




### Approvals

The majority of Arcoelectric products are covered by international approvals. These will assist you in obtaining worldwide approval of your own products.

**Europe** The  ENEC mark replaces national approval marks for switches complying with product standard EN61058-1.

**America** Switch approvals to UL1054.

**Canada** Switch approvals to CSA C22.2 No.55-M1986.




Our North African and China factories are also approved by these authorities.

### Quality Assurance Approval



We are a BSI Registered Firm to ISO 9001: 2008

Certificate No: FM 14821.

 Appliances bearing the  mark are able to circulate freely in Europe. Products in this catalogue, when fitted correctly, comply with the  requirement insofar as it relates to them.

### RoHS

The RoHS (Restriction of use of certain Hazardous Substances) directive came into force on 1st July 2006. All Arcoelectric products are fully compliant.

### Product from stock

For stock product availability please call our sales office or contact your nearest agent or distributor, listed on page 100 and 101 of this catalogue.

4-9 technical data



technical data

10 - 33 rocker switches



rocker switches

34 - 38 toggle switches



toggle switches

39 - 48 push switches



push switches

49 - 51 vandal resistant switches



vandal resistant switches

52 - 55 slide switches



slide switches

56 - 60 snap-action & safety switches



snap action switches

61 - 65 refrigerator switches



refrigerator switches

66 - 69 rotary switches



rotary switches

70 - 84 indicators



indicators

85 - 87 IEC sockets



IEC sockets

88 - 89 fuseholders



fuseholders

90 - 99 electronics



electronics



### **6 Million Products**

Every month we assemble over six million switches, indicator lights, fuseholders and IEC sockets.

### **3 Manufacturing Centres**

Almost all component parts used in our products - mouldings, pressings, springs and turned parts, are manufactured in our own production centres, then assembled and tested automatically.

### **International Manufacturing**

Our three manufacturing sites in the UK, Tunisia and China are responsive to global supply chains.

### **52 Injection Moulding Machines**

Working at pressures up to 80 tons, our moulding machines deliver over 250 million components each year.

### **60,000 Miniature Springs**

Some only a millimetre or so in diameter, are wound each hour. Every one will be measured and tested.

### **15 Power Presses**

We manufacture over 200,000 contacts and terminals every hour.



### **Automated Testing**

Each assembly machine tests the electrical and mechanical function of every completed product.

### **10,000,000 turned parts/year**

Stainless steel and brass components manufactured on high precision CNC machines operating 24 hours a day.

### **Tooling - In-house**

A fully equipped toolroom manufactures and maintains the jigs, press and mould tools we use each day.

### **Flexibility of response**

Twenty-four hour running allows a positive response to customer requests and ensures a competitively priced finished product.

### **Research & Development**

Our designers will work with you to achieve practical solutions which satisfy your particular design criteria.

### **Specials**

For colour matching and special printing, our flexible in-house production will provide a competitive solution.

**Arcoelectric is the largest manufacturer of appliance switches in the UK and is a globally recognised brand.**

# Technical Information - Switches and Fuseholders

Most major technical information is shown on each specific product page, other details are grouped here for easy reference. Details shown here apply to most switches and fuseholders. Snap-action switches (pages 56-60), indicators (pages 70-84) and connectors (pages 85-87) have product specific information within the section.

MATERIALS	MOST PRODUCTS	EXCEPTIONS
Body and actuator (opaque) . . . . .	Nylon 6.6 . . . . .	.8300V, 1900V, 0916V & 0911V bezels & actuators are stainless steel 0600 and 3900 actuators are plated brass
Actuator (transparent) . . . . .	Polycarbonate	
Current carrying parts . . . . .	Copper Alloy	
Contact points . . . . .	Silver Alloy . . . . .	.N/A for 0055/56, 0600/2, 0916-0920, 0017, 2000 & 3005/3006. Gold plated for 1100.

## PROPERTIES

### Electrical

Class II compliant . . . . .	Confirmed . . . . .	.IEC Sockets
Electrical life (Operations) . . . . .	>10k, many >50k . . . . .	.See relevant page for details
Mechanical life (Operation) . . . . .	.See relevant page for details	
Contact resistance (switches) new condition . . . . .	<100mΩ (at 12Vdc,1A) . . . . .	.For 1100 & 2000 call sales
Contact resistance (fuseholders) new condition . . . . .	.5mΩ (average)	
Insulation resistance . . . . .	>20MΩ	
Dielectric strength:		
across open contacts . . . . .	>1.5kV	
between poles . . . . .	>1.5kV	
between live parts and accessible metal . . . . .	>3kV	
Comparative Tracking Index (CTI) . . . . .	>250	
Temperature rise (terminals) at end of rated life . . . . .	.max 30°K (UL 1054), max 55°K (EN 61058-1)	

## PROPERTIES

### Physical

Humidity resistance at 91-95% relative humidity (to subsequently comply with requirements of the Dielectric strength test) . . . . .	.48hrs	
Impact resistance . . . . .	>0.5Nm	
Storage temp. (1 year period) . . . . .	<125°C . . . . .	.Some discolouration of terminals may occur
Flame retardancy . . . . .	.UL94V2	
Solderability to BS 2011 pt.2.1T - (with an iron) . . . . .	.6 secs at 350°C	
Angular movement ±4° overall (where applicable) . . . . .	.38° . . . . .	.1250, 6000, 8500, 8550, 8600, 8650, 8800 - 26°
Force to operate . . . . .	.2.0N - 20.0N . . . . .	.Call sales for specific values

## INGRESS PROTECTION

IP40 unless otherwise stated.

Higher ratings where available will be shown on the relevant catalogue page.

## GENERAL INFORMATION

### ALL SWITCHES

Heat and Fire resistance Category D.

### ALL PRODUCTS

Solder terminals should not be fitted with "Push on", "QD" or "Fast on" type cable connectors.

Panel holes must be punched in the direction of insertion.

μ = micro gap switch contacts <3mm.

All products should be applied, installed and maintained by the customer using competent persons in accordance with good electrical practice. Products should be tested by the customer in the application to ensure suitability. Special care should be taken not to expose switches to water, dust, corrosive chemicals, silicone, excessive solder flux, cyanoacrylate adhesives, severe impact, extremes of temperature, electrical supply voltage or load current in excess of the specified limits.

Transparent lenses on indicator lights and lit switches are moulded in polycarbonate, a material which is attacked by organic chemicals and animal or vegetable fats. Please contact sales for advice on these products.

For performance in accord with the stated ratings, switch actuators should be fully depressed and fully released during operation.

### WEIGHTS OF OUR MOST FREQUENTLY SUPPLIED PRODUCTS, not including packaging.

Product	gms	Product	gms	Product	gms	Product	gms	Product	gms
0055, 0056	.5.7/6.8	1091FH	.12.6	1700H	.8.4	5567	.14.3	8550	.4.8
0305	.32.9	1100	.2.0	1750H	.13.2	6050	.13.58	8553	.5.2
0333	.4.5	1250SP	.5.9	17500	.25.6	6053	.14.15	8600	.3.5
0345	.8.9	1250DP	.7.0	2000 2pos C SP	.3.8	7000	.10.4	8620	.4.3
0340 sw only	.7.12	1300	.5.7	2000 2pos C DP	.4.5	7050	.12.3	8650	.6.3
0430	.5.5	1350	.11.2	2000 5pos A SP	.6.3	7053	.12.9	8670	.8.5
0589	.3.5	1500	.5.7	2000 5pos A DP	.7.3	8250	.4.9	8800	.2.9
0711-1S	.16.6	1520	.6.6	T2225B	.5.0	8300	.4.0	9100	.20.0
0712-S	.27.8	1550	.11.2	2950	.5.3	8350	.5.0		
0717-1S	.22.4	1553	.11.8	3111	.11.8	8350RP	.34.0		
0900S/L	.2.6/2.9	1570	.12.7	5500	.7.1	8353	.5.9		
1048	.2.8	1584-1589	.11.1	5503	.7.8	8500	.3.8		

# Technical Information - Indicators

The majority of Arcoelectric indicator lights can be supplied with alternative light sources:

## Neon, Fluorescent, Filament lamp or LED.

### NEON and FLUORESCENT LAMPS

#### Colours

Available with Red, Amber, Green, Blue or Clear lenses.

#### Maximum striking voltages

Standard brightness types 65Vac 90Vdc.

High brightness types 85Vac 135Vdc.

High brightness types are usually fitted.

#### Life

Typically 25,000 hours (Green fluorescent lamps 20,000 hours). (Measured to a point when the light output of the lamp is half its original level.)

The end of life for a neon lamp is not usually a sudden failure.

#### False signals due to long wiring

It is possible for neon or fluorescent tubes to glow when they should be off. The false signal is caused by the capacitance effect of fairly long wiring to the indicator being adjacent to other live cables. This effect can be prevented in most cases by fitting a 100k resistor across the supply wires close to the indicator assembly.

### MATERIALS

Moulded bodies and bases . . . . . Nylon 6.6

Metal bodies and bezels . . . . . Chrome plated brass (except #)

Lenses . . . . . Polycarbonate

Terminals (most types) . . . . . Brass (electro-tin plated)

Terminals (exceptions) . . . . . Brass (flash silver\* or nickel\*\* plated)

Threaded metal nuts . . . . . Brass (nickel plated on 0275/7)

Other fixings . . . . . Call sales for details

\* R9, 0061, 0062, 0430, 0480, 1090, 1091, 6030, 7030, 8630, 8580

\*\* # 3130, 3160, 3161, 3221 have nickel plated terminals with steel screws and plated polyamide bezel trims

### FILAMENT LAMPS

#### Colours

Available with Red, Amber, Green, Clear or Blue lenses.

#### LEDs - DC

#### Colours

Red, Yellow, Green, Blue and White.

#### Voltage

Basic voltage 2.0/2.2V. Some items are available with integral resistors for 12V use. For details of resistors required for higher voltages, please call sales.

#### Current

Maximum continuous forward current 20mA.

#### Life

>100,000hrs

#### LEDs - AC

#### Colours

Red, Yellow, Green, Blue and White.

#### Voltage

Rated up to 230V ac, suitable for use at 110V and 230V ac.

#### Current

<3mA

#### Life

>100,000hrs

### TEMPERATURE RATING

Authority	with Terminals	with Wire leads	
		PVC	SILICONE
European	T125°C	T105°C	T125°C
UL	T65/75°C	T65/75°C	

### SYMBOLS

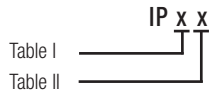


## DEGREE OF PROTECTION TO BS EN60529/DIN 0470

### IP Ratings Guide

The IP classification system designates the degree of protection provided by an enclosure against solid objects or water ingress.

Table I shows degrees of protection against solid objects, Table II shows degrees of protection against water.



**Table I (1st characteristic numeral)**  
Degree of Protection against solid objects

	0 Non-protected
	1 Protected against a solid object greater than 50mm, such as a hand.
	2 Protected against a solid object greater than 12.5mm, such as a finger.
	3 Protected against a solid object greater than 2.5mm, such as wire or a tool.
	4 Protected against a solid object greater than 1.0mm, such as wire or thin strips.
	5 Dust-protected. Prevents ingress of dust sufficient to cause harm.
	6 Dust tight. No ingress of dust.

**Table II (2nd characteristic numeral)**  
Degree of Protection against water

	0 Non-protected
	1 Protected against dripping water.
	2 Protected against dripping water when tilted up to 15°.
	3 Protected against spraying water at an angle of up to 60°.
	4 Protected against splashing water from any direction.
	5 Protected against jets of water from any direction.
	6 Protected against heavy seas or powerful jets of water. Prevents ingress sufficient to cause harm.
	7 Protected against the effects of temporary immersion in water.
	8 Protected against the effects of continuous immersion in water.

# Splashproof & Dust Resistant options for Switches

## Suitability

A large number of Arcoelectric products have optional or designed-in resistance to moisture or dust. For detailed IP ratings call sales.

The suitability of these products for specific applications is subject to numerous factors including: mounting method and product orientation, air movement, pressure differential across the product, intensity of impinging liquid flow and application voltage.

Splashproofing does not imply total sealing, or resistance to corrosive atmospheres or substances.

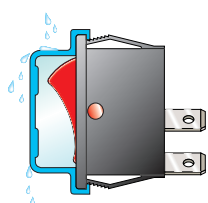
Order code for splash/dust proofing options is shown under the illustration

Page 10	Pages 12	Pages 14	Page 14	Page 18
<b>8800 Twin</b> can be fitted with	<b>8500</b> can be fitted with	<b>8600</b> can be fitted with	<b>8650</b> can be fitted with	<b>6000</b> has integral water-thru feature and
<b>L167</b> Push-on cover	<b>L167</b> Push-on cover	<b>L167</b> Push-on cover	<b>L180</b> Push-on cover	<b>G</b> Snap-on cover option

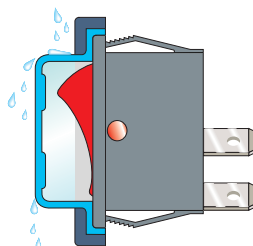
Order code for splash/dust proofing options is shown under the illustration

Page 20	Page 22	Page 24	Page 28	Page 32
<b>6050</b> has integral water-thru feature and	<b>1500 and 1300</b> available with W or B Splash resistant rockers or	<b>5503</b> can be fitted with	<b>1550 and 1350</b> available with W or B Splash resistant rockers or	<b>R13</b> can be fitted with
<b>G</b> Snap-on cover option	<b>G</b> Snap-on cover	<b>G</b> Snap-on cover	<b>G</b> Snap-on cover	<b>L188</b> Push-on cover

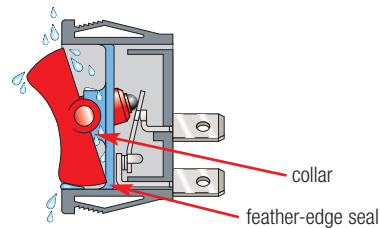
## How they work



**L167, L180, L188**  
Push-on splashproof/dustproof covers for rocker/push switches



**G**  
Snap-on splashproof/dustproof cover & bezel for rocker switches



**1500 W and 1500 B splash resistant rockers**  
have internal feather edge seals and a close fitting collar to protect current carrying parts from moisture.  
Option B has Hytrel moulded collar/seals for enhanced protection

### The right system

The fitting of external covers or panel sealing washers will normally alter standard panel acceptance dimensions.

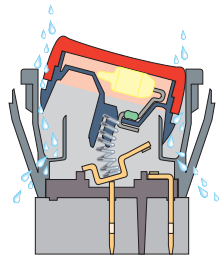
The fitting of external covers is not recommended for momentary (spring return) rocker or toggle switches.

In all instances applications should be discussed with sales. We will advise you on the best system for your application.

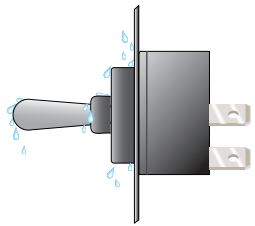
For full product details, dimensions and ratings refer to the catalogue page shown in the photograph (not to scale).

<p>Order code for splash/dust proofing options is shown under the illustration</p>	<p>Page 34</p>  <p><b>3900 and 3950</b> have integral O-ring seal and can be fitted with</p>  <p><b>M539 or M1080</b> neck seal or cover</p>	<p>Page 36</p>  <p><b>1700 and 1750</b> can be fitted with</p>  <p><b>M331, M539, M1080</b> covers or neck seals</p>	<p>Page 38</p>  <p><b>0600</b> can be fitted with</p>  <p><b>M331, M539, M1080</b> covers or neck seals</p>	<p>Page 40</p>  <p><b>8300</b> can be fitted with</p>  <p><b>L167</b> Push-on cover</p>	<p>Page 47</p>  <p><b>0916V</b> has integral seal</p>
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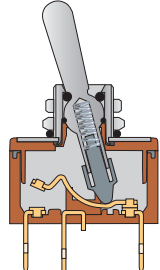
<p>Page 49</p>  <p><b>1900</b> has integral seal</p>	<p>Page 50</p>  <p><b>8300V</b> has integral seal</p>	<p>Page 51</p>  <p><b>0911V</b> has integral seal</p>	<p>Page 63</p>  <p><b>3005</b> splash resistant design</p>	<p>Page 64/65</p>  <p><b>3100 and 3141</b> splash resistant design</p>
<p>Page 34</p>  <p><b>3900</b> sealed</p>				



**Integral Splash Resistance**  
Integral splash resistant system



**Covers & Neck seals**  
(with nut fixing)  
for toggle switches



**3900 series Sealed Metal Toggle Switches**  
IP67 Panel Seal