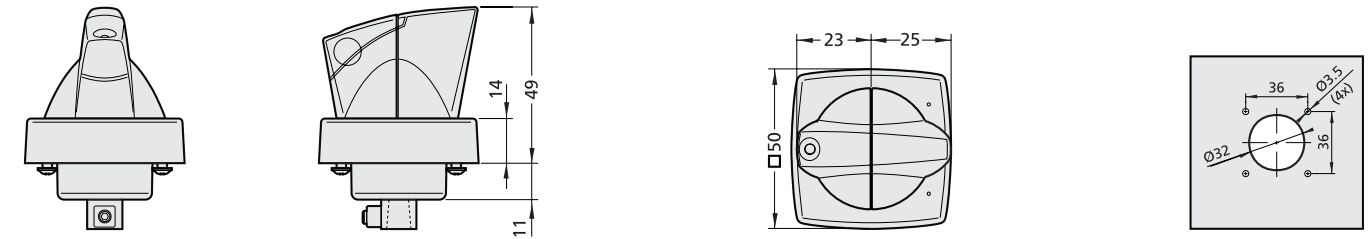
Type K5C



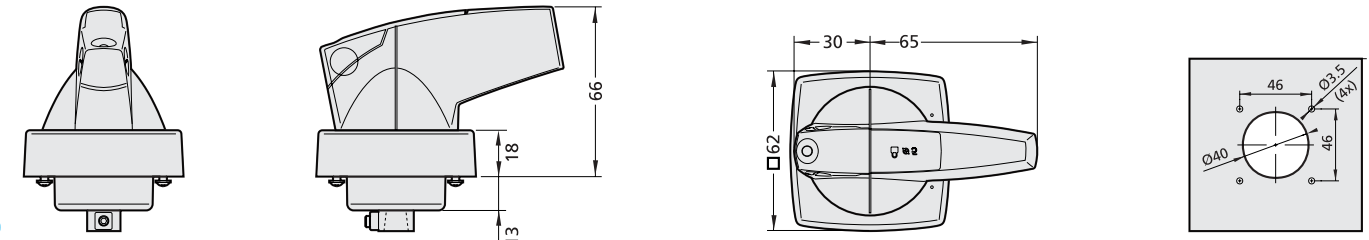
Type K6C

Technical information Knobs and Handles

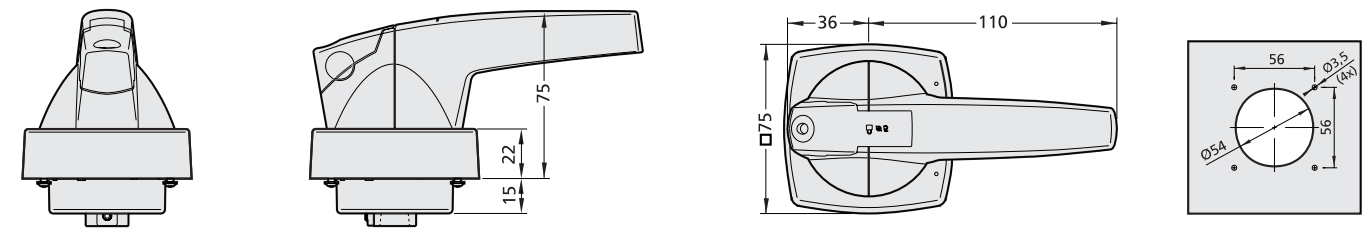
Dimensions (mm) Knobs and Handles, type D



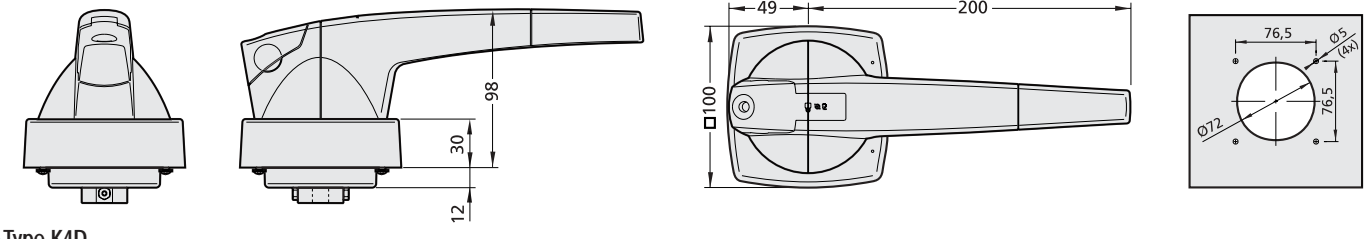
Type K1D



Type K2D en K2SD

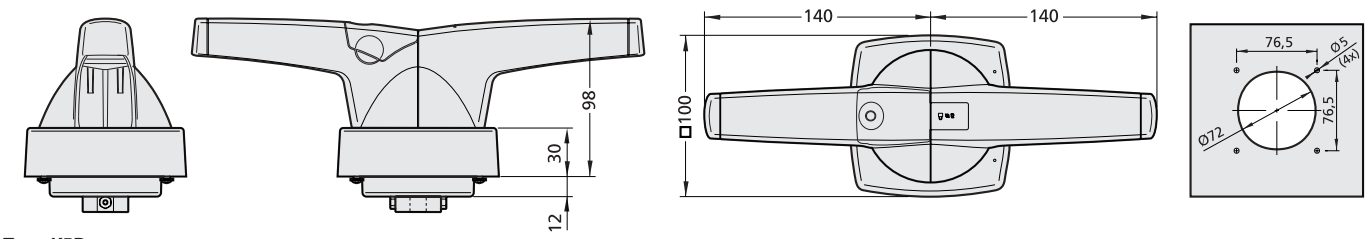


Type K3KD

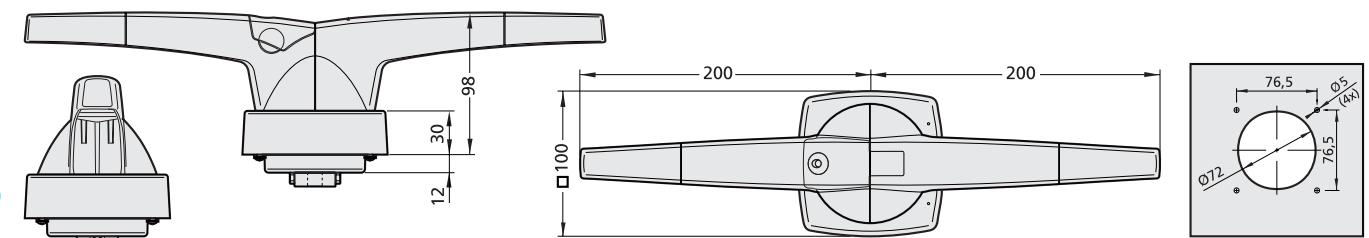


Type K4D

Dimensions (mm) Knobs and Handles, type D, T-handles



Type K5D



Type K6D

Company Information

Eaton's Electrical business is a global leader in electrical control, power distribution, and industrial automation products and services. Through advanced product development, world-class manufacturing methods, and global engineering services and support, Eaton's Electrical business provides customer-driven solutions under brand names such as Cutler-Hammer®, Durant®, Heinemann®, Holec® and MEM®, which globally serve the changing needs of the industrial, utility, light commercial, residential, and OEM markets. For more information, visit www.EatonElectrical.com.

Eaton Corporation is a diversified industrial manufacturer with 2003 sales of \$8.1 billion. Eaton is a global leader in fluid power systems and services for industrial, mobile and aircraft equipment; electrical systems and components for power quality, distribution and control; automotive engine air management systems and powertrain controls for fuel economy; and intelligent drivetrain systems for fuel economy and safety in trucks. Eaton has 54,000 employees and sells products to customers in more than 100 countries. For more information, visit www.eaton.com.

Eaton Electric Limited
Reddings Lane
Birmingham B11 3EZ
United Kingdom

Customer Support Centre
Tel.: +44 (0)8700 545 333
Fax: +44 (0)8700 540 333
e-mail: ukcommorders@eaton.com



© 2004 Eaton Electric Limited
All rights reserved

Printed in UK
Form No. PG00802001U
October 2004