Ø12 mm panel mount LED indicators



### **DISTINCTIVE FEATURES**

8 mm colored diffused epoxy lens or 8 mm water clear super bright LEDs

2VDC - 220VAC

(2.8 x 0.8) solder lug/faston terminals, pins or (200mm long) wire terminations



## **ENVIRONMENTAL SPECIFICATIONS**

- IP67 sealing option (EN60529)
- Operating & Storage Temperature Range:
   Rear plastic body: -30 °C to +65° C (-22 °F to +149 °F)
   Rear epoxy body: -40 °C to +85° C (-40 °F to +185 °F)



## **GENERAL SPECIFICATIONS**

- Max Reverse Voltage: 5 V
- Viewing Angle: 30–100° (dependant on model)
- Life Expectancy: 100,000 hours
- Torque: 4 cNm (dependent on option)
- Maximum panel thickness 7 mm

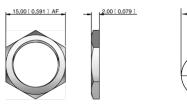


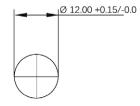
#### **MATERIALS**

 Plated brass bezel finished in bright chrome, black chrome or satin grey and moulded polycarbonate rear body



## **MOUNTING**





M12 x 0,75 THREAD

The company reserves the right to change specifications without notice.

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





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## **ELECTRICAL SPECIFICATIONS**

#### STANDARD LED INTENSITY

LED COMPONENT SPECIFICATIONS				
	Prominent and Recessed	Flush	Forward Voltage	
HE Red	350 mcd	N/A	2.0 V	
Green	60 mcd	N/A	2.2 V	
Yellow	50 mcd	N/A	2.1 V	
Blue	800 mcd	330 mcd	3.3 V (Flush : 3.1 V)	
White	1,200 mcd	1.560 mcd	3.3 V (Flush : 3.1 V)	
Orange	100 mcd	N/A	2.2 V	
Bi-color (Typical) (Red/Green)	20/10 mcd	N/A	2.0 V/2.2 V	
Tri-color (Typical) (Red/Green/Yellow)	80/15/13 mcd	N/A	2.0 V/2.2 V/2.1 V	

Bi-color - The color is changed by reversing the polarity of the supply voltage.

Tri-color - The indicator has red and green LEDs, when both connected yellow is produced.

#### SUPER BRIGHT LED INTENSITY

LED COMPONENT SPECIFICATIONS				
	Prominent and Recessed	Flush	Forward Voltage	
HE Red	3,000 mcd	N/A	2.2 V	
Green	8,000 mcd	N/A	3.3 V	
Yellow	1,100 mcd	N/A	2.0 V	
Blue	1,500mcd	N/A	3.3 V	
White	1,200 mcd	N/A	3.3 V	
Orange	2,000 mcd	N/A	2.2 V	

#### HYPER BRIGHT LED INTENSITY

LED COMPONENT SPECIFICATIONS				
	Prominent and Recessed	Flush	Forward Voltage	
HE Red	N/A	1,120 mcd	2.2 V	
Green	N/A	1,560 mcd	3.3 V	
Yellow	N/A	1,120 mcd	2.0 V	
Orange	N/A	1,120 mcd	2.2 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.

Voltage	Operating Voltage	Operating Current	
	(Min to Max)	(Typical All Types)	
02 (No Resistor)	1.8 to 3.3 VDC	20 mA max	
6 VDC	5.4 to 6.6 VDC	20 mA	
12 VDC	10.8 to 13.2 VDC	20 mA	
24 VDC	21.6 to 26.4 VDC	20 mA	
28 VDC	25.2 to 30.8 VDC	20 mA	
110 VAC	99 to 121 VAC	6 mA	
220 VAC	207 to 235 VAC	3 mA	

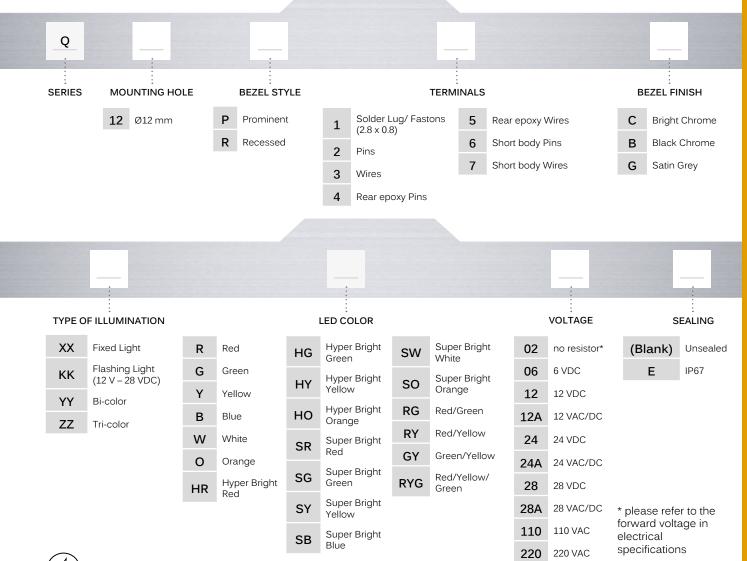
<sup>\*</sup> Customer to supply resistor for desired operating current.

### Ø12 mm panel mount LED indicators



## **BUILD YOUR PART NUMBER**

#### PROMINENT AND RECESSED BEZEL





## **ABOUT THIS SERIES**

- Notice: please note that not all combinations of above numbers are available.
  - Gold faston terminal denotes anode (+), silver terminal denotes cathode (-)
  - Standard wire length is 200 mm, 22 AWG UL1061, red wire denotes anode (+), black wire denotes cathode (-) for other wire lengths consult APEM
  - Bi-color leds, by connecting the gold faston (+) one color is produced, by reversing the supply voltage another color is produced bi-colors are available up to 28 VDC
  - Take care when soldering to the faston terminals (recommended solder temperature 300 °C 3 sec)
  - Max voltage for pins and wires is 28 V
  - Tri-color are not available with terminal option 1 and behind panel epoxy sealed with wires (option 4) or pins (option 5).

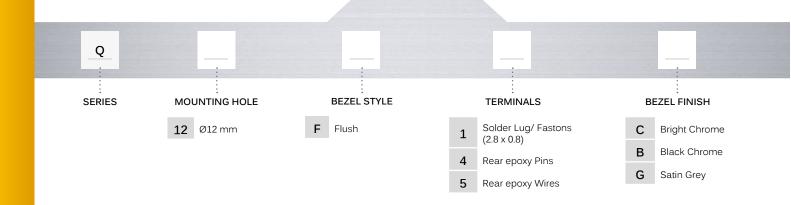
- 110 VAC and 220 VAC, short body terminal options, 5, 6 and 7 please consult the factory
- We recommend using Hyperbright or Superbright LEDs for use at 110 VAC and 220 VAC
- The Tri-color LED has red and green LEDs when both are connected yellow is produced
- Standard tri-color faston terminals are two anodes (+) and one cathode (-)
- Tri-color wires are one red (+) and one green (+) anode and one black (-) cathode
- Tri-color pins are center (-) cathode, shortest (+) anode pin green, longest (+) anode pin red

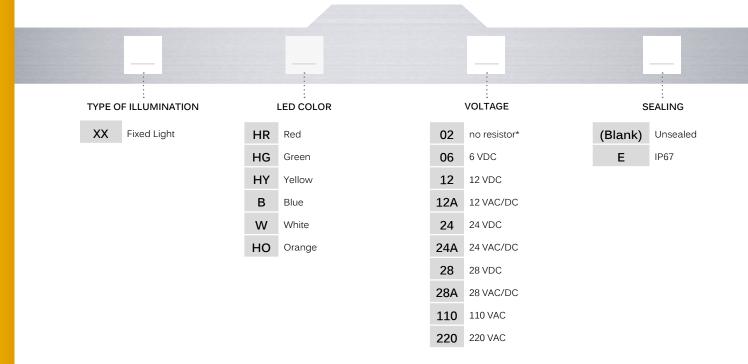
Ø12 mm panel mount LED indicators



# **BUILD YOUR PART NUMBER**

**FLUSH BEZEL** 







# **ABOUT THIS SERIES**

- Notice: please note that not all combinations of above numbers are available.
  - Gold faston terminal denotes anode (+), silver terminal denotes cathode (-)
  - Standard wire length is 200 mm, 22 AWG UL1061, red wire denotes anode (+), black wire denotes cathode (-) for other wire lengths consult APEM
  - For leds with alternative voltages please consult Apem
  - $\bullet$  Take care when soldering to the faston terminals (recommended solder temperature 300 °C 3 sec)
  - Max voltage for pins and wires is 28 V.
  - 110VAC and 220VAC only available with solder lug/Faston terminals

# APEM

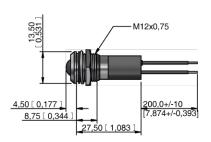
# Q12 series

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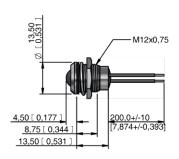
#### **PROMINENT BEZEL**



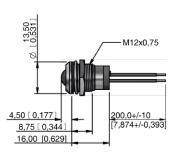
#### WIRES



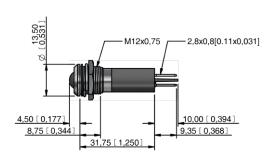
#### REAR EPOXY WIRES



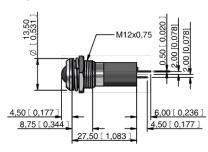
#### SHORT BODY WIRES



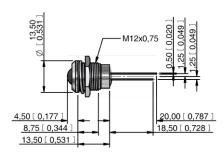
#### SOLDER LUG/FASTON



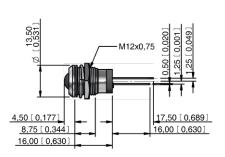
#### PINS



#### **REAR EPOXY PINS**



#### SHORT BODY PINS

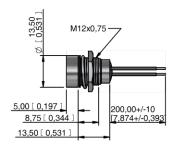


Ø12 mm panel mount LED indicators

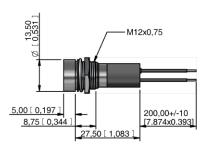
#### **RECESSED BEZEL**



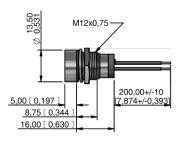
#### WIRES



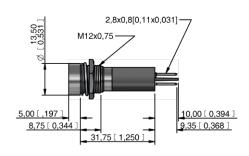
#### REAR EPOXY WIRES



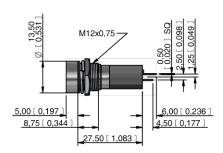
#### SHORT BODY WIRES



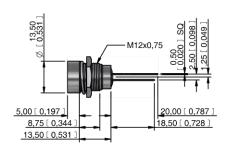
#### SOLDER LUG/FASTON



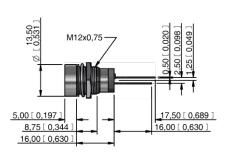
#### PINS



#### REAR EPOXY PINS



#### SHORT BODY PINS

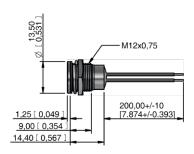


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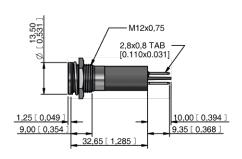
#### **FLUSH BEZEL**



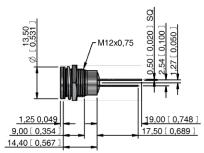
#### WIRES



#### SOLDER LUG/FASTON



#### PINS



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