



High Tech Universal Fuse Switches

- Operates safely under normal load, overload and short circuit conditions
- Powerful independent manual operation ensures contacts cannot be closed or opened slowly
- Contacts are knife type and do not 'Blow' apart on short circuit
- Incoming connection can be made to either side of switch. All switches provide isolating distance contact breaks on either side of fuse link

A guide to specifying and ordering your HUBBELL Fuseswitch

Step 1 - Basic Switch	Switch Type	kW Column	Technical Section	Order References
Determine switch required from kW column or refer to technical section. BS & NH/NFC switches are supplied with standard shafts - refer to page 6 for longer shafts. For USA switch shaft - refer to page 37	BS Switches	Page 2	Page 14 - 15	Page 3
	BS Switches for Reclosure Preventor	Page 2	Page 14 - 15	Page 12
	BS Switches for atmospheres containing Sulphur	-	Page 13	Page 13
	NH/NFC Switches	Page 26	Page 29	Page 27
	USA Switch	-	Page 36	Page 36
Step 2 - Handles Determine type of handle required from functions table page 4	BS Switches			Ordering Guide - Page 5/6
	NH/NFC Switches			Ordering Guide - Page 6/28
	USA Switch			Ordering Guide - Page 38
Step 3 - Terminal & Fuse Covers	BS Switches			Ordering Guide - Page 3
	NH/NFC Switch			Ordering Guide - Page 27
	USA Switch			Ordering Guide - Page 37
Step 4 - Auxiliary Contacts	BS & NH/NFC Switch			Ordering Guide - Page 7
	USA Switch			Ordering Guide - Page 37
Step 5 - Additional Accessories Neutral Links	BS Switches			Ordering Guide - Page 3
	NH/NFC Switches			Ordering Guide - Page 27
	USA Switch		Not available	
Test Switches	Match type to requirements page 8			Ordering Guide - Page 9
	Not UL Listed			
Drive Mechanisms	BS Switches & NH/NFC Switches	Drive-lok		Ordering Guide - Page 10
		Parallel Drive		Ordering Guide - Page 10
		Mechanical Interlock		Ordering Guide - Page 10
Safety Accessories	BS Switches & NH/NFC Switches	Shaft Padlocking		Ordering Guide - Page 11
		Figure Lock		Ordering Guide - Page 11
		Flag Indicator		Ordering Guide - Page 11
Reclosure Preventors	BS Switches & NH/NFC Switches			Ordering Guide - Page 12
Solid Links	BS Switches			Ordering Guide - Page 16
	NH/NFC Switches		Not available	
	USA Switches			Ordering Guide - Page 38
Lug Kits	BS Switches & NH/NFC Switches		Not available	
	USA Switches			Ordering Guide - Page 38



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Produced in England at ISO 9000 Registered Factory



®

BS Fuse Switch Selection

Fuse Switches to IEC 947-3, Fuses to IEC 269-1 (BS88-2)

MOTOR CONTROL AC23A RATINGS 415 VOLT 3 PHASE				FUSE SWITCH UFS NUMBER	ELECTRICAL DISTRIBUTION AC22A RATINGS 415 VOLT 3 PHASE		
le amps	kW	Maximum Fuse Size			le amps	Maximum Fuse Size	
32	15	32M63	A1	UFS 32 A1	32	32	A1
32	15	32M63	A2	UFS 32	50	50	A2
63	30	63M100	A2 A3	UFS 63	100	100	A2 A3
100	55	100M160	A2 A3	UFS 100 A3	100	100	A2 A3
160	75	200M250	*A4	UFS 160	160	160	*A4
				UFS 160 AC22	200	200	*A4
200	110	200M315	B1 B2	UFS 200	250	250	B1 B2
315	160	315M400	B1 B2 B3	UFS 315	355	355	B1 B2 B3
400	230	400M500	B1 B2 B3 B4	UFS 400	400	400	B1 B2 B3 B4
630	355	630M670	C1 C2 C3	UFS 630	630	630	C1 C2 C3
800	450	800	C1 C2 C3	UFS 800 C3	800	800	C1 C2 C3
800	450	800	C1 C2 C3	UFS 800	800	800	C1 C2 C3

* TO FIT A2 & A3 FUSES USE ADAPTOR KIT 62226-1

Ordering Guide - BS Fuse Switch Selection

Fuse Switch catalogue numbers include basic switch, terminal hardware and standard operating shaft. For extra long shafts see page 6. For fuses and solid links see page 16



PANEL MOUNTED FUSE SWITCHES

Fuse Switch UFS Number	3 POLE	4 POLE	6 POLE	Switch Mounted Neutral Link	Free Standing Neutral Link	Terminal Cover	Fuse Cover	3 Pole C/W Handle and Terminal Cover
UFS32 A1	62303-1	62281-1	Use two 3 pole switches plus parallel drive kit see page 10	-	60015-4	62305-1	62306-1	HUB 32A1
UFS 32	62304-1	62282-1		-			62307-1	HUB 32
UFS 63	62289-1	62290-1		-	60006-2	62248-2	62247-1	HUB 63
UFS 100A3	62489-1	62490-1	62491-1	62463-1 Fully rated		62401-1 3 Pole 62401-2 4 Pole 62401-3 6 Pole	62394-1UK 3 Pole 62394-2 4 Pole 62394-3 6 Pole	HUB 100A3
UFS 160	62189-1	62190-1	62191-1	62463-1 Fully rated		62135-1 (3/4 pole) 62241-1 (6 pole)	62134-1 (per pole)	HUB 160
UFS 160 AC22	62367-1	62368-1	62501-1	62463-1 Fully rated				HUB 160AC22
UFS 200	62132-1	62133-1	62244-1	62464-1 Fully rated		62377-1 3 Pole 62377-2 4 Pole 62377-3 6 Pole	62237-1 3 Pole 62280-1 4 Pole 62291-1 6 Pole	HUB 200
UFS 315	62269-1	62270-1	62271-1	62464-1 Fully rated		62275-1 3 Pole 62276-1 4 Pole 62293-1 6 Pole	62273-1 3 Pole 62274-1 4 Pole 62292-1 6 Pole	HUB 315
UFS 400	62344-1	62345-1	Use two 3 pole switches plus parallel drive kit see page 10	62464-1 Fully rated		62348-1 (3 pole) 62349-1 (4 pole)	62346-1 (3 pole) 62347-1 (4 pole)	HUB 400
UFS 630	62350-1	62351-1	-	62464-1 Half rated		60707-1	62358-1 (3 pole) 62358-2 (4 pole)	62357-1 (3 pole) 62357-2 (4 pole)
UFS 800 C3	62371-1	62372-1	-	62464-1 Half rated	HUB 800 C3			
UFS 800	62502-1	62503-1	-	-	62507-1 (set of 2)			

SIDE OPERATED FUSE SWITCHES

UFS32 A1	62369-1	62370-1	-	-	60015-4	62305-1	62306-1	-
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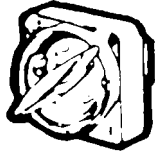
DOOR MOUNTED FUSE SWITCHES

UFS32 A1	62303-6	62281-6	-	-	60015-4	62305-1	62306-1	-
UFS32	62304-6	62282-6	-	-	60015-4	62305-1	62307-1	-

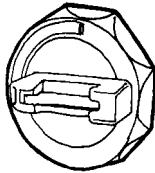


Hi Tech Fuse Switch Standard Handles -BS

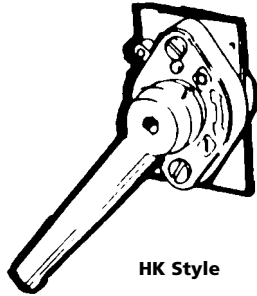
Hubbell offers a wide range of operating handles. The extensive options available provide users with a variety of degrees of protection for operators and maintenance personnel. To select the style and type of function refer to the information below. Order codes are listed on pages 5 & 6



HS Style



HS2000 style

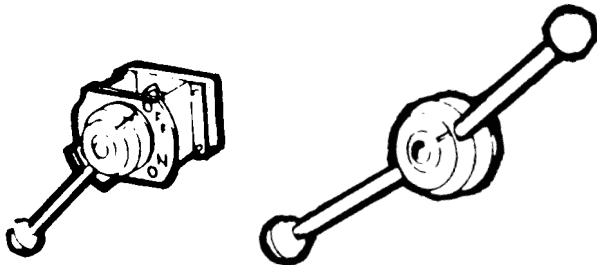


HK Style

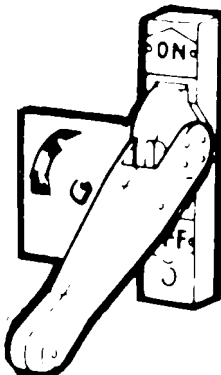
Moulded: All insulated construction manufactured from high impact resistant thermoplastic, impervious to oil and chemicals, with variable protection from dust and water up to IP65.

Colour choice:
Black
Red and Yellow
Grey

Handles for UFS630 to UFS800 fuse switches fitted with double rod & ball.
(see pages 21 & 22 for dimensions).



Rod & Ball: All metal construction, stainless steel arms with black gloss painted hub. Double arm fitted to handles for UFS630 to UFS800 fuse switches, with option of one shorter arm where overlap exists. (for asymmetric version see page 6) IP65 as standard (see pages 21 & 22 for dimensions).



Flange: All metal construction in black gloss mild steel. Designed to offer greater safety than normal defeatable handle when working in live panels. IP65. (see page 22 for dimensions).

HANDLE TYPES AND FUNCTIONS

Type A	<ul style="list-style-type: none"> Door INTERLOCKED in ON position Door FREE in OFF position PADLOCKABLE in OFF position with optional kit
Type B	<ul style="list-style-type: none"> Door INTERLOCKED in ON position Door FREE in OFF position PADLOCKABLE in OFF position Secondary action to INTERLOCK in OFF position. PADLOCK required to maintain this position
Type C	<ul style="list-style-type: none"> Door INTERLOCKED in ON position Door FREE in OFF position PADLOCKABLE in OFF position with optional kit Interlock DEFEATABLE in ON position Interlock DEFEAT can be made INOPERATIVE by using the Cylinderlock
Type D	<ul style="list-style-type: none"> Door INTERLOCKED in ON position Door INTERLOCKED in OFF position Interlock DEFEATABLE in OFF position PADLOCKABLE in OFF position making DEFEAT function INOPERATIVE
Type E	<ul style="list-style-type: none"> Door INTERLOCKED in ON position Door INTERLOCKED in OFF position Interlock DEFEATABLE in ON position Interlock DEFEATABLE in OFF position PADLOCKABLE in OFF position making DEFEAT function INOPERATIVE
Type F	<ul style="list-style-type: none"> INTERLOCKED in ON position Door FREE in OFF position PADLOCKABLE in ON and OFF position
Type G	<ul style="list-style-type: none"> NO interlock in ON position NO interlock in OFF position PADLOCKABLE in OFF position with optional kit
Type H	<ul style="list-style-type: none"> Door INTERLOCKED in ON position Door FREE in OFF position Door interlocking may be DEFEATED in ON position HANDLE is permanently connected to Fuse Switch PADLOCKABLE in OFF position
Type I Internal mounted	<ul style="list-style-type: none"> Permanently assembled to Switch

Standard Moulded Handles for BS Fuse Switches

For handle style and function see page 4



	Type A	Type B	Type C	Type D	Type E	Type F	Type G
UFS32A1	HS2000(IP65) Note 1: Black 62339-1 Red/Yellow 62339-1RY			HS2000(IP65) Note 1: Black 62339-3 Red/Yellow 62339-3RY	HS2000(IP65) Note 1: Black 62339-4 Red/Yellow 62339-4RY		
UFS32	HS (IP54)	HS (IP54)	HS (IP54)	HS (IP54)		HS (IP54)	HS (IP54)
UFS63	Grey 61935-1	Grey 61935-2	Grey 61935-3	Grey 61935-4		Grey 61935-7	Grey 61935-9
UFS100A3	HK (IP41) Grey 61554-1	HK (IP41) Grey 61554-2	HK (IP41) Grey 61554-3	HK (IP41) Grey 61554-10		HK (IP41) Grey 61554-1 plus 61866-7	HK (IP41) Grey 61554-9
UFS160	Black 61554-1BK	Black 61554-2BK	Black 61554-3BK	Black 61554-10BK			Padlock Kit Grey Single 61866-1 Multi 61866-2
UFS160AC22	Red/Yellow 61554-1RY	Red/Yellow 61554-2RY	Red/Yellow 61554-3RY	Red/Yellow 61554-10RY			
UFS200	Padlock Kit Grey				-		
UFS315	Single 61866-1 Multi 61866-2	Padlock Kit included	Padlock Kit Grey Single 61866-1 Multi 61866-2	Padlock Kit included			
UFS400	Black 61866-1BK Yellow 61866-1Y		Black 61866-1BK Yellow 61866-1Y				
UFS630	Double Arm (IP65)	Double Arm (IP65)	Double Arm (IP65)	Double Arm (IP65)			
UFS800C3	Padlock Kit included	Padlock Kit included	Padlock Kit included	Padlock Kit included			
UFS800	Grey 62337-1	Grey 62337-2	Grey 62337-3	Grey 62337-10			
	Black 62337-1BK	Black 62337-2BK	Black 62337-3BK	Black 62337-10BK			
	<i>OPTIONAL</i>	<i>OPTIONAL</i>	<i>OPTIONAL</i>	<i>OPTIONAL</i>		<i>OPTIONAL</i>	<i>OPTIONAL</i>
	Ingress Protection Kit for IP65	Ingress Protection Kit for IP65	Ingress Protection Kit for IP65	Ingress Protection Kit for IP65		Ingress Protection Kit for IP65	Ingress Protection Kit for IP65
	HS 61940-1	HS 61940-1	HS 61940-1	HS 61940-1	-	HS 61940-1	HS 61940-1
	HK 61557-1	HK 61557-1	HK 61557-1	HK 61557-1		HK 61557-1	HK 61557-1
			Cylinder lock 5200305				

Note 1: HS2000 handles can be modified to padlock in the ON position



Ordering Guide

Specialist Application Handles for BS Fuse Switches

For handle style and function see page 4

	Rod/ball handle		Flange Mounted	internal mounted	Double arm kit
	TYPE A	TYPE B	TYPE H	TYPE I	
UFS32A1	IP65 61978-2 Padlock Kit included	-		62146-1	-
US32					
UFS63					
UFS100A3	IP65 61572-2 Padlock Kit included	IP65 61572-4 Padlock Kit included	IP65 61979-3	61915-1	To convert standard moulded handles to double arm 61853-1
UFS160					
UFS160AC22					
UFS200					
UFS315					
UFS400				62108-1	
UFS630	IP65 Standard 62337-1 Asymmetric 62431-1 Padlock Kit included	IP65 Standard 62337-2 Asymmetric 62431-2 Padlock Kit included	62536-1	62528-1	-
UFS800C3					
UFS800	IP65 62337-1 Padlock Kit included	IP65 62337-2 Padlock Kit included	-	-	-

EXTRA LONG SHAFTS FOR STANDARD MOULDED HANDLES

SWITCH	LENGTH	Outrigger c/w 320mm shaft		225mm Special	320mm Special	500mm Special	600mm Special
	distance between base & inside of door	Part No.	Note 1:	Note 1:	Note 1:	Note 1:	
UFS32A1 UFS32 UFS63 6mm sq shaft	-	-	HHL46188	-	-	-	
UFS100A3 UFS160 UFS160AC22 8mm sq shaft	416mm	60793-3	-	HHL44093	HHL46051	HHL46052	
UFS200 UFS315 8mm sq shaft	430mm	60793-3	-	HHL44093 Note 2:	HHL46051 Note 2:	HHL46052 Note 2:	
UFS400 UFS630 10mm sq shaft	510mm	62090-3	-	HHL46272	-	-	
UFS800C3 UFS800	-	-	-	-	-	-	

EXTRA LONG SHAFT FOR ROD/BALL HANDLE

UFS100A3 UFS160 UFS160AC22 UFS200 UFS315 8mm sq shaft	-	-	-	61930-2	-	-
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Note 1: Shafts 320mm and above should be supported

Note 2: 6 pole switches have 10mm sq shafts - max length permissible 320mm

Auxiliary Contacts for Fuse Switches



All blocks are 2-circuit, 2 normally open electrically separate contacts which can be easily changed to normally closed.
 One terminal cover is provided with each block.
 For dimensions see page 20

AC Contact Rating Utilisation Category AC-15	
AC Contact Designation A600	
Rated Operational Voltage	Rated Operational Current
120 Volts	6 Amps
240 Volts	3 Amps
480 Volts	1.5 Amps
600 Volts	1.2 Amps
VA Ratings - Make 7200 Break 720	
Thermal Rating I _{th} 10 Amps	

DC Contact Rating Utilization Category DC1			
voltage	make	break	thermal
up to 250v	-	100w	6A

Fuse Switch UFS Number	Maximum Blocks	First Block	Additional Blocks	Additional mounting kit	Additional terminal cover
UFS 25 NFC	4	61929-1	61929-2	N/A	61942-1
UFS 32 A1					
UFS 32					
UFS 32 NFC					
UFS 63					
UFS 63 NFC					
UFS 63 NH					
UFS 100 A3	8 SEE NOTES 1,2 & 3	61929-2	61929-2	62024-1	
UFS 100 NH					
UFS 160					
UFS 160 AC22					
UFS160 NH					
UFS 200					
UFS200 NH					
UFS 315				62245-1	
UFS 400					
UFS 400 NH					
UFS 630					
UFS 630 NH					
UFS800 C3					
UFS 800					2 - changeover 62504-1 4 - changeover 62505-1 6 - changeover 62506-1

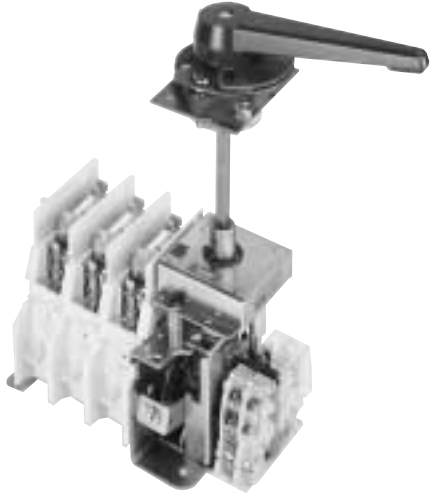
Notes:

- Maximum of 4 blocks can be mounted on the switch end plate (power pole side). The separations of the normally open auxiliary contact occurs 8 msecs before main contact separation.
- 4 blocks can be mounted on the mechanism end plate (operating handle side). The separation of the normally open auxiliary contact occurs over 24 msecs before main contact separation.
- Additional mounting kits accept up to 4 additional blocks making total of 12 circuits. Mounted on the mechanism end plate.



Test Switches

Test Switch Application



The Test Switch range has been designed to meet a wide range of applications where testing of the control circuits and auxiliary contacts is required without running the motor.

The test facility can be operated with the door closed for optimum protection of personnel, however it can still be operated with the door open if required.

Test Switch auxiliary contacts

The standard 2 circuit auxiliary contact block 61929-2 should be used on the Test Switch - up to 4 blocks can be fitted (see page 23 for dimensions)

TEST SWITCH FUNCTIONS

Type A	<ul style="list-style-type: none"> • Handle OFF - main Switch OFF, Test Aux. OFF, Door FREE • Handle ON - main Switch ON, Test Aux. ON, Door INTERLOCKED • Handle in TEST - main Switch OFF, Test Aux. ON, Door INTERLOCKED • Handle PADLOCKABLE in OFF position
Type B	<ul style="list-style-type: none"> • Handle OFF - main Switch OFF, Test Aux. OFF, Door INTERLOCKED (can be defeated) • Handle ON - main Switch ON, Test Aux. ON, Door INTERLOCKED • Handle in Test - main Switch OFF, Test Aux. ON, Door FREE • Handle PADLOCKABLE in OFF position making defeat function INOPERATIVE
Type C	<ul style="list-style-type: none"> • Handle OFF - main Switch OFF, Test Aux. OFF, Door FREE • Handle ON - main Switch ON, Test Aux. OFF, Door INTERLOCKED • Handle in Test - main Switch OFF, Test Aux. ON, Door INTERLOCKED, • Handle PADLOCKABLE in OFF position
Type D	<ul style="list-style-type: none"> • Handle OFF - main Switch OFF, Test Aux. OFF, Door INTERLOCKED (can be defeated) • Handle ON - main Switch ON, Test Aux. OFF, Door INTERLOCKED • Handle in Test - main Switch OFF, Test Aux. ON, Door FREE • Handle PADLOCKABLE in OFF position making DEFEAT function INOPERATIVE
Type E	<ul style="list-style-type: none"> • Handle OFF - main Switch OFF, Test Aux. off, Door INTERLOCKED (can be defeated) • Handle ON - main Switch ON, Test Aux. ON, Door INTERLOCKED • Handle PADLOCKABLE in OFF position making DEFEAT function INOPERATIVE • Handle OFF - Door OPEN - main Switch OFF, Test Aux. can be OPERATED by HAND

Ordering Guide - Test Switches

For Test Switch types and functions see page 8



	TYPE A	TYPE B	TYPE C	TYPE D	TYPE E					
UFS 25 NFC	62286-1 c/w 3 position HS handle 62427-1 c/w 3 position HS2000 handle	62286-4 c/w 3 position HS handle	62389-1 c/w 3 position HS handle 62428-1 c/w 3 position HS2000 handle	62389-4 c/w 3 position HS handle	62426-1 c/w 2 position HS handle					
UFS 32 A1										
UFS 32										
UFS 32 NFC										
UFS 63										
UFS 63 NFC										
UFS 63 NH										
UFS 100 A3	62286-2 c/w 3 position HK handle	62286-10 c/w 3 position HK handle	62389-2 c/w 3 position HK handle	62389-10 c/w 3 position HK handle	62426-2 c/w 2 position HK handle					
UFS 100 NH										
UFS 160										
UFS 160 AC22										
UFS160 NH										
UFS 200										
UFS250 NH										
UFS 315										
UFS 400										
UFS 400 NH										
UFS630						-	-	-	-	-
UFS 630 NH										
UFS 800 C3										
UFS 800										

OPTIONAL

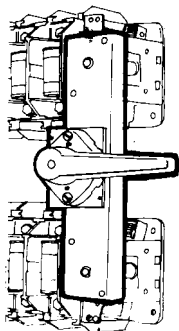
Switch Shaft Padlock Kit 62390-1 for UFS32A1 to 63
Switch Shaft Padlock Kit 62512-1 for UFS100A3 to 400



Ordering Guide - Drive Mechanisms

Drive-lok Changeover Mechanism

For fuse-switches up to 315A 160kW
Using the Drive-Lok unit, a pair of fuse switches can be operated in true changeover mode with a single handle. The mechanism provides a positive interlock between the two switches. There are two sizes of mechanism to suit 170 and 250mm output shaft centres. Switches can be used in matched or unmatched pairs. The mechanism requires no routine maintenance. Supplied with moulded operating handle in red and yellow.



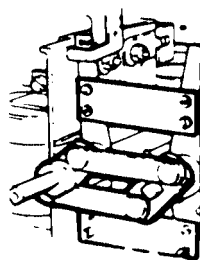
Drive-lok Functions

Handle Position	Mechanism	Output Shaft Conditions
▶ OFF		Both shafts locked - cannot rotate
▶ No. 1 ON		No. 2 shaft locked - cannot rotate
▶ No. 2 ON		No. 1 shaft locked - cannot rotate

For dimensions see page 24

Parallel Drive

Using the parallel drive a pair of switches can be operated in parallel by one handle.



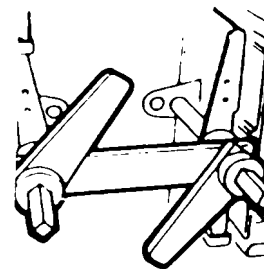
Parallel Drive Functions

Handle Position	Switches
▶ OFF	Both switches OPEN
▶ ON	Both switches CLOSED

For dimensions see page 24

Mechanical Interlocks

Interference mechanical interlock between 2 switches preventing the operation on one switch whilst the other switch is closed.



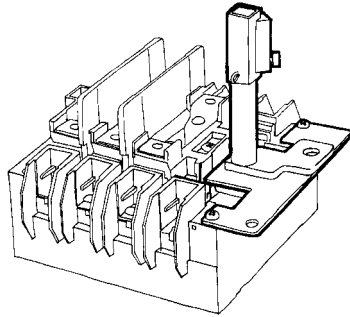
Mechanical Interlock Functions

Handle Position	Switch 1	Switch 2
▶ Position 1	Closed	Open
▶ OFF	Open	Open
▶ Position 2	Open	Closed

For dimensions see page 24

	170mm Centres	250mm Centres						
UFS 25NFC	62268-1RY	-	61981-1 use Rod & Ball handle 61978-4	-				
UFS 32A1								
UFS 32								
UFS 32NFC								
UFS 63			62250-1 Use Rod & Ball handle 61978-4					
UFS 63NFC								
UFS 63NH	-	62268-2RY	62020-1 Use standard handle	62021-1				
UFS 100A3								
UFS 100NH								
UFS 160								
UFS 160AC22								
UFS 160NH	62268-3RY	62268-4RY	62316-1 Use handle as for UFS 630 on page 5	62021-2				
UFS 200								
UFS 250NH								
UFS 315								
UFS 400					62316-2 Use standard handle			
UFS 400NH								
UFS 630								
UFS 630NH								
UFS 800C3					-	-	-	-
UFS 800								
	Option 62272-1Y Handle Padlock Kit		-	-				

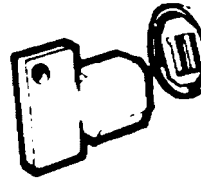
Shaft Padlock Kit



Functions

- Switch in OFF position Padlock can be inserted
- With Padlock inserted switch cannot be operated
- Switch in ON position Padlock cannot be inserted

Figure Lock Interlocking Kit

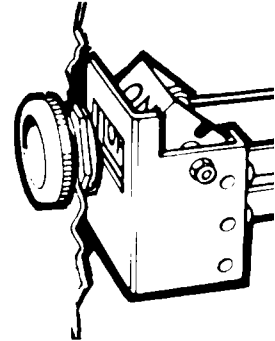


Notes

- Interlocking CAM and fixing kit for HK
- Fixing Kit only for Rod & Ball handles
- Locks not supplied

For dimensions see page 22

Flag Indicators



Functions

- Positive indication of switch position
- Depth adjustable
- Mounted on power pole side of switch
- **Note:** when flag fitted to UFS32-63 the max.number of auxiliary blocks is limited to 3 outer blocks only

For dimensions see page 23

	For Basic Switch	For Basic Switch with Test Switch fitted	For HK Handles	For Rod & Ball Handles	Flag indicator is supplied c/w window and bezel
UFS 25NFC	61936-3	62390-1	-	-	62378-1
UFS 32A1					
UFS 32					
UFS 32NFC	61936-2	62390-1	-	-	62378-1
UFS 63					
UFS 63NFC					
UFS 63NH	Included in Basic Switch Design	62512-1	60898-1 Note 1:	61955-1	62027-1
UFS 100A3					
UFS 100NH					
UFS 160					
UFS 160AC22					
UFS 160NH					
UFS 200					
UFS 250NH					
UFS 315					
UFS 400					
UFS 400NH					
UFS 630					
UFS 630NH					
UFS 800C3					
UFS 800	62509-1	-	62260-1	62260-1	-
					62027-2

Note 1: For 6 pole UFS200 / UFS250NH / UFS315 use 60898-5



Ordering Guide

BS Fuse Switches with Reclosure Preventers

Hubbell offer a unique device to mechanically interlock a UFS Fuse Switch to a Hi-Tech UCA Contactor. The function of this device is to allow the fuse switch to be opened in the case of a contactor welding but then prevent the fuse switch from closing until the contactor is open.

Fuse Switch UFS No.	Fuse Switch Catalogue No.		Fuse Switch Reclosure Preventor Mechanism Catalogue No.
	3 Pole	4 Pole	
UFS 32A1	62303-3	62281-3	62037-2
UFS32	62304-3	62282-3	62037-2
UFS63	62289-3	62290-3	62251-1
UFS100A3 UFS160 UFS160AC22 UFS200 UFS315	Use standard Fuse Switch Catalogue No.		62025-1
UFS400 UFS630			62025-2
UFS800C3 UFS800	Not available		

Notes:

- UCA Contactor and Contactor Reclosure Preventer Mechanism to be selected from Hi-Tech Contactor catalogue
- Linking cable is supplied with Contactor Reclosure Preventer Mechanism

Fuse Switches for use in sulphur contaminated atmospheres

In atmospheres containing sulphur, conventional silver plated switchgear and controlgear components are adversely effected in two ways:

- Silver sulphide is formed thus increasing resistance and causing overheating
- In certain conditions the silver sulphide can form conducting 'whiskers' which can reduce insulation distances and create short circuit conditions

The Hubbell range of tin plated fuse switches has been specifically introduced to perform better in sulphur atmospheres. The plating alloy used is the result of many years of Hubbell experience, investigation and testing.

Fuse Switch UFS No.	3 Pole	4 Pole	AC22/AC23 Rating
UFS32 A1T	62352-1	62353-1	29A
UFS32T	62354-1	62355-1	32A
UFS63T	62362-1	62314-1	63A
UFS100A3T	62499-1	62500-1	90A
UFS160T	62218-1	62329-1	144A
UFS200T	62277-1	62330-1	200A
UFS315T	62326-1	62327-1	315A
UFS400T	62363-1	62364-1	360A
UFS630T	62360-1	62361-1	565A
UFS800C3T	62424-1	62425-1	720A

Hubbell's complete range of standard accessories are available for the above fuse switches. Refer to pages 4 to 11.



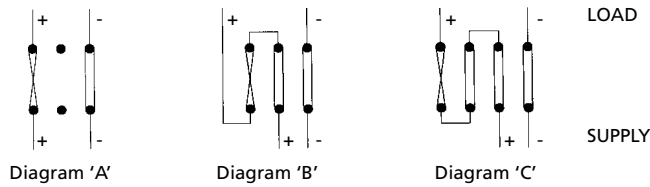
Technical Data

SWITCH SIZE		UFS32A1	UFS32	UFS63	UFS100A3
ELECTRICAL PERFORMANCE					
Fuse Size		A1	A2	A3	A3
Rated Insulation Voltage Pollution Degree ③	V	690	690	690	660
Dielectric Strength 50Hz 1 Min	kV	2.5	2.5	2.5	2.5
Rated Impulse Withstand Voltage	kV	8.0	8.0	8.0	8.0
Rated Enclosed Thermal Current (with Fuses) ①&②	A	32	50	100	100
With Maximum Fuse Power Dissipation	W	3.5	5.0	8.5	8.5
Rated Enclosed Thermal Current (with Solid Links) ②	A	50	50	100	100
Operational Current AC22A 380/415V	A	32	50	100	100
Operational Current AC23A 380/415V	A	32	32	63	100
	500/550V	A	32	32	45
	600/690V	A	20	20	45
Operational Power AC23A (Based on nominal Full Load Current)	415V	kW	15	15	30
	550V	kW	11	22	30
	660V	kW	11	11	37
Operational Current DC21 ⑥	Connection Diagram A.250V	A	32	32	80
	Connection Diagram B.400V	A	32	32	80
Operational Current DC22 ⑥	Connection Diagram A.250V	A	32	32	80
	Connection Diagram B.400V	A	32	32	80
Operational Current DC23 ⑥	Connection Diagram A.250V	A	32	32	80
	Connection Diagram B.400V	A	32	32	80
	Connection Diagram B.500V	A	15	15	75
	Connection Diagram C.500V	A	32	32	80
Rated Conditional Short Circuit rms 415V ④	kA	80	80	80	80
Corresponding max.allowed fuse cut off currents peak values ⑤	kA	7.5	10	12	16
AC23A operational performance, number of operations		10,000	10,000	10,000	10,000

MECHANICAL DETAILS

Operating Torque (typical for 3 pole Sw).	Nm	3	3	5	12
Terminal Bolt Size ⑦	-	Cage Clamp	Cage Clamp	Cage Clamp	M6
Terminal Tightening Torque ⑦ & ⑧	Nm	1.35	1.35	3.5	4.5
Fuse Bolt Tightening Torque ⑦	Nm	1.4	2.2	2.2	2.2
Creepage distance, Phase-Phase/Phase-Earth	mm	10/8	10/8	25/24	24/14
Clearance distance, Phase-Phase/Phase-Earth	mm	10/8	10/8	25/20	20/14
Isolation distance between contacts	mm	16	16	20	14
Weight of basic Switch 3 Pole	Kg	0.54	0.61	1.5	2.4
Maximum size of connections, Cable C.S.A.	mm ²	10	10	35	95
Cable size when using crimp type Spade Terminal ANE-3-U4	mm ²	16	16	-	-
1 Connection strip width maximum	mm	8.5	8.5	7.0	20
Minimum c.s.a of external connections at AC23A rating	mm ²	2.5	6	16	35

- Notes:**
- ① At these ratings the external copper connections must not be less than those specified in IEC947-3
 - ② The ratings are for switches in ambient temperatures up to 40°C. Above this temperature, derate the switches with solid links by 5% per 5° and switches with fuses in accordance with the fuse manufacturers recommendations.
 - ③ The operational current and category correspond to a breaking capacity of AC22A 3xl 0.45pf & AC23A UFS32A1-100 8xl 0.45pf, UFS160up 8xl 0.35pf
 - ④ The rated conditional short-circuit currents quoted were used for proving tests. The switches are therefore rated for use on any prospective short circuit not exceeding the value tested.



UFS160	UFS160AC22	UFS200	UFS315	UFS400	UFS630	UFS800C3	UFS800
A4	A4	B2	B3	B4	C3	C3	C3
690	690	690	690	690	690	690	660
2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
8.0	8.0	8.0	8.0	8.0	8.0	8.0	-
160	200	250	355	400	630	800	800
14.5	16.8	19.0	28.0	32.0	50.0	64.0	64.0
200	200	315	400	500	800	800	-
160	200	250	355	400	630	800	800
160	160	200	315	400	630	800	800
125	125	200	315	400	-	-	-
80	80	200	250	-	-	-	-
75	75	110	160	220	355	450	450
90	90	150	220	-	-	-	-
75	75	160	275	-	-	-	-
170	170	315	315	400	630	630	-
170	170	315	315	400	630	630	-
170	170	315	315	400	630	630	-
170	170	315	315	400	630	630	-
170	170	315	315	400	630	630	-
170	170	315	315	400	630	630	-
125	125	200	200	315	630	630	-
170	170	315	315	400	630	630	-
80	80	80	80	80	80	80	80
27	27	33	37	47	61	61	70
8,000	8,000	8,000	8,000	5,000	5,000	3,000	3,000

16	16	27	27	27	27	27	60
M6	M6	M10	M10	M10	1 x M16 4 x M8	1 x M16 4 x M8	1 x M16 4 x M8
4.5	4.5	19.0	19.0	19.0	62.0 11.0	62.0 11.0	62.0 11.0
11.0	11.0	11.0	11.0	11.0	19.0	19.0	19.0
25/14	25/14	40/18	40/18	40/18	40/18	40/18	-
24/14	24/14	20/34	20/34	20/34	20/34	20/34	-
14	14	14	14	14	14	14	25
3.5	3.5	6.5	7.25	9.5	19.25	19.25	16.0
95	95	185	240	-	-	-	-
-	-	-	-	-	-	-	-
26	26	40	40	50	75	75	70
70	70	95	185	240	400	500	500

- ⑤ Fuse links must be selected with due regard to the prospective fault current of the system and the maximum peak cut-off current shown, which must not be exceeded.
- ⑥ DC21 - Switching of resistive loads, DC22 - Switching of mixed resistive and inductive loads, DC23 - Switching of inductive loads (e.g. series motors).
- ⑦ Torque values defined relate to nuts and bolts with clean dry threads
- ⑧ On UFS100 upwards, where main connections are of bolted type, care must be taken not to impose a heavy twisting force on the copper switch palms. The twisting load should be taken by a spanner holding the nut at the rear of the palm.



Motor Start & Distribution Fuse Sizes relating to Hubbell Fuse Switches

Hubbell Fuse Switches	Maximum GEC Fuse	Maximum Bussmann Fuse	MEM Fuse	Lawson Fuse
UF32A1	NET32 NET32M63	NITD32 NITD32M63	32SA2 32SA2M63	NIT32 NIT20M32
UFS32	TIS50 TIA32M63	AA032 AA032M63	32SB3 50SB4 32SB3M63	TIA32 TIA32M63
UFS63	OS100 TIS63M100	OSD100 BAO63M100	100S0 63SB4 M100	TIS100 TIS63M100
UFS100A3	OS100 OS100M160	OSD100 OSD100M160	100S0 63SB4M100	TIS100 TIS100M125
UFS160 UFS160AC22	TFP200	DEO200 DEO200M250	125SD5 100SD5M160	TFP200 TFP200M250
UFS200	TF200 TF200M315	ED250 DD200M315	200SF6M250 250SF6	TF200 TF200M315
UFS315	TKF315 TKF315M355	ED355 ED315M400	315SF7 355SF8	TKF315 TKF315M400
UFS400	TMF400 TMF400M500	ED400 ED400M500	400SF8	TMF400 TMF400M500
UFS630	TLM800 TTM630M670	GF800	800SH10	TLM800
UFS800C3 UFS800	TLM800	GF800	800SH10	TLM800

Ordering Guide BS88 Fuses and Solid Links

	FUSES				Set of Three Solid Links
	NET25	NET32	NET32M50	NET32M63	
UFS32A1	NET25	NET32	NET32M50	NET32M63	61968-1
UFS32	NET25	NET32	NET32M50	NET32M63	62078-1
UFS63	-	-	-	-	62249-1
UFS100A3	OS100M160	-	-	-	60510-1
UFS160 UFS160AC22	-	-	-	-	62087-1
UFS200 UFS315 UFS400	-	-	-	-	60512-1
UFS630 UFS800C3	-	-	-	-	62359-1
UFS800	-	-	-	-	62263-1

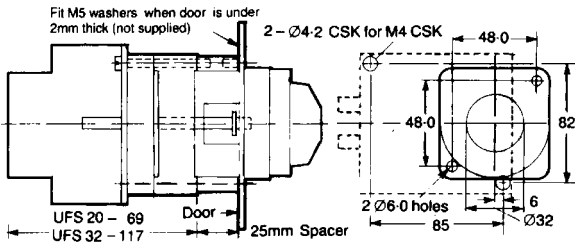
Technical Data

Dimensions in millimetres

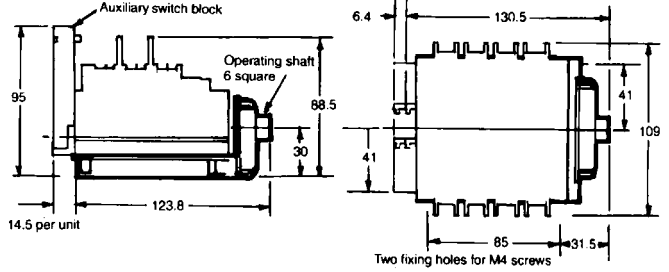


FUSE SWITCHES

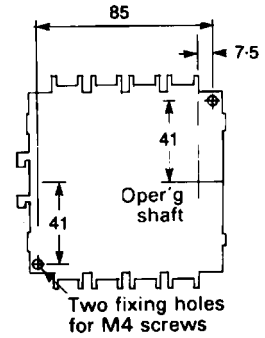
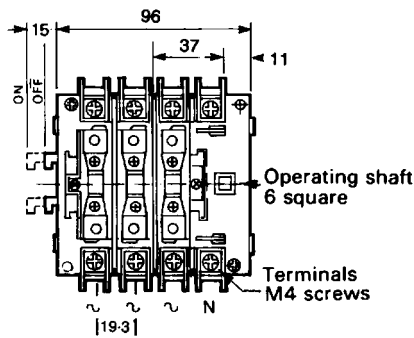
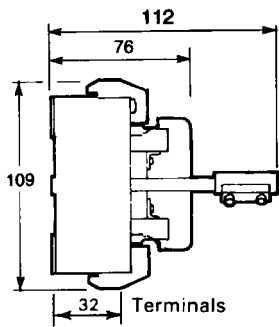
Door Mounted UFS32A1 & 32 switches



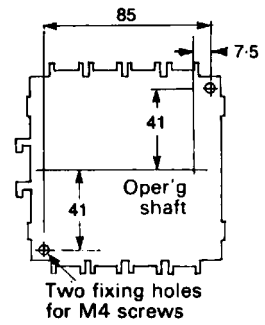
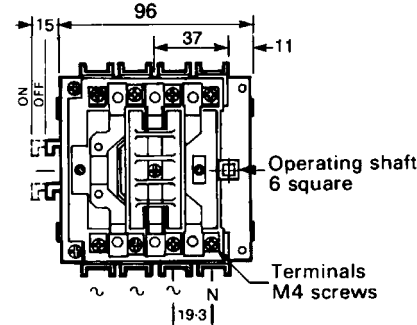
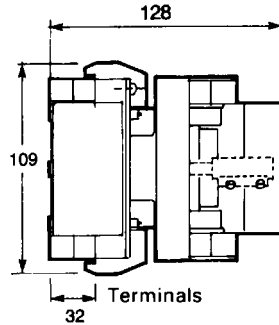
Side Operated UFS32A1 switch



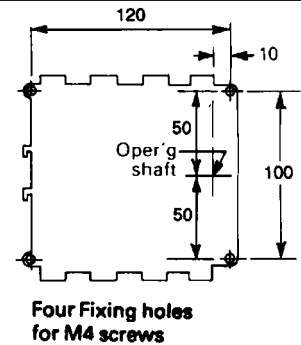
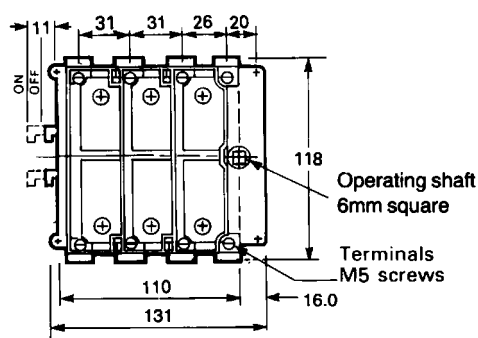
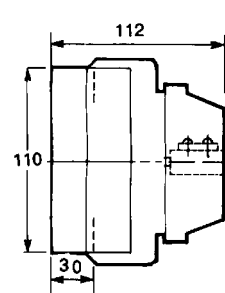
UFS32A1



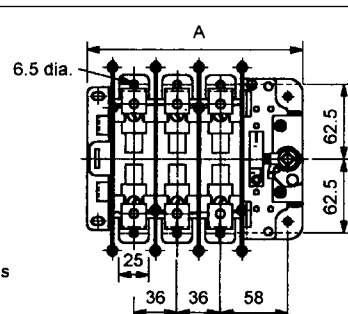
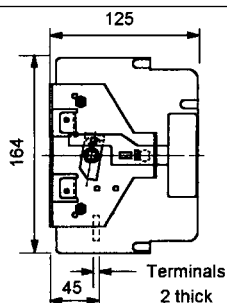
UFS32



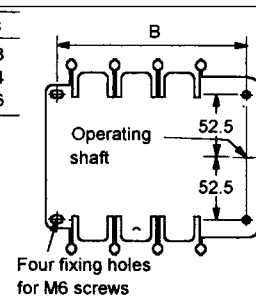
UFS63



UFS100A3



	A	B
3P	180	158
4P	216	194
6P	288	266



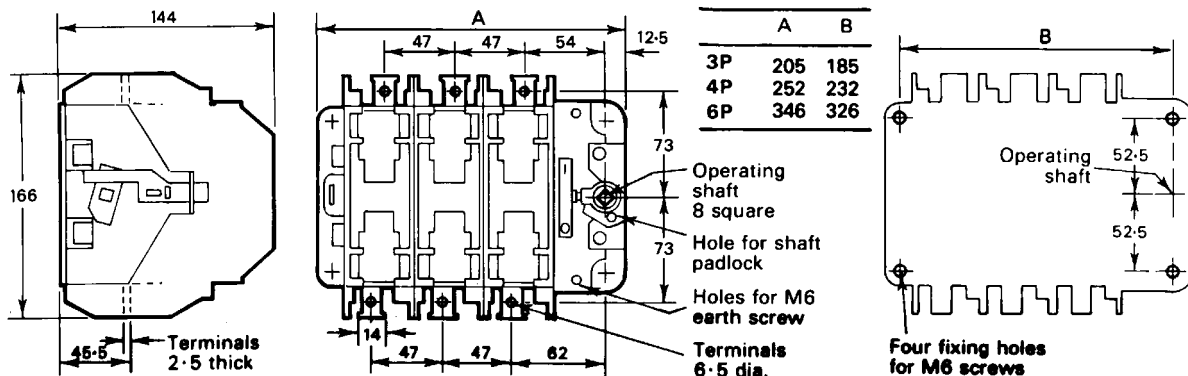


Technical Data

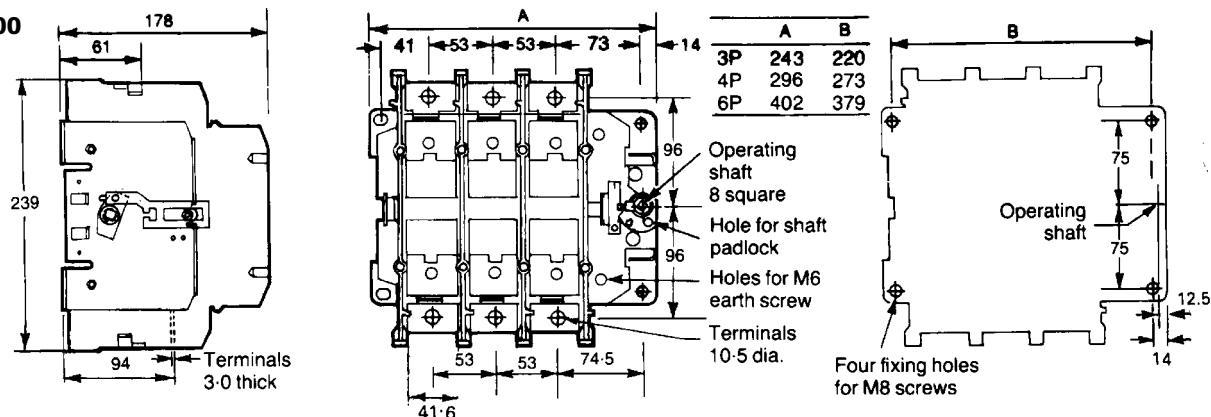
Dimensions in millimetres

FUSE SWITCHES

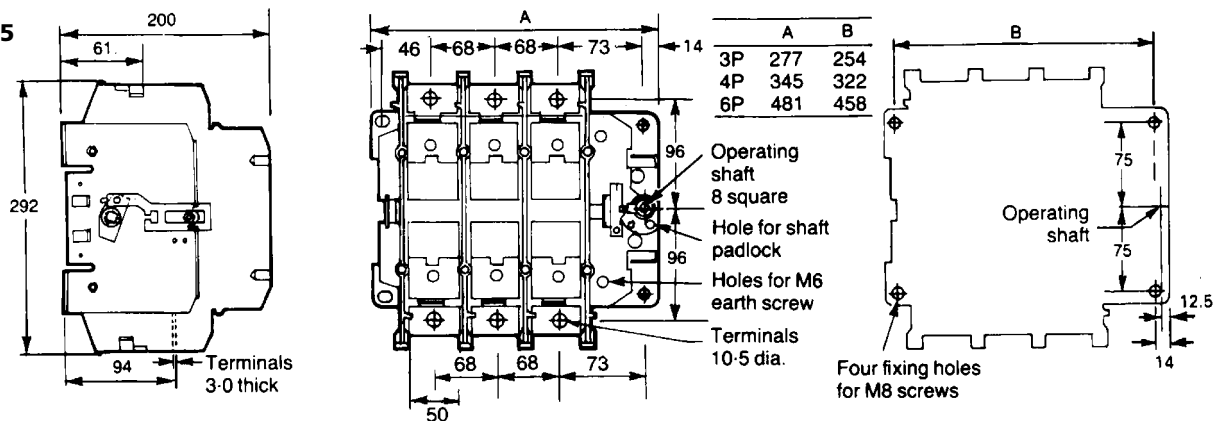
UFS 160 & 160AC22



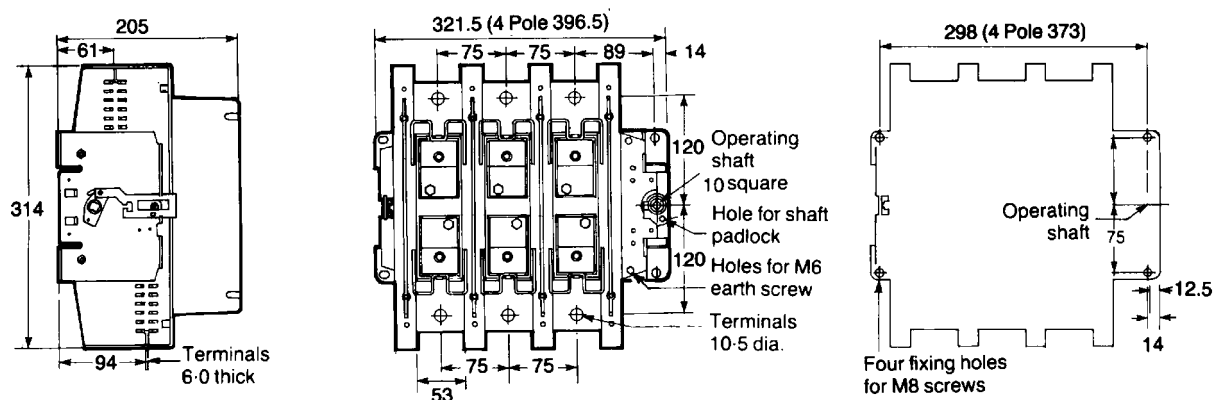
UFS200



UFS315



UFS400



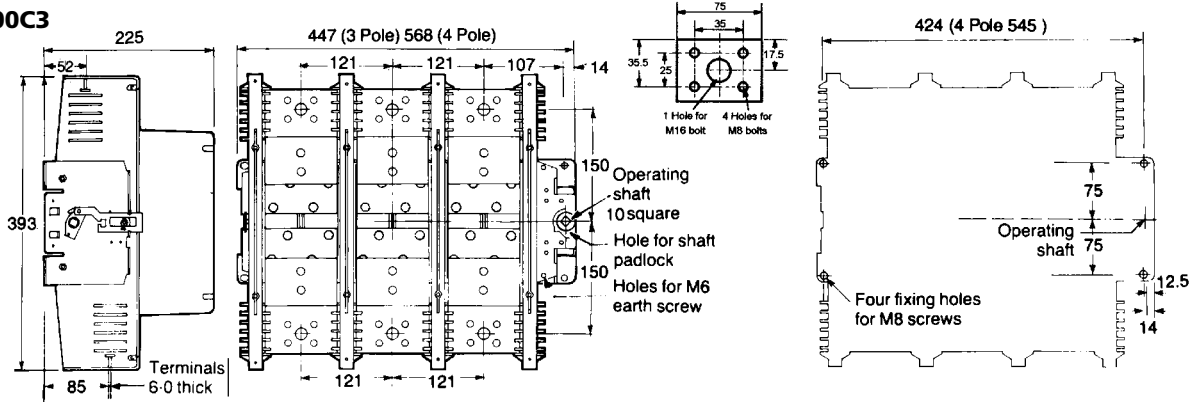
Technical Data

Dimensions in millimetres

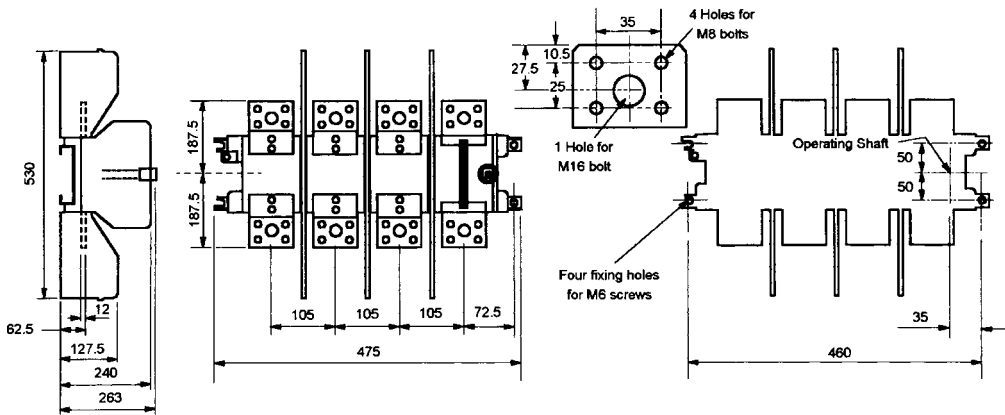


FUSE SWITCHES

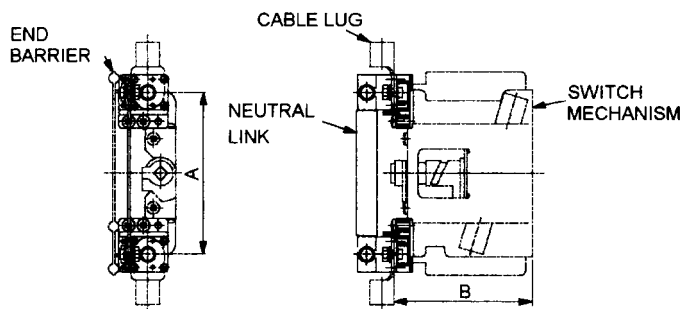
UFS630 & 800C3



UFS800



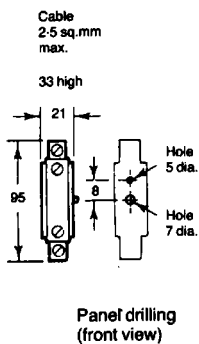
SWITCH MOUNTED NEUTRAL LINK



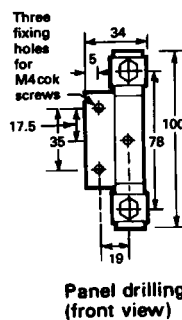
	A	B
UFS100A3 to UFS160AC22	131	110
UFS200 to UFS800C3	144	130

BOLTED NEUTRALS - FREE STANDING

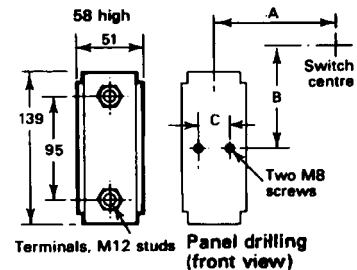
UFS32A1 & UFS32



UFS63 to UFS315



UFS400 & UFS630



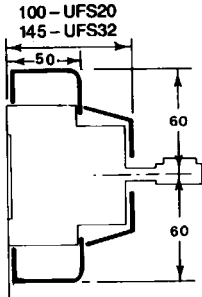


Technical Data

Dimensions in millimetres

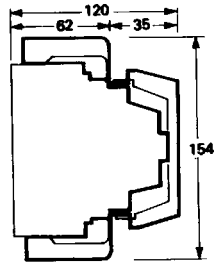
SAFETY COVERS

UFS32A1 & UFS32



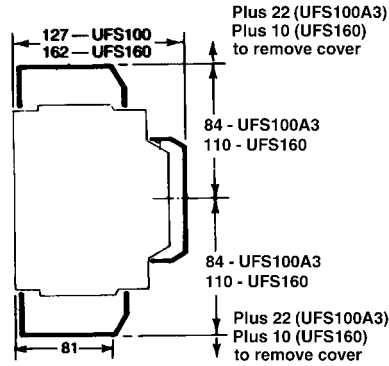
UFS 315

UFS63



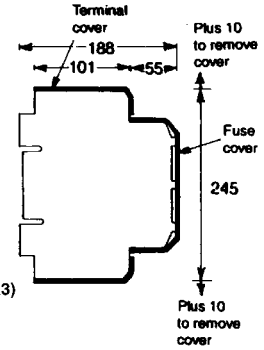
UFS 400

UFS100A3, UFS160 & UFS160AC22

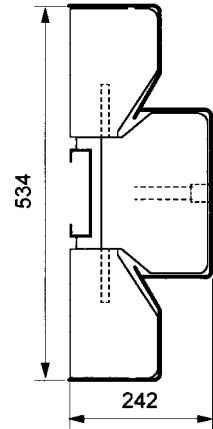
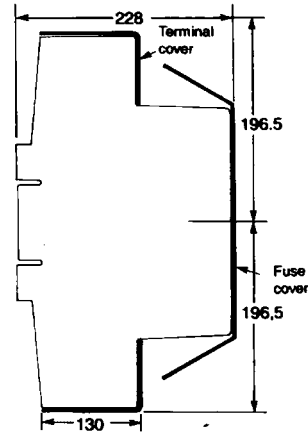
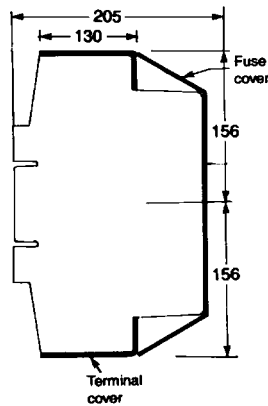
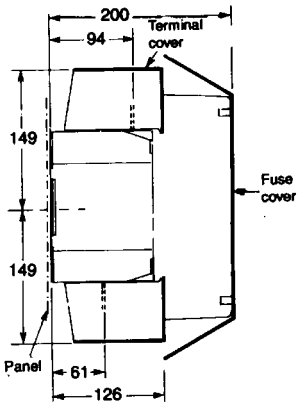


UFS 630 & UFS800C3

UFS200



UFS 800



AUXILIARY CONTACTS

UFS32A1 to UFS63

Up to 8 circuits max.

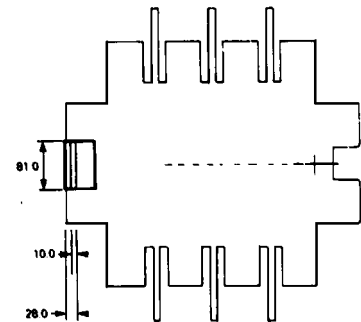
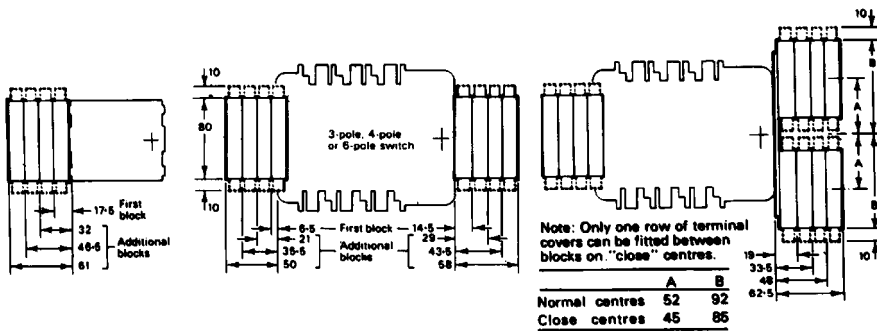
UFS100A3 to UFS800C3

Up to 16 circuits max.

Up to 24 circuits max.

UFS 800

Up to 6 changeover



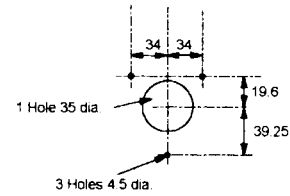
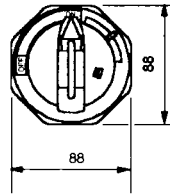
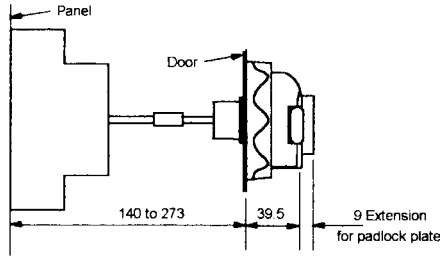
Technical Data

Dimensions in millimetres



TYPE HS2000

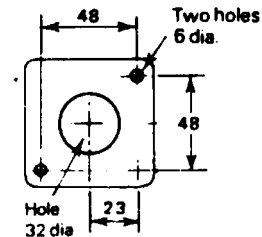
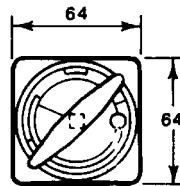
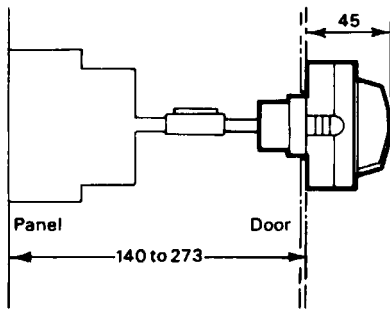
For UFS32A1, UFS32 & UFS63 switches



DOOR DRILLING PLAN

TYPE HS

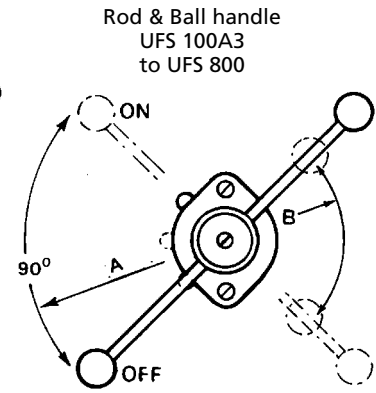
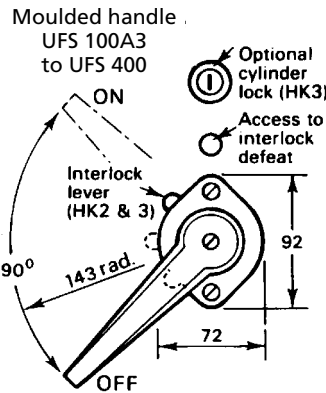
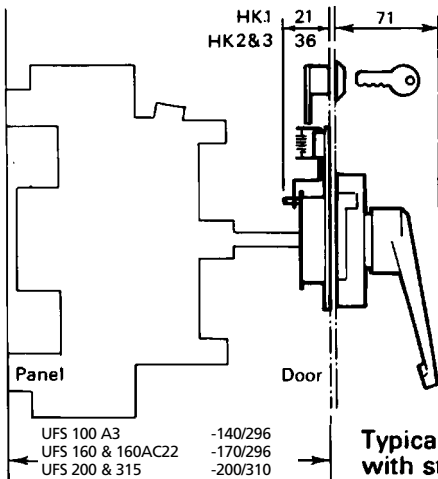
For UFS32A1 32 & 63 switches



Panel drilling (front view)

TYPE HK

For use with UFS100A3 to UFS800 switches

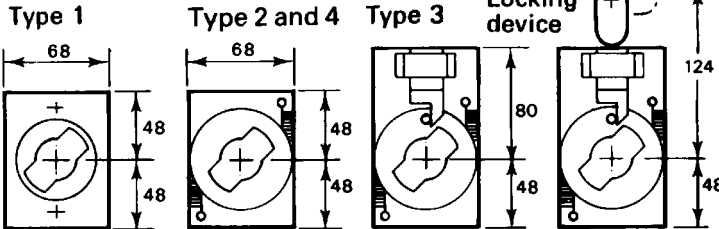


UFS 100 A3	-140/296
UFS 160 & 160AC22	-170/296
UFS 200 & 315	-200/310
UFS 400	-225/342
UFS 630 & UFS800C3	-245/342
UFS 800	-300/425

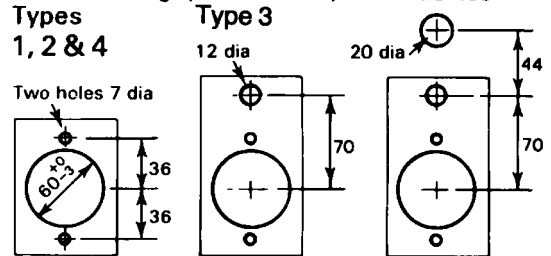
Typical cubicle mounting with standard shafts

UFS 100 A3-400	A = 143
UFS 630-800	A = 230
ASYMETRIC	A = 230
	B = 112

Rear views of hub mechanisms

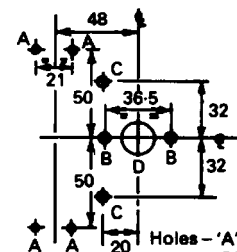
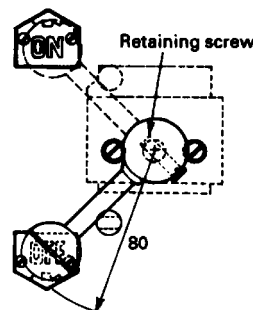
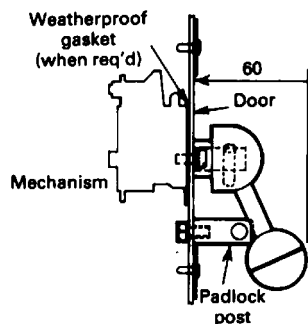


Panel drilling (front views)



ROD & BALL

For UFS32A1 32 & 63 switches



Door drillings

Holes - 'A' - 2.5 DIA.
'B' - 4.5 DIA.
'C' - 5.5 DIA. (as req'd)
'D' - 17.5 DIA.



Technical Data

Dimensions in millimetres

OPERATING HANDLES

ROD & BALL

With or without figure lock
UFS100A3 to UFS400

For UFS630 to UFS800 see HK Handles section

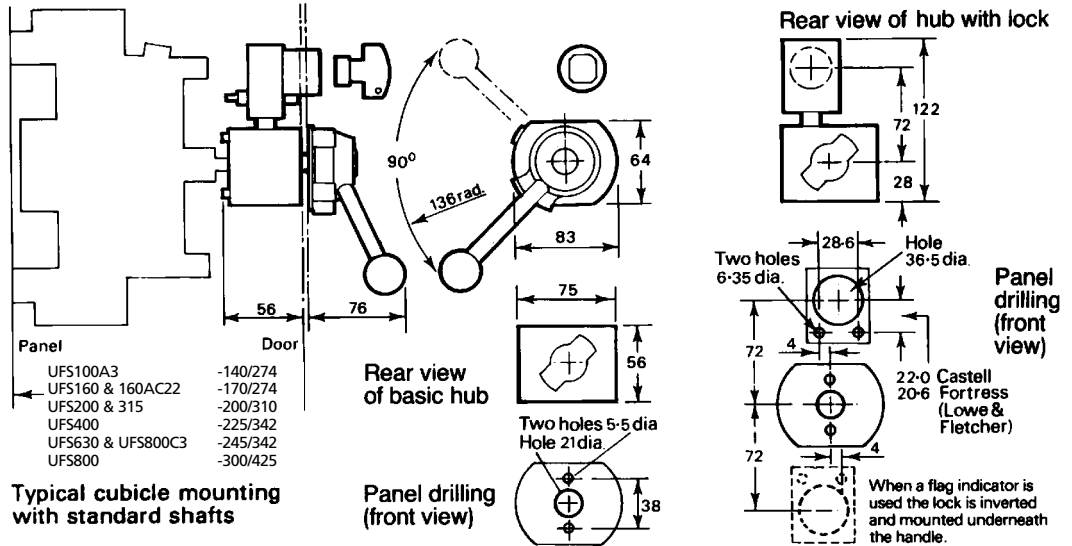
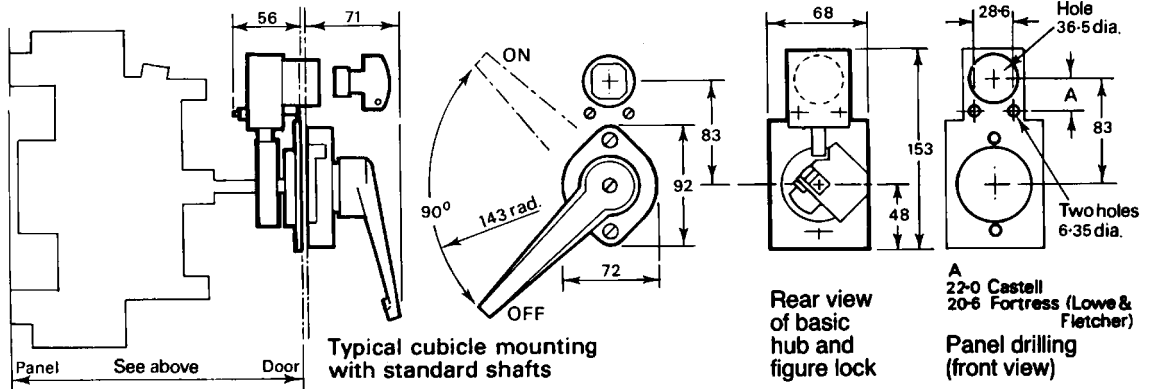


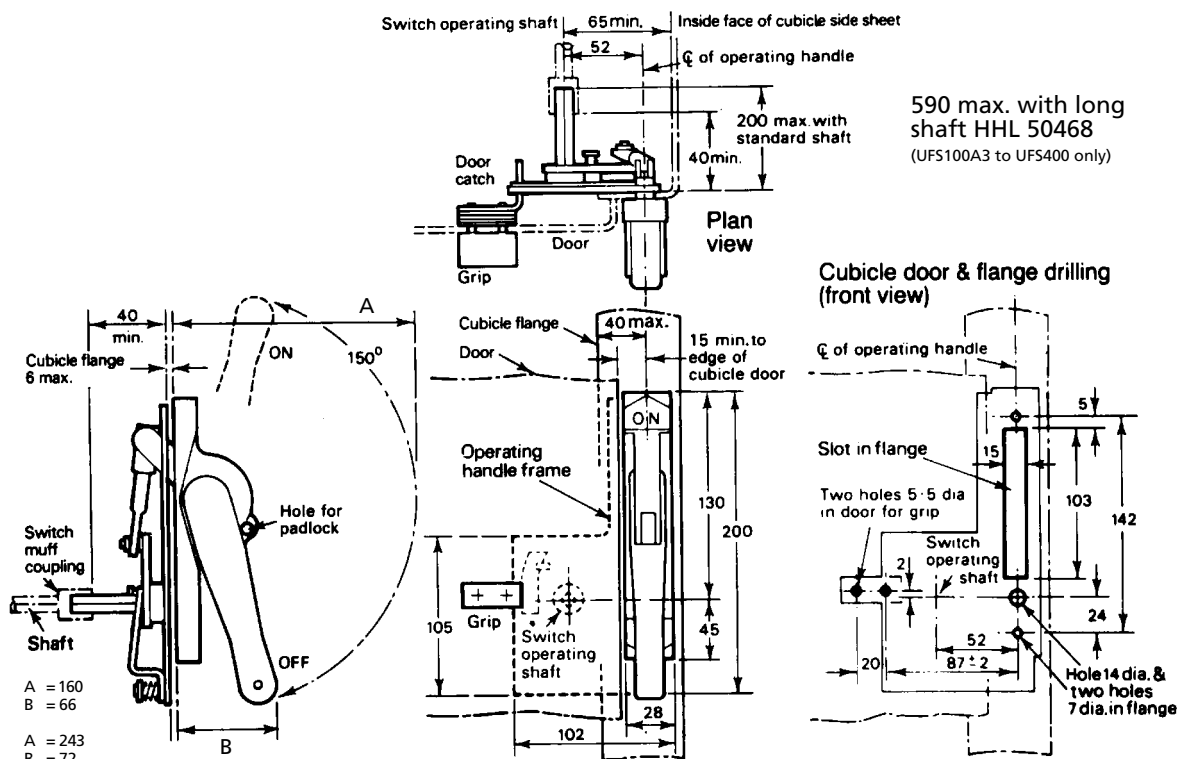
FIGURE LOCK MOUNTING

For TYPE HK1

For Rod & Ball see above



TYPE FK2 FLANGE



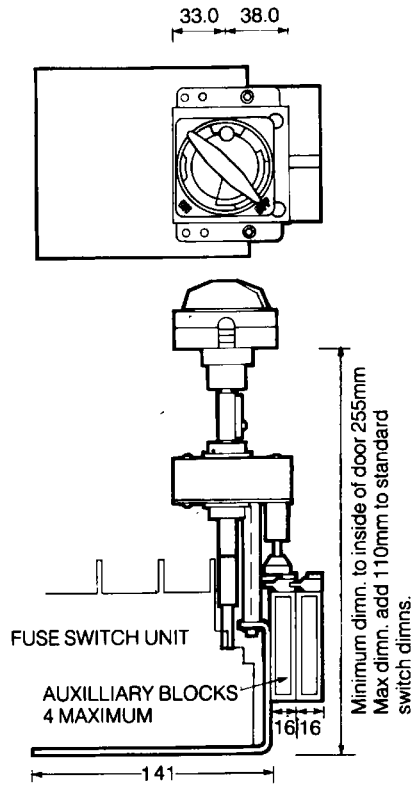
Technical Data

Dimensions in millimetres

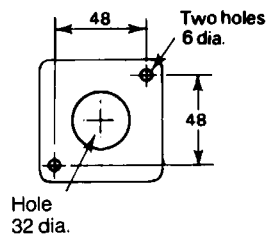


TEST SWITCHES

UFS32A1 32 & 63

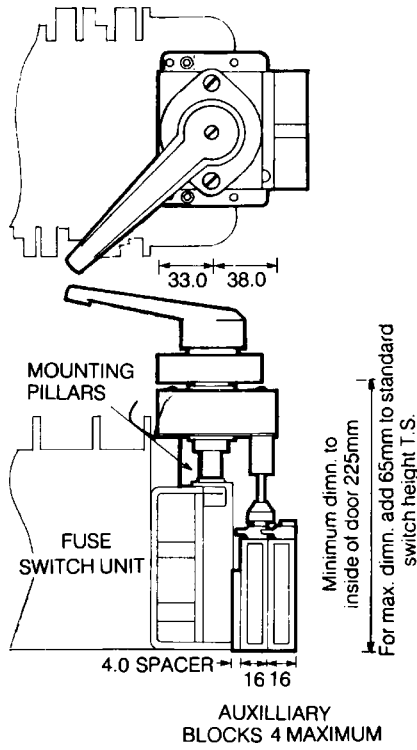


HS HANDLE DOOR DRILLING

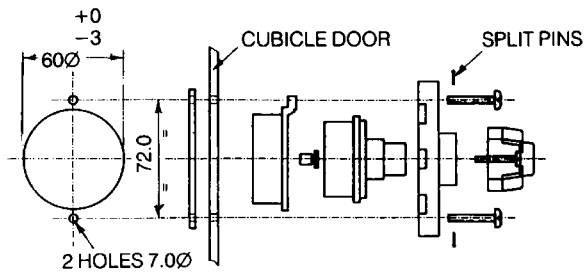


For HS 2000 Door Drilling see page 21

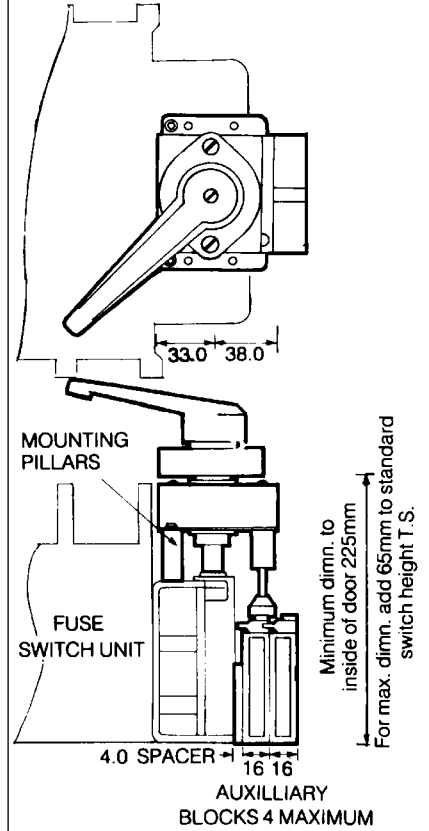
UFS100A3 to UFS160AC22



HK HANDLE DOOR DRILLING

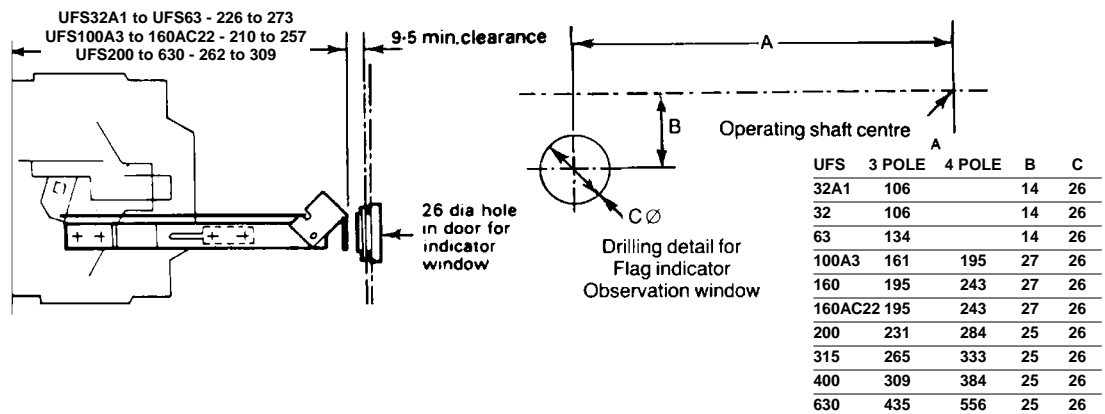


UFS200 to 400



FLAG INDICATORS

UFS32A1 to UFS630



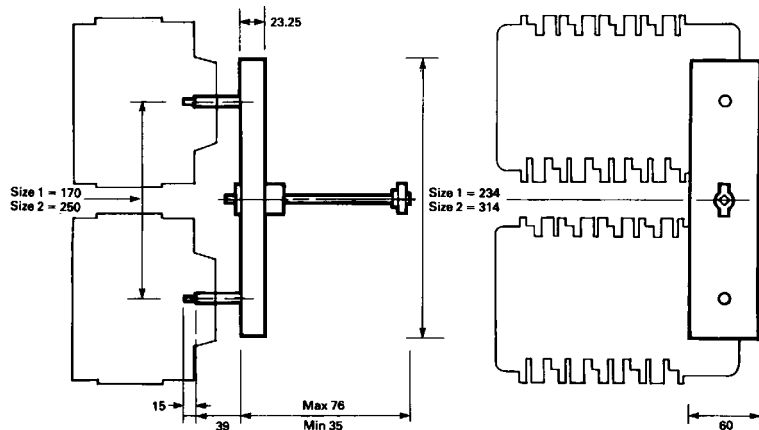


Technical Data

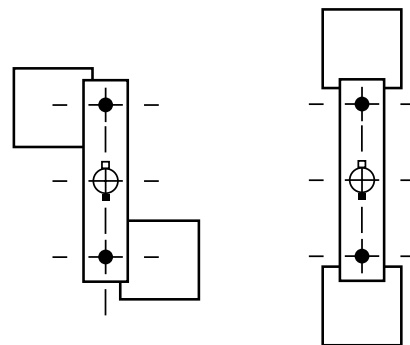
Dimensions in millimetres

DRIVE-LOK CHANGEOVER

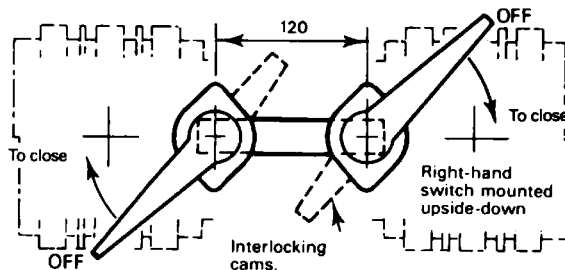
UFS32A1 TO 315



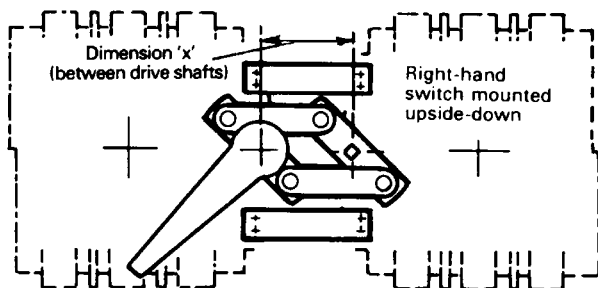
For the UFS200 & UFS315 switches can only be mounted in positions shown below



MECHANICAL INTERLOCKS



PARALLEL DRIVES

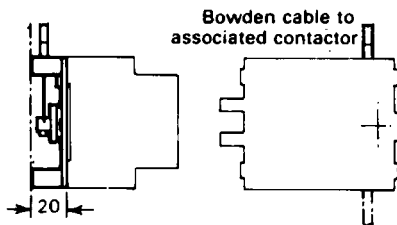


For coupling a pair of -	Dimension x	Switch Operating shaft*
UFS 32A1, 32 & 63	45	6mm square
UFS 100A3 to 315	60	8mm square
UFS 400	60	10mm square

* For coupling switches with dissimilar shafts please apply to Sales Office

RECLOSURE PREVENTERS

UFS32A1, 32 & 63



It is not practicable to give dimensions for all the reclosure preventers; please apply to the Sales Office. The drawings illustrate general arrangements of some of the units.

UFS 100A3 to 400

