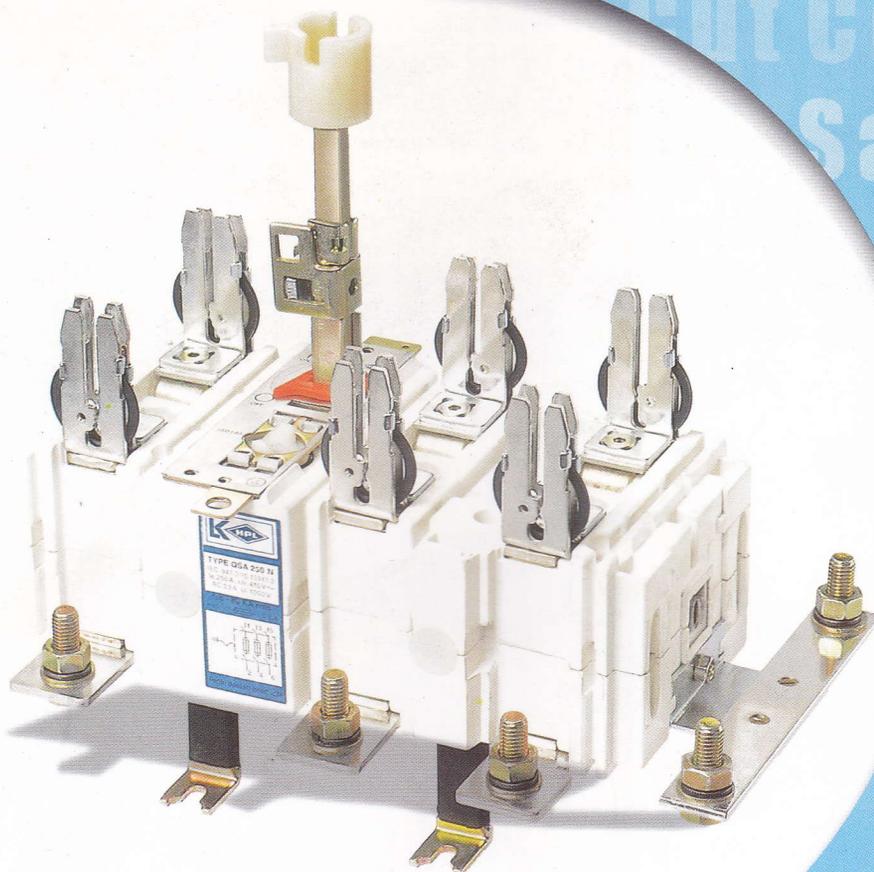


SWITCH DISCONNECTOR FUSE

Save Space

Save Space



Q-SERIES

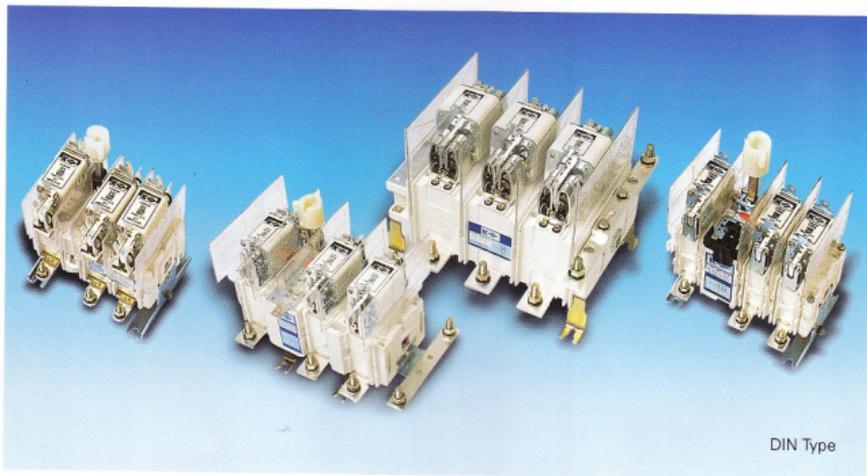
- On - Load Breaking
- High Short Circuit Capacity
- Total Discrimination
- Fail - Safe Protection
- International Design





SWITCH DISCONNECTOR FUSE

The Q-line range of switches is the result of more than 50 years development, and it complies with all requirements to short-circuit capacity, breaking capacity, and isolating distance as specified in IS, BS, and IEC Standards. The Q-line Switches have moving contact system with unique properties, combining the advantages found both in knife as well as roller contact systems. Moving contact system is based on four spring loaded, silver plated copper rollers, held in position by a spring loaded steel retainer, which permits the rollers to rotate individually. The spring pressure is so adjusted to the friction between rollers and knife that, during operation, the rollers normally wipe the knife surface (no roller rotation - self cleaning effect). If the contacts attempt to weld during closing under faulty conditions, the roller knife friction increases and the rollers will rotate breaking the pin points where incipient welding has occurred, thus preventing actual welding from taking place.



DIN Type

HIGH ISOLATION LEVEL

In distribution system, it is foremost requirement that the feeder voltage from a transformer or generator can be positively separated from the distribution switch board. The Q-line switches fully meet these requirements. The required isolating distance is maintained not only across the Switch Disconnecter Fuse terminals, but also between terminals and fuse holders. The double safety built into the design is important both when fuses are changed



BS Type

SWITCH DISCONNECTOR FUSE



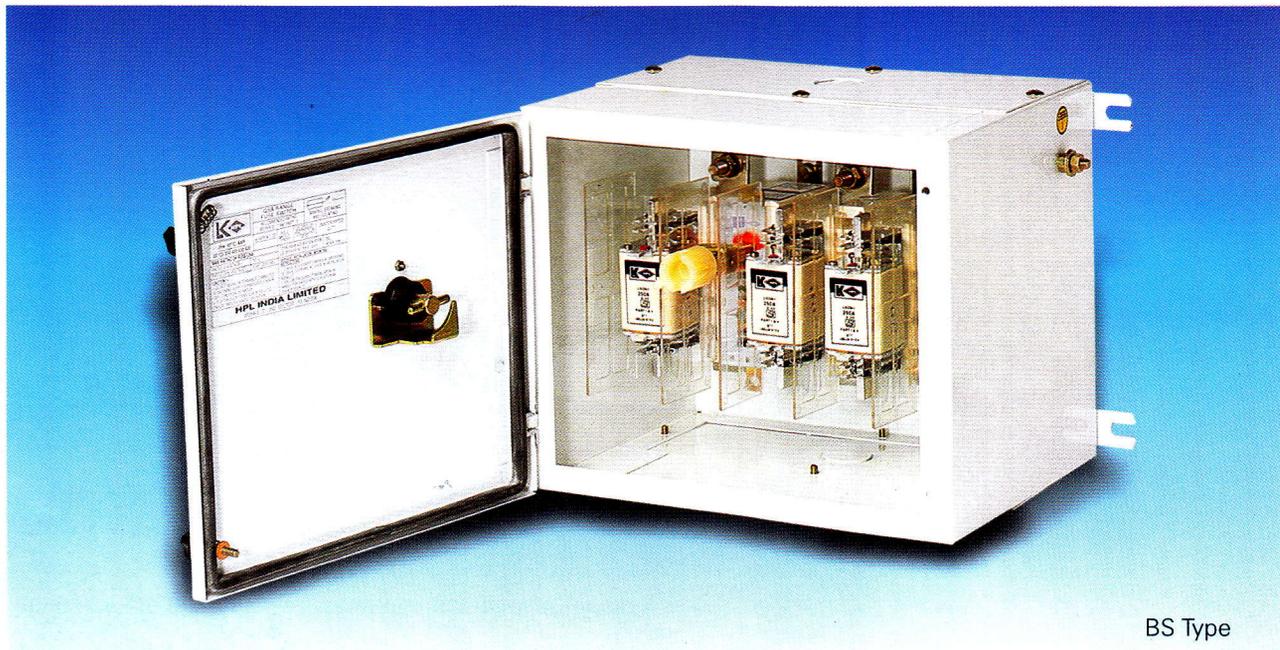
and when the distribution board is opened for inspection or maintenance.

The direct mechanical connection between the operating handle and the moving contact system ensures that the opening movement of the handle causes the contacts to open, so that the position of the handle is a positive indication of the contact position inside the switch.

HIGH SHORT-CIRCUIT CAPACITY

In the contact system described, each sector will carry only one fourth of the current, and during closing, the electro-dynamic counter force in each contact sector will be reduced by a factor of $(1/4)^2$ or to $1/16$.

This fact, together with the increase of the electro-dynamic forces between the parallel current paths in the copper rollers, prevents the contacts from opening even at extreme fault currents of 100KA rms. The effects described manifest themselves both in the case of through faults and also when the switches are closed on a short-circuit due to the high closing speed of the switch.



BS Type

STRONG POINTS

- Range : 32A to 800A, TP, TPN & 4 Pole, 415V, 50Hz
- Conforms to latest IEC/IS specifications, IS - 13947- 3 / IEC - 947-3
- Tested at CPRI, Bhopal
- Multiple Roller Contact Mechanism for long life and better performance
- Available in open execution and sheet steel enclosure

HIGH BREAKING CAPACITY

The high breaking capacity (Category AC-23A at 440V) is achieved mainly by dividing the breaking into four breaking points per phase.

This results in a distribution of the breaking load, with the effect that arcing time and contact erosion are reduced. This results in longer contact life.



SWITCH DISCONNECTOR FUSE

TECHNICAL DATA

Ref. IS : 13947-3/IEC 947-3

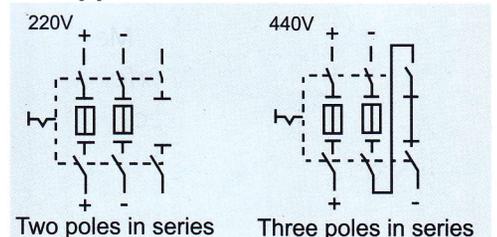


TECHNICAL DATA		OSA 32NO	OSA 63NO	OSA 125N1	OSA 160N1
Number of main poles	P	3*+Neutral	3*+Neutral	3*+Neutral	3*+Neutral
Rated operational voltage (Ue)	V	440	440	440	440
Rated insulation voltage (Ui)	V	750	750	1000	1000
Rated impulse withstand Voltage (Uimp)	kV	8	8	8	8
Rated frequency	Hz	50/60	50/60	50/60	50/60
Conventional enclosed thermal current at 40°C (Ithe)	A	32	63	125	160
Rated operational current (Ie) AC - 23A duty of utilization	A	32	63	125	160
Rated making capacity (440V, cosφ = 0.35)	A	320	630	1250	1600
Rated breaking capacity (440V, cosφ = 0.35)	A	256	504	1000	1280
Capacitor Duty Δ connected - 415V, 50/60 Hz	kVAr	20	40	60	60
Rated operational current (Ie) : d.c ***					
220V L/R = 15 ms. category DC 23	A	32	63	125	160
440V L/R = 15ms. category DC 23	A	32	63	125	160
Rated fused short circuit current, 440V KA rms		80	80	80	80
Max. fuse link	A	63	63	160	160
Mechanical endurance	operations	15000	15000	12000	12000
Weight	kg	1.00	1.15	1.7	1.85
Required torque	Nm	2.5	2.5	7.5	16
Fuse Knife type IS : 13703	Size	00	00	00	00
Fuse bolted type IS : 13703	Size	A2	A3	B1-B2	B1-B2
Neutral links Ithe	A	32	63	160	160
Auxiliary contact 440V AC11	A	4	4	4	4
Auxiliary contact 660 V AC1	A	10	10	10	10
Terminal capacity (main)	mm ²	35	35	95	95
Terminal capacity (neutral)	mm ²	35	35	50	50
Terminal screw	mm	M6 X 12	M6 X 12	M8 X 20	M8 X 20

NOTE:

- * Both knife type and Bolted type available in complete range of Switch Disconnecter Fuse.
- ** Subject to availability of 800A Fuse in size 3.
- *** DC application
220V, two poles in series. 440V, three poles in series

DC Application :



SWITCH DISCONNECTOR FUSE



Frame Size - 2

Frame Size - 3



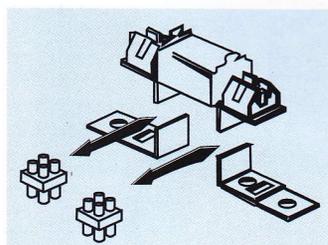
DIN Type

BS Type

DIN Type

BS Type

OSA 200N	OSA 250N	OSA 315N	OSA 400N	OSA 630	OSA 800
3*+Neutral	3*+Neutral	3*+Neutral	3*+Neutral	3*+Neutral	3*+Neutral
440	440	440	440	440	440
1000	1000	1000	1000	1000	1000
8	8	8	8	8	8
50/60	50/60	50/60	50/60	50/60	50/60
200	250	315	400	630	800
200	250	315	400	630	800
2000	2500	3150	4000	6300	8000
1600	2000	2520	3200	5040	6400
100	125	125	200	315	400
200	250	315	400	630	800
200	250	315	400	630	800
80	80	80	80	80	80
400	400	400	400	630	800
12000	12000	12000	12000	10000	10000
4.2	4.5	4.5	4.7	14	14.3
16	16	16	16	30	30
1	1-2	1-2	1-2	3	3**
B2	B2	B2	B2	C2	C2
200	250	315	400	630	630
4	4	4	4	6	6
10	10	10	10	10	10
240	400	400	2X 400	2X 625	2X 625
120	240	240	240	400	400
M10X30	M10X30	M10X30	M10X30	M12X40	M16X50



ROLLER CONTACT MECHANISM

Parallel current paths result in greater contact Pressure and higher short circuit capacity

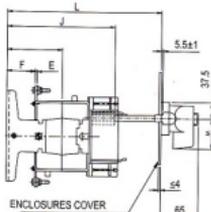
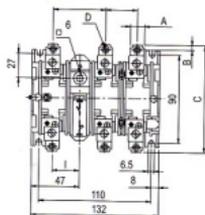


SWITCH DISCONNECTOR FUSE

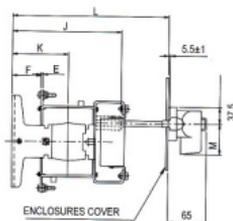
Dimensions (mm) - Switch Disconnecter Fuse - QSA Series

Frame Size - 0 Range : QSA 32A - 63A

Dimensions include both DIN & BS Type



DIN TYPE

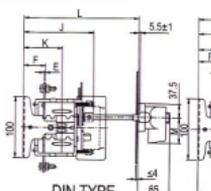
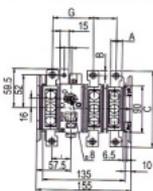


B.S. TYPE

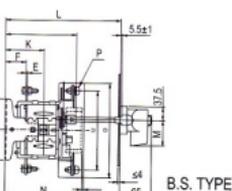
TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M
QSA 32NO	14	6	115	M6X1	2	30	53	33	31.5	122	61.5	203-233	62
QSA 63NO	14	6	115	M6X1	2.5	29.5	53	33	31.5	122	61.5	203-233	62

Frame Size - 1 Range : QSA 100A - 160A

Dimensions include both DIN & BS Type



DIN TYPE

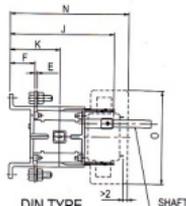
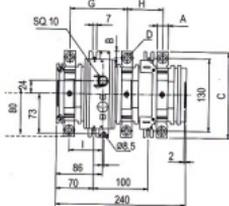


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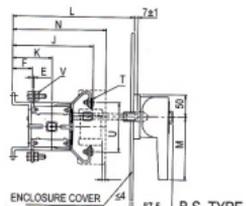
TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	U
QSA 100N1 BS	19	9.5	128	M6X1	3	42	66.5	45	37	135	71.5	205-250	62	173	150	M8	94
QSA 125N1 DIN	19	9.5	128	M6X1	3	42	66.5	45	37	135	71.5	205-250	62	173	150	M8	-
QSA 125N1 BS	19	9.5	128	M6X1	3	42	66.5	45	37	135	71.5	205-250	62	173	150	M8	111
QSA 160N1 DIN	19	9.5	128	M6X1	3	42	66.5	45	37	135	71.5	205-250	62	173	150	M8	-
QSA 160N1 BS	19	9.5	128	M6X1	3	42	66.5	45	37	135	71.5	205-250	62	173	150	M8	111

Frame Size - 2 Range : QSA 200A - 400A

Dimensions include both DIN & BS Type



DIN TYPE



B.S. TYPE

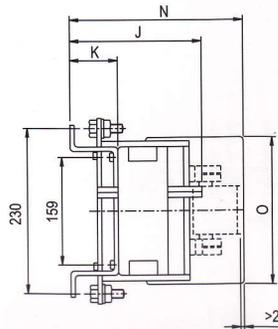
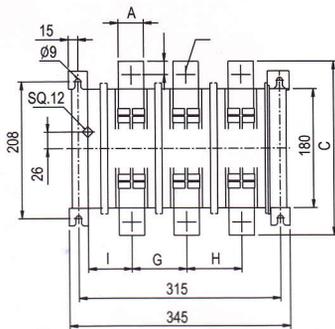
TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	T	U	V
QSA 200N	20	12.5	160	M10X1.5	4	44	107	65	59.5	158	86	225-270	140	213	160	M8X1.25	111	M10X1.5
QSA 250N	32	16	177	M10X1.5	4	44	107	72	59.5	158	86	225-270	140	213	160	M8X1.25	111	M10X1.5
QSA 315N	38	16	187	M10X1.5	6	42	107	72	59.5	158	86	225-270	140	213	160	M8X1.25	111	M10X1.5
QSA 400N	38	16	187	M10X1.5	6	42	107	65	59.5	158	86	225-270	140	213	160	M8X1.25	111	M10X1.5

SWITCH DISCONNECTOR FUSE

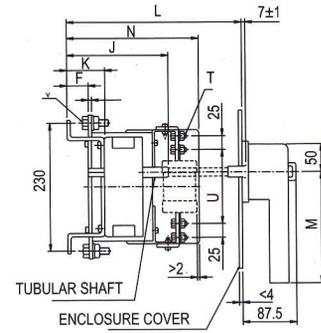


Frame Size - 3 Range : QSA 630A - 800A

Dimensions include both DIN & BS Type



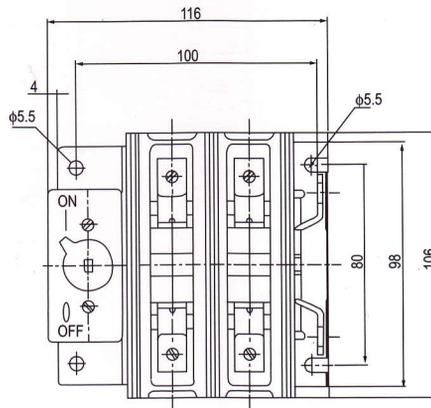
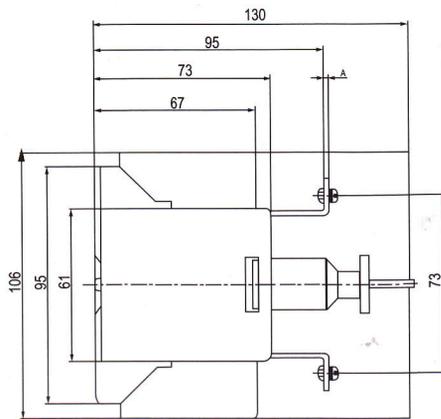
DIN TYPE



B.S. TYPE

TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	T	U	V
QSA 630	40	20.5	270	M12X1.75	6	43	87	87	60	181	67.5	280-300	200	260	205	M8X1.25	133	M12X1.75
QSA 800	50	20.5	280	M12X1.75	6	43	87	87	60	181	67.5	280-300	200	260	205	M8X1.25	133	M12X1.75

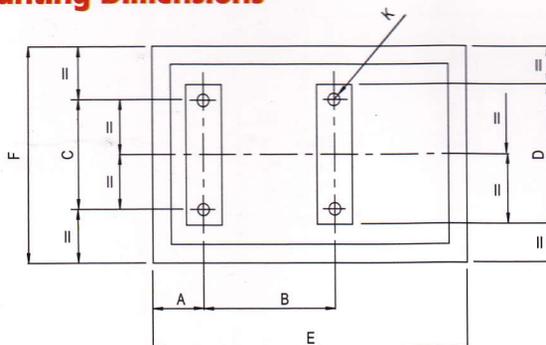
2 Pole HCB Range : 32A - 63A



TYPE	A
32 A	2.0
63 A	2.5

Mounting Dimensions

Dimensions include both DIN & BS Type



TYPE	A	B	C	D	E	F	K
32A-63A	54	110	90	120	265	210	M6X20
125A-160A	54	135	90	120	265	260	M6X20
200A-250A	118	100	130	150	350	285	M6X20
315A-400A	118	100	130	150	350	325	M6X20
630A	49.5	315	208	230	420	380	M8X20
800A	49.5	315	208	230	420	440	M8X20