

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. Safety switches (page 56), indicators (pages 66-80) and connectors (pages 81-83) have product specific information within the section.

MATERIALS	MOST PRODUCTS	EXCEPTIONS
Body and actuator (opaque)	Nylon 6.68300V, 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 condition5mΩ (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 discoloration 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 operate2.0N - 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	LH392	.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, Incandescent or LED.

NEON LAMPS

Colors

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

Maximum firing 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 basesNylon 6.6
Metal bodies and bezelsChrome plated brass (except #)
LensesPolycarbonate
Terminals (most types)Brass (electro-tin plated)
Terminals (exceptions)Brass (flash silver* or nickel** plated)
Threaded metal nutsBrass (nickel plated on 0275/7)
Other fixingsCall 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

SYMBOLS

Terminals C 6.3, H 4.8, K 2.8 Wire leads 8" length Standard Solid wires LED only Panel hole size Panel thickness Temperature rating

INCANDESCENT LAMPS

Colors

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

LEDs - DC

Colors

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

Colors

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	

NL 589 WL 2G

SERIES CODES MODEL CODES TERMINAL CODES LAMP / VOLTAGE / COLOR CODES

ORDER FORMAT

SERIES CODES	MODEL CODES	TERMINAL CODES	CODES for FL & LH	LAMP TYPE	VOLTAGE & COLOR CODES for LE	CODES for NL
FL Incandescent Lamps	67 81 145 177 180 AA/BB 195 OO/BB 196 233 234 245 273 /LL 275 /C 276 277 278 566 568 A/B	WL Wire Leads	Incandescent Lamps AC or DC 7A is 12V Amber 7B is 12V Blue 7C is 12V Clear 7G is 12V Green 7R is 12V Red	LEDs DC	LEDs AC	Neon Lamps AC or DC
LE LEDs	569 579 581 582 586 589 1041 1045 2950 2951 2760 2820 2821 2870 3130 3160 3161 3221	C 6.3 Tab	8A is 24V Amber 8B is 24V Blue 8C is 24V Clear 8G is 24V Green 8R is 24V Red	3900 is 1.7V Red 3901 is 2.2V Amber 3902 is 2.1V Green 39006 is 6V Red 39016 is 6V Amber 39026 is 6V Green	5A is 125-250V Amber 5B is 125-250V Blue 5C is 125-250V Clear 5G is 125-250V Green 5R is 125-250V Red	2A is 105-130V Amber 2C is 105-130V Clear 2G is 105-130V Green 2R is 105-130V Red 3A is 250V Amber 3C is 250V Clear 3G is 250V Green 3R is 250V Red
NL Neon Lamps		H 4.8 Tab		39007 is 12V Red 39017 is 12V Amber 39027 is 12V Green		
LH Lamp Holders 6, 12, 24V only	61 62 63 67 382 392 692	T Solder		39008 is 24V Red 39018 is 24V Amber 39028 is 24V Green		

For LH, if lamp not required, state "COLOR" only

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.

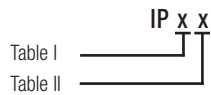


Table I (1st characteristic numeral)
Degree of Protection against solid objects

	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.