



Manufactured by OHMIC RESISTORS Pty Ltd

ROTATING CAM LIMIT SWITCHES

3, 6 AND 9 CIRCUITS — FOR USE UP TO 10 AMPS., 600V., A.C.; 0.5 AMPS., 480V. AND 1.75 AMPS., 230V., D.C.

● SPECIAL FEATURES...

1. Light yet positive operation.
2. Contacts—fine silver, double break.
3. Blank cams allow for cutting to give any required operating sequence.
4. Ball bearings throughout.
5. Very compact, yet designed to allow ample working space for wiring.
6. Contacts easily accessible for inspection.
7. Double shaft extensions provide for operation from either end.

● APPLICATION . . .

C.P. "Security" Rotating Cam Limit Switches are suitable for use on A.C. circuits up to 10 amps., 600 volts, and on D.C. circuits up to 0.5 amps., 480 volts, or 1.75 amps., 230 volts. The Switches will suit any application requiring control of contactor coils either in intermittent sequence or continuous repetitive sequence.

● CONSTRUCTION . . .

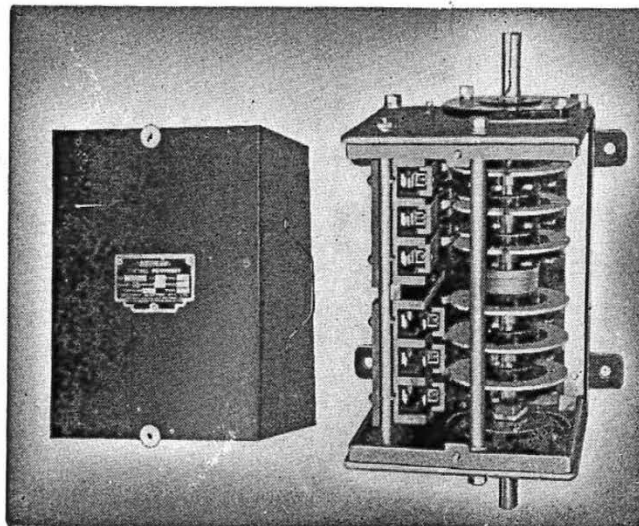
The carcass of the Switches is formed by two cast aluminium end frames rigidly held and accurately located by shouldered steel rods, which together with supplementary rods also carry and locate the contact assemblies.

The square section operating shaft is carried by ball bearing assemblies in moulded bakelite housings which are bolted to the end frames.

The operating shaft carries moulded bakelite discs to which detachable cams are screwed. Each disc has thirty-six attachment points.

Blank cams are supplied with the Switches, to enable cutting on site to accurate size to suit the requirements of the application.

The fixed and moving contacts are the same fine silver-tipped double break type common to C.P. "Security" 613 Track Limit Switches and 633 Pedal Switches. Moving contacts are also common to the



● Photograph shows C.P. "Security" 647 6-circuit Rotating Cam Limit Switch with cover removed. Note obviously robust construction, rigid assembly and sturdy mounting lugs.

303 Magnetic Line Starter and 561 Solenoid Overload Relay. Terminals are complete with cup washers and large capacity clamping nuts. Operation of the contacts is by spring closure and mechanical opening, so that in the unlikely event of spring breakage the Switch must fail to safety.

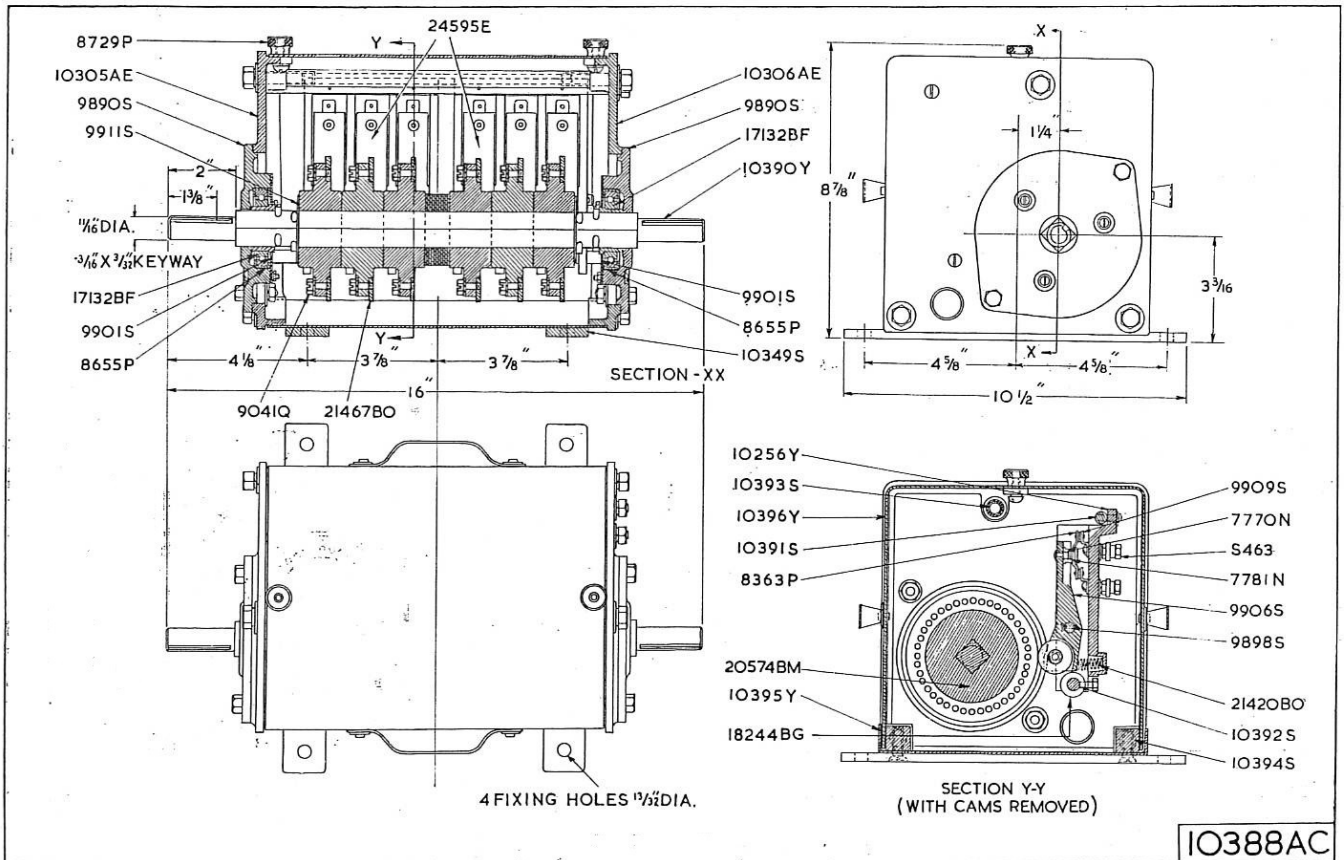
Both fixed and moving contacts are enclosed in a moulded bakelite housing which has a flash barrier between each pair of contacts, and ample creepage distances between live metal, and live metal and earth.

The contact opening is accurately set for efficient operation throughout the life of the contacts, and needs no adjustment. Unless subjected to severe fault conditions, contacts should never need replacement, but such is easily effected if ever necessary.

The operating shaft is 11/16" diameter and is provided with keyways at both ends for 3/16" square keys.

The Cat. No. 645 Cam Limit Switch has one contact panel assembly with three sets of contacts, providing for three circuits.

6-CIRCUIT — DIMENSIONS and KEY TO PARTS LIST



(PARTS LISTS on back page)

In applications requiring only non-critical repetitive sequence control on continuous rotation, orthodox belt operation is generally satisfactory.

● MAINTENANCE . . .

Necessary maintenance on the Switches is negligible.

No lubrication is required—in fact, it can be harmful.

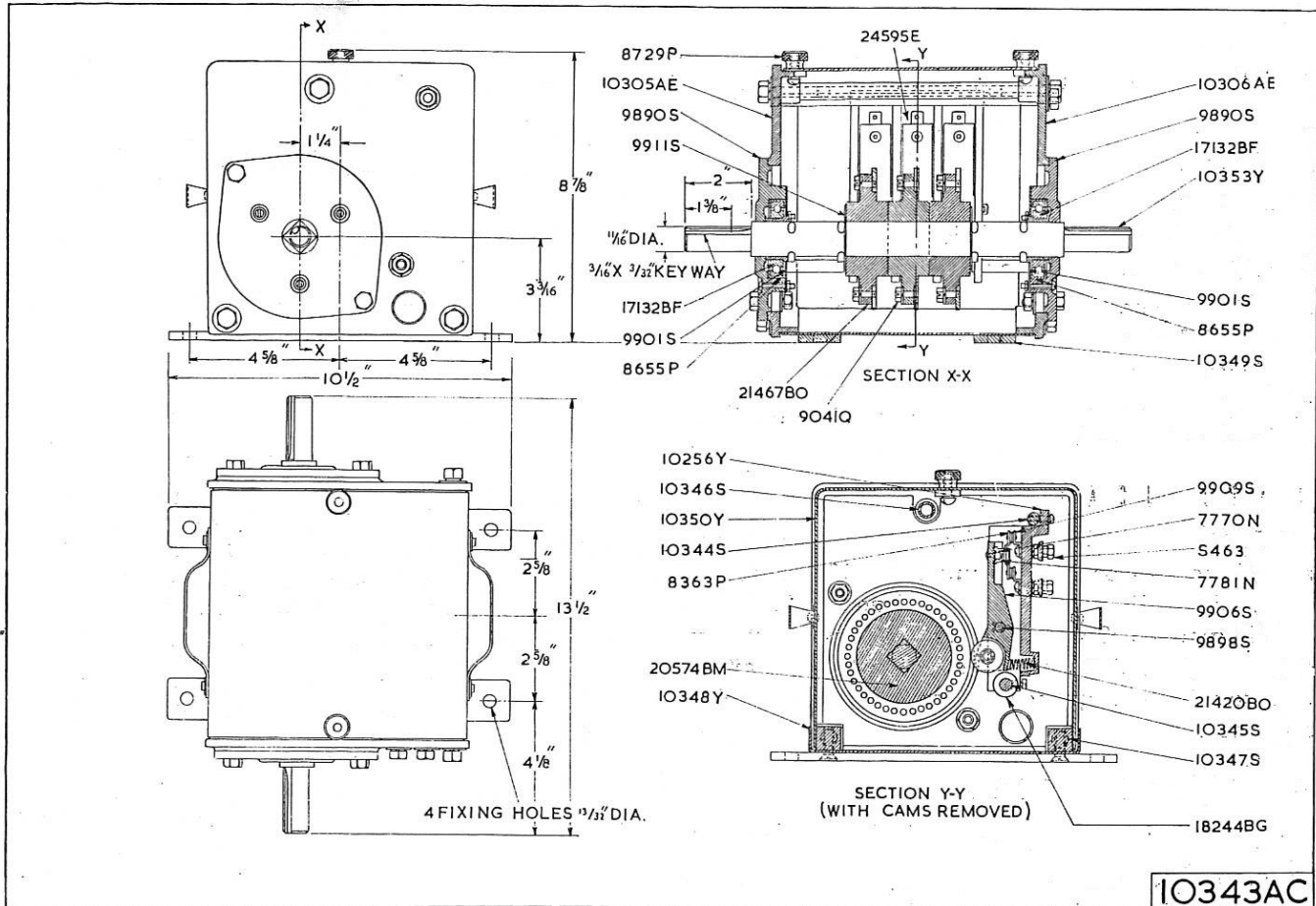
An occasional inspection should be made to

check tightness of terminal screws and possible contact wear.

Contacts should not be dressed unless severe pitting has developed, and then only with a fine file or glass paper—**do not use emery cloth.**

Since the lift of the contacts exceeds the double thickness of the contact tips, replacement is necessary only if contact material should become reduced to a bare minimum. In fact, there is no risk of losing contact even should all the contact material be consumed.

3-CIRCUIT — DIMENSIONS and KEY TO PARTS LIST



● CONSTRUCTION (CONT'D) . . .

The **Cat. No. 647 Cam Limit Switch** has two contact panel assemblies, providing for six circuits.

The **Cat. No. 649 Cam Limit Switch** has three contact panel assemblies, providing for nine circuits.

A sheet metal cover finished in black enamel encloses the internal assembly.

General arrangement of the three models can be seen from the drawings.

● INSTALLATION . . .

The operation of the Switches is unaffected by the angle of mounting, which permits installation

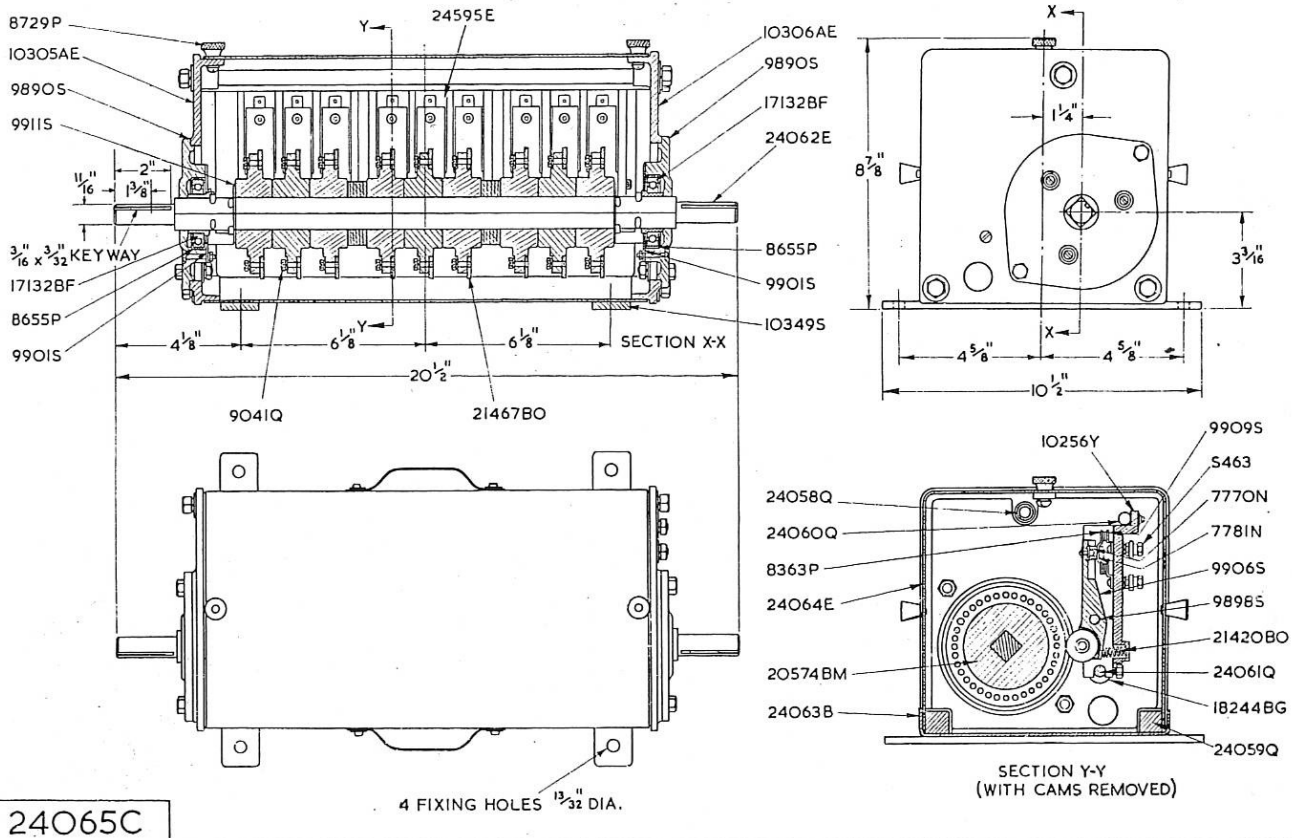
in the most convenient position without restriction.

A tapped hole to take 1" screwed conduit is provided in each end frame for cable entry.

Notwithstanding the compact design of the Switches, ample working room is available for wiring, and all parts are readily accessible.

For critical limit switching, operation should be by spur gears or sprocket wheel and chain. As there are no stops, the maximum available extent of the 360° movement can be used.

9-CIRCUIT — DIMENSIONS and KEY TO PARTS LIST



24065C

P A R T S L I S T S

Part No.	DESCRIPTION	Number		
		645	647	649
*S463	Terminal Castle Nut	6	12	18
*7770N	Contact Spring	3	6	9
*7781N	Moving Contact Assembly	3	6	9
*8363P	Spring Seat	3	6	9
8655P	Corrugated Bearing Ring	2	2	2
8729P	$\frac{1}{4}$ " W. Knurled Nut	2	2	2
9041Q	$\frac{1}{2}$ " x $\frac{3}{16}$ " Whit. Hex. Steel Screw	35	72	103
9890S	Bearing Plate	2	2	2
*9898S	Finger Rod	1	2	3
9901S	Bearing Cover	2	2	2
*9906S	Contact Carrier Finger Assembly	3	6	9
9909S	Stationary Contact Assembly	6	6	18
9911S	Dished Washer	2	2	2
*10256Y	Stationary Contact Panel	1	2	3
10305AE	L.H. End Plate	1	1	1
10306AE	R.H. End Plate	1	1	1
10344S	Upper Panel Rod	1	—	—
10345S	Lower Panel Rod	1	—	—
10346S	Spacing Tube	1	—	—
10347S	Spacing Bar	2	—	—
10348Y	Base	1	—	—
10349S	Base Strap	2	2	2

Part No.	DESCRIPTION	Number		
		645	647	649
10350Y	Cover	1	—	—
10353Y	Shaft	1	—	—
10390Y	Shaft	—	1	—
10391S	Upper Panel Rod	—	1	—
10392S	Lower Panel Rod	—	1	—
10393S	Spacing Tube	—	1	—
10394S	Spacing Bar	—	2	—
10395Y	Base	—	1	—
10396Y	Cover	—	1	—
17132BF	Ball Race	2	2	2
18244BG	Contact Panel Spacer	1	2	3
20574BM	Cam Drum	3	6	9
21420BO	Compression Spring	3	6	9
21467BO	Blank No. 6B Cam	18	36	54
24058Q	Spacing Tube	—	—	1
24059Q	Spacing Bar	—	—	2
24060Q	Upper Panel Rod	—	—	1
24061Q	Lower Panel Rod	—	—	1
24062E	Shaft	—	—	1
24063B	Base	—	—	1
24064E	Cover	—	—	1
24595E	Assembly of parts marked *	1	2	3