Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

IQ series

Sealed pushbutton switches • bushing Ø 16 mm •
snap-in mounting • momentary

✎ DISTINCTIVE FEATURES

Snap-in mounting for easy installation

Momentary models

Illuminated or non-illuminated

Flat round actuator for optional marking

Sealed to IP54

▣ ENVIRONMENTAL SPECIFICATIONS

• Front panel sealing : IP54 according to IEC 60529

• Shock resistance : 100 g according to IEC 512-4, test 6c

• Vibration resistance : 10-500Hz - 10 g according to IEC 512-4, test 6d

• Salt spray : IEC 512-6, test 11f

• Operating temperature : -40 °C to +85 °C (-40 °F to +185 °F)

⚡ ELECTRICAL SPECIFICATIONS

• Max. current/voltage rating with resistive load :
  - Gold plated contacts : Code 4 : 200 mA 48 VDC, 500,000 cycles
  Code 7 : 5 A 28 VDC, 70,000 cycles
  - Silver contacts (code 2) - screw terminals : 4 A 48 VDC, 500,000 cycles

• Initial contact resistance : 100 mΩ max.

• Insulation resistance : 1 GΩ min. at 500 VDC

• Dielectric strength : 1,500 Vrms

LED COMPONENT SPECIFICATIONS			
LED color	Forward current	Typ. forward voltage	Max. forward voltage
Super red (L0S)	20 mA	2.1 V	2.3 V
Yellow (L0Y)	20 mA	2.1 V	2.3 V
Green (L0G)	20 mA	2.1 V	2.3 V
Blue (L0B)	20 mA	3.2 V	3.8 V
White (L0W)	20 mA	3.35 V	4.25 V
Red/Green (LSG)	20 mA	Red: 1.95 V / Green: 2.1 V	2.5 V
Yellow/green (LYG)	20 mA	Yellow: 2 V / green: 2.1 V	2.5 V

A resistor must be series-connected by the user.

$$\text{Resistor value} = \frac{\text{supply voltage - LED forward voltage}}{\text{LED forward current}}$$

On flying lead versions, the LED resistor
can be integrated by APEM on request.

The company reserves the right to change specifications without notice.

IQ series

Sealed pushbutton switches • bushing Ø 16 mm •
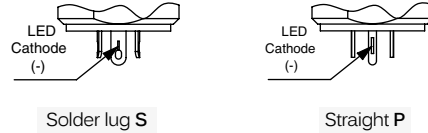snap-in mounting • momentary

⚙ GENERAL SPECIFICATIONS

- Panel thickness :
  with flat seal : 2.20 mm (.088) max.
  without flat seal : 3 mm (.118) max.
- Total travel : 1.6 mm (.062) ± 0.3 mm
- Typical operating force : 4 N ± 2 N
- Low level or mechanical life : 1,000,000 cycles
- Soldering : 320 °C (608 °F) max. for 3 sec.
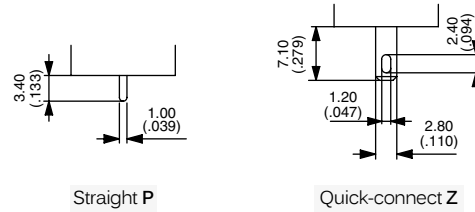
🎨 MATERIALS

- Case : thermoplastic UL94-V0
- Actuator : polyamide 6/6
- Bushing/bezel : polyamide 6/6
- Contacts :
  4 and 7 : silver, gold plated
  2 : silver (screw terminals)
- Multi-wire leads AWG20, section 0.6 mm^2
- LED wire : AWG26, section 0.12 mm^2
- Lens : polycarbonate
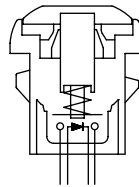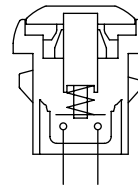- Terminal seal : epoxy

TERMINALS

ILLUMINATED MODELS

LED Cathode (-)   LED Cathode (-)

Solder lug **S**   Straight **P**

NON-ILLUMINATED MODELS

3.40 (.133)   7.10 (.279)   2.40 (.094)
1.00 (.039)   1.20 (.047)   2.80 (.110)

Straight **P**   Quick-connect **Z**

⚡ ELECTRICAL FUNCTIONS

ILLUMINATED MODELS   NON-ILLUMINATED MODELS

Function 3 (NO)   Function 3 (NO)

🪛 MOUNTING

PANEL CUT-OUT

15.25 0/+0.05
(.600 ± 0/.002)

Chamfer of 0.3 (0.012) / 45°

Ø15.90 0/+0.05
(.626DIA 0/+.002)

1

(.059min. - .118MAX.)
1.00 min. - 2.20Max.
(.039min. - .086MAX.)

16.90

① - Flat seal
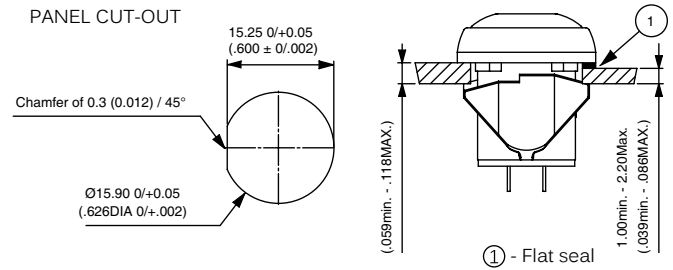
BACK OF PANEL SPACE REQUIREMENT - MATRIX MOUNTING

1

16.90 (.665)

24.00 (.944)

24.00 (.944)

15.25 0/+0.05
(.600 ± 0/.002)

Ø15.90 0/+0.05
(.626DIA ±0/+.002)
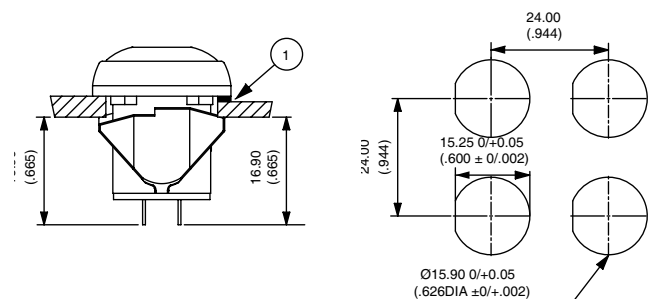
IQ series

Sealed pushbutton switches • bushing Ø 16 mm • snap-in mounting • momentary

BUILD YOUR PART NUMBER

BASIC PART NUMBER

IQ			
SERIES	ACTUATOR SHAPES	ELECTRICAL FUNCTION	TERMINALS

ACTUATOR SHAPES

C	Square
R	Round, curved
P	Round, flat
F	Round, flush (non-illuminated - not available in satin chrome)

Actuator marking available on round flat models (symbol 12 mm max.). On request.

ELECTRICAL FUNCTION

3	Normally open (NO)

TERMINALS

S	Solder lugs
F	Flying leads
P	Straight PC
Z	Quick-connect (non-illuminated)
V	Screw (non-illuminated), silver contact only

OPTIONS

CONTACTS	ACTUATOR COLORS	BUSHING & BEZEL	LED COLORS

CONTACTS

4	Silver, gold plated (200 mA 48 VDC)
7	Silver, gold plated (5 A 28 VDC)
2	Silver (screw terminals only)

ACTUATOR COLORS

1	Blue
B	Dark blue
2	Black
3	Green
4	Grey
5	Yellow
6	Red
7	White
9	Orange
A	Satin chrome

BUSHING & BEZEL

2	Black (std)

Other : on request.

LED COLORS

Blank	Non-illuminated
L0S	Super red
L0Y	Yellow
L0G	Green
L0B	Blue
L0W	White
LSG	Red/green
LYG	Yellow/green

ABOUT THIS SERIES

On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart.

Notice : please note that not all combinations of above numbers are available. Refer to the following pages for further information.
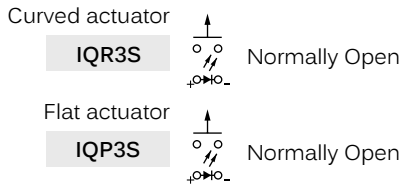
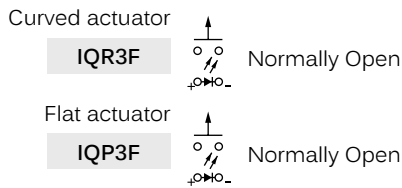**Mounting accessories :** Standard hardware supplied : 1 flat seal

IQ series

Sealed pushbutton switches • bushing Ø 16 mm •
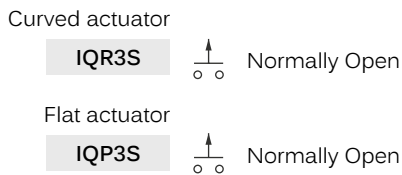snap-in mounting • momentary

ROUND - ILLUMINATED
SOLDER LUG TERMINALS

Curved actuator

IQR3S — Normally Open

Flat actuator

IQP3S — Normally Open

Also available with straight PC terminals : **IQ•3P4.**
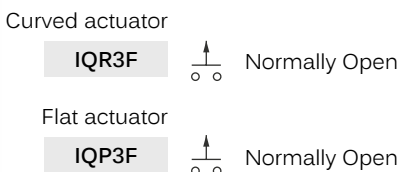LED color is indicated by the bottom of the switch.

→ FLAT

Ø16.00 (.630DIA)
2.00 (.078)
5.00 (.196)
14.80 (.582.)
4.50 (.177)
3.60 (.141)
EPOXY
Ø19.80 (.779DIA)
2.00 (.078)

ROUND - ILLUMINATED
FLYING LEAD TERMINALS

Curved actuator

IQR3F — Normally Open

Flat actuator

IQP3F — Normally Open

Wire colors : black : NO contact, red : LED anode (+), blue : LED cathode (-)

→ FLAT

Ø16.00 (.630DIA)
2.00 (.078)
5.00 (.196)
14.80 (.582.)
22.00 max. (.866MAX.)
10.80 (.425DIA)
500.00±10.00 (19.685±.393)
Ø19.80 (.779DIA)

ROUND - NON-ILLUMINATED
SOLDER LUG TERMINALS

Curved actuator

IQR3S — Normally Open

Flat actuator

IQP3S — Normally Open

Also available with straight PC terminals : **IQ•3P4**
and quick-connect terminals : **IQ•3Z4.**
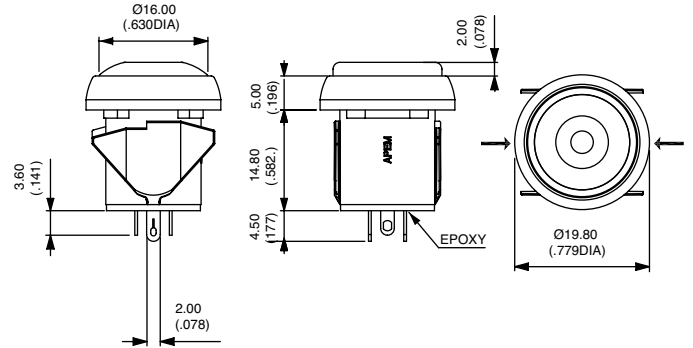
→ FLAT

Ø16.00 (.630DIA)
2.00 (.078)
5.00 (.196)
14.80 (.582.)
3.60 (.141)
0.40 (.015)
5.08 (.200)
1.50 (.059)
1.20 (.047)
2.00 (.078)
EPOXY
Ø19.80 (.779DIA)

ROUND - NON-ILLUMINATED
FLYING LEAD TERMINALS

Curved actuator

IQR3F — Normally Open

Flat actuator

IQP3F — Normally Open

→ FLAT

Ø16.00 (.630DIA)
2.00 (.078)
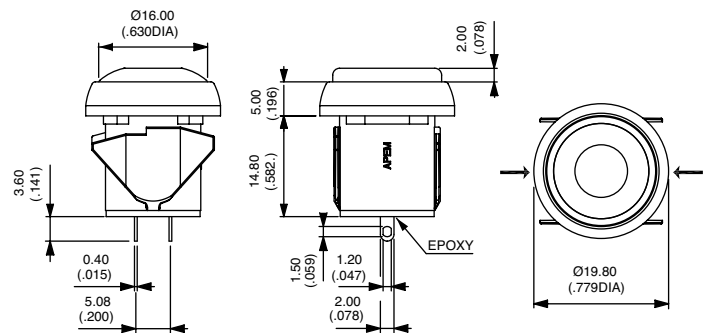5.00 (.196)
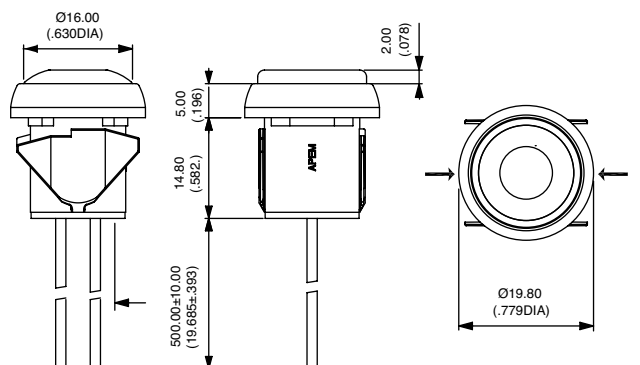14.80 (.582.)
500.00±10.00 (19.685±.393)
Ø19.80 (.779DIA)

IQ series
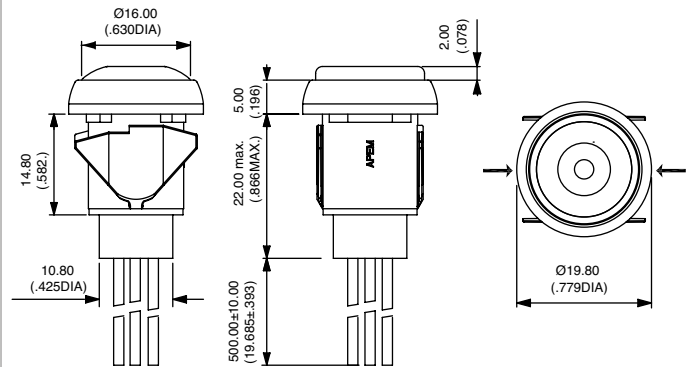
Sealed pushbutton switches • bushing Ø 16 mm • snap-in mounting • momentary

ROUND - NON-ILLUMINATED SCREW TERMINALS

Curved actuator

| IQR3V | Normally Open |

Flat actuator

| IQP3V | Normally Open |

→ FLAT

Ø16.00 (.630DIA)
23.50 max. (.925 MAX.)
2.00 (.078)
5.00 (.196)
14.80 (.582)
Ø19.80 (.779DIA)

SQUARE - ILLUMINATED SOLDER LUG TERMINALS

| IQC3S | Normally Open |

Also available with straight PC terminals : **IQC3P.**
LED color is indicated by the bottom of the switch.

→ FLAT

Ø16.00 (.630SQUARE)
2.00 (.078)
5.00 (.196)
14.80 (.582)
3.60 (.141)
4.50 (.177)
2.00 (.078)
EPOXY
Ø19.80 (.779SQUARE)

SQUARE - ILLUMINATED FLYING LEAD TERMINALS

| IQC3F | Normally Open |

Wire colors : black : NO contact, red : LED anode (+), blue : LED cathode (-)

→ FLAT

Ø16.00 (.630SQUARE)
2.00 (.078)
5.00 (.196)
14.80 (.582)
22.00 max. (.866MAX.)
Ø10.80 (.425DIA)
500.00±10.00 (19.685±.393)
Ø19.80 (.779SQUARE)
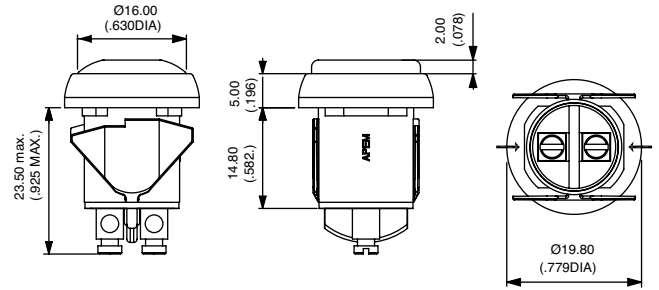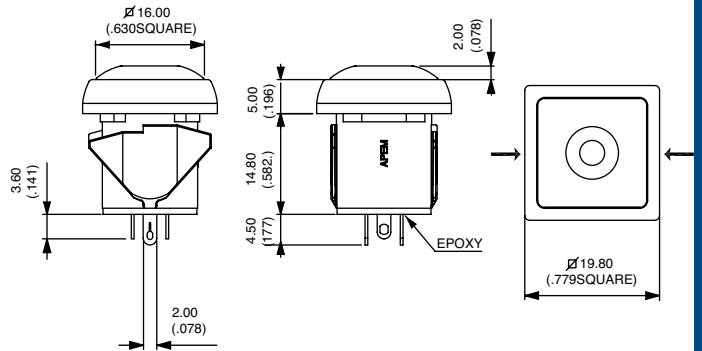
SQUARE - NON-ILLUMINATED SOLDER LUG TERMINALS

| IQC3S | Normally Open |

Also available with straight PC terminals : **IQC3P**
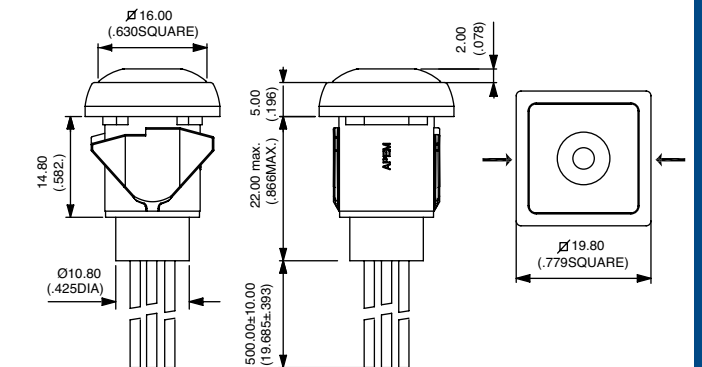or quick-connect terminals : **IQC3Z.**

→ FLAT

Ø16.00 (.630SQUARE)
2.00 (.078)
5.00 (.196)
14.80 (.582)
3.60 (.141)
0.40 (.015)
5.08 (.200)
1.50 (.059)
1.20 (.047)
2.00 (.078)
EPOXY
Ø19.80 (.779SQUARE)

APEM
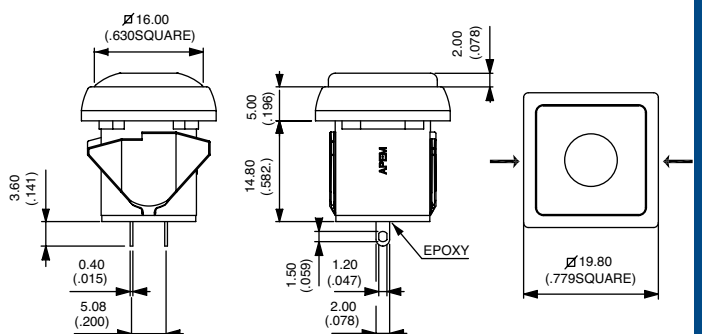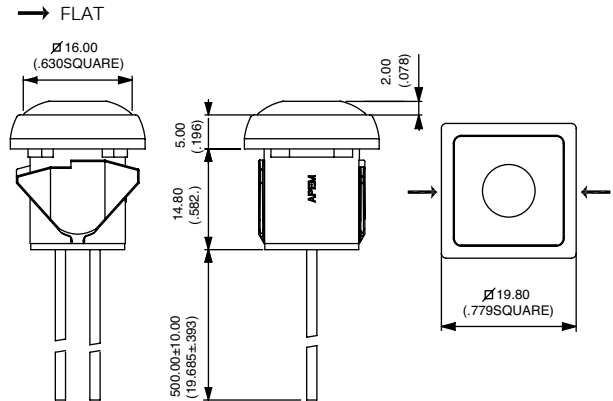
IQ series

Sealed pushbutton switches • bushing Ø 16 mm •
snap-in mounting • momentary
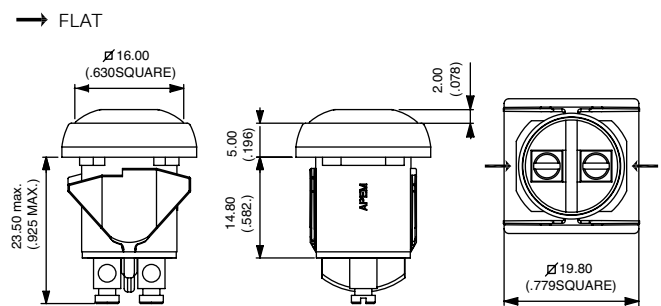
SQUARE - NON-ILLUMINATED
FLYING LEAD TERMINALS

| IQC3F | Normally Open |

→ FLAT

Ø16.00
(.630SQUARE)

2.00
(.078)

5.00
(.196)

14.80
(.582.)

500.00±10.00
(19.685±.393)

Ø19.80
(.779SQUARE)

SQUARE - NON-ILLUMINATED
SCREW TERMINALS

| IQC3V | Normally Open |

→ FLAT

Ø16.00
(.630SQUARE)

2.00
(.078)

5.00
(.196)

14.80
(.582.)

23.50 max.
(.925 MAX.)

Ø19.80
(.779SQUARE)

CONTACT MATERIALS

| BASIC P/N | | | | |

4	Silver, gold plated (200 mA 48 VDC)
7	Silver, gold plated (5 A 28 VDC)
2	Silver

Contacts 4 and 7 only for solder lug and flying lead terminals.
Contacts 2 only for screw terminals.

ACTUATOR COLORS

| BASIC P/N | | | | |

1	Blue
B	Dark blue
2	Black
3	Green
4	Grey
5	Yellow
6	Red
7	White
9	Orange
A	Satin chrome

IQ series

Sealed pushbutton switches • bushing Ø 16 mm •
snap-in mounting • momentary

BUSHING AND BEZEL

| BASIC P/N | | | | |

2   Black (standard)

LED COLORS

| BASIC P/N | | | | |

Blank   Non-illuminated
L0S   Super Red
L0Y   Yellow
L0G   Green
L0B   Blue
L0W   White
LSG   Red/green
LYG   Yellow/green