Q SERIES Ø16mm (.630") Panel Mount LED Indicators

Distinctive features and specification

Features

- 16mm panel mounting LED indicator
- 10mm colored diffused epoxy lens or 10mm water clear super bright LEDs
- Plated brass bezel finished in bright chrome, black chrome or satin grey
- Secret until lit polycarbonate decals or custom engraving
- Prominent and flush bezel styles
- 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 (Min to Max)	Operating Current (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

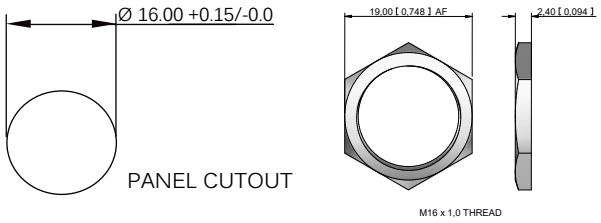
Max Reverse Voltage: 5V

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

Life Expectancy: 100,000 hours

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

Torque: 75cNm



Standard LED Intensity	Prominent	Flush	Forward Voltage
HE Red	100mcd	10mcd	2.0V
Green	60mcd	5mcd	2.2V
Yellow	50mcd	4mcd	2.1V
Blue	540mcd	100mcd	3.3V
White	1000mcd	120mcd	3.3V
Orange	100mcd	200mcd	2.0V
Bi-color (Typical) (Red/Green)	15/15mcd	14/10mcd	2.0V/2.2V
Tri-color (Typical) (Red/Green/Yellow)	80/50/50mcd	180/30/30mcd	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	Flush	Forward Voltage
HE Red	17,000mcd	2000mcd	2.2V
Green	4,100mcd	680mcd	3.5V
Yellow	2,500mcd	350mcd	2.3V
Blue	2,500mcd	300mcd	3.3V
White	4,400mcd	200mcd	3.3V
Orange	2,800mcd	300mcd	2.1V

Hyper Bright LED	Prominent	Flush	Forward Voltage
HE Red	2,800mcd	800mcd	2.1V
Green	2,200mcd	250mcd	3.2V
Yellow	1,300mcd	250mcd	2.0V
Orange	850mcd	200mcd	2.1V
Luminous intensity will be reduced with lower operating current.			

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

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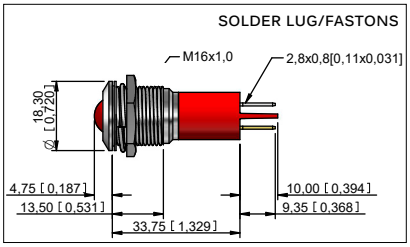
Technical Drawings

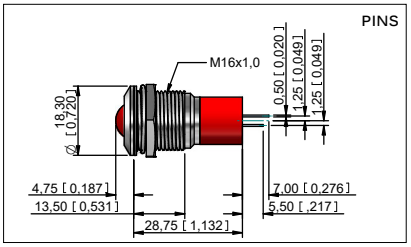
PROMINENT BEZEL



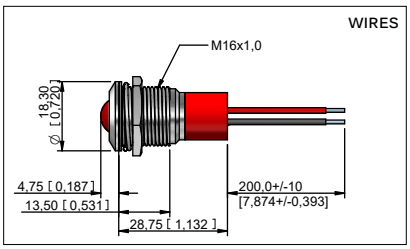
SOLDER LUG/FASTONS



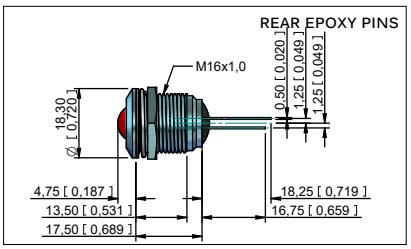
PINS



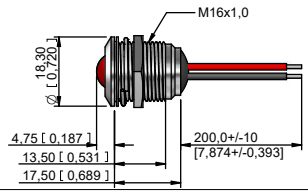
WIRES



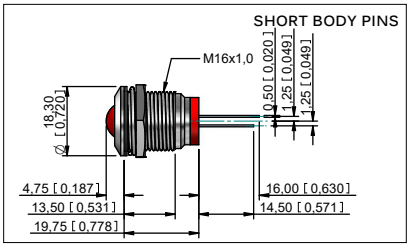
REAR EPOXY PINS



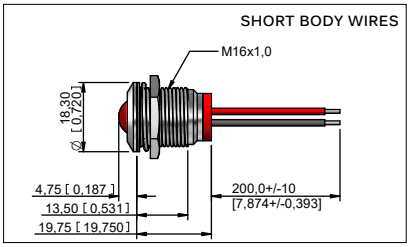
REAR EPOXY WIRES



SHORT BODY PINS



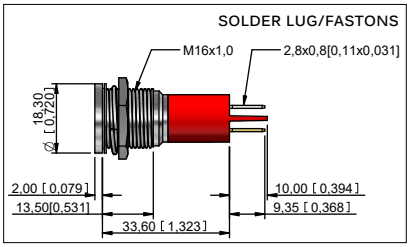
SHORT BODY WIRES



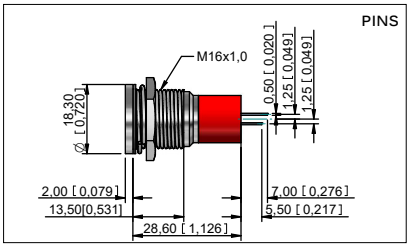
FLUSH BEZEL



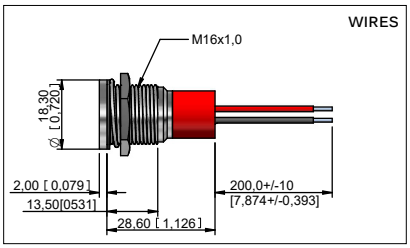
SOLDER LUG/FASTONS



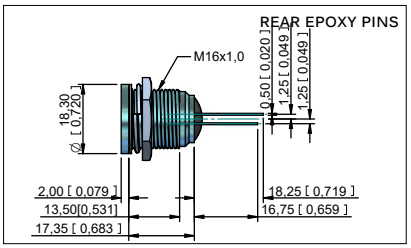
PINS



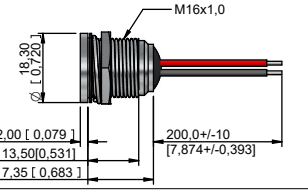
WIRES



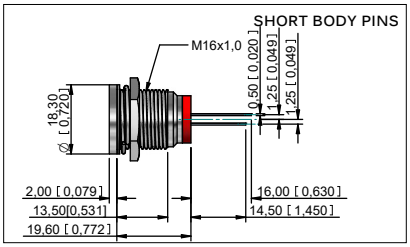
REAR EPOXY PINS



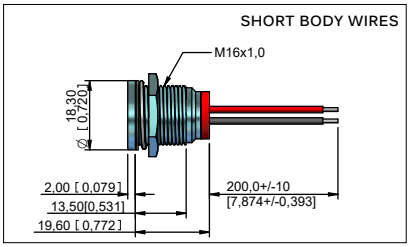
REAR EPOXY WIRES



SHORT BODY PINS



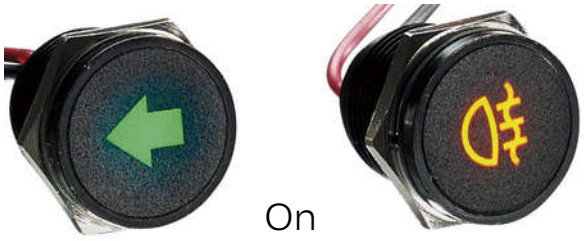
SHORT BODY WIRES



Q SERIES Ø16mm (.630") Panel Mount LED Indicators
Custom options

Secret Until Lit Polycarbonate Inserts





Suffix the part number with legend code (see example on page 5)

Code	Symbol	Description
-3AH		Turn Signal
-313		Hazard
-3GP		Oil can
-3AG		Battery
-327		Rear fog
-397		Low beam
-3BU		Brake test
-3K6		Arrow
-3AJ		High beam

Code	Symbol	Description
-3PB		Park Brake
-398		Side Lights
-3SB		Seat Belt
-3TP		Tyre Pressure
-3CE		Check Engine
-3EC		Engine Temperature
-3FP		Fuel
-3BF		Brake Failure

Some common codes are listed above, for your custom requirements please contact APEM.

Q SERIES Ø16mm (.630") Panel Mount LED Indicators
Custom options

Custom Engraving



Cable length & connector



For custom cable length and connectors please contact APEM

Suffix the part number with legend code (see example on page 5)

Code	Symbol	Description
-0AJ		High Beam
-097		Low Beam
-027		Rear Fog
-026		Front Fog
-021		Windscreen Wiper
-022		Windscreen Washer
-023		Ventilator Fan
-0AH		Turn Signal
-098		Side Lights

Code	Symbol	Description
-041		Horn
-013		Hazard Warning
-018		Heating
-0BU		Brake Test
-0K6		Arrow
-0AG		Battery
-0GP		Oil Can
-020		Windscreen Heating
-086	ABS	ABS

Code	Symbol	Description
-0EL		Engine Coil
-0SB		Seat Belt
-0UB		USB Connection
-0ST		Steam
-0EU	ECU	ECU
-0AD		Side Step
-012		Air Con
-040		Engine
-0BR		Boot/Trunk Release

Some common codes are listed above, for your custom requirements please contact APEM.
Unless specified standard engraving with white infill will be supplied.

Q SERIES Ø16mm (.630") Panel Mount LED Indicators

Overview

STANDARD OPTIONS

The Q16 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		16		F		1		G		XX		Y		24		E

SERIES	MOUNTING HOLE	BEZEL STYLE	TERMINALS	BEZEL FINISH	TYPE OF ILLUMINATION	LED COLOR	VOLTAGE	SEALING
Q	16 = Ø16mm	Metal	1 = Solder Lug/ Fastons (2.8 x 0.8)	Metal	XX = Fixed Light	R = Red	02 = no resistor*	(Blank) = Unsealed
		P = Prominent	2 = Pins	C = Bright Chrome	KK = Flashing Light (12 - 28VDC)	G = Green	06 = 6VDC	E = IP67
		F = Flush	3 = Wires	B = Black Chrome	YY = Bi-color	Y = Yellow	12 = 12VDC	
		Plastic	4 = Rear epoxy Pins	G = Satin Grey	ZZ = Tri-color	B = Blue	12A = 12VAC/DC	
		PP = Prominent	5 = Rear epoxy Wires	Plastic		W = White	24 = 24VDC	
		FP = Flush	6 = Short body Pins	CP = Bright		O = Orange	24A = 24VAC/DC	
			7 = Short body Wires	BP = Black			28 = 28VDC	
				GP = Satin Grey		HR = Hyper Bright Red	28A = 28VAC/DC	
				AU = Gold		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		
						RG = Red/Green		
						RY = Red/Yellow		
						GY = Green/Yellow		
						RYG = Red/Yellow/Green		

Example Q16F7BXXHR12E-3PB
Ø16mm, flush metal bezel, wire terminals
Matt black chrome finish, fixed light,
Red, 12VDC LED, IP67 panel sealed
Secret until lit Park Brake Symbol (see page 3)



- Gold Faston terminal denotes Anode (+), silver terminal denotes Cathode (-)
- Standard wire length is 200mm, 22AWG UL1007, red wire denotes Anode (+), black wire denotes Cathode (-) for other wire lengths consult APEM
- For LEDs with alternative voltages 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 270°C - 2 sec)
- Short body pins and wires are only available up to 28VDC
- 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
- Maximum panel thickness 11mm
- We recommend using Hyperbright or Superbright LEDs for use at 110VAC and 220VAC
- For multi-voltage options please consult APEM

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