

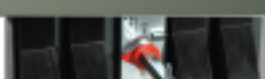
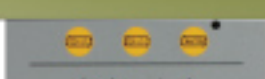
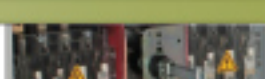
**FOR THOSE WHO
NEED *speed!***



Switchgear
Systems Ltd

Manufacturers of Electrical Switchgear



2	<i>proline</i> Sheet Steel Enclosed Products	
3	Sheet Steel Enclosed Double Break Switchfuses	
4	Sheet Steel Enclosed Load Break Isolator	
5	Sheet Steel Busbar Chambers	
6	Sheet Steel Enclosed MCCBs and RCBOs	
7	Sheet Steel Enclosed 4 Pole Contactors	
8	Sheet Steel Enclosed Changeover Switches I-0-II	
9	Sheet Steel Junction Boxes - Generator Hook Ups	
10	Choosing an Automated Transfer System	
11	Main to Backup ATS Panels	
12 & 13	Main to Generator ATS panels	
14	Sheet Steel Enclosed Bypass Switches I-0-II	
15	Panelboards and Section Boards	
16	Power Rated Earth and Neutral Bars	
16	Combination and Distribution Units	

All items are sold under Switchgear Systems Limited standard terms and conditions.
It is the responsibility of the installer to ensure items are fitted to the requirements of BS 7671
(Wiring Regulations) and best working practice.



Switchgear
Systems Ltd

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**FOR THOSE WHO
NEED *speed!***

Proline Sheet Steel Enclosed Products

- Fully load rated AC22A 415V.
- BSEN60947-3 Conformity.
- Door interlocked padlockable handles on hinged units.
- Alternative pole configurations and auxiliary contacts available.
- Removable gland plate top & bottom (not on SPN).



Proline products are designed to offer quality, user friendly, practical and cost effective solutions for most indoor applications.



Nominal Rating I _e 415V	Reference	Fuse Type (included)	Ingress Protection	Dimensions mm					
				H	W	D	A	Ø	B

SP&N Switchfuses with 4 screw lid

63A	SF63SPN	22x58	IP41	250	115	60	25 cage		100
80A	SF80SPN	22x58	IP41	250	115	60	25 cage		100
100A	SF100SPN	22x58	IP41	305	135	60	25 cage		130



TP&N Switchfuses with hinged door

20A	SF20	10x38	IP41	300	180	110	10 cage		80
32A	SF32	10x38	IP41	300	180	110	16 cage		80
63A	SF63	BAO	IP41	400	230	110	20	M8	105
100A	SF100	OSD	IP41	400	230	110	20	M8	105
125A	SF125	TIS	IP41	400	230	110	20	M8	105



TP&N 16kA MCCB with 4 screw lid

63A	MC T1 6/3	IP41	400	230	110	50 cage		150
80A	MC T1 8/3	IP41	400	230	110	50 cage		150
100A	MC T1 10/3	IP41	400	230	110	50 cage		150
125A	MC T1 12/3	IP41	400	230	110	50 cage		150
160A	MC T1 16/3	IP41	400	230	110	50 cage		150



TP&N Load Break Isolators with hinged door

20A	LB20	IP41	300	180	110	10 cage		130
32A	LB32	IP41	300	180	110	16 cage		130
63A	LB63	IP41	300	180	110	25 cage		125
100A	LB100	IP41	400	230	110	20	M8	150
125A	LB125	IP41	400	230	110	20	M8	150
160A	LB160	IP41	400	230	110	20	M8	150

- Alternative configurations, 3 or 4 pole + auxiliary contacts.
- Larger enclosures to suit customer's individual requirements together with IP65, Stainless Steel and GRP.



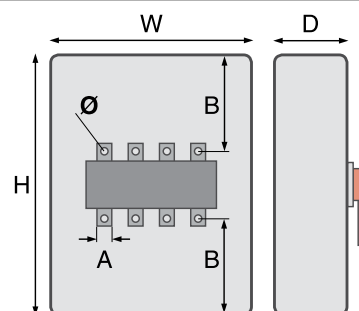
Sheet Steel Enclosed Double Break Switchfuses

- Fully load rated AC23A 415 to 690V.
- Fitted with general purpose BS88 HRC fuses.
- Double break, fuses isolated on both sides.
- BSEN60947-3 Conformity.
- Door interlocked padlockable handles.
- Removable gland plate top (up to 700h) and bottom.



Nominal Rating I _e 415V		Reference TP&N ie. 3P & solid neutral	Reference 4 pole ie. 3P & switched neutral	Ingress Protection	Fuse Type (included)	Dimensions					
						H	W	D	A	Ø	B
63A	30kW	ST IHF 6/3+N+F	ST IHF 6/4+F	IP55	BAO	400	300	200	14	M5	143
100A	45kW	ST IHF 10/3+N+F	ST IHF 10/4+F	IP55	CEO	500	400	200	20	M8	173
125A	55kW	ST IHF 12/3+N+F	ST IHF 12/4+F	IP55	DEO	500	400	200	20	M8	173
160A	75kW	ST INF 16/3+N+F	ST INF 16/4+F	IP55	DD	500	400	200	20	M8	194
200A	105kW	ST INF 20/3+N+F	ST INF 20/4+F	IP55	DD	700	500	250	25	M10	282
250A	132kW	ST INF 25/3+N+F	ST INF 25/4+F	IP55	ED	700	500	250	30	M10	282
315A	155kW	ST INF 30/3+N+F	ST INF 30/4+F	IP55	ED	700	500	250	30	M10	282
400A	200kW	ST INF 40/3+N+F	ST INF 40/4+F	IP55	ED	800	600	300	40	M12	300
500A	355kW	ST INF 50/3+N+F	ST INF 50/4+F	IP55	FF	1000	600	300	40	M12	400
630A	355kW	ST INF 63/3+N+F	ST INF 63/4+F	IP55	FF	1000	600	300	40	M12	400
800A	400kW	ST INF 80/3+N+F	ST INF 80/4+F	IP55	GF	1200	800	300	40	M12	500

Enclosures are selected to provide adequate wiring room for "standard" cables. Larger enclosures to suit customer's individual requirements together with IP65, Stainless Steel and GRP enclosures, are also available.



- Alternative fuse link ratings.
- Spreader terminals and multi cable connection facilities.
- Alternative voltage requirements 1000V AC and DC.
- Auxiliary contacts 1 x N/O, 1 x N/C to retro fit.
- Aluminium, Tufnol or brass gland plates.
- Indicator lamps or additional equipment.

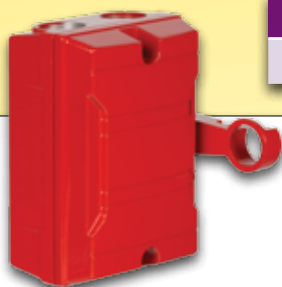


Sheet Steel Enclosed Load Break Isolator

- Fully load rated AC23A 415 to 690V.
- BSEN60947-3 Conformity.
- Door interlocked padlockable handles.
- Removable gland plate top (up to 700h) and bottom.



Nominal Rating I _e 415V		Reference TP&N ie. 3P & solid neutral	Reference 4 pole ie. 3P & switched neutral	Ingress Protection	Dimensions					
					H	W	D	A	Ø	B
20A	9.5kW	ST ISO 2/3+N	ST ISO 2/4	IP55	200	200	120	10 cage		80
32A	11.5kW	ST ISO 3/3+N	ST ISO 3/4	IP55	200	200	120	16 cage		80
63A	22kW	ST ISO 6/3+N	ST ISO 6/4	IP55	200	200	120	25 cage		75
100A	45kW	ST ISO 10/3+N	ST ISO 10/4	IP55	400	300	150	20	M8	150
125A	55kW	ST ISO 12/3+N	ST ISO 12/4	IP55	400	300	150	20	M8	150
160A	75kW	ST ISO 16/3+N	ST ISO 16/4	IP55	400	300	150	20	M8	150
200A	105kW	ST ISO 20/3+N	ST ISO 20/4	IP55	500	400	200	20	M8	165
250A	132kW	ST ISO 25/3+N	ST ISO 25/4	IP55	700	500	200	25	M10	280
315A	155kW	ST ISO 30/3+N	ST ISO 30/4	IP55	700	500	200	30	M10	280
400A	200kW	ST ISO 40/3+N	ST ISO 40/4	IP55	700	500	200	30	M10	280
500A	355kW	ST ISO 50/3+N	ST ISO 50/4	IP55	800	600	300	40	M12	300
630A	355kW	ST ISO 63/3+N	ST ISO 63/4	IP55	800	600	300	40	M12	300
800A	400kW	ST ISO 80/3+N	ST ISO 80/4	IP55	1000	800	300	40	M12	400
1000A	500kW	ST ISO 100/3+N	ST ISO 100/4	IP55	1200	800	300	40	M12	440
1250A	on app	ST ISO 125/3+N	ST ISO 125/4	IP55	1200	800	300	40	M12	440



Firemans Switch									
25A	FMS 25/2	IP65	130	109	60	10 cage		50	

- Die cast Aluminium enclosure.
- Operates with fireman hook or axe - down for OFF.
- Two handed switch ON.
- 2 pole 230V AC22A.
- 2 x M25 gland enteries top and bottom.



**Special
Requirement?
Just Ask!**

- Spreader terminals and Multi cable connection facilities.
- Alternative voltage requirements 1000V AC and DC.
- Auxiliary contacts 1 x N/O, 1 x N/C to retro fit.
- Aluminium, Tufnol or brass gland plates.



Sheet Steel Busbar Chambers

- 4 fully rated poles up to 800A.
- Twin copper bar design for convenient clamping.
- Fully compliant with BSEN 60439-1.
- All panels removable.



Nominal Rating I _e 415V	Ingress Protection	Dimensions mm							
		W 600	W 900	W 1200	W 1500	W 1800*	W 2100*	H	D
125A	IP41	BB12/6	BB12/9					380	210
200A	IP41	BB20/6	BB20/9	BB20/12	BB20/15	BB20/18	BB20/21	380	210
400A	IP41	BB40/6	BB40/9	BB40/12	BB40/15	BB40/18	BB40/21	380	210
630A	IP41	BB63/6	BB63/9	BB63/12	BB63/15	BB63/18	BB63/21	380	210
800A	IP41	BB80/6	BB80/9	BB80/12	BB80/15	BB80/18	BB80/21	380	210
	IP41	CAB6	CAB9	Empty cabinets for spreader box				380	210

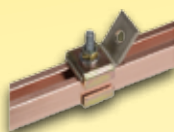


*1800 wide and above busbars will be shipped in sections with a joining kit.

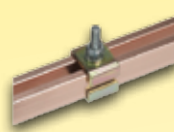
Connection Clamps			
Max Load	Reference	Max Cable mm ²	Connection
160A	BCT/1	50	LUG M6
200A	BCT/2	70	LUG M8
800A	BCT/3	240	LUG M12
800A	BCT/400	400	LUG M12
160A	BCE/50	50	Direct cable
250A	BCE/95	95	Direct cable

Connection Kits			
Max Load	Isolator Kit	Switchfuse Kit	Kits = 4 x flexibar connectors and appropriate clamps
200A	BCCKD/20	BCCKSF/20	
400A	BCCKD/40	BCCKSF/40	
630A	BCCKD/63	BCCKSF/63	
800A	BCCKD/80	BCCKSF/80	
Kits are designed for Switchgear Systems devices only			

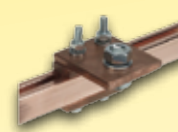
Busbar joining kits		
630A	JJK6	4 x clamps and bolts
800A	JJK8	4 x clamps and bolts



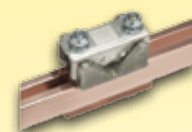
BCT/1



BCT/2

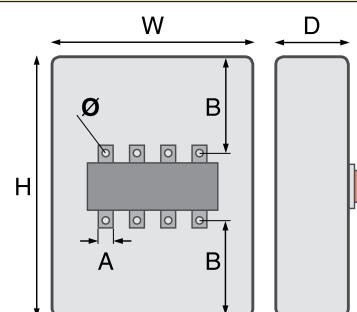


BCT/3



BCE/50

Enclosures are selected to provide adequate wiring room for "standard" cables. Larger enclosures to suit customer's individual requirements together with IP65, Stainless Steel and GRP enclosures, are also available.



Sheet Steel Enclosed MCCBs and RCBOs

- Fully load rated ABB TMAX breakers.
- BSEN60947-2, IEC 60439-1 conformity.
- Thermomagnetic release as standard.
- Door interlocked padlockable handles.



Nominal Rating I _e 415V	I _{cu} Short circuit breaking	Reference TP&N ie. 3Pole & solid neutral	Reference 4 pole	Ingress Protection	Dimensions mm					
					H	W	D	A	Ø	B
63A	16kA	ST T1 6/3 16kA	ST T1 6/4 16kA	IP55	400	300	200	50 cage		135
100A	16kA	ST T1 10/3 16kA	ST T1 10/4 16kA	IP55	400	300	200	50 cage		135
125A	16kA	ST T1 12/3 16kA	ST T1 12/4 16kA	IP55	500	400	200	17	M8	165
160A	16kA	ST T1 16/3 16kA	ST T1 16/4 16kA	IP55	500	400	200	17	M8	165
200A	36kA	ST T3 20/3 36kA	ST T3 20/4 36kA	IP55	600	400	200	17	M8	200
250A	36kA	ST T3 25/3 36kA	ST T3 25/4 36kA	IP55	600	400	200	20	M10	200
320A	36kA	ST T4 32/3 36kA	ST T4 32/4 36kA	IP55	700	500	250	20	M10	220
400A	36kA	ST T5 40/3 36kA	ST T5 40/4 36kA	IP55	800	600	250	30	M10	270
630A	36kA	ST T5 63/3 36kA	ST T5 63/4 36kA	IP55	800	600	250	30	M10	270
800A	50kA	ST T7 80/3 50kA	ST T7 80/4 50kA	IP55	1000	800	300	40	M10	320

RCBO's have a built in one piece toroidal transformer and earth leakage relay featuring:-

- Variable tripping current 0.025 – 25A.
- Adjustable time delay 0.02 – 5 sec.
- Auto or manual trip reset.



Nominal Rating I _e 415V	I _{cu} Short circuit breaking	Reference 4 pole with Earth Leakage Relay	Ingress Protection	Dimensions mm						
				H	W	D	A	Ø	B	B bottom
63A	16kA	ST T1 6/4 16kA ELR	IP55	500	400	200	17	M8	135	235
100A	16kA	ST T1 10/4 16kA ELR	IP55	500	400	200	17	M8	135	235
125A	16kA	ST T1 12/4 16kA ELR	IP55	600	400	200	17	M8	165	265
160A	16kA	ST T1 16/4 16kA ELR	IP55	600	400	200	17	M8	165	265
200A	36kA	ST T3 20/4 36kA ELR	IP55	700	500	250	20	M10	200	300
250A	36kA	ST T3 25/4 36kA ELR	IP55	700	500	250	20	M10	200	300
320A	36kA	ST T4 32/4 36kA ELR	IP55	800	600	250	20	M10	220	320
400A	36kA	ST T5 40/4 36kA ELR	IP55	1000	600	300	30	M10	270	470
630A	36kA	ST T5 63/4 36kA ELR	IP55	1000	600	300	30	M10	270	470

Sheet Steel Enclosed 4 Pole Contactors

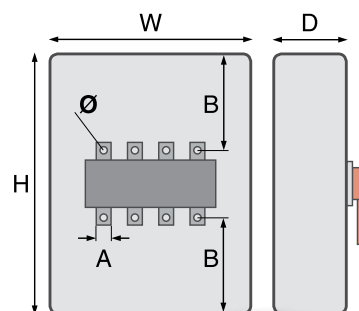
- 240V coil with fuse protection.
- IEC 60947-4 rated.
- IP2X shrouded terminals.

Stop Start units have red twist to reset emergency stop and green start pushbuttons wired into a standard stop/start circuit. Additional terminals are provided for wiring in an E stop loop.



AC1 Rating 380-440V	AC3 Rating 380-440V		Reference 4 pole	Reference 4 pole with stop-start circuit	Ingress Protection	Dimensions mm					
						H	W	D	A	Ø	B
40A	22A	11kW	ST CON 4/4	ST CON 4/4 STP	IP41	300	180	110	12	M4	125
60A	40A	18.5kW	ST CON 6/4	ST CON 6/4 STP	IP41	300	180	110	12	M4	125
80A	50A	22kW	ST CON 8/4	ST CON 8/4 STP	IP55	400	300	150	20	M6	160
100A	65A	30kW	ST CON 10/4	ST CON 10/4 STP	IP55	400	300	150	20	M8	160
135A	85A	45kW	ST CON 13/4	ST CON 13/4 STP	IP55	500	400	200	25	M8	170
150A	105A	55kW	ST CON 15/4	ST CON 15/4 STP	IP55	600	400	200	25	M8	220
200A	150A	75kW	ST CON 20/4	ST CON 20/4 STP	IP55	600	400	250	25	M10	220
260A	225A	132kW	ST CON 26/4	ST CON 26/4 STP	IP55	700	500	250	30	M12	250
420A	400A	200kW	ST CON 42/4	ST CON 42/4 STP	IP55	700	500	250	30	M12	250

Enclosures are selected to provide adequate wiring room for "standard" cables. Larger enclosures to suit customer's individual requirements together with IP65, Stainless Steel and GRP enclosures, are also available.



- Aluminium, tufnol or brass gland plates.
- Indicator lamps on additional equipment.
- Units with alternative coil voltages, DC ratings and overloads are also available.

**Special
Requirement?
Just Ask!**

Sheet Steel Enclosed Changeover Switches I-0-II

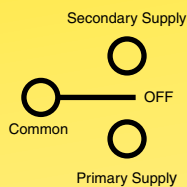
- Fully load rated AC22A 415 to 690V.
- BSEN60947-3 conformity.
- Break-before-make with centre OFF.
- Complete changeover switching system in one unit, no bridging bars required.
- Door interlocked padlockable handle.



IMPORTANT NOTE: Changeover switch should be selected to match the current taken by the load being supplied. In the absence of this information select based on the higher current of the supplies. If using a generator it is unreliable to use its KVA rating to calculate changeover switch size.

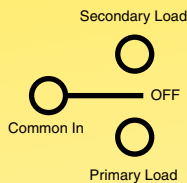
Switchgear Systems changeover switches are a one piece construction with three sets of contacts driven from a single shaft.

This makes them ideal for selecting between two supplies to a common output.



or

For use where there is a single supply to be used on either of two outputs.



1-2 Transfer switches with no OFF position are available on request.



Nominal Rating I _e 415V	Reference 4 pole	Ingress Protection	Dimensions mm					
			H	W	D	A	Ø	B
63A	ST CHO 6/4	IP55	500	400	200	15	M6	180
100A	ST CHO 10/4	IP55	500	400	200	15	M6	180
125A	ST CHO 12/4	IP55	500	400	200	15	M6	180
160A	ST CHO 16/4	IP55	500	400	200	20	M8	180
200A	ST CHO 20/4	IP55	600	400	250	20	M8	225
250A	ST CHO 25/4	IP55	700	500	250	25	M10	250
315A	ST CHO 30/4	IP55	700	500	250	30	M10	250
400A	ST CHO 40/4	IP55	800	600	250	30	M10	300
500A	ST CHO 50/4	IP55	800	600	250	35	M10	300
630A	ST CHO 63/4	IP55	1000	600	250	35	M10	400
800A	ST CHO 80/4	IP55	1000	600	300	40	M12	375
1000A	ST CHO 100/4	IP55	1200	800	300	40	M12	475
1250A	ST CHO 125/4	IP55	1200	800	300	40	M12	475

Changeover switches complete with 5 pin 415V Appliance Inlet on the bottom, wired to secondary input terminals

63A	ST CHO 6/4+INLET	IP55	500	400	200	15	M6	180
125A	ST CHO 12/4+INLET	IP55	500	400	200	15	M6	180

**Special Requirement?
Just Ask!**

- Spreader terminals.
- Multi cable connection facilities.
- Auxiliary contacts to retro fit.
- Aluminium, Tufnol or Brass gland plates.
- Indicator lamps or additional equipment.



Sheet Steel Junction Boxes - Generator Hook Ups

- Insulated rating 1000V.
- Fully shrouded. (see below)
- Bolt connection for cable lugs.
- Padlockable hinged door enclosure.



A flexible solution to large cable management.

They can be used as junction boxes, to terminate or extend cables or as generator hook up points for bringing in a temporary supply.

Nominal Rating I _e 415V	Reference 3 pole	Reference 4 pole	Reference 5 pole inc. bonded earth	Ingress Protection	Maximum cable size/phase	Dimensions					
						H	W	D	A	Ø	B

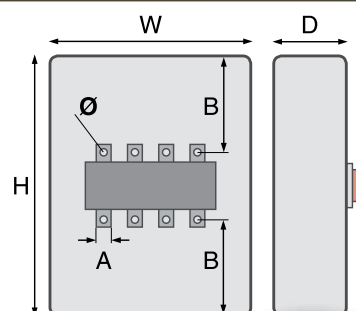
Junction boxes with individually shrouded power terminals

250A	STJB 95/3	STJB 95/4	STJB 95/5	IP65	95	600	400	200	18	M10	250
335A	STJB 150/3	STJB 150/4	STJB 150/5	IP65	150	700	500	200	26	M12	300
350A	STJB 185/3	STJB 185/4	STJB 185/5	IP65	185	800	600	250	26	M12	350
415A	STJB 240/3	STJB 240/4	STJB 240/5	IP65	240	800	600	250	26	M12	350

Junction boxes with individual copper bars on insulators with all over shrouding

500A	STJB 500/3	STJB 500/4	STJB 500/5	IP65	2 x 300	1000	600	250	40	M12	390
630A	STJB 630/3	STJB 630/4	STJB 630/5	IP65	2 x 400	1000	600	300	50	M12	390
800A	STJB 800/3	STJB 800/4	STJB 800/5	IP65	2 x 400	1000	800	300	50	M12	390
1000A	STJB 1000/3	STJB 1000/4	STJB 1000/5	IP65	2 x 400	1200	800	300	60	M12	490

Enclosures are selected to provide adequate wiring room for "standard" cables. Larger enclosures to suit customer's individual requirements together with IP65, Stainless Steel and GRP enclosures, are also available.



- Junction boxes for multi cables per phase.
- Junction boxes for alternative cable sizes.
- Aluminium, Tufnol or letter box brush gland entry.

**Special Requirement?
Just Ask!**

Choosing an Automatic Transfer System

Switchgear Systems offer a variety of solutions for multiple supply switching needs. As well as our range of manual changeover switches there is a selection of Automatic changeover solutions to suit the varying needs of the modern power supply market.

All changeover solutions are rated at the current of the main primary supply. The KVA rating of the generator is not a reliable indicator as often an over or under sized generator is used; it is the rating of the load and of the protection you have in place that is most relevant. If in doubt look at the rating of the first piece of upstream protection.

M2M Mains to Backup

Also known as mains to mains or primary to secondary. These ATS units are used where both power supplies are always assumed to be available i.e. permanent mains supplies or generators that will have been started for other functions.

M2M also includes applications where a single supply is used but takes two routes through a building as required for lifts in public buildings.

M2G - Mains to Generator

These ATS units are used to signal a generator to start and stop when the main supply fails and returns.

M2G units require a DC power supply which is normally taken from the generator's starter battery.

If connection to this battery is not convenient then an alternative must be found, otherwise the 'integrated DC supply' package must be added to the ATS panel.

The Switching Device

Our standard range of ATS panels use two methods of switching: interlocked contactors or motorised changeover switches. ATS panels with MCCB's or ACB's are also available.

Contactor switching - The changeover period between contactors will tend to be shorter (less than a second). Small contactors are a relatively inexpensive option due to their widespread use.

Motorised Changeover switching - The key advantage of a motorised switch is its manual override option; this turns it into a I-O-II manual changeover switch which can be useful for maintenance or if there are problems with supplies. Also, motorised switches only energise the motor in the event of a changeover whereas the coils on contactors are always energised.

Supply Type	Mains to Backup				Mains to Generator	
Version	Standard	Advanced	Standard	Advanced	Advanced	Advanced
Reference Suffix	M2M CS	M2M CA	M2M SS	M2M SA	M2G C705	M2G S705
Phase failure and undervoltage monitoring of primary supply.	✓	✓	✓	✓	✓	✓
Interlocked contactor switching.	✓	✓			✓	
Motorised Changeover switching.			✓	✓		✓
Manual override of supplies.			✓	✓	✓	✓
Supply available indication.	✓	✓	✓	✓	✓	✓
Supply in use indication.		✓		✓	✓	✓
Adjustable time delay between switching.		✓		✓	✓	✓
Dedicated Fire Fighting Lift.		✓		✓		

Main to Backup ATS Panels

These models are suited to applications where both power supplies are always assumed to be available or where no further intervention is required to activate the supplies.

■ Features of Standard panels

- All phases are monitored to protect against total power loss, phase failure and voltage variations of the primary supply.
- Adjustable over and under voltage trip delay.
- Electrical and mechanical interlocks between supplies.
- External LED supply healthy indicators with parallel terminals for customer remote indication.

■ Features of Advanced panels

All the features of the standard model as well as the following:-

- User definable switching delay on both trip and return in all fault conditions.
- External LED supply in use indicators with parallel terminals for customer remote indication.



Nominal Rating I _e 415V	Standard	Advanced	Ingress Protection	Dimensions mm					
				H	W	D	A	Ø	B

2 pole for single phase supplies - Contactor Switching

40A	ATS4/2 M2MCS	ATS4/2 M2MCA	IP55	500	400	200	25 cage	100
63A	ATS6/2 M2MCS	ATS6/2 M2MCA	IP55	500	400	200	25 cage	100
80A	ATS8/2 M2MCS	ATS8/2 M2MCA	IP55	600	400	200	35 cage	120
100A	ATS10/2 M2MCS	ATS10/2 M2MCA	IP55	600	400	200	35 cage	120

4 pole for 3 phase supplies - Contactor Switching

40A	ATS4/4 M2MCS	ATS4/4 M2MCA	IP55	600	400	200	25 cage	120
63A	ATS6/4 M2MCS	ATS6/4 M2MCA	IP55	600	400	200	25 cage	120
80A	ATS8/4 M2MCS	ATS8/4 M2MCA	IP55	700	500	200	35 cage	150
100A	ATS10/4 M2MCS	ATS10/4 M2MCA	IP55	700	500	200	35 cage	150
125A	ATS12/4 M2MCS	ATS12/4 M2MCA	IP55	700	500	200	50 cage	150

4 pole for 3 phase supplies - Motorised Switching with manual override

160A	ATS16/4 M2MSS	ATS16/4 M2MSA	IP55	700	500	200	24	M8	280
200A	ATS20/4 M2MSS	ATS20/4 M2MSA	IP55	800	600	250	24	M10	300
250A	ATS25/4 M2MSS	ATS25/4 M2MSA	IP55	800	600	300	25	M10	300
400A	ATS40/4 M2MSS	ATS40/4 M2MSA	IP55	800	600	300	30	M10	300



Door interlocked isolators can be incorporated into panels. We would however recommend mounting separate isolators or switchfuse line protection adjacent to the ATS panel.



Main to Generator ATS panels

These models utilise a microprocessor interface to monitor the primary supply and provide a volt free contact to connect to the generator start circuit. **Please note** these panels require a constant DC supply to operate. If this is not available on site one can be integrated into the panel.

- **Primary supply phases monitored for total power loss, phase failure and voltage variations.**
- **Volt free contact provided for generator negative start signal.**
- **Additional n/o contact terminals.**
- **Electrical and mechanical interlocks between supplies.**
- **Configurable graphic interface providing:**
 - Automatic mode.
 - Manual generator ON load mode.
 - Manual generator OFF load mode.
 - Adjustable delays for mains fail and return.
 - Adjustable voltage limits for mains fail and return.
 - Adjustable delays for generator warm up and cool down.
 - External LED indication of supply healthy and supply in use.
 - Front of panel set up.



Nominal Rating I _e 415V	Reference	Ingress Protection	*Control Voltage	Dimensions mm					
				H	W	D	A	Ø	B

2 pole for single phase supplies - Contactor Switching

40A	ATS4/2 M2GC705	IP55	12V DC	600	400	200	25 cage	100
63A	ATS6/2 M2GC705	IP55	12V DC	600	400	200	25 cage	100
80A	ATS8/2 M2GC705	IP55	12V DC	600	400	200	35 cage	100
100A	ATS10/2 M2GC705	IP55	12V DC	600	400	200	35 cage	100

4 pole for 3 phase supplies - Contactor Switching

40A	ATS4/4 M2GC705	IP55	12V DC	600	400	200	25 cage	120
63A	ATS6/4 M2GC705	IP55	12V DC	600	400	200	25 cage	120
80A	ATS8/4 M2GC705	IP55	12V DC	700	500	200	35 cage	150
100A	ATS10/4 M2GC705	IP55	24V DC	700	500	200	35 cage	150
125A	ATS12/4 M2GC705	IP55	24V DC	700	500	200	50 cage	150

4 pole for 3 phase supplies - Motorised Switching with manual override

160A	ATS16/4 M2GS705	IP55	24V DC	700	500	200	24	M8	280
200A	ATS20/4 M2GS705	IP55	24V DC	800	600	250	24	M8	300
250A	ATS25/4 M2GS705	IP55	24V DC	800	600	300	25	M10	300
400A	ATS40/4 M2GS705	IP55	24V DC	800	600	300	30	M10	300
630A	ATS63/4 M2GS705	IP55	24V DC	1000	600	300	35	M10	390
800A	ATS80/4 M2GS705	IP55	24V DC	1000	800	300	40	M12	350
1000A	ATS100/4 M2GS705	IP55	24V DC	1200	800	300	40	M12	450
1250A	ATS125/4 M2GS705	IP55	24V DC	1200	800	300	40	M12	450

Main to Generator ATS panels

Control Panel Operation

Auto mode.

Upon detection of mains failure the unit sends a start request to the generator by closing the volt free contact wired into the negative start circuit. Once the generator output is within pre-set limits the load will be switched. The unit will switch the load back to the mains on its return to pre-set limits.

Manual OFF load mode.

This mode will turn ON the generator for maintenance testing, but continue to run the load using the mains supply. Should the mains fail in this mode the panel will switch the load onto the generator.

Manual ON load mode.

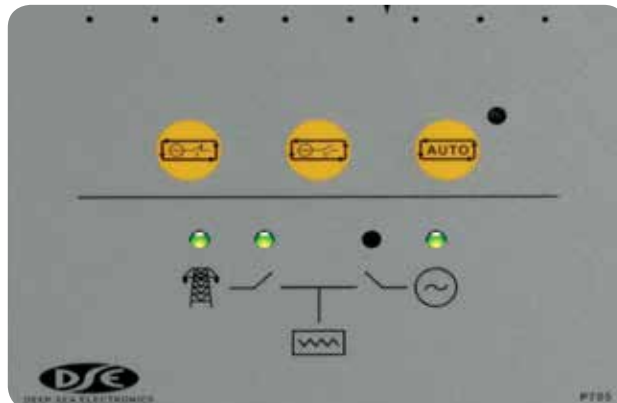
This mode will signal to switch ON the generator using the pre-set, it will then change the panel over to run the load from the generator.

Status Indication.

The outer left LED indicates the mains supply is available and healthy, the inner left LED indicates mains contact closed and providing power. The inner right LED indicates generator contact closed and providing power and the outer right LED indicates that the generator is available.

Configuring the panel.

The adjustable delays and limits are achieved by toggling a small switch located on the top left hand side on the back of the controller. It is partially hidden just behind the PCB to prevent accidental switching. The mode buttons are then used to change the function codes. Full set up instructions are included with each panel.



Self Maintained Power Supplies	12V DC	24V DC
Built into the panel. Suffix reference	/12V MPS	/24V MPS
Stand alone MPS	160012	160024

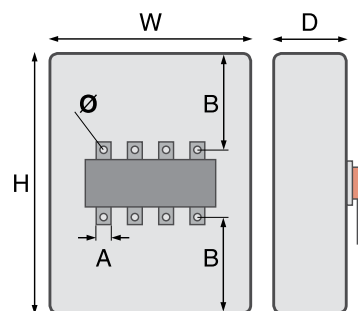
Retro-Fit Voltage Change Kit	12V DC	24V DC
kit of 3 relays	12VCK	24VCK

***Note:** All panels need a continuous DC supply to power the control panel. This is normally taken from the generator battery; hence the control voltage has been selected to match normal battery voltages.

If you do not wish to use the generator battery a built-in or stand-alone self-maintained power source can be used.



Enclosures are selected to provide adequate wiring room for "standard" cables. Larger enclosures to suit customer's individual requirements together with IP65, Stainless Steel and GRP enclosures, are also available.



Sheet Steel Enclosed Bypass Switches I-0-II

- Break-Before-Make with OFF.
- Fully load rated AC22A 415 - 690V.
- BSEN60947-3 conformity.
- Door interlocking padlockable handle.



Horizontal Bypass Switches

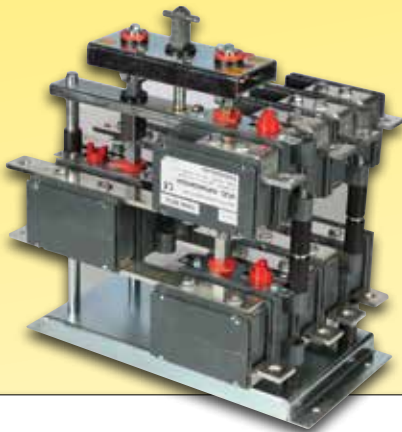
Designed to easily facilitate all cables from one direction with linking on the other side.

Nominal Rating I _e 415V	Reference 4 pole	Ingress Protection	Dimensions mm					
			H	W	D	A	Ø	B
63A	ST CHO BY1 6/4	IP55	700	500	200	15	M6	280
100A	ST CHO BY1 10/4	IP55	700	500	200	15	M6	280
125A	ST CHO BY1 12/4	IP55	700	500	200	15	M6	280
160A	ST CHO BY1 16/4	IP55	700	500	200	20	M8	280

Layered Bypass Switches

Designed to minimize panel width and keep each set of cables separated. As standard they facilitate bypass cabling from one direction and equipment from the other. However a variety of cable directions can be catered for.

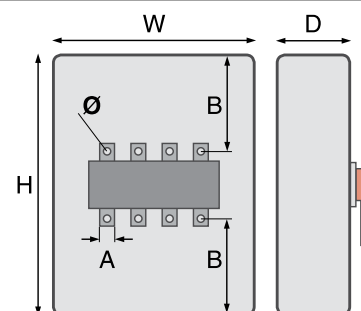
Nominal Rating I _e 415V	Reference 4 pole	Ingress Protection	Dimensions mm					
			H	W	D	A	Ø	B
250A	ST BYCP 25/4	IP55	800	600	400	25	M10	280
315A	ST BYCP 30/4	IP55	1000	600	400	25	M10	380
400A	ST BYCP 40/4	IP55	1000	600	400	25	M10	380
630A	ST BYCP 63/4	IP55	1400	800	500	30	M12	550
800A	ST BYCP 80/4	IP55	1400	800	500	30	2 x M12	550



Bypass switches 1000A and above are in floor standing enclosures

1000A	ST BYCP 100/4	IP55	1700	800	600	40	2 x M12	570
1250A	ST BYCP 125/4	IP55	1900	800	600	40	2 x M12	670
1600A	ST BYCP 160/4	IP55	1900	800	600	40	2 x M12	670

Enclosures are selected to provide adequate wiring room for "standard" cables. Larger enclosures to suit customers individual requirements together with IP65, Stainless Steel and GRP enclosures, are also available.



Panelboards and Section Boards

Switchgear Systems are strategic partners with ABB for Tri-Line and Ar-Tu distribution systems. These are highly flexible, modular systems that enable us to offer fast design and build of fully tested and approved distribution solutions to meet a wide range of customer requirements.

- Form 4 separation up to form 4-6.
- 400A to 3200A fully rated busbars.
- 50kA fault level 1 sec.

Available components:

- **Switchfuses.**
 - Vertical, horizontal or block form up to 1000A.
- **Tmax and Emax MCCB, RCD and ACBs**
 - Single, three and four pole.
 - 16A to 3200A 16kA to 70kA.
 - Fixed or withdrawable.
 - Thermomagnetic or electronic.
 - Toggle or rotary handle operation.
- **Integral automatic changeover.**
- **Multifunction metering with pulsed or Modbus output.**
- **Class I, II or III Surge protection.**



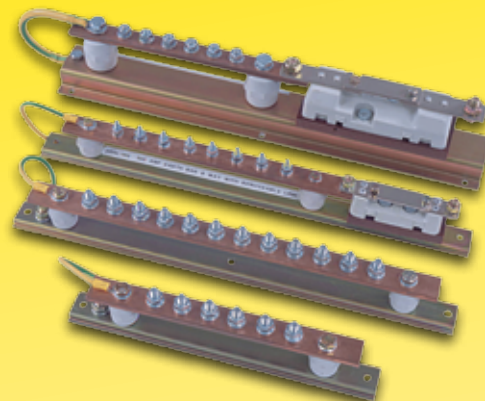
- Spreader terminals and multi cable connection.
- Aluminium, Tufnol or brass gland plates.
- Power factor correction.

**Special
Requirement?
Just Ask!**

Power Rated Earth and Neutral Bars

Power rated earth and neutral bars are manufactured on sturdy 60mm din rail for mounting direct to the wall or inside distribution enclosures. Alternative sizes are available to suit customer requirements.

Nominal Rating	Outgoing Copper Bar Dims	Outgoing Connection	Incoming Connection	Reference None Splitable	Reference Splitable
100A	25x6x240	6 x M6	1 x M10	EB6/100	EMS6/100
100A	25x6x300	8 x M6	1 x M10	EB8/100	EBS8/100
160A	25x6x240	6 x M6	1 x M10	EB6/160	EBS6/160
160A	25x6x300	8 x M8	1 x M10	EB8/160	EBS6/160
160A	25x6x420	12 x M8	1 x M10	EB12/160	EBS12/160
250A	25x6x300	8 x M10	1 x M10	EB8/250	EBS8/250
250A	25x6x420	12 x M10	1 x M10	EB12/250	EBS12/250
400A	40x6x300	8 x M12	1 x M10	EB8/400	EBS8/400
400A	40x6x420	12 x M12	1 x M10	EB12/400	EBS12/400
630A	40x6x300	8 x M12	1 x M12	EB8/630	EBS8/630
630A	40x6x420	12 x M12	1 x M12	EB12/630	EBS12/630



Combination and Distribution Units



- Specialist manufacturers of high quality combination units and distribution boards to your specification.
- Approved supplier to the Cable TV and Telecoms Industries.
- Units can include:
 - A full range of plug sockets and inlets.
 - Modular devices including RCD, MCB, RCBO.
 - Digital and card KWh metres.
 - Time control devices and other control gear.
- All pre-wired to your specification.

All items are sold under Switchgear Systems Limited standard terms and conditions.
It is the responsibility of the installer to ensure items are fitted to the requirements of BS 7671
(Wiring Regulations) and best working practice.



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