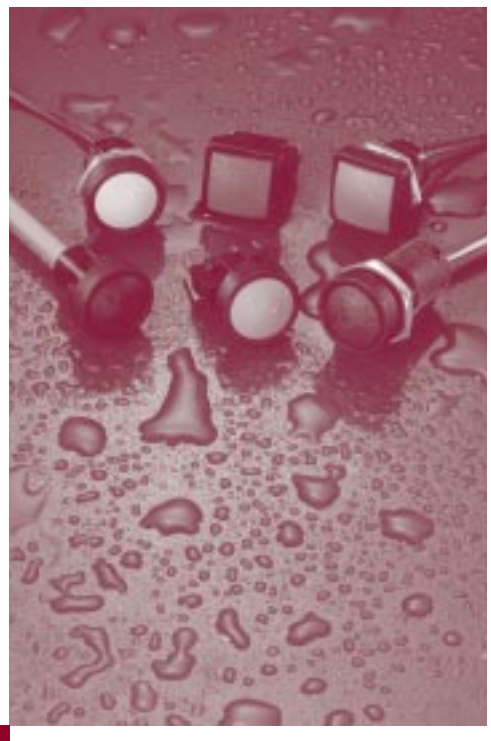
Data Sheet no. 49-59500



SERIES 49-59 – SEALED PUSHBUTTON RANGE

FEATURES

- Fully sealed version to IP67
- LED status illumination (FL)
- 10A version panel sealed to IP67
- Wide temperature range: Up to +105°C
- Industrial standard ø16mm panel cut out
- Flame retardant UL rated material

NON-STANDARD OPTIONS

- Custom colours
- Choice of terminations
- Gold contacts on microswitch version
- Snap-in version of both flying lead and microswitch variants

ITW Switches

Technical Information

Series 49-59

ITW Switches' 49-59 Series is a range of momentary action pushbutton switches which fit a ø16mm panel cut out. The range consists of a fully sealed IP67 version with insulated flying leads (500mm length) along with a panel sealed IP67 version which is terminated by a series 16 microswitch.

Held in position by a snap fit retaining mechanism, the microswitch has a maximum current rating of 10A and the advantage of SPDT-DB contacts to cover all circuit requirements. Being double break, the contacts also provide reliable switching of DC loads.

The Series is available with a choice of round, round with status illumination (flying leads only) or square bezels and with 6 button colour variants. The body and button are made from PBT, a hard wearing thermoplastic polyester that is suitable for surface or sublimation printing or engraving.

Mechanical

Travel (nom)	2,3mm
Life (min)	1,000,000 cycles
Operating force	3N (FL) 3.8 – 5.5N (MS)
Panel thickness	8mm max (FL) 2,5mm max (MS w/o washer) 1,5mm max (MS with washer)

Electrical

Dielectric strength	1000V a.c. for 1 min
Insulation resistance	1GΩ @ 500V d.c.
Contact resistance	150mΩ max initial inc leads (FL) 25mΩ max initial (MS)
Current rating	400mA @ 32V a.c. res (FL) 100mA @ 50V d.c. res (FL) 125mA @ 125V a.c. res (FL) 10A @ 250V a.c. res (MS)
Life	500,000 cycles (FL) 50,000 cycles @ 70°C (MS)

Electrical – LED

Typical fwd voltage (Vf at I operating)	2,2V
Max fwd voltage (Vf at I operating)	3,0V
Forward current (I operating)	20mA
Meantime between failures	100,000 hours
Luminous intensity (Iv at Iopr)	Red LED – 100mcd
Luminous intensity (Iv at Iopr)	Green LED – 160mcd

Environmental & Physical

Ingress protection	IP67
Vibration	DEF STD 07-55
Non-illuminated Operating temperature range	 -55°C to +105°C
Illuminated Operating temperature range	 -35°C to +85°C
Body material	PBT
Button material	PBT
Contacts	Gold plated palladium nickel (FL) Silver (MS)
Terminals	Tin plated brass (MS)
Salt mist	BS2011 Part 2:1
Soldering information	320°C max for 3s

Key

FL	Version with flying leads
MS	High current microswitch terminated version

Ordering Information

49-59 – [ ][ ][ ][ ]

Button Style

Round bezel	1
Square bezel	2
Round bezel – Illuminated	3

Termination/Body Style

500mm leads	1
16-439088 (Non-illuminated only)	2

Button Colour

Black	1
Red	2
Green	3
White	4
Yellow	5
Blue	6

(Illuminated version only available with Black, Red & Green as standard. Non-standard colours subject to MOQ's)

LED Colour

Red	R
Green	G

(This digit is only required for illuminated switches)

Mounting Information

The Series 49-59 fits neatly into a ø16mm cut out panel no more than 8mm thick for the flying lead version and no more than 1,5mm thick for the microswitch version (with sealing washer). The switch body is fitted from the front of the panel and is locked down with an M16 nut using a 20mm spanner. Panel sealing is achieved by the use of a sealing washer which is placed behind the head of the bezel. To attain the correct sealing, the nut should be tightened to a recommended torque of between 1Nm and 1,5Nm not exceeding 2Nm. Whilst the flying lead version is now mounted, the microswitch still requires careful 'snapping' into its holder from behind the panel.

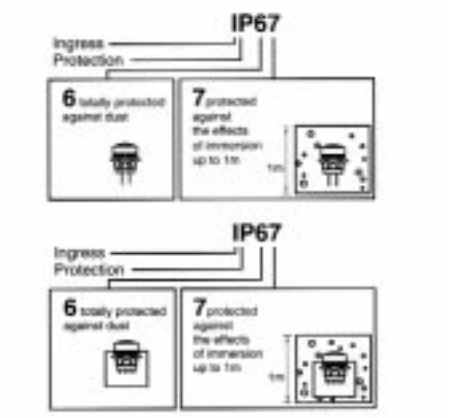
Each flying lead switch is supplied with 500mm 24AWG 7/32 leads which are PVC insulated and have plain unstripped ends.

The microswitch version has 2.8mm QC terminals which also provide the option to solder.

Double 'D' flats are provided to prevent rotation of the switch in the panel.

Ingress Protection Rating Key

For flying lead version

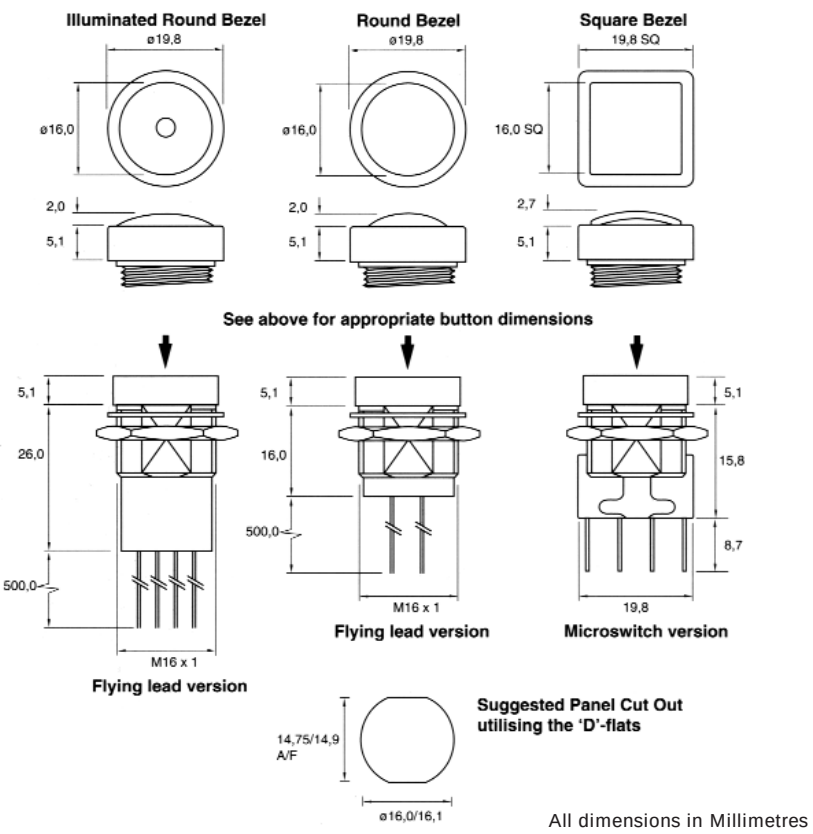


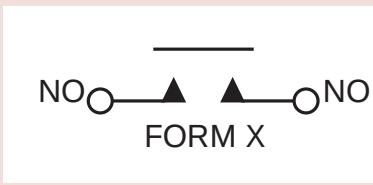
For microswitch version

SERIES 49-59
Sealed Pushbutton Range

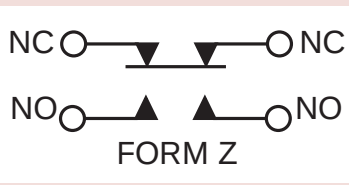
Technical Information

Product Drawings





Circuit for flying lead version



Circuit for microswitch version

Application References

- Communications
- Instrumentation
- Data processing
- Military environments
- Environmentally demanding keypads
- Mass transport controls
- Dry circuit switching

Further Information

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ITW Switches

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