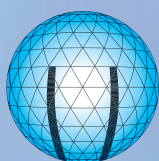


APEM

Q-Series Panel Mount LED Indicators



ENG 2



A P E M

Q-SERIES Panel Mounting LED Indicators

Apem is one of the world's largest manufacturers of professional switches and switch panels. This has now been complemented with a NEW expanded range of panel mounting LED indicators.

The range comprises of seven different panel cut-out sizes (6mm, 8mm, 12mm, 14mm, 16mm, 19mm and 22mm) Three different bezel shapes, prominent, recessed and flush manufactured from high quality Brass and ABS (16mm and 22mm only). Both bezel materials are available plated in Bright Chrome, Black Chrome, Satin Chrome and Gold (16mm and 22mm ABS only). Terminations can be supplied in 2.0/2.8mm Faston/ solder lug, pins or 200mm long wire. IP67 sealing can be achieved as an option.

The LEDs are available in five colour options, standard diffused red, green, yellow, blue and white, plus Bi-colour, Tri-colour and flashing LEDs. A complementary range of super bright, water clear LEDs are also available.

The LED indicators are available with integral resistors to permit direct connection to 6V, 12V, 24V, 28V, 110V and 220V. (Other voltages are available upon request).

To further complement their panel mount LED lighting products, Apem has designed and developed an extensive range of based LED Lamps.



www.apem.com

Contents

Page	Q-SERIES Panel Mounting LED Indicators
1	6mmØ LED Indicators Product Specifications
2	6mmØ LED Indicators Technical Drawings
3	6mmØ LED Indicators Order Overview
4	8mmØ LED Indicators Product Specifications
5	8mmØ LED Indicators Technical Drawings
6	8mmØ LED Indicators Order Overview
7	12mmØ LED Indicators Product Specifications
8	12mmØ LED Indicators Technical Drawings
9	12mmØ LED Indicators Order Overview
10	14mmØ LED Indicators Product Specifications
11	14mmØ LED Indicators Technical Drawing
12	14mmØ LED Indicators Order Overview
13	16mmØ LED Indicators Product Specifications
14	16mmØ LED Indicators Technical Drawing
15	16mmØ LED Indicators Order Overview
16	19mmØ LED Indicators Product Specifications
17	19mmØ LED Indicators Technical Drawing
18	19mmØ LED Indicators Order Overview
19	22mmØ LED Indicators Product Specifications
20	22mmØ LED Indicators Technical Drawings
21	22mmØ LED Indicators Order Overview

Page	Based LEDs
23	T1 ¾ Midget Groove Single-Chip & T1 ¾ Midget Flange Single-Chip
24	MBC Ba9s Single-Chip & E10 Single-Chip
25	T1 Bi-Pin Single-Chip & T5 Wedge Base Single-Chip
26	T5.5 Telephone Slide Single-Chip & Ba15d Tower LEDs
27	Ba9s LED Cluster & E10 LED Cluster
28	T1 ¾ Midget Groove Multi-Chip & T1 ¾ Midget Flange Multi-Chip
29	Ba9s Multi-Chip & E10 Multi-Chip
30	T5 Wedge Base Multi-Chip & T5.5 Telephone Slide Multi-Chip

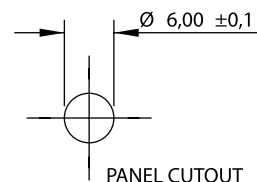
Q-SERIES 6mmØ Panel Mounting LED Indicator

Product Specification

Distinctive Features and Specifications

- 6mm panel mounting LED indicator
- 3mm coloured diffused epoxy lens or 3mm water clear super bright LEDs
- Bright chrome, black chrome or satin grey bezel finish
- Prominent, recessed and flush bezel styles
- 2VDC – 28VDC
- (2.0 x 0.5) terminals, pins or (200mm long) wire terminations
- IP67 sealing option (EN60529)
- Supplied with fixing nut and spring washer

NB: UL Recognised Component



TECHNICAL SPECIFICATIONS

Switch Voltage	Operating Voltage V _{op} (Min to Max)	Operating Current I _{op} (Typical All Types)
2VDC (No Resistor)	1.8 to 2.5VDC	20mA
12VDC	10.8 to 13.2VDC	20mA
24VDC	21.6 to 26.4VDC	20mA
28VDC	25.2 to 30.8VDC	20mA
Intensity (Typical) at I _{op} Standard	Prominent and Recessed (all voltages)	Flush (all voltages)
HE Red	40mcd	10mcd
Green	40mcd	8mcd
Yellow	30mcd	8mcd
Blue	65mcd	8mcd
White	100mcd	15mcd
Bi-colour (Typical) (Red/Green)	20/15mcd	10/8mcd
The colour is changed by reversing the polarity of the supply voltage.		
Super Bright	Prominent and Recessed (all voltages)	Flush (all voltages)
HE Red	3,500mcd	500mcd
Green	2,000mcd	350mcd
Yellow	900mcd	140mcd
Blue	550mcd	200mcd
White	600mcd	150mcd
Luminous intensity will be reduced with lower operating current.		

Max Reverse Voltage: 5V

Viewing Angle: 100° (dependant on model)

Life Expectancy: 100,000 hours

Operating Temperature Range: -40 to +85°C

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.

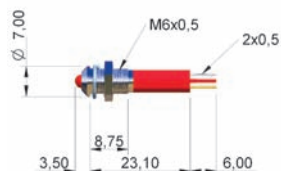
Q-SERIES 6mmØ Panel Mounting LED Indicator

Technical Drawings

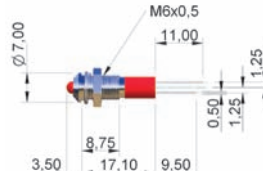
PROMINENT BEZEL



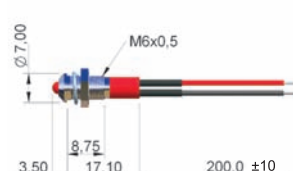
SOLDER LUG/FASTONS



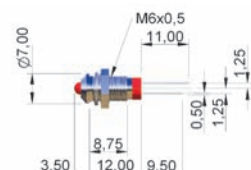
PINS



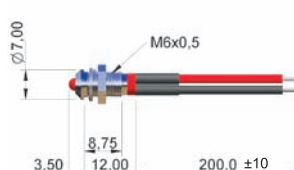
WIRES



SHORT BODY PINS



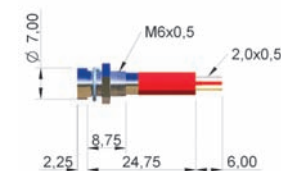
SHORT BODY WIRES



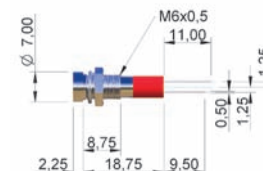
RECESSED BEZEL



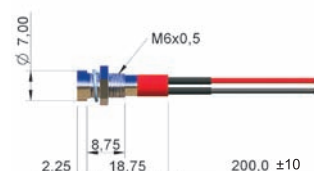
SOLDER LUG/FASTONS



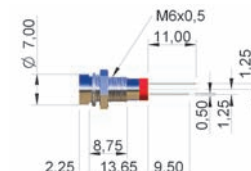
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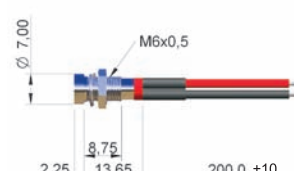
WIRES



SHORT BODY PINS



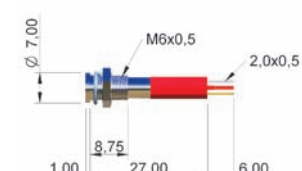
SHORT BODY WIRES



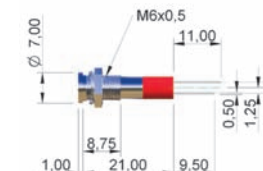
FLUSH BEZEL



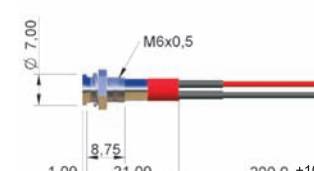
SOLDER LUG/FASTONS



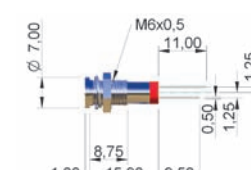
PINS



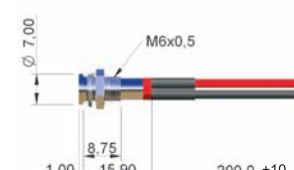
WIRES



SHORT BODY PINS



SHORT BODY WIRES



Note: The company reserves the right to change specifications without notice.

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Q-SERIES 6mmØ Panel Mounting LED Indicator

Order Overview

STANDARD OPTIONS

The Q6 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	6	P	1	B	XX	G	12	E
SERIES	MOUNTING HOLE	BEZEL STYLE	TERMINALS	BEZEL FINISH	TYPE OF ILLUMINATION	LED COLOUR	VOLTAGE	SEALING
Q	6 = Ø6mm	P = Prominent R = Recessed F = Flush	1 = Solder Lug/ Fastons (2.0 x 0.5) 2 = Pins 3 = Wires 6 = Short body Pins 7 = Short body Wires	C = Bright Chrome B = Black Chrome G = Satin Grey	XX = Fixed Light KK = Flashing Light YY = Bi-colour	R = Red G = Green Y = Yellow B = Blue W = White 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	02 = 2VDC 06 = 6VDC 12 = 12VDC 12A = 12VAC/DC 24 = 24VDC 24A = 24VAC/DC 28 = 28VDC 28A = 28VAC/DC	(Blank) = Unsealed E = IP67

Example Q6P1BXXG12E

Ø6mm, prominent bezel, solder lug terminals, black chrome finish, fixed light, green, 12volt DC LED, IP67 Panel Seal



- Gold Faston terminal denotes Anode (+), silver terminal denotes Cathode (-)
- Standard wire length is 200mm, red wire denotes Anode (+), black wire denotes Cathode (-) for other wire lengths consult APEM
- For LEDs with alternate 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
- Take care when soldering to the Faston terminals
- Short body options are only available up to 24VDC
- Maximum panel thickness 7mm
- For behind panel epoxy sealed options please contact APEM

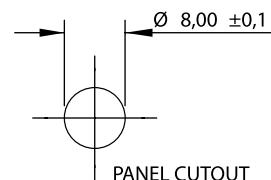
Q-SERIES 8mmØ Panel Mounting LED Indicator

Product Specification

Distinctive Features and Specifications

- 8mm panel mounting LED indicator
- 5mm coloured diffused epoxy lens or 5mm water clear super bright LEDs
- Bright chrome, black chrome or satin grey bezel finish
- Prominent, recessed and flush bezel styles
- 2VDC – 220VAC
- (2.8 x 0.8) terminals, pins or (200mm long) wire terminations
- IP67 sealing option (EN60529)
- Supplied with fixing nut and spring washer

NB: UL Recognised Component



TECHNICAL SPECIFICATIONS

Switch Voltage	Operating Voltage V _{op} (Min to Max)	Operating Current I _{op} (Typical All Types)
2VDC (No Resistor)	1.8 to 2.5VDC	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 121VDC	6mA
230VAC	207 to 253VDC	3mA
Intensity (Typical) at I _{op} Standard	Prominent and Recessed (all voltages)	Flush (all voltages)
HE Red	50mcd	10mcd
Green	40mcd	8mcd
Yellow	40mcd	6mcd
Blue	90mcd	4mcd
White	150mcd	25mcd
Bi-colour (Typical) (Red/Green)	20/10mcd	10/8mcd
Tri-colour (Typical) (Red/Green/Yellow)	20/10/10mcd	10/8/6mcd
Bi-colour - The colour is changed by reversing the polarity of the supply voltage.		
Tri-colour - The indicator has red and green LEDs, when both connected yellow is produced.		
Super Bright	Prominent and Recessed (all voltages)	Flush (all voltages)
HE Red	10,000mcd	600mcd
Green	4,500mcd	350mcd
Yellow	2,100mcd	140mcd
Blue	1,400mcd	200mcd
White	2,000mcd	150mcd
Luminous intensity will be reduced with lower operating current.		

Max Reverse Voltage: 5V

Viewing Angle: 100° (dependant on model)

Life Expectancy: 100,000 hours

Operating Temperature Range: -40 to +85°C

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.

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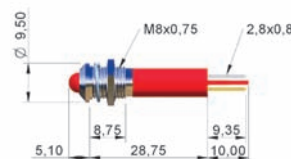
Q-SERIES 8mmØ Panel Mounting LED Indicator

Technical Drawings

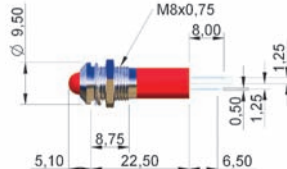
PROMINENT BEZEL



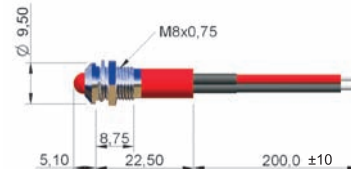
SOLDER LUG/FASTONS



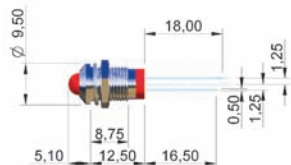
PINS



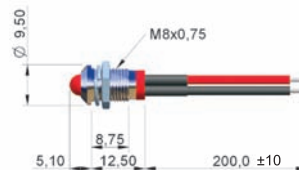
WIRES



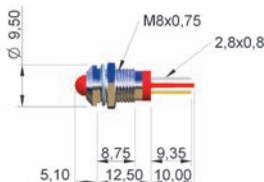
SHORT BODY PINS



SHORT BODY WIRES



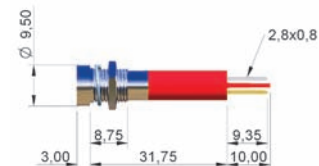
SHORT BODY SOLDER LUG/FASTONS



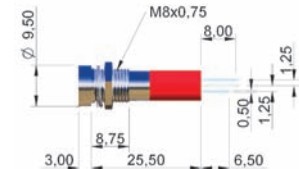
RECESSED BEZEL



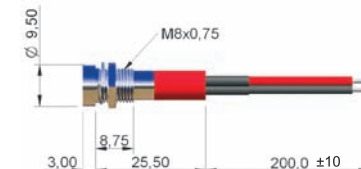
SOLDER LUG/FASTONS



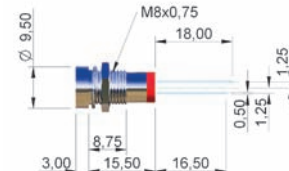
PINS



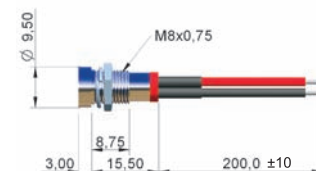
WIRES



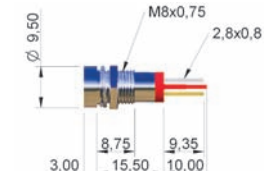
SHORT BODY PINS



SHORT BODY WIRES



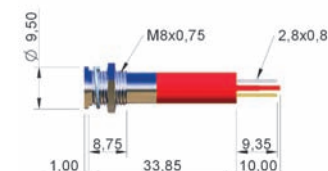
SHORT BODY SOLDER LUG/FASTONS



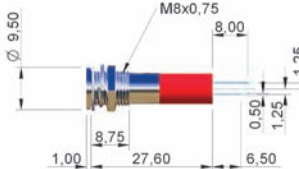
FLUSH BEZEL



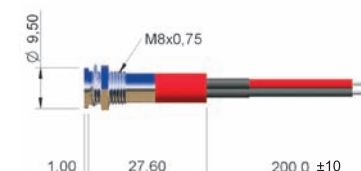
SOLDER LUG/FASTONS



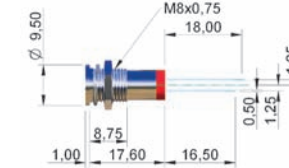
PINS



WIRES



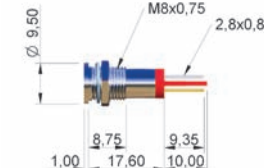
SHORT BODY PINS



SHORT BODY WIRES



SHORT BODY SOLDER LUG/FASTONS



Note: The company reserves the right to change specifications without notice.

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Q-SERIES 8mmØ Panel Mounting LED Indicator

Order Overview

STANDARD OPTIONS

The Q8 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	8	P	8	G	XX	Y	12	E
SERIES	MOUNTING HOLE	BEZEL STYLE	TERMINALS	BEZEL FINISH	TYPE OF ILLUMINATION	LED COLOUR	VOLTAGE	SEALING
Q	8 = Ø8mm	P = Prominent R = Recessed F = Flush	1 = Solder Lug/ Fastons (2.8 x 0.8) 2 = Pins 3 = Wires 6 = Short body Pins 7 = Short body Wires 8 = Short body Solder lug/ faston	C = Bright Chrome B = Black Chrome G = Satin Grey	XX = Fixed Light KK = Flashing Light (only up to 28VDC) YY = Bi-colour ZZ = Tri-colour	R = Red G = Green Y = Yellow B = Blue W = White 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	02 = 2VDC 06 = 6VDC 12 = 12VDC 12A = 12VAC/DC 24 = 24VDC 24A = 24VAC/DC 28 = 28VDC 28A = 28VAC/DC 110 = 110VAC 220 = 220VAC	(Blank) = Unsealed E = IP67

Example Q8P8GXXY02E

Ø8mm, prominent bezel, short body solder lug terminals, satin grey finish, fixed light, yellow, 2volt DC LED, IP67 Panel Seal



- Gold Faston terminal denotes Anode (+), silver terminal denotes Cathode (-)
- Standard wire length is 200mm, red wire denotes Anode (+), black wire denotes Cathode (-) for other wire lengths consult APEM
- For LEDs with alternate 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
- Take care when soldering to the Faston terminals
- Short body pins and wires are only available up to 28VDC
- Short body Fastons are only available without integral resistor (2VDC)
- The Tri-colour LED has red and green LEDs when both are connected yellow is produced
- Standard Tri-colour Faston terminals are two Anodes (+) and one Cathode (-)
- Tri-colour wires are one red (+) and one green (+) Anode and one black (-) Cathode
- Tri-colour pins are centre (-) cathode, shortest (+) anode pin green, longest (+) anode pin red
- Maximum panel thickness 7mm
- For behind panel epoxy sealed options please consult Apem

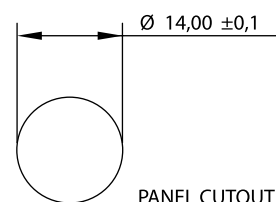
Q-SERIES 14mmØ Panel Mounting LED Indicator

Product Specification

Distinctive Features and Specifications

- 14mm panel mounting LED indicator
- 10mm coloured diffused epoxy lens or 10mm water clear super bright LEDs
- Bright chrome, black chrome or satin grey bezel finish
- Prominent and flush bezel styles
- 2VDC – 220VAC
- (2.8 x 0.8) terminals, pins or (200mm long) wire terminations
- IP67 sealing option (EN60529)
- Supplied with fixing nut and spring washer

NB: UL Recognised Component



TECHNICAL SPECIFICATIONS

Switch Voltage	Operating Voltage V _{op} (Min to Max)	Operating Current I _{op} (Typical All Types)
2VDC (No Resistor)	1.8 to 2.5VDC	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 121VDC	6mA
230VAC	207 to 253VDC	3mA
Intensity (Typical) at I _{op} Standard	Prominent (all voltages)	Flush (all voltages)
HE Red	80mcd	10mcd
Green	40mcd	5mcd
Yellow	30mcd	4mcd
Blue	280mcd	10mcd
White	350mcd	20mcd
Bi-colour (Typical) (Red/Green)	80/50mcd	14/10mcd
Tri-colour (Typical) (Red/Green/Yellow)	80/50/50mcd	14/10/10mcd
Bi-colour - The colour is changed by reversing the polarity of the supply voltage.		
Tri-colour - The indicator has red and green LEDs, when both connected yellow is produced.		
Super Bright	Prominent (all voltages)	Flush (all voltages)
HE Red	7,500mcd	2000mcd
Green	4,100mcd	250mcd
Yellow	2,500mcd	350mcd
Blue	1,300mcd	300mcd
White	1,900mcd	200mcd
Luminous intensity will be reduced with lower operating current.		

Max Reverse Voltage: 5V

Viewing Angle: 100° (dependant on model)

Life Expectancy: 100,000 hours

Operating Temperature Range: -40 to +85°C

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.

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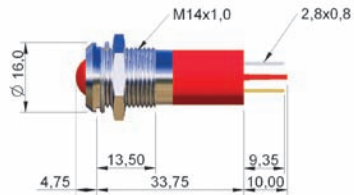
Q-SERIES 14mmØ Panel Mounting LED Indicator

Technical Drawings

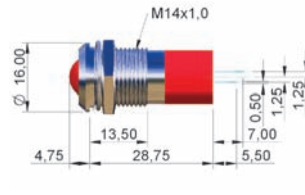
PROMINENT BEZEL



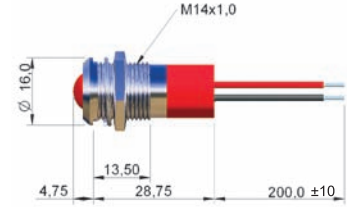
SOLDER LUG/FASTONS



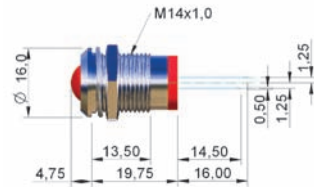
PINS



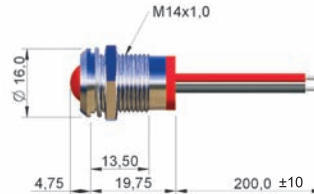
WIRES



SHORT BODY PINS



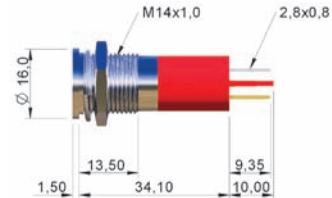
SHORT BODY WIRES



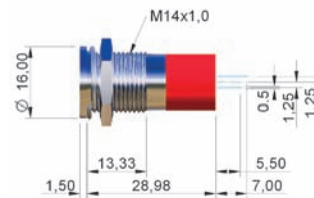
FLUSH BEZEL



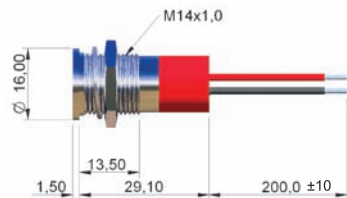
SOLDER LUG/FASTONS



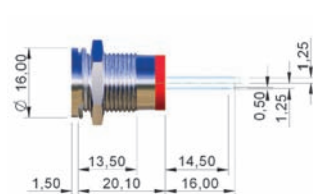
PINS



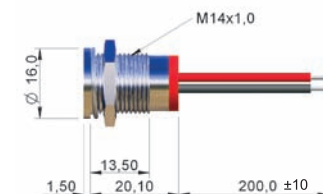
WIRES



SHORT BODY PINS



SHORT BODY WIRES



CUSTOM ENGRAVING



Custom engraving available on flush bezel versions, contact APEM for further details.

Note: The company reserves the right to change specifications without notice.

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Q-SERIES 14mmØ Panel Mounting LED Indicator

Order Overview

STANDARD OPTIONS

The Q14 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	14	P	1	C	XX	B	28	E
SERIES	MOUNTING HOLE	BEZEL STYLE	TERMINALS	BEZEL FINISH	TYPE OF ILLUMINATION	LED COLOUR	VOLTAGE	SEALING
Q	14 = Ø14mm	P = Prominent F = Flush	1 = Solder Lug/ Fastons (2.8 x 0.8) 2 = Pins 3 = Wires 6 = Short body Pins 7 = Short body Wires	C = Bright Chrome B = Black Chrome G = Satin Grey	XX = Fixed Light KK = Flashing Light (only up to 28VDC) YY = Bi-colour ZZ = Tri-colour	R = Red G = Green Y = Yellow B = Blue W = White 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	02 = 2VDC 06 = 6VDC 12 = 12VDC 12A = 12VAC/DC 24 = 24VDC 24A = 24VAC/DC 28 = 28VDC 28A = 28VAC/DC 110 = 110VAC 220 = 220VAC	(Blank) = Unsealed E = IP67

Example Q14P1CXXB28E

Ø14mm, prominent bezel, solder lug terminals, bright chrome finish, fixed light, blue, 28volt DC LED, IP67 Panel Seal



- Gold Faston terminal denotes Anode (+), silver terminal denotes Cathode (-)
- Standard wire length is 200mm, red wire denotes Anode (+), black wire denotes Cathode (-) for other wire lengths consult APEM
- For LEDs with alternate voltages consult APEM
- Bicolour 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
- Take care when soldering to the Faston terminals
- Short body pins and wires are only available up to 28VDC
- The Tri-colour LED has red and green LEDs when both are connected yellow is produced
- Standard Tri-colour Faston terminals are two Anodes (+) and one Cathode (-)
- Tri-colour wires are one red (+) and one green (+) Anode and one black (-) Cathode
- Tri-colour pins are centre (-) cathode, shortest (+) anode pin green, longest (+) anode pin red
- Maximum panel thickness 11mm
- For behind panel epoxy sealed options please consult Apem

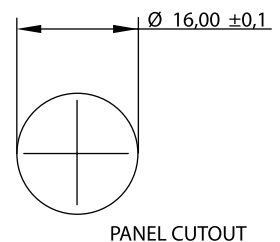
Q-SERIES 16mmØ Panel Mounting LED Indicator

Product Specification

Distinctive Features and Specifications

- 16mm panel mounting LED indicator
- 10mm coloured diffused epoxy lens or 10mm water clear super bright LEDs
- Bright chrome, black chrome, satin grey, plated brass bezel finish
- Bright chrome, satin grey, gold and black ABS plastic bezel finish
- Prominent and flush bezel styles
- 2VDC – 220VAC
- (2.8 x 0.8) terminals, pins or (200mm long) wire terminations
- IP67 sealing option (EN60529)
- Supplied with fixing nut and spring washer

NB: UL Recognised Component



TECHNICAL SPECIFICATIONS

Switch Voltage	Operating Voltage V _{op} (Min to Max)	Operating Current I _{op} (Typical All Types)
2VDC (No Resistor)	1.8 to 2.5VDC	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 121VDC	6mA
230VAC	207 to 253VDC	3mA
Intensity (Typical) at I _{op} Standard	Prominent (all voltages)	Flush (all voltages)
HE Red	80mcd	10mcd
Green	40mcd	5mcd
Yellow	30mcd	4mcd
Blue	280mcd	10mcd
White	350mcd	20mcd
Bi-colour (Typical) (Red/Green)	80/50mcd	14/10mcd
Tri-colour (Typical) (Red/Green/Yellow)	80/50/50mcd	14/10/10mcd
Bi-colour - The colour is changed by reversing the polarity of the supply voltage.		
Tri-colour - The indicator has red and green LEDs, when both connected yellow is produced.		
Super Bright	Prominent (all voltages)	Flush (all voltages)
HE Red	7,500mcd	2000mcd
Green	4,100mcd	250mcd
Yellow	2,500mcd	350mcd
Blue	1,300mcd	300mcd
White	1,900mcd	200mcd
Luminous intensity will be reduced with lower operating current.		

Max Reverse Voltage: 5V

Viewing Angle: 100° (dependant on model)

Life Expectancy: 100,000 hours

Operating Temperature Range: -40 to +85°C

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.

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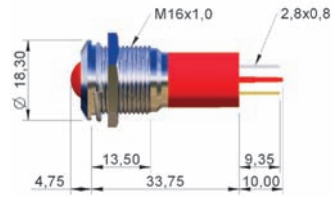
Q-SERIES 16mmØ Panel Mounting LED Indicator

Technical Drawings

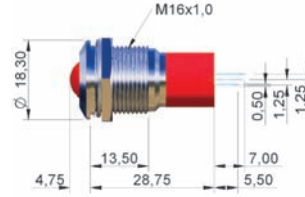
PROMINENT BEZEL



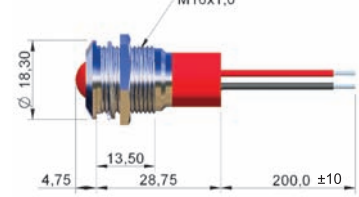
SOLDER LUG/FASTONS



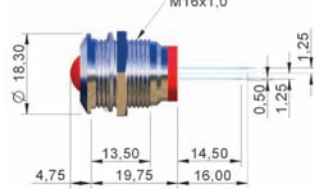
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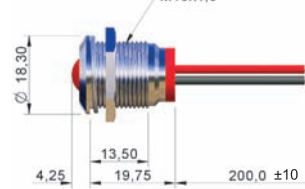
WIRES



SHORT BODY PINS



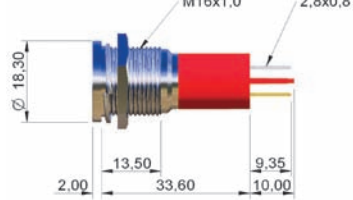
SHORT BODY WIRES



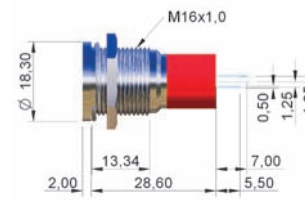
FLUSH BEZEL



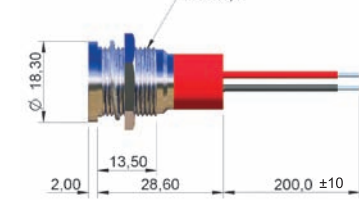
SOLDER LUG/FASTONS



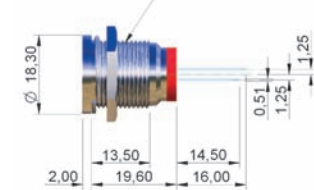
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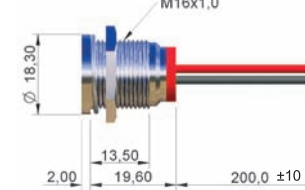
WIRES



SHORT BODY PINS



SHORT BODY WIRES



Note: The company reserves the right to change specifications without notice.

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Q-SERIES 16mmØ Panel Mounting LED Indicator

Ordering 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 COLOUR	VOLTAGE	SEALING
Q	16 = Ø16mm	Metal P = Prominent F = Flush Plastic PP = Prominent FP = Flush	1 = Solder Lug/ Fastons (2.8 x 0.8) 2 = Pins 3 = Wires 6 = Short body Pins 7 = Short body Wires	Metal C = Bright Chrome B = Black Chrome G = Satin Grey Plastic CP = Bright Chrome BP = Black GP = Satin Grey AU = Gold	XX = Fixed Light KK = Flashing Light (only up to 28VDC) YY = Bi-colour ZZ = Tri-colour	R = Red G = Green Y = Yellow B = Blue W = White 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	02 = 2VDC 06 = 6VDC 12 = 12VDC 12A = 12VAC/DC 24 = 24VDC 24A = 24VAC/DC 28 = 28VDC 28A = 28VAC/DC 110 = 110VAC 220 = 220VAC	(Blank) = Unsealed E = IP67

Example Q16F1GXXY24E

Ø16mm, flush metal bezel, solder lug terminals, satin grey finish, fixed light, yellow, 24volt DC LED, IP67 Panel Seal



- Gold Faston terminal denotes Anode (+), silver terminal denotes Cathode (-)
- Standard wire length is 200mm, red wire denotes Anode (+), black wire denotes Cathode (-) for other wire lengths consult APEM
- For LEDs with alternate 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
- Take care when soldering to the Faston terminals
- Short body pins and wires are only available up to 28VDC
- The Tri-colour LED has red and green LEDs when both are connected yellow is produced
- Standard Tri-colour Faston terminals are two Anodes (+) and one Cathode (-)
- Tri-colour wires are one red (+) and one green (+) Anode and one black (-) Cathode
- Tri-colour pins are centre (-) cathode, shortest (+) anode pin green, longest (+) anode pin red
- Maximum panel thickness 11mm
- For behind panel epoxy sealing option please consult APEM

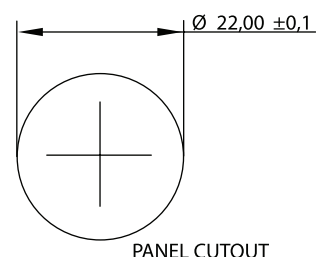
Q-SERIES 22mmØ Panel Mounting LED Indicator

Product Specification

Distinctive Features and Specifications

- 22mm panel mounting LED indicator
- 18mm coloured diffused epoxy lens
- Bright chrome, black chrome and satin grey, plated brass bezel finish
- Bright chrome, satin grey, gold and black ABS plastic bezel finish
- Prominent and flush bezel styles
- 5.5VDC – 220VAC
- (2.8 x 0.8) terminals, pins or (200mm long) wire terminations
- IP67 sealing option (EN60529)
- Supplied with fixing nut and spring washer

NB: UL Recognised Component



TECHNICAL SPECIFICATIONS

Switch Voltage	Operating Voltage Vop (Min to Max)	Operating Current Iop (Typical All Types)
5.5VDC (No Resistor)	5.0 to 6.0VDC	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 121VDC	6mA
230VAC	207 to 253VDC	3mA
Intensity (Typical) at Iop Standard	Prominent (all voltages)	Flush (all voltages)
HE Red	80mcd	70mcd
Green	95mcd	70mcd
Yellow	60mcd	60mcd
Blue	120mcd	100mcd
White	350mcd	200mcd
Bi-colour (Typical) (Red/Green)	80/50mcd	80/50mcd
Tri-colour (Typical) (Red/Green/Yellow)	80/50/50mcd	80/50/50mcd
Bi-colour - The colour is changed by reversing the polarity of the supply voltage.		
Tri-colour - The indicator has red and green LEDs, when both connected yellow is produced.		
Luminous intensity will be reduced with lower operating current.		
For super bright versions please consult APEM		

Max Reverse Voltage: 5V

Viewing Angle: 100° (dependant on model)

Life Expectancy: 100,000 hours

Operating Temperature Range: -40 to +85°C

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.

Q-SERIES 22mmØ Panel Mounting LED Indicator

Ordering Overview

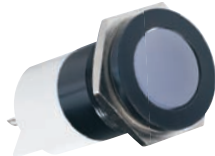
STANDARD OPTIONS

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 COLOUR	VOLTAGE	SEALING	OPTIONS
Q	22 = Ø22mm	Metal P = Prominent F = Flush Plastic PP = Prominent FP = Flush	1 = Solder Lugs/Fastons (2.8 x 0.8) 4 = Pins 5 = Wires	Metal C = Bright Chrome B = Black Chrome G = Satin Grey Plastic CP = Bright Chrome BP = Black GP = Satin Grey AU = Gold	XX = Fixed Light KK = Flashing Light (only up to 28VDC) YY = Bi-colour ZZ = Tri-colour	R = Red G = Green Y = Yellow B = Blue W = White RG = Red/Green RY = Red/Yellow GY = Green/Yellow RYG = Red/Yellow/Green	05 = 5VDC 12 = 12VDC 12A = 12VAC/DC 24 = 24VDC 24A = 24VAC/DC 28 = 28VDC 28A = 28VAC/DC 110 = 110VAC 220 = 220VAC	(Blank) = Unsealed E = IP67	DL = Daisy Chain LT = Lamp Test

Example Q22F1BPXXW28EDL

Ø22mm, flush bezel, solder lug terminals, black plastic finish, fixed light, white, 28volt DC LED, IP67 Panel Seal, Daisy Chain



- Gold Faston terminal denotes Anode (+), silver terminal denotes Cathode (-)
- Standard wire length is 200mm, red wire denotes Anode (+), black wire denotes Cathode (-) for other wire lengths consult APEM
- For LEDs with alternate 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
- Take care when soldering to the Faston terminals
- Pin and Wire options are epoxy sealed at the rear of the bezels
- The Tri-colour LED has red and green LEDs when both are connected yellow is produced
- Standard Tri-colour Faston terminals are two Anodes (+) and one Cathode (-)
- Tri-colour wires are one red (+) and one green (+) Anode and one black (-) Cathode
- Tri-colour pins are centre (-) 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)
- Lamp test facility option (4 x Faston)