

Technical & Order Information - Indicators

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

Neon, Fluorescent, Filament lamp or LED.

NEON and FLUORESCENT LAMPS

Colors

Available with Red, Amber, Green or Clear lenses.

Maximum striking voltages

Standard brightness types 65Vac 90Vdc.

High brightness types 85Vac 135Vdc.

High brightness types are usually fitted.

Life

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

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

False signals due to long wiring

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

MATERIALS

Moulded bodies and bases

Metal bodies and bezels

Lenses

Terminals (most types)

Terminals (exceptions)

Threaded metal nuts

Other fixings

Nylon 6.6

Chrome plated brass (except #)

Polycarbonate

Brass (electro-tin plated)

Brass (flash silver* or nickel** plated)

Brass (nickel plated on 0275/7)

Call factory 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

200mm long Standard



Solid wires

LED only



Panel hole size



Panel thickness



Temperature rating

FILAMENT 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 the factory.

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	



ORDER FORMAT

NL 589 WL 2G

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

SERIES CODES	MODEL CODES	TERMINAL CODES	LAMP TYPE VOLTAGE & COLOR			
			CODES for FL & LH	CODES for LE	CODES for NL	
FL Incandescent Lamps	67	WL Wire Leads	Incandescent Lamps AC or DC	LEDs DC	LEDs AC	Neon Lamps AC or DC
	81					
	145					
	177					
	180 AA/BB					
	195 00/BB					
	196					
	233					
	234					
	245					
LE LEDs	273 /LL	C 6.3 Tab	LEDs DC	LEDs AC	LEDs AC	Neon Lamps AC or DC
	275 /C					
	276					
	277					
	278					
	568 A/B					
	569					
	579					
	581					
	582					
NL Neon Lamps	586	H 4.8 Tab	LEDs DC	LEDs AC	LEDs AC	Neon Lamps AC or DC
	589					
	1041					
	1045					
	2950					
	2951					
	2760					
	2820					
	2821					
	2870					
LH Lamp Holders 6, 12, 24V only	3130	T Solder	LEDs DC	LEDs AC	LEDs AC	Neon Lamps AC or DC
	3160					
	3161					
	3221					
	61					
	62					
	63					
	67					
	382					
	392					
	692					

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

Indicator Lights (Neon, LED and Filament Lamp)



Approvals shown for neon versions only



RoHS compliant

- ▶ Neon, LED, mains LED or filament 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

ORDER FORMAT example

NL 145 C 2R

SERIES CODE MODEL CODE TERMINAL CODE VOLTAGE & COLOR
see p66

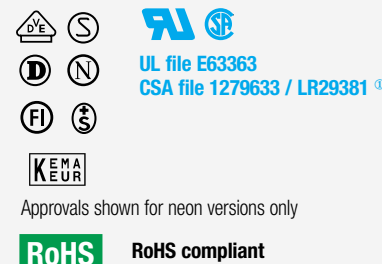
SERIES	MODEL	TERM	VOLTAGE, COLOR, TECHNICAL INFORMATION see p66			
FL Filament	145	C 6.3	5.8	3.0max	page 66	
NL Neon						
LE LED (DC)						
LE LED (AC)						
FL Filament	1041 Chrome bezel	L	6.3	6.3max	page 66	
NL Neon		W				
LE LED (DC)						
LE LED (AC)						
FL Filament	1045 Chrome bezel available	L	6.3	10.0max	page 66	
NL Neon		W				
LE LED (DC)						
LE LED (AC)						
FL Filament	245 Chrome bezel available	L	7.1	6.3max	page 66	
NL Neon		W				
LE LED (AC)						
LE LED (AC)						
FL Filament	2950 Chrome bezel available	L	8.0	0.8-1.6	page 66	
NL Neon						
LE LED (AC)						
LE LED (AC)						
FL Filament	195 BB	L	8.0	0.8-3.0	page 66	
NL Neon		C 6.3				

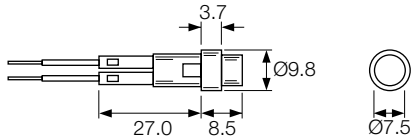
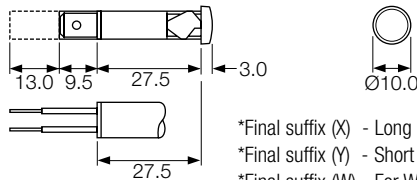
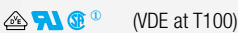
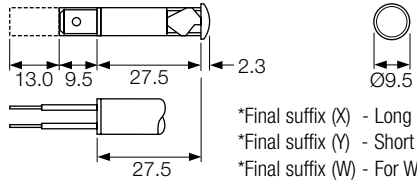
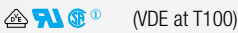
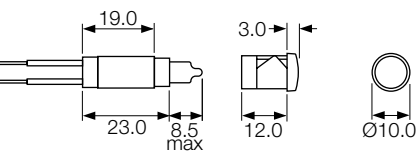
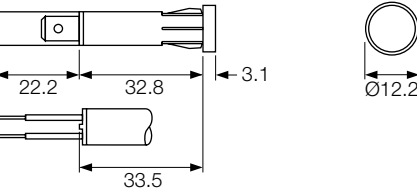
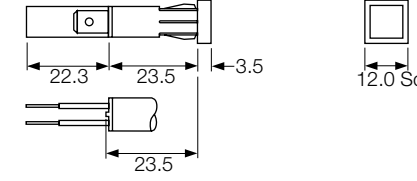
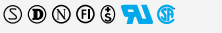
Indicator Lights (Neon, LED and Filament Lamp)

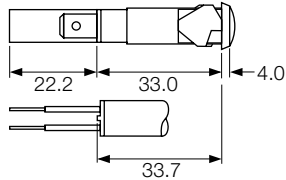
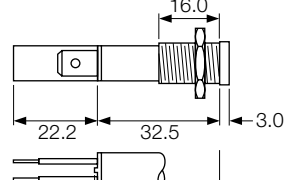
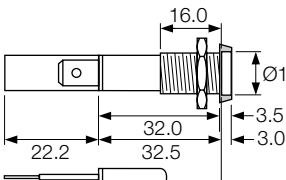
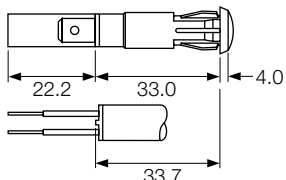
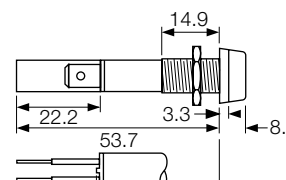
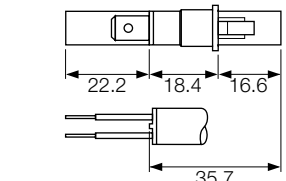
ORDER FORMAT example

NL 2951 L 2R
 SERIES CODE MODEL CODE TERMINAL CODE VOLTAGE & COLOR see p66

- ▶ Neon, LED, mains LED or filament 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



SERIES	MODEL	TERM	VOLTAGE, COLOR, TECHNICAL INFORMATION see p66
FL Filament	2951 Chrome bezel available	L	 8.0  0.8-1.6  page 66 
NL Neon			
LE LED (DC)			
LE LED (AC)			
FL Filament	0568A(*) Deep lens profile	L	 8.0  0.8-3.5  page 66 
NL Neon		K 2.8	
LE LED (DC)		H 4.8	
	 (VDE at T100)		
FL Filament	568B(*) Shallow lens profile	L	 8.0  0.8-3.5  page 66 
NL Neon		K 2.8	
LE LED (DC)		H 4.8	
	 (VDE at T100)		
FL Filament	569	L	 9.0  0.8-2.5  Call factory 
NL Neon			
LE LED (DC)			
LE LED (AC)			
FL Filament	273	L	 9.0  2.0 max  page 66 
NL Neon		K 2.8	
LE LED (DC)		H 4.8	
LE LED (AC)		C 6.3	
FL Filament	278	L	 9.0  2.0 max  page 66 
NL Neon		K 2.8	
LE LED (DC)		H 4.8	
LE LED (AC)		C 6.3	

SERIES	MODEL	TERM	VOLTAGE, COLOR, TECHNICAL INFORMATION see p66		
FL Filament	276 	L 	 9.5		
NL Neon		K 2.8 	 0.8-2.8		
LE LED (DC)		H 4.8 	 page 66		
LE LED (AC)		C 6.3 			
FL Filament	275 	L 	 10.0		
NL Neon		K 2.8 	 12.0 max		
LE LED (DC)		H 4.8 	 page 66		
LE LED (AC)		C 6.3 			
FL Filament	275C Chrome bezel 	L 	 10.0		
NL Neon		K 2.8 	 11.5 max		
LE LED (DC)		H 4.8 	 page 66		
LE LED (DC)		C 6.3 			
FL Filament	2760 	L 	 10.0		
NL Neon		K 2.8 	 2.8 max		
LE LED (DC)		H 4.8 	 page 66		
LE LED (AC)		C 6.3 			
FL Filament	277 Chrome bezel 	L 	 10.0		
NL Neon		K 2.8 	 12.0 max		
LE LED (DC)		H 4.8 	 page 66		
LE LED (AC)		C 6.3 			
FL Filament	273LL 	L 	 10.0		
NL Neon		K 2.8 	 0.6-2.0		
LE LED (DC)		H 4.8 	 page 66		
LE LED (AC)		C 6.3 			

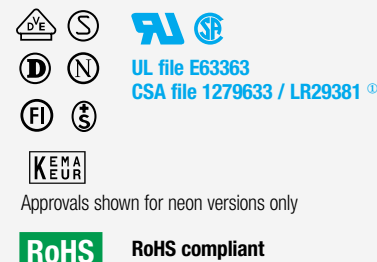
Indicator Lights (Neon, LED and Incandescent Lamp)

ORDER FORMAT example

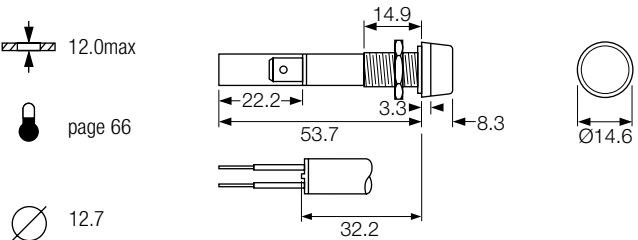
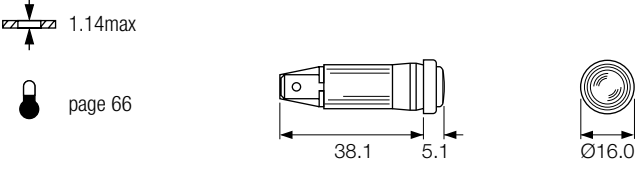
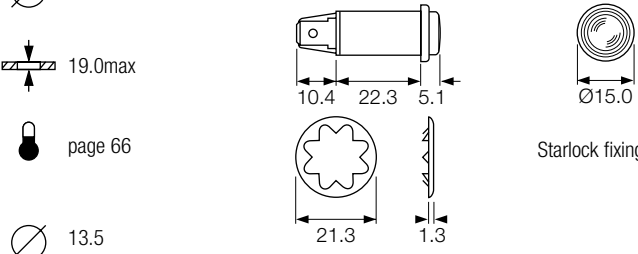
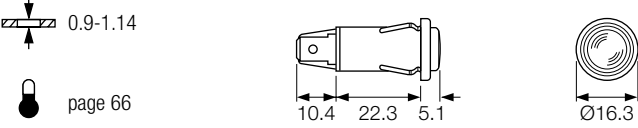
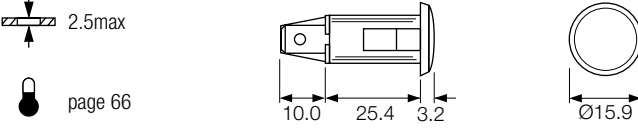
NL 2820 C 2R

SERIES CODE MODEL CODE TERMINAL CODE VOLTAGE & COLOR
see p66

- ▶ Neon, LED, mains LED or filament 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



SERIES	MODEL	TERM	VOLTAGE, COLOR, TECHNICAL INFORMATION see p66			
FL Filament	2820	L		12.0		
NL Neon		K 2.8		0.75-2.0		
LE LED (DC)		H 4.8		page 66		
LE LED (AC)		C 6.3			10.0 22.8 5.0	Ø13.6
FL Filament	2821	L		12.0 or 12.7		
NL Neon		K 2.8		Ø12.0 = 0.8-2.5		
LE LED (DC)		H 4.8		Ø12.7 = 1.1-2.5		
LE LED (AC)		C 6.3		page 66	10.0 22.8 1.6	Ø14.5
FL Filament	586	L		12.5		
NL Neon		K 2.8		0.8-1.5		
LE LED (DC)		H 4.8		page 66		
LE LED (AC)		C 6.3			10.0 25.1 1.8	15.5 Sq
FL Filament	2870	L		12.7		
NL Neon		K 2.8		0.75-2.0		
LE LED (DC)		H 4.8		page 66		
LE LED (AC)		C 6.3			9.9 22.8 5.0	Ø13.6
FL Filament	589	L		12.7		
NL Neon		K 2.8		0.8-1.5		
LE LED (DC)		H 4.8		page 66		
		C 6.3			10.5 21.6 3.2	Ø15.9
FL Filament	81 Chrome bezel	L		12.7		
NL Neon				9.5		
LE LED (DC)				page 66	18.0 11.4	Ø16.0
LE LED (AC)						Ø18.3

SERIES	MODEL	TERM	VOLTAGE, COLOR, TECHNICAL INFORMATION see p66		
FL Filament	177  Chrome bezel 	L		 12.7	
NL Neon		K 2.8		 12.0max	
LE LED (DC)		H 4.8		 8.3	
LE LED (AC)		C 6.3		 6.3	
FL Filament	67  Chrome bezel 	L		 12.7	
NL Neon		K 2.8		 1.14max	
LE LED (DC)		H 4.8		 8.3	
LE LED (AC)		C 6.3		 6.3	
FL Filament	180AA  	L		 12.7	
NL Neon		K 2.8		 19.0max	
LE LED (DC)		H 4.8		 8.3	
		C 6.3		 6.3	
FL Filament	180BB  Chrome bezel 	L		 13.5	
NL Neon		K 2.8		 0.9-1.14	
LE LED (DC)		H 4.8		 8.3	
		C 6.3		 6.3	
FL Filament	579  	L		 14.0	
LE LED		K 2.8		 2.5max	
LE LED (DC)		H 4.8		 8.3	
LE LED (AC)		C 6.3		 6.3	

Indicator Lights (Neon, LED and Incandescent Lamp)

▶ **ORDER FORMAT** **example**

NL 581AY H 2R

SERIES CODE MODEL CODE TERMINAL CODE VOLTAGE & COLOR
see p66

- ▶ Neon, LED, mains LED or filament 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

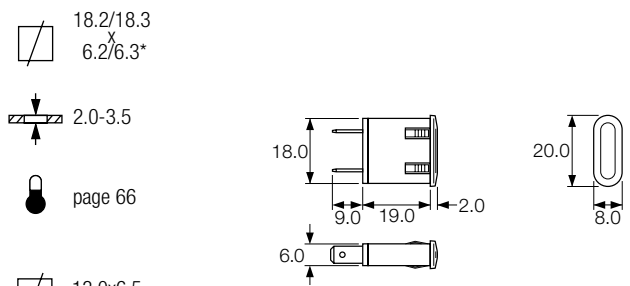
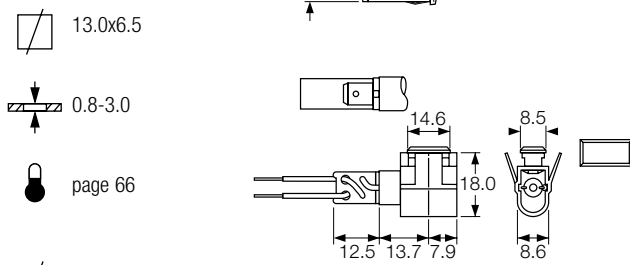
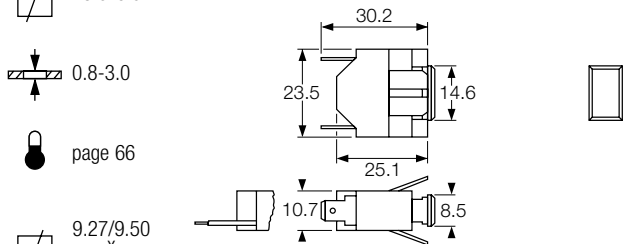
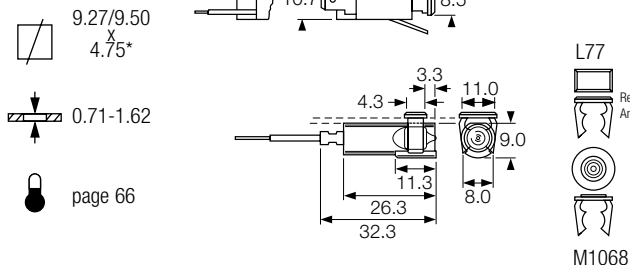
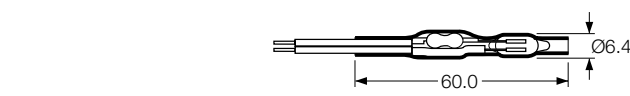


UL file E63363
CSA file 1317844 / 1279633 ®

Approvals shown for neon versions only



RoHS compliant

SERIES	MODEL	TERM	VOLTAGE, COLOR, TECHNICAL INFORMATION see p66
FL Filament	581AY	H 4.8	 
NL Neon			
FL Filament	195	L	 
NL Neon			
FL Filament	196	L	 
NL Neon			
NL Neon	234	L	 
NL Neon	233	L	  Neon tube, resistor and flexible lead assembly, protected by "shrunk on" transparent sleeving.

Indicator Lights

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

Colors and voltages:

Neon

Red, Amber Green, Clear
100/130V (marked 110V), 200/250V (marked 230V)

LED

Red, Yellow, Green
2.0/2.2V. Resistors for other voltages available

Filament lamp

Red, Amber, Green, Clear and Blue
6V, 12/14V, 24/28V

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



Approvals shown for neon versions only



RoHS compliant

TERM	MODEL
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H 4.8

H8580 AB

H 4.8

T

X

H8630 FB

H 4.8

R9 92B

Approvals details - contact the factory

C 6.3

H 4.8

K 2.8

T **U**

C0430 A(*) **C6030 AL**

6030 - L body & C terminals only

C 6.3

H 4.8

K 2.8

T **U**

C0480 A(*)

C 6.3

H 4.8

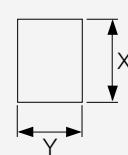
C7030 AH

DIMENSIONS (mm)

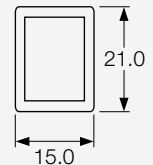
Full product details on pages 10-11

Body Code	Panel thickness	Cut-out X	Cut-out 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



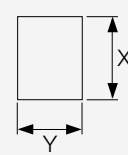
Flange



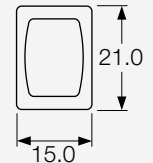
Full product details on pages 12-13

Body Code	Panel thickness	Cut-out X	Cut-out 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



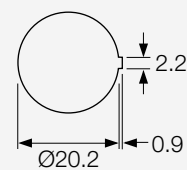
Flange



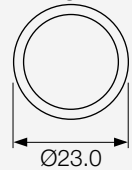
Full product details on pages 29

Snap fixing in panels thickness up to 3.0

Cut-out



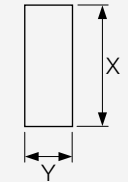
Flange



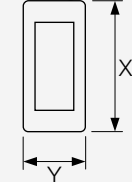
Full product details on pages 16-17 & 20-21

Body *Code	Cut-out Y	Cut-out X	Flange Y	Flange 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



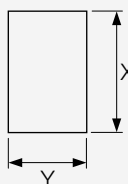
Flange



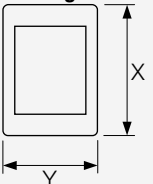
Full product details on pages 26-27

Body *Code	Cut-out Y	Cut-out X	Flange Y	Flange 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



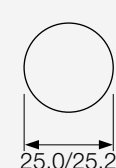
Flange



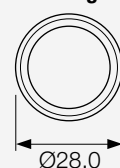
Full product details on pages 40-41

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

Cut-out



Flange



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 66

- ▶ 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



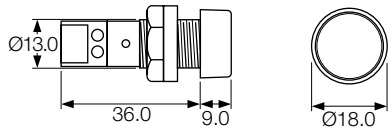
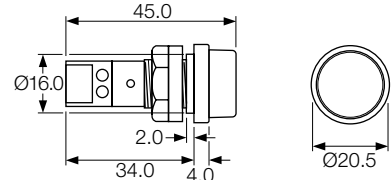
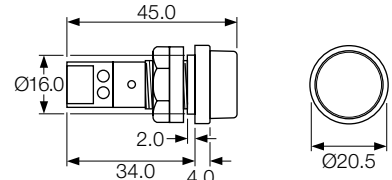
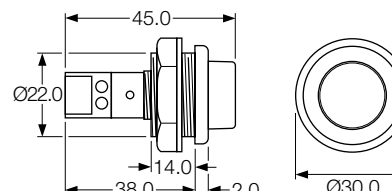
RoHS compliant

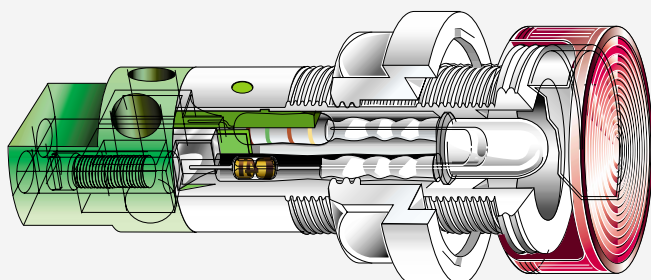
Neon versions feature integral current limiting & ghost lighting resistors.

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 p66	SEALING OPTION State IP52 or IP54
LE LED	3130 No bezel	S	13.2	
NL Neon		 Recessed Screw	8.0max 120°C neon 50°C LED	
LE LED	3160 Black bezel	S	16.2	
NL Neon		 Recessed Screw	5.0max 120°C neon 50°C LED	
LE LED	3161 Satin chrome style bezel	S	16.2	
NL Neon		 Recessed Screw	5.0max 55°C neon 50°C LED	
LE LED	3221 Large black bezel	S	22.3	
NL Neon		 Recessed Screw	4.5max 120°C neon 50°C LED	



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