

# QH series

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 (Min to Max)	Operating Current (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

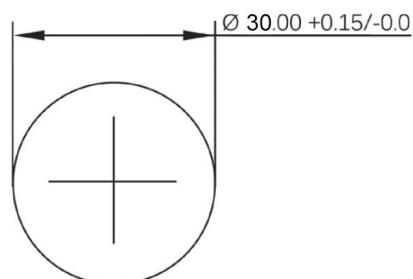
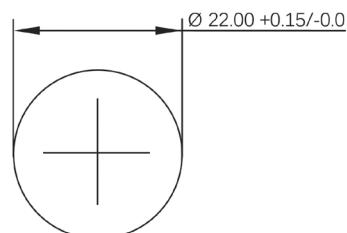
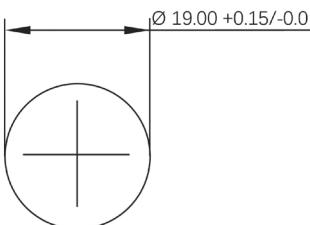
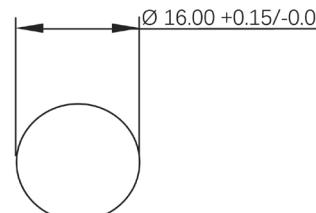
	Intensity	Forward Voltage (typical)
Red	100 mcd	2.0 V
Green	300 mcd	3.0 V
Blue	90 mcd	3.0 V

- The operating voltage must not be exceeded by more than 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



### Our regulatory declarations & certifications

In accordance with its QHSE policy and its values, the APEM group applies the most demanding environmental regulations.

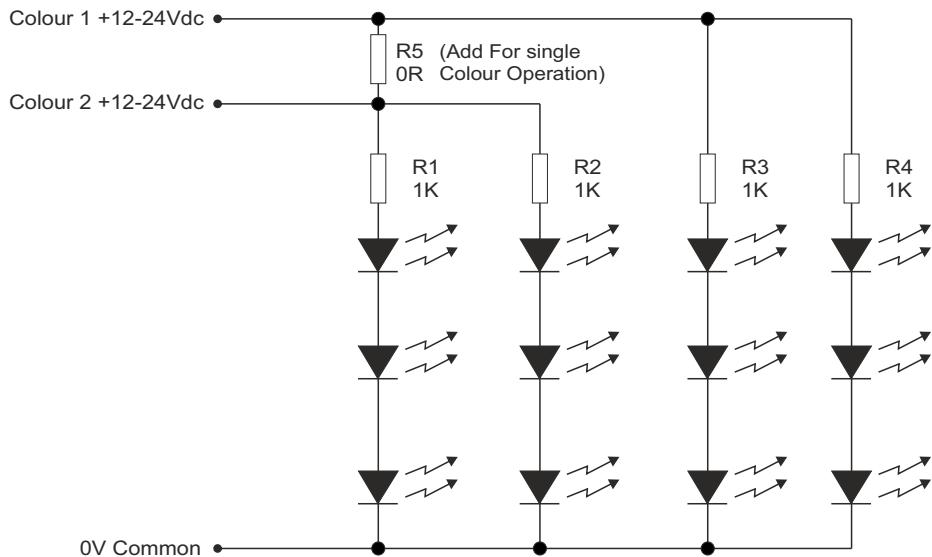
- UL Recognition
- REACH & ROHS
- Parc tested
- IP67
- LVD (BS EN 60838 :2017+A11 :2021)\*

\*Awareness to possible high level of moisture conditions

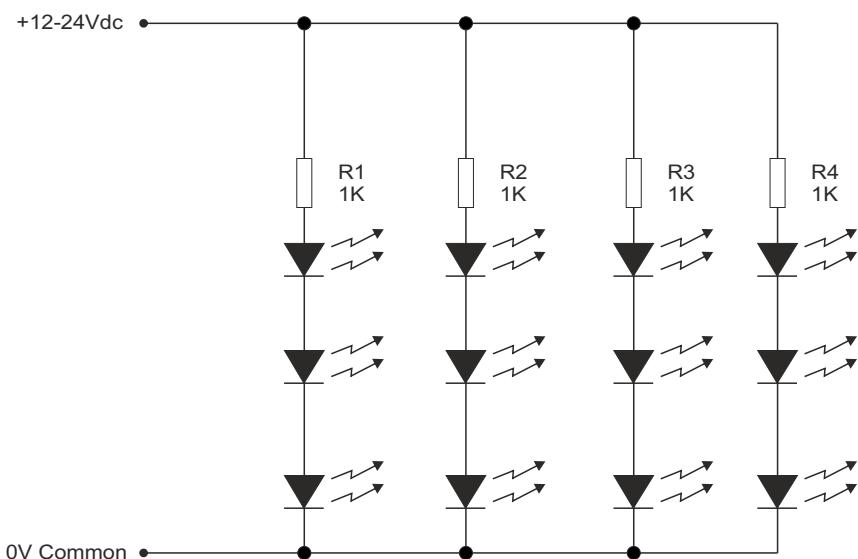


### CIRCUIT DIAGRAM

QH16, QH19, QH22



QH22L, QH30



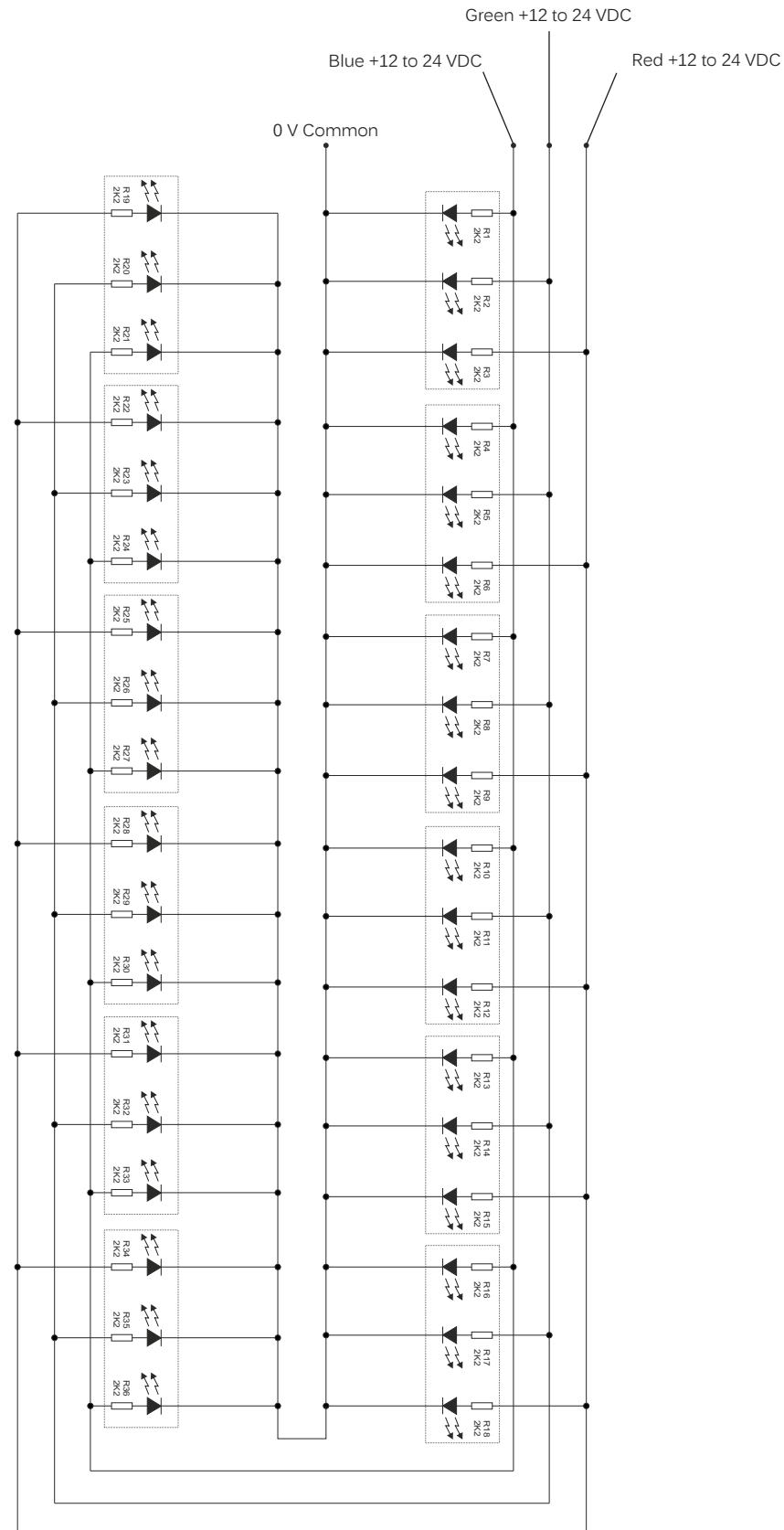
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## CIRCUIT DIAGRAM (CONTINUED)

QH16, QH19, QH22 RGB

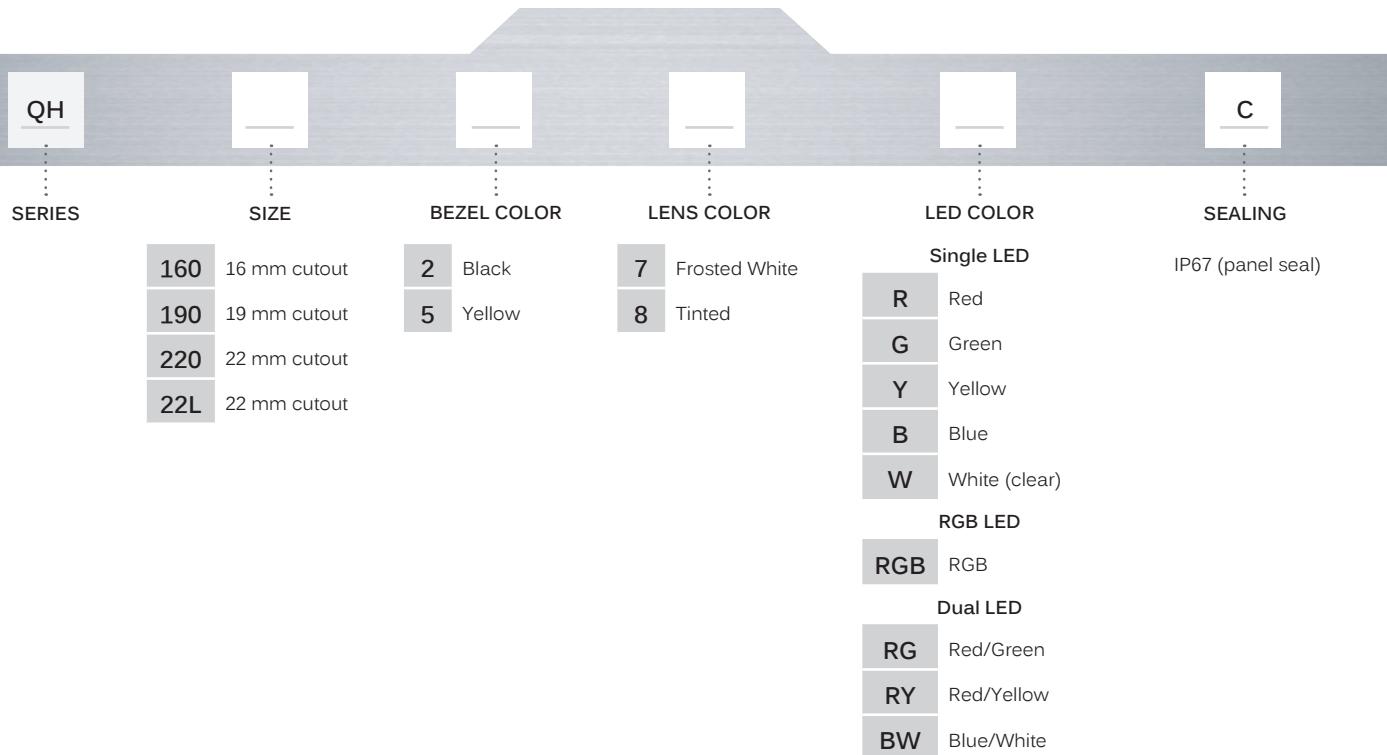


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## BUILD YOUR PART NUMBER



QH22L57YC

Shown fitted to an Emergency Stop switch



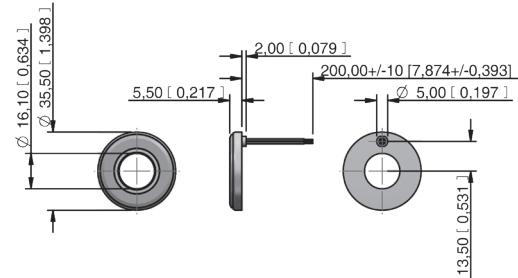
## ABOUT THIS SERIES

- 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

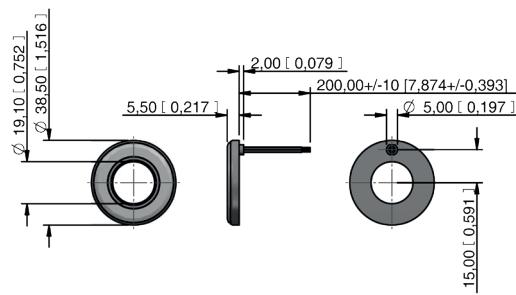
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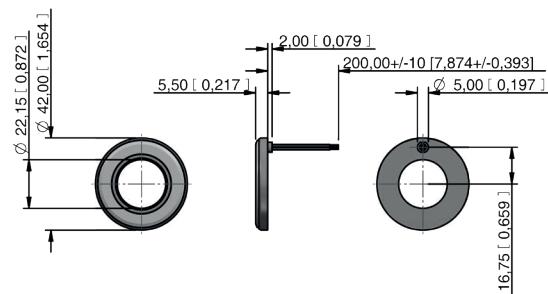
QH16 - 16 MM (.634")



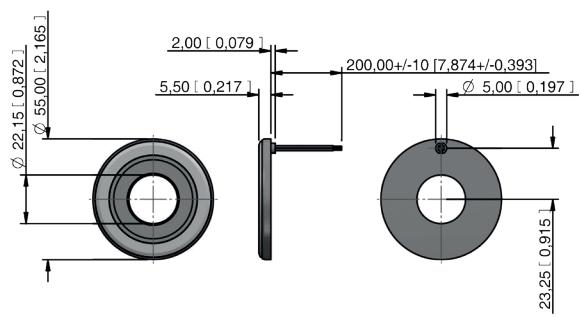
QH19 - 19 MM (.752")



QH22 - 22 MM (.872")



QH22L - 22 MM (.872") - OVERSIZED

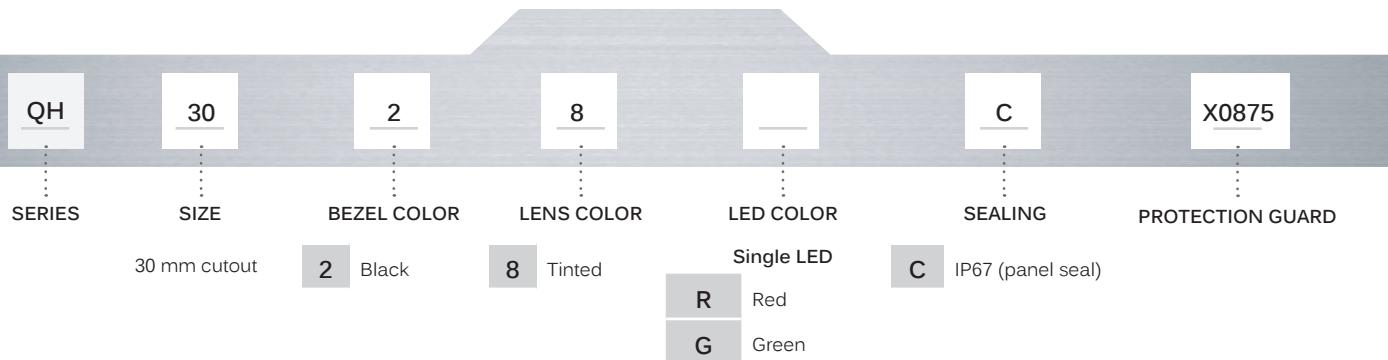


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## BUILD YOUR PART NUMBER



QH3028RC-X0875

Note: QH30 only available with protection guard



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QH30 - 30.20 MM (1.189")

