

Arcoelectric



Solutions for appliance & electronic applications

appliance switches

indicators

fuseholders

IEC connectors

electronics


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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.

4-9 technical data



10 - 33 rocker switches



34 - 38 toggle switches



39 - 48 push switches



49 - 51 vandal resistant switches



52 - 55 slide switches



56 safety switches



57 - 61 refrigerator switches



62 - 65 rotary switches



66 - 80 indicators



81 - 83 IEC sockets



84 - 85 fuseholders



86 - 95 electronics



technical data

rocker switches

toggle switches

push switches

vandal resistant switches

slide switches

safety switches

refrigerator switches

rotary switches

indicators

IEC sockets

fuseholders

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 one of the world's largest switch manufacturers 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. 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 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 39007 is 12V Red 39017 is 12V Amber 39027 is 12V Green 39008 is 24V Red 39018 is 24V Amber 39028 is 24V Green	LEDs AC 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	Neon Lamps AC or DC 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
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			
NL Neon Lamps		H 4.8 Tab				
LH Lamp Holders 6, 12, 24V only	61 62 63 67 382 392 692	T Solder				

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.

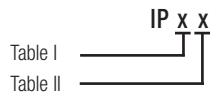


Table I (1st characteristic numeral)
Degree of Protection against solid objects

	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.

Splashproof & Dust Resistant options for Switches

technical data

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.

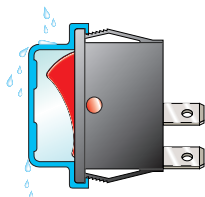
Order code for splash/dust proofing options is shown under the illustration

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

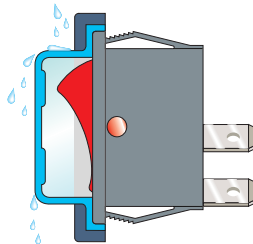
Order code for splash/dust proofing options is shown under the illustration

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

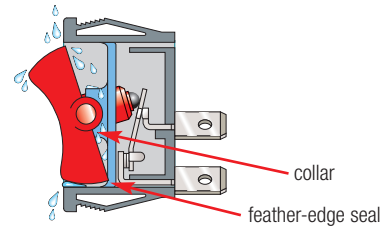
How they work



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.

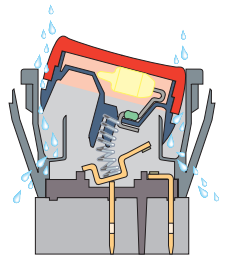
The fitting of external covers is not recommended for momentary (spring return) rocker or toggle switches.

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

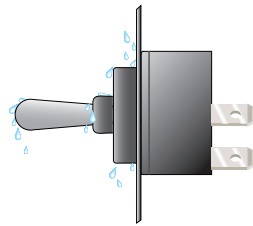
For full product details, dimensions and ratings refer to the catalogue page shown in the photograph (not to scale).

Order code for splash/dust proofing options is shown under the illustration	Page 34  3900 and 3950 have integral O-ring seal and can be fitted with  M539 or M1080 bushing seal or cover	Page 36  1700 and 1750 can be fitted with  M331, M539, M1080 covers or bushing seals	Page 38  0600 can be fitted with  M331, M539, M1080 covers or bushing seals	Page 40  8300 can be fitted with  L167 Push-on cover	Page 47  916V has integral seal
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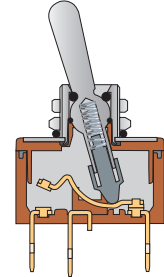
Page 49  1900 has integral seal	Page 50  8300V has integral seal	Page 51  380 has integral seal	Page 59  3005 splash resistant design	Page 60/61  3100 and 3141 splash resistant design
Page 34  3900 sealed				



Integral Splash Resistance
Integral splash resistant system



Covers & Bushing seals
(with nut fixing)
for toggle switches



3900 series Sealed Metal Toggle Switches
IP67 Panel Seal

8800 Thinline Rocker Switches 10A 250Vac



- ▶ Ultra thin rocker switch
- ▶ Ratings up to 15A, 250Vac
- ▶ Single and twin gang
- ▶ Panel cut out:
Single 19.3 x 6.8
Twin 19.3 x 13.4



10(6)A 250Vac T100
6(2)A 250Vac T100 5E4 (50,000 Operations)
Inrush 50A to EN60065:1998



UL CSA 15A 250Vac (Twin unit is 10A 250Vac)
UL CSA 125Vac 1/2hp
UL 100°C, file E45221, CSA file LR10990



RoHS compliant

3mm contact gap.
Technical data on pages 4 & 5.

B BLACK
W WHITE **B** BLACK
W WHITE

H 8800 V A B B 133W

ORDER FORMAT

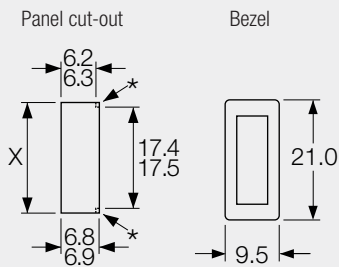
TERMINAL CODE FUNCTION CODE ROCKER CODE BODY CODE BODY COLOR ROCKER COLOR LEGEND & OPTIONS

TERMINAL	FUNCTION		ROCKER
H 4.8 x 0.8		 Switches are ON when pressed over terminal 1	V Curved
	8800	 ON - OFF Single pole	
T 3.5 x 0.8 Solder		 Switches are ON when pressed over terminals 1 or 3	
	8800/8800	 ON - OFF Twin (Single pole)	
X 0.8Sq Solder * *Available for single switch only, not twin			



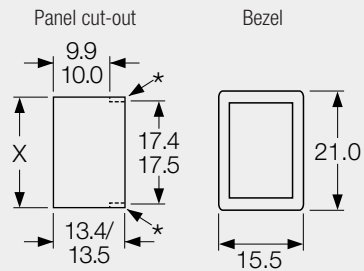
BODY

A Single pole



*Optional profile for orientation

A Single pole - Twin



*Optional profile for orientation

Panel thickness	Dim X
0.75-1.24	19.1/19.2
1.25-1.99	19.3/19.4
2.00-3.00	19.7/19.8

Cut-outs must be punched in the direction of insertion

OPTIONS

Finish

Matt finish only

Color

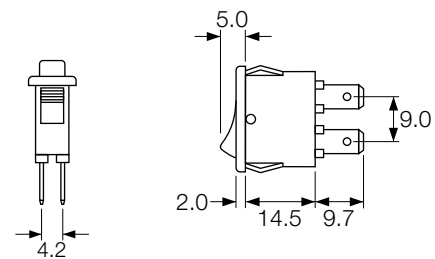
Call factory for custom colors.
A full range is available for large orders

Legend printing

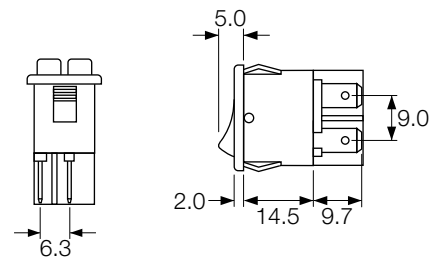
Select from the examples or call the factory for custom legends

Dimensions (mm)

8800VA (H terminals shown)



8800 8800VA (H terminals shown)



Examples of our range of legend printing

() is legend color B-Black, W-White, R-Red



132(W)



133(W)

8500 Rocker Switches - Miniature 10A 250Vac Single & Double Pole



- ▶ Miniature rocker switch
- ▶ Ratings up to 15A, 250Vac
- ▶ High inrush tolerance
- ▶ Single & double pole in same body size
- ▶ Illuminated & non-illuminated
- ▶ Matching indicators
- ▶ Industry standard panel cut-out
- ▶ Rotary and push button actuator options
- ▶ Panel cut out: 19.3 x 12.9



10(6)A 250Vac T125 (non lit types)
6(4)A 250Vac T125 5E4 (50,000 Operations) (non lit types)
10(6)A 250Vac T100 (lit types)



UL CSA 15A Non Ind 250Vac, 14A Ind 250Vac, 10A 277Vac
UL CSA 250Vac 1/2hp, 125Vac 1/4hp
UL 105°C, (non lit) file E45221, CSA file LR10990

In house test

Inrush 85A to EN61058-1 & 10A 24Vdc



RoHS compliant

3mm contact gap.
 Technical data on pages 4 & 5 (switches), 6 (indicators).

NON-LIT		LIT		'X' ROCKER COLOR R,G,W,B 2 125V NEON 3 250V NEON 7 12V INCANDESCENT
B BLACK	B BLACK	A AMBER		
R RED	R RED	C CLEAR		
W WHITE	W WHITE	G GREEN		
		R RED		

H 8553 V B B R 2 551W

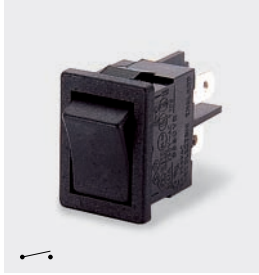
ORDER FORMAT

TERMINAL CODE FUNCTION CODE ROCKER CODE BODY CODE BODY COLOR ROCKER COLOR LAMP VOLTAGE OR "ON LIGHT" LEGEND & OPTIONS

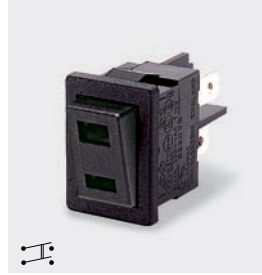
TERMINAL	FUNCTION	ROCKER
H 4.8 x 0.8	Approvals & ratings vary with function ON OFF Switches are ON when pressed over terminal 1	H Slotted for custom caps
K 2.8 x 0.8	8500 ON - OFF Single pole (Uses terminals 1a & 2a)	R Semi-rotary (not lit)
L 2.8 x 0.8 Right angle version of K terminal available on 8500 only	8503 ON (lit) - OFF Single pole	D Paddle lever (not lit)
R 4.8 x 0.8	8550 ON - OFF Double pole	V Curved (not lit)
T Solder	8553 ON (lit) - OFF Double pole	V Curved (lit) X Two colour (not lit) A Softline lens
8580 Available with H terminals only	 Indicator 	P Push button operation (8500 only) See drawing opposite



H8500VB ---
T8500VB ---



H8550VB ---
T8550VB ---



H8550HB ---
T8550HB ---



H8550XB ---
T8550XB ---



H8550RB Semi-rotary
A splash proofing option



H8500PO ---
Pushbutton option



H8553VB ---
T8553VB ---

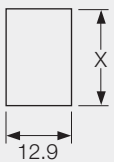


H8580AB ---

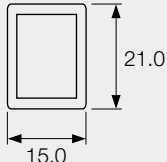
BODY

B
Standard body with terminal barrier

Panel cut-out

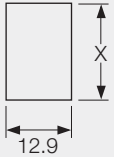


Bezel

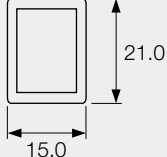


BC
Body without terminal barrier

Panel cut-out



Bezel



Dimensions for snap-in fixing

Panel thickness	Dim X
0.75-1.25	19.1/19.2
1.25-2.00	19.3/19.4
2.00-3.00	19.7/19.8

Cut-outs must be punched in the direction of insertion

OPTIONS

Finish

Matt finish only

Color

Call factory for custom colors
A full range is available for large orders

Legend printing

Select from the examples or call the factory for custom legends

Lamp voltage

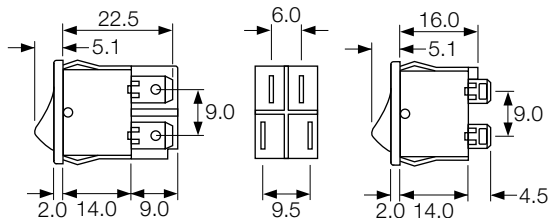
Call factory for details of other available voltages

Protective cover L167

(designed to IP65)
Snaps on to bodies with V or X style rockers and A lens but reduces panel thickness by 0.8mm

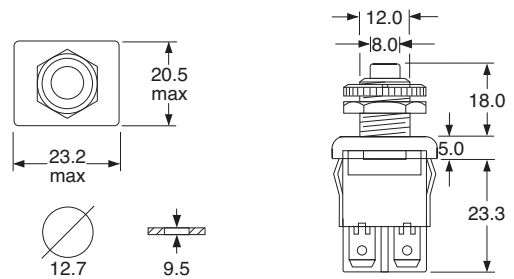


DIMENSIONS (mm)



"B" body with barrier for H, T and K terminals

"BC" body w/o barrier primarily for L or R terminals (can be used for all terminals)



'PO' Actuator and body - push button function (8500 only)

Examples of our range of legend printing

() is legend color B-Black, W-White, R-Red



551(W)



080(W)

8600 Rocker Switches - Miniature 10A 250Vac Single & Double Pole



- ▶ Miniature rocker switch
- ▶ Ratings up to 16A, 250Vac
- ▶ Single & double pole
- ▶ Single throw or double throw
- ▶ Momentary Options
- ▶ 187 TAB, solder and PCB terminals
- ▶ Illuminated and non-illuminated
- ▶ Matching indicators
- ▶ Panel cut out
single: 19.3 x 12.9
double: 19.3 x 21.9



10(4)A 250Vac T90 (unless noted below)



UL CSA See ratings below
UL 65°C, file E45221, CSA file LR10990

In house test

Inrush 50A to EN61058-1 & 10A 24Vdc



RoHS compliant

3mm contact gap except where marked μ .
Technical data on pages 4 & 5 (switches), 6 (indicators).

NON-LIT		LIT	
B BLACK	B BLACK	A AMBER	2 125V NEON
R RED	R RED	C CLEAR	3 250V NEON
W WHITE	W WHITE	G GREEN	7 12V INCANDESCENT
		R RED	

H 8653 V B B R 2 551W

ORDER FORMAT

TERMINAL CODE FUNCTION CODE ROCKER CODE BODY CODE BODY COLOR ROCKER COLOR LAMP VOLTAGE (if required) LEGEND & OPTIONS

TERMINAL	FUNCTION		ROCKER
H 4.8 x 0.8	Approvals & ratings vary with function 	ON OFF Switches are ON when pressed over terminal 3 	V Curved
T 3.5 x 0.8 Solder	8600 10(4)A 16A 250V, 10A 277V 1/2HP 277V, 1/4HP 125V 	8650 10(4)A 10A 277V 1/2HP 277V, 1/4HP 125V 	V Curved (lit)
X PCB 0.8 Sq	8601 6(1)A 16A 250V, 6A 277V 	8651 6(1)A 6A 277V 	D Paddle lever (Single pole non-lit only)
	8602 10A 16A 250V, 10A 277V 	8652 10(4)A 6A 277V 	H Slotted for actuator (8600 and 8610 only)
	N/A	8653 10(4)A 6A 277V 	F Flat Indicator only (Single pole)
	8610 6(1)A 10A 277V 1/2HP 277V, 1/4HP 125V 	8660 6(1)A 10A 277V, 1/2HP 277V 1/2HP 277V, 1/4HP 125V 	
	8611 6A 277V 	8661 6A 277V 	
	8620 μ See page 16 	8670 μ See page 16 	
	8630 		

Double Pole switches with "X" terminals are supplied without terminal barriers



H8600VB
T8600VB



H8600VB
T8600VB



H8630FB
T8630FB



H8650VB
T8650VB



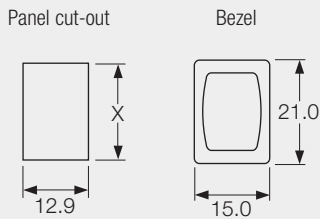
H8660VB
T8660VB



H8653VB
T8653VB

BODY

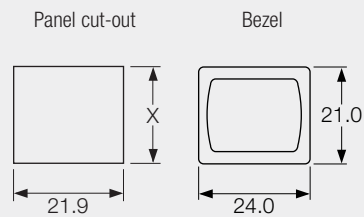
B Single pole



Single Pole dimensions for snap-in fixing

Panel thickness	Dimension X
0.75-1.24	19.1/19.2
1.25-1.99	19.3/19.4
2.00-3.00	19.7/19.8

B (Double Pole) with terminal barrier
BC (Double Pole) w/o terminal barrier



Double Pole dimensions for snap-in fixing

Panel thickness	Dimension X
0.75-1.24	19.1/19.2
1.25-1.99	19.3/19.4
2.00-3.00	19.7/19.8

Cut-outs must be punched in the direction of insertion

OPTIONS

Finish

Matt finish only

Color

Call factory for custom colors
A full range is available for large orders

Legend printing

Select from the examples or call the factory for custom legends

Lamp voltage

Call factory for details of other available voltages

Hole Plug 8630FBBB Black Standard

Dummy unit to fill unused panel holes
Single pole size only
White available contact factory

Protective covers

L167 for SP

L180 for DP

(designed to IP65)
Snap on to bodies with V rocker or F lens but



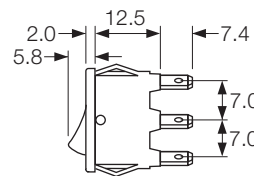
reduce panel thickness by 0.8mm.
Not for use with momentary types

Single Pole options

Most switches shown can have single pole switching in double pole bodies

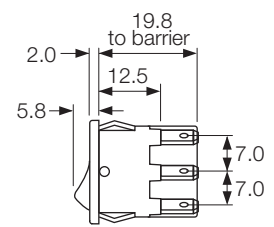
DIMENSIONS (mm)

Single pole



Terminals shown are "H" 4.8 push on type

Double pole

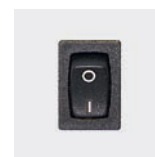


Terminal spacing 10.2 between pole centres

For 8620 and 8670 dimensions see page 16

Examples of our range of legend printing

() is legend color B-Black, W-White, R-Red



577(W)



080(W)



141(W)



142(W)



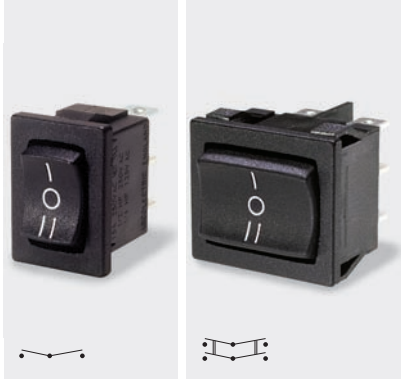
059(W)



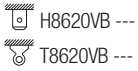
058(W)

8620 & 8670 Rocker Switches - 3 Positions 10A 250Vac

rocker switches



- ▶ 3 position miniature rocker switch
- ▶ Ratings up to 15A, 250Vac
- ▶ Single & double pole
- ▶ Center off switching
- ▶ 187 TAB, solder and PCB terminals
- ▶ Matching indicators
- ▶ Panel cut out:
single: 19.3 x 12.9
double: 19.3 x 21.9



10(4)A 250Vac T90



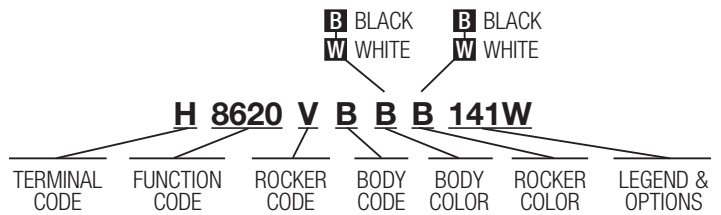
- UL CSA 15A 277Vac (Single pole)
- UL CSA 250Vac 1/2hp (Single pole)
- UL CSA 125Vac 1/4hp (Single pole)
- UL CSA 10A 277Vac (Double pole)
- UL CSA 277Vac 1/2hp (Single & Double pole)
- UL 90°C, file E45221, CSA file LR10990



RoHS compliant

μ contact gap.
Technical data on pages 4 & 5.

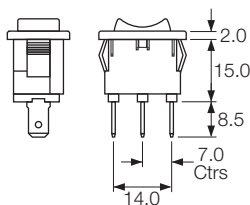
ORDER FORMAT



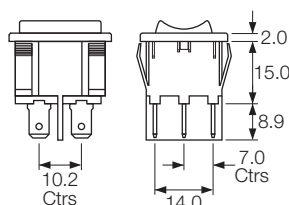
TERMINAL	FUNCTION	ROCKER	BODY	OPTIONS
<p>H</p> <p>4.8 x 0.8</p>	<p>8620</p> <p>ON - OFF - ON Single pole</p>	<p>V Curved</p>	<p>B Single pole</p> <p>Panel thickness 0.75-1.24 1.25-1.99 2.00-3.00</p> <p>Dim X 19.1/19.2 19.3/19.4 19.7/19.8</p>	<p>Finish Matt finish only.</p> <p>Color Call factory for custom colors. A full range is available for large orders.</p> <p>Legend printing Select from the examples or call factory for custom legends.</p>
<p>T</p> <p>Ø2.15 6.4</p> <p>Solder</p>	<p>8670</p> <p>ON - OFF - ON Double pole</p>	<p>H Slotted for actuator (8620 only)</p>	<p>B Double pole</p> <p>Panel thickness 0.75-1.24 1.25-1.99 2.00-3.00</p> <p>Dim X 19.1/19.2 19.3/19.4 19.7/19.8</p>	<p>Protective covers IP65 L167 for SP L180 for DP (designed to IP65) Snaps on to body, this reduces maximum acceptable panel thickness to 2.2mm.</p>
<p>X</p> <p>4.0 8.0</p> <p>PCB 0.8sq</p> <p>Double pole switches with X terminals are supplied without terminal barriers</p>			<p>Cut-outs must be punched in the direction of insertion</p>	

Dimensions (mm)

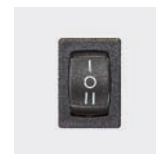
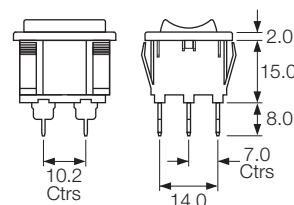
8620VB (H terminals shown)



8670VB (H terminals shown)



8670VB (X terminals shown)



1250 Rocker Switches 10A 250Vac



10(6)A 250Vac T100
6A 400Vac T100
1A 30Vdc



UL CSA 10A 250Vac
UL CSA 16A 250Vac Resistive
UL CSA 125Vac 1/2hp
UL CSA 1A 30Vdc
UL 100°C, file E45221, CSA file LR10990

In house test

Inrush 75A to EN61058-1



RoHS compliant

3mm contact gap
Technical data on pages 4 & 5

- ▶ Standard rocker switch
- ▶ Double pole in single pole body
- ▶ Snap in or sub panel mount
- ▶ Integral terminal barrier
- ▶ Push on or PCB terminals
- ▶ High inrush tolerance
- ▶ Panel cut out:
27.2 x 12.4 (snap in)
26.3 x 12.4 (sub panel mount)



C1250AP ---



C1250AN ---

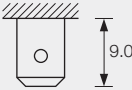


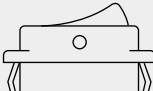
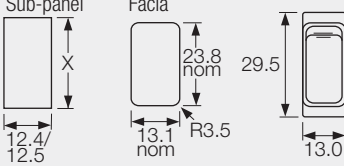
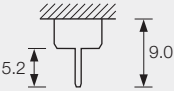


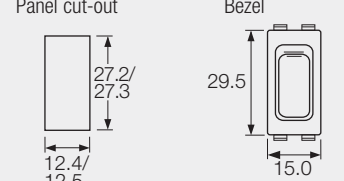
Rocker switches

B BLACK
W WHITE
G GREY

C 1250 A P B B 085W

TERMINAL CODE FUNCTION CODE ROCKER CODE BODY CODE BODY COLOR ROCKER COLOR LEGEND & OPTIONS

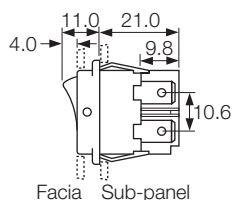
ORDER FORMAT

TERMINAL	FUNCTION	ROCKER	BODY	OPTIONS						
<p>C</p>  <p>6.3 x 0.8</p>	 <p>On when pressed over terminal 1</p> <p>1250</p>  <p>ON - OFF Double pole</p> <p>Poles are 9.0mm between centres.</p>	<p>A Curved</p>  <p>Shown in N body</p>	<p>N</p> <p>Panel cut-out Bezel</p>  <p>Sub-panel Facia</p> <p>Panel thickness Dim X</p> <table border="0"> <tr> <td>0.75-1.24</td> <td>26.1/26.2</td> </tr> <tr> <td>1.25-1.99</td> <td>26.3/26.4</td> </tr> <tr> <td>2.00-3.00</td> <td>26.7/26.8</td> </tr> </table>	0.75-1.24	26.1/26.2	1.25-1.99	26.3/26.4	2.00-3.00	26.7/26.8	<p>Finish Matt finish only.</p> <p>Color Call factory for custom colors. A full range is available for large orders.</p> <p>Legend printing Select from the examples or call factory for custom legends.</p> <p>Contact factory for suggested terminals.</p>
0.75-1.24	26.1/26.2									
1.25-1.99	26.3/26.4									
2.00-3.00	26.7/26.8									
<p>X</p>  <p>PCB 0.8sq (N body only)</p>	 <p>On when pressed over terminal 1</p> <p>1250SP</p>  <p>ON - OFF Single pole</p>	<p>P</p> <p>Panel cut-out Bezel</p>  <p>Panel thickness</p> <p>0.75-3.00</p>	<p>27.2/27.3</p> <p>12.4/12.5</p> <p>15.0</p>							

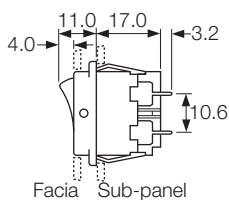
Cut-outs must be punched in the direction of insertion

Dimensions (mm)

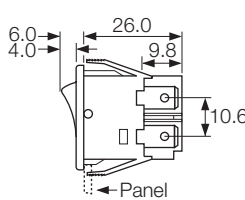
1250AN (C terminals shown)



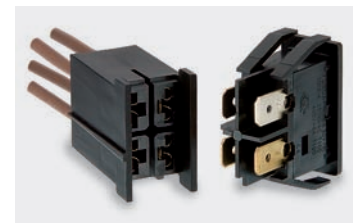
1250AN (X terminals shown)



1250AP (C terminals shown)



Connector Housing F1344



6000 SP Splash Resistant Rocker Switches 16A 250Vac



- ▶ Ratings up to 20A, 277Vac
- ▶ High in-rush (ON-OFF types)
- ▶ Positive switch action
- ▶ Distinctive styling
- ▶ Illuminated & non-illuminated
- ▶ Single pole
- ▶ Matching indicator
- ▶ Panel cut out: 30.1 x 11.1mm



In house test



European 16(4)A 250Vac T125, 10A 400Vac T125

UL CSA 20A 277Vac, 250Vac 11/2hp, 125Vac 1hp
UL 100°C, file E45221, CSA file LR10990

Inrush 150A* to EN61058-1 (ON - OFF only)

* applies to non-momentary types

RoHS compliant

3mm contact gap with Positive Break switching.

Call factory for IP details.

Technical data on pages 4 & 5 (switches), 6 (indicators).

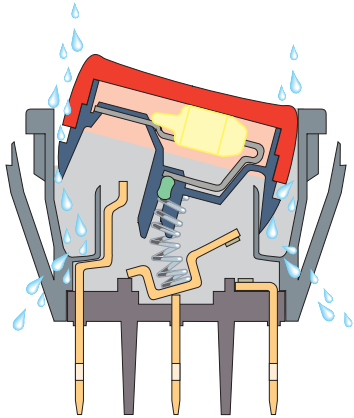


C 6003 A L B R 2 1197W

ORDER FORMAT

TERMINAL CODE FUNCTION CODE ROCKER CODE BODY CODE BODY COLOR ROCKER COLOR LAMP VOLTAGE IF REQUIRED LEGEND & OPTIONS

TERMINAL	FUNCTION	ROCKER
C 6.3 x 0.8	Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminal 3 	A Softline Matt
	6000 ON - OFF 	
	6001 ON - OFF (momentary ON) 	A Softline Matt
	6002 ON - OFF (momentary OFF) 	Lit
	6003 ON - OFF Lit 	P Lit window Matt
	6008 ON - OFF Lit (Unswitched neutral) 	
	6009 ON - OFF (momentary ON) Lit (Unswitched neutral) 	
	6010 ON - ON 	A Lens Matt (6030 indicator only)
	6011 ON - ON (momentary 1 side) 	
S 4.8 x 0.8	6030 Indicator 	
	Screw & Clamp N/A for assemblies with 3 terminals	
For twin switches and double pole circuits see pages 20 & 21		



Integral Splash Resistance

Current carrying parts are protected from moisture. Droplets which may enter the switch are channelled out through ports in the switch body.

For IP65 see options below



C6000AL ---



C6000AL ---



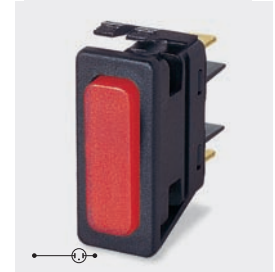
C6010AL ---



C6003AL ---

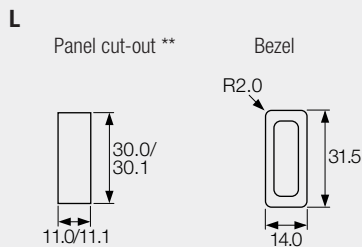


C6003PL ---



C6030AL ---

BODY



Cut-outs must be punched in the direction of insertion

OPTIONS

Finish Matt is standard

Color Call factory for custom colors. A full range is available for large orders

Legend printing Select from the examples or call factory for custom legends

Lamp voltage Call factory for details

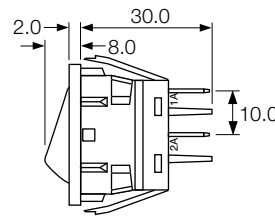
Protective cover (designed to IP65 #)
The 6000 series is a water thru design. For a higher level of sealing, a snap on cover is available (add suffix G74). This reduces panel thickness by 1mm.



Panel sealing washer W46 is available but reduces panel thickness by a further 0.8mm. Covers are not suitable for momentary types.

For all options call the factory

DIMENSIONS (mm)



Panel thickness

L 0.75 to 2.5mm

** For cut-out details on momentary switches call sales

Examples of our range of legend printing

() is legend color B-Black, W-White, R-Red



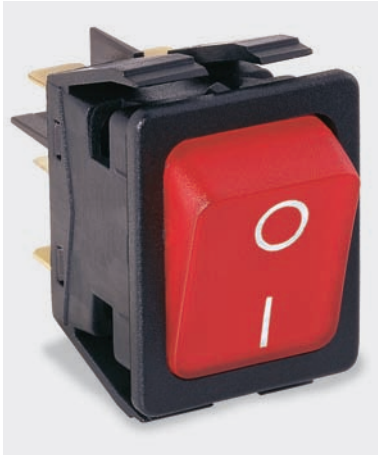
1224(W)



1223(W)

6050 DP Splash Resistant Switches - & Twins # 16A 250Vac

rocker switches



- ▶ Ratings up to 20A, 277V ac
- ▶ High in-rush (ON-OFF types)
- ▶ Positive switch action
- ▶ Distinctive styling
- ▶ Illuminated & non-illuminated
- ▶ Double pole
- ▶ Panel cut out: 30.1 x 22.2mm



European 16(4)A 250Vac T125, 10A 400Vac T125
 UL CSA 20A 277Vac, 250Vac 1 1/2hp, 125Vac 1hp
 UL 100°C, file E45221, CSA file LR10990

In house test

Inrush 150A* to EN61058-1
 8(8)A 250Vac T125 5E4 on 6050 only
 * applies to non-momentary types

RoHS

RoHS compliant

3mm contact gap with Positive Break switching.
 # Call sales for IP details on Twin units.
 Technical data on pages 4 & 5 (switches), 6 (indicators).
 Patent app.

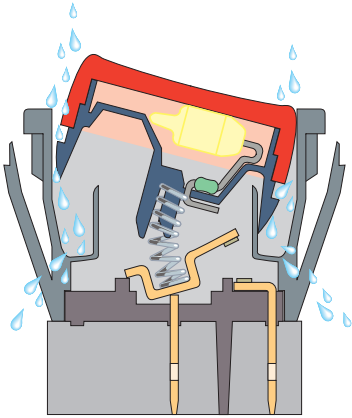
NON-LIT		LIT	
B BLACK	B BLACK	A AMBER	2 125V NEON
R RED	R RED	C CLEAR	3 250V NEON
W WHITE	W WHITE	G GREEN	7 12V INCANDESCENT
		R RED	

C 6053 A L B R 2 1197W

ORDER FORMAT

TERMINAL CODE FUNCTION CODE ROCKER CODE BODY CODE BODY COLOR ROCKER COLOR LAMP VOLTAGE IF REQUIRED LEGEND & OPTIONS

TERMINAL	FUNCTION	ROCKER
<p>C</p> <p>6.3 x 0.8</p>	<p>Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminals 3 & 6</p>	<p>A Softline Matt</p>
	<p>6050 ON - OFF </p> <p>6051 ON - OFF (momentary ON) </p> <p>6052 ON - OFF (momentary OFF) </p>	
	<p>6053 ON - OFF Lit </p> <p>6054 ON - OFF (momentary ON) Lit </p> <p>6055 ON - OFF (Single pole) (momentary ON) Lit </p> <p>6056 ON - OFF (Single pole) Isolated light </p> <p>6057 ON - OFF Isolated light </p> <p>6058 ON - OFF (Single pole) Lit </p> <p>6059 ON - OFF (Single pole) (momentary ON) Isolated light </p>	<p>A Softline Matt</p> <p>Lit</p> <p>P Lit Window Matt</p> <p>Lit Window</p>
<p>H</p> <p>4.8 x 0.8</p>	<p>6060 ON - ON </p> <p>6061 ON - ON (momentary 1 side) </p> <p>6062 2 Circuit ON - ON <small>In house tests only</small> </p> <p>6066 ON - ON (Single pole) Isolated light </p> <p>6067 ON - ON Lit </p> <p>6068 ON - ON 1pole ON - OFF Lit 1pole </p> <p>6090 ON - OFF 1pole ON - OFF Lit 1pole </p>	
<p>S</p> <p>Screw & Clamp N/A for assemblies with 3 terminals in either pole</p>	<p>6091 ON - OFF (momentary ON) Lit </p> <p>6092 ON - OFF 1 pole ON - ON 1 pole Lit </p> <p>Circuits are Double Pole unless described otherwise</p>	



Integral Splash Resistance

Current carrying parts are protected from moisture. Droplets which may enter the switch are channelled out through ports in the switch body

For IP65 see options below



C6050AL



C6053AL



C6053PL



C6000/6000AL



C6003/60003PL

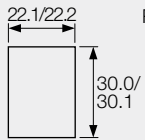


C6003P/6030AL

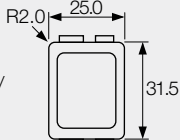
BODY

L Double pole

Panel cut-out *



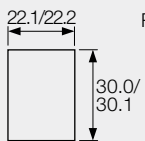
Bezel



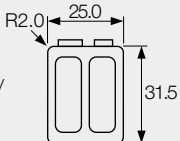
L Twin units

Contact sales for information on splash resistance and IP ratings

Panel cut-out *



Bezel



Cut-outs must be punched in the direction of insertion

OPTIONS

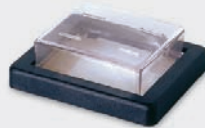
Finish Matt is standard

Color Call factory for custom colors
A full range is available for large orders

Legend printing Select from the examples or call factory for custom legends

Lamp voltage Call factory for details

Protective cover (designed to IP65 #)
The 6000 series is a water thru design. For a higher level of sealing, a snap on cover is available (add suffix G72). This reduces panel thickness by 1mm.



Panel sealing washer W42 is available but reduces panel thickness by a further 0.8mm. Covers are not suitable for momentary types.

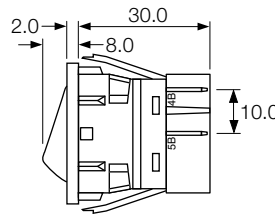
IP Ratings Call the factory for details

Jumper Terminal P1067 connects the poles of a double pole switch or twin unit

Mounting orientation may affect IP rating

For all options call the factory

DIMENSIONS (mm)



Terminal spacing - Poles 10.5 between centres

Panel thickness

L 0.75 to 3.0mm

* For cut-out details on momentary switches call sales

Examples of our range of legend printing

() is legend color B-Black, W-White, R-Red



1196(W)



1197(W)

1500 Standard & 1300 High Inrush Switches 150A to EN61058-1 and 16A 250Vac

rocker switches



- ▶ Standard rocker switch
- ▶ Non-illuminated
- ▶ 1300 high inrush current
- ▶ Choice of switching circuits including 3 position
- ▶ Choice of bezel styles
- ▶ Choice of 6 panel cut outs
- ▶ We match all major brands
- ▶ Matching indicator
- ▶ Single pole
- ▶ Splash resistant option
- ▶ Panel cut out 'A' style: 27.3 x 12.3mm



1500 Series 16(4)A 250Vac T125



UL CSA 16A Non Ind 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp, (3 posn) 250Vac 1/2hp, 125Vac 1/4hp
UL 10A 14Vdc 'T' (1500 and 1510 only)
UL 85°C, file E45221, CSA file LR10990

In house test

10A 24Vdc



1300 series 16(6)A 250Vac T125 5E4 (50,000 Ops.)
150A Inrush to EN61058-1



UL CSA 20A 250Vac 1hp, 125Vac 1/2hp
UL 85°C, file E45221, CSA file LR10990

In house test

20A 24Vdc



RoHS compliant

3mm contact gap except if marked µ.

Technical data on pages 4 & 5 (switches), 6 (indicators).

NON-LIT		LIT		
B BLACK	B BLACK	A AMBER	X 'X' ROCKER COLOR R,G,W,B	
R RED	R RED	C CLEAR	2 125V NEON	
W WHITE	W WHITE	G GREEN	3 250V NEON	
		R RED	7 12V INCANDESCENT	

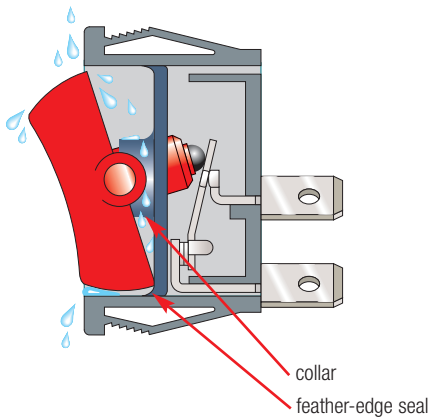
C 1300 A L B B - 602AW

ORDER FORMAT

TERMINAL CODE FUNCTION CODE ROCKER CODE BODY CODE BODY COLOR ROCKER COLOR LAMP VOLTAGE OR "ON LIGHT" LEGEND & OPTIONS

TERMINAL	FUNCTION		ROCKER
<p>C</p> <p>6.3 x 0.8</p>	<p>Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminal 1</p>		<p>A Softline Matt</p>
<p>H</p> <p>4.8 x 0.8*</p>	<p>Standard 1500</p>	<p>High Inrush 1300 *L' body only Approvals apply to C & T terminals only</p>	<p>B Splash resistant (with Arcshield) Matt</p>
<p>K</p> <p>2.8 x 0.8*</p>	<p>1501 HP rating N/A</p>	<p>ON - OFF (momentary ON)</p>	<p>H Slotted (for custom Adaptors) not momentary</p>
<p>T</p> <p>2.8 x 0.8*</p>	<p>1502 HP rating N/A</p>	<p>ON - OFF (momentary OFF)</p>	<p>V Curved Matt or gloss</p>
<p>U</p> <p>Right angle "T" solder terminal</p>	<p>1510 µ HP rating N/A</p>	<p>ON - ON</p>	<p>W Splash resistant (with Arcshield) Matt</p>
<p>X</p> <p>PCB 0.8Sq* *N/A for 1300 series</p>	<p>1511 µ HP rating N/A</p>	<p>ON - ON (momentary 1 side)</p>	<p>X Two color Matt ON - OFF only (not momentary)</p>
	<p>1520 µ 125V & 250V 1/2 HP H terminal rated T100 only</p>	<p>ON - OFF - ON</p>	<p>F Flat lens Gloss (0430 only)</p>
	<p>1521 µ HP rating N/A H terminal rated T100 only</p>	<p>ON - OFF - ON (momentary 1 side)</p>	<p>A Softline lens Matt (0430 only) as F but with raised profile</p>
	<p>1522 µ HP rating N/A H terminal rated T100 only</p>	<p>ON - OFF - ON (momentary 2 sides)</p>	
	<p>430 X terminal N/A</p>	<p>Indicator Technical data on page 6</p>	

Splash Resistant



1500 W and B splash resistant options

Feather edge seals and a close fitting collar protect current carrying parts from moisture.
B option has Hytrel collar/seals for enhanced protection.



C1500AR
T1500AR



C1500AL
T1500AL



C1500XL
T1500XL



C1510AL
T1520AL



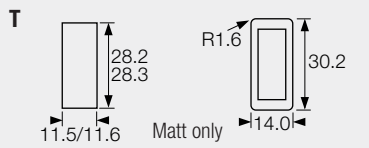
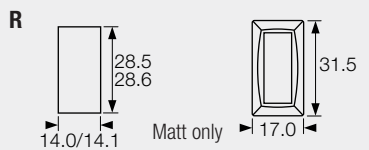
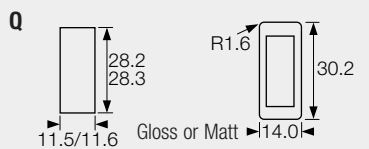
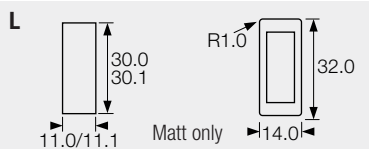
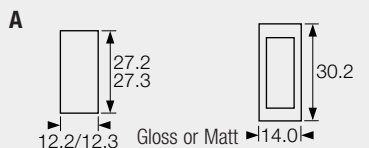
C1520AL
T1520AL



C430AL
T430AL

BODY

Panel cut-out * Bezel
Cut-outs must be punched in the direction of insertion



OPTIONS

Finish Matt is standard

Color Call factory for custom colors
A full range is available for large orders

Legend printing Select from the examples or call factory for custom legends

Lamp voltage Call factory for details

Hole Plug 1530BB Dummy units to fill unused panel holes

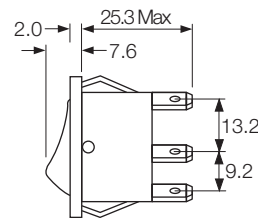
Protective cover (designed to IP65)
Snaps on to A, L, Q or T bodies (add G74 as a suffix).
This reduces panel thickness by 1mm.



Panel sealing washer W46 is available for the same body sizes but reduces panel thickness by a further 0.8mm.
Covers are not suitable for momentary types.

For all options call the factory

DIMENSIONS (mm)



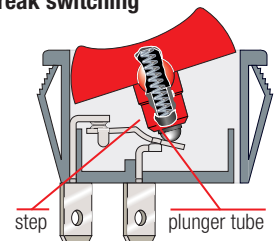
Panel thickness

A, Q	0.75 to 3.3mm
L, B, T	0.75 to 2.5mm
R	0.75 to 3.0mm

* For cut-out details on momentary switches call sales

1300 High inrush, positive break switching

The 1300 series mechanism ensures contact welds formed at switch-on are positively separated by the plunger tube acting directly on the step in the moving contact.



Examples of our range of legend printing

() is legend color B-Black, W-White, R-Red



602A(W)



730(W)



822(W)

5500 Lit Rocker Switches - Single Pole 16A 250Vac



- ▶ Standard rocker switch
- ▶ Illuminated
- ▶ Choice of switching circuits
- ▶ Choice of bezel styles
- ▶ Choice of 6 panel cut outs
- ▶ We match all major brands
- ▶ Matching indicator
- ▶ Single pole
- ▶ Splashproof option
- ▶ Panel cut out 'A' style: 27.3 x 12.3mm



16(4)A 250Vac T85
10(3)A 250Vac T100, (12A 250Vac T125 for P rocker only)



UL CSA 15A 250Vac, CSA 16A Non Ind 250Vac
UL CSA 250Vac 1hp, 125Vac 1/2hp
UL 85°C, file E45221, CSA file LR10990



Inrush 24A to EN61058-1



RoHS compliant

μ contact gap.

Technical data on pages 4 & 5 (switches), 6 (indicators).

For Twin units repeat the order details for both the left and right sides.

NON-LIT		LIT		
B BLACK	B BLACK	A AMBER		
R RED	R RED	C CLEAR	2 125V NEON	
W WHITE	W WHITE	G GREEN	3 250V NEON	
		R RED	7 12V INCANDESCENT	

C 5503 A L B R 2 602W

ORDER FORMAT

TERMINAL CODE	FUNCTION CODE	ROCKER CODE	BODY CODE	BODY COLOR	ROCKER COLOR	LAMP VOLTAGE (if required)	LEGEND & OPTIONS
---------------	---------------	-------------	-----------	------------	--------------	----------------------------	------------------

TERMINAL	FUNCTION	ROCKER
<p>C</p> <p>6.3 x 0.8</p>	<p>Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminal 3</p>	<p>A Softline (Matt only)</p> <p>Lit</p>
<p>H</p> <p>4.8 x 0.8</p>	<p>5500 μ</p> <p>ON - OFF</p>	<p>P Lit window (Matt only)</p>
<p>T</p> <p>02.1</p> <p>Solder</p>	<p>5508 μ</p> <p>for special applications</p> <p>ON - OFF Lit Unswitched neutral</p>	



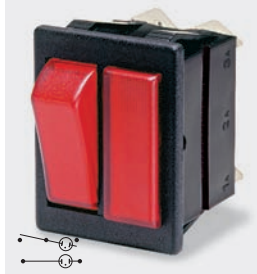
C5503AL



C5500AL



C5503PL



C5503/5430AL

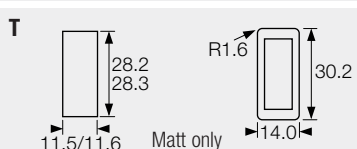
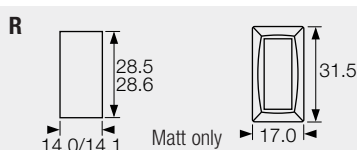
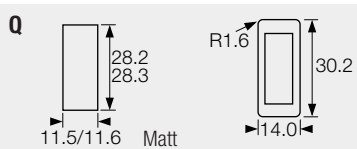
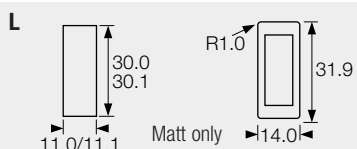
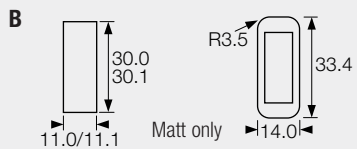
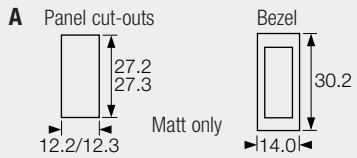


C5503/5503AL



C5503/5503PL

BODY



Cut-outs must be punched in the direction of insertion

OPTIONS

Finish Matt is standard

Color Call factory for custom colors
A full range is available for large orders

Legend printing Select from the examples or call factory for custom legends

Lamp voltage Call factory for details

Hole Plugs 1530ABB (SP) 1580ABB (DP)
Dummy units to fill unused panel holes

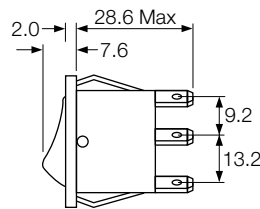
Protective covers (designed to IP65)
Snap on to A, L, Q or T bodies.
(add G74 suffix for single & G72 for double pole).
This reduces panel thickness by 1mm.



Panel sealing washers W46 (Single Pole) and W42 (Double Pole) are available for these body types but reduce panel thickness by a further 0.8mm.

For all options call the factory

DIMENSIONS (mm)



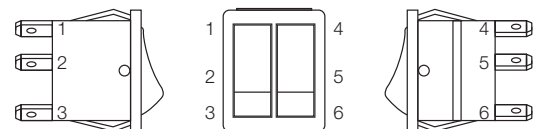
Terminal spacing - Poles 10.8 between centres (twin units)

Panel thickness

A,Q	0.75 to 3.3mm
L,B,T	0.75 to 2.5mm
R	0.75 to 3.0mm

Twin units

Two single switches or a switch and an indicator light can be assembled side by side in one double pole body.
For 5500 range panel cut-out details (L, B and T) call sales.



For twin units the first set of order format details refer to the left hand unit, when looking at the front of the assembly.
(This has terminal numbers 1, 2 & 3)

Examples of our range of legend printing

() is legend color B-Black, W-White, R-Red



602(W)



3064(W)



706(W)

1500 Twin Units Switches and Indicators 16A 250Vac

rocker switches



- ▶ Twin unit rocker switch
- ▶ Choice of switching circuits including 3 position
- ▶ Push-on, solder and PCB terminals
- ▶ Choice of bezel styles
- ▶ Choice of 6 panel cut outs
- ▶ We match all major brands
- ▶ Matching indicator
- ▶ Single pole switches
- ▶ Splashproof option
- ▶ Panel cut out 'A' style: 27.2 x 22.3mm



16(4)A 250Vac T125



UL CSA 16A 250Vac
 UL CSA (2 posn) 250Vac 1hp, 125Vac 1/2hp, (3 posn) 250 Vac 1/2hp, 125Vac 1/4hp
 UL 85°C, file E45221, CSA file LR10990

In house test

Inrush 36A to EN61058-1

For versions with High Inrush or for 50,000 operations, see page 20.



RoHS compliant

3mm contact gap except where marked μ .
 Technical data on pages 4 & 5 (switches), 6 (indicators).

NON-LIT		LIT*	
B BLACK	B BLACK	A AMBER	X ROCKER COLOR R,G
R RED	R RED	C CLEAR	2 125V NEON* *Indicator only
W WHITE	W WHITE	G GREEN	3 250V NEON*
		R RED	7 12V INCANDESCENT*

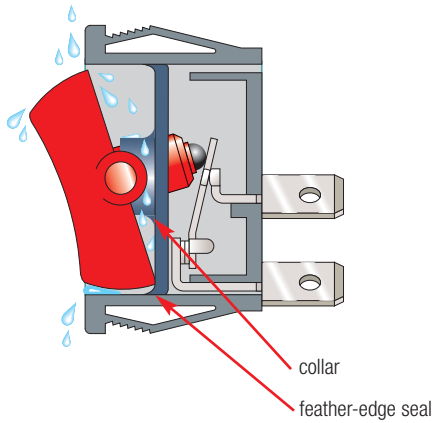
C 1500/1500 A L B R 2 602AW

ORDER FORMAT

TERMINAL CODE FUNCTION CODE ROCKER CODE BODY CODE BODY COLOR ROCKER COLOR LAMP VOLTAGE OR "ON LIGHT" LEGEND & OPTIONS

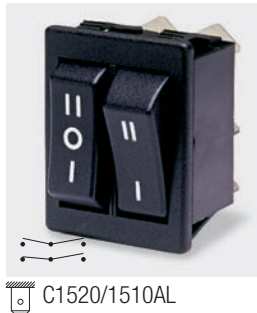
TERMINAL	FUNCTION	ROCKER
<p>C</p> <p>6.3 x 0.8</p>	<p>Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminal 1 or 4</p>	<p>A Softline (Matt)</p>
<p>H</p> <p>4.8 x 0.8</p>	<p>1500 ON - OFF</p>	<p>B Softline splash resistant (Matt)</p>
<p>K</p> <p>2.8 x 0.8</p>	<p>1510 μ <small>HP rating N/A</small> ON - ON</p>	<p>W Curved splash resistant (Matt)</p>
<p>T</p> <p>Solder</p>	<p>1520 μ <small>125V & 250V 1/2 HP H terminal rated T100 only</small> ON - OFF - ON</p>	<p>X Two colour (Matt) (not momentary) ON - OFF only</p>
<p>X</p> <p>PCB 0.8Sq</p>	<p>430 <small>X terminal N/A</small></p> <p>Indicator Technical data on page 6</p>	<p>A Softline lens (Matt) (Indicator)</p>

Splash Resistant

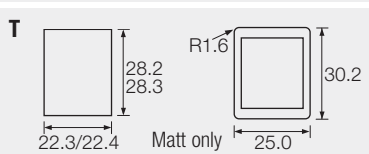
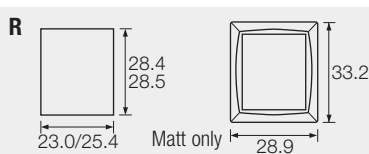
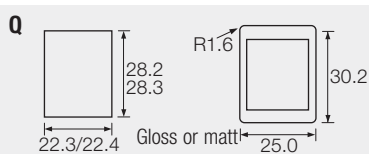
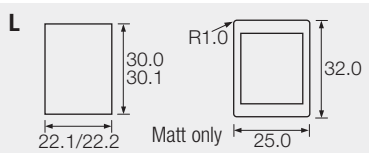
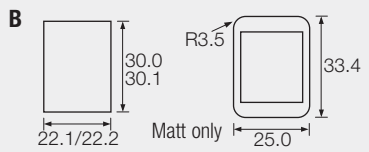
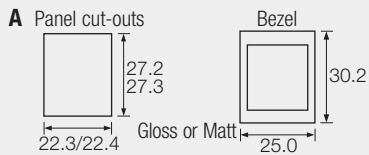


1500 W and B splash resistant options

Feather edge seals and a close fitting collar protect current carrying parts from moisture.
B option has Hytrel collar/seals for enhanced protection.



BODY



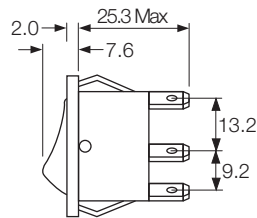
Cut-outs must be punched in the direction of insertion

OPTIONS

- Finish** Matt is standard
- Color** Call factory for custom colors
A full range is available for large orders
- Legend printing** Call factory for custom legends. State if a legend is to appear on the right or left hand unit (viewed from the front)
- Lamp voltage** Call factory for details

For all options call the factory

DIMENSIONS (mm)



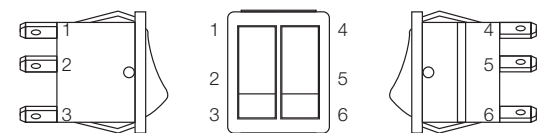
Call sales for terminal spacing details

Panel thickness

- A,Q** 0.75 to 3.3mm
- L,B,T** 0.75 to 2.5mm
- R** 0.75 to 3.0mm

Twin units

Two single switches or a switch and an indicator light can be assembled side by side in one double pole body.



For twin units the first set of order format details refer to the left hand unit, when looking at the front of the assembly.
(This has terminal numbers 1, 2 & 3)

Examples of our range of legend printing

() is legend color B-Black, W-White, R-Red



1550 Standard & 1350 High Inrush Switches 150A to EN61058-1 and 16A 250Vac

rocker switches



- ▶ Standard rocker switch
- ▶ 1350/53 high inrush
- ▶ Choice of switching circuits including 3 position
- ▶ Push-on, solder and PCB terminals
- ▶ Choice of bezel styles
- ▶ Choice of 6 panel cut outs
- ▶ We match all major brands
- ▶ Matching indicator
- ▶ Double pole
- ▶ Splashproof option
- ▶ Panel cut out 'A' style: 27.2 x 22.3mm



1550 Series 16(4)A 250Vac T125

UL CSA 16A 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp, (3 posn) 250 Vac 1/2hp, 125Vac 1/4hp.
UL 85°C, file E45221, CSA file LR10990.

In house test

10A 24Vdc.



1350 series 16(4)A 250Vac T85 1E4 (10,000 Ops.)

1330 series 16(6)A 250Vac T125 5E4 (50,000 Ops.)

150A Inrush to EN61058-1.



UL CSA 20A 250Vac 1hp, 125Vac 1/2hp.

UL 72Vdc 7A, 36Vdc 14A.

UL 85°C, file E45221, CSA file LR10990.

In house test

20A 24Vdc



RoHS compliant

3mm contact gap except if marked μ .

Technical data on pages 4 & 5 (switches), 6 (indicators).

NON-LIT		LIT	
B BLACK	B BLACK	A AMBER	<input type="checkbox"/> 'X' ROCKER COLOR R,G,W,B
R RED	R RED	C CLEAR	2 125V NEON
W WHITE	W WHITE	G GREEN	3 250V NEON
		R RED	7 12V INCANDESCENT

C 1353 A L B R 2 602AW

TERMINAL CODE FUNCTION CODE ROCKER CODE BODY CODE BODY COLOR ROCKER COLOR LAMP VOLTAGE OR "ON LIGHT" LEGEND & OPTIONS

ORDER FORMAT

TERMINAL	FUNCTION	ROCKER																																																				
<p>C</p> <p>6.3 x 0.8</p>	<p>Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminal 1</p> <table border="1"> <tr> <td>Standard 1550</td> <td>High Inrush 1350 <small>Not W, X or B rocker</small></td> <td>ON - OFF</td> <td></td> </tr> <tr> <td>1551 <small>HP rating N/A</small></td> <td></td> <td>ON - OFF (momentary ON)</td> <td></td> </tr> <tr> <td>1552 <small>HP rating N/A</small></td> <td></td> <td>ON - OFF (momentary OFF)</td> <td></td> </tr> <tr> <td>1553 <small>Not W, X or B rocker</small></td> <td>1353 <small>Not W, X or B rocker</small></td> <td>ON - OFF Lit</td> <td></td> </tr> <tr> <td>1560 μ</td> <td></td> <td>ON - ON</td> <td></td> </tr> <tr> <td>1561 μ <small>HP rating N/A</small></td> <td></td> <td>ON - ON (momentary 1 side)</td> <td></td> </tr> <tr> <td>1562 μ <small>In house tests only</small></td> <td></td> <td>2 Circuit ON - ON</td> <td></td> </tr> <tr> <td>1570 μ <small>125V & 250V 1/2 HP H terminal rated T100 only</small></td> <td></td> <td>ON - OFF - ON</td> <td></td> </tr> <tr> <td>1571 μ <small>HP rating N/A H terminal rated T100 only</small></td> <td></td> <td>ON - OFF - ON (momentary 1 side)</td> <td></td> </tr> <tr> <td>1572 μ <small>HP rating N/A H terminal rated T100 only</small></td> <td></td> <td>ON - OFF - ON (momentary 2 sides)</td> <td></td> </tr> <tr> <td>1484 μ <small>In-house tested to 10(3)A 250Vac (B rocker only)</small></td> <td></td> <td>3 position selective</td> <td></td> </tr> <tr> <td>1487 μ <small>In-house tested to 10(3)A 250Vac (B rocker only)</small></td> <td></td> <td>3 position selective <small>(Consult sales for other switch options)</small></td> <td></td> </tr> <tr> <td>0480 <small>X terminal N/A</small></td> <td></td> <td>Indicator</td> <td></td> </tr> </table> <p>Technical data on page 6</p>	Standard 1550	High Inrush 1350 <small>Not W, X or B rocker</small>	ON - OFF		1551 <small>HP rating N/A</small>		ON - OFF (momentary ON)		1552 <small>HP rating N/A</small>		ON - OFF (momentary OFF)		1553 <small>Not W, X or B rocker</small>	1353 <small>Not W, X or B rocker</small>	ON - OFF Lit		1560 μ		ON - ON		1561 μ <small>HP rating N/A</small>		ON - ON (momentary 1 side)		1562 μ <small>In house tests only</small>		2 Circuit ON - ON		1570 μ <small>125V & 250V 1/2 HP H terminal rated T100 only</small>		ON - OFF - ON		1571 μ <small>HP rating N/A H terminal rated T100 only</small>		ON - OFF - ON (momentary 1 side)		1572 μ <small>HP rating N/A H terminal rated T100 only</small>		ON - OFF - ON (momentary 2 sides)		1484 μ <small>In-house tested to 10(3)A 250Vac (B rocker only)</small>		3 position selective		1487 μ <small>In-house tested to 10(3)A 250Vac (B rocker only)</small>		3 position selective <small>(Consult sales for other switch options)</small>		0480 <small>X terminal N/A</small>		Indicator		<p>A Softline Matt</p> <p>Lit (not momentary)</p> <p>B Splash resistant (with Arcshield)</p> <p>V Curved</p> <p>Matt or gloss Gloss only Lit (not momentary)</p> <p>W Splash resistant (with Arcshield)</p> <p>P Lit window Matt</p> <p>Lit (not momentary)</p> <p>X Two color Matt</p> <p>F Flat lens Gloss (0480 only)</p> <p>A Softline lens Matt (0480 only) as F but with raised profile</p> <p>R Round</p>
Standard 1550		High Inrush 1350 <small>Not W, X or B rocker</small>	ON - OFF																																																			
1551 <small>HP rating N/A</small>			ON - OFF (momentary ON)																																																			
1552 <small>HP rating N/A</small>			ON - OFF (momentary OFF)																																																			
1553 <small>Not W, X or B rocker</small>		1353 <small>Not W, X or B rocker</small>	ON - OFF Lit																																																			
1560 μ			ON - ON																																																			
1561 μ <small>HP rating N/A</small>			ON - ON (momentary 1 side)																																																			
1562 μ <small>In house tests only</small>			2 Circuit ON - ON																																																			
1570 μ <small>125V & 250V 1/2 HP H terminal rated T100 only</small>			ON - OFF - ON																																																			
1571 μ <small>HP rating N/A H terminal rated T100 only</small>			ON - OFF - ON (momentary 1 side)																																																			
1572 μ <small>HP rating N/A H terminal rated T100 only</small>			ON - OFF - ON (momentary 2 sides)																																																			
1484 μ <small>In-house tested to 10(3)A 250Vac (B rocker only)</small>			3 position selective																																																			
1487 μ <small>In-house tested to 10(3)A 250Vac (B rocker only)</small>			3 position selective <small>(Consult sales for other switch options)</small>																																																			
0480 <small>X terminal N/A</small>			Indicator																																																			
<p>H</p> <p>4.8 x 0.8*</p>																																																						
<p>K</p> <p>2.8 x 0.8*</p>																																																						
<p>T</p> <p>Solder</p>																																																						
<p>U</p> <p>Right angle T Solder (Not DP)</p>																																																						
<p>X</p> <p>PCB 0.8Sq*</p>																																																						

*Contact sales for details on 1350 series



C1350AL ---



C1550XL ---



C1553PL ---



C1553RA ---
Shown with M614 bezel cover



C0480AL ---



Optional snap-in M441 barrier



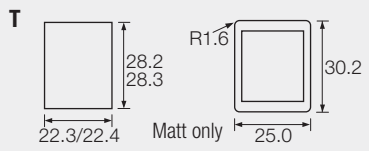
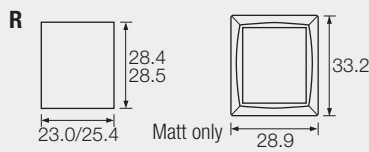
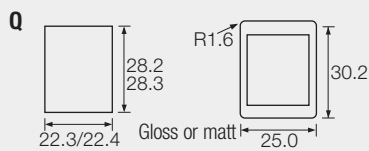
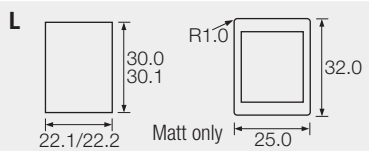
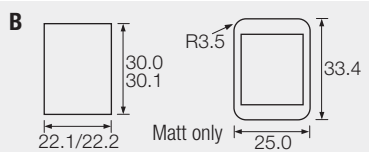
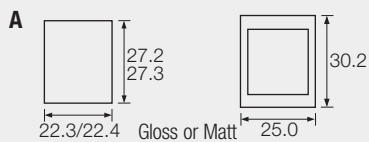
C1553AA with M616 guard
Cut-out 22.0/22.1 x 29.4/29.5
Guard accepts "A" body only



C0480RA ---
Shown with M614 bezel cover

BODY

Panel cut-out * Bezel
Cut-outs must be punched in the direction of insertion



OPTIONS

Finish Matt is standard

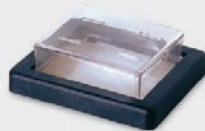
Color Call factory for custom colors.
A full range is available for large orders

Legend printing Select from the examples or call factory for custom legends

Lamp voltage Call factory for details

Hole plug 1580ABB
Dummy units to fill unused panel holes

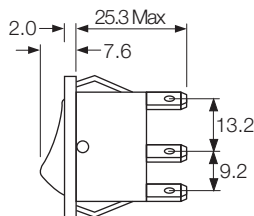
Protective cover (designed to IP65)
Snaps on to A, L, Q or T bodies
(add G72 as a suffix). This reduces panel thickness by 1 mm.



Panel sealing washer W42 is available for the above body sizes but reduces panel thickness by a further 0.8mm.
Covers are not suitable for momentary types.

For all options call the factory

DIMENSIONS (mm)



Terminal spacing - Poles 10.2 between centres

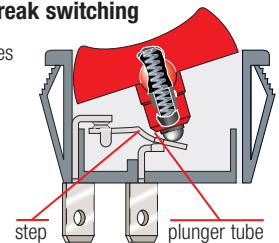
Panel thickness

- A,Q** 0.75 to 3.3mm
- L,B,T** 0.75 to 2.5mm
- R** 0.75 to 3.0mm

* For cut-out details on momentary switches call sales.

1350 High inrush, positive break switching

The 1350 series mechanism ensures contact welds formed at switch-on, are positively separated by the plunger tube acting directly on the step in the moving contact.



Examples of our range of legend printing

() legend color B-Black, W-White, R-Red



602A(W)



730(W)



822(W)

1550 Standard & 1350 High Inrush Switches 150A to EN61058-1 and 16A 250Vac

With Integral Guard or Cover



- ▶ Standard rocker switch
- ▶ 1350/53 high inrush
- ▶ Choice of switching circuits including 3 position
- ▶ Push-on, solder and PCB terminals
- ▶ Choice of bezel styles
- ▶ Choice of panel cut outs
- ▶ Matching indicator
- ▶ Double pole
- ▶ Option with integral guard & cover
- ▶ Bezel size 'G' style 32.0 x 25.0



1550 Series 16(4)A 250Vac T125

UL CSA 16A 250Vac, (2 posn) 250Vac 1hp, 125Vac 1/2hp, (3 posn) 250 Vac 1/2hp, 125Vac 1/4hp.
UL 85°C, file E45221, CSA file LR10990.

In house test

10A 24Vdc.



1350 Series

UL CSA 20A 250Vac 1hp, 125Vac 1/2hp.
UL 72Vdc 7A, 36Vdc 14A.
UL 85°C, file E45221, CSA file LR10990.

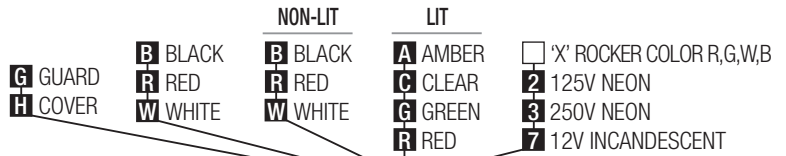
In house test

20A 24Vdc



RoHS compliant

3mm contact gap except if marked μ .
Technical data on pages 4 & 5 (switches), 6 (indicators).



C 1353 A G B R 2 602AW

ORDER FORMAT



TERMINAL	FUNCTION	ROCKER																																								
C 6.3 x 0.8	Approvals & ratings vary with function ON OFF Switches - ON when pressed over terminal 1 <table border="1"> <tr> <th>Standard 1550</th> <th>High Inrush 1350</th> <th>ON - OFF</th> <th></th> </tr> <tr> <td>1551 <small>HP rating N/A</small></td> <td></td> <td>ON - OFF (momentary ON)</td> <td></td> </tr> <tr> <td>1552 <small>HP rating N/A</small></td> <td></td> <td>ON - OFF (momentary OFF)</td> <td></td> </tr> <tr> <td>1553</td> <td>1353</td> <td>ON - OFF Lit</td> <td></td> </tr> <tr> <td>1560 μ</td> <td></td> <td>ON - ON</td> <td></td> </tr> <tr> <td>1561 μ <small>HP rating N/A</small></td> <td></td> <td>ON - ON (momentary 1 side)</td> <td></td> </tr> <tr> <td>1562 μ <small>In house tests only</small></td> <td></td> <td>2 Circuit ON - ON</td> <td></td> </tr> <tr> <td>1570 μ <small>125V & 250V 1/2 HP H terminal rated T100 only</small></td> <td></td> <td>ON - OFF - ON</td> <td></td> </tr> <tr> <td>1571 μ <small>HP rating N/A H terminal rated T100 only</small></td> <td></td> <td>ON - OFF - ON (momentary 1 side)</td> <td></td> </tr> <tr> <td>1572 μ <small>HP rating N/A H terminal rated T100 only</small></td> <td></td> <td>ON - OFF - ON (momentary 2 sides)</td> <td></td> </tr> </table>	Standard 1550	High Inrush 1350	ON - OFF		1551 <small>HP rating N/A</small>		ON - OFF (momentary ON)		1552 <small>HP rating N/A</small>		ON - OFF (momentary OFF)		1553	1353	ON - OFF Lit		1560 μ		ON - ON		1561 μ <small>HP rating N/A</small>		ON - ON (momentary 1 side)		1562 μ <small>In house tests only</small>		2 Circuit ON - ON		1570 μ <small>125V & 250V 1/2 HP H terminal rated T100 only</small>		ON - OFF - ON		1571 μ <small>HP rating N/A H terminal rated T100 only</small>		ON - OFF - ON (momentary 1 side)		1572 μ <small>HP rating N/A H terminal rated T100 only</small>		ON - OFF - ON (momentary 2 sides)		A Softline Matt Lit (not momentary) V Curved Matt or gloss Gloss only Lit (not momentary) P Lit window Matt Lit (not momentary)
Standard 1550		High Inrush 1350	ON - OFF																																							
1551 <small>HP rating N/A</small>			ON - OFF (momentary ON)																																							
1552 <small>HP rating N/A</small>			ON - OFF (momentary OFF)																																							
1553		1353	ON - OFF Lit																																							
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1561 μ <small>HP rating N/A</small>			ON - ON (momentary 1 side)																																							
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1570 μ <small>125V & 250V 1/2 HP H terminal rated T100 only</small>			ON - OFF - ON																																							
1571 μ <small>HP rating N/A H terminal rated T100 only</small>			ON - OFF - ON (momentary 1 side)																																							
1572 μ <small>HP rating N/A H terminal rated T100 only</small>			ON - OFF - ON (momentary 2 sides)																																							
H 4.8 x 0.8*																																										
K 2.8 x 0.8*																																										
T Solder																																										
U Right angle T Solder (Not DP)																																										
X PCB 0.8Sq* <small>*Contact sales for details on 1350 series</small>																																										



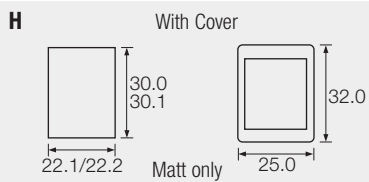
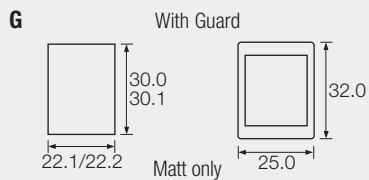
C1550AH ---



C1553AH ---

BODY

Panel cut-out * Bezel
Cut-outs must be punched in the direction of insertion



OPTIONS

Finish Matt is standard

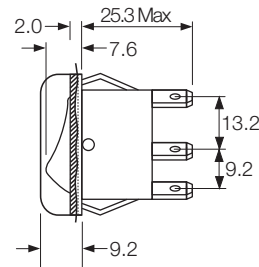
Color Call sales for custom colors. A full range is available for large orders

Legend printing Select from the examples or call sales for custom legends

G Guard color must match body color

H Clear cover standard with lighted switches. Black standard with non-lighted

DIMENSIONS (mm)



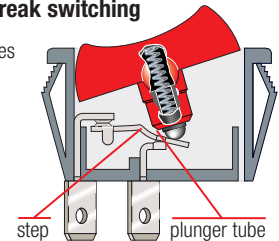
Panel thickness
G, H 0.75 to 2.5mm

* For cut-out details on momentary switches call sales.

Terminal spacing - Poles 10.2 between centres

1350 High inrush, positive break switching

The 1350 series mechanism ensures contact welds formed at switch-on, are positively separated by the plunger tube acting directly on the step in the moving contact.



Examples of our range of legend printing

() is legend color B-Black, W-White, R-Red



602A(W)



730(W)



822(W)

R13 Round Rocker Switches 10A 250Vac



- ▶ Miniature round rocker switch
- ▶ Ratings up to 10A, 250Vac
- ▶ Single & double pole
- ▶ Illuminated & non-illuminated, neon and LED
- ▶ Choice of actuators
- ▶ Matching indicator
- ▶ Panel cut out: 20.2 dia.



SP 6A 250Vac T85,
DP 10(4)A 250Vac T85



UL CSA SP 10A 125Vac & 6A 250Vac (For 16A call the factory)
UL CSA DP 8A 125/250Vac
UL 85°C, file E67774(S)
CSA file LR45128



RoHS compliant

Single pole has μ contact gap.
Technical data on pages 4 & 5.

Standard products

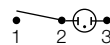
Are supplied with the body and rocker color, print & lamp voltage shown in the product illustration and description.

PRODUCT DETAILS



SP ON - OFF μ

Cat no.
R13 112ABB-602AW



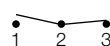
SP ON - OFF μ
Lit 110V

Cat no.
R13 112BWR2



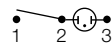
SP ON - OFF μ

Cat no.
R13 112AWW-602AB



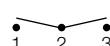
SP ON - ON μ

Cat no.
R13 112CBB



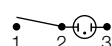
SP ON - OFF μ
Lit 110V

Cat no.
R13 112BBR2



SP ON - OFF - ON μ

Cat no.
R13 112DBB-730W



SP ON - OFF μ
Lit 110V

Cat no.
R13 112BBG2



SP ON - OFF μ
(Momentary On)*

Cat no.
R13 208FBB



DP ON - OFF
Lit 110V

Cat no.
R13 244ABB-602AW

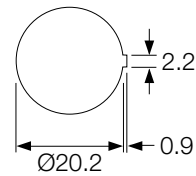


DP ON - OFF
Lit 110V

Cat no.
R13 244BBR2

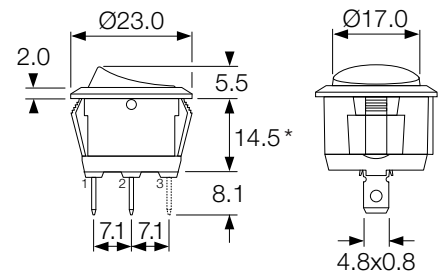
DIMENSIONS (mm)

Panel cut-out



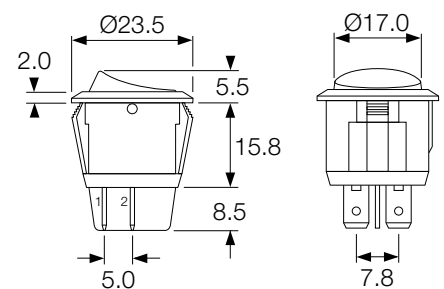
Snap fixing into panel thickness up to 3.0

Single pole



* R13 208F has 12.5mm deep body

Double pole



ORDER FORMAT



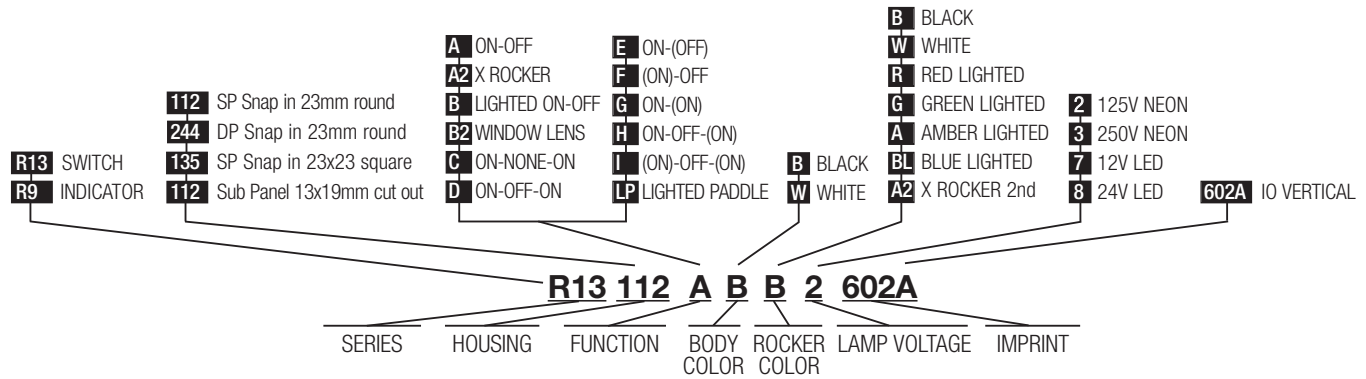
R13 112B



R13 112A

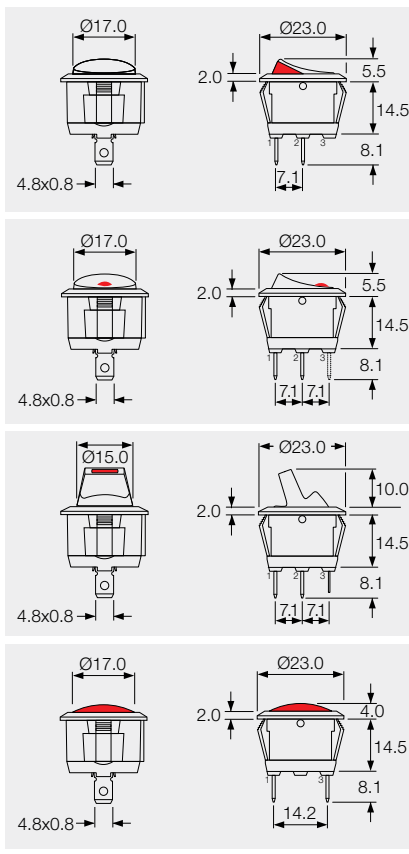


R13 112A2 ---

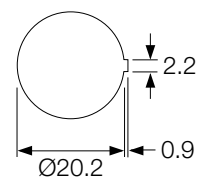


PRODUCT DETAILS

	<p>SP ON - OFF μ Bright colour ON signal Cat no. R13 112A2BBR</p>
	<p>SP ON - OFF μ Lit Window 110V Cat no. R13 112B2BR2</p>
	<p>SP ON - OFF μ Paddle tip has red LED Cat no. R13 112LPBBR</p>
	<p>Indicator light 110V Cat no. R9 92B BR2</p>



PANEL CUT-OUT (mm)



Snap fixing into panel thickness up to 3.0



Protective cover L188

Snaps on to bodies (not R13 211 or R13 112LP), this reduces maximum acceptable panel thickness to 2.4mm.

approvals - contact sales

3900 Metal Toggle Switches 16A 250Vac - IP67 Sealed Versions



- ▶ Metal toggle switches
- ▶ Ratings up to 20A, 125/277V ac
- ▶ Single and double pole
- ▶ Choice of circuits including 3 position and momentary
- ▶ Sealed version supplied complete with gaskets
- ▶ Panel seal version to IP67
- ▶ 3 Terminal Options
- ▶ Guard option



16(4)A 250Vac T85 (3900 & 3950)
10(4)A 250Vac T85 (All other circuits)



UL CSA* 20A 125/277Vac (ON-OFF Circuits)
UL CSA* 16A 125/277Vac (Other Circuits)
UL CSA* 7A 72Vdc, 14A 36Vdc
UL 250Vac 1hp, 125Vac 1/2hp
UL 65°C, file E45221, CSA file LR10990

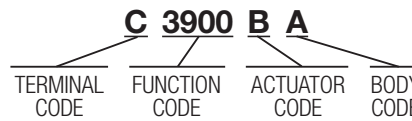


RoHS compliant

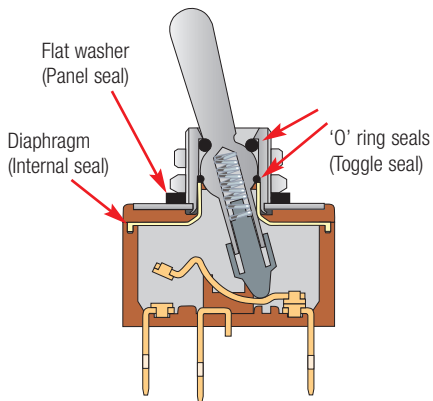
Approvals and ratings vary with function.
3mm contact gap except where marked μ .
Technical data on pages 4 & 5.
* CSA approval for A and B bodies only

toggle switches

ORDER FORMAT



TERMINAL	FUNCTION	ACTUATOR	
C 6.3 x 0.8 10.5	Single pole 3900 ON - OFF 3901 ON - OFF (momentary ON) 3902 ON - OFF (momentary OFF) 3910 ON - ON 3911 ON - ON (momentary 1 side) 3920 ON - OFF - ON μ 3921 ON - OFF - ON μ (momentary 1 side) 3922 ON - OFF - ON μ (momentary 2 sides)	Double pole 3950 3951 3952 3960 3961 3970 3971 3972 	B 17.5 metal D 25.4 metal E 38.1 metal F 17.5 nylon Switches with F toggles have double pole bodies, regardless of circuit Metal toggle finish is nickel plate
S 10.5 Screw & clamp			
T 03.1 10.5 Solder			



Toggle switch - sealed version
BE and BF types



Guard TG1-RED

Anti-rotation tab can be specified for guard fitted in On or Off position (Guard is suitable for On Off switches only)



C3900BE ---



C3920BA ---



C3950BF ---

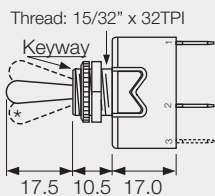


C3972BB ---

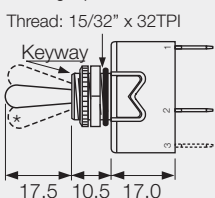
toggle switches

BODY

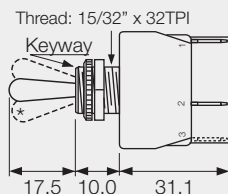
A
Single pole



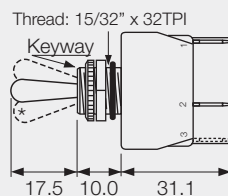
E
Panel sealed, single pole



B
Double pole



F and G
Panel sealed, double pole
F with barriers, G without barriers



OPTIONS

Switch Boot

(B Actuator only)
Rubber
-57T145

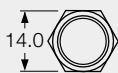
Switch Boot

(B & C Actuators)
Rubber
-57T145

Boots have internal brass or nylon nuts

Mounting nuts

Nickel plated brass are supplied



Hex Back nut



Knurled Ring nut
Panel thickness 4.0 with backnut

Plate

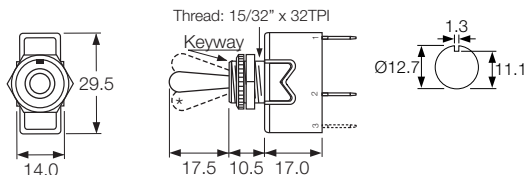
P236 plate SP or DP



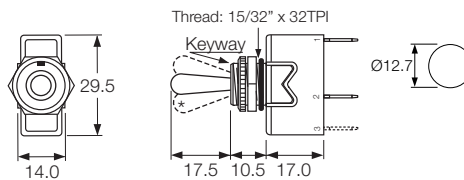
DIMENSIONS (mm) * Indicates ON position (for ON - OFF switches)

Single Pole

(C terminals shown)



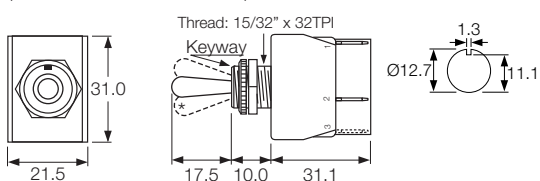
A Body



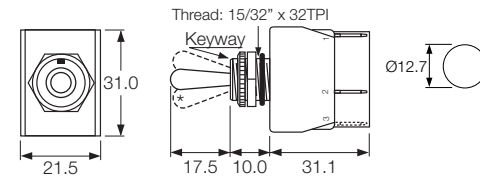
E body (panel sealed)

Double Pole

(C terminals shown with barrier)



B Body



F body (panel sealed)

1700 & 1750 Toggle Switches 16A 250Vac Single and Double Pole



- ▶ Nylon toggle switches
- ▶ Ratings up to 20A, 250V ac
- ▶ Single and double pole
- ▶ Wide choice of terminals
- ▶ Choice of circuit options including 3 position
- ▶ Flat & round actuator options



16(4)A 250Vac T85



UL 20A 250Vac Non Ind (Single pole)
 UL 16A 250Vac Non Ind (Double pole)
 UL CSA (2 pos types) 250Vac 1hp, 125Vac 1/2hp
 UL CSA (3 pos types) 250Vac 1/2hp, 125Vac 1/4hp
 CSA 16A 250Vac Non Ind
 UL 85°C, file E45221, CSA file LR10990
 UL and CSA N/A on momentary types

In house test

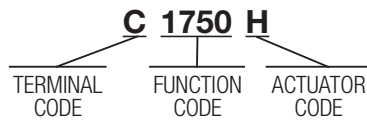
Inrush 36A to EN61058-1 & 20A 28Vdc



RoHS compliant

Selective "A, B, C" and "OFF, A, A+B" circuits at 5 amp also available.
 3mm contact gap except where marked μ .
 Technical data on pages 4 & 5.

ORDER FORMAT



TERMINAL	FUNCTION	ACTUATOR
<p>C</p> <p>6.3 x 0.8</p>	<p>Single pole</p> <p>1700</p> <p>ON - OFF</p>	<p>Double pole</p> <p>1750</p>
<p>H</p> <p>4.8 x 0.8</p>	<p>1710 μ</p> <p>ON - ON</p>	<p>1760 μ</p>
<p>K</p> <p>2.8 x 0.8</p>	<p>1720 μ</p> <p>ON - OFF - ON</p>	<p>1770 μ</p>
<p>T</p> <p>Solder</p>	<p>1721 μ</p> <p>ON - OFF - ON (momentary 1 side)</p>	<p>R</p>
<p>X</p> <p>PCB 0.8 Sq</p>	<p>1722 μ</p> <p>ON - OFF - ON (momentary 2 sides)</p>	<p>The switch is on between centre terminals (2 & 5) and the terminals over which the lever is positioned.</p>



C1700R --



C1700H --



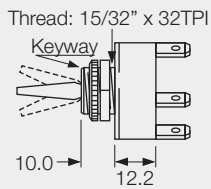
C1760R --



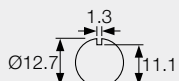
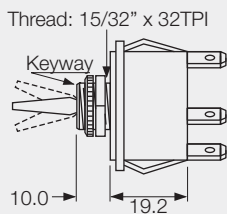
C1750H --

BODY

0
Single pole



0
Double pole



Panel hole (all types)
Panel thickness (Max)
Both nuts - 3.5mm
Less backnut - 6.5mm

OPTIONS

Neck Seal M539

Material - Nitrile
(H & R Actuators)
Actuator visible



Cover M1080

Material - EPDM
(R Actuator only)



Cover M331

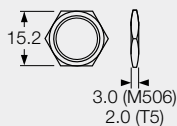
Material - PVC
(R Actuator only)



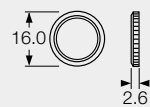
Covers have internal nylon nuts

Fixing nuts (Standard is M506 & T92)

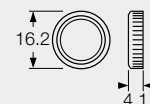
T5 Hex brass
M506 Hex nylon



T92 Knurled brass - slotted



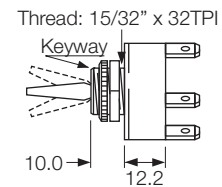
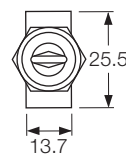
M279 Knurled nylon



DIMENSIONS (mm)

Single Pole

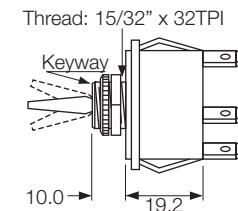
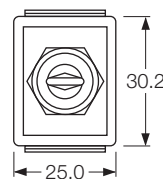
(C terminals shown)



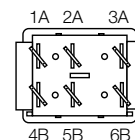
Optional
P236 plate
SP or DP

Double Pole

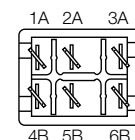
(C terminals shown)



Without barrier



With barrier



Optional terminal barrier M441.

0600 Toggle Switches 1A 250Vac

toggle switches



C0600HD - - -



C0600CC - - -

- ▶ Toggle switch
- ▶ Brass and nylon actuators
- ▶ Single pole
- ▶ Latching and momentary action
- ▶ Choice of actuator profiles



C0602SC - - -

In house test

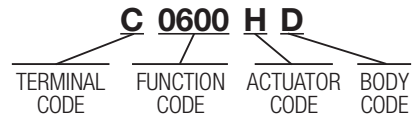
1A 250Vac
3A 12/24Vdc

RoHS

RoHS compliant

3mm contact gap.
Technical data on pages 4 & 5.

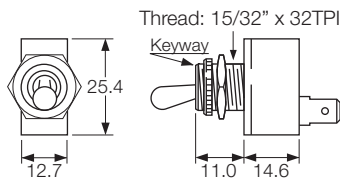
ORDER FORMAT



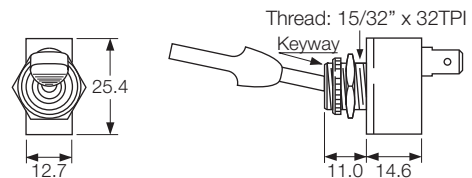
▶ TERMINAL	▶ FUNCTION	▶ ACTUATOR	▶ BODY	▶ OPTIONS
<p>C</p> <p>6.3 x 0.8 10.1</p>	<p>0600</p> <p>ON - OFF</p> <p>0602</p> <p>ON - OFF (momentary ON)</p>	<p>C Chromed brass (0600)</p> <p>15.0</p> <p>U Nylon (0600)</p> <p>12.1</p> <p>G Nylon (0600)</p> <p>27.0</p> <p>H Nylon (0600)</p> <p>17.0</p> <p>S Chromed brass stem/nylon paddle (0602 only)</p> <p>41.8</p>	<p>D Nylon neck and top plate (Used with actuator codes U, G and H)</p> <p>C Metal neck and top plate (Used with actuator codes C and S)</p> <p>Panel thickness - 3.5mm Back nut must be fitted</p> <p>Fixing nuts (Standard is M506 & T92)</p> <p>T5 Hex brass M506 Hex nylon</p> <p>15.2 3.0 (M506) 2.0 (T5)</p> <p>T92 Knurled brass - slotted</p> <p>16.0 2.6</p> <p>M279 Knurled nylon</p> <p>16.2 4.1</p>	<p>Cover M331</p> <p>(C Actuator only) PVC -5T85</p> <p>Seal M539 (C,H & U Actuators) Rubber -57T145</p> <p>Actuator visible</p> <p>Cover M1080 (C Actuator only) Rubber -57T145</p> <p>Covers have internal nylon nuts</p>

Dimensions (mm)

0600 (U actuator shown)



0602



Push Button Switch 13A 250Vac



13(4)A 250Vac, T85, 1E4 (10,000 Operations)

Approvals applied for



Compliant

- ▶ 250Vac, 13A, 10,000 operations
- ▶ Double & single pole momentary operation
- ▶ Plunger operation with key for locking
- ▶ 4.8 & 6.3mm tags
- ▶ Snap in mounting & screw fixing
- ▶ Panel cut out: 37.0 x 13.5



C4151AA ---

NEW PRODUCT

Please contact the sales office for availability.

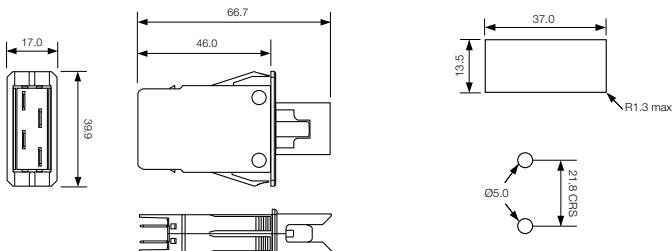
ORDER FORMAT

04102-001

TERMINAL FUNCTION ACTUATOR BODY

▶ TERMINAL	▶ FUNCTION	▶ ACTUATOR	▶ BODY
<p>C</p> <p>6.3 x 0.8</p>	<p>Single 4101</p>	<p>A</p>	<p>A</p> <p>B</p> <p>C</p> <p>D</p>
<p>H</p> <p>4.8 x 0.8</p>	<p>Double 4151</p> <p>OFF - ON (momentary)</p>		<p>Accessories</p> <p>Locking key: M1395</p> <p>Connector: M1396 (for C terms only)</p>

Dimensions (mm) C4151AA



8300 Push Button Switches 8(8)A 250Vac & 12(12)A 250Vac



- ▶ Miniature push button
- ▶ 8A Inductive current rating
- ▶ Ratings up to 12(12)A, 250V ac (H suffix)
- ▶ Illuminated and non-illuminated
- ▶ Single and double pole
- ▶ Latching and momentary
- ▶ Slotted actuator for custom buttons
- ▶ Industry standard panel cutout
- ▶ Panel cut out:
19.3 x 12.9



16(4)A 250Vac T85, 1E4 (10,000 Operations)
12(12)A 250Vac T105, 1E4 (10,000 Operations)
8(8)A 250Vac T105, 5E4 (50,000 Operations)
6(6)A 250Vac T125, 5E4 (50,000 Operations)



12A 250Vac DP, 13A 250Vac SP
250Vac 1hp, 125Vac 1/2hp
UL 85°C, file E45221, CSA file LR10990



10(10)A 250Vac



RoHS compliant

3mm contact gap.
Technical data on pages 4 & 5 (switches), 6 (indicators).

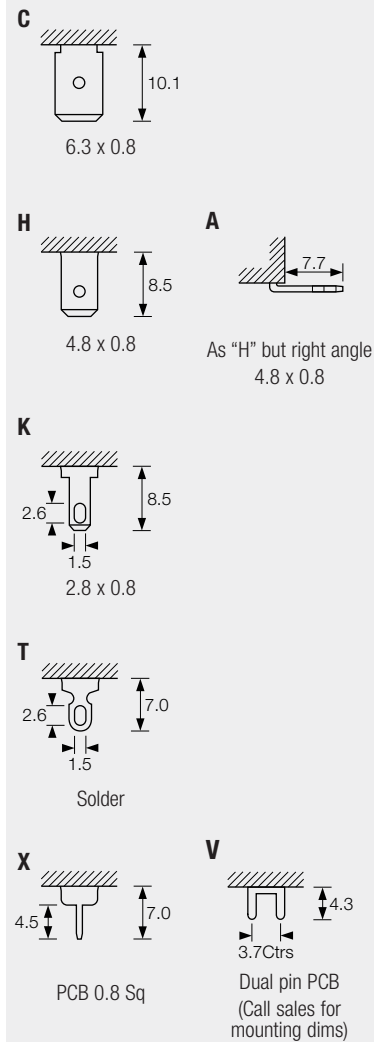
NON-LIT		LIT	
B BLACK	B BLACK	A AMBER	2 125V NEON
R RED	R RED	C CLEAR	3 250V NEON
W WHITE	W WHITE	G GREEN	7 12V INCANDESCENT
		R RED	

H 8353 J E B R 2 1153W

TERMINAL CODE FUNCTION CODE ACTUATOR CODE BODY CODE BODY COLOR ACTUATOR COLOR LAMP VOLTAGE IF REQUIRED LEGEND & OPTIONS

ORDER FORMAT

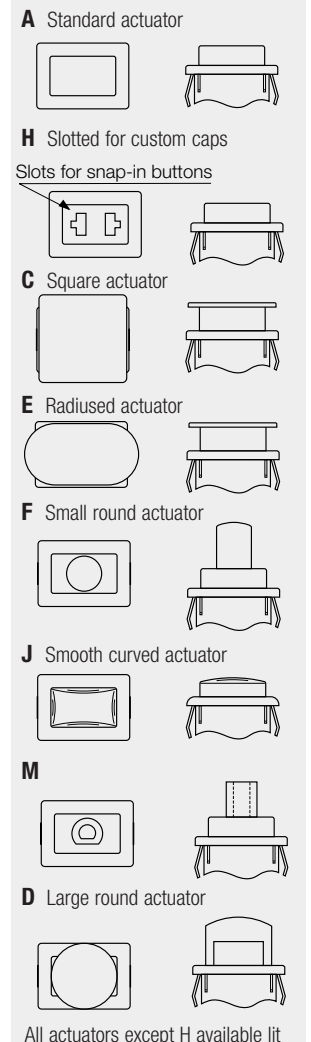
TERMINAL



FUNCTION

FUNCTION CODE	DESCRIPTION	TERMINAL DIAGRAM
8300	ON - OFF Single pole	1 2 3 4
8301	ON - OFF (momentary ON) Single pole	↑ 1 2 3 4
8303	ON - OFF with light Single pole	1 2 3 4
8304	ON - OFF (momentary ON) with light Single pole	↑ 1 2 3 4
8350	ON - OFF Double pole	1 2 3 4
8351	ON - OFF (momentary ON) Double pole	↑ 1 2 3 4
8353	ON - OFF with light Double pole	1 2 3 4
8354	ON - OFF (momentary ON) with light Double pole	↑ 1 2 3 4
8355	ON - OFF Single pole Isolated light - switched C, E & M actuators only	1 2 3 4
8356	ON - OFF Single pole Isolated light - unswitched C, E & M actuators only	1 2 3 4

ACTUATOR



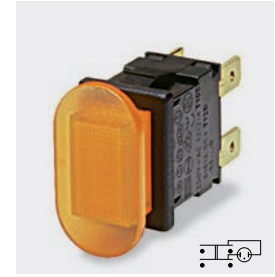
push switches



H8350AB ---
T8350AB ---



H8353JE ---
T8353JE ---



H8353EB ---
T8353EB ---



H8353CB ---
T8353CB ---



H8350DB ---
T8350DB ---

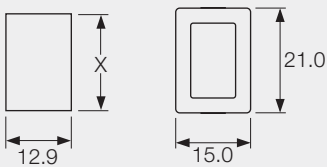


H8350HB ---
Example of button

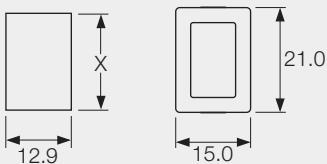
BODY

Panel cut-out Bezel
Cut-outs must be punched in the direction of insertion

B Standard body



E Softline style body with radiused bezel



Dimensions for snap-in fixing

Panel thickness	Dimension X
0.75-1.24	19.1/19.2
1.25-1.99	19.3/19.4
2.00-3.00	19.7/19.8

X and V PCB terminals.
Additional dummy terminals may be supplied for extra support.

OPTIONS

H
12(12)A 250Vac switch rating

Finish
Matt finish standard except on J and D actuators which are gloss

Color
Call factory for custom colors
A full range is available for large orders

Legend printing
Select from the examples or call factory for custom legends

Special buttons
Some of the many options are shown
Call the factory for the full range

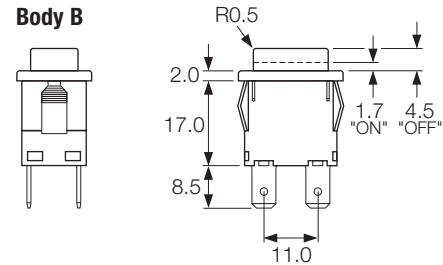
L167 Protective cover
(designed to IP65)



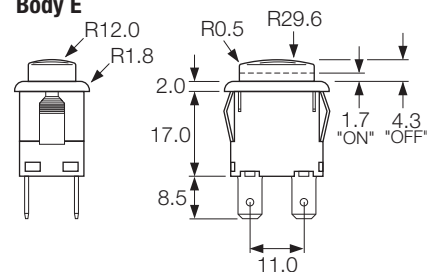
Snaps on to switch bodies fitted with "A" or "J" style actuators but increases effective panel thickness by 0.8mm

DIMENSIONS (mm)

**Actuator A
Body B**



**Actuator J
Body E**



Spacing between centre of terminals 1 & 3 or 2 & 4 is 10.0mm

Examples of legend printing

() is legend colour B-Black, W-White, R-Red



1153(W)



1152(W)

8200 Push Button Switches 8(8)A 250Vac & 12(12)A 250Vac



- ▶ Miniature push button
- ▶ 8A Inductive current rating
- ▶ Ratings up to 12(12)A, 250V ac (H suffix)
- ▶ Without button
- ▶ Sub panel mount
- ▶ Push on, solder or PCB terminals
- ▶ Latching and momentary



16(4)A 250Vac T85, 1E4 (10,000 Operations)
 12(12)A 250Vac T105, 1E4 (10,000 Operations)
 8(8)A 250Vac T105, 5E4 (50,000 Operations)
 6(6)A 250Vac T125, 5E4 (50,000 Operations)



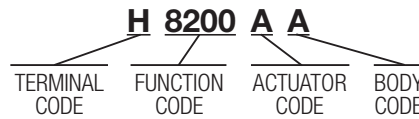
12A 250Vac
 250Vac 1hp, 125Vac 1/2hp
 UL 85°C, file E45221, CSA file LR10990



RoHS compliant

3mm contact gap.
 Technical data on pages 4 & 5.

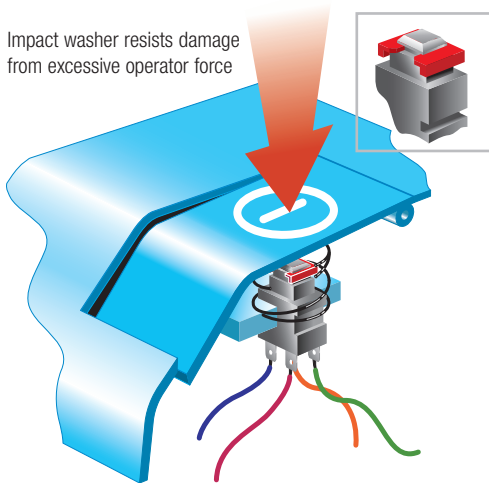
ORDER FORMAT



TERMINAL	FUNCTION	ACTUATOR
<p>C</p> <p>6.3 x 0.8</p> <p>H</p> <p>4.8 x 0.8</p> <p>A</p> <p>As H, 4.8 x 0.8 Right angle</p> <p>K</p> <p>2.8 x 0.8</p> <p>T</p> <p>2.6 7.0 1.5</p> <p>Solder</p> <p>X</p> <p>4.5 7.0</p> <p>PCB 0.8 Sq</p> <p>V</p> <p>3.7 4.3 Ctrs</p> <p>Dual pin PCB 0.8 Sq (Call sales for matrix dims)</p> <p>M</p> <p>5.3 7.3</p> <p>As V, PCB but Right angle</p>	<p>8200 ON - OFF Single pole</p> <p>8201 ON - OFF (momentary ON) Single pole</p> <p>8250 ON - OFF Double pole</p> <p>8251 ON - OFF (momentary ON) Double pole</p>	<p>A Standard actuator for snap-on custom adaptors</p> <p>B Flat top actuator</p> <p>C Curved top actuator</p> <p>Examples of possible actuation methods</p> <p>Using a Snap on adaptor</p> <p>Facia</p> <p>Using a Hinged Actuator</p>

Alternative Actuator

Impact washer resists damage from excessive operator force



C8250AA ---
with impact washer M1226



X8201AA ---



K8200AA ---



A8200AA ---



M8200AC ---

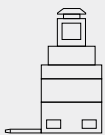


Example of M8200AC

push
switches

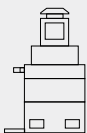
BODY

A Standard body



See dimensioned drawings for details

C As standard body but with side support peg for use with M PCB terminals

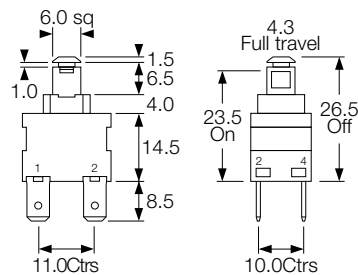
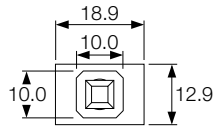


See dimensioned drawings for details

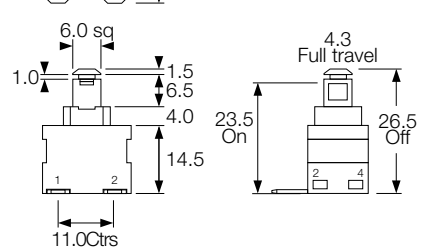
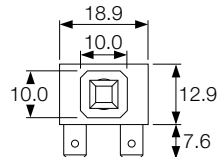
X and V PCB terminals.
Additional dummy terminals may be supplied
for extra support.

DIMENSIONS (mm)

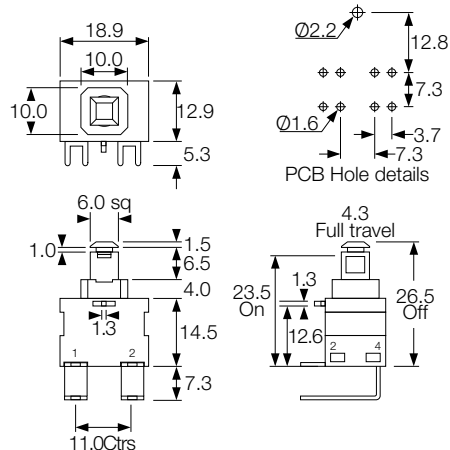
'A' body with 'H' 4.8 terminals



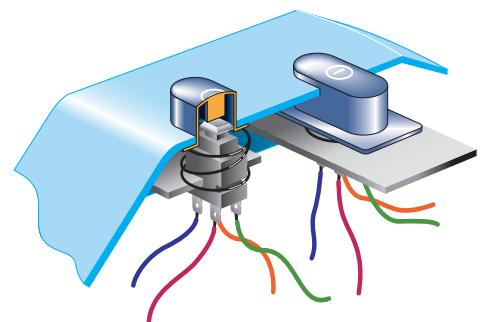
'A' body with 'A' right angle 4.8 terminals



'C' body with 'M' right angle PCB terminals



Example of possible mounting styles



7000 Push Button Switches 16A 250Vac



- ▶ Round and rectangular push button switches
- ▶ Ratings up to 16A, 250V ac
- ▶ Latching and momentary
- ▶ Illuminated & non-illuminated
- ▶ Matching indicators
- ▶ Low profile version
- ▶ Panel cut outs:
25.0 dia
27.2 x 22.3



16(4)A 250Vac T125
8(8)A 250Vac T85



UL CSA 16A Non Ind, 250Vac 1hp, 125Vac 1/2hp
UL 65°C, file no. E45221, CSA file no. LR10990



RoHS compliant

3mm contact gap.
Technical data on pages 4 & 5 (switches), 6 (indicators).

NON-LIT		LIT	
B BLACK	B BLACK	A AMBER	2 125V NEON
R RED	R RED	C CLEAR	3 250V NEON
W WHITE	W WHITE	G GREEN	7 12V INCANDESCENT
		R RED	

C 7053 A F W R 2 -----

ORDER FORMAT

TERMINAL CODE FUNCTION CODE ACTUATOR CODE BODY CODE BODY COLOR ACTUATOR COLOR LAMP VOLTAGE IF REQUIRED LEGEND & OPTIONS

TERMINAL	FUNCTION			ACTUATOR
C 6.3 x 0.8 9.1	7000		Single pole ON - OFF	A Round actuator shown in F body
	7001		Single pole ON - OFF (momentary ON)	A Round actuator shown in G body
	7003		Single pole ON - OFF with light	B Round actuator - medium shown in F body
	7004		Single pole ON - OFF (momentary ON) with light	C Round actuator - long shown in F body
	7050		Double pole ON - OFF	D Round actuator - sub panel mount
	7051		Double pole ON - OFF (momentary ON)	S Rectangular actuator Shown in "A" body N/A for 7030
	7053		Double pole ON - OFF with light	
H 4.8 x 0.8 9.1	7054		Double pole ON - OFF (momentary ON) with light	
	7030		Indicator 	



C7000AF ---



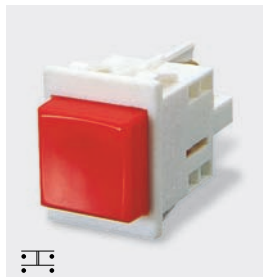
C7003AF ---



C7053CF ---



C7053BF ---



C7050SA ---



C7053AG ---



C7053DF ---



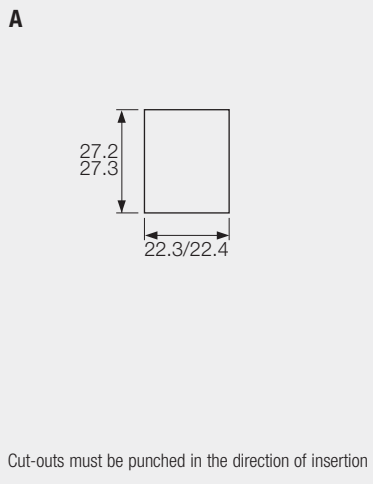
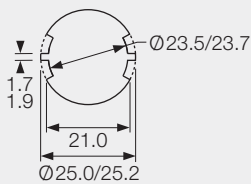
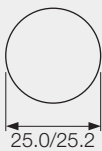
C7030AH ---

push switches

BODY

Panel cut-outs

F H G Body types fit either cut-out



OPTIONS

Finish

Matt finish is standard on bodies
Gloss finish is standard on actuators

Color

Call factory for custom colors
A full range is available for large orders

Legend printing

A wide range is available or call the factory for custom legends

Lamp voltage

Call factory for details of other available voltages

Weatherproof housing (E)

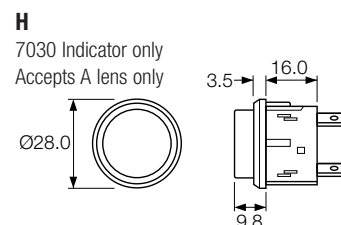
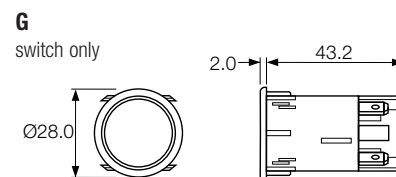
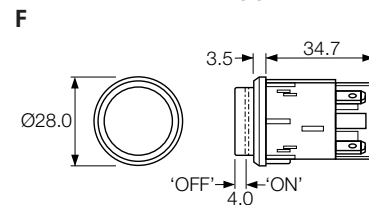
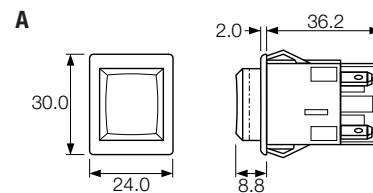
Additional housing which fits round body switches with an oversize housing with a clear silicone cover designed to IP65. Mounting hole dia: 38.0mm

DIMENSIONS (mm)

Panel thickness:

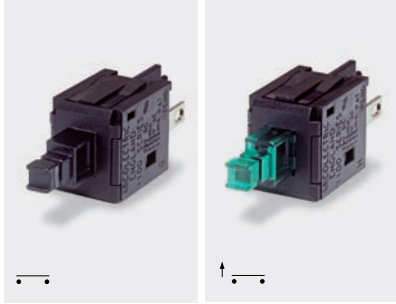
A 0.8 - 2.5mm

F, G, H 0.8 - 5.0mm

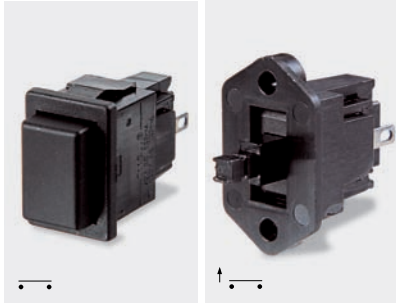


1100 Push Button Switches 0.125A 125Vac

push switches



T1100AA --- T1101AA ---



T1100BB --- T1100AC ---

- ▶ Miniature push button
- ▶ Ratings up to 500mA, 250Vac
- ▶ Snap in and flange mount
- ▶ With and without button
- ▶ Gold plated contacts
- ▶ Latching and momentary



UL 0.125A 125Vac
UL 0.125A 45Vdc
UL file E45221

In house test

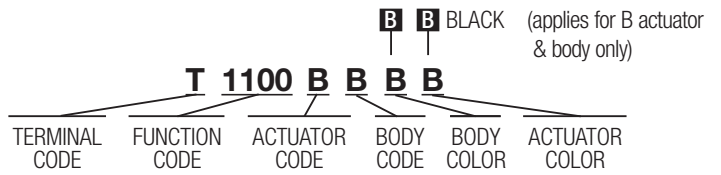
0.5A 250Vac T85



RoHS compliant

μ contact gap.
Technical data on pages 4 & 5.

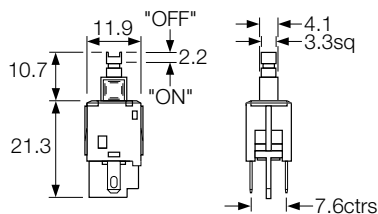
ORDER FORMAT



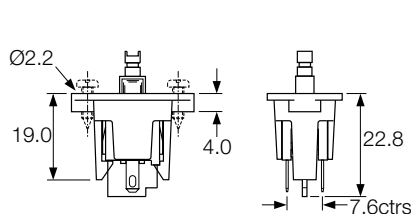
TERMINAL	FUNCTION	ACTUATOR	BODY
T 	 1100 ON - OFF (alternate) Single pole	A Actuator without button B Softline button 	A For purpose designed facias and sub-panels B Snap-in fixing Panel thickness Dimension X 0.75-1.24 19.1/19.2 1.25-1.99 19.3/19.4 2.00-3.00 19.7/19.8
	1101 ON - OFF (momentary ON) Single pole		C 2 Hole mounting

Dimensions (mm)

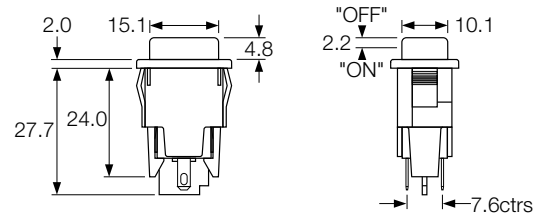
T1100AA (Enclosure mounting)



T1100AC (2 Hole Mounting) No.4 self-tapping screws



T1100BB (Snap-in) Cut-outs must be punched in the direction of insertion



916 - 920 Push Button Switches 0.5A 250Vac

In house test

0.5A 250Vac T85

RoHS

RoHS compliant

μ contact gap.

Technical data on pages 4 & 5.

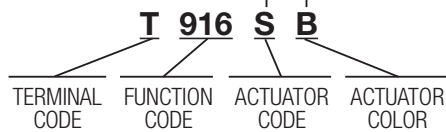
- ▶ Self wiping contacts
- ▶ Slow make & break
- ▶ Momentary action
- ▶ Choice of switch circuits
- ▶ Choice of actuators



T916S0 --- & T916L0 ---

T916VA ---

L **B** BLACK (for S or L actuator)
S **R** RED (for S or L actuator)
V **Blank** (for Stainless steel V actuator)

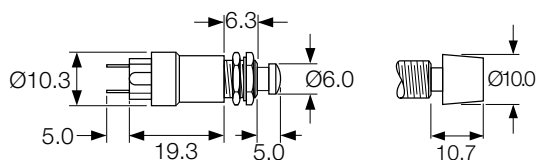


ORDER FORMAT

TERMINAL	FUNCTION	ACTUATOR	BODY	OPTIONS
T Solder	916 Black base SP ON-OFF (momentary)	S Small Actuator 	 Panel Cut-out (L & S Actuators) Panel thickness Both nuts - 2.5mm No backnut - 4.0mm	Finish Gloss finish only Color Call factory for custom colors A full range is available for large orders
	917 50V only Brown base SP ON-ON (momentary 1 side)	L Large Actuator 		
	918 White base SP ON-OFF (momentary OFF)	V Vandal Resistant IP66 Flat top Stainless steel 	 Panel Cut-out (Stainless Steel V Actuator) Panel thickness - 8.0mm	
	919 Black base SP ON-ON (momentary 1 side)			
	920 White base DP ON-OFF (momentary ON)			

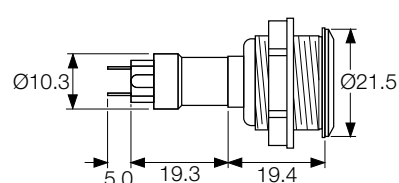
Dimensions (mm)

Nylon S and L actuators



Neck thread - 40 TPI Whit. Actuator travel - 2.5 max

Stainless steel V actuator (IP66)



Neck thread - 26 TPI Whit. Actuator travel - 2.5 max

380 Push Button Snap Action Switches 16(4)A 250Vac



383 2510 K BL



383 2510 RR 383 2510 PR

- ▶ Snap action switches
- ▶ Ratings up to 16A, 250Vac
- ▶ Round and rectangular buttons



16(4)A 250Vac 5E4 T85



16A 125/250Vac 3/4hp T85 50E3

125V 1/2 HP, 250V 3/4 HP, 0.4A 125Vdc, 0.2A 250Vdc



RoHS compliant

Approvals apply to switch mechanism only.
μ contact gap.

- Blank for switch only
- E** **R** Red **B** Black
- P** **R** Red **B** Black
- K** **R** Red **B** Black **BL** Blue **G** Green **W** White
- R** **R** Red **B** Black **BL** Blue **G** Green **W** White
- M** **R** Red **B** Black **BL** Blue **G** Green **W** White

383 2510 K BL

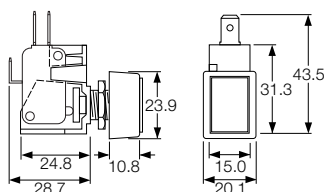
TERMINAL FUNCTION ACTUATOR ACTUATOR
CODE CODE CODE COLOR

▶ **ORDER FORMAT**

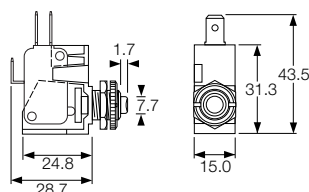
▶ TERMINAL	▶ FUNCTION	▶ ACTUATOR	BODY	▶ OPTIONS
<p>383</p> <p>6.3 x 0.8</p> <p>12.0</p>	<p>ON - ON (momentary 1 side)</p>	<p>R Rectangular bezel</p> <p>P Short</p> <p>K with satin chrome bezel</p> <p>M with nylon bezel</p>	<p>Panel Cut-out</p> <p>Panel thickness Both nuts 2.5mm No backnut 4.0mm</p>	<p>Color Call factory for custom colors A full range is available for large orders</p>

Dimensions (mm)

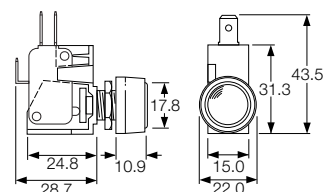
R



P & E



K & M



1900 Vandal Resistant Switches - Designed to IP66



3A 125/250Vac T85



5A 125/250Vac T85 50E3



RoHS compliant

Approvals apply to switch mechanism only.
μ contact gap.
Switching mechanisms are snap action (not sealed).

- ▶ Stainless steel button and bezel
- ▶ Vandal resistant construction
- ▶ Front panel sealed to IP66
- ▶ Single and double pole change-over switching



P 1911 V L

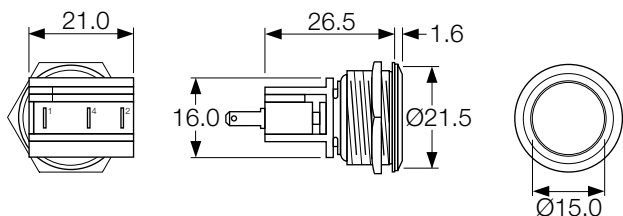
TERMINAL CODE FUNCTION CODE ACTUATOR CODE BODY CODE

ORDER FORMAT

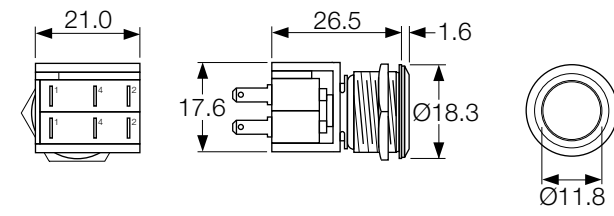
TERMINAL	FUNCTION	ACTUATOR	BODY
P 2.8 x 0.5	1911 ON - ON (momentary 1 side) Single pole	V Flat top (stainless steel) 	A Stainless steel Chamfer profile bezel Ø19.2 Panel cut-out Panel thickness up to 4.0mm
T Solder	1961 ON - ON (momentary 1 side) Double pole	P Domed top (stainless steel) 	L Stainless steel Chamfer profile bezel Ø16.0 Panel cut-out Panel thickness up to 4.0mm
X PCB			

Dimensions (mm)

Single pole (P1911VA shown)



Double pole (P1961VL shown)



8300 Vandal Resistant Switches - Designed to IP66



H8300RP

- ▶ Momentary or alternative actions available
- ▶ Ratings up to 16A, 250Vac
- ▶ Single and double pole
- ▶ Stainless steel button & bezel
- ▶ Vandal resistant construction
- ▶ Choice of body styles
- ▶ 19.2mm or 22.5mm mounting holes
- ▶ Front panel sealed to IP66
- ▶ Raised, flat or domed actuator options



16(4)A 250Vac T85, 1E4 (10,000 Operations)
 12(12)A 250Vac T105, 1E4 (10,000 Operations)
 8(8)A 250Vac T105, 5E4 (50,000 Operations)
 6(6)A 250Vac T125, 5E4 (50,000 Operations)



12A 250Vac DP, 13A 250Vac SP
 250Vac 1hp, 125Vac 1/2hp
 UL 85°C, file E45221, CSA file LR10990

In house test

10(10)A 250Vac



RoHS compliant

3mm contact gap.
 Technical data on pages 4 & 5 (switches), 6 (indicators).

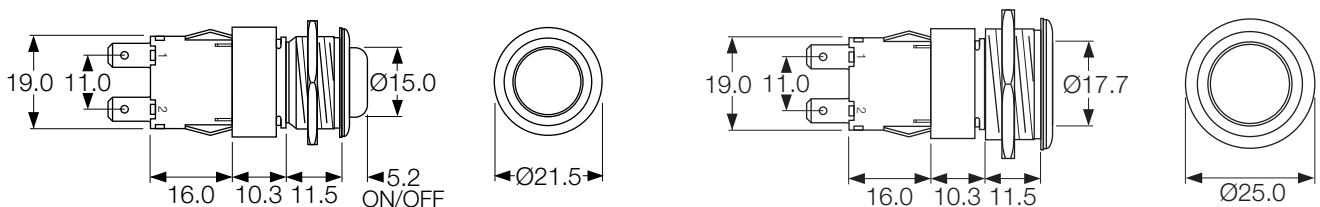
H 8300 R P

ORDER FORMAT

TERMINAL CODE FUNCTION CODE ACTUATOR CODE BODY CODE

TERMINAL	FUNCTION	ACTUATOR	BODY
<p>C</p> <p>6.3 x 0.8 10.1</p> <p>H</p> <p>4.8 x 0.8 8.5</p>	<p>8300</p> <p>ON - OFF (alternate) Single pole</p>	<p>R (for P body only) Raised top (stainless steel)</p>	<p>P (for R actuator only) Stainless steel, Soft profile bezel</p> <p>Panel cut-out Panel thickness 0.75 - 8.0mm</p>
<p>K</p> <p>2.6 1.5 8.5</p> <p>Solder</p> <p>T</p> <p>2.6 1.5 7.0</p> <p>Solder</p>	<p>8301</p> <p>ON - OFF (momentary ON) Single pole</p>	<p>V Flat top (stainless steel)</p>	<p>M Stainless steel</p> <p>Panel cut-out Panel thickness 0.75 - 8.0mm</p>
<p>V</p> <p>3.7Ctrs 4.3</p> <p>Dual pin PCB</p> <p>X</p> <p>4.5 7.0</p> <p>0.8Sq PCB</p>	<p>8350</p> <p>ON - OFF (alternate) Double pole</p>	<p>P Domed top (stainless steel)</p>	<p>Panel cut-out Panel thickness 0.75 - 8.0mm</p>
	<p>8351</p> <p>ON - OFF (momentary ON) Double pole</p>		

Dimensions (mm)
 8300RP (H terminals shown)



380 Vandal Resistant Switches - Designed to IP66



16(4)A 250Vac T85



16A 125/250Vac 3/4hp T85 50E3

125V 1/2 HP, 250V 3/4 HP, 0.4A 125Vdc, 0.2A 250Vdc



RoHS compliant

Approvals apply to switch mechanism only.
 µ contact gap.
 Switching mechanisms are snap action (not sealed).

- ▶ Snap action switches
- ▶ Ratings up to 16A, 250Vac
- ▶ Stainless steel button and bezel
- ▶ Front panel sealed to IP66
- ▶ Single pole C/O switch



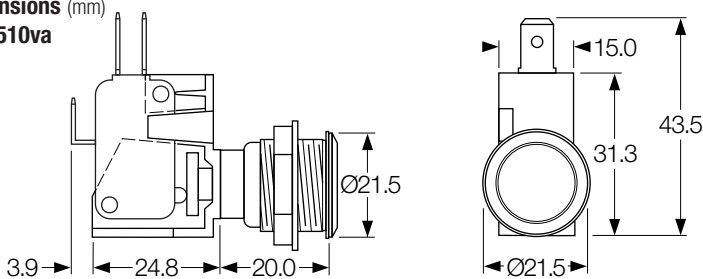
383 2510V

▶ **ORDER FORMAT**

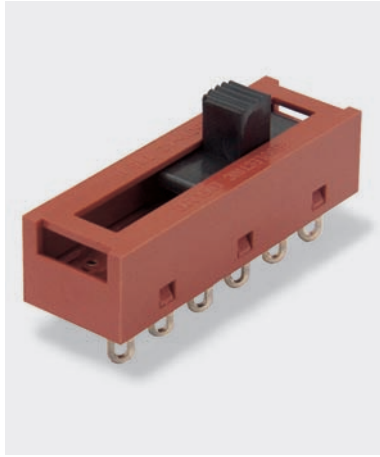


▶ TERMINAL	▶ FUNCTION	▶ ACTUATOR	▶ BODY
<p>383</p>	<p>2510</p> <p>ON - ON (momentary 1 side)</p>	<p>V Flat top (stainless steel)</p>	<p>Stainless Steel Chamfer profile bezel</p> <p>Panel cut-out Ø19.2 Panel thickness up to 8.0mm</p>
<p>385</p>			
<p>382</p>			

Dimensions (mm)
3832510va



2000 Slide Switches - up to 5 position 10A 250Vac



- ▶ Slide switches
- ▶ Ratings up to 16A, 250V ac
- ▶ PCB and solder terminals
- ▶ 2, 3, 4 and 5 position
- ▶ Choice of circuits
- ▶ Choice of actuators



10A 250Vac T85
6(3)A 250Vac T85



UL CSA 16A 250Vac Non Inductive
UL CSA 4A 300Vac
UL 65°C, file no. E45221, CSA file no. LR10990



RoHS compliant

μ contact gap

Please specify: Standard action (SP116) or Light action (SP118).
2000 series lubrication is inorganic and does not degrade plastics.

Technical data on pages 4 & 5.

T 2 2 20 5 A

TERMINAL CODE SERIES CODE POSITIONS CODE CIRCUIT CODE SLIDER CODE BODY CODE

ORDER FORMAT

TERMINAL	SERIES	POS'N	CIRCUIT <small>Viewed from back</small>	SLIDER	
K 2.8 x 0.8	2	2 Switching positions	10	0	
R 2.8 x 0.8			20	6	
T Solder			3 Switching positions	30	D
X PCB 0.8 Sq.				40	L
Y PCB 0.8 Sq. For mounting stability switches have extra "support" terminals * Nominal - Dimension varies with body type. For exact figure call sales		4 Switching positions		10	1
2.8 x 0.8				20	7
			30	E	
			40	N	
		5 Switching positions	10	2	G
20			3	P	
30			4	R	
40			5	S	
				10	A
				20	H
				30	J
				40	K
				11	T
				12	

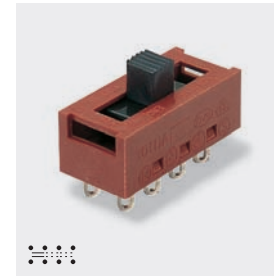
slide switches



X22205C ---



T2220EC ---



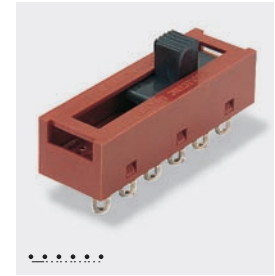
T23206A ---



T24306A ---



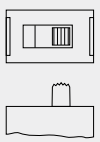
T25302A ---



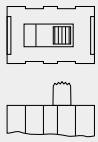
T25100A ---

BODY

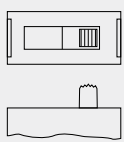
C 2 positions



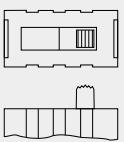
H 2 positions



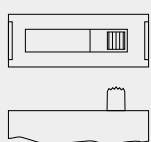
A 3 positions



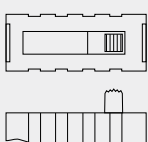
H 3 positions



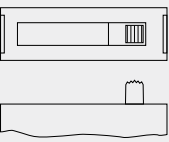
A 4 positions



H 4 positions



A 5 positions



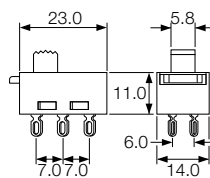
OPTIONS

Color

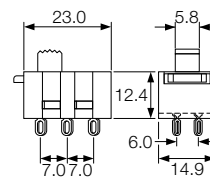
For custom slider colors call the factory. A full range is available for large orders

DIMENSIONS (mm)

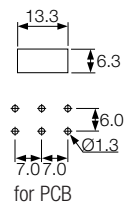
2 Position C body



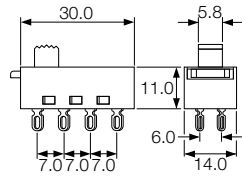
2 Position H body



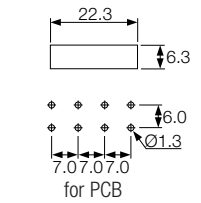
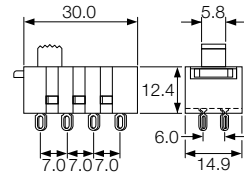
Cut-out/PCB Matrix



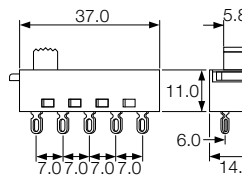
3 Position A body



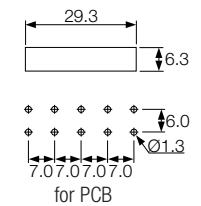
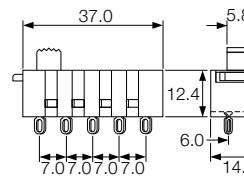
3 Position H body



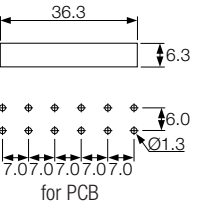
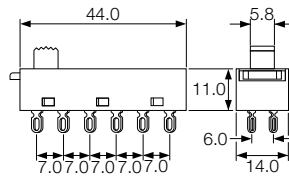
4 Position A body



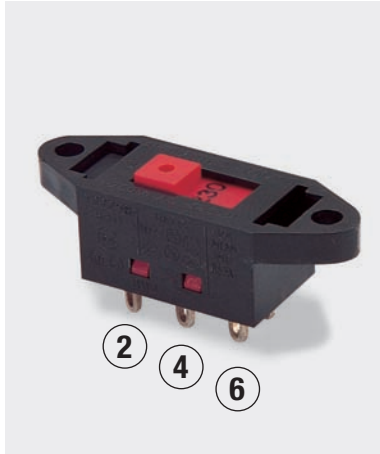
4 Position H body



5 Position A body



2000 Slide Switches - Snap fit and panel mount 10A 250Vac



- ▶ 2 way 'voltage selector'
- ▶ Ratings up to 16A, 250V ac
- ▶ Snap fit and panel mount
- ▶ PCB & solder terminals
- ▶ 2 and 3 position
- ▶ Choice of circuits
- ▶ Choice of actuators



10 A 250Vac T85
6(3)A 250Vac T85



UL CSA 16A 250Vac Non Inductive
UL CSA 4A 300Vac
UL 65°C, file no. E45221, CSA file no. LR10990



RoHS compliant

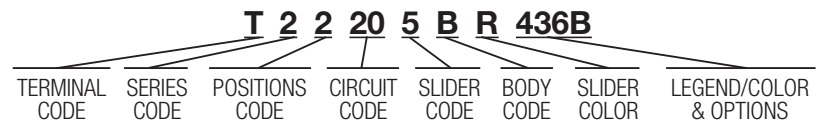
μ contact gap

Please specify: Standard action (SP116) or light action (SP118).
2000 series lubrication is inorganic and does not degrade plastics.

Technical data on pages 4 & 5.

115/230 is preferred legend

B BLACK
W WHITE
R RED



ORDER FORMAT

TERMINAL	SERIES	POS'N	CIRCUIT <small>Viewed from back</small>	SLIDER									
K 2.8 x 0.8		2 Switching positions	10 	0 2 Pos B Body only 	6 2 & 3 Pos B Body only 	C 2 & 3 Pos B Body only 	L 2 & 3 Pos B Body only Limited travel on 2 pos 	S Limited travel on 2 pos 2 & 3 Pos B Body only 					
			20 	2 2 Pos B Body only 	7 2 & 3 Pos B Body only 	D 2 & 3 Pos B Body only 	M F Body only Legend optional 	T 2 & 3 Pos B Body only 					
			30 	3 2 & 3 Pos B Body only 	8 E Body only Legend optional 	E 2 Pos B Body only Limited travel on 2 pos 	N 2 Pos B Body only 						
			40 	4 2 & 3 Pos B Body only 	9 2 & 3 Pos B Body only 	H 2 Pos B Body only 	P 2 & 3 Pos B Body only Limited travel on 2 pos 						
R 2.8 x 0.8			10 	5 2 Pos B Body only Also with legend 	A 2 Pos B Body only 	K 2 & 3 Pos B Body only Limited travel on 2 pos 	R 2 & 3 Pos B Body only 						
			20 	4 2 & 3 Pos B Body only 	9 2 & 3 Pos B Body only 	H 2 Pos B Body only 	P 2 & 3 Pos B Body only Limited travel on 2 pos 						
			30 	5 2 Pos B Body only Also with legend 	A 2 Pos B Body only 	K 2 & 3 Pos B Body only Limited travel on 2 pos 	R 2 & 3 Pos B Body only 						
			40 	5 2 Pos B Body only Also with legend 	A 2 Pos B Body only 	K 2 & 3 Pos B Body only Limited travel on 2 pos 	R 2 & 3 Pos B Body only 						
T Solder	2		10 										
			20 										
			30 										
			40 										
X PCB 0.8 Sq. For mounting stability switches have extra "support" terminals * Nominal - Dimension varies with body type. For exact figure call sales		3 Switching positions	10 										
			20 										
			30 										
			40 										



T22208E ---



T22308E ---



T2230MF ---



T22205B ---



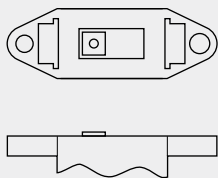
T22305B ---



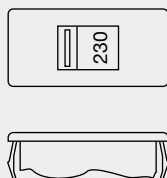
T23204B ---

BODY

B With mounting holes

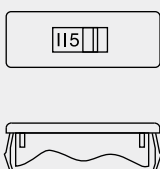


E Snap fit



Cut-outs must be punched in the direction of insertion

F Snap fit (single pole ON OFF only)



Cut-outs must be punched in the direction of insertion

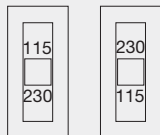
OPTIONS

Color

For custom slider colors call the factory. A full range is available for large orders

Standard body color is black

Legend printing



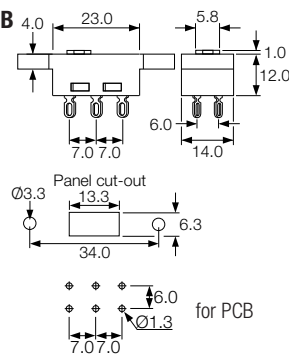
436() 437()

() is legend color
(B) - Black
(W) - White
(R) - Red

Please call the sales for custom legends

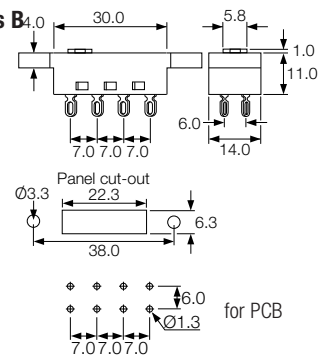
DIMENSIONS (mm)

2 Pos B

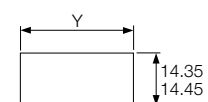
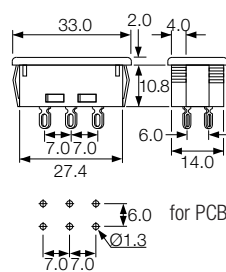


Cut-out / PCB Matrix

3 Pos B

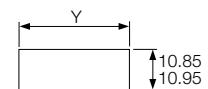
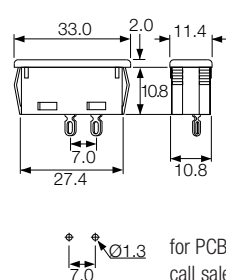


2 Pos E



Panel thickness	Dim. Y
0.8-1.2	29.75/29.85
1.63	30.15/30.25
2.0	30.35/30.45
2.5	30.55/30.65

2 Pos F



Panel thickness	Dim. Y
0.8-1.2	29.75/29.85
1.63	30.15/30.25
2.0	30.35/30.45
2.5	30.55/30.65

for PCB, call sales for details

Safety Cut-out Switches 16A 250Vac



- ▶ Safety cut-out switches
- ▶ Ratings up to 16A, 250V ac
- ▶ Snap action switches
- ▶ NC contacts
- ▶ Pendulum or lever tilt operation

Safety requirements for Portable Heaters can be met by the fitting of a safety cut-out switch. The heater will then turn off if overturned.



C0320AA
15A 125/250Vac 1E4

15A 125/250Vac UL file no. E91274
15A 1/2HP, 125/250Vac CSA file no. LR85259-2



C0320BB
16A 125/250Vac T85 50E3

16A 250Vac 3/4hp T85 125Vac 1/2hp UL file no. E45221



RoHS compliant

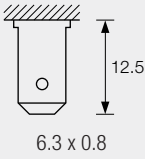
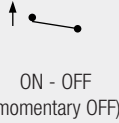
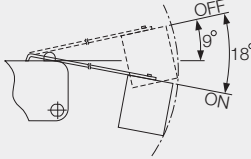
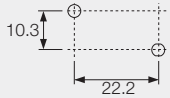
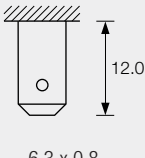
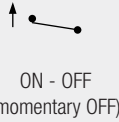
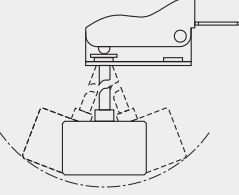
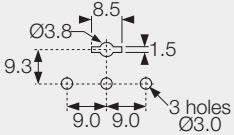
μ contact gap.

C0320AA



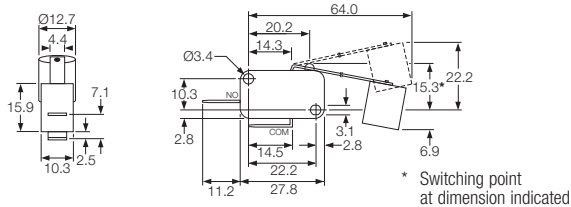
ORDER FORMAT

TERMINAL FUNCTION ACTUATOR MOUNTING

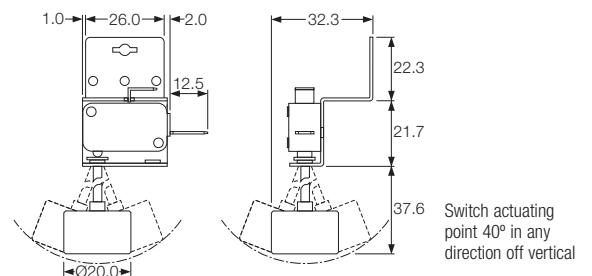
ORDER CODE	TERMINAL	FUNCTION	ACTUATOR	MOUNTING
C0320AA		 ON - OFF (momentary OFF)		 2 off 3.4mm mounting holes or M3 screw holes
C0320BB		 ON - OFF (momentary OFF)		 3 holes Ø3.0

Dimensions (mm)

C0320AA



C0320BB



0305 Combined Switch / Lampholder for Freezers



2A 250Vac 25 T 85 (0305 only)



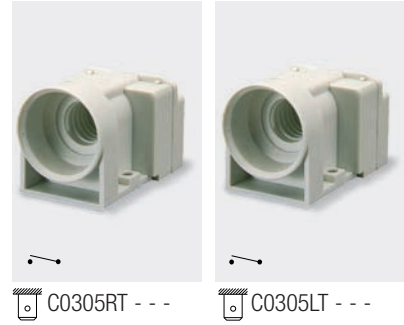
UL 15W 125/250Vac (0305 only)
UL 65°C, file E116391 (0305 only)



RoHS compliant

Switched units have μ contact gap.
Technical data on pages 4 & 5.

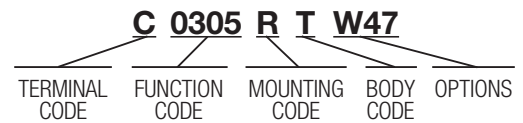
- ▶ E12 (12mm or candelabra) and E14 (14mm or SES) lamps
- ▶ Switch rating up to 2A, 250V ac
- ▶ Auto switching
- ▶ Mercury free
- ▶ Available with right or left hand orientation
- ▶ Available as lampholder only



C0305RT - - -

C0305LT - - -

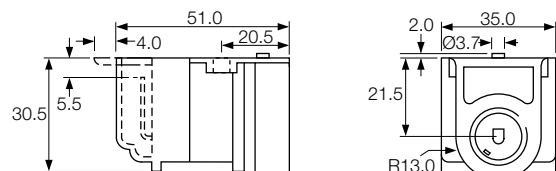
ORDER FORMAT



▶ TERMINAL	▶ FUNCTION	▶ MOUNTING	▶ BODY	▶ OPTIONS
<p>C</p> <p>6.3 x 0.8</p> <p>9.1</p>	<p>0305 (E14)</p> <p>ON - OFF Switch and Lampholder</p> <p>0306 (E12)</p> <p>ON - OFF Switch and Lampholder</p>	<p>L</p> <p>For Left hinged lid for 0305/0306 switches, not for 0307 lampholder</p> <p>25° min</p> <p>View from bulb end</p> <p>R</p> <p>For Right hinged lid for 0307 lampholder or 0305/0306 switches</p> <p>25° min</p> <p>View from bulb end</p>	<p>T</p> <p>Body without flange for 0305/0306 switches</p> <p>Top view</p> <p>S</p> <p>Body with rear flange for 0307 lampholder and for 0305/0306 switches</p> <p>Top view</p>	<p>Color</p> <p>Call factory for colors. A full range is available for large orders.</p>
<p>H</p> <p>4.8 x 0.8</p> <p>9.1</p>	<p>0307 (E14)</p> <p>Lampholder only (No Switch)</p>			

Dimensions (mm) and Properties

The mechanism of this switch/lampholder does not contain mercury and may be safely used in food storage equipment. When fitted to the lid of a freezer storage cabinet, the switch will operate the lamp when the lid is opened to the angle of tilt shown in the drawing.



0055 Door Switches



C0055RB ---



C0056RB ---

- ▶ Ratings up to 2A, 250V ac
- ▶ High temperature rating up to 125°C
- ▶ Long overtravel
- ▶ Choice of terminal orientation



0055 & 0056
0.2(0.2)A 250Vac 25T125 5E4
(50,000 operations)



RoHS compliant

μ contact gap

Technical data on pages 4 & 5

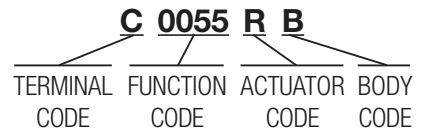


C0055RB ---



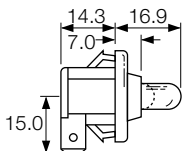
C0056RB ---

ORDER FORMAT

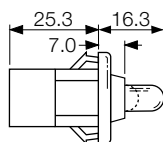


▶ TERMINAL	▶ FUNCTION	▶ ACTUATOR	▶ BODY	▶ OPTIONS				
<p>C</p> <p>6.3 x 0.8</p> <p>9.1</p>	<p>0055</p> <p>ON - OFF (momentary OFF) 90° terminals</p>	<p>R</p>	<p>B</p> <p>Panel cut-out</p> <p>Panel thickness</p> <table border="0"> <tr> <td>0055</td> <td>1.0 - 1.6</td> </tr> <tr> <td>0056</td> <td>1.0 - 2.6</td> </tr> </table> <p>Flange</p>	0055	1.0 - 1.6	0056	1.0 - 2.6	<p>Finish</p> <p>Gloss finish only</p> <p>Color</p> <p>White is standard</p> <p>Call factory for custom colors</p>
0055	1.0 - 1.6							
0056	1.0 - 2.6							
<p>H (0056 only)</p> <p>4.8 x 0.8</p> <p>9.1</p>	<p>0056</p> <p>ON - OFF (momentary OFF) Straight terminals</p>							

Dimensions (mm)
C0055RB



C0056RB



3005 Refrigerator Door Switches Splashproof



3005 25W 25T85 5E4 (50,000 Operations) 250Vac
3006 65W 25T85 5E4 (50,000 Operations) 250Vac



UL 0.3A 250Vac
UL 0.2A 125Vac



RoHS compliant

These products require 3mm minimum actuator stroke to ensure switch action and rating above.

μ contact gap.
Technical data on pages 4 & 5.

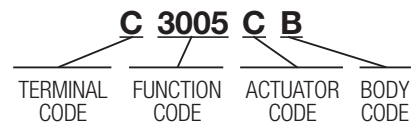
- ▶ Door switches
- ▶ Momentary on and momentary off switching
- ▶ Splash Resistant
- ▶ Choice of terminal orientation
- ▶ Choice of actuators



C3005CB



C3005BL

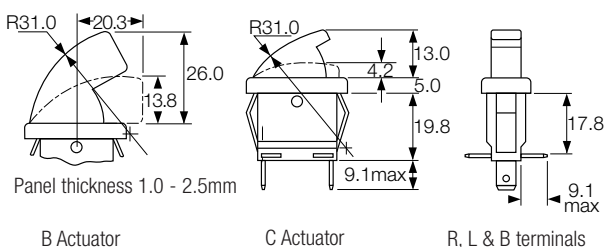


ORDER FORMAT

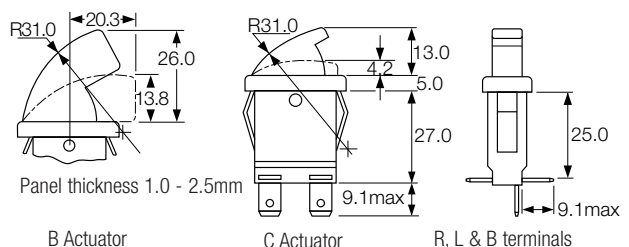
▶ TERMINAL	▶ FUNCTION	▶ ACTUATOR	▶ BEZEL / TERM ORIENTATION	▶ OPTIONS
<p>C</p> <p>6.3 x 0.8</p>	<p>3005</p> <p>ON - OFF (momentary OFF) 1mm max travel to OFF position</p>	<p>B</p> <p>26.0</p>	<p>R L B</p> <p>Terminal direction (viewed from hinge end)</p> <p>Panel cut-out: 12.1/12.2 x 25.4/25.5</p> <p>Bezel: 14.0 x 30.2</p> <p>Bezel Profile: 5.0</p>	<p>Finish Gloss finish only</p> <p>Color White is standard</p> <p>Call factory for custom colors A full range is available for large orders</p>
<p>H</p> <p>4.8 x 0.8</p>	<p>3006</p> <p>ON - OFF (momentary ON) 3mm min travel to ON position</p>	<p>C</p> <p>13.0</p>	<p>R L B</p> <p>Terminal direction (viewed from hinge end)</p> <p>Panel cut-out: 12.1/12.2 x 25.4/25.5</p> <p>Bezel: 14.0 x 30.2</p> <p>Bezel Profile: 5.0</p>	<p>Finish Gloss finish only</p> <p>Color White is standard</p> <p>Call factory for custom colors A full range is available for large orders</p>

Dimensions (mm) (C terminals shown)

3005



3006



3100 Refrigerator Door Switches Splashproof



E3102AA



E3111BA

- ▶ Door switches
- ▶ Ratings up to 5A, 250V ac
- ▶ Splash Resistant
- ▶ Changeover, momentary ON and momentary OFF
- ▶ Choice of actuators



5A 250Vac 25T85 5E4 (50,000 Operations)



UL CSA 5A 250Vac
UL 85°C, file E45221, CSA file LR10990

In house test

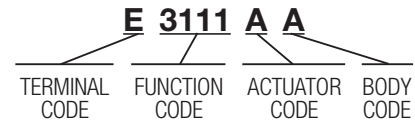
200W 250Vac Lampload (1,000,000 operations)



RoHS compliant

μ contact gap.
Technical data on pages 4 & 5.
Sealed terminals option available. Call sales for details.

ORDER FORMAT

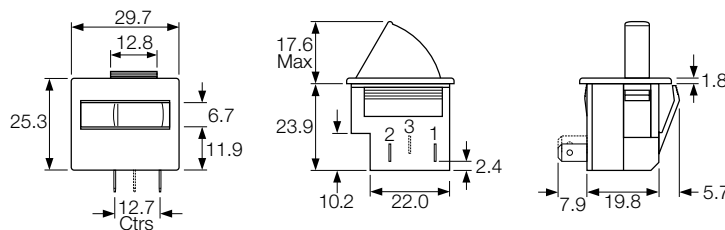


▶ TERMINAL	▶ FUNCTION	▶ ACTUATOR	▶ BODY	▶ OPTIONS
<p>E</p> <p>4.8 x 0.5</p> <p>7.9</p> <p>For sealed terminals call sales</p>	<p>3101</p> <p>ON - OFF (momentary ON)</p> <p>3102</p> <p>ON - OFF (momentary OFF)</p> <p>3111</p> <p>ON - ON (momentary 1 side)</p>	<p>A</p> <p>17.6 max</p> <p>B</p> <p>15.6 max</p> <p>C</p> <p>23.0 max</p> <p>D</p> <p>17.1 max</p>	<p>A</p> <p>Optional cut-out for orientation</p> <p>Panel cut-out Panel thickness 1.0 - 2.5mm</p>	<p>Finish Gloss finish only</p> <p>Color White is standard</p> <p>Call factory for custom colors A full range is available for large orders</p>

Dimensions (mm) ("A" actuator shown)

- 3101 uses terminals 1,2
- 3102 uses terminals 1,2
- 3111 uses terminals 1,2,3

For details of actuator travel and switching angles call sales.



3140 Refrigerator Door Switches Splashproof



5A 250Vac 25T85 5E4 (50,000 Operations)



UL CSA 5A 250Vac
UL 85°C, file E45221, CSA file LR10990

In house test

24Vac & 110Vac Lampload (500,000 operations)



RoHS compliant

3141, μ contact gap.
3145 and 3146, 3mm contact gap.
Technical data on pages 4 & 5.
Sealed terminals option available. Call sales for details.

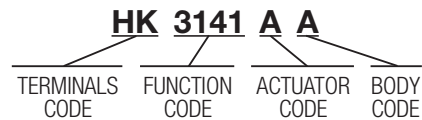
- ▶ Door switches
- ▶ Ratings up to 5A, 250V ac
- ▶ Splash Resistant
- ▶ Momentary action
- ▶ Choice of actuators
- ▶ 2 circuit switch



HK3141AA



H3145AA



ORDER FORMAT

TERMINAL	FUNCTION	ACTUATOR	BODY	OPTIONS
<p>H</p> <p>4.8 x 0.8</p> <p>Standard format is H terminals in positions 1 & 2 and K terminals in positions 3 & 4</p> <p>For sealed terminals call sales</p>	<p>3141</p> <p>ON - ON (momentary)</p> <p>3145</p> <p>ON - OFF (momentary OFF)</p> <p>3146</p> <p>ON - OFF (momentary ON)</p>	<p>A</p> <p>B</p> <p>C</p> <p>D</p>	<p>A</p> <p>Panel cut-out Panel thickness 1.0 - 2.5mm</p>	<p>Finish Gloss finish only</p> <p>Color White is standard</p> <p>Call factory for custom colors A full range is available for large orders</p>

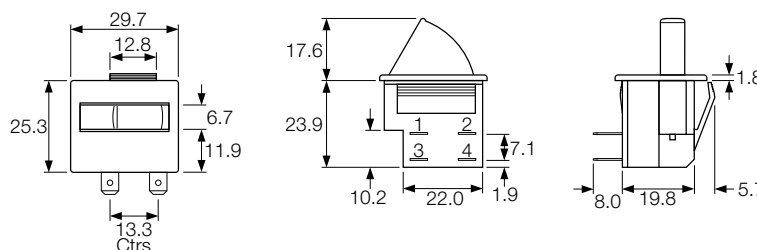
Dimensions (mm) ("A" actuator shown)

3141 uses terminals 1,2,3,4

3145 uses terminals 3,4

3146 uses terminals 1,2

For details of actuator travel and switching angles call sales.



9000 Rotary Switches 2A 250Vac



- ▶ Rotary action switch
- ▶ Ratings up to 2A, 250V ac
- ▶ 4 position, single pole
- ▶ 90° indexed positions



2A 250Vac T85

UL 2A 250Vac, 65°C, file E45221

RoHS compliant

μ contact gap.

Technical data on pages 4 & 5.

A 4-position single pole rotary switch. All nylon construction, threaded neck and flatted 6.0mm dia. spindle. Positive detent action, 90° between index positions. Stops available to restrict rotation.

Various circuits may be obtained by changing the supply and load connections or by omission of one or two terminals. Line and loads may be connected to any terminals. Any three of the four contacts are always connected. Illustrated loads and line are for example only.

Suitable for class II appliances. Patent app.

T9000

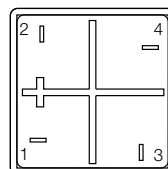
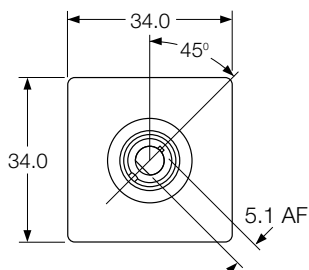
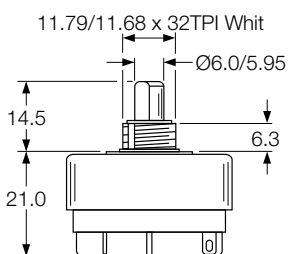
T 9000

TERMINAL CODE FUNCTION CODE

▶ ORDER FORMAT

▶ TERMINAL	▶ FUNCTION		▶ BODY	▶ OPTIONS
<p>T</p> <p>Solder</p>	<p>9000</p> <p>Position 1 Viewed from terminal side</p>	<p>Position 2</p>	<p>Panel Cut-out</p> <p>Panel thickness 1.25 - 3.5mm</p>	<p>Rotation Stops</p> <p>Can be specified to limit the number of switching positions</p>
	<p>Position 3</p>	<p>Position 4</p>		

Dimensions (mm)



9100 Pull Cord Switches 16(4)A 250Vac



16(4)A 250Vac T125
16A 400Vac T125
8(8)A 250Vac T125 5E4 (50,000 Operations)



UL CSA 20A 277Vac, 250Vac 2hp, 125Vac 1hp
UL85°C, file no. E45221, CSA file no. LR10990



30A 12V dc

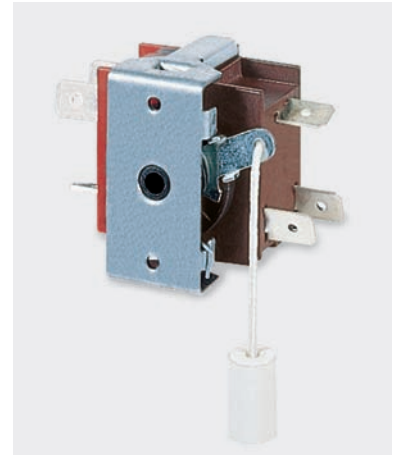
9100 pull cord switches have 45° indexing



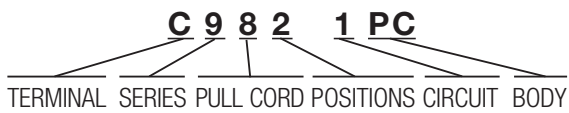
RoHS compliant

3mm contact gap
Technical data on pages 4 & 5

- ▶ Pull cord operation
- ▶ Ratings up to 16A, 250V ac; 20A, 28V dc
- ▶ 2 & 4 way rotary switch
- ▶ Pairs of single pole change over contacts
- ▶ Wide choice of switching circuits



C9821PC ---

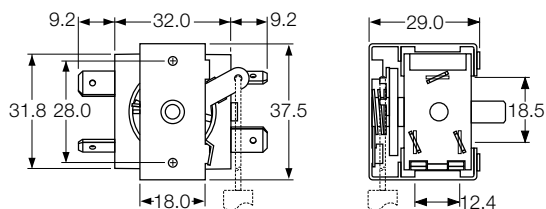


ORDER FORMAT

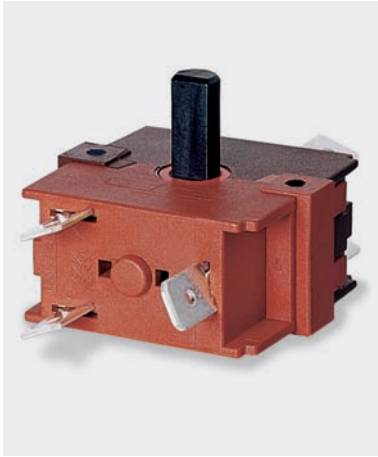
▶ TERMINAL	▶ SERIES	▶ POSITIONS/CIRCUIT	▶ BODY/MOUNTING																											
<p>C</p> <p>6.3 x 0.8</p> <p>9.2</p>	98	<p>21 Off</p> <p>1</p> <table border="1"> <tr><td>Pts</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td>A</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>B</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	Pts	1	2	3	4	5	6	7	8	A	●	●	●	●	●	●	●	●	B									<p>PC</p> <p>2 hole fixing</p> <p>18.0</p> <p>9.0</p> <p>2 Holes Ø2.55</p> <p>28.0</p> <p>37.5</p>
Pts		1	2	3	4	5	6	7	8																					
A		●	●	●	●	●	●	●	●																					
B																														
<p>H</p> <p>4.8 x 0.8</p> <p>9.2</p> <p>For approval information on H terminals, contact sales</p>	<p>22 Off</p> <p>1+3</p> <table border="1"> <tr><td>Pts</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td>A</td><td>●</td><td></td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>B</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	Pts	1	2	3	4	5	6	7	8	A	●		●	●	●	●	●	●	B										
Pts	1	2	3	4	5	6	7	8																						
A	●		●	●	●	●	●	●																						
B																														
	<p>41 Off</p> <p>1+3</p> <p>2+4</p> <p>1+2+3+4</p> <table border="1"> <tr><td>Pts</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td>A</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>B</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> </table> <p>For other circuits please contact sales</p>	Pts	1	2	3	4	5	6	7	8	A	●	●	●	●	●	●	●	●	B	●	●	●	●	●	●	●	●		
Pts	1	2	3	4	5	6	7	8																						
A	●	●	●	●	●	●	●	●																						
B	●	●	●	●	●	●	●	●																						

Dimensions (mm)

9100PC (C terminals shown)



9100 Rotary Switches 16A 250Vac



- ▶ 2 to 6 position rotary switch
- ▶ Ratings up to 20A, 277 Vac Non Inductive
- ▶ Pairs of single pole change over contacts
- ▶ Wide choice of switching circuits
- ▶ Can be stacked together



16(4)A 250Vac T125
16A 400Vac T125

8(8)A 250Vac T125 5E4 (50,000 Operations)



UL CSA 20A Non Ind 277Vac, 250Vac 2hp, 125Vac 1hp
UL 85°C, file no. E45221, CSA file no. LR10990

In house test

30A 12V dc



RoHS compliant

9100 switches are highly versatile with up to 6 positions at 30° intervals and 6 terminals per switch. For more complex switching (7 positions & over), contact sales. Two switches may be stacked to give up to 12 terminal switching.

3mm contact gap.

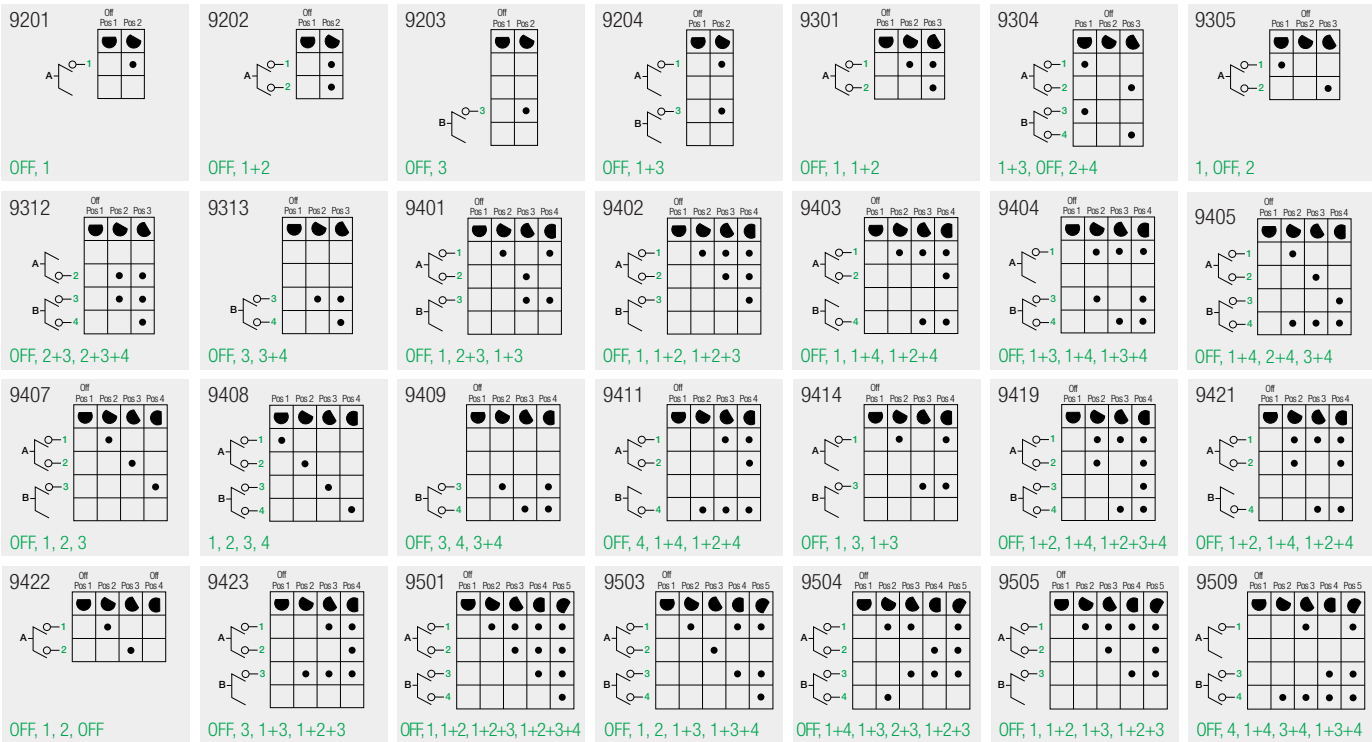
Technical data on pages 4 & 5.

C 9 5 01 D A Stop at 120°

TERMINAL CODE SERIES CODE POSITIONS CODE CIRCUIT CODE SHAFT CODE BODY CODE OPTIONS

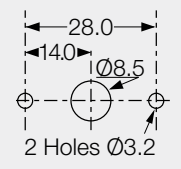
ORDER FORMAT

▶ TERMINAL	▶ SERIES	▶ POSITION	▶ CIRCUIT	▶ SHAFT																					
<p>C</p> <p>6.3 x 0.8</p>	9	<p>2</p> <p>Switching positions</p>	<p>9100 switches offer almost infinite switching options</p> <p>For this reason it is impractical to show all the options available.</p> <p>The table below gives an example of a 5 position switching sequence: OFF, 1, 1+2, 1+2+3, 1+2+3+4</p> <table border="1"> <tr> <td></td> <td>Off</td> <td>Pos 1</td> <td>Pos 2</td> <td>Pos 3</td> <td>Pos 4</td> <td>Pos 5</td> </tr> <tr> <td>A</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> <tr> <td>B</td> <td></td> <td></td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> </table>		Off	Pos 1	Pos 2	Pos 3	Pos 4	Pos 5	A	●	●	●	●	●	●	B			●	●	●	●	<p>A</p> <p>B</p> <p>C</p> <p>N</p> <p>A - Dim. X = 26.0 B - Dim. X = 22.0 C - Dim. X = 10.8 N - Dim. X = 20.0 K - Dim. X = 13.0</p> <p>K</p>
		Off		Pos 1	Pos 2	Pos 3	Pos 4	Pos 5																	
A		●		●	●	●	●	●																	
B					●	●	●	●																	
		<p>3</p> <p>Switching positions</p>		<p>D</p> <p>D - Dim. X = 12.2 T - Dim. X = 18.0</p>																					
		<p>4</p> <p>Switching positions</p>		<p>M</p>																					
	<p>5</p> <p>Switching positions</p>	<p>P</p>																							
	<p>6</p> <p>Switching positions</p>	<p>R</p>																							
<p>H</p> <p>4.8 x 0.8</p> <p>For approval information on H terminals, contact sales.</p> <p>Simple circuits may not use all terminals. Unnecessary terminals may be omitted.</p>		<p>S</p>	<p>L</p> <p>supplied without shaft</p>																						



BODY

A
Standard 2 hole mounting



Recommended Mounting
2 each of No4 / 3.0mm self tapping screws
5.0mm min penetration into switch body.

Stacked Switches
For more complex switching a second switch may be stacked on the first.



OPTIONS

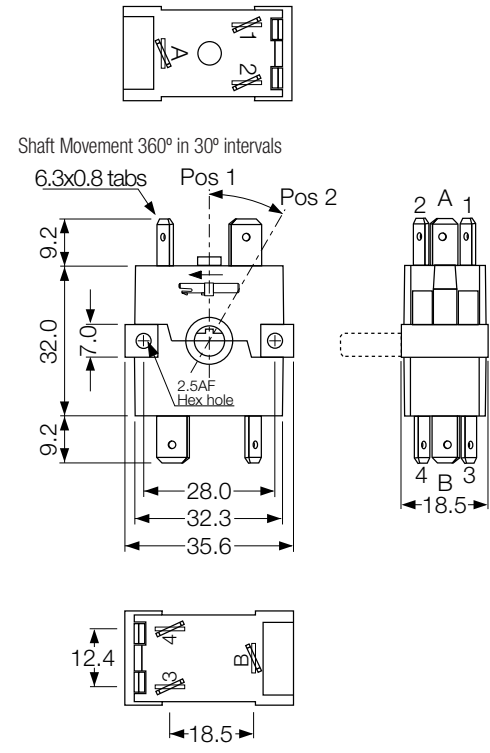
Anti-rotation stops
May be fitted at any of the index positions to limit the maximum angle of rotation.

Panel clearance
A spacer can be fitted to the switch body to increase the clearance between the mounting panel and switch terminals.

Custom shafts
Custom shafts of any length, with or without a "D" flat, can be produced from our infinitely variable tooling. The flat can be at any angle.

For all options call sales.

DIMENSIONS (mm)




Note
In the circuits on this page, the symbol ● shows the position of the switch cam, NOT the position of the shaft flat.

rotary switches

Indicator Lights Neon, LED and Incandescent Lamp

Colors and voltages:

-  **Neon** Available with Red, Amber, Green or Clear lenses
100/130V (marked 110V), 200/250V (marked 230V)
-  **LED - DC** Red, Yellow, Green, Blue, White
2.0/2.2V Resistors for other voltages available.
-  **LED - AC** Red, Yellow, Green, Blue, White
110-230V ac operation.
-  **Incandescent lamp** Available with Red, Amber, Green, Clear or Blue lenses
6V, 12/14V, 24/28V.

- ▶ Neon, DC LED, AC LED or incandescent lamp
- ▶ Bezel sizes from 6.7 to 16.3mm dia
- ▶ Red, amber, green and clear lenses
- ▶ Red, yellow, green, blue and white LEDs
- ▶ Wide choice of styles




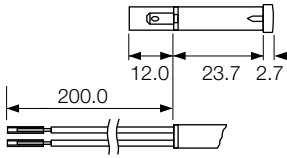






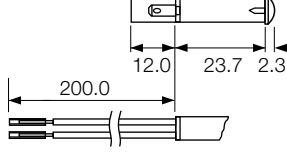






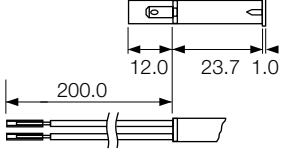






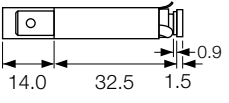




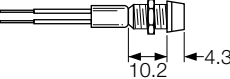






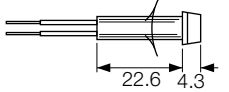





UL file E63363

Approvals shown for neon versions only



RoHS compliant

SERIES	MODEL	TERM	PANEL & °C	DIMENSIONS (mm)
NL Neon	566A 	B 2.8 	6.0 	
LE LED (DC)		WL 	2.0max 	
LE LED (AC)			page 6	
NL Neon	566B 	B 2.8 	6.0 	
LE LED (DC)		WL 	2.0max 	
LE LED (AC)			page 6	
NL Neon	566C 	B 2.8 	6.0 	
LE LED (DC)		WL 	2.0max 	
LE LED (AC)			page 6	
FL Filament	145 	C 6.3 	5.8 	
NL Neon			3.0max 	
LE LED (DC)			page 6	
FL Filament	1041 Chrome bezel 	WL 	6.3 	
NL Neon		L 	6.3max 	
LE LED (DC)			page 6	
FL Filament	1045 Chrome bezel available 	WL 	6.3 	
NL Neon		L 	10.0max 	
LE LED (DC)				
LE LED (AC)			page 6	

▶ **ORDER FORMAT example**







SERIES	MODEL	TERM	PANEL & °C	DIMENSIONS (mm)
FL Filament	245 Chrome bezel available 	WL	7.1	
NL Neon		L	6.3max	
LE LED (DC)			page 6	
LE LED (AC)				
FL Filament	2950 Chrome bezel available 	WL	8.0	
NL Neon			0.8-1.6	
LE LED (DC)			page 6	
LE LED (AC)				
FL Filament	195 BB 	WL	8.0	
NL Neon		C 6.3	0.8-3.0	
			page 6	
FL Filament	2951 Chrome bezel 	WL	8.0	
NL Neon			0.8-1.6	
LE LED (DC)			page 6	
LE LED (AC)				
FL Filament	568 A(*) Deep lens profile 	WL	8.0	
NL Neon		H 4.8	0.8-3.5	
LE LED (DC)			page 6	
	(VDE at T100)			
FL Filament	568 B(*) Shallow lens profile 	WL	8.0	
NL Neon		H 4.8	0.8-3.5	
LE LED (DC)			page 6	

Indicators

Indicator Lights Neon, LED and Incandescent Lamp

Colours and voltages:

-  **Neon** Available with Red, Amber, Green or Clear lenses
100/130V (marked 110V), 200/250V (marked 230V)
-  **LED - DC** Red, Yellow, Green, Blue, White
2.0/2.2V Resistors for other voltages available.
-  **LED - AC** Red, Yellow, Green, Blue, White
110-230V ac operation.
-  **Incandescent lamp** Available with Red, Amber, Green, Clear or Blue lenses
6V, 12/14V, 24/28V.

- ▶ Neon, LED, mains LED or filament lamp
- ▶ Bezel sizes from 6.7 to 16.3mm diameter
- ▶ Red, amber, green, blue and clear lenses
- ▶ Red, yellow, green, blue and white LEDs
- ▶ Wide choice of styles


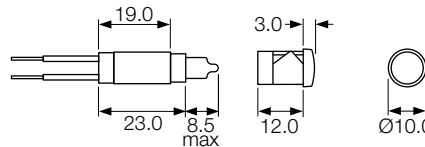

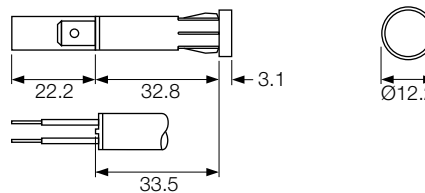
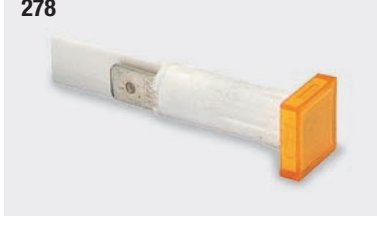
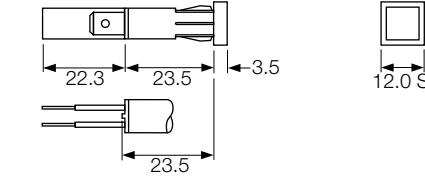

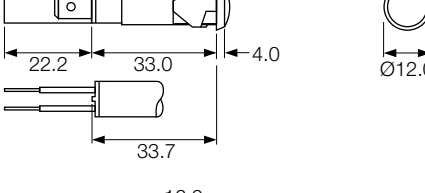

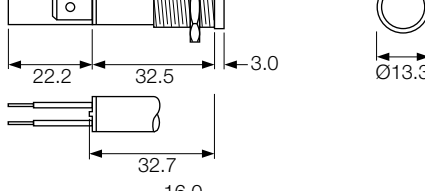

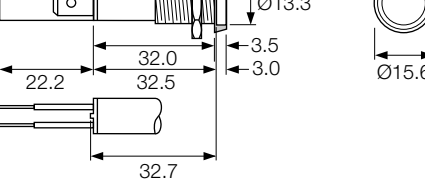


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Approvals shown for neon versions only



RoHS compliant

SERIES	MODEL	TERM	PANEL & °C	DIMENSIONS (mm)
NL Neon		WL	9.0	
LE LED (DC)			0.8-2.5	
LE LED (DC)			Call sales	
LE LED (AC)				
NL Neon		WL	9.0	
LE LED (DC)		K 2.8	2.0 max	
LE LED (DC)		H 4.8		
LE LED (AC)		C 6.3	page 6	
NL Neon		WL	9.0	
LE LED (DC)		K 2.8	2.0 max	
LE LED (DC)		H 4.8		
LE LED (AC)		C 6.3	page 6	
FL Filament		WL	9.5	
NL Neon		K 2.8	0.8-2.8	
LE LED (DC)		H 4.8		
LE LED (AC)		C 6.3	page 6	
FL Filament		WL	10.0	
NL Neon		K 2.8	12.0 max	
LE LED (DC)		H 4.8		
LE LED (AC)		C 6.3	page 6	
FL Filament		WL	10.0	
NL Neon		K 2.8	11.5 max	
LE LED (DC)		H 4.8		
LE LED (AC)		C 6.3	page 6	

▶ **ORDER FORMAT** example



SERIES	MODEL	TERM	PANEL & °C	DIMENSIONS (mm)
FL Filament	276 	WL	10.0	
NL Neon		K 2.8	2.8 max	
LE LED (DC)		H 4.8	page 6	
LE LED (AC)		C 6.3		
FL Filament	277 Chrome bezel 	WL	10.0	
NL Neon		K 2.8	12.0 max	
LE LED (DC)		H 4.8	page 6	
LE LED (AC)		C 6.3		
FL Filament	273 LL 	WL	10.0	 For sub-panel mounting, behind a facia.
NL Neon		K 2.8	0.6-2.0	
LE LED (DC)		H 4.8	page 6	
LE LED (AC)		C 6.3		
FL Filament	2820 	WL	12.0	
NL Neon		K 2.8	0.75-2.0	
LE LED (DC)		H 4.8	page 6	
LE LED (AC)		C 6.3		
FL Filament	2821 	WL	12.0 or 12.7	
NL Neon		K 2.8	$\varnothing 12.0 = 0.8-2.5$	
LE LED (DC)		H 4.8	$\varnothing 12.7 = 1.1-2.5$	
LE LED (AC)		C 6.3	page 6	
FL Filament	586 	WL	12.5	
NL Neon		K 2.8	0.8-1.5	
LE LED (DC)		H 4.8	page 6	
LE LED (AC)		C 6.3		

Indicators

Indicator Lights Neon, LED and Incandescent Lamp

Colours and voltages:

-  **Neon** Available with Red, Amber, Green or Clear lenses
100/130V (marked 110V), 200/250V (marked 230V)
-  **LED - DC** Red, Yellow, Green, Blue, White
2.0/2.2V Resistors for other voltages available.
-  **LED - AC** Red, Yellow, Green, Blue, White
110-230V ac operation.
-  **Incandescent lamp** Available with Red, Amber, Green, Clear or Blue
lenses 6V, 12/14V, 24/28V.

- ▶ Neon, LED, mains LED or filament lamp
- ▶ Bezel sizes from 6.7 to 16.3mm diameter
- ▶ Red, amber, green and clear lenses
- ▶ Red, yellow, green, blue and white LEDs
- ▶ Wide choice of styles




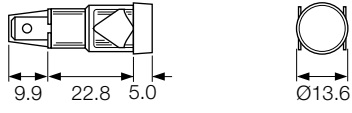









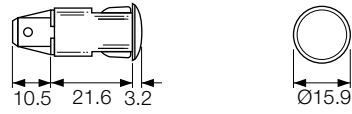









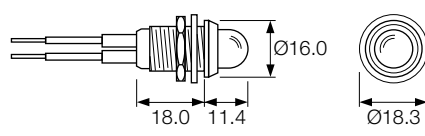






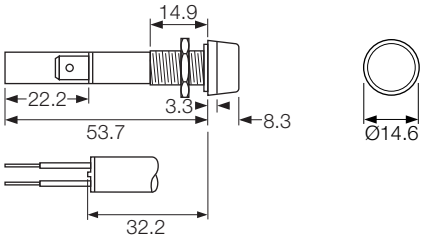









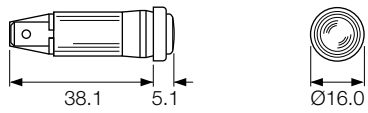









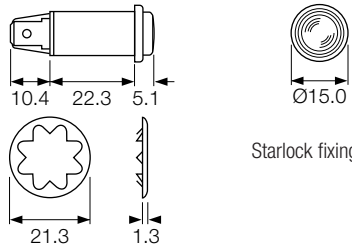






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Approvals shown for neon versions only







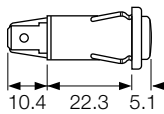









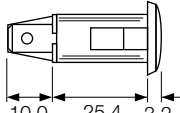
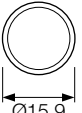





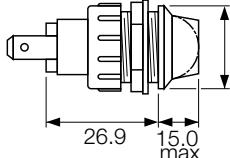
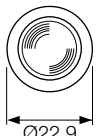


RoHS compliant

SERIES	MODEL	TERM	PANEL & °C	DIMENSIONS (mm)
NL Neon	2870 	WL 	 12.7	
LE LED (DC)		K 2.8 	 0.75-2.0	
LE LED (DC)		H 4.8 		
LE LED (AC)		C 6.3 	 page 6	
NL Neon	589 	WL 	 12.7	
LE LED (DC)		K 2.8 	 0.8-1.5	
LE LED (DC)		H 4.8 		
		C 6.3 	 page 6	
NL Neon	81 Chrome bezel 	WL 	 12.7	
LE LED (DC)			 9.5	
LE LED (DC)				
LE LED (AC)			 page 6	
FL Filament	177 Chrome bezel 	WL 	 12.7	
NL Neon		K 2.8 	 12.0max	
LE LED (DC)		H 4.8 		
LE LED (AC)		C 6.3 	 page 6	
FL Filament	67 Chrome bezel 	WL 	 12.7	
NL Neon		K 2.8 	 1.14max	
LE LED (DC)		H 4.8 		
LE LED (AC)		C 6.3 	 page 6	
FL Filament	180AA 	WL 	 12.7	
NL Neon		C 6.3 	 19.0max	
LE LED (DC)				
			 page 6	





▶ **ORDER FORMAT** example



SERIES	MODEL	TERM	PANEL & °C	DIMENSIONS (mm)
FL Filament NL Neon LE LED (DC)	180BB Chrome bezel 	WL  C 6.3 	 13.5  0.9-1.14  page 6	 10.4 22.3 5.1  Ø16.3
FL Filament NL Neon LE LED (DC) LE LED (AC)	579 	WL  K 2.8  H 4.8  C 6.3 	 14.0  2.5max  page 6	 10.0 25.4 3.2  Ø15.9
FL Filament NL Neon LE LED (DC) LE LED (AC)	392 	C 6.3 	 19.0  4.0max  page 6	 26.9 15.0 max Ø22.9  Ø22.9

Indicator Lights Neon, LED and Incandescent Lamp

Colours and voltages:

-  **Neon** Available with Red, Amber, Green or Clear lenses
100/130V (marked 110V), 200/250V (marked 230V)
-  **LED - DC** Red, Yellow, Green, Blue, White
2.0/2.2V Resistors for other voltages available.
-  **LED - AC** Red, Yellow, Green, Blue, White
110-230V ac operation.
-  **Incandescent lamp** Available with Red, Amber, Green, Clear or Blue lenses
6V, 12/14V, 24/28V.

- ▶ Neon, LED, mains LED or filament lamp
- ▶ Bezel sizes from 6.7 to 16.3mm diameter
- ▶ Red, amber, green and clear lenses
- ▶ Red, yellow, green, blue and white LEDs
- ▶ Wide choice of styles






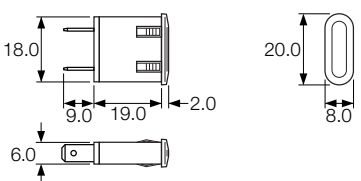





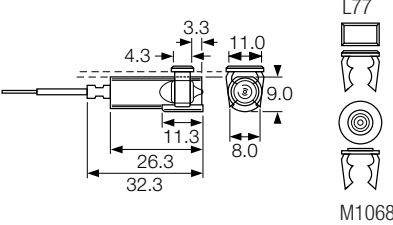



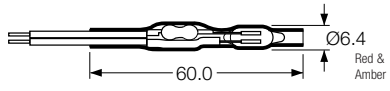


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Approvals shown for neon versions only



RoHS compliant

SERIES	MODEL	TERM	PANEL & °C	DIMENSIONS (mm)
FL Filament	581 AY 	H 4.8 	 18.2/18.3 x 6.2/6.3*  2.0-3.5  page 6	
NL Neon				
NL Neon	234 	L 	 9.27/9.50 x 4.75*  0.71-1.62  page 6	
NL Neon				
NL Neon	233 	L 	 page 6	

Neon tube, resistor and flexible lead assembly, protected by "heat shrink" transparent sleeving.

Indicator Lights

To match 8500, 8600, R13, 1500, 1550, 5500, 6000, 8300 and 7000 switches

Colours and voltages:

- Neon** Available with Red, Amber, Green or Clear lenses
100/130V (marked 110V), 200/250V (marked 230V)
- Filament lamp** Available with Red, Amber or Green lenses
6V, 12/14V, 24/28V
- Mains LED** 6030 only

- ▶ Indicator lights
- ▶ Neon or filament lamp
- ▶ Bezel sizes from 6.7 to 16.3mm diameter
- ▶ Red, amber green and clear neons
- ▶ Red, amber and green filament lamps
- ▶ Styles to match rocker and push switches



UL file E63363

Approvals shown for neon versions only



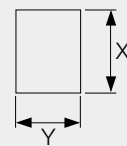
RoHS compliant

TERM	MODEL
H 4.8	H8580 AB
H 4.8	H8630 FB
T	R9 92B Approvals details - contact sales
X	
H 4.8	R9 92B Approvals details - contact sales
C 6.3	C430 C6030 AL
H 4.8	C480
K 2.8	
T	
U	
C 6.3	C7030 AH

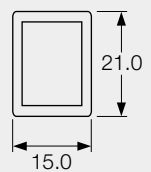
Full product details on pages 12-13

Body Code	Panel thickness	Cut-out	
		X	Y
B	0.75-1.25	19.1/19.2	12.9/13.0
	1.25-2.0	19.3/19.4	12.9/13.0
	2.0-3.0	19.7/19.8	12.9/13.0

Cut-out



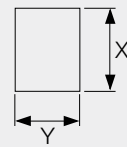
Flange



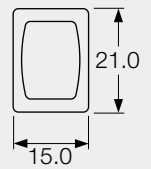
Full product details on pages 14-15

Body Code	Panel thickness	Cut-out	
		X	Y
B	0.75-1.25	19.1/19.2	12.9/13.0
	1.25-2.0	19.3/19.4	12.9/13.0
	2.0-3.0	19.7/19.8	12.9/13.0

Cut-out



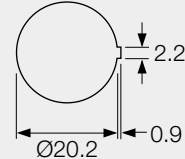
Flange



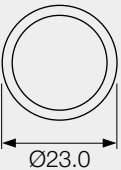
Full product details on pages 33

Snap fixing in panels thickness up to 3.0

Cut-out



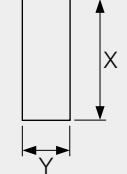
Flange



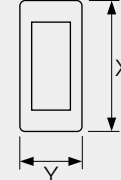
Full product details on pages 18-19 & 22-23

Body Code	Cut-out		Flange	
	Y	X	Y	X
A	12.2/12.3	27.2/27.3	14.0	30.2
B	11.0/11.1	30.0/30.1	14.0	33.4
L	11.0/11.1	30.0/30.1	14.0	31.9
R	14.0/14.1	28.5/28.6	17.0	31.5
T	11.5/11.6	28.2/28.3	14.0	30.2

Cut-out



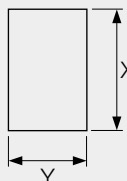
Flange



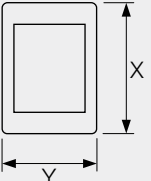
Full product details on pages 28-29

Body Code	Cut-out		Flange	
	Y	X	Y	X
A	22.3/22.4	27.2/27.3	25.0	30.2
B	22.1/22.2	30.0/30.1	25.0	33.4
L	22.1/22.2	30.0/30.1	25.0	32.0
R	23.0/25.4	28.4/28.5	28.9	33.2
T	22.3/22.4	28.2/28.3	25.0	30.2

Cut-out



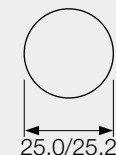
Flange



Full product details on pages 44-45

Body Code	Cut-out	Flange
H	Ø25.0/25.2	Ø28.0

Cut-out

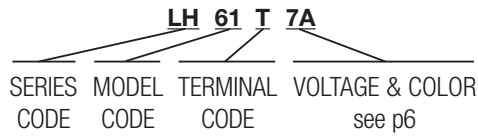


Flange



Low Voltage Lampholders



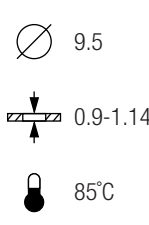
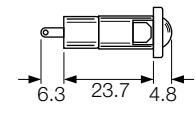



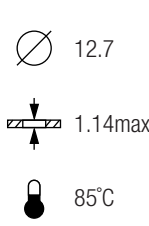
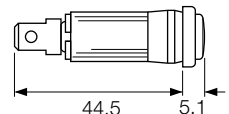



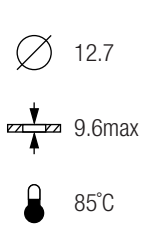
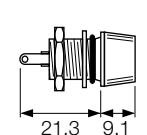



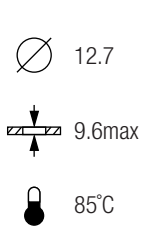
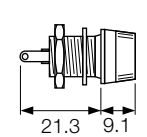



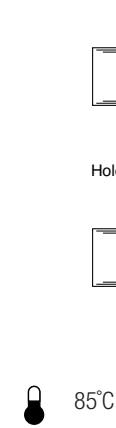
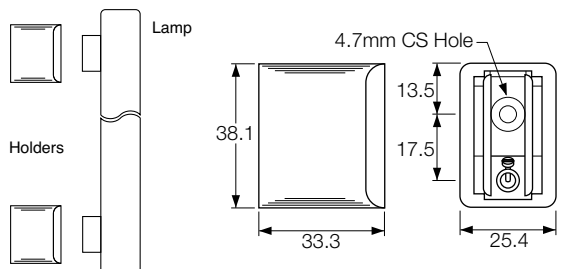
ORDER FORMAT



approvals not applicable to LH series

- ▶ Up to 50V
- ▶ Red, Amber, Green, Blue and Clear
- ▶ Linestra/Philinea lamp holder

RoHS RoHS compliant

▶ SERIES	▶ MODEL	▶ TERM	▶ VOLTAGE & COLOR see p6
LH Lampholder Midget screw 6, 12, 24V bulbs, up to 50 volts only	61 	T  	 Rear of panel bulb replacement 
LH Lampholder T2 Bayonet 6, 12, 24V bulbs, up to 50 volts only	67 Chrome or matt black bezel 	C 6.3  	 Rear of panel bulb replacement 
LH Lampholder Midget screw or T1 3/4 Midget Flange 6, 12, 24V bulbs, up to 50 volts only	A62 is Midget Flange Chrome bezel  A63 is Midget Screw Chrome bezel	T  	 Front of panel bulb replacement 
LH Lampholder Midget screw or T1 3/4 Midget Flange 6, 12, 24V bulbs, up to 50 volts only	M62 is Midget Flange  M63 is Midget Screw	T  	 Front of panel bulb replacement 
LH Lampholder For use in pairs with philinea lamp	95 	S  	 Paired Architectural lampholders for Linestra or Philinea lamp.

indicators

Low Voltage Lampholders



LH392



LH692

- ▶ Up to 50V
- ▶ MES or MBC bulb
- ▶ Flat and domed lens
- ▶ Brass or nylon bodies
- ▶ Red, Amber, Green, Blue and Clear lenses

RoHS

RoHS compliant

Bulbs will be supplied (dependant on order quantity) if a voltage is specified. These lampholders are suitable for up to 50V max.

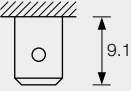


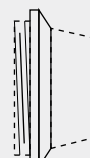
Colors - Red, Amber, Green, (Clear & Blue, check availability). Brass bodies have polished chrome finish.

For Neon & Mains versions see page 75
For Sealed version see page 84

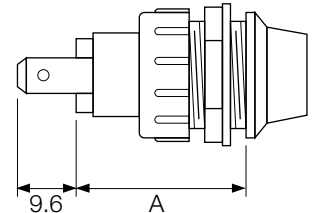
LH 692 7R

SERIES MODEL VOLTAGE & COLOR
CODE CODE see p 6

ORDER FORMAT

SERIES	MODEL					
LH Lampholder For T3 1/4 bayonet cap 50V max  6.3 x 0.8	Code	Panel Hole Dia	Body Material	Dimension A	Max Panel Thickness	Terminal
	382	19.0mm	Nylon	35.0mm	6.3mm	6.3 x 0.8
	 Black nylon bezel with polycarbonate lens (Lens is L90 & Color)					
	392	19.0mm	Nylon	35.0mm	6.3mm	6.3 x 0.8
 Chrome bezel with polycarbonate lens (Lens is L90 & Color)						
	692	25.4mm	Brass	41.8mm	8.7mm	6.3 x 0.8
 Chrome bezel with polycarbonate lens (Lens is L117 & Color)						

DIMENSIONS mm



OPTIONS

Light sources
LEDs (6, 12, 24V)
or
Incandescent lamps are available

M445

P.V.C. Insulating terminal cover



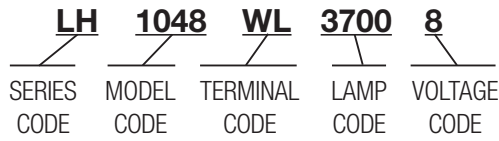
Sealing

Neoprene washers to seal between bezel and panel (W23) and lens and bezel (W24) to give a seal equivalent to IP66 are available on most versions

LED Lamps and LED Lampholders

LED Lampholders can be supplied with or without LEDs

ORDER FORMAT



- ▶ LED lampholders
- ▶ Supplied with or without LEDs
- ▶ Black or Chrome finish

RoHS RoHS compliant

▶ SERIES	▶ MODEL	▶ LAMP		▶ COLOR CODE		▶ VOLTAGE CODE		See also technical info on page 6
		No lamp - Blank	For WL versions:	Red	Yellow	Green	Blank	
LH T1 (3mm) Lampholder	1047 chrome 1047WL chrome	1047B black 1047BWL black	No lamp - Blank	For WL versions: w/o resistor 6Vdc 12Vdc 24Vdc *see note on page 77	Red 4700 Yellow 4701 Green 4702	Blank 6 7 8	6.3 6.3max 85°C	
	LH T1 3/4 (5mm) Lampholder	1048 chrome 1048WL chrome	1048B black 1048BWL black	No lamp - Blank	For WL versions: w/o resistor 6Vdc 12Vdc 24Vdc *see note on page 77	Red 3700 Yellow 3701 Green 3702	Blank 6 7 8	8.0 5.5max 85°C
LH T1 3/4 (5mm) Lampholder with Light Focusing Reflector	1050 chrome 1050WL chrome	1050B black 1050BWL black	No lamp - Blank	For WL versions: w/o resistor 6Vdc 12Vdc 24Vdc *see note on page 77	Red 3700 Yellow 3701 Green 3702	Blank 6 7 8	8.0 7.0max 85°C	
LH	10350A 10350AWL		LED COLOR	VOLTAGE CODE	Red 3700 Yellow 3701 Green 3702 White 3703 Blue 3704	2V Blank 6 7 8 5	4.5 0.9-1.6 T85	
LH	10360A 10360AWL		LED COLOR	VOLTAGE CODE	Red 3700 Yellow 3701 Green 3702 White 3703 Blue 3704	2V Blank 6 7 8 5	6.0 0.9-1.6 T85	
LH	10370A 10370AWL		LED COLOR	VOLTAGE CODE	Red 3700 Yellow 3701 Green 3702 White 3703 Blue 3704	2V Blank 6 7 8 5	6.35 0.9-1.6 T85	

indicators

Neon & LED Indicator Lights Sealed to IP52 and IP54

▶ **ORDER FORMAT example**

NL 3130 S 2R

SERIES CODE MODEL CODE TERMINAL CODE VOLTAGE & COLOR
see p 6

- ▶ IP52 and IP54 sealing
- ▶ Three bezel sizes: 18.0, 20.5 and 30.0 dia.
- ▶ Neon or LED indicator
- ▶ Black and satin chrome bezel or without bezel
- ▶ Recessed screw terminals



Approval shown for neon versions only

RoHS RoHS compliant

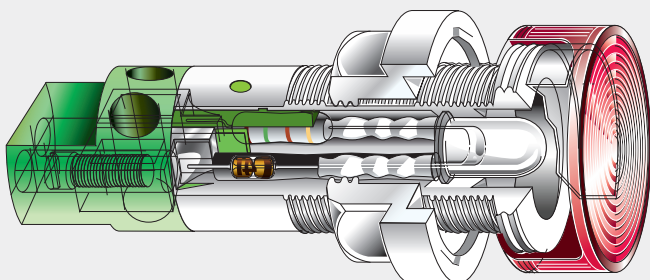
Neon versions feature integral current limiting & ghost lighting resistors.

LED versions have rectifier diodes & resistors for direct connection to 28Vac/dc.

IP52 is standard.

A panel sealing washer is available for IP54

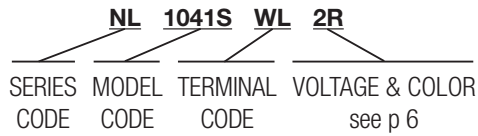
SERIES	MODEL	TERM	VOLTAGE & COLOR see p6	SEALING OPTION State IP52 or IP54
LE LED NL Neon	3130 No bezel 	S Recessed Screw	13.2 8.0max 120°C neon 50°C LED	
LE LED NL Neon	3160 Black bezel 	S Recessed Screw	16.2 5.0max 120°C neon 50°C LED	
LE LED NL Neon	3161 Satin chrome style bezel 	S Recessed Screw	16.2 5.0max 55°C neon 50°C LED	
LE LED NL Neon	3221 Large black bezel 	S Recessed Screw	22.3 4.5max 120°C neon 50°C LED	



Select the version most suitable for your application from the 4 types shown.
Or call sales for availability to your special requirements.

Indicator Lights - Sealed to IP67

ORDER FORMAT



- ▶ IP67 Panel Sealing
- ▶ Supplied complete with gaskets/'O' rings
- ▶ Neon, LED, mains LED or incandescent lamp
- ▶ Bezel sizes from 7.6 to 22.9mm diameter
- ▶ Red, amber, green, blue and clear lenses
- ▶ Red, yellow, green, blue and white LEDs
- ▶ Wide choice of styles

KEMA

RoHS RoHS compliant

SERIES	MODEL	TERM	PANEL & °C	DIMENSIONS (mm)
NL Neon	1041S Chrome bezel	WL	6.3	
LE LED (DC)			5.3 max	
LE LED (DC)				
NL Neon	245S Chrome bezel	WL	7.1	
LE LED (DC)			4.6 max	
LE LED (DC)				
LE LED (AC)				
NL Neon	275S Chrome bezel	WL	10.0	
LE LED (DC)		C 6.3	11.5 max	
LE LED (DC)		K 2.8		
LE LED (AC)		H 4.8		
NL Neon	277S Chrome bezel	WL	10.0	
LE LED (DC)		C 6.3	11.5 max	
LE LED (DC)		K 2.8		
LE LED (AC)		H 4.8		
NL Neon	177S Chrome bezel	WL	12.7	
LE LED (DC)		C 6.3	11.5 max	
LE LED (DC)		K 2.8		
LE LED (AC)		H 4.8		
NL Neon	392FFS	C 6.3	19.0	
LE LED (DC)			4.0 max	
LE LED (DC)				
LE LED (AC)				

LED Lamps and LED Lampholders - Sealed to IP67

LED Lampholders can be supplied with or without LEDs

RoHS

RoHS compliant

- ▶ IP67 front bezel sealing
- ▶ LED lampholders
- ▶ Supplied with or without LEDs
- ▶ Black or Chrome finish

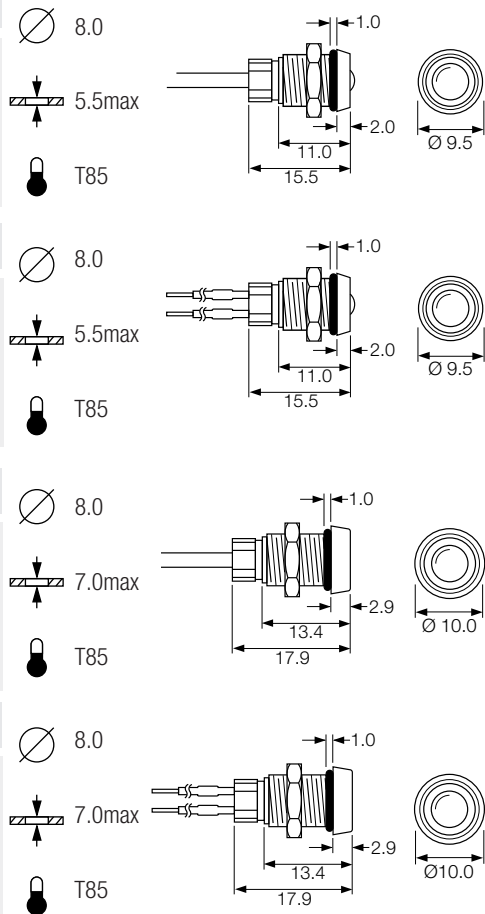
ORDER FORMAT

LH	1048S	WL	3700	8
SERIES CODE	MODEL CODE	TERMINAL CODE	LAMP CODE	VOLTAGE CODE

SERIES	MODEL	DESIGNED TO
LH	1048S Chrome 1048BS Black	Designed to IP67
LH	1048SWL Chrome 1048BSWL Black	Designed to IP67
LH	1050S Chrome 1050BS Black	Designed to IP67
LH	1050SWL Chrome 1050BSWL Black	Designed to IP67

LAMP	
COLOR CODE	VOLTAGE CODE
No lamp - Blank	For WL versions:
Red 4700	w/o resistor Blank
Yellow 4701	6Vdc 6
Green 4702	12Vdc 7
	24Vdc 8
No lamp - Blank	For WL versions:
Red 3700	w/o resistor Blank
Yellow 3701	6Vdc 6
Green 3702	12Vdc 7
	24Vdc 8
No lamp - Blank	For WL versions:
Red 3700	w/o resistor Blank
Yellow 3701	6Vdc 6
Green 3702	12Vdc 7
	24Vdc 8
No lamp - Blank	For WL versions:
Red 3700	w/o resistor Blank
Yellow 3701	6Vdc 6
Green 3702	12Vdc 7
	24Vdc 8

See also technical info on pages 6



Properties

Sealing

O-ring sealing equivalent to IP67, of both the LED to bezel, and bezel to panel is available where shown.

Polarity

The nylon base mouldings are polarity marked.

Body Material and Finish

Chromed brass or Black oxide coated brass.

Lampholders only

Items prefixed 'A' are supplied without LEDs.

LED wires or PVC covered wire leads

125mm min length wires, 6.3mm standard strip.
Alternative colours, length and strip available.



Low Voltage Lampholders - Sealed to IP67

ORDER FORMAT







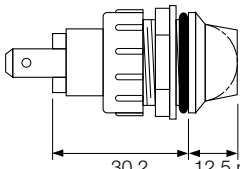






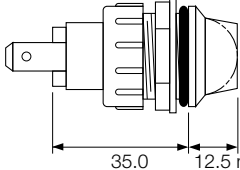






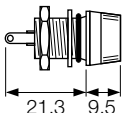







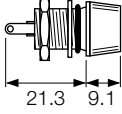

LH 392FPS 7R

SERIES MODEL VOLTAGE & COLOR
 CODE CODE see p 6

- ▶ IP67 Panel seal
- ▶ Supplied complete with gaskets/'O' rings
- ▶ Up to 50V
- ▶ Red, Amber, Green, Blue and Clear
- ▶ LES, Midget Flange, MES & MBC bulb



RoHS RoHS compliant

SERIES	MODEL	TERM	PANEL & °C	DIMENSIONS (mm)
LH	LH1090 FPS (MES)  	C 6.3 	 19.0  4.0 max  T85	 30.2 12.5 max Front of panel bulb replacement
LH	LH1091 FQS (MBC)  	C 6.3 	 19.0  4.0 max  T85	 35.0 12.5 max Front of panel bulb replacement
LH	LH0062 AOS (Midget flange) Chrome bezel LH0063 AOS (LES) Chrome bezel  	T 	 12.7  8.5 max  T85	 21.3 9.5  Ø14.7
LH	LH0062 MOS (LES & Midget flange) LH0063 MOS (LES)  	T 	 12.7  8.5 max  T85	 21.3 9.1  Ø14.7

F0445 MO
 P.V.C. Insulating terminal cover.
 For use with C1090 & C1091



IEC Connectors & NEMA Receptacles



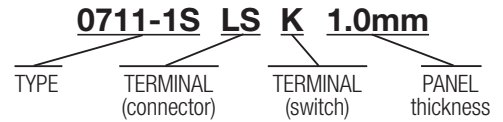
10A 250V ac

UL CSA 10A 250V ac **UL 65°C**

RoHS RoHS compliant

To order:
State Type number and terminal codes. All items supplied for 1.0mm panel thickness as standard. Contact factory for additional options.

- ▶ Ratings up to 10A, 250V ac
- ▶ IEC 320 Inlets & outlets
- ▶ NEMA outlets
- ▶ Fused and non fused
- ▶ Flange and snap fit panel mounting

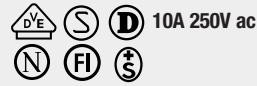


▶ **ORDER FORMAT**

▶ TYPE	▶ TERMINAL	DIMENSIONS (mm)		
0707-1-C Inlet	S 2.5 Solder		15A 250Vac 10A 250Vac	
	N 4.0 Solder			
Q 4.8 Tab				
W 6.3 Tab				
0708-1-C Outlet	N 4.0 Solder		15A 250Vac 10A 250Vac	
	Q 4.8 Tab			
	W 6.3 Tab			
	P PCB			
0709-P Outlet	L 4.0 Solder		Panel X thickness 0.8 24.0 1.0 24.6 1.2 25.2 1.6 26.2	15A 250Vac
	Q 4.8 Tab			
0710-P Outlet	V12 Solid Wire		Panel X thickness 0.8 - 1.2 24.6 1.3 - 2.0 24.8	15A 250Vac
	V16 Solid Wire			
0710-PV16 is 13A 250Vac. 0710-PV12 is 15A 250Vac				
0711-P Inlet	S 2.5 Solder		Rating/approval details on request Panel X thickness 0.8 - 1.2 20.3 1.3 - 2.0 20.5	15A 250Vac 10A 250Vac
	N 4.0 Solder			
	Q 4.8 Tab			
	W 6.3 Tab			

IEC Connectors & NEMA Receptacles

- ▶ Ratings up to 10A, 250V ac
- ▶ IEC 320 Inlets & outlets
- ▶ Fused and non fused
- ▶ Flange and snap in panel mounting



10A 250V ac

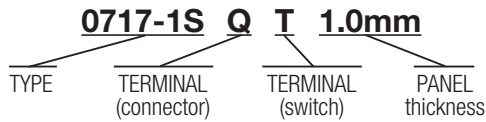


UL CSA 10A 250V ac UL 65°C





























RoHS compliant

To order:
State Type number and terminal codes. All items supplied for 1.0mm panel thickness as standard. Contact factory for additional options.

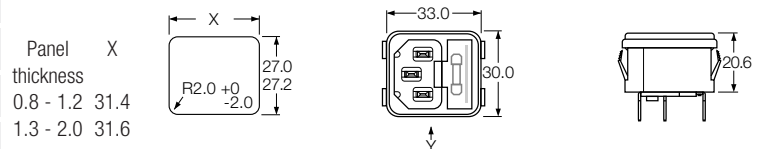


ORDER FORMAT

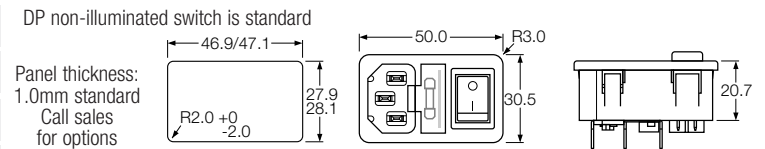
TYPE	TERMINAL
0717-1-P  Fused Inlet 5x20	S 2.5 Solder  LS 2.8 Solder  Q 4.8 Tab  W 6.3 Tab 
0717-1S State "Non Lit"  Switched Fused Inlet 5x20	Q 4.8 Solder  Connector T 4.8 Solder  Switch
0717-1S State "Lit"  Switched Fused Inlet 5x20	Q 4.8 Solder  Connector T 4.8 Solder  Switch
0717-C  Fused Inlet 5x20	S 2.5 Solder  LS 2.8 Solder  Q 4.8 Tab  W 6.3 Tab 
0717-2-C  Double Fused Inlet 5x20	S 2.5 Solder  LS 2.8 Solder  Q 4.8 Tab  W 6.3 Tab 
0717-2-P  Double Fused Inlet 5x20	S 2.5 Solder  LS 2.8 Solder  Q 4.8 Tab  W 6.3 Tab 


DIMENSIONS (mm)

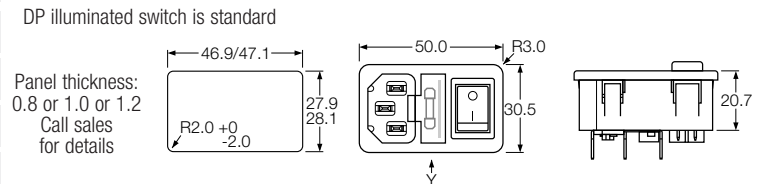
View below is at Y




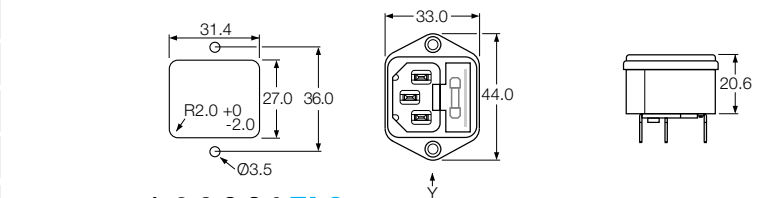
10A 250Vac 



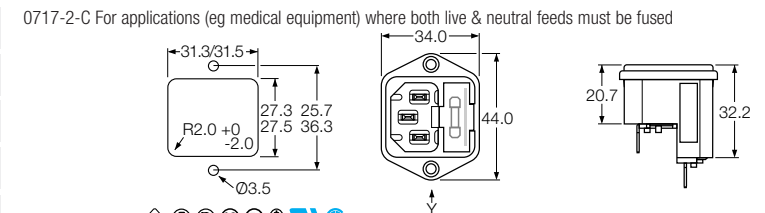
10A 250Vac 



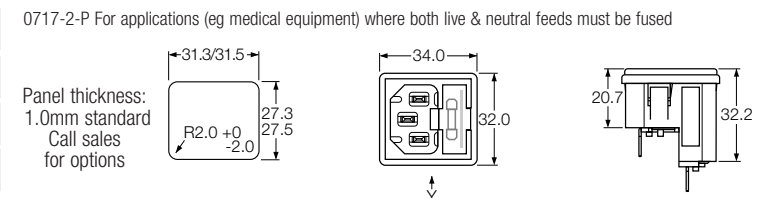
10A 250Vac 






10A 250Vac 



10A 250Vac 

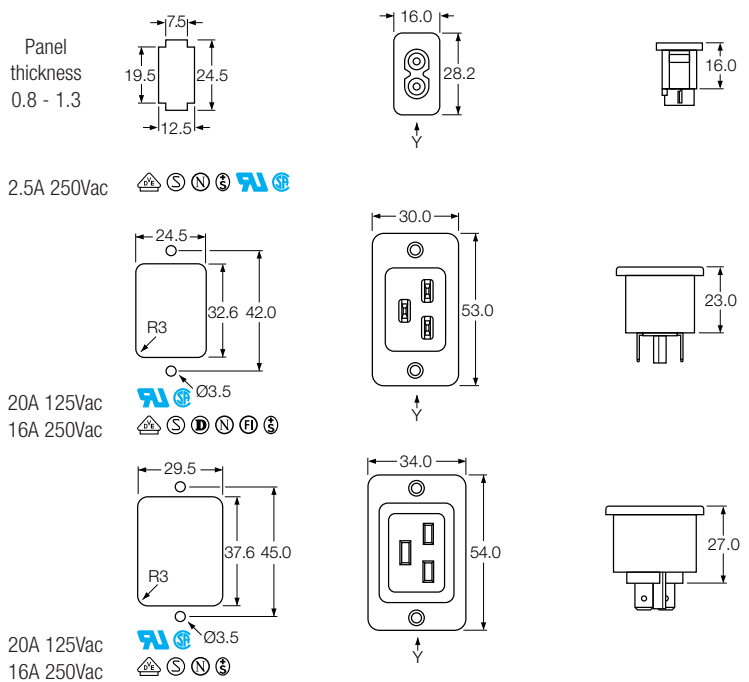


10A 250Vac 

TYPE	TERMINAL
0721-P  Inlet	S Solder
0722-C  Inlet	Q 4.8 Solder W 6.3 Tab
0723-C  Outlet	Q 4.8 Solder W 6.3 Tab

DIMENSIONS (mm)

View below is at Y















Technical data

Mouldings V2 (VO option)
 Connectors Tin plated solid brass
 Terminals Silver plated

Terminal dimensions

For Connectors

For Switches

For Connectors									Slide	Slide	Rocker
S	N	Q	W	P	L	LS	V12	V16	T	K	T
2.5mm Solder	4mm Solder	4.8mm Solder/ Fast on	6.3 Fast on	PCB	Solder	2.8mm Solder	12-14 AWG Solid Wire	16 AWG Solid Wire	Solder	2.8mm Solder	4.8mm Solder
											
1.5x2.5	2.0x3.2	2.8x3.3	Ø1.7	1.7x3.0	Ø3.0x6.0	1.5x3.0	1.35	0.8	2.6	2.6	R1.0 R0.8
4.5	5.5	5.5	8.0	5.5		10.0			6.0	7.0	3.5
									1.0	1.3	8.5

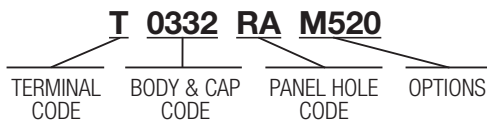
Note: Designated solder terminals should not be fitted with "Push on", "QD" or "Fast on" type cable connectors

Fuseholders 5 x 20 mm



- ▶ 5 x 20mm fuses
- ▶ Finger grip or screwdriver slot knob options.
- ▶ Hand release and screwdriver release
- ▶ PC2 protection category
- ▶ Solder & 2.8mm terminals
- ▶ Raised or low profile bezels
- ▶ Snap in or threaded bushing mounting options
- ▶ Snap fit or screw to panel fixing

ORDER FORMAT



6.3A 250Vac (max fuse rating*) T-55 to T+70 (ambient)
Maximum dissipation wattage: 1.5W



6.3A UL 94V2 UL file E92075 CSA file LR44770



RoHS compliant

These products comply with safety category PC2.
 *Users should be aware of the de-rating factors published by specialist manufacturers of fuses.

These fuseholders are fitted with combination (solder/2.8) mid-body terminals. It has not been possible to show both views here.



M520
Terminal Cover

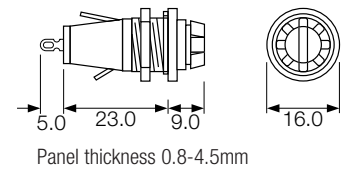


A0033 00
In-line 5 x 20 fuseholder
Extra low voltage 5A Max

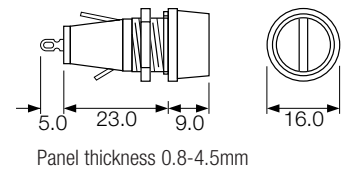
TERMINAL	BODY AND CAP	PANEL HOLE
<p>T</p> <p>Solder</p>	<p>0332 Finger grip</p> <p></p>	<p>RA</p>
	<p>0333 Screwdriver release</p> <p></p>	
<p>B</p> <p>2.8 x 0.5</p>	<p>0340 Screwdriver release</p> <p></p>	<p>RD</p>
	<p>0341 Screwdriver release</p> <p></p>	

DIMENSIONS (mm)

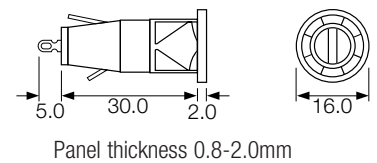
0332 (T terminal shown)



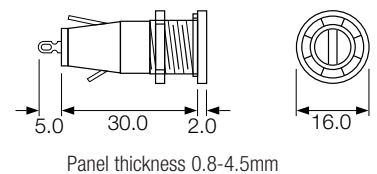
0333 (T terminal shown)



0340 (T terminal shown)



0341 (T terminal shown)



Fuseholders 6.3 x 32mm (1 1/4" x 1/4")



16A 250Vac (max fuse rating*) T-55 to T+70 (ambient)
Maximum dissipation wattage: 4W



16A UL 94V2 UL file E92075 CSA file LR44770

RoHS

RoHS compliant

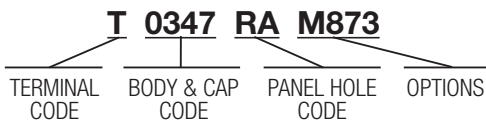
These products comply with safety category PC2.
*Users should be aware of the de-rating factors published by specialist manufacturers of fuses.

Fuseholders with in-line termination have combination (4.8/6.3) terminals. It has not been possible to show both views here. Units with right angle terminals have user specified end terminals and combination mid-body terminals.

- ▶ 6.3 x 32mm fuses
- ▶ Screwdriver slot knob
- ▶ PC2 protection category
- ▶ 4.8, 6.3 and solder terminals
- ▶ Low profile bezel
- ▶ Snap in or threaded bushing mounting options



ORDER FORMAT



M873
Cover for C & T terminals

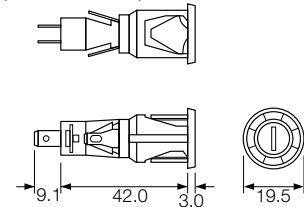


A0035 00
In-line 6.3 x 32 (1 1/4 x 1/4) fuseholder
Extra low voltage 5A Max

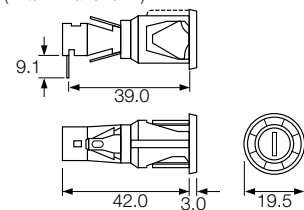
▶ TERMINAL	▶ BODY AND CAP	▶ PANEL HOLE
<p>C</p> <p>6.3 x 0.8</p>	<p>0345 (C terminal shown) Screwdriver release</p> <p></p>	<p>RA</p> <p>Panel thickness 0.8 - 2.0mm for snap fit 0.8 - 7.0mm for screw to panel fixing</p>
<p>D</p> <p>6.3 x 0.8 Right angle</p>	<p>0345 (D terminal shown) Screwdriver release</p> <p></p>	<p>RD</p> <p>Panel thickness 0.8 - 2.0mm for snap fit 0.8 - 7.0mm for screw to panel fixing</p>
<p>T</p> <p>4.8 x 0.8 Solder</p>	<p>0347 (T terminal shown) Screwdriver release</p> <p></p>	
<p>U</p> <p>4.8 x 0.8 Right angle solder</p>	<p>0347 (U terminal shown) Screwdriver release</p> <p></p>	

DIMENSIONS (mm)

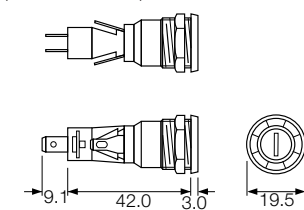
0345 (C terminal shown)



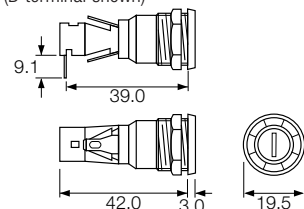
0345 (D terminal shown)



0347 (C terminal shown)



0347 (D terminal shown)



Optional metal fixing nut available for 0347

Maintenance indicator 1430 Smart indicator series



- ▶ Monitors appliance usage
- ▶ Preventative maintenance reminder
- ▶ Internal microcontroller and power supply
- ▶ Built using Surface Mount Technology
- ▶ Counts time that mains power is applied
- ▶ Remembers accumulated time even if power is switched off
- ▶ Connecting 'reset' terminal to Neutral resets timer to zero
- ▶ Flexible configuration & functionality in firmware
- ▶ Convenient snap-in design, fits standard panel cut-out
- ▶ Choice of connection terminals
- ▶ Panel cut-out: 30.0x11.0mm



230Vac, 115Vac, 48V, 24V & 12V
Less than 1 watt (power consumption)

UL Recognised. File no. E311309



CE Mark





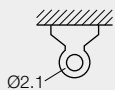
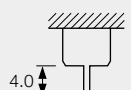
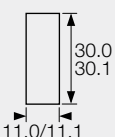
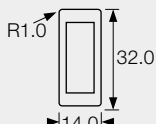
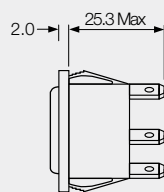
FCC compliant



RoHS compliant

C 1432 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY VOLTAGE, COLOUR, TIME

▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p>  <p>6.3 x 0.8</p> <p>H</p>  <p>4.8 x 0.8</p> <p>T</p>  <p>Ø2.1 Solder</p> <p>X</p>  <p>4.0 PCB 0.8Sq</p>	<p>L Panel Cut-Out</p>  <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p>  <p>R1.0 32.0 14.0</p> <p>Dimensions</p>  <p>2.0 25.3 Max</p>	<p>Dimensions</p> <p>Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>0.75mm to 2.5mm</p> <p>Body Lens Terminals Flame retardancy RoHS compliant</p> <p>Nylon 6.6, matt finish, black colour is standard Clear Polycarbonate, Softline matt finish Copper alloy, Silver plated UL94V0 Yes</p> <p>Operating supply</p> <p>230V ±20% 50/60Hz. 115Vac, 48Vdc, 48Vac, 24Vac, 12Vdc & 12Vac</p> <p>Power consumption</p> <p>Less than 1 Watt</p> <p>Operating conditions (body)</p> <p>-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Electromagnetic Compatibility</p> <p>Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity</p> <p>EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments, 10 V/m EN 61000-4-2:1995 Electrostatic Discharges (ESD) EN 61000-4-3:2002 RF Electromagnetic fields EN 61000-4-4:2004 Fast Transients & Bursts EN 61000-4-5:1995 Surges EN 61000-4-6:1996 Conducted disturbances EN 61000-4-11:2004 Voltage dips & interruptions</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Timing period Timing accuracy</p> <p>Any period from 1 minute to greater than 10 years 2% of scale</p> <p>Approvals</p> <p>UL Recognised CE Mark FCC Compliant</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

All dimensions in millimetres (mm)

▶ APPLICATIONS

- ▶ Coffee machines – decalcification
- ▶ Deep fat fryer – oil change
- ▶ Air conditioning – filter change, bleaching
- ▶ Vacuum cleaner – filter cleaning
- ▶ Motorised equipment – preventative maintenance, lubrication, belt change
- ▶ Petrol/Diesel engine generator – engine service
- ▶ Central heating – gas appliance inspection
- ▶ Inspection/cleaning interval reminder – washrooms, kitchens
- ▶ Equipment calibration interval reminder
- ▶ Electrical safety check interval reminder

▶ OPERATION

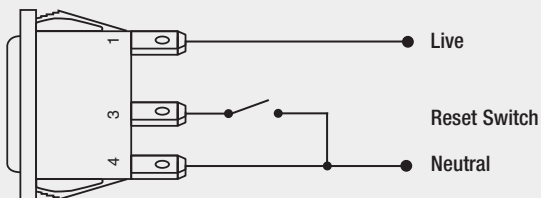
The smart indicator operates like a standard neon indicator, giving visible status indication for the appliance or application. Normal operation will show continuous Green LED illumination (contact sales for other colours).

When the accrued usage time exceeds the factory-set time limit, the LED illumination changes colour to Red (contact sales for other colours) and starts to flash on/off to attract user attention. The indicator will continue to flash on subsequent appliance use, until the maintenance operation is carried out and the reset procedure followed.

To reset the indicator after maintenance operations are completed, simply link terminal 3 to terminal 4 while the indicator is powered. This could be a key-operated switch or a service button within the appliance.

The service interval time is factory programmed, and can be any time period from as little as one minute, up to tens of years.

▶ CONNECTIONS



▶ PART NUMBER

1432AL

Specify Terminal Type:	C, H, T, X
Specify Model Code:	1432AL
Specify Supply Voltage:	230Vac, 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc, 12Vac
Specify LED Colour:	Green/Red, Blue/Red
Specify Time Setting:	Time interval between 1 minute and 10 years. Specify the required time in minutes, hours, days, weeks or months.

Temperature monitor 1430 Smart indicator series



- ▶ Monitors refrigeration temperatures are within safe limits
- ▶ Monitors correct equipment operation
- ▶ Factory programmed window limits
- ▶ Built using Surface Mount Technology
- ▶ Internal microcontroller and power supply
- ▶ Flexible configuration & functionality in firmware
- ▶ Industry standard Thermistor supplied
- ▶ Blue LED indicates normal temperature
- ▶ Flashing Red LED indicates too hot
- ▶ Flashing Blue LED indicates too cool
- ▶ Convenient snap-in design, fits standard panel cut-out
- ▶ Choice of connection terminals
- ▶ Panel cut-out: 30.0x11.0mm

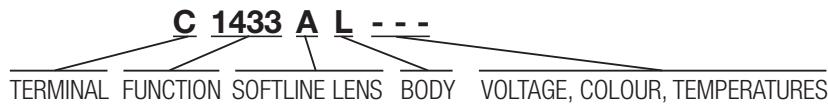
230Vac, 115Vac, 48V, 24V & 12V
Less than 1 watt (power consumption)

UL US UL Recognised. File no. E311309

CE CE Mark

FCC FCC compliant

RoHS RoHS compliant



▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p> <p>6.3 x 0.8</p> <p>H</p> <p>4.8 x 0.8</p> <p>T</p> <p>Ø2.1 Solder</p> <p>X</p> <p>4.0 PCB 0.8Sq</p>	<p>L Panel Cut-Out</p> <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p> <p>R1.0 32.0 14.0</p> <p>Dimensions</p> <p>2.0 25.3 Max</p>	<p>Dimensions Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness 0.75mm to 2.5mm</p> <p>Body Nylon 6.6, matt finish, black colour is standard</p> <p>Lens Clear Polycarbonate, Softline matt finish</p> <p>Terminals Copper alloy, Silver plated</p> <p>Flame retardancy UL94V0</p> <p>RoHS compliant Yes</p> <p>Operating supply 230Vac ±20% 50/60Hz. 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc & 12Vac</p> <p>Power consumption Less than 1 Watt</p> <p>Operating conditions (body) -20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Electromagnetic Compatibility Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments, 10 V/m EN 61000-4-2:1995 Electrostatic Discharges (ESD) EN 61000-4-3:2002 RF Electromagnetic fields EN 61000-4-4:2004 Fast Transients & Bursts EN 61000-4-5:1995 Surges EN 61000-4-6:1996 Conducted disturbances EN 61000-4-11:2004 Voltage dips & interruptions</p> <p>EMC Emissions EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Measurement range -30°C to +80°C (-22°F to +176°F)</p> <p>Measurement accuracy ±1.0°C (±1.8°F)</p> <p>Temperature sensor NTC Thermistor, sealed sensor, cable length 1m</p> <p>Approvals UL Recognised FCC Compliant CE Mark</p> <p>Standards UL 508 CSA C22.2 No. 14-05</p>

All dimensions in millimetres (mm)

APPLICATIONS

- ▶ Deep freeze monitoring - visual check of correct temperature
- ▶ Cold storage monitor - visual check of correct temperature
- ▶ Refrigeration monitoring - visual check of correct temperature
- ▶ Chiller monitor - visual check of correct temperature
- ▶ Air conditioning - status indicator
- ▶ Equipment check - without having to know exact temperature

INDICATIONS

Upper and lower temperature limits can be sales programmed to suit the application.

The smart indicator operates like a standard neon indicator, giving visible status indication for the appliance or application. Normal operation will show continuous Blue LED illumination (contact sales for other colours) while the monitored temperature is within the 'safe' range between lower and upper limits.

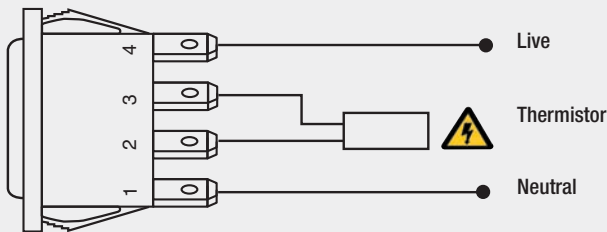
When the measured temperature falls outside of the 'safe' range, the LED illumination will start to flash or change colour. (contact sales for colour options).

Example temperatures (Freezer):

Above -14°C	Too warm (Flashing Red LED)
Between -14°C and -22°C	OK (Blue LED)
Below -22°C	Too cold (Flashing Blue LED)

Optional steady/flashing LED and colour combinations available – contact sales.

CONNECTIONS



PART NUMBER

1433AL

Specify Terminal Type:	C, H, T, X
Specify Model Code:	1433AL
Specify Supply Voltage:	230Vac, 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc, 12Vac
Specify LED Colour:	Blue/Red, Green/Red
Specify Lower temperature limit:	-30°C to +80°C (-22°F +176°F)
Specify Upper temperature limit:	-30°C to +80°C (-22°F +176°F)

Status monitor 1430 Smart indicator series



- ▶ Monitors many NO switch contacts
- ▶ Monitors correct equipment operation
- ▶ Internal microcontroller and power supply
- ▶ Built using Surface Mount Technology
- ▶ Flexible configuration & functionality in firmware
- ▶ Green LED indicates normal status
- ▶ Flashing Red LED indicates alarm status
- ▶ De-bounce, time delay and latching options
- ▶ Convenient snap-in design, fits standard panel cut-out
- ▶ Choice of connection terminals
- ▶ Panel cut-out:
30.0x11.0mm

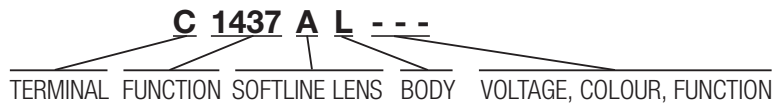
230Vac, 115Vac, 48V, 24V & 12V
Less than 1 watt (power consumption)

UL US UL Recognised. File no. E311309

CE CE Mark

FCC FCC compliant

RoHS RoHS compliant



▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p> <p>6.3 x 0.8</p> <p>H</p> <p>4.8 x 0.8</p> <p>T</p> <p>Ø2.1 Solder</p> <p>X</p> <p>4.0 PCB 0.8Sq</p>	<p>Panel Cut-Out</p> <p>30.0 11.0/11.1</p> <p>Bezel</p> <p>R1.0 32.0 14.0</p> <p>Dimensions</p> <p>25.3 Max 2.0</p>	<p>Dimensions</p> <p>Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>0.75mm to 2.5mm</p> <p>Body Lens Terminals Flame retardancy RoHS compliant</p> <p>Nylon 6.6, matt finish, black colour is standard Clear Polycarbonate, Softline matt finish Copper alloy, Silver plated UL94V0 Yes</p> <p>Sensor/Switch Input</p> <p>Non-isolated 4.2Vdc 1mA rating for detection of normally open, normally closed or open-collector sensors</p> <p>Operating supply</p> <p>230Vac ±20% 50/60Hz. 115Vac, 48Vdc, 48Vdc, 24Vdc, 24Vdc, 12Vdc & 12Vdc Less than 1 Watt</p> <p>Power consumption</p> <p>Less than 1 Watt</p> <p>Operating conditions (body)</p> <p>-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Electromagnetic Compatibility</p> <p>Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity</p> <p>EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments, 10 V/m EN 61000-4-2:1995 Electrostatic Discharges (ESD) EN 61000-4-3:2002 RF Electromagnetic fields EN 61000-4-4:2004 Fast Transients & Bursts EN 61000-4-5:1995 Surges EN 61000-4-6:1996 Conducted disturbances EN 61000-4-11:2004 Voltage dips & interruptions</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Approvals</p> <p>UL Recognised FCC Compliant CE Mark</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

All dimensions in millimetres (mm)

▶ APPLICATIONS

- ▶ Limit switch detection and display – machine position
- ▶ Differential air pressure sensing - filter status indicator
- ▶ Latching and display of momentary sensor signals

▶ INDICATIONS

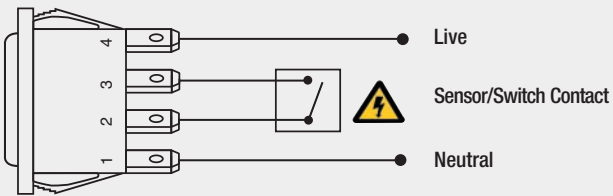
The smart indicator operates like a standard neon indicator, giving visible status indication for the application. Normal operation shows a continuous Green LED illumination (contact sales for other colours) while an error or fault condition results in a RED illumination. Fault condition indication can be factory configured as flashing.

Status indicators are commonly used on equipment and machinery to advise the operator that particular device conditions are normal, operational status is active or inactive, equipment is on-line or off-line. Various standard switches and sensors can be used to determine position, location, rotation speed, airflow, air pressure, vacuum level, interlock etc.

The indicators' sensing input provides a non-isolated DC voltage, current limited to 1mA, for detection of volt-free normally open or normally closed switch contacts, or open-collector type sensors.

Some switches can exhibit transient effects or require de-bounce functions, most of which can be masked by having a qualifying time period before the indication takes place. In some applications a hold-off delay could be useful to ignore any settling during initial operation, or indications may only be required after power-up and then latched. The indicator can be factory programmed to cater for many different requirements, please contact us with application details.

▶ CONNECTIONS



▶ PART NUMBER

1437AL

- | | |
|-----------------------------------|--|
| Specify Terminal Type: | C, H, T, X |
| Specify Model Code: | 1437AL |
| Specify Supply Voltage: | 230Vac, 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc, 12Vac |
| Specify LED Colour: | Green/Red, Blue/Red |
| Specify application requirements: | Normally open/closed contact, time delay, latching etc. |

Single phase mains supply checker 1430 Smart indicator series



- ▶ Monitors appliance and mains supply
- ▶ Internal microcontroller and power supply
- ▶ Flexible configuration & functionality in firmware
- ▶ Built using Surface Mount Technology
- ▶ Equipment safety indication
- ▶ Checks for swapped connections
- ▶ Checks for missing connections
- ▶ Green LED indicates normal operation
- ▶ Steady Red LED indicates connection fault
- ▶ Flashing Red LED indicates missing connection
- ▶ Live, Neutral and Earth connections
- ▶ Convenient snap-in design, fits standard panel cut-out
- ▶ Panel cut-out: 30.0x11.0mm

230V 50Hz. 115Vac 60Hz
Less than 1 watt (power consumption)

UL **US** UL Recognised. File no. E311309

CE CE Mark

FC FCC compliant

RoHS RoHS compliant



▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p> <p>6.3 x 0.8</p> <p>H</p> <p>4.8 x 0.8</p> <p>T</p> <p>Ø2.1 Solder</p> <p>X</p> <p>4.0 PCB 0.8Sq</p> <p>All dimensions in millimetres (mm)</p>	<p>L Panel Cut-Out</p> <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p> <p>R1.0 32.0 14.0</p> <p>Dimensions</p> <p>2.0 25.3 Max</p>	<p>Dimensions</p> <p>Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>0.75mm to 2.5mm</p> <p>Body Lens Terminals Flame retardancy RoHS compliant</p> <p>Nylon 6.6, matt finish, black colour is standard Clear Polycarbonate, Softline matt finish Copper alloy, Silver plated UL94V0 Yes</p> <p>Operating supply Power consumption</p> <p>230V ±20% 50Hz. 115V 60Hz Less than 1 Watt</p> <p>Operating conditions (body)</p> <p>-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Electromagnetic Compatibility</p> <p>Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity</p> <p>EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments, 10 V/m EN 61000-4-2:1995 Electrostatic Discharges (ESD) EN 61000-4-3:2002 RF Electromagnetic fields EN 61000-4-4:2004 Fast Transients & Bursts EN 61000-4-5:1995 Surges EN 61000-4-6:1996 Conducted disturbances EN 61000-4-11:2004 Voltage dips & interruptions</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Approvals</p> <p>UL Recognised FCC Compliant CE Mark</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

▶ APPLICATIONS

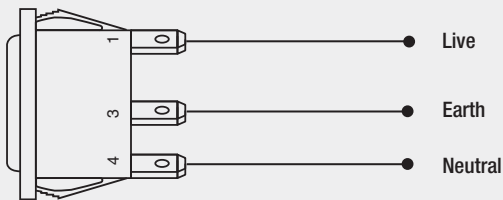
- ▶ Portable appliances
- ▶ Site equipment
- ▶ Power tools
- ▶ Commercial kitchens
- ▶ Stainless steel appliances
- ▶ Audio equipment
- ▶ Consumer units
- ▶ Extension cables/reels
- ▶ Garden equipment

▶ INDICATIONS

The smart indicator can detect and display the following fault conditions:

Terminal 1	Terminal 3	Terminal 4	Fault	LED Indication
L	E	N	Normal	Green
N	E	L	L/N Swapped	Red
E	L	N	L/E Swapped	Red
E	N	L	Wrong sequence	Red
N	L	E	Wrong sequence	Red
L	E	-	Neutral missing	Flashing Red
L	-	N	Earth missing	Flashing Red

▶ CONNECTIONS



▶ PART NUMBER

1431AL

- Specify Terminal Type: C, H, T, X
- Specify Model Code: 1431AL
- Specify Supply Voltage: 115Vac, 230Vac
- Specify LED Colour: Green/Red, Blue/Red

Temperature Micro Logger 1430 Smart indicator series



- ▶ Intelligent temperature logger for refrigeration
- ▶ Wireless data communication, via IRDA link
- ▶ Over 14,000 data readings stored
- ▶ Internal microcontroller, EEPROM and power supply
- ▶ Built using Surface Mount Technology
- ▶ Non-volatile memory
- ▶ Configurable data log interval
- ▶ PC tools to allow configuration and data download
- ▶ Industry standard Thermistor supplied
- ▶ Monitors mains power interruptions
- ▶ Programmable upper/lower limit alarm
- ▶ Convenient snap-in design, fits standard panel cut-out
- ▶ Panel cut-out:
30.0x11.0mm

100 to 230Vac $\pm 20\%$ 50/60Hz.
Less than 1 watt (power consumption)





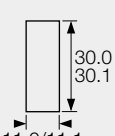
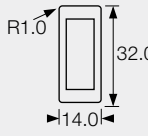
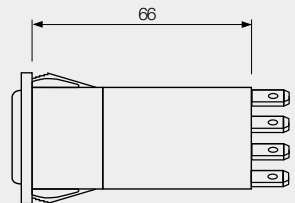
UL US UL Recognised. File no. E311309

CE CE Mark

FCC FCC compliant

RoHS RoHS compliant



▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p>  <p>6.3 x 0.8</p> <p>H</p>  <p>4.8 x 0.8</p> <p>T</p>  <p>Solder</p> <p>X</p>  <p>PCB 0.8Sq</p>	<p>L Panel Cut-Out</p>  <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p>  <p>R1.0 32.0 14.0</p> <p>Dimensions</p>  <p>66</p>	<p>Dimensions Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>Body Nylon 6.6, matt finish, black colour is standard</p> <p>Lens Clear Polycarbonate, Softline matt finish</p> <p>Terminals Copper alloy, Silver plated</p> <p>Flame retardancy UL94V-0</p> <p>RoHS compliant Yes</p> <p>Operating supply 100 to 230Vac $\pm 20\%$ 50/60Hz.</p> <p>Power consumption Less than 1 Watt</p> <p>Operating conditions (body) -20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Measurement range -30°C to +80°C (-22°F to +176°F)</p> <p>Measurement accuracy $\pm 1.0^\circ\text{C}$ ($\pm 1.8^\circ\text{F}$)</p> <p>Measurement resolution $\pm 0.5^\circ\text{C}$ ($\pm 0.9^\circ\text{F}$)</p> <p>Temperature sensor NTC Thermistor, sealed sensor, cable length 1m</p> <p>Communications method Infrared serial data port</p> <p>Logging Interval Programmable 1 second to 12 hours per reading</p> <p>Logging data capacity >14,000 measurements stored</p> <p>Data retention >10 years without power</p> <p>Electromagnetic Compatibility Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity</p> <p>EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments, 10 V/m EN 61000-4-2:1995 Electrostatic Discharges (ESD) EN 61000-4-3:2002 RF Electromagnetic fields EN 61000-4-4:2004 Fast Transients & Bursts EN 61000-4-5:1995 Surges EN 61000-4-6:1996 Conducted disturbances EN 61000-4-11:2004 Voltage dips & interruptions</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Approvals</p> <p>UL Recognised FCC compliant CE Mark</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

All dimensions in millimetres (mm)

APPLICATIONS

- ▶ Refrigeration temperature monitoring for food safety compliance
- ▶ Deep freeze monitoring
- ▶ Cold storage monitor
- ▶ Chiller monitoring
- ▶ Process control temperature monitoring
- ▶ Visual checking of correct temperature
- ▶ Control system verification – independent monitoring of controller
- ▶ Power quality indication – records power interruptions
- ▶ Equipment status check - simple indicator lights

INDICATIONS

An Intelligent temperature data logging device for refrigeration applications, ideal for monitoring that freezers and chillers are maintaining the required temperatures to comply with food safety guidelines.

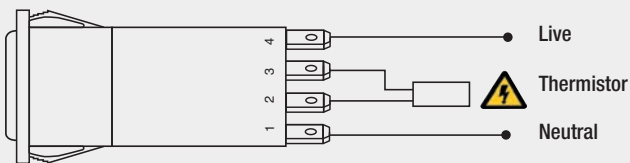
Designed to directly replace the standard neon indicator already fitted on many appliances, the front-panel mounted temperature logger operates like a standard neon indicator, giving visible status indication for the appliance or application. Normal operation will show continuous blue LED illumination (contact sales for other colours) while the monitored temperature is within the 'safe' range between lower and upper limits. The upper and lower temperature limits for alarm indication are fully user programmable.

The embedded microcontroller stores the temperature readings at regular intervals for retrieval and analysis. Over 14,000 readings can be stored in non-volatile memory (no battery is required). The data log interval is user configurable between 1 second and 12 hours. The logger also records the number of mains power interruptions. Stored data can be transferred to a collection device (PDA or Laptop) via a wireless infrared data link, a serial to infrared communication adapter is available as an accessory.

The device is provided with an industry standard Thermistor temperature sensor.

PC and PDA software can be downloaded from www.arcoelectric.co.uk/software

CONNECTIONS



PART NUMBERS

1435AL

Specify Terminal Type: C, H, T, X
Specify Model Code: 1435AL
Specify LED Colour: Green/Red, Blue/Red

SOFTWARE

The PC software allows fast and simple configuration of the temperature micro logger device settings. The stored temperature data can be easily extracted using a serial port infrared data link.

With a single button press, the 'Download log' feature imports the stored temperature reading data directly into an Excel spreadsheet for easy analysis and display.

The logging time interval can be set to suit the end application.

Low and high alarm setpoints can be fully configured for LED indication on the logger front panel. When the measured temperature is between the low and high limits, the Blue LED illuminates to indicate that the measured temperature is acceptable. When the measured temperature falls outside of low or high alarm setpoint, the LED illumination changes colour to Red. Additionally, if the alarm memory box is checked, the only way to clear a temperature alarm is to press the 'Alarm Clear' button.

The Logger status is continually updated while the infrared data link is active, and the current measured temperature is displayed in °C or °F.

Memory usage can also be monitored.



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General Information

Terms and Conditions of Sale

All orders are accepted subject to our Standard Terms & Conditions. Copies of these are available:
www.elektron-components.com/terms.html

Health & Safety

Arcoelectric proprietary components are designed, manufactured, assessed and tested to comply with good commercial quality and engineering standards. They are safe and reliable in use within the vast majority of normal environments. In the interest of safety, application in certain extreme destructive or unsuitable environments must be avoided. The following restrictions are given as guidance:

- External or wet areas (exposed to rain or spray), except where designated "Sealed".
- Atmospheres designated as "explosive", except where designated "Gas Tight" or "Explosion Proof".
- Highly corrosive atmospheres or subject to contamination by corrosive chemicals. (Avoid the use of corrosive acid soldering flux. Use an approved Electrical Grade).
- Atmospheres containing a high density of abrasive dust (mechanically operated components).
- Contamination with Silicone or Silicone Compounds (switches).
- Areas or levels unprotected from severe impact by heavy bodies moving in close proximity - (panel mounted components).
- Extremes of temperatures, beyond the specified limits.
- Electric supply voltage or load current above the published maximum ratings.

General

To ensure electrical safety as far as is reasonably practical, these products should be properly applied, installed and maintained by or under the supervision of competent persons in accordance with good engineering practice.

Dimensions

All dimensions are in millimetres (mm) unless otherwise stated.

The CE Marking Directive

Equipment bearing the CE mark is allowed free circulation throughout Europe. The products in this catalogue, when installed correctly, comply with the CE requirements where it relates to them.

The Low Voltage Directive

The Low Voltage Directive 2006/95/EC seeks to ensure that electrical equipment within certain limits both provides a high level of protection for European citizens and enjoys a single market in the European Union. Where applicable, Arcoelectric products comply with the requirements of this directive.

RoHS and WEEE Directives

These European Directives introduced environmental responsibilities for electrical and electronics equipment manufacturers. The RoHS (Restriction of use of certain Hazardous Substances) regulation (Directive 2002/95/EC) came into force July 2006. The WEEE (Waste Electrical and Electronic Equipment) regulation (Directive 2002/96/EC), came into force January 2007. The RoHS directive effectively bans the use of certain chemicals, these are defined as:

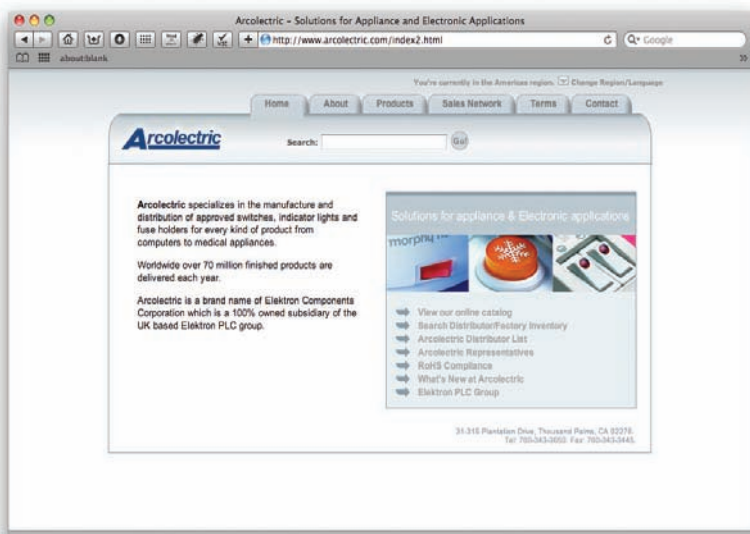
- Lead
- Cadmium
- Mercury
- Hexavalent Chromium
- Polybrominated Biphenyl (PBB) - flame retardant
- Polybrominated Diphenyl Ether (PBDE) - flame retardant (including Deca BDE)

Elektron Components Ltd has taken action to ensure all standard products meet the requirements of this directive. All packing carries RoSH compliance information as conformation.

Reach Regulations

REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) is the new system for controlling chemicals in Europe and became law in the UK June 2007. Elektron Components Ltd., as a manufacturer of articles, are reliant on our supply chain to ensure that the substances/articles we use, are in compliance with the EC1907/2006, REACH Regulations. Our articles and their packaging, based on our knowledge at this point, do not contain any substances on the SVHC Candidate List, dated 16/2/2009, according to article 59 (1, 10) of Regulation (EC) No. 1907/2006 (REACH), in a concentration above 0.1% weight by weight (w/w). If this situation changes we confirm that this information will be passed through the supply chain in a timely manner.

Arcoelectric on the web



Visit www.elektron-arcoelectric.com for the latest from Arcoelectric. For our most current Distributors and Manufacturer's Reps, please check our website

- ▶ For an extensive list of our Inside and Outside Sales Representatives
- ▶ Current listing of our Distributors and Manufacturer's Reps
- ▶ Factory and Distributor stock checks
- ▶ Complete catalogue on-line
- ▶ New product introductions
- ▶ Company news
- ▶ Regular updates

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