Halo LED illumination



DISTINCTIVE FEATURES

Single, dual and RGB colors available
Designed to integrate with Ø16, Ø19, Ø22 and Ø30 mm panel
cutout switches and other APEM and IDEC components
Ø22 mm oversized version for integration with APEM's range of
Emergency Stop switches

Panel sealed up to IP67

200 mm 26 AWG UL1061 wire terminations



ENVIRONMENTAL SPECIFICATIONS

- 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 +/- 15 KV
- Operating Temperature Range : -30 °C to +70 °C (-22 °F to +158 °F)



GENERAL SPECIFICATIONS

- Max Reverse Voltage : 5 VDC
- Life Expectancy: 50,000 Hours
- Single color PCB : 12 LED's
- Dual color PCB: 12 LED's, 6 of each (alternately placed)
- RGB color PCB: 12 LED's



MATERIALS

- Body : PC
- Lens : PC

The company reserves the right to change specifications without notice.

LED characteristics are dependent upon environmental conditions. Therefore published data should be considered nominal and subject to variations.





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ELECTRICAL SPECIFICATIONS

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

* Customer to supply resistor for desired operating current.

STANDARD LED INTENSITY

LED COMPONENT SPECIFICATIONS		
	Intensity	Forward Voltage (typical)
HE Red	120 mcd	2.0 V
Green	350 mcd	3.1 V
Yellow	90 mcd	2.0 V
Blue	90 mcd	3.1 V
White	350 mcd	3.1 V

RGB LED INTENSITY

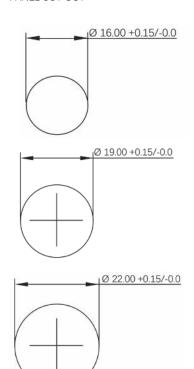
LED COMPONENT SPECIFICATIONS			
	Intensity	Forward Voltage (typical)	
Red	100 mcd	2.0 V	
Green	300 mcd	3.0 V	
Blue	90 mcd	3.0 V	

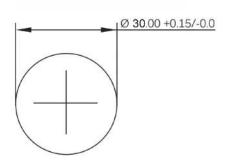
- The operating voltage must not be exceeded by more that 10% as this will result in reduced life expectancy
- Luminous intensity is measured at 20 mA on a discrete led unless otherwise stated.
- Luminous intensities and color shades of white LEDs may vary within a batch.
- Luminous intensity will be reduced with lower operating current.



MOUNTING

PANEL CUT-OUT





APEM

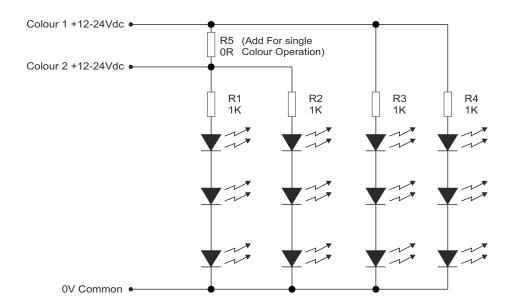
QH series

Halo LED illumination

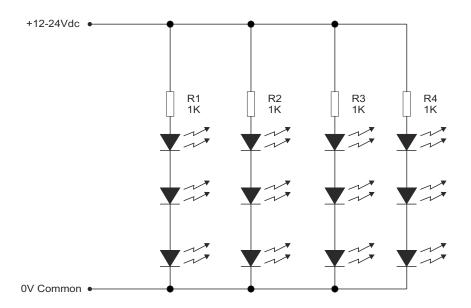


CIRCUIT DIAGRAM

QH16, QH19, QH22



QH22L, QH30

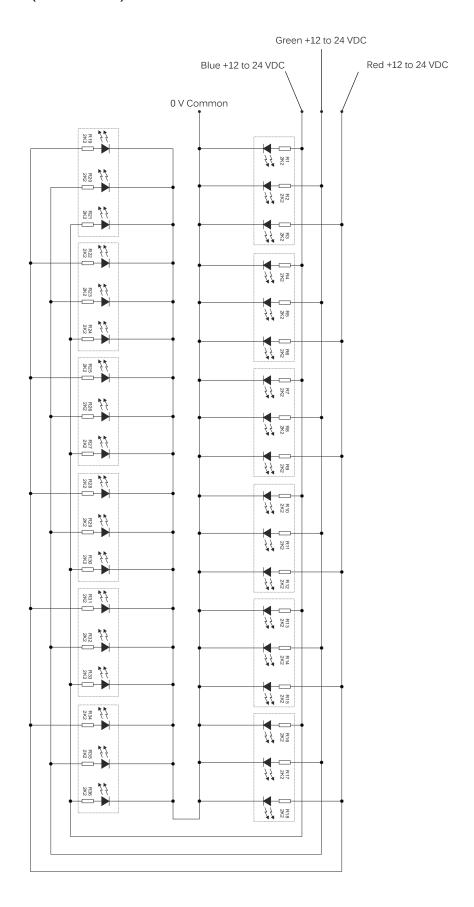


Halo LED illumination



CIRCUIT DIAGRAM (CONTINUED)

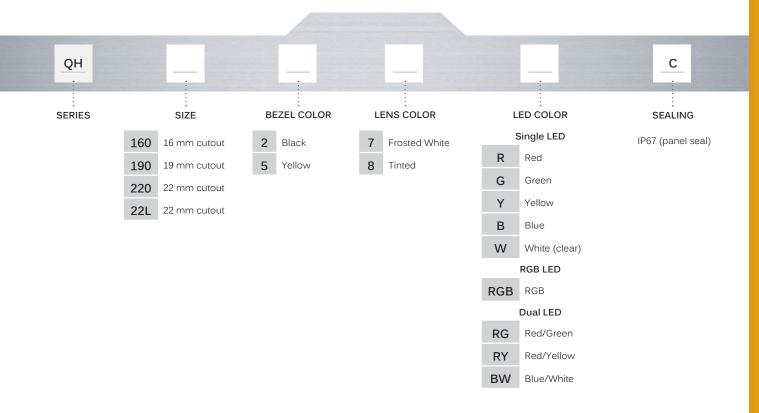
QH16, QH19, QH22 RGB



Halo LED illumination

E3

BUILD YOUR PART NUMBER





QH22L57YC

Shown fitted to an Emergency Stop switch



ABOUT THIS SERIES

- Standard wire length is 200 mm, 26 AWG UL1061, for other wire lengths please contact APEM
 Colored wire denotes Anode (+), black wire denotes Cathode (-)
 - Supply voltage is 12 to 24 VDC, 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
 - When implementing full-spectrum RGB the customer should supply an external Microcontroller driver

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QH16 - 16 MM (.634")



QH19 - 19 MM (.752")

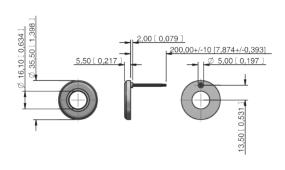


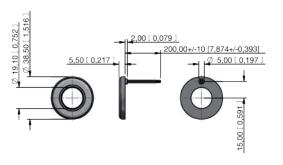
QH22 - 22 MM (.872")

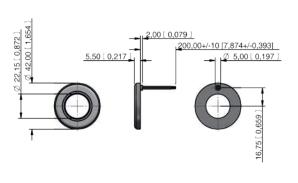


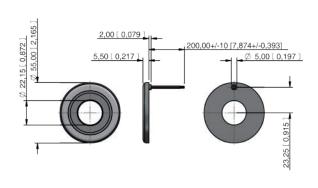
QH22L - 22 MM (.872") - OVERSIZED









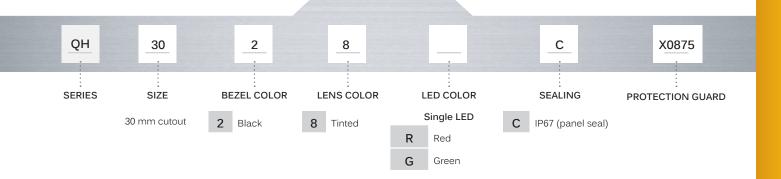




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(£3)

BUILD YOUR PART NUMBER





QH3028RC-X0875

Note: QH30 only available with protection guard

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 - \bullet Supply voltage is 12 to 24 VDC, for alternative voltages please contact APEM

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QH30 - 30.20 MM (1.189")



