

## SERIES 59 – MINIATURE SEALED PUSHBUTTON

The Series 59 is a range of miniature, momentary action, rugged panel sealed pushbutton switches.

The Series is available with square or round bezel versions, with or without LED status illumination.

A locknut is supplied with each switch. A choice of body material is provided of either a non spark zinc alloy or a hard wearing moulded PBT therefore making this switch suitable for use in most applications.

It is panel sealed to IP67 and is designed to be impact resistant. The small size, robustness and panel sealing make this switch ideal in harsh environments.

### Non-Illuminated Version

The non-illuminated range includes a choice of 7 button colours with solder terminal connection. PCB terminals, a high round bezel, surface and sublimation printing are available as non-standard.

### Status Illuminated Version

An illuminated version is available in the round bezel versions with a choice of 3 button colours and 2 high brightness LED colours. Non standard options include additional button and LED colours (subject to minimum order quantities).

### APPLICATIONS:

- Communications
- Instrumentation
- Data entry
- Military environments
- Environmentally demanding keypads
- Mass transport controls

### KEY FEATURES:

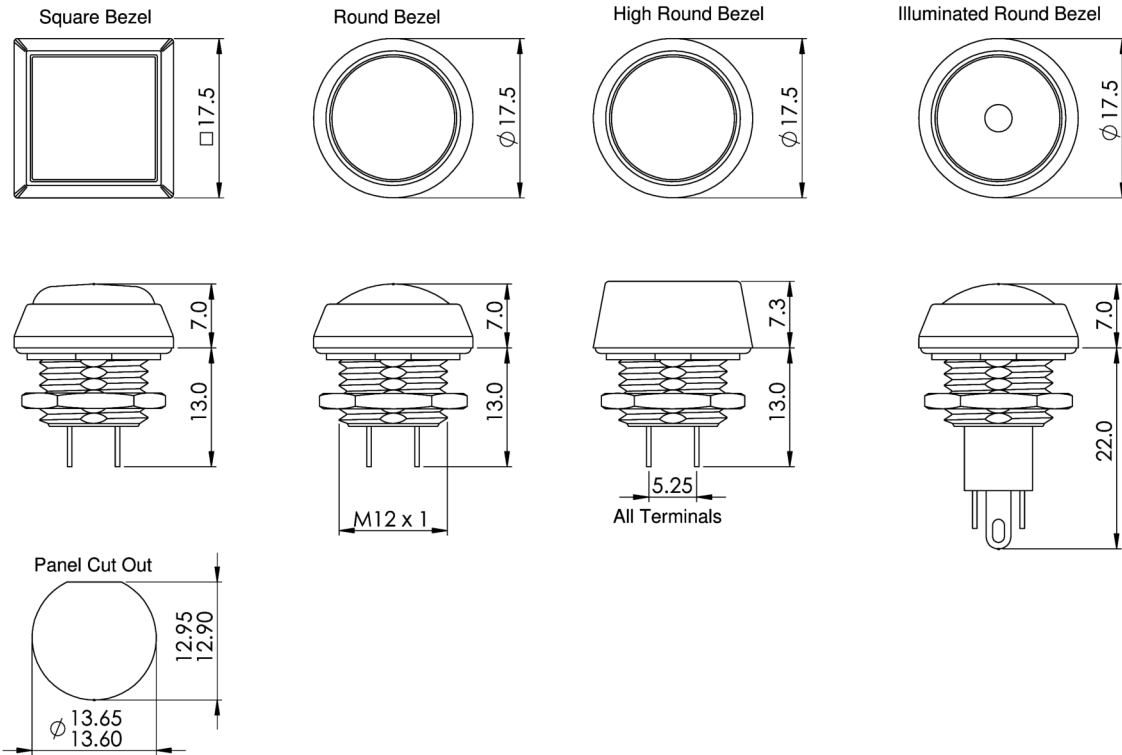
- Non-spark material
- Wide temperature range
- Panel sealed – To IP67
- High environmental specifications
- Gold contacts
- Status illumination



### NON-STANDARD OPTIONS:

- Overboot available for protection against icing
- Surface or sublimation legend printing on the button (non-illuminated version)

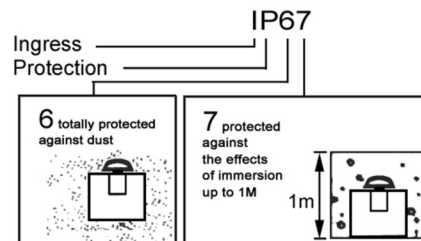
### PRODUCT DRAWINGS



### CIRCUIT FORM:



### INGRESS PROTECTION RATING KEY:



## LED CHARACTERISTICS:

**Typical fwd voltage (VF at I operating):**  
2.2V

**Forward current (I operating):** 20mA

**Max fwd voltage (VF at I operating):**  
3.0V

## PANEL MOUNTING & CONSTRUCTION INFORMATION:

The Series 59 mounts easily into panels of minimum 1.5mm and maximum 3mm thickness. Front panel sealing to IP67 is achieved by the use of a sealing 'O' ring which is fitted behind the bezel of the body of the switch before it is inserted into the panel hole cut out. It is held onto the panel by means of a brass locknut, tightened down by a 14mm spanner, to a torque of between 1.0Nm to 2.0Nm to achieve the correct sealing pressure.

A 'D' flat is provided to prevent rotation.

## ORDERING INFORMATION:

Series	Body Style	Termination	Button Colour *	LED Colour **
59 -	1 - Round Bezel - Metal	1 - Solder terminals 2 - PCB terminals	1 - Black	R - Red G - Green
	2 - Square Bezel - Metal		2 - Red	
	3 - High Round Bezel - Metal	3 - Green		
	4 - Illuminated Round Bezel - Metal	4 - White		
	5 - Round Bezel - Plastic	5 - Yellow		
	6 - Square Bezel - Plastic	6 - Blue		
			7 - Orange	

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

\*\* This digit is only required for illuminated switches.

## MECHANICAL / ELECTRICAL CHARACTERISTICS:

**Travel (nom):** 2.3mm

**Life (max):** 1,000,000 cycles

**Operating force (nom):** 3N

**Contact bounce (nom):** 1ms

**Panel thickness (max):**  
1.5 - 3mm

**Panel cut out:**  
ø13.6mm (with 'D' flat)

## SWITCH

**Dielectric strength:** 1000V a.c.

**Insulation resistance:** 1GΩ

**Contact resistance:** 50mΩ

**Current rating (typical):**  
400mA at 32V a.c. resistive  
100mA at 50V d.c. resistive  
125mA at 125V a.c. resistive

**Life (min):** 500,000 cycles

**Switching power (max):**  
16VA a.c.

**Ingress protection:**  
IP67 (Panel Sealed)

**Shock:**  
100g non - illuminated  
40g illuminated

**Vibration:** DEF STD 07-55

**Non-Illuminated**

**Operating temperature range:**  
-55°C to +125°C  
with zinc alloy body  
-40°C to +105°C with PBT body

**Illuminated**

**Operating temperature range:**  
-35°C to +85°C

**Body material:**  
Zinc alloy (standard) or PBT

**Button material:** PBT

**Contacts:** Gold plated nickel

**Salt mist:** BS2011 Part 2:1

**Soldering information:**  
320°C max for 3s

Engelking Elektronik GmbH  
Albstrasse 16  
D-78609 Tuningen  
Tel: +49 (0) 7464 9865 0  
Fax: +49 (0) 7464 9865 71  
sales@itw-switches.de  
www.itw-switches.de