

# APEM

QS-Series Snap-in Panel Mount LED Indicators



[www.apem.com](http://www.apem.com)

# QS SERIES

## Snap-in Panel Mount LED Indicators

### Features and Specifications

#### FEATURES

- 6mm, 8mm, 10mm and 12mmØ cut-out sizes
- Front panel snap-in mounting requires no additional hardware
- Coloured diffused flat lenses
- Available colours: Red, Green, Yellow, Blue, Orange, White (clear)
- Voltage range: 2VDC – 220VAC
- Terminations: solder lug/faston, 6mm (2.0 x 0.5mm), 8mm, 10mm, 12mm (2.8 x 0.8mm) or wires (200mm standard length)
- Standard intensity diffused LEDs or high brightness LEDs for daylight viewing
- Bi-colour LED option
- UL496 recognised component

#### OPTICAL SPECIFICATIONS

Colour	Intensity Std LED (mcd)	Forward Voltage (V)	Intensity High Brightness (mcd)	Forward Voltage (V)	Voltage	Operating Voltage (min to max)	Operating Current (typical all types)
Red	25	2.0	6000	2.2	2VDC (no resistor)	1.8 to 2.5VDC	20mA*
Green	20	2.2	1200	3.3	12VDC	10.8 to 13.2VDC	20mA
Yellow	20	2.1	380	2.0	24VDC	21.6 to 26.4VDC	20mA
Blue	800	3.3	1600	3.3	28VDC	25.2 to 30.8VDC	20mA
Orange	30	2.0	4100	2.2	110VAC	99 to 110VAC	6mA
White (clear)	1200	3.3	2500	3.3	220VAC	207 to 253VAC	3mA

\*Customer to supply resistor for desired operating current

#### TECHNICAL CHARACTERISTICS

- Max reverse voltage: 5V
- Viewing angle: 30° (standard LED), 45° (high brightness LED)
- Life expectancy: 100,000 hours
- Operating temperature range: -30° to +85°C
- Storage temperature: -40° to +100°C
- Panel thickness (preferable): 0.8mm(0.031") – 1.6mm(0.062")

#### MATERIALS

- Lens: Polycarbonate (UL94V-0)
- Body moulding: Polycarbonate (UL94V-0)
- Solder lug/faston terminals: Gold (flash)/Silver (flash), Brass
- Wires: 6mm, 8mm = 24AWG, 10mm, 12mm = 22AWG
- All wires PVC (UL1061)



# QS SERIES

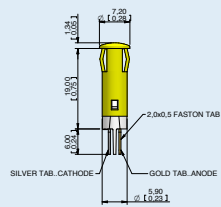
## Snap-in Panel Mount LED Indicators

### Technical Drawings

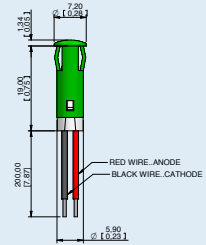
6mmØ



**SOLDER LUG/FASTON**



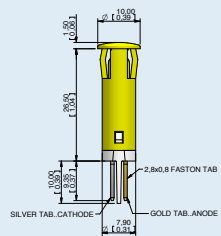
**WIRES**



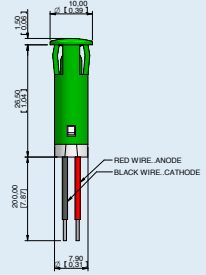
8mmØ



**SOLDER LUG/FASTON**



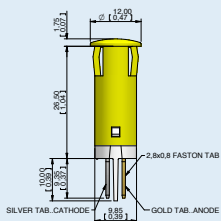
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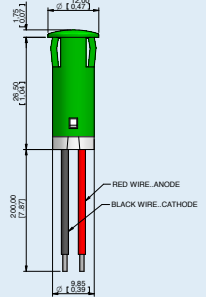
10mmØ



**SOLDER LUG/FASTON**



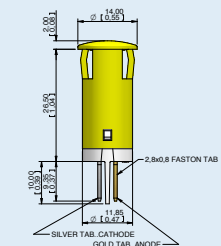
**WIRES**



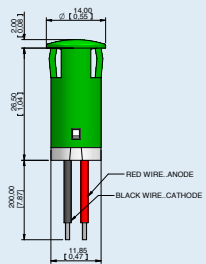
12mmØ



**SOLDER LUG/FASTON**



**WIRES**



# QS SERIES

## Snap-in Panel Mount LED Indicators

### Order Overview

<b>QS</b>	<b>8</b>	<b>3</b>	<b>XX</b>	<b>R</b>	<b>220</b>
<b>SERIES</b>	<b>MOUNTING HOLE</b>	<b>TERMINALS</b>	<b>TYPE OF ILLUMINATION</b>	<b>LED COLOUR</b>	<b>VOLTAGE</b>
QS	6 = 6mmØ 8 = 8mmØ 10 = 10mmØ 12 = 12mmØ	1 = Solder lug/ faston  3 = Wires	XX = Fixed Light  YY = Bi-colour	R = Red G = Green Y = Yellow B = Blue O = Orange W = White (clear)  HR = High Brightness Red HG = High Brightness Green HY = High Brightness Yellow HB = High Brightness Blue HO = High Brightness Orange HW = High Brightness White  RG = Red/Green	02 = 2VDC 12 = 12VDC 24 = 24VDC 28 = 28VDC 110 = 110VAC 220 = 220VAC

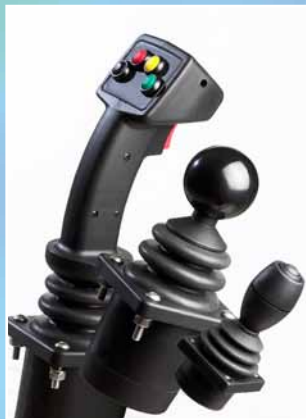
#### TECHNICAL CHARACTERISTICS

- Gold faston terminal denotes Anode (+), silver terminal denotes Cathode (-)
- Standard wire length is 200mm, red wire denotes Anode (+), black wire denotes Cathode (-). For other wires lengths consult APEM (6mm and 8mm use 24AWG, 10mm and 12mm use 22AWG)
- For LED's with alternative voltages consult APEM
- Bi-colour LEDs, by connecting the gold faston (+) one colour is produced, by reversing the supply voltage another colour is produced – Bi-colours are available up to 28VDC. [AC products not available]
- Take care if soldering to the faston terminals
- All 110VAC and 220VAC LED indicators will be supplied with high brightness LEDs
- For resistorless versions (02) please pay attention to the forward voltage
- Flashing LEDs are available as a special option

## APEM product ranges



Switches



Joysticks



Switch Panels



Indicators



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