Q SERIES Ø22mm (.866") Panel Mount LED Indicators

Distinctive features and specification

Features

- 22mm panel mounting LED indicator
- 18mm colored diffused epoxy lens or 18mm super bright LEDs
- Plated brass bezel finished in bright chrome, black chrome or satin grey and moulded polycarbonate rear body
- Chamfer bezel option in 316L stainless steel and anodized aluminum finish only
- Prominent, Recess and flush bezel styles
- Custom engraving & secret until lit options available
- (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)
05 (No Resistor)	3.3 to 9.9VDC	40mA max*
12VDC	10.8 to 13.2VDC	40mA
24VDC	21.6 to 26.4VDC	40mA
28VDC	25.2 to 30.8VDC	40mA
110VAC	99 to 121VAC	5mA
220VAC	207 to 253VAC	3mA

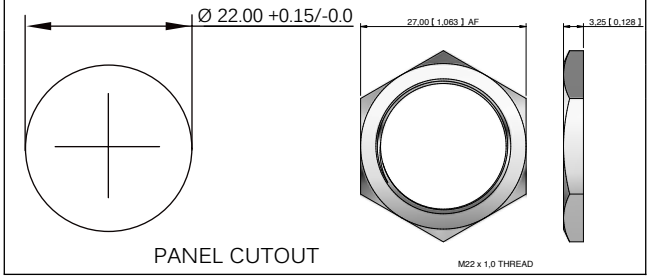
Max Reverse Voltage: 5V

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

Life Expectancy: 100,000 hours

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

Torque: 100cNm



Standard LED Intensity	Prominent and Recessed	Flush	Forward Voltage
HE Red	82mcd	70mcd	5.7V
Green	95mcd	66mcd	6.0V
Yellow	60mcd	59mcd	5.9V
Blue	120mcd	101mcd	9.9V
White	1,000mcd	150mcd	3.3V
Bi-color (Typical) (Red/Green)	80/50mcd	80/50mcd	2.0V/2.2V
Tri-color (Typical) (Red/Green/Yellow)	80/50/50mcd	80/50/50mcd	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 (Diffused)	Prominent and Recessed	Flush	Forward Voltage
HE Red	465mcd	800mcd	5.7V
Green	245mcd	980mcd	9.0V
Yellow	365mcd	1,250mcd	6.0V

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.
LED characteristics are dependent upon environmental conditions. Therefore published data should be considered nominal.

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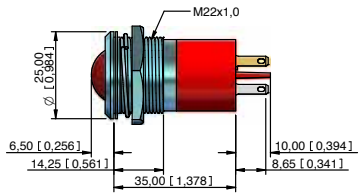
Q SERIES Ø22mm (.866") Panel Mount LED Indicators

Technical Drawings

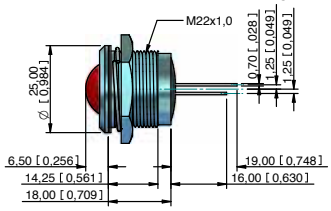
PROMINENT BEZEL



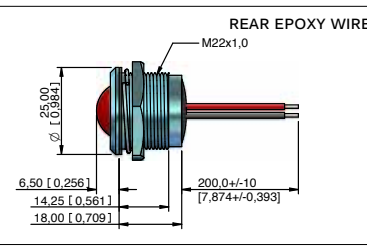
SOLDER LUG/FASTONS



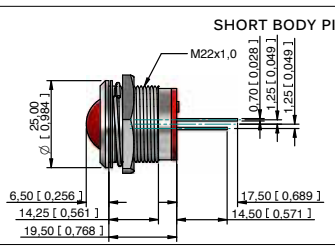
REAR EPOXY PINS



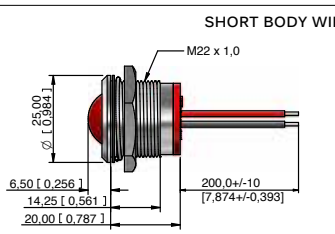
REAR EPOXY WIRES



SHORT BODY PINS



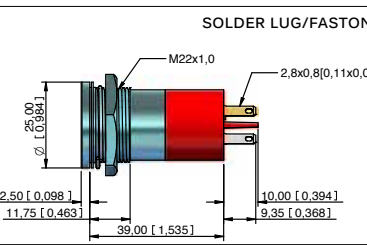
SHORT BODY WIRES



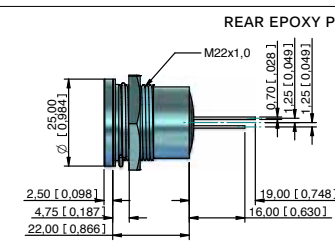
FLUSH BEZEL



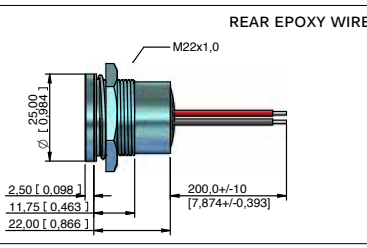
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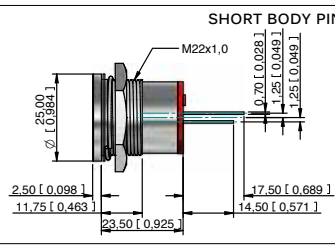
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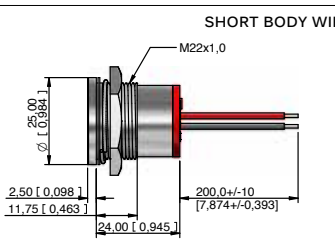
REAR EPOXY WIRES



SHORT BODY PINS



SHORT BODY WIRES



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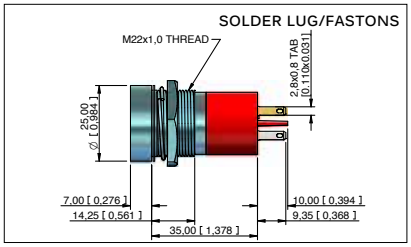
Q SERIES Ø22mm (.866") Panel Mount LED Indicators

Technical Drawings

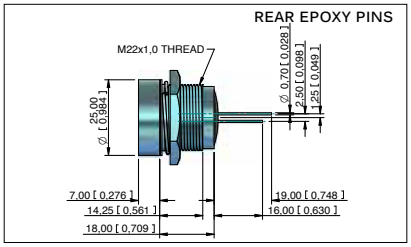
RECESSED BEZEL



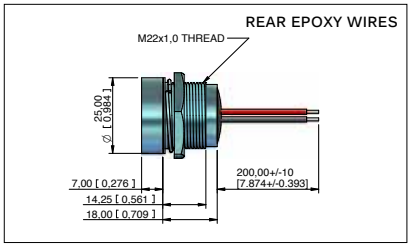
SOLDER LUG/FASTONS



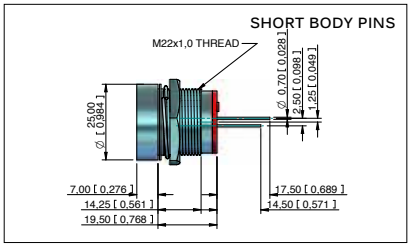
REAR EPOXY PINS



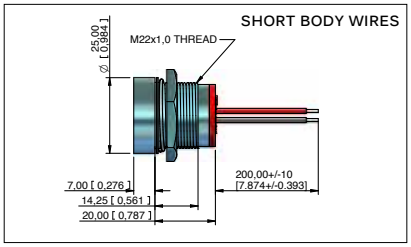
REAR EPOXY WIRES



SHORT BODY PINS



SHORT BODY WIRES

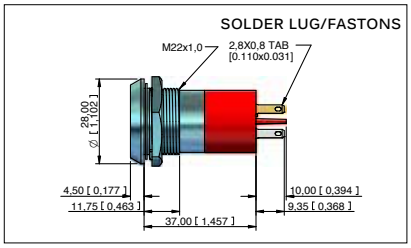


CHAMFER BEZEL

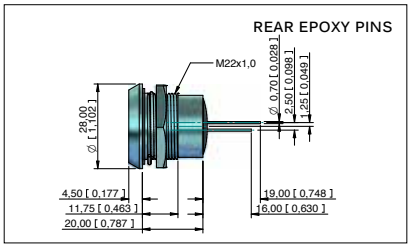
(316L Stainless Steel and aluminium only)



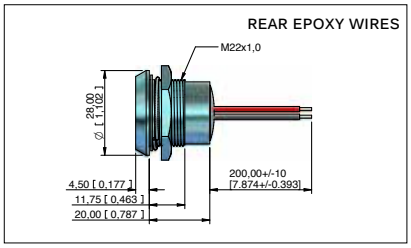
SOLDER LUG/FASTONS



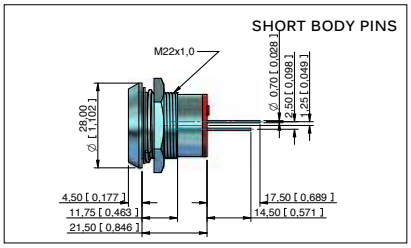
REAR EPOXY PINS



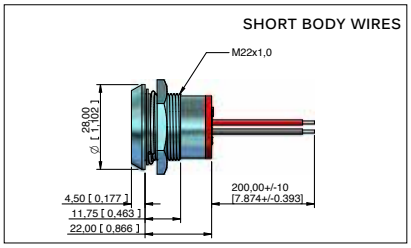
REAR EPOXY WIRES



SHORT BODY PINS



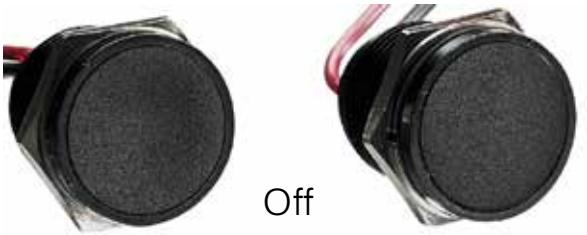
SHORT BODY WIRES

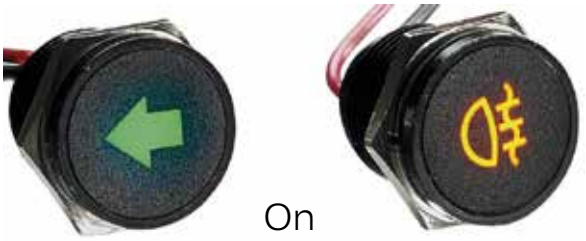


Designed to match the bezel style of APEM's range of Ø22mm panel mounting Piezo pushbutton switches PBAR, PBAR6, PBARY and PBARZ.
Search on apem.com for detail

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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.

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Q SERIES Ø22mm (.866") Panel Mount LED Indicators

Custom Options

Custom Marking



Cable length & connector



For custom cable length and connectors please contact APEM

CUSTOM ENGRAVING

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
-0BD		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

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Q SERIES Ø22mm (.866") Panel Mount LED Indicators

Overview

STANDARD OPTIONS

The Q22 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		22		F		1		BP		XX		W		28		E		DL	

SERIES	MOUNTING HOLE	BEZEL STYLE	TERMINALS	BEZEL FINISH	TYPE OF ILLUMINATION	LED COLOR	VOLTAGE	SEALING	OPTIONS
Q	22 = Ø22mm	Metal	1 = Solder Lug/ Fastons (2.8 x 0.8)	Metal	XX = Fixed Light	R = Red	05 = no resistor*	(Blank) = Unsealed	DL = Daisy Chain
		P = Prominent	4 = Rear epoxy Pins	C = Bright Chrome	KK = Flashing Light (only 12VDC)	G = Green	12 = 12VDC	E = IP67	LT = Lamp Test
		R = Recessed	5 = Rear epoxy Wires	B = Black Chrome	YY = Bi-color	Y = Yellow	12A = 12VAC/DC		
		F = Flush	6 = Short body Pins	G = Satin Grey	ZZ = Tri-color	B = Blue	24 = 24VDC		
		Y = Chamfer (Steel & Anodized only)	7 = Short body Wires	S = Stainless Steel		W = White	24A = 24VAC/DC		
		Plastic		Plastic			28 = 28VDC		
		PP = Prominent		BP = Black		SR = Super bright Red	28A = 28VAC/DC		
		FP = Flush		Anodized Flush		SG = Super bright Green	110 = 110VAC		
				AR = Red		SY = Super bright Yellow	220 = 220VAC		
				AG = Green					
				AY = Yellow		RG = Red/Green			
				AB = Blue		RY = Red/Yellow			
				AN = Black		GY = Green/Yellow			
						RYG = Red/Yellow/ Green			

Example Q22F5CXXG12E-0AG
Ø22mm, flush bezel, rear epoxy wire terminals, bright chrome finish, fixed light, green, 12VDC LED, IP67 panel sealed, Battery symbol marking



- 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 300°C - 3 sec)
- Pin and Wire options are epoxy sealed at the rear of the bezels, termination options 4 and 5
- 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: Prominent = 12mm, Flush = 10mm
- Plastic bezel material: ABS
- Daisy chaining option - has negative (Cathode) terminals linked (3 x Fastons), solder lugs only
- Lamp test facility option 4 x solder lug/Faston only
- We recommend using super bright LEDs for use at 110 and 220VAC

* = For resistorless versions (05) please refer to the forward voltage on page 1

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