SW-IL-1903

IL series

Sealed pushbutton switches for thick panels •
long bushing Ø 12 mm • momentary

DISTINCTIVE FEATURES

Momentary pushbuttons for thick panels

Illuminated or non-illuminated

Tactile feedback

Flat round actuator for optional marking

Sealed to IP67 (standard models only)

ENVIRONMENTAL SPECIFICATIONS

• Front panel sealing according to IEC 60529 : IP67 (standard models)
  IP54 (options X1242 and 234)

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

• Vibration resistance : 10-500 Hz - 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 :
  2 A 24 VDC, 200,000 cycles

• Initial contact resistance : 50 mΩ max.

• Insulation resistance : 1 GΩ min. at 500 VDC

• Dielectric strength : 1,000 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.

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

The company reserves the right to change specifications without notice.

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GENERAL SPECIFICATIONS

- Panel thickness : 1.50 mm (.059) min. 10 mm (.393) max.
- Total travel : 1.7 mm (.067) ± 0.3 mm
- Typical operating force : 4 N ± 2 N
- Low level or mechanical life : 1,000,000 cycles
- Torque (applied to nut) :
  1 Nm max. with metal nut U166
  1.5 Nm max. with plastic nut U4248
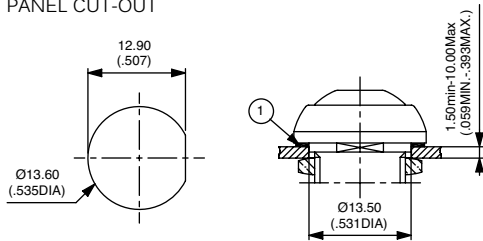- Soldering : 300 °C (572 °F) max. for 3 seconds

TERMINALS

Straight **P**

MATERIALS

- Case : thermoplastic UL94-V0
- Actuator : polyamide 6/6
- Bushing/bezel : polyamide 6/6
- Contacts : silver, gold plated
- Terminal seal : epoxy

APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.
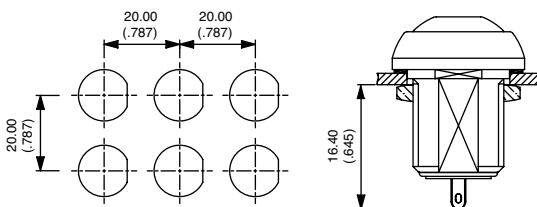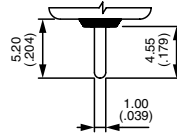
ELECTRICAL FUNCTION

Function **3 (NO)**

MOUNTING STANDARD BEZEL

PANEL CUT-OUT

12.90 (.507)
Ø13.60 (.535DIA)
Ø13.50 (.531DIA)
1.50min-10.00Max (.059MIN.-.393MAX.)

① - Flat seal

MATRIX MOUNTING - BACK OF PANEL SPACE REQUIREMENT

20.00 (.787) 20.00 (.787)
20.00 (.787)
16.40 (.645)
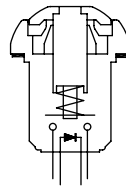
MOUNTING REDUCED MODEL

PANEL CUT-OUT
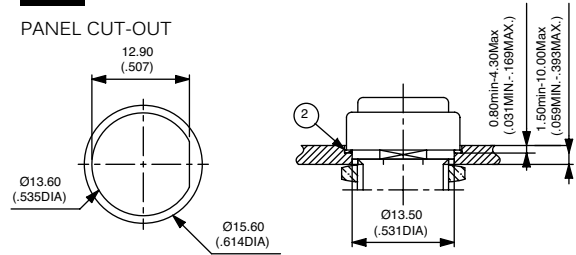
12.90 (.507)
Ø13.60 (.535DIA)
Ø15.60 (.614DIA)
Ø13.50 (.531DIA)
0.80min-4.30Max (.031MIN.-.169MAX.)
1.50min-10.00Max (.059MIN.-.393MAX.)
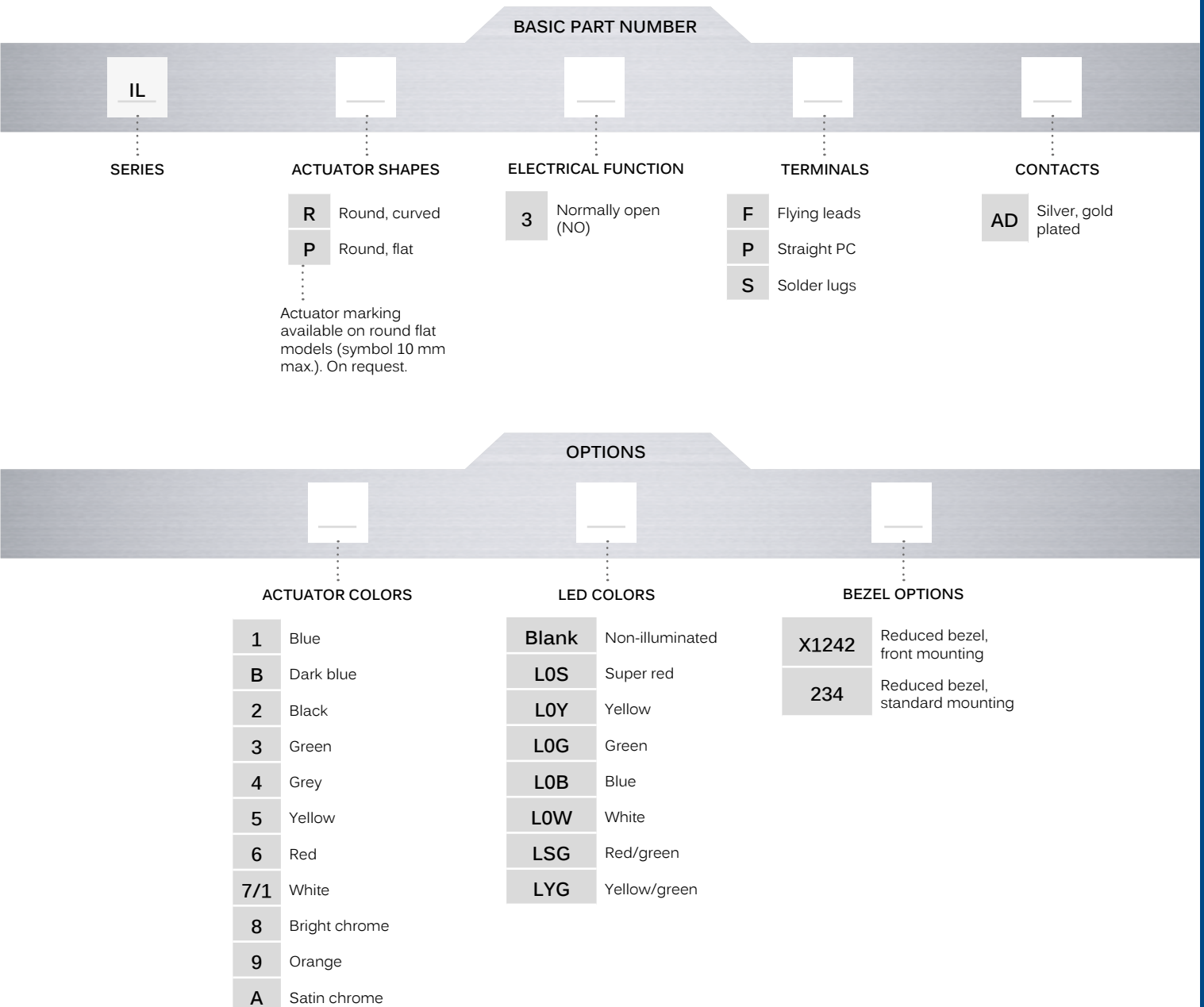
② - O-ring

MATRIX MOUNTING

17.50 (.689) 17.50 (.689)
17.50 (.689)
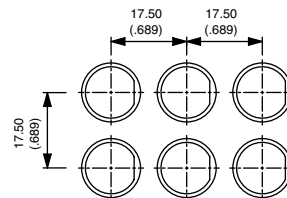
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BUILD YOUR PART NUMBER

BASIC PART NUMBER

IL				
SERIES	ACTUATOR SHAPES	ELECTRICAL FUNCTION	TERMINALS	CONTACTS

ACTUATOR SHAPES

R	Round, curved
P	Round, flat

Actuator marking available on round flat models (symbol 10 mm max.). On request.

ELECTRICAL FUNCTION

3	Normally open (NO)

TERMINALS

F	Flying leads
P	Straight PC
S	Solder lugs

CONTACTS

AD	Silver, gold plated

OPTIONS

ACTUATOR COLORS

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

LED COLORS

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

BEZEL OPTIONS

X1242	Reduced bezel, front mounting
234	Reduced bezel, standard mounting

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.

A sealing boot is available to protect the switches against frost and sand (P/N U5125). See "Sealing Boots" section of website.

Mounting accessories : Standard hardware supplied : 1 flat seal (standard bezel) or 1 O-ring (reduced bezel) and 1 metal hex nut 14 mm (.551) across flats. Hex nut part number U166. Plastic nut 17 mm (.669) across flats, thickness 4 mm (.157) available on request. Part number U4248.

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ILLUMINATED
SOLDER LUG TERMINALS

Curved actuator

ILR3SAD   Normally open

Flat actuator

ILP3SAD   Normally open

Also available with straight PC terminals : **IL•3PAD**

→ FLAT

ILLUMINATED
SEALED FLYING LEAD TERMINALS

Curved actuator

ILR3FAD   Normally open

Flat actuator

ILP3FAD   Normally open

→ FLAT

NON ILLUMINATED
SOLDER LUG TERMINALS

Curved actuator

ILR3SAD   Normally open

Flat actuator

ILP3SAD   Normally open

Also available with straight PC terminals : **IL•3PAD**
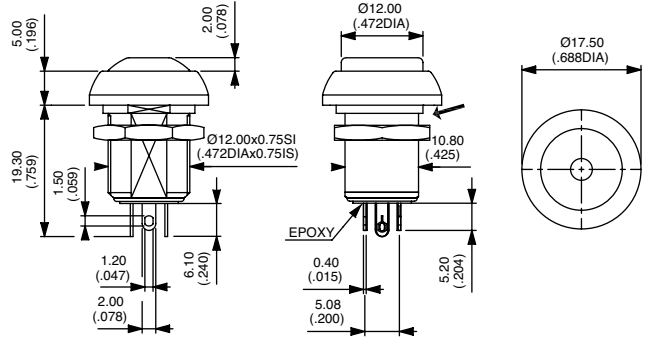
→ FLAT

NON ILLUMINATED
FLYING LEAD TERMINALS

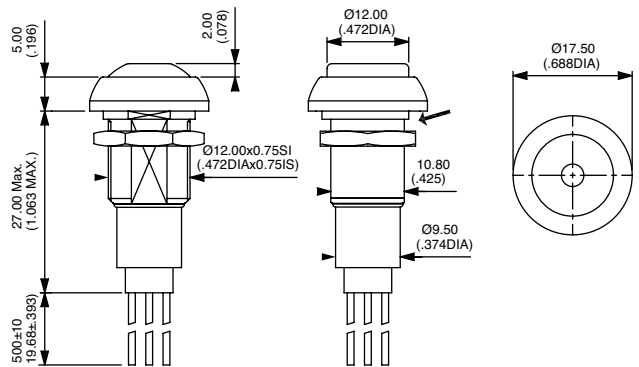Curved actuator

ILR3FAD   Normally open

Flat actuator

ILP3FAD   Normally open

→ FLAT

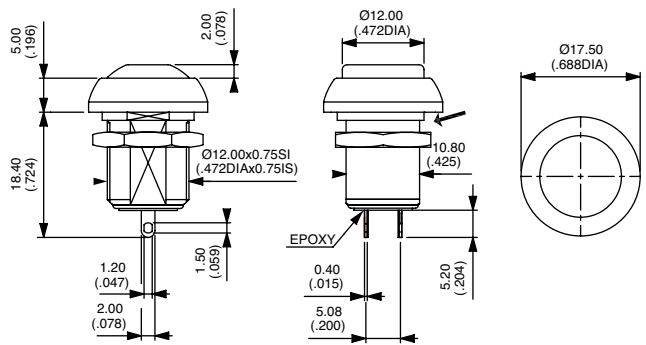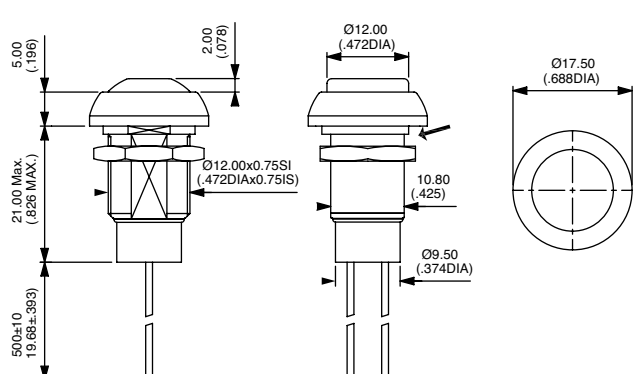**Wire colors :** black : NO contact, red : LED anode(+), blue : LED cathode(-)

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REDUCED BEZEL FOR COMPACT MATRIX MOUNTING - OPTION X1242

- • Dia. 15 (.590) reduced bezel
- • Mounting from the front into a threaded panel cut-out
- • Matrix mounting : 16 x 16 mm (.630x.630)
- • Illuminated or non-illuminated
- • Same terminal options and colors as standard models
- • Part numbers on request.

ILP3FAD...X1242

REDUCED BEZEL FOR COMPACT MATRIX MOUNTING - OPTION 234

- • Dia. 15 (.590) reduced bezel
- • Standard panel mounting
- • Matrix mounting : 17.5 x 17.5 mm (.689x.689)
- • Illuminated or non-illuminated
- • Same terminal options and colors as standard models
- • Part numbers on request.

ILP3FAD...234

ACTUATOR COLORS

BASIC P/N

1	Blue	6	Red
B	Dark blue	7/1	White
2	Black	8	Bright chrome
3	Green	9	Orange
4	Grey	A	Satin chrome
5	Yellow		

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

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Click to view products by Apem *manufacturer:*

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8940K2012 LW1L-M1C10V-A LW1L-M1C70-A LW2L-A1C20M-GD LW2L-M1C20M-A 60324L M22-D-R-GB0/K11 M7E-HRN2 67021K512 67081K512X 701PB580 7190K101 7199K101 810K12910 810KSV30B MML21EA2ADK MML21KA3ABK MML23KA3AC05K-001 MML23KW3AA01W 8418K2 8442K3 8450K1 860K11911T01A 861901 861K11911T01A07 861K13810T00A14 861K13911 8646AB6X718UL 8646ABUL 9001KXRK 907AYY100 PMHD155A1 95-313.000 9533CD4+U574+U4922 95-414.000 99-450.837 99-453.837 PV3H2B0NN-341 1203MRA A22NZBGANGA A22NZBMMNGA A22NZBNANGA A22NZMPATRA A2PMA1X03EC56 A3A-5123-02 A3A-7140 A3A-7310 A3A-7340 A3U-TMW-A2C-5M A595