

# Q SERIES Ø12mm (.472") Panel Mount LED Indicators

## Distinctive features and specification

VOYC1603R1US

### Features

- 12mm panel mounting LED indicator
- 8mm colored diffused epoxy lens or 8mm water clear super bright LEDs
- Plated brass bezel finished in bright chrome, black chrome or satin grey and moulded polycarbonate rear body
- Prominent bezel style
- 2VDC – 220VAC
- (2.8 x 0.8) solder lug/faston terminals, pins or (200mm long) wire terminations
- IP67 sealing option (EN60529)
- Supplied with fixing nut and spring washer

NB: UL Recognized Component



### TECHNICAL SPECIFICATIONS

| Voltage          | Operating Voltage<br>(Min to Max) | Operating Current<br>(Typical All Types) |
|------------------|-----------------------------------|------------------------------------------|
| 02 (No Resistor) | 1.8 to 3.3VDC                     | 20mA max*                                |
| 6VDC             | 5.4 to 6.6VDC                     | 20mA                                     |
| 12VDC            | 10.8 to 13.2VDC                   | 20mA                                     |
| 24VDC            | 21.6 to 26.4VDC                   | 20mA                                     |
| 28VDC            | 25.2 to 30.8VDC                   | 20mA                                     |
| 110VAC           | 99 to 121VAC                      | 6mA                                      |
| 220VAC           | 207 to 253VAC                     | 3mA                                      |

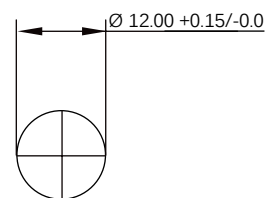
Max Reverse Voltage: 5V

Viewing Angle: 30–100° (dependant on model)

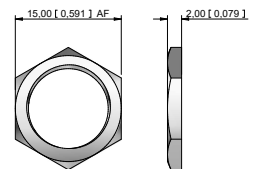
Life Expectancy: 100,000 hours

Temperature Range: –40 to +85°C (operating & storage)

Torque: 75cNm



PANEL CUTOUT



M12 x 0.75 THREAD

| Standard LED Intensity                 | Prominent   | Forward Voltage |
|----------------------------------------|-------------|-----------------|
| HE Red                                 | 350mcd      | 2.0V            |
| Green                                  | 60mcd       | 2.2V            |
| Yellow                                 | 50mcd       | 2.1V            |
| Blue                                   | 800mcd      | 3.3V            |
| White                                  | 1,200mcd    | 3.3V            |
| Orange                                 | 100mcd      | 2.0V            |
| Bi-color (Typical) (Red/Green)         | 20/10mcd    | 2.0V/2.2V       |
| Tri-color (Typical) (Red/Green/Yellow) | 80/15/13mcd | 2.0V/2.2V/2.1V  |

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 | Prominent | Forward Voltage |
|------------------|-----------|-----------------|
| HE Red           | 3,000mcd  | 2.2V            |
| Green            | 8,000mcd  | 3.3V            |
| Yellow           | 1,100mcd  | 2.3V            |
| Blue             | 1,500mcd  | 3.3V            |
| White            | 1,200mcd  | 3.3V            |
| Orange           | 2,000mcd  | 2.2V            |

| Hyper Bright LED | Prominent | Forward Voltage |
|------------------|-----------|-----------------|
| HE Red           | 1,200mcd  | 2.0V            |
| Green            | 2,200mcd  | 3.3V            |
| Yellow           | 1,600mcd  | 2.0V            |
| Orange           | 4,300mcd  | 2.2V            |

Luminous intensity will be reduced with lower operating current.

Note: The operating voltage must not be exceeded by more than 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.

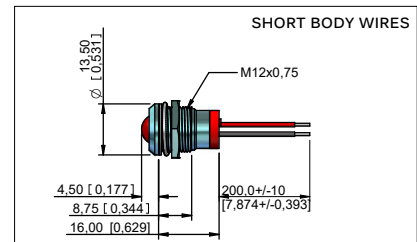
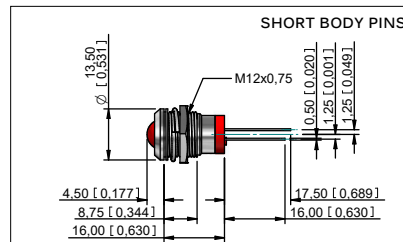
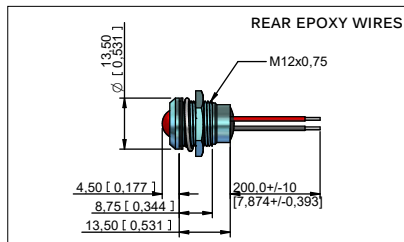
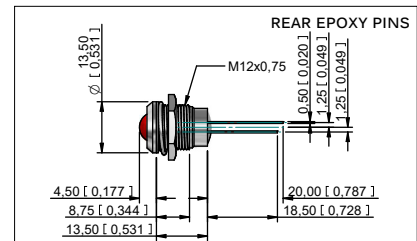
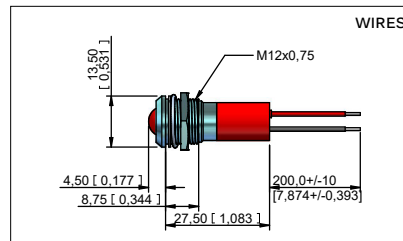
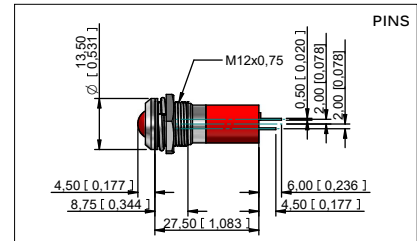
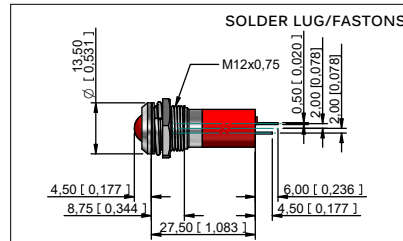
Luminous intensity is measured at 20mA on a discrete LED unless otherwise stated.

Luminous intensities and color shades of white LEDs may vary within a batch.

# Q SERIES Ø12mm (.472") Panel Mount LED Indicators

## Technical Drawings

### PROMINENT BEZEL



# Q SERIES Ø12mm (.472") Panel Mount LED Indicators

## Overview

### STANDARD OPTIONS

The Q12 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.

| Q      | 12            | P             | 1                                  | B                 | XX                               | G                        | 12                | E                  |
|--------|---------------|---------------|------------------------------------|-------------------|----------------------------------|--------------------------|-------------------|--------------------|
| SERIES | MOUNTING HOLE | BEZEL STYLE   | TERMINALS                          | BEZEL FINISH      | TYPE OF ILLUMINATION             | LED COLOR                | VOLTAGE           | SEALING            |
| Q      | 12 = Ø12mm    | P = Prominent | 1 = Solder Lug/Fastons (2.8 x 0.8) | C = Bright Chrome | XX = Fixed Light                 | R = Red                  | 02 = no resistor* | (Blank) = Unsealed |
|        |               |               | 2 = Pins                           | B = Black Chrome  | KK = Flashing Light (12 - 28VDC) | G = Green                | 06 = 6VDC         | E = IP67           |
|        |               |               | 3 = Wires                          | G = Satin Grey    | YY = Bi-color                    | Y = Yellow               | 12 = 12VDC        |                    |
|        |               |               | 4 = Rear epoxy Pins                |                   | ZZ = Tri-color                   | B = Blue                 | 12A = 12VAC/DC    |                    |
|        |               |               | 5 = Rear epoxy Wires               |                   |                                  | W = White                | 24 = 24VDC        |                    |
|        |               |               | 6 = Short body Pins                |                   |                                  | O = Orange               | 24A = 24VAC/DC    |                    |
|        |               |               | 7 = Short body Wires               |                   |                                  |                          | 28 = 28VDC        |                    |
|        |               |               |                                    |                   |                                  | HR = Hyper Bright Red    | 28A = 28VAC/DC    |                    |
|        |               |               |                                    |                   |                                  | HG = Hyper Bright Green  | 110 = 110VAC      |                    |
|        |               |               |                                    |                   |                                  | HY = Hyper Bright Yellow | 220 = 220VAC      |                    |
|        |               |               |                                    |                   |                                  | HO = Hyper Bright Orange |                   |                    |
|        |               |               |                                    |                   |                                  |                          |                   |                    |
|        |               |               |                                    |                   |                                  | SR = Super Bright Red    |                   |                    |
|        |               |               |                                    |                   |                                  | SG = Super Bright Green  |                   |                    |
|        |               |               |                                    |                   |                                  | SY = Super Bright Yellow |                   |                    |
|        |               |               |                                    |                   |                                  | SB = Super Bright Blue   |                   |                    |
|        |               |               |                                    |                   |                                  | SW = Super Bright White  |                   |                    |
|        |               |               |                                    |                   |                                  | SO = Super Bright Orange |                   |                    |
|        |               |               |                                    |                   |                                  |                          |                   |                    |
|        |               |               |                                    |                   |                                  | RG = Red/Green           |                   |                    |
|        |               |               |                                    |                   |                                  | RY = Red/Yellow          |                   |                    |
|        |               |               |                                    |                   |                                  | GY = Green/Yellow        |                   |                    |
|        |               |               |                                    |                   |                                  |                          |                   |                    |
|        |               |               |                                    |                   |                                  | RYG = Red/Yellow/Green   |                   |                    |

#### Example Q12P7GXXG12E

Ø12mm, prominent bezel, short body wires, satin chrome finish, fixed light, green, 12VDC LED, IP67 panel sealed



- Gold Faston terminal denotes Anode (+), silver terminal denotes Cathode (-)
- Standard wire length is 200mm, 24AWG UL1061, red wire denotes Anode (+), black wire denotes Cathode (-) for other wire lengths consult APEM
- For LEDs with alternative voltage 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 28VDC
- Take care when soldering to the Faston terminals (recommended solder temperature 300°C - 3 sec)
- Max voltage for pins and wires is 28V
- Maximum panel thickness 7mm
- Tri-colors are only available behind panel epoxy sealed with wires (option 1) or pins (option 3)
- 110VAC and 220VAC only available with solder lug/Faston terminals
- We recommend using Hyperbright or Superbright LEDs for use at 110VAC and 220VAC
- 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

\* = For resistorless versions (02) please refer to the forward voltage on page 1

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А