

170-371/372/

373/374/375


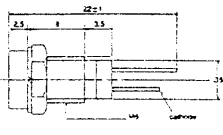
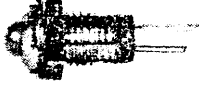
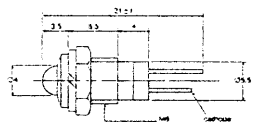

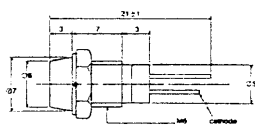

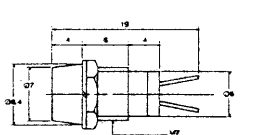

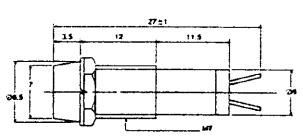

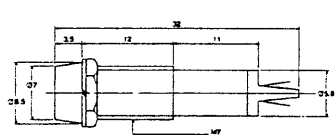
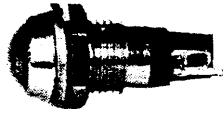
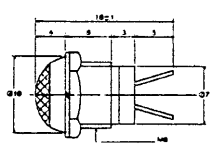
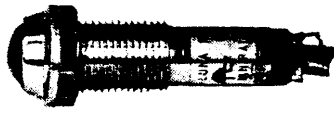
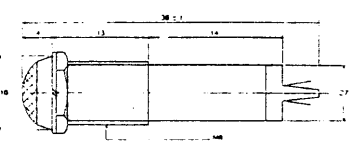
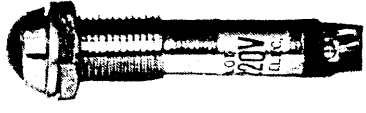
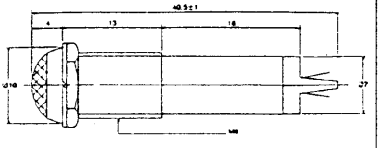
B

and R

Panel Indicators (LED + Neon)

A range of 6, 7 and 8mm diameter panel indicators offering an attractive variety of bezel shapes and finishes. All the indicators feature brass bodies with either chrome plated or black nickel chromate plated finish. The 79 and 86 series are available as three types; LED, LED with integral resistor and neon with integral

resistor, enabling the user to mix indicators on a panel but keep a common bezel shape. The LED indicators with integral resistors may be operated directly by the nominal rail voltage and are therefore made as easy to use as filament lamps but with the advantages of very long life and resistance to vibration.

67/68/69 Series	Mounting hole dia. 6.2mm	Order Code			
 LED Indicator		RED GREEN AMBER	CHROME BEZEL	BLACK NICKEL - CHROME BEZEL	
			LED-B67004-NOOR	LED-B67104-NOOR	
			LED-B67004-NOOG	LED-B67104-NOOG	
LED-B67004-NOOA	LED-B67104-NOOA				
 LED Indicator		RED GREEN AMBER	LED-B68004-NOOR	LED-B68104-NOOR	
			LED-B68004-NOOG	LED-B68104-NOOG	
			LED-B68004-NOOA	LED-B68104-NOOA	
 LED Indicator		RED GREEN AMBER	LED-B69004-NOOR	LED-B69104-NOOR	
			LED-B69004-NOOG	LED-B69104-NOOG	
			LED-B69004-NOOA	LED-B69104-NOOA	
'79' Series (with solder terms)	Mounting hole dia. 7.2mm	CHROME BEZEL			
 LED Indicator		RED GREEN AMBER	LED-B79000-SOOR		
			LED-B79000-SOOG		
			LED-B79000-SOOA		
 LED Indicator with resistor		RED GREEN AMBER	6V dc	12V dc	24V dc
			LED-V79006-SOOR	LED-V79012-SOOR	LED-V79024-SOOR
			LED-V79006-SOOG	LED-V79012-SOOG	LED-V79024-SOOG
			LED-V79006-SOOA	LED-V79012-SOOA	LED-V79024-SOOA
 Neon Indicator with resistor		RED GREEN AMBER	240/220V ac	120/110V ac	
			NEO-V79240-SOOR	NEO-V79120-SOOR	
			NEO-V79240-SOOG	NEO-V79120-SOOG	
			NEO-V79240-SOOA	NEO-V79120-SOOA	
'86' Series (with solder terms)	Mounting hole dia. 8.2mm	CHROME BEZEL			
 LED Indicator		RED GREEN AMBER	LED-B86000-SOOR		
			LED-B86000-SOOG		
			LED-B86000-SOOA		
 LED Indicator with resistor		RED GREEN AMBER	6V dc	12V dc	24V dc
			LED-V86006-SOOR	LED-V86012-SOOR	LED-V86024-SOOR
			LED-V86006-SOOG	LED-V86012-SOOG	LED-V86024-SOOG
			LED-V86006-SOOA	LED-V86012-SOOA	LED-V86024-SOOA
 Neon Indicator with resistor		RED GREEN AMBER	240/220V ac	120/110V ac	
			NEO-V86240-SOOR	NEO-V86120-SOOR	
			NEO-V86240-SOOG	NEO-V86120-SOOG	
			NEO-V86240-SOOA	NEO-V86120-SOOA	

170-374
170-375.

LED Specifications

Maximum Ratings

Forward Current	I_F	30 mA
Reverse voltage	V_R	3 V
Power Dissipation	P_D	70 mW
Operating Temp. Range	T_{opg}	-25° to +80°C
Storage Temp. Range	T_{stg}	-30° to +85°C

Operating Characteristics

		Red	Green	Amber	Condition
Recommended forward current	I_F	3 - 15 mA	10 - 20 mA	10 - 20 mA	
Forward Voltage (typ.)	V_F	2V	2.1V	2.1V	at $i_F = 10$ mA
Light Intensity (typ.)	L	0.8 mcd	1.0 mcd	2.0 mcd	at $i_F = 20$ mA
Wavelength (typ.)	λ	700 nm	565 nm	585 nm	
Leakage current (typ.)	I_R	10 μ A			at $V_R = 3$ V
Viewing Angle		120°			
Operating Current — LED indicators with Integral Resistor	I	10 mA	15 mA	15 mA	at nominal voltage

Neon Specifications

Style	79	86
Current Red/Amber	0.6 mA	1.2 mA
Green	0.5 mA	0.8 mA
Max Starting Voltage	75V	
Max Ambient Temp.	95°C	

General Electrical Specification of all Indicators

	LED Indicators	Neon Indicators
Insulation Resistance	50 M Ω at 500V dc	100 M Ω at 500V dc
Proof Voltage	500V ac for 1 min.	1500V ac for 1 min.
Life	50,000 hours	20,000 hours

Polarity of 79 + 86 LED Indicators is shown by a colour blob for the anode (+ve)

N.B. For alternative terminations (e.g. wire ended, P.O.T.'s etc) or any other special requirements please contact B & R Sales Office.

B
and R

B & R Relays Ltd. Templefields, Harlow, Essex CM20 2BG. Telephone: Harlow (0279) 34561. Telex: 81140