

Miniature Control Switches (87 Series)

A range of robust high integrity control switches that provide immediate control with positive indication. Features include: -

- Wide range of switch action available.
- Suitable for use with most types of control panel and mimic (mosaic) diagrams.
- Comprehensive range of knobs with positive location.
- Lamp illumination through knob (optional).
- Compact design and simple mounting.
- All main components are hard anodised aluminium.
- Microswitch reliability.
- Maximum of 12 light duty (5 Amp) or 8 heavy duty (10 Amp) microswitches.

Suitable for controlling a wide range of equipment including circuit breakers, isolators, contactors, valve actuators and motor drives.



1. Description

The 87 Series switch utilises cam actuated microswitches mounted on a robust aluminium body to provide high integrity switching. Two (2) versions of the 87 Series switch are available. The Type 871 for plain panel and mosaic mounting, and the Type 873 that incorporates many of the same features but provide the user with alternative mounting options. Switches are supplied with the option of 2, 3 or 4 sets of changeover microswitches; one set per switch side (see technical data). Operation of the switch knob to the required position operates a set of microswitches on the appropriate switch side(s), according to the action code selected at time of ordering. Control facilities on overthrow positions (08, 16, 22, 29, 30, 31, 33, 39, 40 and 49 action codes), can be provided by including a wired link between microswitch assemblies in the control circuit.

A specially designed range of knobs provide neat frontal appearance, and where required, clear knob illumination to indicate plant or circuit status. Knobs locate easily and are held firmly in position by an internal circlip and keyway arrangement (for details of knobs and options available contact Sales).

2. Technical Data

2.1 Lamps Options

Switches are supplied equipped with a single lampholder for knob illumination or circuit status indication, when used with opal knobs or knobs with opal inserts.

Lamps:

Standard lamps available to order: -

- Type 871 – MES: 24V 2.5Watts
and 60V 2.5Watts
- Type 873 – LES: 28V 1.2Watts

2.2 Insulation

Switch:

2000V r.m.s. 50/60 Hz for a period of one (1) minute between electrical contacts and frame.

Lampholder:

Not less than 100M Ω at 250V DC between electrical contacts and frame.

2.3 Weight

200g maximum complete with knob, lampholder and lamp.

2.4 Type 871 & 873 Switch ratings

All microswitches have solder terminals and break before make changeover contacts. Terminals are suitable for connecting two (2x) 1/0.51mm or up to single (1x) 23/0.019mm size wires. A minimum of two switch sides must be equipped with microswitches.

Type A microswitches

In standard configuration the switch is equipped with 6, 9 or 12 Type A microswitches in sets of 3 per switch side.

Type A microswitches		
Voltage	Inductive load	Resistive load
24/30V DC	3.0A	5.0A
50/55V DC	1.0A	1.0A
110V AC	5.0A	5.0A
230/240V AC	5.0A	5.0A

Fine silver Ag contacts†.

Type B microswitches

In standard configuration the switch is equipped with 4, 6 or 8 Type B microswitches in sets of 2 per switch side.

Type B microswitches		
Voltage	Inductive load	Resistive load
24/30V DC	7.5A	8.0A
50/55V DC	2.5A	3.0A
110V AC	5.0A	10.0A
230/240V AC	5.0A	5.0A

Silver cadmium oxide AgCdO or Silver Ag contacts†.

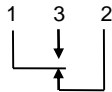
Note: front and base of the switch are by default designated sides 1 & 2 respectively. Microswitches are mounted on switch sides 3, 4, 5, & 6; switch sides are clearly identified on each switch.

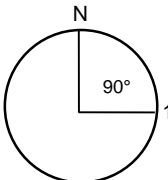
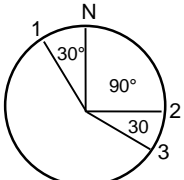
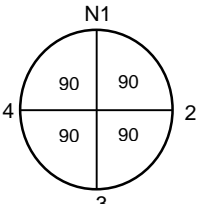
†Based on manufactures data

Example of action codes and microswitch assembly operations

Knob position and actions viewed from the front when the switch is mounted with side 6 uppermost. Microswitch operation action underlined.

Microswitch assembly operation
 ○ Contacts 1 and 2 made
 ● Contacts 1 and 3 made



Action Code	Position	Action	Side 3	Side 5	Side 4	Side 6
01		N 1 <u>Turn</u> lock	○ ●	○ ●	○ ●	○ ●
16		N 1 Turn and <u>Push</u> non lock 2 <u>Turn</u> lock 3 Turn and <u>Push</u> non lock	○ ● ○ ●	○ ● ○ ●	○ ○ ● ●	○ ○ ● ●
25		N 1 <u>Push</u> non lock 2 Turn lock <u>Push</u> non lock 3 Turn lock <u>Push</u> non lock 4 Turn lock <u>Push</u> non lock	○ ○ ○ ○ ●	○ ○ ○ ● ○	○ ○ ● ○ ○	○ ● ○ ○ ○

Due to the extensive range of switch actions supported only a sample is shown above.

3. How to Order

Please contact Engineering for technical support and advice when ordering this product.

When ordering replacement switches please quote the switch configuration code printed on the switch e.g. 87CSW16025AEA

Full details of available switch actions, outline drawings, panel mount details, knobs, etc. are available on request from Sales or Engineering.