QH SERIES Surface mount LED halo

Distinctive Features and Specifications

Features

- Full LED halo illumination
- Single and dual colors available
- Designed to integrate with Ø16, Ø19 and Ø22mm panel cutout switches and other APEM indicators
- Ø22mm oversized version for integration with APEM's range of Emergency Stop Switches
- Panel sealed up to IP67
- 200mm 26AWG UL1061 wire terminations
- Zero behind panel depth
- Anti rotation pin as standard



TECHNICAL SPECIFICATIONS

Voltage	Operating Voltage	Operating Current
	(Min to Max)	(Typical All Types)
12VDC	12.0	4.2mA
to	to	
24VDC	26.4	20mA

Max Reverse Voltage : 5VDC
Life Expectancy : 50,000 Hours
Operating Temperature Range : -30 to +70°C
Single color PCB : 12 LED's
Dual color PCB : 12 LED's, 6 of each (alternately placed)
Bezel & Lens Material : PC

Standard LED	Intensity	Forward Voltage
HE Red	120 mcd	2.0 (typical)
Green	350 mcd	3.1 (typical)
Yellow	90 mcd	2.0 (typical)
Blue	90 mcd	3.1 (typical)
White	350 mcd	3.1 (typical)
Luminous intensity will be reduced with lower operating current.		

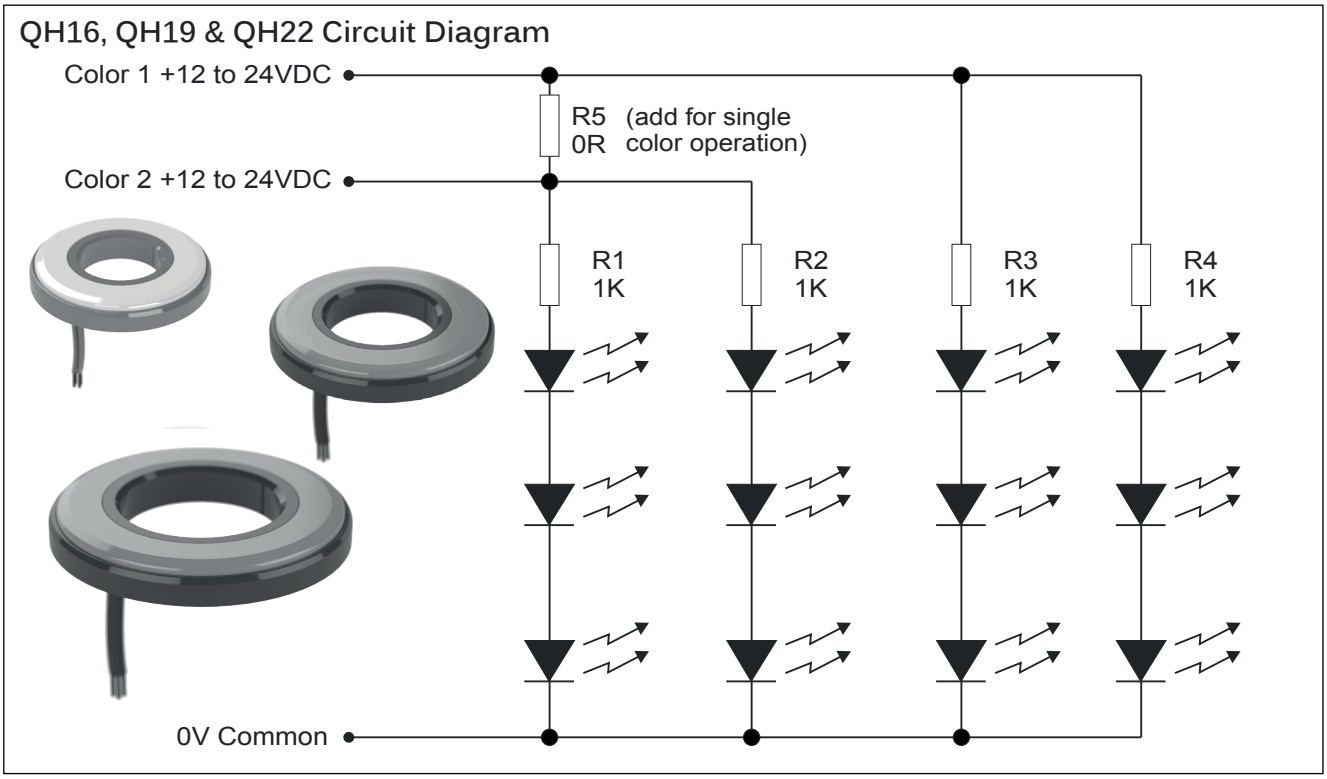
Panel seal : IP67 to EN60529 : 1992
EMC Immunity : EN61000-4-3 100V/m, extended to radiated fields in frequency range of 80MHz-2.7GHz, 1kHz 80% sine wave modulation
EMC Emissions : EN61000-6-4 : 2011 Class B 30Mhz-11Ghz
Electrostatic Discharge : EN61000-4-2 up to +/- 15KV

Dimensions : first dimensions are in mm while inches are shown as bracketed numbers

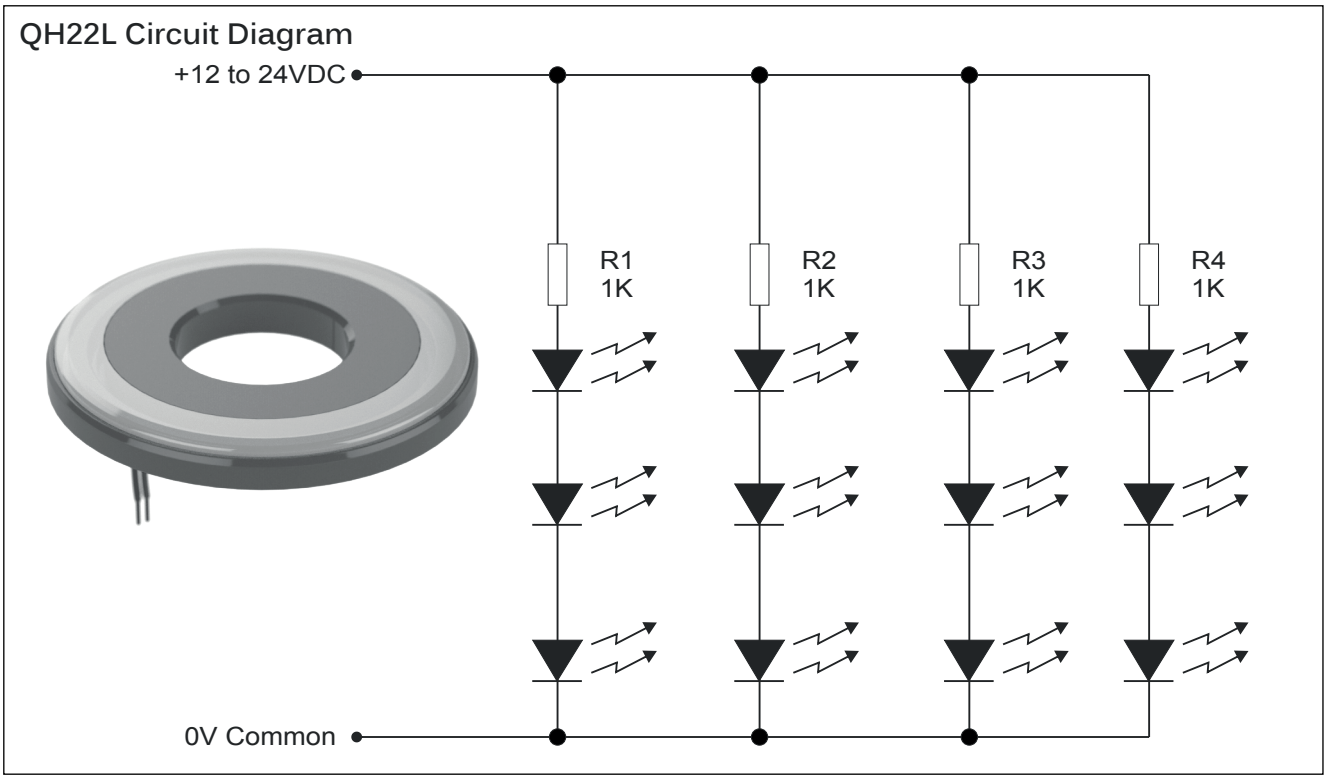
Mounting accessories : Panel seal gasket

Note: The operating voltage must not be exceeded by more that 10% as this will result in reduced life expectancy.
The company reserves the right to change specifications without notice.
* Customer to supply resistor for desired operating current.
Luminous intensity is measured at 20mA on a discrete LED unless otherwise stated.
Luminous intensities and color shades of white LEDs may vary within a batch.
LED characteristics are dependent upon environmental conditions. Therefore published data should be considered nominal.

QH16, QH19 & QH22 Circuit Diagram



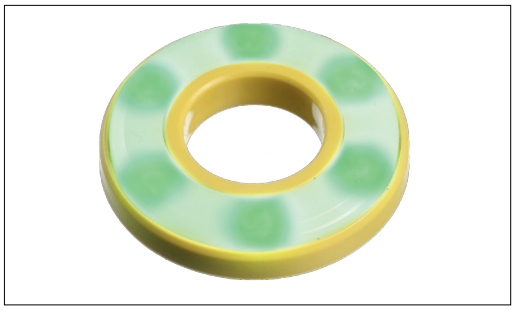
QH22L Circuit Diagram

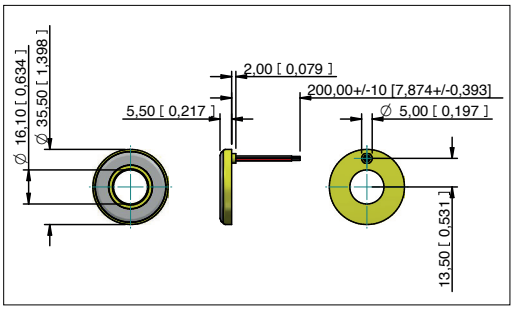


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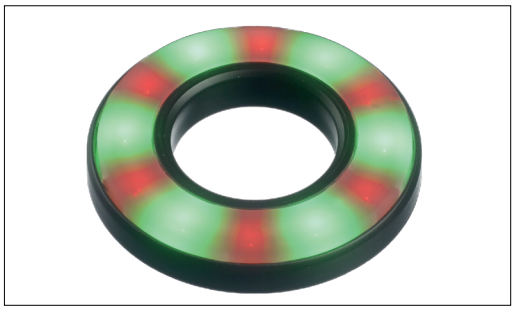
Technical Drawings

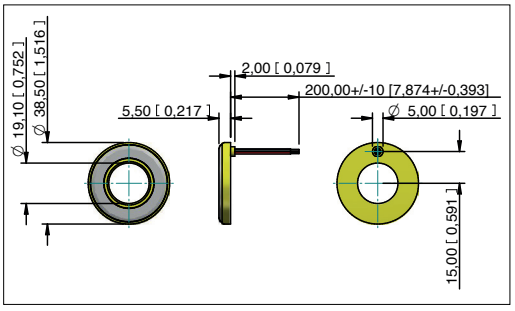
QH16 Ø16mm (.634")



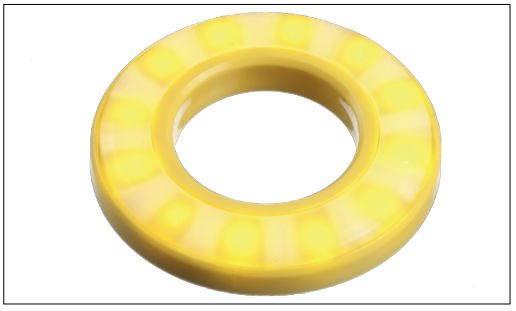


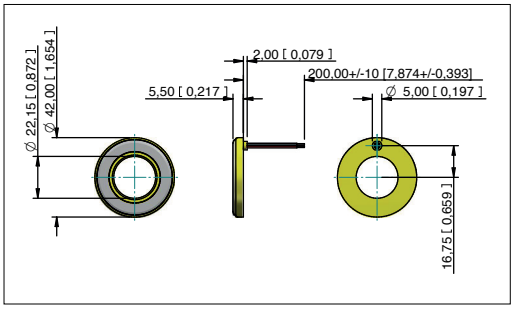
QH19 Ø19mm (.752")



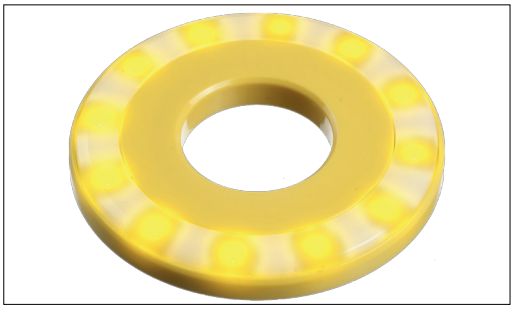


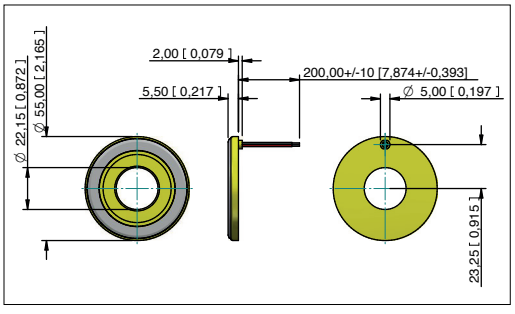
QH22 Ø22mm (.872")





QH22L Ø22mm (.872") (oversized)





STANDARD OPTIONS

The QH Series is available with a range of standard options, to specify your LED, simply choose one option from each column. An example is shown below.

QH			22L			5			7			Y			C	

SERIES	SIZE	BEZEL COLOR	LENS COLOR	LED COLOR	SEALING
QH	160 = 16mm cutout	2 = Black	7 = Frosted White	**Single LED**	U = Unsealed
	190 = 19mm cutout	5 = Yellow	8 = Tinted	R = Red	C = IP67 (panel seal)
	220 = 22mm cutout			G = Green	
	22L = 22mm cutout			Y = Yellow	
				Dual LED	
				RG = Red/Green	

Example



QH22L57YC
Shown fitted to an Emergency Stop Switch

- Standard wire length is 200mm, 26AWG UL1061, for other wire lengths please contact APEM
- Colored wire denotes Anode (+), black wire denotes Cathode (-)
- Supply voltage is 12 to 24VDC, for alternative voltages please contact APEM
- Dual color LEDs are alternately placed on the internal PCB, by connecting one colored wire (+) a color is produced, by connecting the other colored wire (+) the second color is produced