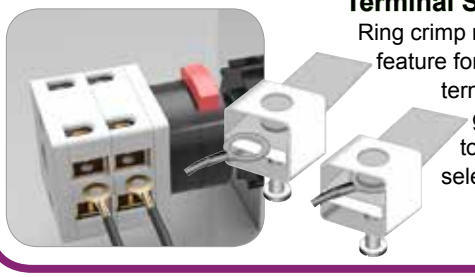
Product Features

General Description

The next section of the catalogue represent components specially designed for the Panel Builder and OEM. Selector Switches, Panel Isolators and pushbutton components are geared toward the Panel Builder market while the additional ranges of Footswitches and Limit Switches will benefit the discerning OEM. The component ranges contain many innovative features:

Terminal Security



Ring crimp retention feature for 'tunnel' type terminals brings greater security to 'C' range selector switches

Pushbutton Position Indicator

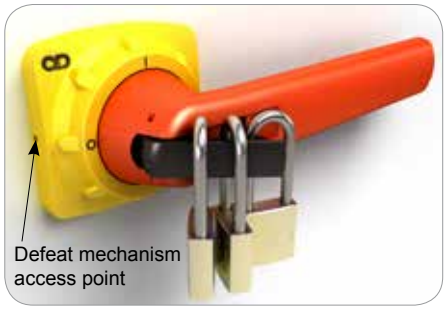
An innovative design feature is included on 'normal duty' Emergency Stop actuators.
A green segment forms part of the pushbutton moving body and when visible clearly indicates that the actuator has not been operated. When the button has been depressed and the mechanism latched, then the green segment is no longer visible.

Safety Handles

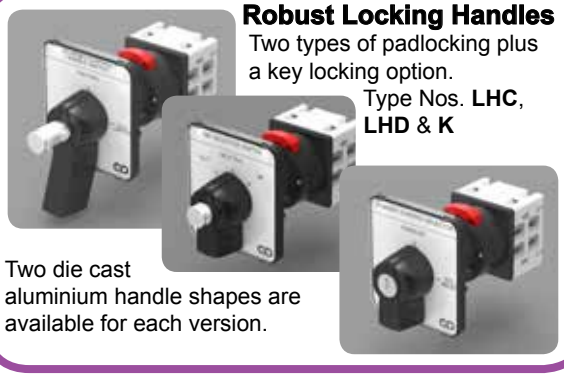
The door interlock handles come in three sizes and take up to three padlocks in the 'Off' position (Ø6.4 max. shackle).

For emergency or testing situations there is an override facility available for use by a competent person.

All handles are sealed to a minimum of IP65.



Robust Locking Handles



Two types of padlocking plus a key locking option.
Type Nos. **LHC**, **LHD** & **K**

Two die cast aluminium handle shapes are available for each version.

'Quick-fit' Actuators

To make installation and wiring as simple as possible a 'plug-in' series of actuators are available with alternative handle styles.

Safety Padlocking

When door interlocked isolators are switched 'Off' and the door is open, there is always the possibility that with the aid of a tool the shaft can be turned and the isolator switched back on.

The internal padlocking feature prevents this from taking place. (Only available on selected items within the range).

Padlockable Flap Cover

Up to three padlocks can be inserted to prevent access to the actuator beneath.

A special version to suit 'Emergency Stops' is also available.

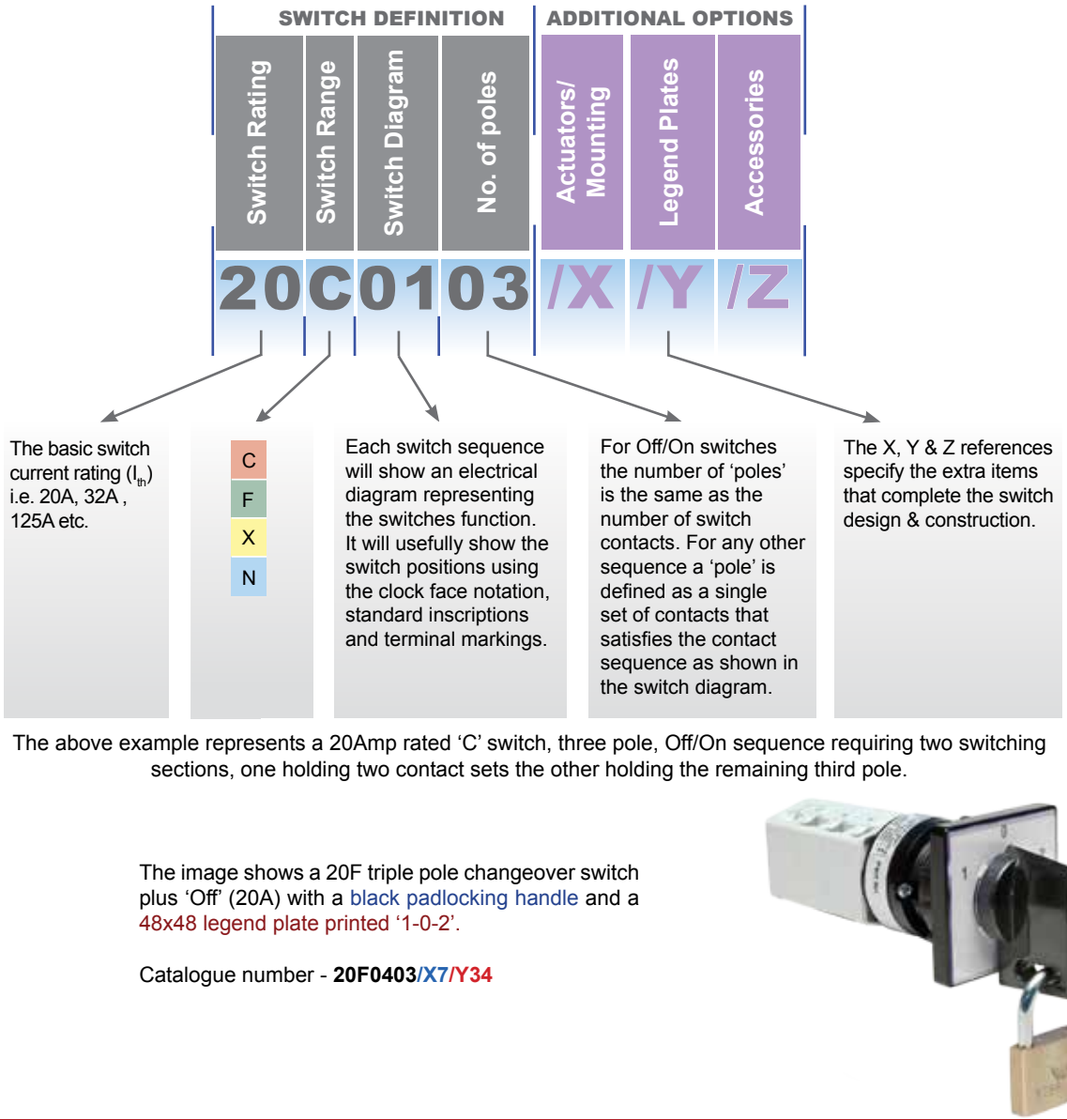
General Description

Craig & Derricott's selector switches are available in four different ranges, each of which has distinct design differences and ranges of accessories. This presents the user with a vast choice of options and the aim of the following pages is to help the user decide the best option for their precise application.

Range	C	F	X	N
Image (Typical)				
Ratings	20A	10A & 20A	16A, 20A, 32A & 40A	20A, 25A, 32A, 40A ,63A & 125A
Indexing options	45°, 60° & 90°	30°, 45°, 60° & 90°	30°, 45°, 60° & 90°	30°, 45°, 60° & 90°
Terminal Type	Tunnel	Clamp	Clamp	Clamp
Terminal Access	Side	Rear	Rear	Side
Temperature Range	-25°C to +40°C	-25°C to +55°C	-25°C to +55°C	-25°C to +55°C
Finger protection	IP2X	IP2X	IP2X	IP2X*

(* With terminal covers)

Catalogue Number 'Build-up'



The above example represents a 20Amp rated 'C' switch, three pole, Off/On sequence requiring two switching sections, one holding two contact sets the other holding the remaining third pole.

The image shows a 20F triple pole changeover switch plus 'Off' (20A) with a black padlocking handle and a 48x48 legend plate printed '1-0-2'.

Catalogue number - **20F0403/X7/Y34**

Guide to Defining a Selector Switch

BASIC SWITCH DEFINITION

Switch Sequence


Off/On


Multi Position


Cumulative


Motor Control


Changeover


Spring Return

Ammeter/
Voltmeter

Rating (Amps)

From 

to... 

ACTUATORS/MOUNTING

Actuators/Mounting (X)

F X N

DIN Rail or Base
Plate Mounting

BASE MOUNTING

F X N

Five hole
Mounting

C F X N

'Quick-fit'
actuators

C

LHC pull-to-lock
padlocking handle

C

LHD push-to-release
padlocking handle

C

K key locking handle

F

Ø16 mounting
knob actuator

F X N

Ø22.5 mounting
knob actuator

F X N

Ø22.5 mounting
key actuator

PANEL MOUNTING

LEGENDS

Legend Plates (Y)

ACCESSORIES

Accessories (Z)

4.8 and 6.3
Fast-on terminals

Extension
shafts


Unidirectional
Rotation

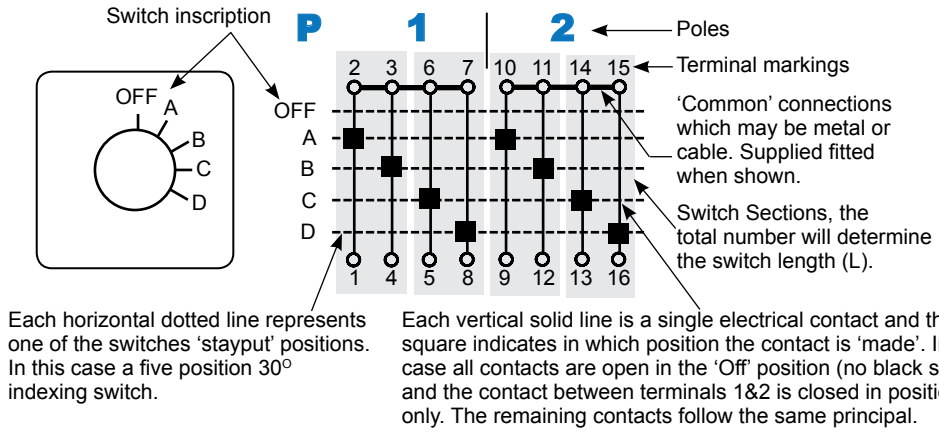
and many more....

Tech.Data
Pages
99-101

Dims
Page 102

Understanding Switch Diagrams

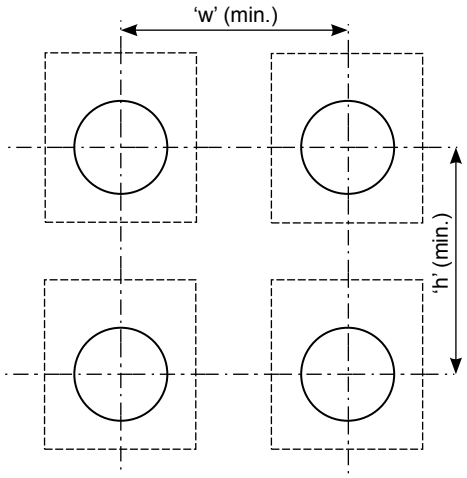
Each switch sequence shown on the following pages includes a Switch Diagram. This contains a lot of useful information for the user and installer and the following description is intended for those who may not be familiar with the layout.



Using this system you can indicate the full requirements for a special or 'bespoke' switch construction. Full details and a template which can be scanned and submitted to us can be found on pages 97-98.

Fitting Matrix

In certain applications groups of rotary switches need to be fitted in the smallest space envelope possible. The tables shown take into account the legend plates that would normally be supplied with each switch.



The Dims shown are for guidance only. The spacing for each application will depend upon the product mix and the individual switch length/complexity.

'C' Range	'w' (min.)	'h' (min.)
20C	80	70

'F' Range	'w' (min.)	'h' (min.)
10F	32	45
20F	50	65

'X' Range	'w' (min.)	'h' (min.)
16X	50	65
20X	50	65
32X	67	85
40X	67	85

'N' Range	'w' (min.)	'h' (min.)
20N	65	65
25N	65	65
32N	85	85
40N	85	85
63N	85	85
125N	115	115

Tech.Data Pages 99-101

Dims Page 102

Off/On Sequences

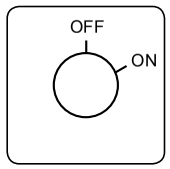
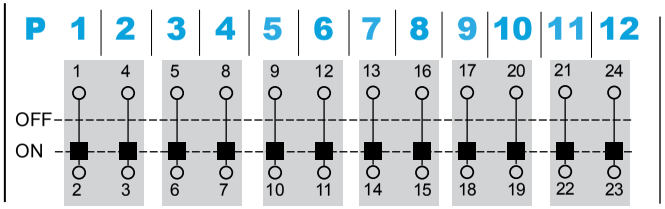


Diagram **01**

60°



Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L')

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N	125N
1	20C0101	10F0101	20F0101	16X0101	20X0101	32X0101	40X0101	20N0101	25N0101	32N0101	40N0101	63N0101	125N0101
2	20C0102	10F0102	20F0102	16X0102	20X0102	32X0102	40X0102	20N0102	25N0102	32N0102	40N0102	63N0102	125N0102
3	20C0103	10F0103	20F0103	16X0103	20X0103	32X0103	40X0103	20N0103	25N0103	32N0103	40N0103	63N0103	125N0103
4	20C0104	10F0104	20F0104	16X0104	20X0104	32X0104	40X0104	20N0104	25N0104	32N0104	40N0104	63N0104	125N0104
6	20C0106	10F0106	20F0106	16X0106	20X0106	32X0106	40X0106	20N0106	25N0106	32N0106	40N0106	63N0106	125N0106
8	20C0108	10F0108	20F0108	16X0108	20X0108	32X0108	40X0108	20N0108	25N0108	32N0108	40N0108	63N0108	125N0108
10	20C0110	10F0110	20F0110	16X0110	20X0110	32X0110	40X0110	20N0110	25N0110	32N0110	40N0110	63N0110	125N0110
12	20C0112	10F0112	20F0112	16X0112	20X0112	32X0112	40X0112	20N0112	25N0112	32N0112	40N0112	63N0112	125N0112

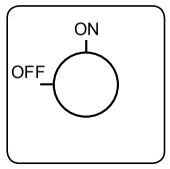
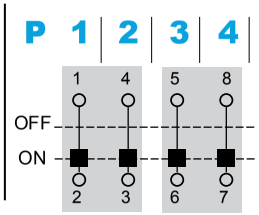


Diagram **02**

90°



Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N	125N
1	20C0201	10F0201	20F0201	16X0201	20X0201	32X0201	40X0201	20N0201	25N0201	32N0201	40N0201	63N0201	125N0201
2	20C0202	10F0202	20F0202	16X0202	20X0202	32X0202	40X0202	20N0202	25N0202	32N0202	40N0202	63N0202	125N0202
3	20C0203	10F0203	20F0203	16X0203	20X0203	32X0203	40X0203	20N0203	25N0203	32N0203	40N0203	63N0203	125N0203
4	20C0204	10F0204	20F0204	16X0204	20X0204	32X0204	40X0204	20N0204	25N0204	32N0204	40N0204	63N0204	125N0204

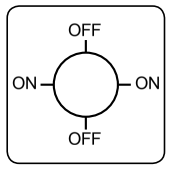
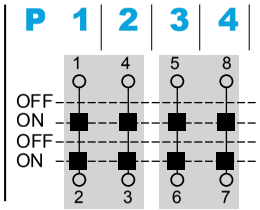
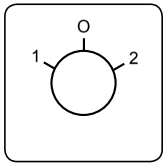


Diagram **03**

90°

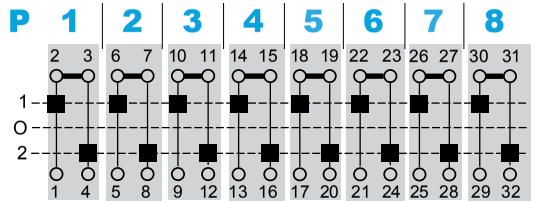


Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N	125N
1	20C0301	10F0301	20F0301	16X0301	20X0301	32X0301	40X0301	20N0301	25N0301	32N0301	40N0301	63N0301	125N0301
2	20C0302	10F0302	20F0302	16X0302	20X0302	32X0302	40X0302	20N0302	25N0302	32N0302	40N0302	63N0302	125N0302
3	20C0303	10F0303	20F0303	16X0303	20X0303	32X0303	40X0303	20N0303	25N0303	32N0303	40N0303	63N0303	125N0303
4	20C0304	10F0304	20F0304	16X0304	20X0304	32X0304	40X0304	20N0304	25N0304	32N0304	40N0304	63N0304	125N0304



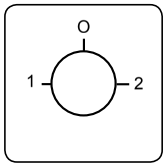
60°

Diagram **04**



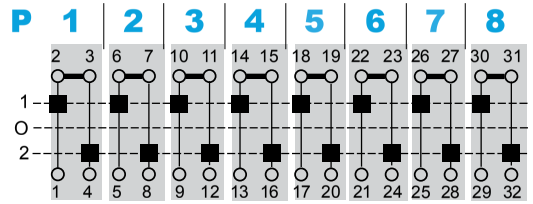
Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L')

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N	125N
1	20C0401	10F0401	20F0401	16X0401	20X0401	32X0401	40X0401	20N0401	25N0401	32N0401	40N0401	63N0401	125N0401
2	20C0402	10F0402	20F0402	16X0402	20X0402	32X0402	40X0402	20N0402	25N0402	32N0402	40N0402	63N0402	125N0402
3	20C0403	10F0403	20F0403	16X0403	20X0403	32X0403	40X0403	20N0403	25N0403	32N0403	40N0403	63N0403	125N0403
4	20C0404	10F0404	20F0404	16X0404	20X0404	32X0404	40X0404	20N0404	25N0404	32N0404	40N0404	63N0404	125N0404
6	20C0406	10F0406	20F0406	16X0406	20X0406	32X0406	40X0406	20N0406	25N0406	32N0406	40N0406	63N0406	125N0406
8	20C0408	10F0408	20F0408	16X0408	20X0408	32X0408	40X0408	20N0408	25N0408	32N0408	40N0408	63N0408	125N0408

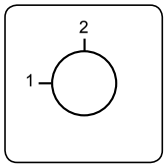


90°

Diagram **05**

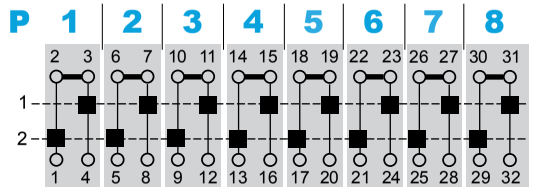


Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N	125N
1	20C0501	10F0501	20F0501	16X0501	20X0501	32X0501	40X0501	20N0501	25N0501	32N0501	40N0501	63N0501	125N0501
2	20C0502	10F0502	20F0502	16X0502	20X0502	32X0502	40X0502	20N0502	25N0502	32N0502	40N0502	63N0502	125N0502
3	20C0503	10F0503	20F0503	16X0503	20X0503	32X0503	40X0503	20N0503	25N0503	32N0503	40N0503	63N0503	125N0503
4	20C0504	10F0504	20F0504	16X0504	20X0504	32X0504	40X0504	20N0504	25N0504	32N0504	40N0504	63N0504	125N0504
6	20C0506	10F0506	20F0506	16X0506	20X0506	32X0506	40X0506	20N0506	25N0506	32N0506	40N0506	63N0506	125N0506
8	20C0508	10F0508	20F0508	16X0508	20X0508	32X0508	40X0508	20N0508	25N0508	32N0508	40N0508	63N0508	125N0508



90°

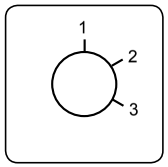
Diagram **06**



Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N	125N
1	20C0601	10F0601	20F0601	16X0601	20X0601	32X0601	40X0601	20N0601	25N0601	32N0601	40N0601	63N0601	125N0601
2	20C0602	10F0602	20F0602	16X0602	20X0602	32X0602	40X0602	20N0602	25N0602	32N0602	40N0602	63N0602	125N0602
3	20C0603	10F0603	20F0603	16X0603	20X0603	32X0603	40X0603	20N0603	25N0603	32N0603	40N0603	63N0603	125N0603
4	20C0604	10F0604	20F0604	16X0604	20X0604	32X0604	40X0604	20N0604	25N0604	32N0604	40N0604	63N0604	125N0604
6	20C0606	10F0606	20F0606	16X0606	20X0606	32X0606	40X0606	20N0606	25N0606	32N0606	40N0606	63N0606	125N0606
8	20C0608	10F0608	20F0608	16X0608	20X0608	32X0608	40X0608	20N0608	25N0608	32N0608	40N0608	63N0608	125N0608

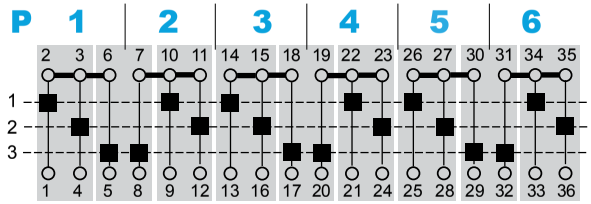
Changeover Sequences

Multi-step Sequences



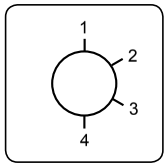
60°

Diagram **07**



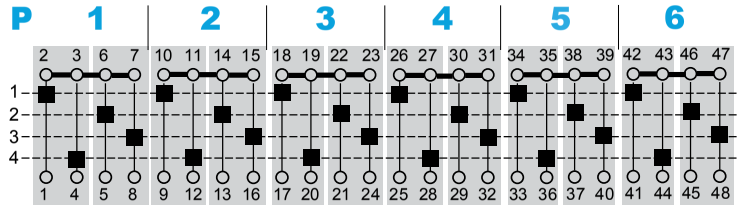
Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L')

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	20C0701	10F0701	20F0701	16X0701	20X0701	32X0701	40X0701	20N0701	25N0701	32N0701	40N0701	63N0701
2	20C0702	10F0702	20F0702	16X0702	20X0702	32X0702	40X0702	20N0702	25N0702	32N0702	40N0702	63N0702
3	20C0703	10F0703	20F0703	16X0703	20X0703	32X0703	40X0703	20N0703	25N0703	32N0703	40N0703	63N0703
4	20C0704	10F0704	20F0704	16X0704	20X0704	32X0704	40X0704	20N0704	25N0704	32N0704	40N0704	63N0704
6	20C0706	-	20F0706	16X0706	20X0706	32X0706	40X0706	20N0706	25N0706	32N0706	40N0706	63N0706

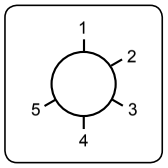


60°

Diagram **08**

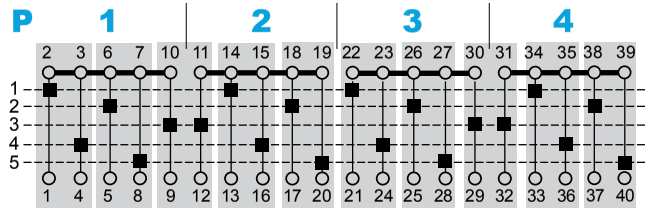


Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	20C0801	10F0801	20F0801	16X0801	20X0801	32X0801	40X0801	20N0801	25N0801	32N0801	40N0801	63N0801
2	20C0802	10F0802	20F0802	16X0802	20X0802	32X0802	40X0802	20N0802	25N0802	32N0802	40N0802	63N0802
3	20C0803	10F0803	20F0803	16X0803	20X0803	32X0803	40X0803	20N0803	25N0803	32N0803	40N0803	63N0803
4	20C0804	10F0804	20F0804	16X0804	20X0804	32X0804	40X0804	20N0804	25N0804	32N0804	40N0804	63N0804
6	20C0806	-	20F0806	16X0806	20X0806	32X0806	40X0806	20N0806	25N0806	32N0806	40N0806	63N0806

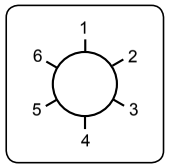


60°

Diagram **09**

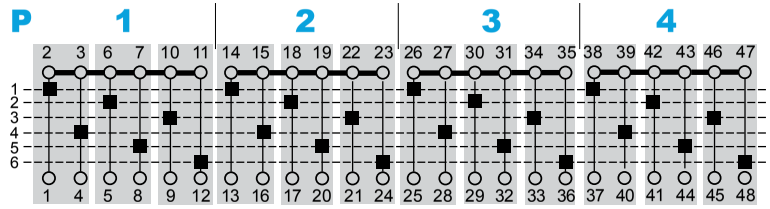


Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	20C0901	10F0901	20F0901	16X0901	20X0901	32X0901	40X0901	20N0901	25N0901	32N0901	40N0901	63N0901
2	20C0902	10F0902	20F0902	16X0902	20X0902	32X0902	40X0902	20N0902	25N0902	32N0902	40N0902	63N0902
3	20C0903	10F0903	20F0903	16X0903	20X0903	32X0903	40X0903	20N0903	25N0903	32N0903	40N0903	63N0903
4	20C0904	-	20F0904	16X0904	20X0904	32X0904	40X0904	20N0904	25N0904	32N0904	40N0904	63N0904



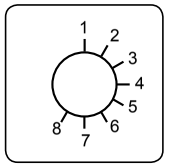
60°

Diagram **10**



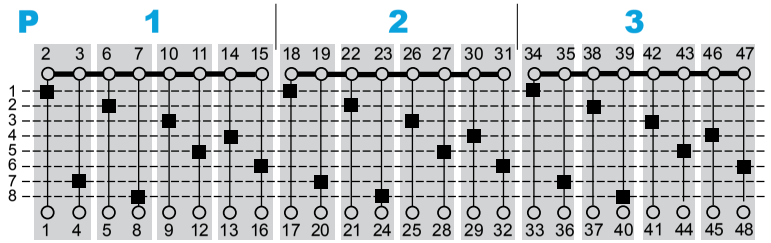
Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L')

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	20C1001	10F1001	20F1001	16X1001	20X1001	32X1001	40X1001	20N1001	25N1001	32N1001	40N1001	63N1001
2	20C1002	10F1002	20F1002	16X1002	20X1002	32X1002	40X1002	20N1002	25N1002	32N1002	40N1002	63N1002
3	20C1003	-	20F1003	16X1003	20X1003	32X1003	40X1003	20N1003	25N1003	32N1003	40N1003	63N1003
4	20C1004	-	20F1004	16X1004	20X1004	32X1004	40X1004	20N1004	25N1004	32N1004	40N1004	63N1004

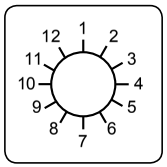


30°

Diagram **11**

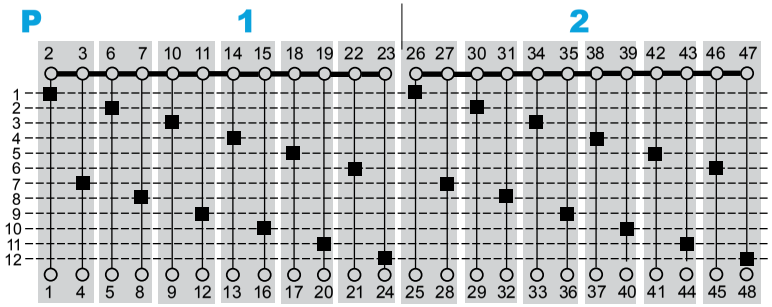


Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	-	10F1101	20F1101	16X1101	20X1101	32X1101	40X1101	20N1101	25N1101	32N1101	40N1101	63N1101
2	-	10F1102	20F1102	16X1102	20X1102	32X1102	40X1102	20N1102	25N1102	32N1102	40N1102	63N1102
3	-	-	20F1103	16X1103	20X1103	32X1103	40X1103	20N1103	25N1103	32N1103	40N1103	63N1103



30°

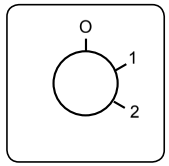
Diagram **12**



Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	-	10F1201	20F1201	16X1201	20X1201	32X1201	40X1201	20N1201	25N1201	32N1201	40N1201	63N1201
2	-	-	20F1202	16X1202	20X1202	32X1202	40X1202	20N1202	25N1202	32N1202	40N1202	63N1202

Multi-step Sequences

Multi-step + Off Sequences



60°

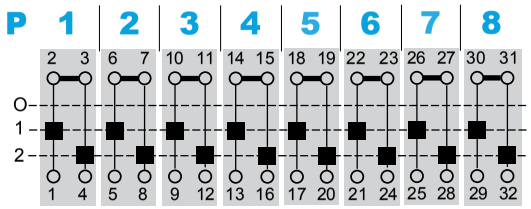
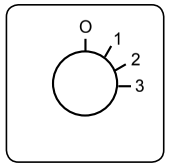


Diagram **13**

Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L')

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	20C1301	10F1301	20F1301	16X1301	20X1301	32X1301	40X1301	20N1301	25N1301	32N1301	40N1301	63N1301
2	20C1302	10F1302	20F1302	16X1302	20X1302	32X1302	40X1302	20N1302	25N1302	32N1302	40N1302	63N1302
3	20C1303	10F1303	20F1303	16X1303	20X1303	32X1303	40X1303	20N1303	25N1303	32N1303	40N1303	63N1303
4	20C1304	10F1304	20F1304	16X1304	20X1304	32X1304	40X1304	20N1304	25N1304	32N1304	40N1304	63N1304
6	20C1306	10F1306	20F1306	16X1306	20X1306	32X1306	40X1306	20N1306	25N1306	32N1306	40N1306	63N1306
8	20C1308	10F1308	20F1308	16X1308	20X1308	32X1308	40X1308	20N1308	25N1308	32N1308	40N1308	63N1308



30°

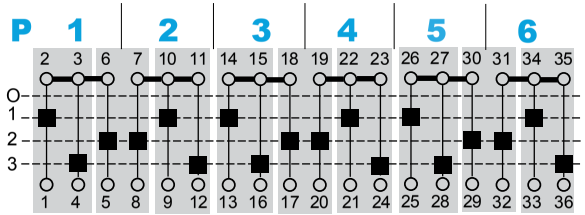
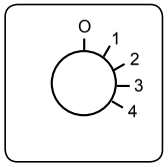


Diagram **14**

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	-	10F1401	20F1401	16X1401	20X1401	32X1401	40X1401	20N1401	25N1401	32N1401	40N1401	63N1401
2	-	10F1402	20F1402	16X1402	20X1402	32X1402	40X1402	20N1402	25N1402	32N1402	40N1402	63N1402
3	-	10F1403	20F1403	16X1403	20X1403	32X1403	40X1403	20N1403	25N1403	32N1403	40N1403	63N1403
4	-	10F1404	20F1404	16X1404	20X1404	32X1404	40X1404	20N1404	25N1404	32N1404	40N1404	63N1404
6	-	-	20F1406	16X1406	20X1406	32X1406	40X1406	20N1406	25N1406	32N1406	40N1406	63N1406



30°

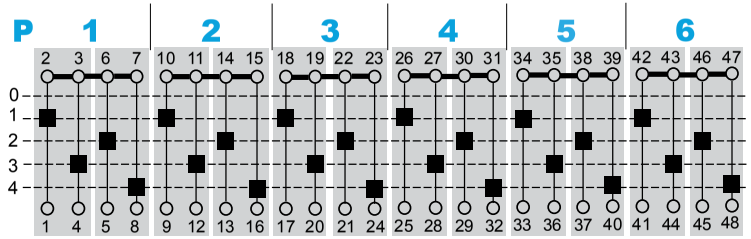
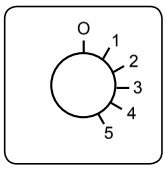


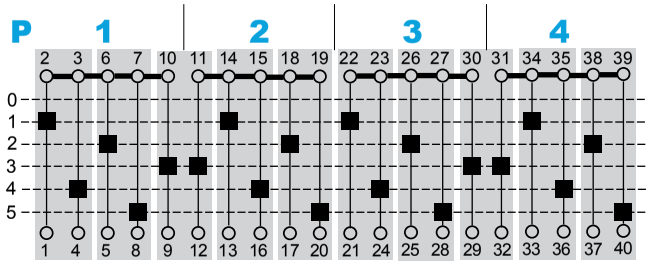
Diagram **15**

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	-	10F1501	20F1501	16X1501	20X1501	32X1501	40X1501	20N1501	25N1501	32N1501	40N1501	63N1501
2	-	10F1502	20F1502	16X1502	20X1502	32X1502	40X1502	20N1502	25N1502	32N1502	40N1502	63N1502
3	-	10F1503	20F1503	16X1503	20X1503	32X1503	40X1503	20N1503	25N1503	32N1503	40N1503	63N1503
4	-	-	20F1504	16X1504	20X1504	32X1504	40X1504	20N1504	25N1504	32N1504	40N1504	63N1504
6	-	-	20F1506	16X1506	20X1506	32X1506	40X1506	20N1506	25N1506	32N1506	40N1506	63N1506



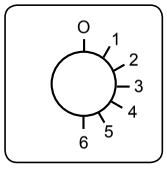
30°

Diagram **16**



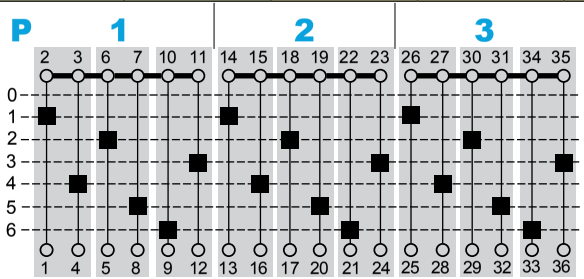
Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L')

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	-	10F1601	20F1601	16X1601	20X1601	32X1601	40X1601	20N1601	25N1601	32N1601	40N1601	63N1601
2	-	10F1602	20F1602	16X1602	20X1602	32X1602	40X1602	20N1602	25N1602	32N1602	40N1602	63N1602
3	-	10F1603	20F1603	16X1603	20X1603	32X1603	40X1603	20N1603	25N1603	32N1603	40N1603	63N1603
4	-	-	20F1604	16X1604	20X1604	32X1604	40X1604	20N1604	25N1604	32N1604	40N1604	63N1604



30°

Diagram **17**



Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	-	10F1701	20F1701	16X1701	20X1701	32X1701	40X1701	20N1701	25N1701	32N1701	40N1701	63N1701
2	-	10F1702	20F1702	16X1702	20X1702	32X1702	40X1702	20N1702	25N1702	32N1702	40N1702	63N1702
3	-	-	20F1703	16X1703	20X1703	32X1703	40X1703	20N1703	25N1703	32N1703	40N1703	63N1703

Multi-step + Off Sequences

Spring Return Sequences

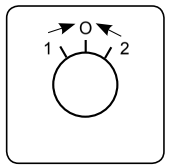
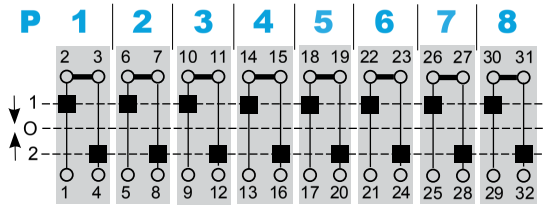


Diagram **18**



Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L')

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	20C1801	10F1801	20F1801	16X1801	20X1801	32X1801	40X1801	20N1801	25N1801	32N1801	40N1801	63N1801
2	20C1802	10F1802	20F1802	16X1802	20X1802	32X1802	40X1802	20N1802	25N1802	32N1802	40N1802	63N1802
3	20C1803	10F1803	20F1803	16X1803	20X1803	32X1803	40X1803	20N1803	25N1803	32N1803	40N1803	63N1803
4	20C1804	10F1804	20F1804	16X1804	20X1804	32X1804	40X1804	20N1804	25N1804	32N1804	40N1804	63N1804
6	20C1806	10F1806	20F1806	16X1806	20X1806	32X1806	40X1806	20N1806	25N1806	32N1806	40N1806	63N1806
8	20C1808	10F1808	20F1808	16X1808	20X1808	32X1808	40X1808	20N1808	25N1808	32N1808	40N1808	63N1808

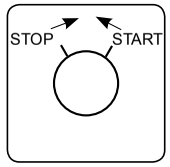
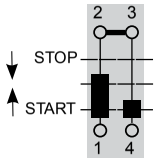


Diagram **19**



Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
-	20C1901	10F1901	20F1901	16X1901	20X1901	32X1901	40X1901	20N1901	25N1901	32N1901	40N1901	63N1901

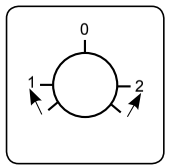
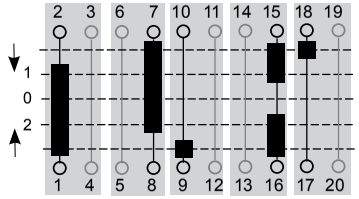
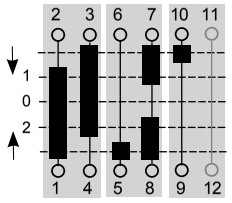


Diagram **20**

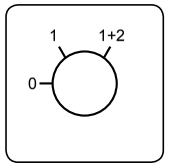


20C & 10F



20F, X & N

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
-	20C2001	10F2001	20F2001	16X2001	20X2001	32X2001	40X2001	20N2001	25N2001	32N2001	40N2001	63N2001



60°

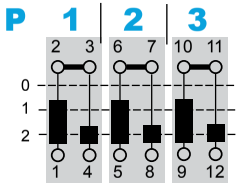
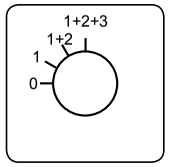


Diagram **21**

Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	20C2101	10F2101	20F2101	16X2101	20X2101	32X2101	40X2101	20N2101	25N2101	32N2101	40N2101	63N2101
2	20C2102	10F2102	20F2102	16X2102	20X2102	32X2102	40X2102	20N2102	25N2102	32N2102	40N2102	63N2102
3	20C2103	10F2103	20F2103	16X2103	20X2103	32X2103	40X2103	20N2103	25N2103	32N2103	40N2103	63N2103



30°

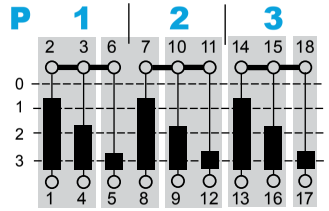
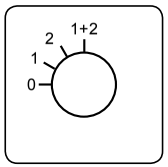


Diagram **22**

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	-	10F2201	20F2201	16X2201	20X2201	32X2201	40X2201	20N2201	25N2201	32N2201	40N2201	63N2201
2	-	10F2202	20F2202	16X2202	20X2202	32X2202	40X2202	20N2202	25N2202	32N2202	40N2202	63N2202
3	-	10F2203	20F2203	16X2203	20X2203	32X2203	40X2203	20N2203	25N2203	32N2203	40N2203	63N2203



30°

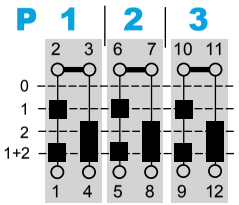
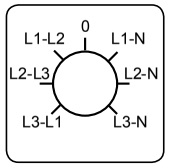


Diagram **23**

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
1	-	10F2301	20F2301	16X2301	20X2301	32X2301	40X2301	20N2301	25N2301	32N2301	40N2301	63N2301
2	-	10F2302	20F2302	16X2302	20X2302	32X2302	40X2302	20N2302	25N2302	32N2302	40N2302	63N2302
3	-	10F2303	20F2303	16X2303	20X2303	32X2303	40X2303	20N2303	25N2303	32N2303	40N2303	63N2303

Cumulative Sequences

Ammeter/Voltmeter Sequences



45°

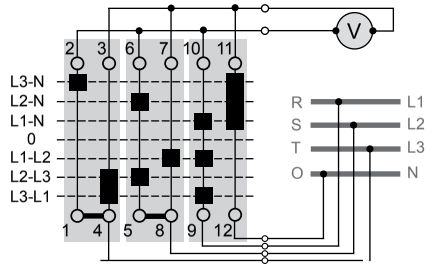
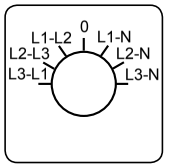


Diagram **24**

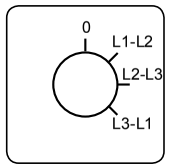
Voltmeter
Line to Line
+ Line to Neutral
+ Off



10F Only

Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L')

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
-	20C2403	10F2403	20F2403	16X2403	-	-	-	20N2403	-	-	-	



45°

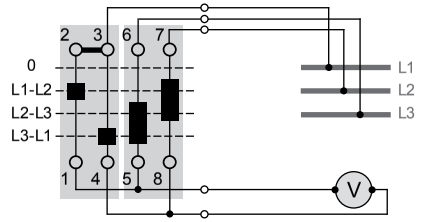
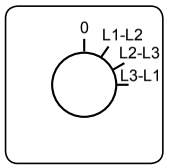


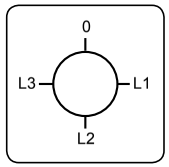
Diagram **25**

Voltmeter
Line to Line + Off



10F Only

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
-	20C2503	10F2503	20F2503	16X2503	-	-	-	20N2503	-	-	-	



90°

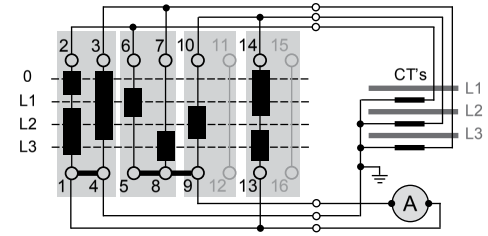
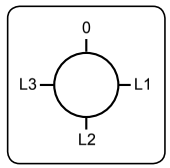


Diagram **26**

Ammeter
Line currents with
3 off CT's

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
-	20C2603	10F2603	20F2603	16X2603	-	-	-	20N2603	-	-	-	

All contacts make-before-break (MBB)



90°

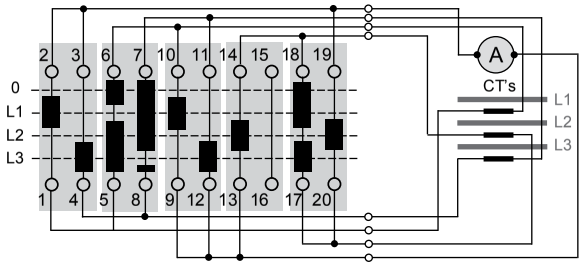


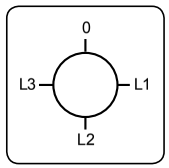
Diagram **27**

Ammeter
Three Line currents with or without CT's (X, 20F & N ranges Switches only)

Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L')

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
-	-	-	20F2703	16X2703	20X2703	32X2703	40X2703	20N2703	25N2703	32N2703	40N2703	63N2703

All contacts make-before-break (MBB)



90°

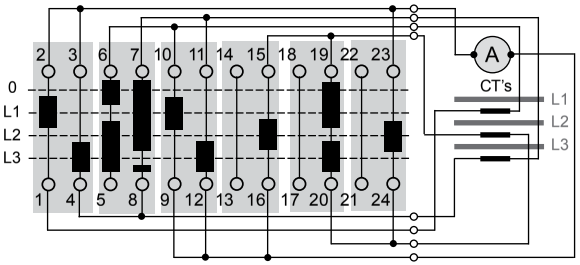


Diagram **28**

Ammeter
Three Line currents with or without CT's (10F & 20C only)

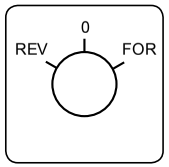
Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
-	20C2803	10F2803	-	-	-	-	-	-	-	-	-	-

Should you need a special contact sequence or operating features please give our technical sales staff a call or use the special switch template on pages 89-90 to give us your requirements.

We have over 70 years experience in designing special products.

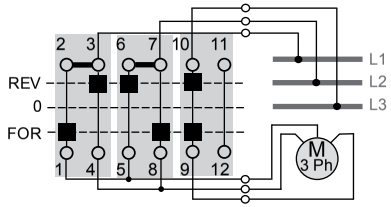
Ammeter/Voltmeter Sequences

Motor Control Sequences



60°

Diagram **29**

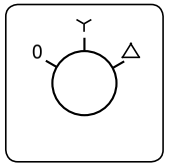


Direction Switch

Reverse-Off-Forward

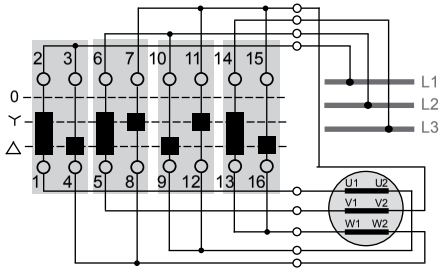
Required number of switch sections to construct switch. See page 102 for switch length. (Dim 'L')

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
-	20C2903	10F2903	20F293	16X2903	20X2903	32X2903	40X2903	20N2903	25N2903	32N2903	40N2903	63N2903



60°

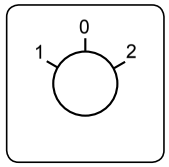
Diagram **30**



Starter switch

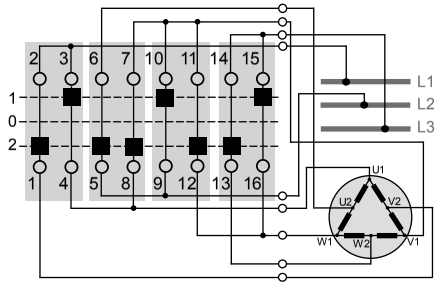
Off-Star-Delta

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
-	20C3003	-	20F3003	16X3003	20X3003	32X3003	40X3003	20N3003	25N3003	32N3003	40N3003	63N3003



60°

Diagram **31**



Speed Control

'Dahlander' winding giving two speeds (△- 0 -ᛉᛉ)

Poles	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
-	20C3103	-	20F3103	16X3103	20X3103	32X3103	40X3103	20N3103	25N3103	32N3103	40N3103	63N3103

This section covers the options available for actuators, indicator plates and accessories to complete the switch configuration. To follow Craig & Derricott's 'building block' principal of catalogue number creation the following sequence will be adhered to:-

Basic switch ref / Actuator(X) / Indicator Plate(Y) / Accessory(Z)

Basic switch ref - Choose from the previous sequence options
Actuator - Basic handles, single hole knob & key actuators, metal locking handles etc.
Indicator plate - Either standard or specially printed
Accessory - Items such as tab terminals, terminal shrouds etc.

Example:- **20N0103/X1/Y53/Z3**

Standard Panel Mounting — Non Locking

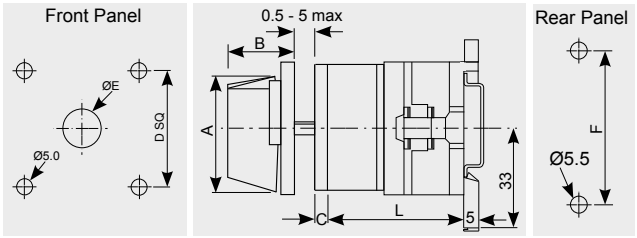
Provides the basic switch configuration with a moulded knob for front of panel mounting.

Feature	Ranges Applicable	Code	Example
IP40 protection	F X N	X1	20X0104/X1
IP65 protection	F X N	X2	32N1702/X2

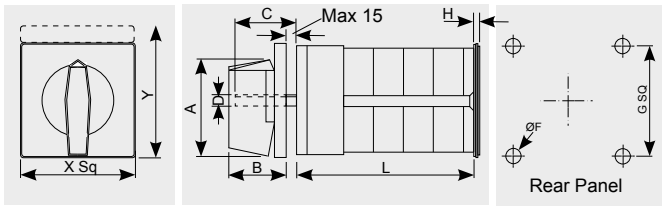
Base Mounting — Non Locking

Provides the basic switch configuration with a moulded knob for back of panel mounting.

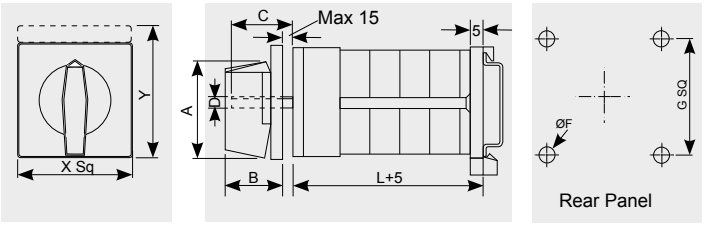
Feature	Ranges Applicable	Code	Example
IP40 protection (Base plate)	N	X3	20N0102/X3
IP40 protection (Base plate/DIN rail)	X N	X4	20X0103/X4



Dims for items available	A	B	C	D	E	F
16X/20X	39.5	26.5	5	36	12	52
32X/40X	53	34.5	5.5	48	14	68



Dims for items available	A	B	C	D	F	G	X	Y
20N/25N	39.5	26.5	23.5	6	5	36	48	60
32N/40N	53	34.5	26	7	5	48	65	80
63N	53	34.5	26	7	5	48	65	80
125N	70.5	41.5	38	9	6	68	90	110



Dims for items available	A	B	C	D	E	F	G	H	X	Y
20N/25N	39.5	26.5	23.5	6	12	5	36	5	48	60
32N/40N	53	34.5	26	7	14	5	48	5	65	80
63N	53	34.5	26	7	14	5	48	7	65	80

Padlocking Handles

Panel mounting lockable handle in Black or Red/Yellow. Lockable in 'OFF' only. Options for 60° and 90° switch movement.

Feature	Ranges Applicable	Code	Example
60° (Black)	F X N	X5	20F0103/X5
60° (Red/Yellow)	F X N	X6	32X0102/X6
90° (Black)	F X N	X7	25N0204/X7
90° (Red/Yellow)	F X N	X8	63N0202/X8

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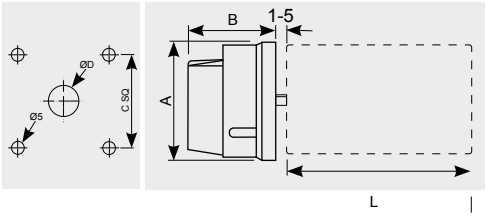
Padlocking Handles

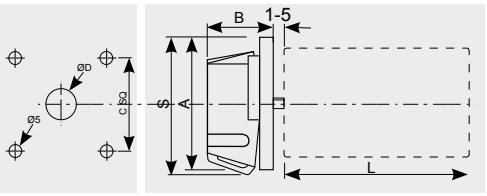


Dims for items available	A	B	C	D	Max. Hasp Ø	No. of padlocks
20F, 16X, 20X, 20N, 25N	48	34.2	36	12	4.8	2
32X, 40X, 32N, 40N, 63N	65	38	48	14	4.8	3
125N	90	49	68	16	6.4	3

Not available for the 10F range.

Alternative panel mounting lockable handle in Black or Red/Yellow. (Lockable in 'Off' only)

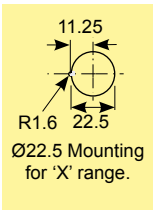
Feature	Ranges Applicable	Code	Example
Handle - Black	F X N	**X9**	20F0102/**X9**
Handle - Red/Yellow	F X N	**X10**	20X0102/**X10**



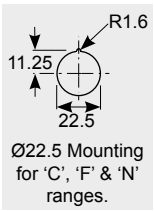
Dims for items available	A	B	C	D	S	Max. Hasp Ø	No. of padlocks
20F, 16X, 20X, 20N, 25N	48	34.5	36	12	57	4.8	1 - 3

'Quick Fit' - Panel mounting lockable handle in Black or Red/Yellow. Plug-in, press button to release switch mounting in Ø22.5 mounting format. (Lockable in 'Off' only)

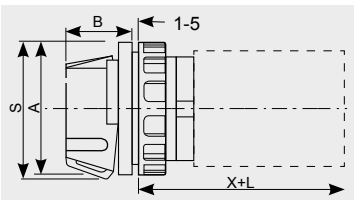
Mtg.	Feature	Ranges Applicable	Code	Example
Ø 22.5	Handle - Black	C F X N	X11	20F0106/X11
	Handle - Red/Yellow	C F X N	X12	16X0102/X12



Ø22.5 Mounting for 'X' range.



Ø22.5 Mounting for 'C', 'F' & 'N' ranges.



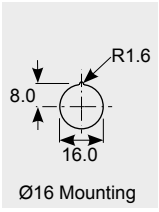
Dims for items available	A	B	S	X	Max. Hasp Ø	No. of padlocks
20C	48	36	57	21	4.8	1 - 3
20F	48	36	57	21		
16X,20X	48	36	57	21		
20N, 25N	48	36	57	21		

Knob Actuator

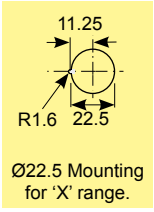
Quick Fit

Panel mounting non-locking knob actuator in Black. Plug-in, press button to release switch mounting in Ø16 & Ø22.5 mounting formats.

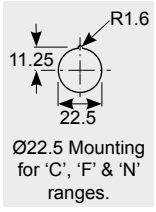
Mtg.	Feature	Ranges Applicable	Code	Example
Ø16	Non-locking knob actuator	F	**X19**	10F2203/**X19**
Ø 22.5	Non-locking knob actuator	C F X N	**X20**	16X2401/**X20**



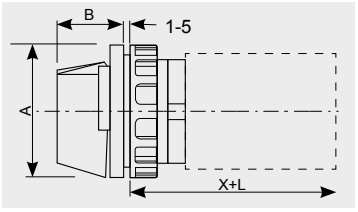
Ø16 Mounting



Ø22.5 Mounting for 'X' range.



Ø22.5 Mounting for 'C', 'F' & 'N' ranges.



Dims for items available	A	B	X
20C	48	26.5	21
10F	30	18.5	15
20F	48	26.5	21
16X,20X	48	26.5	21
20N, 25N	48	26.5	21

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Key Actuator

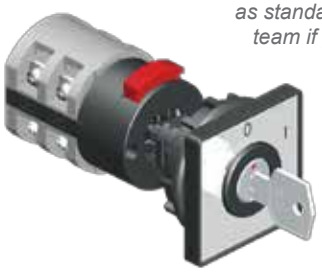
Quick Fit

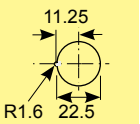
Panel mounting key actuator. Key removable (lockable) in 90° increments. Plug-in, press button to release switch mounting in Ø22.5 mounting format.

Mtg.	Feature	Ranges Applicable	Code	Example
Ø 22.5	Locking 9 o'clock	C F X N	X13	20N0204/X13
	Locking 9 & 12 o'clock	C F X N	X14	25N0201/X14
	Locking 12 o'clock	C F X N	X15	16X0203/X15
	Locking 9 & 3 o'clock	C F X N	X16	20F0304/X16
	Locking 9,12, 6 & 3 o'clock	C F X N	X17	20X0301/X17
	Locking 6 & 12 o'clock	C F X N	X18	20N0302/X18

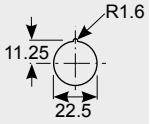
* locking positions

Random key differs supplied as standard. Contact our sales team if you require any other arrangements

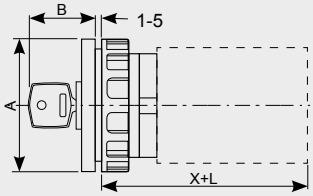




Ø22.5 Mounting for 'X' range.



Ø22.5 Mounting for 'C', 'F' & 'N' ranges.



Dims for items available	A	B	X
20C	48	38	21
20F	48	38	21
16X,20X	48	38	21
20N, 25N	48	38	21

Robust Locking Handles

Quick Fit

Panel mounting locking handles in padlocking & key locking formats. Plug-in, press button to release switch mounting in Ø30.5 fitting.

'LHC' Pull-to-lock handle.
A robust die cast aluminium handle assembly available as a 'Quick Fit' in Ø30.5 mounting. When the switch is turned to a position to be locked, the central spindle can be pulled out and a padlock inserted in the hole that becomes available. Available with either an 'SM' or 'SA' style handle.

(Ø6.4 padlock hasp recommended)

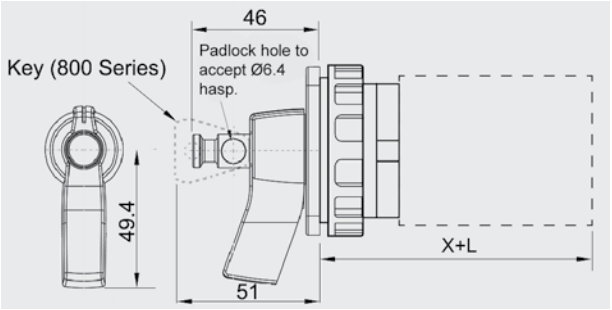
'LHD' Push-to-release handle.
A robust die cast aluminium handle assembly available as a 'Quick Fit' in Ø30.5 mounting. The central locking spindle must be depressed to turn the switch to another position. Inserting a padlock in the spindle will lock the switch in that position.Available with either an 'SM' or 'SA' style handle.

(Ø6.4 padlock hasp recommended)

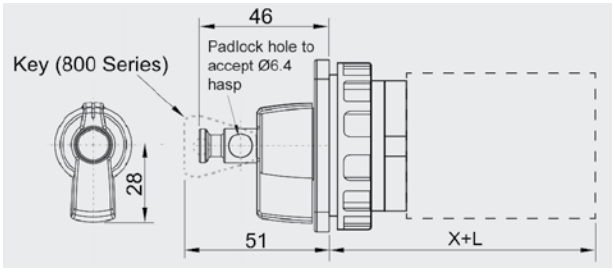
'K' Key locking handle.
A robust die cast aluminium handle assembly available as a 'Quick Fit' in Ø30.5 mounting. When in a locking position the key can be turned and removed. The key will be trapped in all other positions. Two keys supplied as standard (Key No 801*) Available with either an 'SM' or 'SA' style handle.

**Over 100 key differs are available to special order, please talk to our technical sales for further details.*

Locking Handle with 'SA' tailed style handle



Locking Handle with 'SM' pointer style handle



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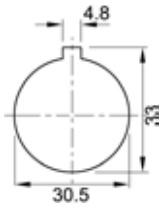
Locking Positions	Index	Ranges Applicable	Code	Example
	90°	C F X N	X21	16X2401/X21A
		C F X N	X22	20N0202/X22C
		C F X N	X23	25N0503/X23D
	60°	C F X N	X24	20C1004/X24E
		C F X N	X25	20X0806/X25C
		C F X N	X26	20F0104/X26A
		C F X N	X27	25N3103/X27F

* locking positions

LHC & LHD handles can take padlocks with hasps up to Ø6.4

Handle shape	Locking format		
	LHC	LHD	K
SA	**A**	**B**	**C**
SM	**D**	**E**	**F**



Mounting hole

Dims for items available	X
20C	30
20F	30
16X, 20X	30
20N, 25N	30

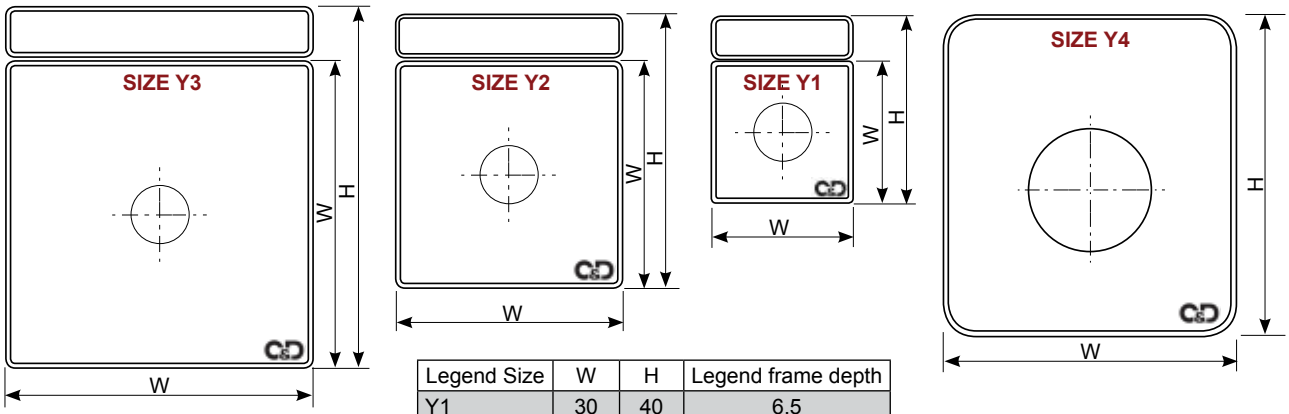
Legend Plates

Basic switch ref / Actuator(X) / Indicator Plate(Y) / Accessory(Z)

All of the options shown below are supplied as a three part assembly which 'snap' together, the printed legend being the centre component The back plate or holder forms part of the actuator assembly and is used to locate the switch assembly on the mounting panel. The transparent front cover completes the assembly.

The 'Y1' & 'Y3' sizes allow the addition of a 'Title Plate' while the additional height of the size 'Y4' allows for a title to form part of the printed legend.

The various sizes are applicable to the range of switches as indicated in the table below:-



Legend Size	W	H	Legend frame depth
Y1	30	40	6.5
Y2	48	60	7.5
Y3	65	80.5	9.5
Y4	62	68	5.5

Legend Size	Allocated legend plate to switch range/size											
	20C	10F	20F	16X	20X	32X	40X	20N	25N	32N	40N	63N
Y1		✓										
Y2	✓		✓	✓	✓			✓	✓			
Y3						✓	✓			✓	✓	✓
Y4*	✓											

* Y4 plate size will be allocated if locking handles style X21 - X27 are specified

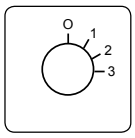
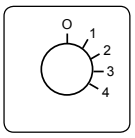
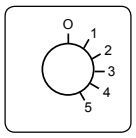
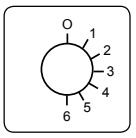
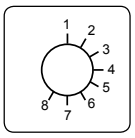
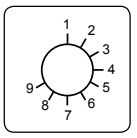
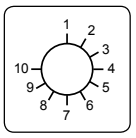
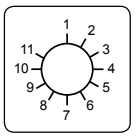
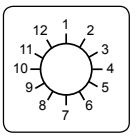
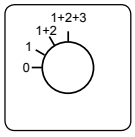
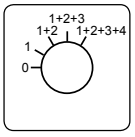
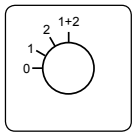
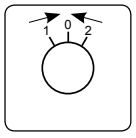
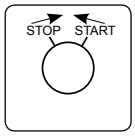
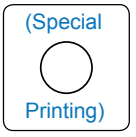
20N2303/X1/Y12S

Plate inscription

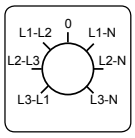
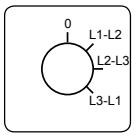
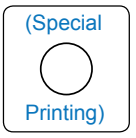
Title plate inscription

Tech.Data Pages 99-101

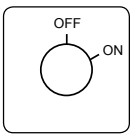
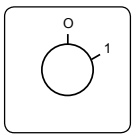
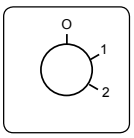
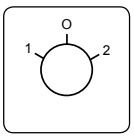
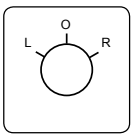
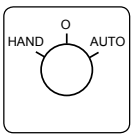
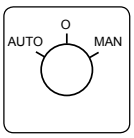
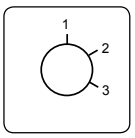
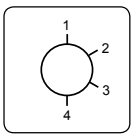
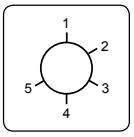
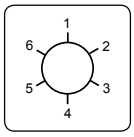
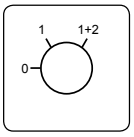
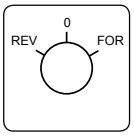
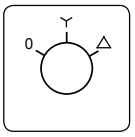
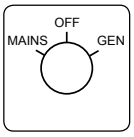
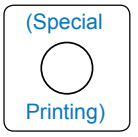
Printed Legends — 30° Switching

								
-01	-02	-03	-04	-05	-06	-07	-08	-09
								
-10	-11	-12	-13	-14				See p98

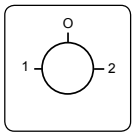
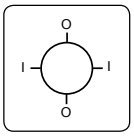
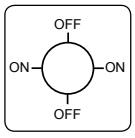
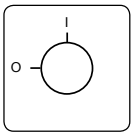
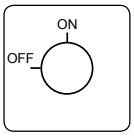
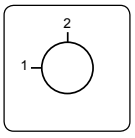
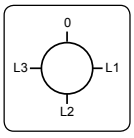
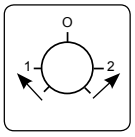
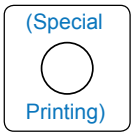
45° Switching

								
-21	-22							See p98

60° Switching

								
-31	-32	-33	-34	-35	-36	-37	-38	-39
								
-41	-42	-43	-44	-45	-46			See p98

90° Switching

								
-51	-52	-53	-54	-55	-56	-57	-58	See p98

Printed Title Plates

AMMETER	VOLTMETER	MOTOR	SELECTOR					(Sp. Engr.)
---A	---V	---M	---S					See p98

Example :- 10F2403/X1/Y21S Line to line & line to neutral ammeter switch with Y21 legend and Y--S title plate (If a title plate is not required please omit the green portion of the catalogue number).

Specially printed legends and title plates can be supplied, please use the template shown on pages 97-98 to send us your detailed requirements. Add an 'S' following the legend size e.g. 'Y2S' to call for a specially printed item.

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Accessories

Optional Accessories

Basic switch ref / Actuator(X) / Indicator Plate(Y) / Accessory(Z)

The following items are available either supplied fitted to the specified selector switch or available separately (when indicated).

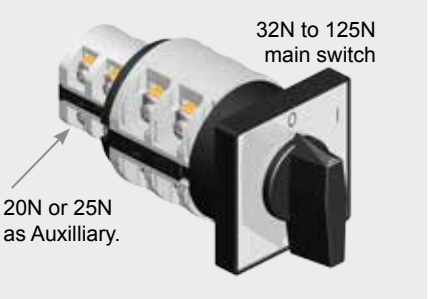
Auxiliary Contacts

N

Available for panel mounting N selector switches in the range 32A, 40A, 63A & 125A

Customer to define the contact arrangement and current rating available from 20N & 25N options. (Please use the Selector Switch design template on pages 89-90 to show your requirements.)

Must be factory fitted.



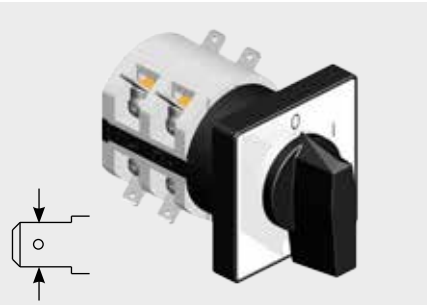
Fast-On Terminals

N

Available in both 4.8mm and 6.3mm sizes for the N switch range.

Feature	Ranges Applicable	Code	Example
4.8 (3/16") size	20N N	Z1	20N3103/X26/Y34/Z1
6.3 (1/4") size	25N & 32N/40N N	Z2	32N0303/X1/Y53/Z2

Must be factory fitted.



Unidirectional Rotation

F X N

Available for panel mounting F, X & N selector switches in the range 20A to 63A. Where a sequence of events must be followed in a specific order, the unidirectional feature only allows switch movement in a clockwise direction.
Cannot be supplied with a restricted movement switch.

Feature	Ranges Applicable	Code	Example
Unidirectional rotation	20F 16X-40X 20N-63N	Z3	25N0301/X1/Y34/Z3

Must be factory fitted.

Alternative Knobs

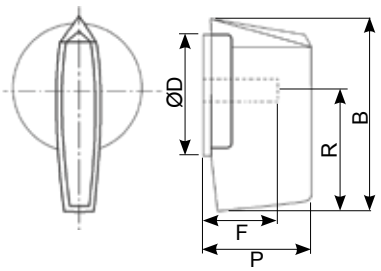
F X N

General pointer style knob moulded in four colours and three sizes as shown below. Alternative knobs for standard panel or base mounted switches (X1-X4).

Feature	Ranges Applicable: 20F, 16X,20X, 20N & 25N	Ranges Applicable: 32X, 40X, 32N/40N & 63N	Ranges Applicable: 125N	Example
Grey	Z4	Z8	Z12	40N0701/X1/Y38/Z8
Red	Z5	Z9	Z13	25N0504/X2/Y51/Z5
Black	Z6	Z10	Z14	63N1201/X1/Y09/Z10
Yellow	Z7	Z11	Z15	20N2001/X1/Y51/Z7

Can be supplied as loose items. Order using 'ACC' - followed by 'Z-' code. Example:- ACC-Z7

Size	ØD	B	F	P	R
Z4-Z7	27.5	39.5	16	19	23.5
Z8-Z11	35	53	20	25	32
Z12-Z15	48	70.5	26.5	32	43.5



Alternative Knobs

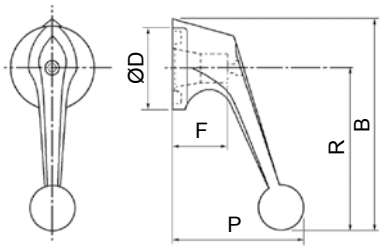
X N

Lever & ball style knob in four colours. Not suitable for smaller switch sizes. Alternative knobs for standard panel or base mounted switches (X1-X4).

Size	ØD	B	F	P	R
Z16-Z19	35	81.5	23	52	61.5
Z20-Z23	48	105.5	26.5	65	79.5

Feature	Ranges Applicable: 32X, 40X, 32N/40N & 63N	Ranges Applicable: 125N	Example
Grey	**Z16**	**Z20**	32N0402/X1/Y32/**Z16**
Red	**Z17**	**Z21**	63N0303/X1/Y36/**Z17**
Black	**Z18**	**Z22**	63N0301/X1/Y37/**Z18**
Yellow	**Z19**	**Z23**	40N0304/X2/Y35/**Z19**

Can be supplied as loose items. Order using 'ACC- followed by 'Z-' code. Example:- ACC-Z15



Flexible Insulation Tube

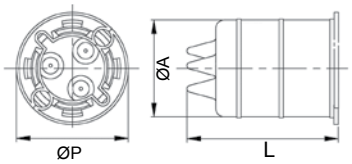
N

Provides IP42 protection for connection terminals. Supplied with fixing bracket.
Not suitable for base mounting switches.

Feature	Ranges Applicable	Code	Example
Flexible Insulation Tube	20N & 25N	Z24-Z26	25N0701/X10/Y38/Z16
	32N, 40N & 63N	Z27	40N1301/X1/Z19

Can be supplied as loose items. Order using 'ACC- followed by 'Z-' code. Example:- ACC-Z25

Range	No. of elements	ØP	ØA	L	Code
20N 25N	1-2	66	57	90	Z24
	3-4			115	Z25
	5-6			140	Z26
32N 40N	1-4	89	87	112.5	Z27
63N	1-3				



'Live' Terminal Protection

N

Provides protection against accidental contact with 'Live' terminals for panel or base mounting switches. (Supplied in packs of 6 only.)

Feature	Ranges Applicable	Code	Example
'Live' Terminal Protection	20N, 25N	Z28	25N0104/X4/Z28
	32N/40N	Z29	40N1401/Z29
	63N	Z30	63N0803/Z30
	125N	Z31	125N0301/Z31

Supplied as loose items. Order using 'ACC- followed by 'Z-' code. Example:- ACC-Z30

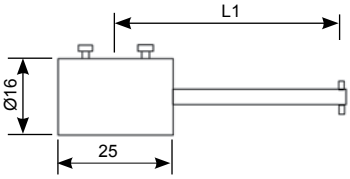
Extension Shaft (Door Interlock)

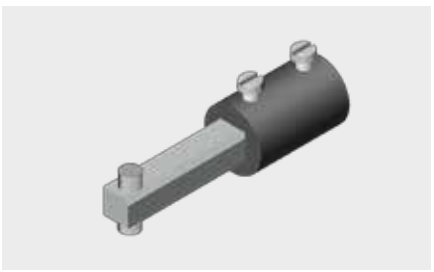
N

Adjustable door coupling extension shaft available in three lengths. To be cut to suit specific installations. Suitable for switches 20N, 25N, 32N, 40N & 63N.

Extended Shafts

	L1
Z32	70mm
Z33	150mm
Z34	200mm





(Please return to sales@craigandderricott.com)

Bespoke Switch Design Template

Customer Name .....

Address .....
.....
.....

Post Code .....

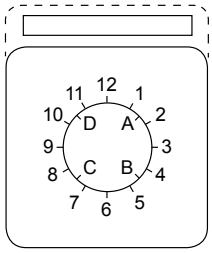
Tel: .....
Fax: .....
Email: .....

Electrical Parameters

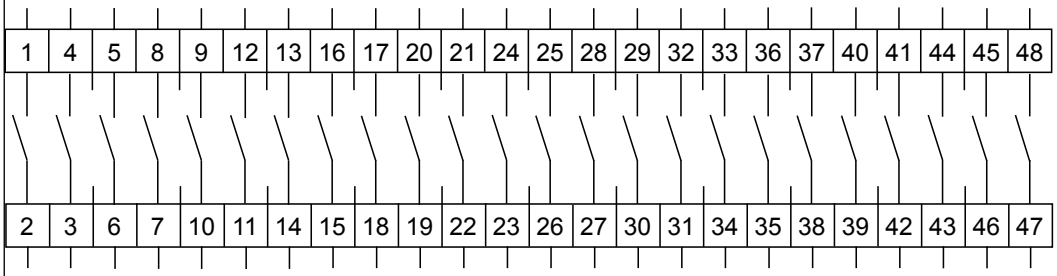
Operational Current (I_e) .....A
Operational Voltage (U_e) .....V *a.c.* ☐ *d.c.* ☐

Description of load .....
Steady state load .....kW

Duty *Frequent* ☐ *Infrequent* ☐

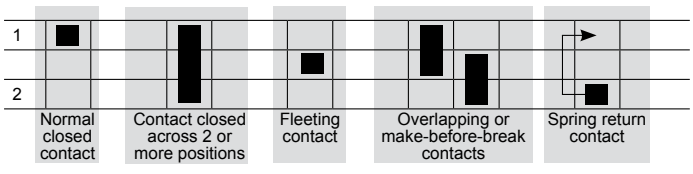


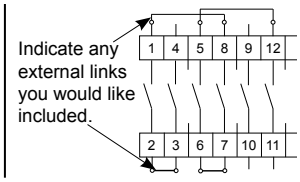
Switch Positioning Mechanism
30° ☐ 45° ☐
60° ☐ 90° ☐

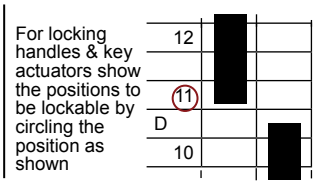


Please indicate the terminal markings required for each contact or the standard C&D marking scheme will be applied.

		6																											
		5																											
		B																											
		4																											
		3																											
		2																											
		A																											
		1																											
		12																											
		11																											
		D																											
		10																											
		9																											
		8																											
		C																											
		7																											







Mechanical Parameters

Rotation	Restricted	☐	Unrestricted	☐	Uni-direction	☐	
Mounting	Panel mounting	☐	Base Mounting (DIN rail)	☐	Base Mounting (Base plate)	☐	
Terminals	Side Access	☐	Rear Access	☐			
Actuator	Std. Knob (5 hole fixing)	☐	Knob (single hole fixing)	☐	Key (single hole fixing)	☐	
	Single hole fixing Ø16	☐	Ø22.5	☐	Ø30.5	☐	
Locking Handles	Moulded (Red/Yellow)	☐	Moulded (Black)	☐	Die cast aluminium	☐	
	LHC (Pull to lock)	☐	LHD (Press to release)	☐	K (Key locking)	☐	
	Die cast handle options		SM	☐	SA	☐	

Please describe any other options you require .....

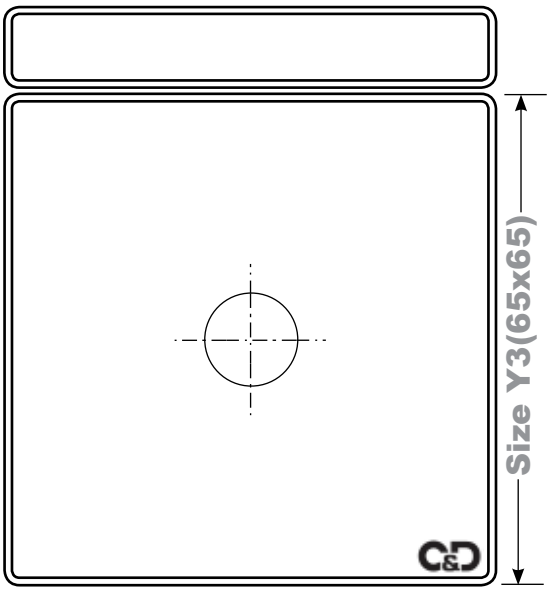
.....

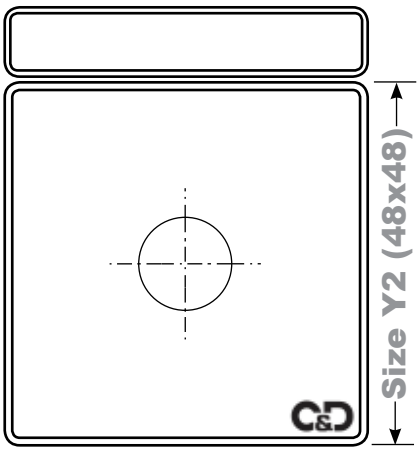
NB - 'We will come back to you and advise the best options to suit the choices you have made'.

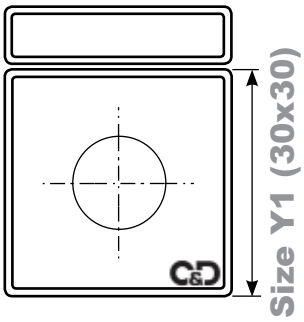
Indicator Plates

The plates shown below can be used with the following switch combinations:-
Y1 - 10F **Y2** - 20C, 20F, 16X, 20X, 20N & 25N **Y3** - 32X, 40X, 32N, 40N & 63N **Y4** - 20C, 32X, 40X, 32N, 40N & 63N
(90 x 90 indicator plate available for 125N to special order. Please call for details)

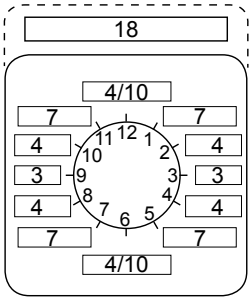
All indicator plates will be produced with black lettering on a white background as standard. Other colour options are available please talk to our technical staff. Please show your engraving requirements on the ***actual*** size diagrams below:-



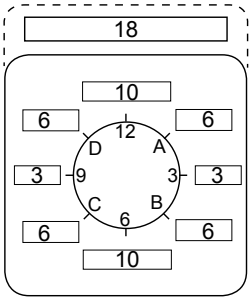




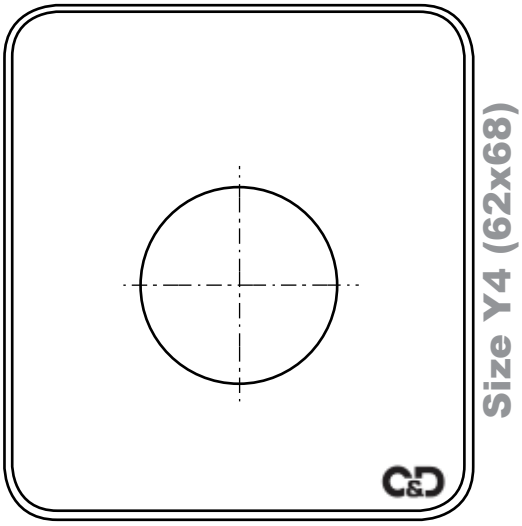
30°/60°



45°/90°



Number of characters available for engraving in each position



Template is available to download from our website:-
http://www.craigandderricott.co.uk/assets/file_assets/K_Series_Switch_Template.pdf

Technical Specification — F Range

The following information is extracted from tests in accordance with IEC 60947-3 & IEC 60947-5-1.

		Sym.	Unit	Switch Model 10F	20F
Rated insulation voltage		U_i	V	480	480
Rated impulse voltage		U_{imp}	kV	4	4
Rated thermal current		I_{th}	A	10	20
Rated operational voltage			V	250	480
Rated short-time withstand (1 sec)		I_{cw}	A	250	250
Rated operational current	AC1/ AC21A		A	10	20
	AC15	220/240V	A	3	8
		380/440V	A	2	6
Rated operational power	AC3	220/240V	kW	1.5	3
		380/440V	kW	2.2	5
	AC23	220/240V	kW	1.8	5
		380/440V	kW	3	7.5
Max. fuse size for short circuit protection	3kA	I_n(gG/gL)	A	16	20
	5kA		A	16	20
	10kA		A	10	20
	25kA		A	-	20
Terminal capacity *r = rigid conductor* *f = flexible conductor*		(max.r/f)	2 x mm²	1.5/1.5	2.5/2.5
			2 x AWG	14/14	12/12
		(min.r/f)	2 x mm²	0.5/0.5	0.5/0.5
			2 x AWG	20/20	20/20

20F fitted with a Quick-fit key actuator

The 'F' range gives good flexibility with a small frame size and an affordable price.

Technical Specification — X Range

X Range

		Sym.	Unit	Switch Model 16X	20X	32X	40X
Rated insulation voltage		U_i	V	690	690	690	690
Rated impulse voltage		U_{imp}	kV	6	6	6	6
Rated thermal current		I_{th}	A	16	20	32	40
Rated operational voltage			V	440	440	440	440
Rated short-time withstand (1 sec)		I_{cw}	A	250	250	800	800
Rated operational current	AC1/ AC21A		A	16	20	32	40
Rated operational power	AC3	220/240V	kW	3.5	3.7	7.5	7.5
		380/440V	kW	4.5	5.5	11	15
		500/690V	kW	5.5	5.5	11	15
	AC23	220/240V	kW	3.7	4	8	9
		380/440V	kW	6.5	7.5	15	18.5
		500/690V	kW	7.5	7.5	15	15
Max. fuse size for short circuit protection	5kA	I_n(gG/gL)	A	16	20	35	40
	10kA		A	16	20	35	40
	25kA		A	16	16	35	35
Terminal capacity *r = rigid conductor* *f = flexible conductor*		(max.r/f)	2 x mm²	2.5/2.5	2.5/2.5	10/6	10/6
			2 x AWG	14/14	14/14	8/10	8/10
		(min.r/f)	2 x mm²	0.5/0.5	0.5/0.5	1.5/1.5	1.5/1.5
			2 x AWG	20/20	20/20	16/16	16/16

20X fitted with a Quick-fit padlocking handle

The 'X' range provides rear access to terminals allowing switches to be fitted close together.

Technical Specification

N Range

		Sym.	Unit	Switch Model 20N	25N	32N	40N	63N	125N
Rated insulation voltage		U_i	V	690	690	690	690	690	690
Rated impulse voltage		U_{imp}	kV	6	6	6	6	6	8
Rated thermal current		I_{th}	A	20	25	32	40	63	125
Rated operational voltage			V	480	480	480	480	480	690
Rated short-time withstand (1 sec)	1 sec	I_{cw}	A	250	400	800	1000	1600	2100
	3 sec		A	150	250	400	600	800	1300
	10 sec		A	80	150	250	300	400	700
	30 sec		A	50	100	160	200	250	400
	60 sec		A	40	80	125	130	160	300
Rated operational current	AC1/AC21A		A	20	25	32	40	63	125
	AC15	110V	A	10	16	25	25	32	40
		220/230V	A	8	12	20	22	25	28
		380/400V	A	6	8	10	12	15	15
		660/690V	A	1.5	2	2	2	4	5
Rated operational power	AC3 (3 Pole)	220/230V	kW	3	5.5	7.5	8	11	18.5
		380/440V	kW	5.5	7.5	11	15	18.5	37
		500/690V	kW	5.5	7.5	11	15	18.5	33
	AC3 (2 Pole)	110V	kW	0.8	1.5	2.2	3	3.7	5
		220/230V	kW	2.2	3	4	6.5	6.5	11
		380/440V	kW	3	5.5	6.5	8	11.5	15
	AC23A (3 Pole)	220/230V	kW	5	6.5	8	8	12.5	30
		380/440V	kW	7.5	11	15	18.5	30	45
		500/690V	kW	7.5	11	18.5	22	30	37
	AC23A (2 Pole)	110V	kW	0.8	1.5	2.2	3	3.7	5
		220/230V	kW	2.5	3.7	5	6	7.5	11
		380/440V	kW	3.7	5.5	8	11	12.5	15
DC Switching Capacity (I_e)	DC21A tc=1ms	48V	A	20	25	32	40	63	125
		60V	A	20	25	32	40	50	80
		110V	A	4	4	6	6	8	10
		220V	A	0.6	0.7	0.8	-	-	-
		440V	A	0.25	-	-	-	-	-
	DC23 tc=15ms *No. of contacts in series ()*	24V	A	20(1)	25(1)	32(1)	40(1)	50(1)	125(1)
		48V	A	20(2)	25(2)	32(2)	40(2)	50(2)	125(2)
		60V	A	20(3)	25(3)	32(3)	40(3)	50(3)	125(3)
		110V	A	10(3)	12(3)	15(3)	20(3)	25(3)	50(3)
		220V	A	8(4)	10(4)	12(4)	12(4)	15(4)	20(4)
	DC13 tc=50ms	48V	A	16	20	25	32	40	100
		60V	A	12	16	16	16	28	50
		110V	A	1	1.5	3	3	3.3	4
		220V	A	0.4	0.4	0.5	-	-	-
		440V	A	0.15	-	-	-	-	-
Max. fuse size for short circuit protection	10kA	I_n(gG/gL)	A	20	25	32	40	63	125
	25kA		A	16	25	32	40	63	100
	50kA		A	-	-	32	40	63	100
	63kA		A	-	-	-	40	63	100
Mechanical life		Switching cycles		$5x10^6$	$5x10^6$	$5x10^6$	$5x10^6$	$5x10^6$	$1x10^6$
Terminal screw size				M3	M3.5	M4	M4	M5	2xM5
Terminal capacity *r = rigid conductor* *f = flexible conductor*		(max.r/f)	2 x mm^2	2.5/2.5	4/4	6/4	10/6	16/10	70/50
			2 x AWG	14/14	10/12	10/12	8/10	6/8	2/0 / 1/0
		(min.r/f)	2 x mm^2	0.5/0.5	0.5/0.5	1.5/1.5	1.5/1.5	2.5/2.5	2.5/2.5
			2 x AWG	20/20	20/20	16/16	16/16	14/14	14/14

The 'N' range provides the maximum in constructional flexibility with the most comprehensive ratings in both a.c. and d.c.

25N 4 pole selector switch fitted with Yellow/ Red padlocking handle

Technical Data

Technical Specification — C Range

		Sym.	Unit	Switch Model 20C
Rated insulation voltage		U_i	V	690
Rated impulse voltage		U_{imp}	kV	4
Rated thermal current		I_{th}	A	20
Rated operational voltage			V	415
Rated operational current	AC1/AC21A	415V	A	20
	AC15	415V	A	5
	AC23	415V	A	16
	DC13	110V	A	1
Max. fuse size for short circuit protection	50kA	I_n(gG/gL)	A	20
Operational performance	AC21, AC22 & AC23		Operating cycles	10,000
	AC15 & DC13			6,050
Terminal capacity *r = rigid conductor* *f = flexible conductor*		(max.r/f)	2 x mm²	4/2.5
			2 x AWG	12/14
		(min.r/f)	2 x mm²	0.5/0.5
			2 x AWG	20/20

Typical 20C selector switch fitted with a Quick-fit 'SMLHD' locking handle.

The 'C' range provides the widest choice of locking handles for the panel builder.

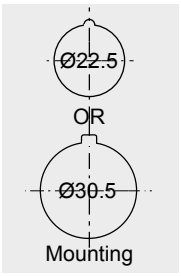
Hand operated Rotary Switches remain the most cost effective way of performing complex switching functions.

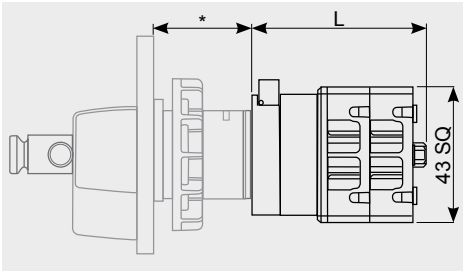
- They don't require any form of separate expensive power supply.
- Total freedom in the way contacts are made to open and close.
- The number of indexing positions can vary between 2 and 12.
- Contacts can be provided capable of switching low energy or high power; from a few milliamps up to 125A.
- A vast array of alternative operating handles can provide interlocking and other safety features.
- Rotary switches provide a positive indication of their switching position.
- *Early break*, *late break, make-before-break* and *fleeting* contact conditions are available for use.

....what are your requirements?

Give us a call if you need something special.

The following Dims show the basic front of panel mounting switches, the accessories and attachments will show the deviations from the standard items individually. (The F, X & N diagrams are shown with the standard 'X1' or 'X2' knob in place.)

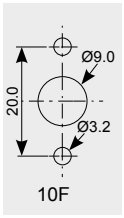


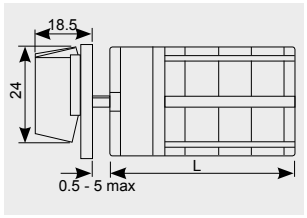


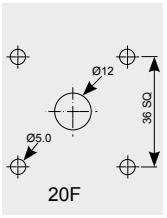
Switch Sections		1	2	3	4	5	6	7	8	9	10	11	12
L	20C	41	55	68	82	95	105	122	135	149	163	176	190

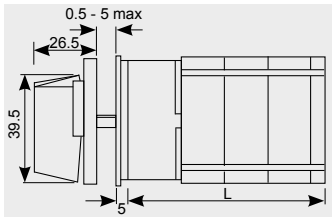
'C' Range

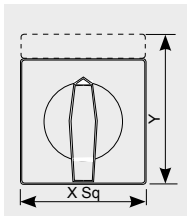
* The C range does not accommodate standard five hole panel fixing or base mounting options. The diagram above is intended to provide the switch length (L) only. The remaining behind the panel dimension can be found for the various 'Quick-fit' actuators shown on pages 82-85.









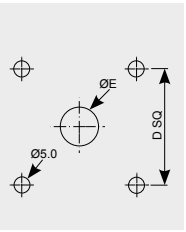


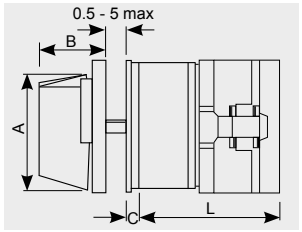
Switch Sections		1	2	3	4	5	6	7	8	9	10	11	12
L	10F	40	52	64	76	88	100	112	124	-	-	-	-
	20F	36	50	63	77	90	104	117	131	144	158	171	185

	10F	20F
X	30	48
Y	40	60

'F' Range

Diagram shown with standard knob (X1 - X2)





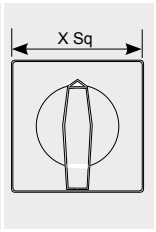
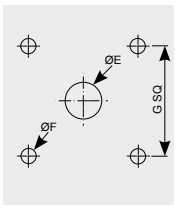


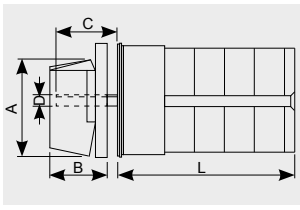
Diagram shown with standard knob (X1 - X2)

Dim	A	B	C	D	E	X
16X/20X	39.5	26.5	5	36	12	48
32X/40X	53	34.5	5.5	48	14	65

Switch Sections		1	2	3	4	5	6	7	8	9	10	11	12
L	16X/20X	35	44	52	61	69	78	86	95	103	112	120	129
	32X/40X	43	55	67	79	91	103	115	127	139	161	173	185

'X' Range





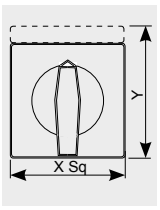


Diagram shown with standard knob (X1 - X2)

Dim	A	B	C	D	E	F	G	X	Y
20N/25N	39.5	26.5	23.5	6	12	5	36	48	60
32N/40N/63N	53	34.5	26	7	14	5	48	65	80
125N	70.5	41.5	28	9	16	6	68	90	110

Switch Sections		1	2	3	4	5	6	7	8	9	10	11	12
L	20N	33	43	53	62	72	82	91	101	111	120	130	140
	25N	38	51	65	78	92	106	119	133	146	160	174	187
	32N/40N	44	59	74	89	104	119	134	149	164	179	195	210
	63N	47	65	84	102	120	138	156	174	192	210	228	246
	125N	67	96	126	155	184	220	249	279	308	337	366	395

'N' Range