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

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Altech Corp.®

Serving the Automation & Control Industry since 1984

EMERGENCY STOP

29

43

67

91

12

29

91

22 & 30mm
Push Buttons &
# Control Stations

Altech Corporation

Since 1984, Altech Corporation has grown to become a leading supplier of automation and industrial control components. Headquartered in Flemington, NJ, Altech has an experienced staff of engineering, manufacturing and sales personnel to provide the highest quality products with superior service. This is the Altech Commitment!

Altech 22 and 30mm Push Buttons offer ideal cost-effective solutions for control circuits utilizing both direct and remote management applications. Ease of assembly has been engineered into the design; the only tool necessary for installation is a screwdriver.

- LED Indicating Devices
- Pilot Lights
- Push Button Stations
- Push Button Enclosures
- UL Recognized
- Custom Push Button Assemblies
- All Very Competitively Priced

Our well trained technical experts welcome the opportunity to answer your technical questions and provide solutions to your automation and control needs. Give us a call or visit www.altechcorp.com.
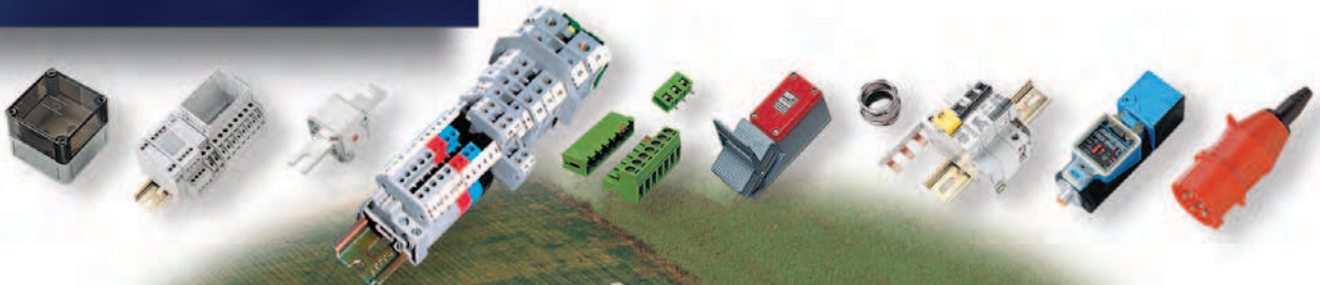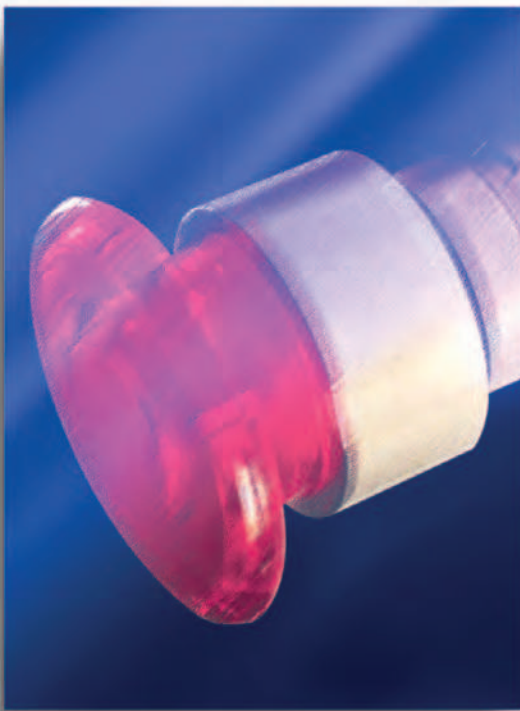
Quality Commitment

Altech's control components meet diverse national and international standards such as UL, NEC, CSA, IEC, VDE and more. Altech provides superior customer service and delivery through Total Quality Management and Continuous Process Improvement. Altech is ISO 9001 approved. We perform these services with honesty and integrity and are committed to achieve these goals.

Table of Contents

Altech

Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490 • www.altechcorp.com

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22.5mm Ø

Part No. PBD

Quality at a Competitive Price!

22mm Metal Push Buttons

Control and Signalling devices Ø 22.5mm

This range of Ø 22.5mm push buttons, selector switches, illuminated switches, illuminated selector switches and pilot lights have been designed to provide the following features:

- Economy of space
- Self-wiping contacts
- Safe operation
- Simple to mount (screw driver is all that is required)
- Fixing method unaffected by excessive vibration-unit does not loosen
- Protection against electric shock (unit grounded)

- Aesthetically pleasing
- Heavy-duty construction
- Shrouded terminals
- Flame resistant materials
- Use of LEDs for long life and minimum maintenance

Actuators

The circular actuators have chrome plated metal bezels, and are interchangeable with different contact elements. Custom colors and finishes (black, silver satin, etc.) are available.

Contact Elements

The contact elements are double break and have self-wiping contacts. The elements are interchangeable and can be stacked without additional hardware. 1 to 6 elements (NO or NC) can be used with non-Illuminated actuators, whereas, 1 to 4 elements (NO or NC) can be used for illuminated actuators. Gold plated NO and NC contact elements for low voltage, low current switching circuits < 25 mA, are available.

Multiple Switch Contact Assembly

40x30 (1.6x1.2")

43mm (1.7") 24mm (.94") 24mm (.94")
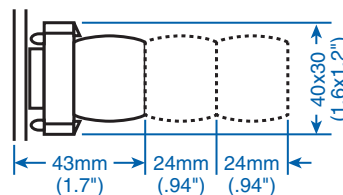
LED Illuminated Actuators and Pilot Lights

LED illuminated actuators & pilot lights are supplied with LED in bayonet cap suitable for operating at various voltages. LED bulbs with bayonet cap are constructed in the standard BA9S design.
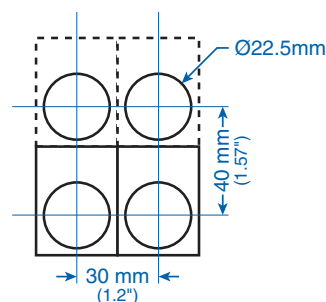
Terminals

Contact elements and pilot lights are designed to have shrouded terminals with combination flat/phillips screws.
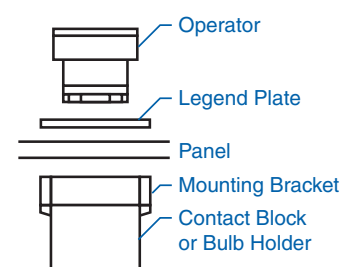
Mounting

These Ø 22.5 control devices can be mounted in any position in panels of 1 to 6 mm (.039 - .236 in.) thickness. We recommend minimum fixing centers of 30 x 40mm (1.2 x 1.57 inches). However, the dimensions and configuration should be decided on the basis of the application. The actuators and the lens assemblies lock on to the holding bracket using a bayonet type of fixing which enables a simple and fast assembly. The complete assembly is locked into position on the panel by two M4 pointed screws on the bracket, tightened equally from the rear. The screws should be tightened to such an extent as to pierce through the paint on the panel from inside. These screws also ensure the grounding of the unit.

Panel Cutout with minimum space requirements

Ø22.5mm

40 mm (1.57")

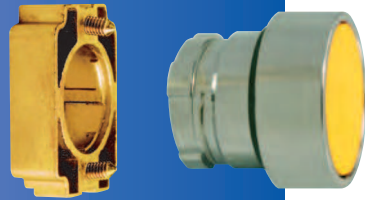30 mm (1.2")

Sample Push Button Assembly

Operator

Legend Plate

Panel

Mounting Bracket

Contact Block or Bulb Holder

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22mm Non-Illuminated Metal Operators

Certified for
NEMA Type 4X
12 environment.

Flush
Momentary
with mounting bracket

	Color	Cat No.
☐	White	2AF1
■	Black	2AF2
■	Green	2AF3
■	Red	2AF4
■	Blue	2AF6
■	Yellow	2AF8

Booted
Momentary
with mounting bracket

	Color	Cat No.
☐	White	2AB1
■	Black	2AB2
■	Green	2AB3
■	Red	2AB4
■	Blue	2AB6
■	Yellow	2AB8

Projecting
Momentary
with mounting bracket
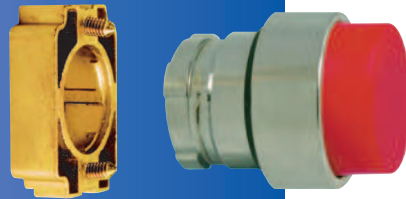
	Color	Cat No.
☐	White	2AP1
■	Black	2AP2
■	Green	2AP3
■	Red	2AP4
■	Blue	2AP6
■	Yellow	2AP8

Recessed
Momentary
with mounting bracket
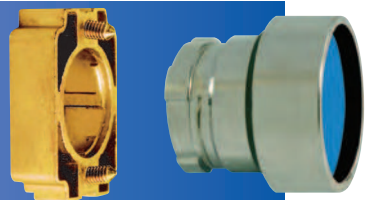
	Color	Cat No.
☐	White	2AF1RH
■	Black	2AF2RH
■	Green	2AF3RH
■	Red	2AF4RH
■	Blue	2AF6RH
■	Yellow	2AF8RH

All above operators available with remote attachment. Standard length is 50mm (2 in.), other lengths available upon request. Contact Altech for Part Number.

Markings on Request
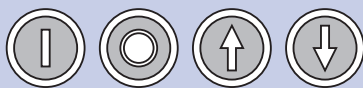
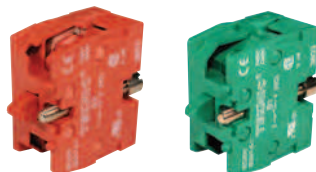Altech Push Buttons are available in a variety of markings, including molded arrows. Please contact Altech for further information and part numbers.

Switch Contacts
(sold separately)

- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

Panel Mount

Normally Open Silver	S1
Normally Closed Silver	S2
Normally Open Gold Plated	S3
Normally Closed Gold Plated	S4

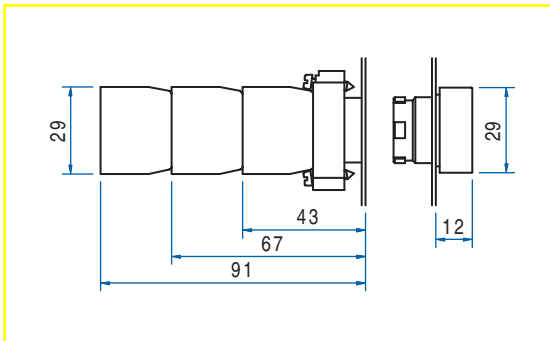**Base Mount***

Normally Open Silver	S5
Normally Closed Silver	S6
Normally Open Gold Plated	S7
Normally Closed Gold Plated	S8

* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.

Dimensional Drawings
All dimensions shown in millimeters.
To convert to inches multiply by 0.03937

Non-Illuminated Flush

Non-Illuminated Booted
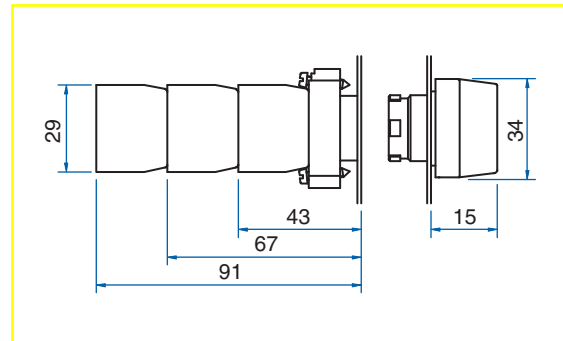
Non-Illuminated Projecting
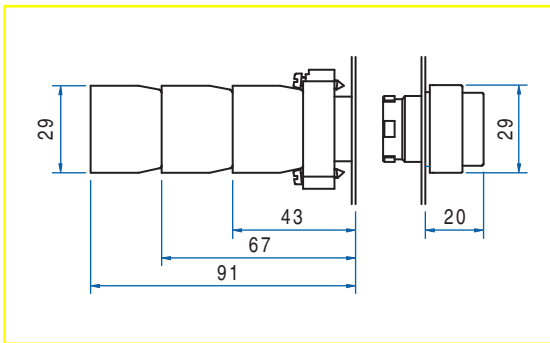
Non-Illuminated Recessed

Exploded Assembly View

- Up to six switch contacts can be installed on any non-Illuminated operator.
- Up to four switch contacts can be installed if maintained action attachment (2PPM) is used.
- Switch contacts and operators are sold separately. Preassembled push buttons are available on request.

For maintained or alternate action use Cat No. 2PPM.

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22mm Non-Illuminated Mushroom Metal Operators

Certified for
NEMA Type 4X
12 environment.

Mushroom
Momentary
with mounting bracket

	Color	Description	Cat No.
☐	White	40mm, Head	2AM1
■	Black	40mm, Head	2AM2
■	Green	40mm, Head	2AM3
■	Red	40mm, Head	2AM4
☐	Blue	40mm, Head	2AM6
☐	Yellow	40mm, Head	2AM8

Mushroom
Momentary Large
with mounting bracket
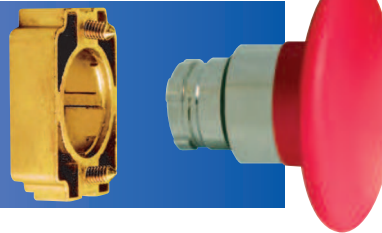
	Color	Description	Cat No.
☐	White	60mm, Head	2AMJ1
■	Black	60mm, Head	2AMJ2
■	Green	60mm, Head	2AMJ3
■	Red	60mm, Head	2AMJ4
☐	Blue	60mm, Head	2AMJ6
☐	Yellow	60mm, Head	2AMJ8

Mushroom
Push-Pull
with mounting bracket
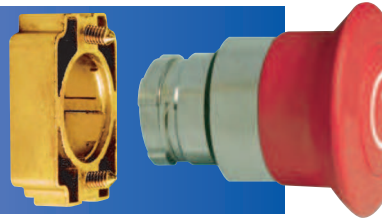
	Color	Description	Cat No.
☐	White	40mm, Head	2AMPP1
■	Black	40mm, Head	2AMPP2
■	Green	40mm, Head	2AMPP3
■	Red	40mm, Head	2AMPP4
☐	Blue	40mm, Head	2AMPP6
☐	Yellow	40mm, Head	2AMPP8

Mushroom
Push-Pull Large
with mounting bracket
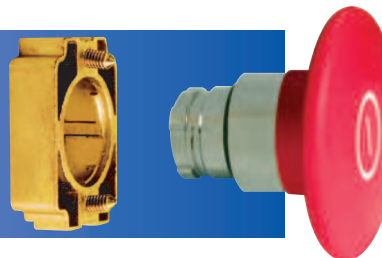
	Color	Description	Cat No.
☐	White	60mm, Head	2AMPPJ1
■	Black	60mm, Head	2AMPPJ2
■	Green	60mm, Head	2AMPPJ3
■	Red	60mm, Head	2AMPPJ4
☐	Blue	60mm, Head	2AMPPJ6
☐	Yellow	60mm, Head	2AMPPJ8

Markings on Request

Altech Push Buttons are available in a variety of custom markings.

Switch Contacts
(sold separately)

- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

Panel Mount
Normally Open Silver	**S1**
Normally Closed Silver	**S2**
Normally Open Gold Plated	**S3**
Normally Closed Gold Plated	**S4**

Base Mount*
Normally Open Silver	**S5**
Normally Closed Silver	**S6**
Normally Open Gold Plated	**S7**
Normally Closed Gold Plated	**S8**

* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.

Dimensional Drawings

All dimensions shown in millimeters.
To convert to inches multiply by 0.03937

Mushroom Momentary
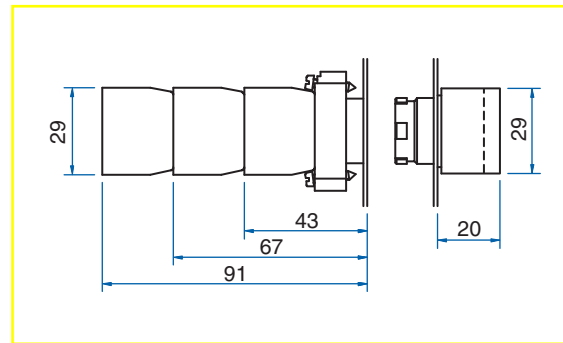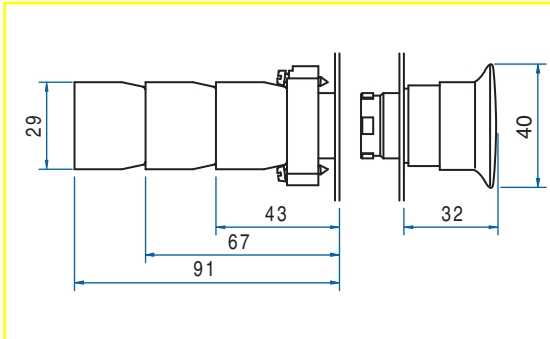

Mushroom Momentary Large
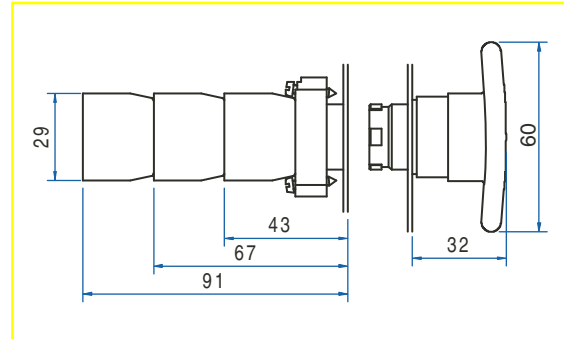
Mushroom Push-Pull
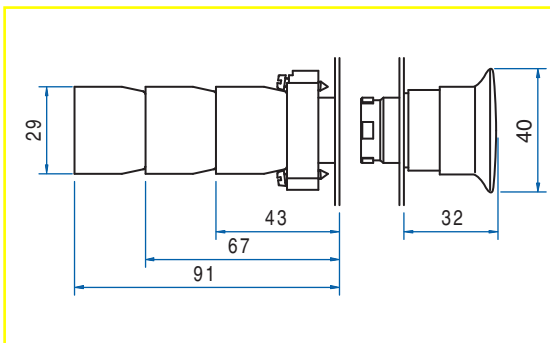
Mushroom Push-Pull Large
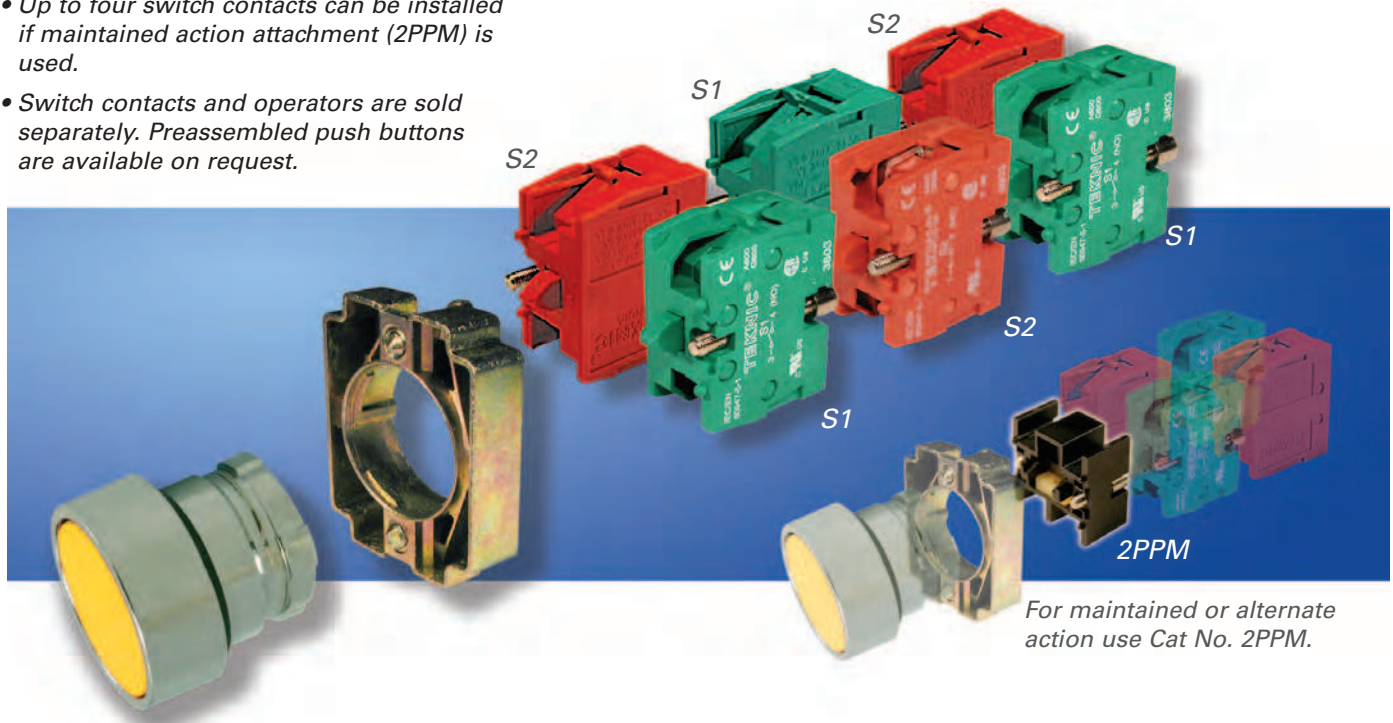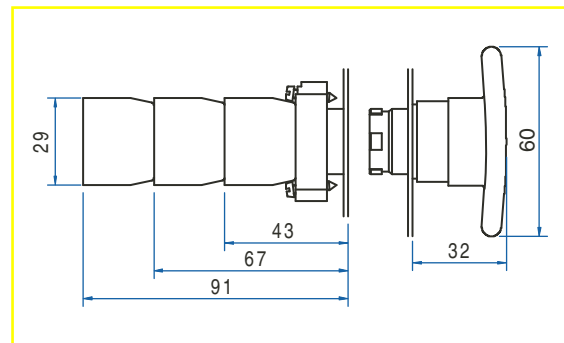

Exploded Assembly View

- Up to six switch contacts can be installed on any non-Illuminated operator.

- Switch contacts and operators are sold separately. Preassembled push buttons are available on request.

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22mm Non-Illuminated Mushroom Metal Operators

C CSA US   C UL US   CE   DVE

E225660

Certified for
NEMA Type 4X
12 environment.

Mushroom
Push-Turn Small
with mounting bracket
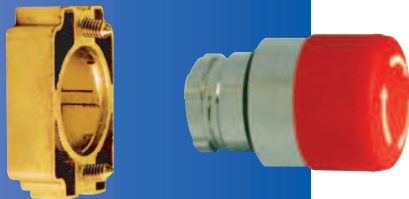
	Color	Description	Cat No.
☐	White	30 mm, Head	2AMLS1
■	Black	30 mm, Head	2AMLS2
■	Green	30 mm, Head	2AMLS3
■	Red	30 mm, Head	2AMLS4
☐	Blue	30 mm, Head	2AMLS6
☐	Yellow	30 mm, Head	2AMLS8

Mushroom
Push-Turn
with mounting bracket
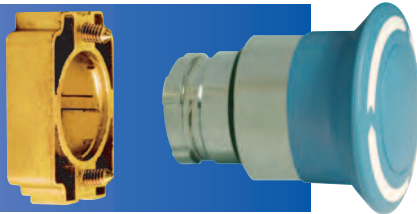
	Color	Description	Cat No.
☐	White	40mm, Head	2AML1
■	Black	40mm, Head	2AML2
■	Green	40mm, Head	2AML3
■	Red	40mm, Head	2AML4
☐	Blue	40mm, Head	2AML6
☐	Yellow	40mm, Head	2AML8

Mushroom
Push-Turn Large
with mounting bracket
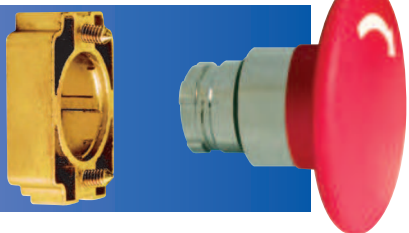
	Color	Description	Cat No.
☐	White	60mm, Head	2AMLJ1
■	Black	60mm, Head	2AMLJ2
■	Green	60mm, Head	2AMLJ3
■	Red	60mm, Head	2AMLJ4
☐	Blue	60mm, Head	2AMLJ6
☐	Yellow	60mm, Head	2AMLJ8

Mushroom
with Key Release
with mounting bracket

	Color	Description	Cat No.
☐	White	40mm, Head	2AMLKB1
■	Black	40mm, Head	2AMLKB2
■	Green	40mm, Head	2AMLKB3
■	Red	40mm, Head	2AMLKB4
☐	Blue	40mm, Head	2AMLKB6
☐	Yellow	40mm, Head	2AMLKB8

All keys are "keyed alike". Different keys are available on request.

🔑	**Replacement Key**	**2KY455**

Markings on Request

Altech Push Buttons are available in a variety of custom markings.

Switch Contacts
(sold separately)

- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

Panel Mount

Normally Open Silver	**S1**
Normally Closed Silver	**S2**
Normally Open Gold Plated	**S3**
Normally Closed Gold Plated	**S4**

Base Mount*

Normally Open Silver	**S5**
Normally Closed Silver	**S6**
Normally Open Gold Plated	**S7**
Normally Closed Gold Plated	**S8**

* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.

Dimensional Drawings

All dimensions shown in millimeters.
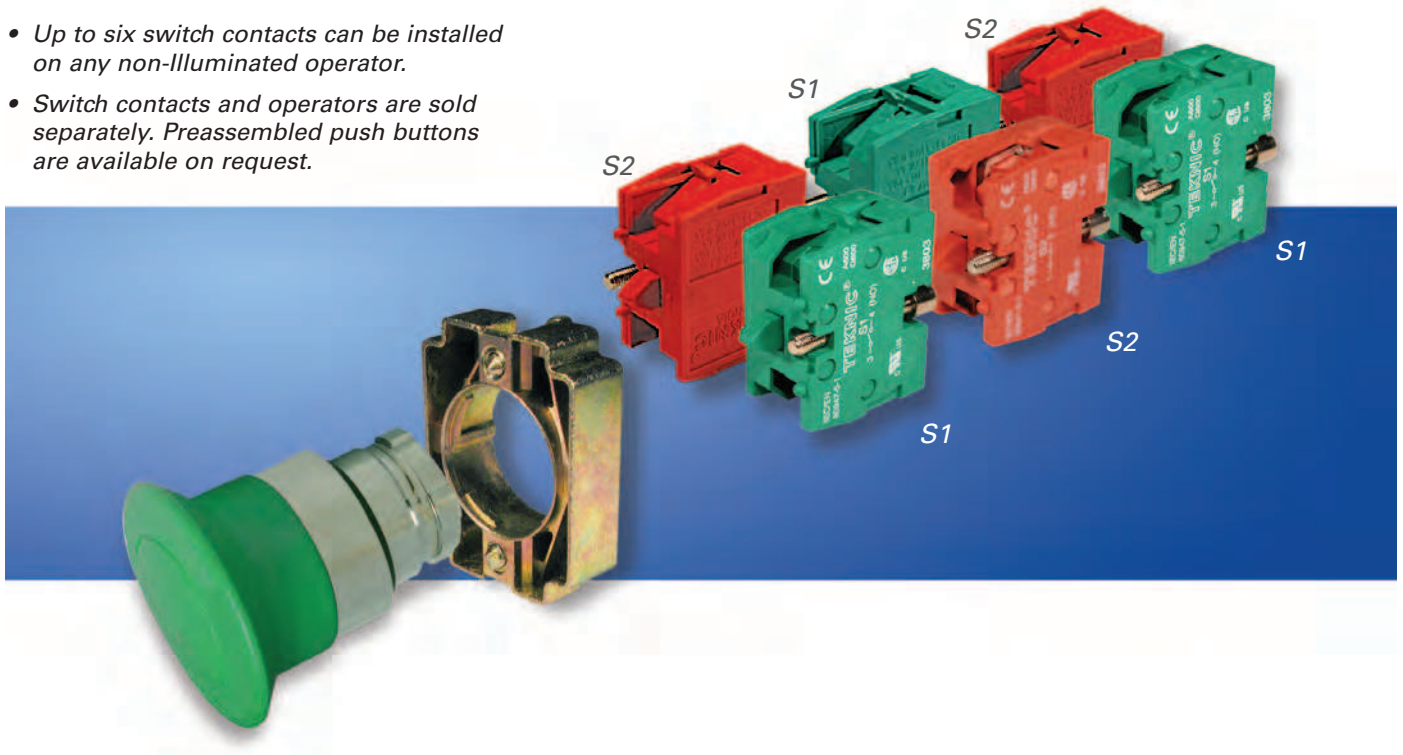To convert to inches multiply by 0.03937

Mushroom Push-Turn Small
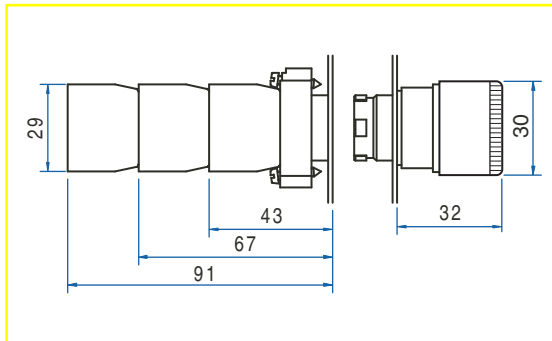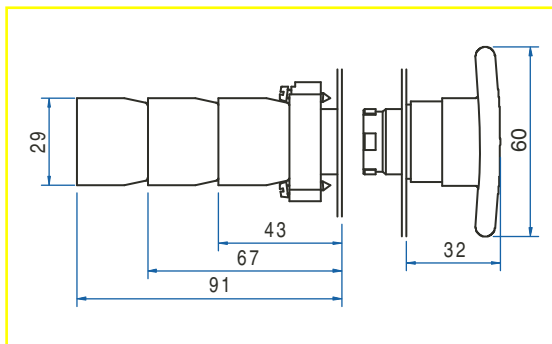
29 · 43 · 67 · 91 · 32 · 30

Mushroom Push-Turn

29 · 43 · 67 · 91 · 32 · 40

Mushroom Push-Turn Large

29 · 43 · 67 · 91 · 32 · 60

Mushroom with Key Release

29 · 43 · 67 · 91 · 56 · 40

Exploded Assembly View

- Up to six switch contacts can be installed on any non-Illuminated operator.

- Switch contacts and operators are sold separately. Preassembled push buttons are available on request.

S2 · S1 · S2 · S1 · S2 · S1

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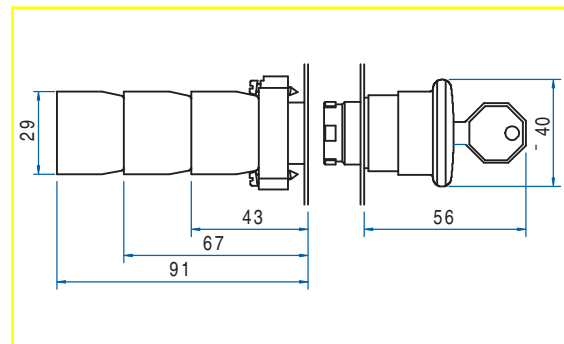
22mm LED Illuminated Mushroom Metal Operators

Certified for
NEMA Type 4X
12 environment.

Mushroom
Illuminated
Momentary
with LED bulb, bulb holder and mounting bracket
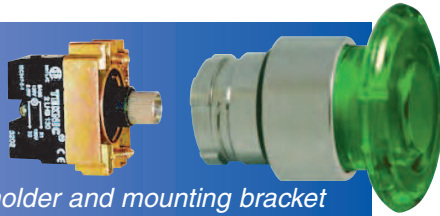
Dimensional Drawings
All dimensions shown in millimeters.
To convert to inches multiply by 0.03937

Illuminated Mushroom Momentary

Switch Contacts
(sold separately)

- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

Panel Mount

Normally Open Silver	**S1**
Normally Closed Silver	**S2**
Normally Open Gold Plated	**S3**
Normally Closed Gold Plated	**S4**

Base Mount*

Normally Open Silver	**S5**
Normally Closed Silver	**S6**
Normally Open Gold Plated	**S7**
Normally Closed Gold Plated	**S8**

* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.
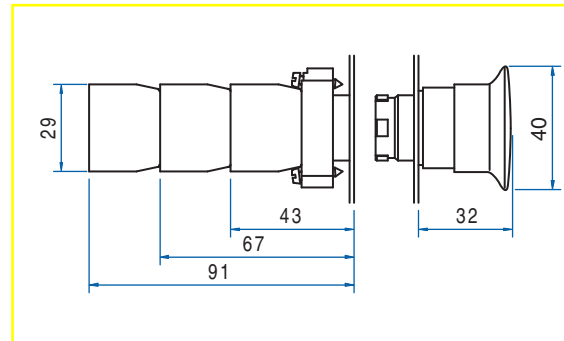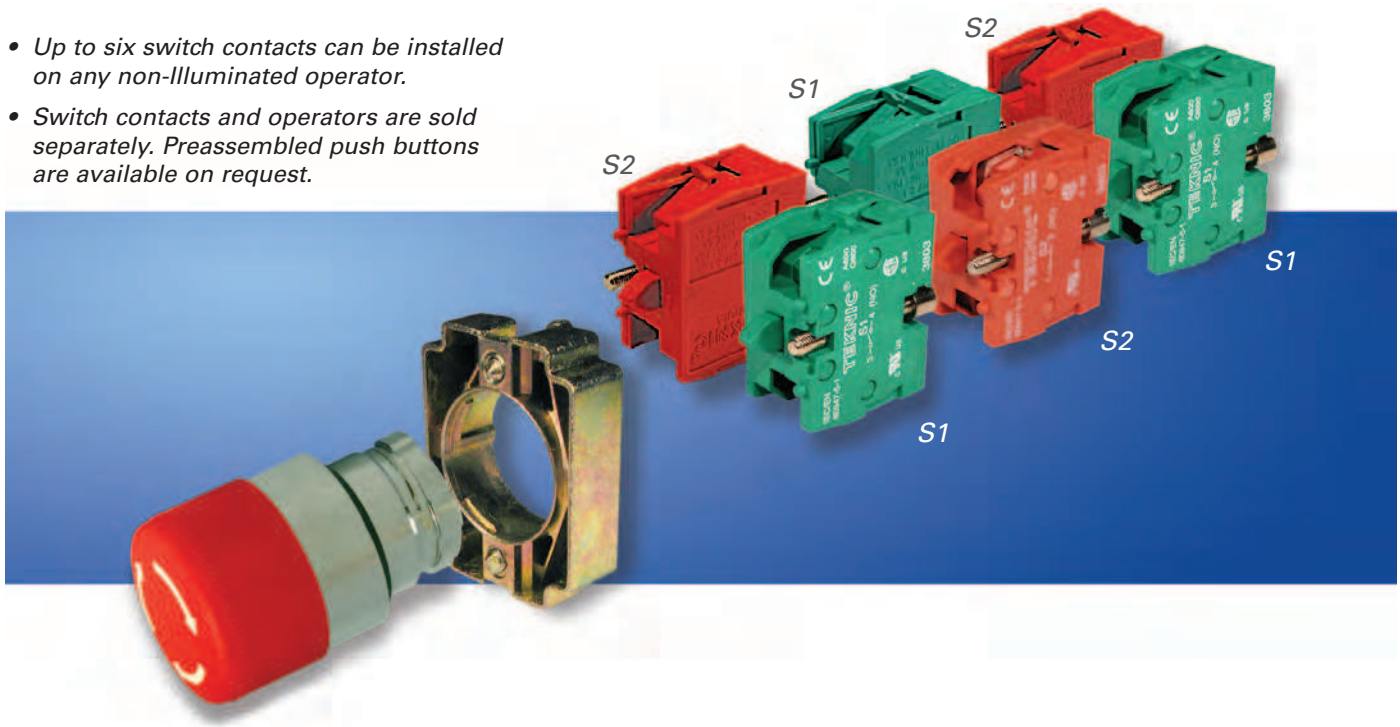
Color	Description	Cat No.
12V AC/DC		
☐ White	40mm Head, 12VAC/DC	2ALM1LB-012
■ Green	40mm Head, 12VAC/DC	2ALM3LB-012
■ Red	40mm Head, 12VAC/DC	2ALM4LB-012
■ Amber	40mm Head, 12VAC/DC	2ALM5LB-012
■ Blue	40mm Head, 12VAC/DC	2ALM6LB-012
☐ Clear	40mm Head, 12VAC/DC	2ALM7LB-012
■ Yellow	40mm Head, 12VAC/DC	2ALM8LB-012
24V AC/DC		
☐ White	40mm Head, 24VAC/DC	2ALM1LB-024
■ Green	40mm Head, 24VAC/DC	2ALM3LB-024
■ Red	40mm Head, 24VAC/DC	2ALM4LB-024
■ Amber	40mm Head, 24VAC/DC	2ALM5LB-024
■ Blue	40mm Head, 24VAC/DC	2ALM6LB-024
☐ Clear	40mm Head, 24VAC/DC	2ALM7LB-024
■ Yellow	40mm Head, 24VAC/DC	2ALM8LB-024
48V AC/DC		
☐ White	40mm Head, 48VAC/DC	2ALM1LB-048
■ Green	40mm Head, 48VAC/DC	2ALM3LB-048
■ Red	40mm Head, 48VAC/DC	2ALM4LB-048
■ Amber	40mm Head, 48VAC/DC	2ALM5LB-048
■ Blue	40mm Head, 48VAC/DC	2ALM6LB-048
☐ Clear	40mm Head, 48VAC/DC	2ALM7LB-048
■ Yellow	40mm Head, 48VAC/DC	2ALM8LB-048
110V AC*		
☐ White	40mm Head, 110VAC*	2ALM1LB-110
■ Green	40mm Head, 110VAC*	2ALM3LB-110
■ Red	40mm Head, 110VAC*	2ALM4LB-110
■ Amber	40mm Head, 110VAC*	2ALM5LB-110
■ Blue	40mm Head, 110VAC*	2ALM6LB-110
☐ Clear	40mm Head, 110VAC*	2ALM7LB-110
■ Yellow	40mm Head, 110VAC*	2ALM8LB-110
230V AC*		
☐ White	40mm Head, 230VAC*	2ALM1LB-230
■ Green	40mm Head, 230VAC*	2ALM3LB-230
■ Red	40mm Head, 230VAC*	2ALM4LB-230
■ Amber	40mm Head, 230VAC*	2ALM5LB-230
■ Blue	40mm Head, 230VAC*	2ALM6LB-230
☐ Clear	40mm Head, 230VAC*	2ALM7LB-230
■ Yellow	40mm Head, 230VAC*	2ALM8LB-230

*110V DC and 230V DC version is available on request.

Exploded Assembly View

- Up to four switch contacts can be installed with any illuminated operators.
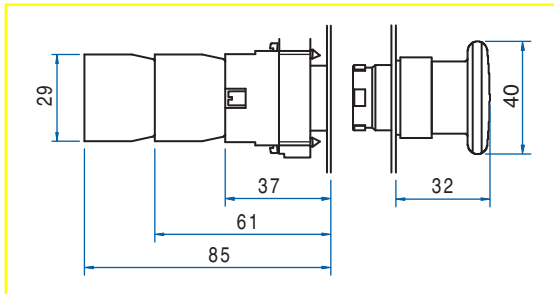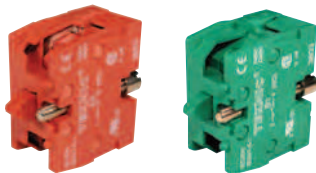- Switch contacts and operators are sold separately. Preassembled push buttons are available on request.

22mm LED Illuminated Mushroom Metal Operators

Altech

Certified for
NEMA Type 4X
12 environment.

E225660
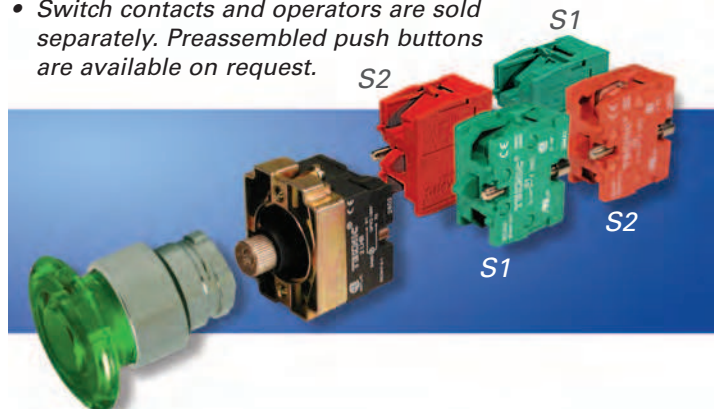
Mushroom
Illuminated
Push-Pull

with LED bulb, bulb holder and mounting bracket

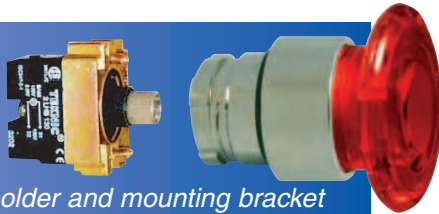| Color		Description	Cat No.
12V AC/DC			
☐	White	40mm Head, 12VAC/DC	2ALMPP1LB-012
🟩	Green	40mm Head, 12VAC/DC	2ALMPP3LB-012
🟥	Red	40mm Head, 12VAC/DC	2ALMPP4LB-012
🟧	Amber	40mm Head, 12VAC/DC	2ALMPP5LB-012
🟨	Blue	40mm Head, 12VAC/DC	2ALMPP6LB-012
☐	Clear	40mm Head, 12VAC/DC	2ALMPP7LB-012
🟨	Yellow	40mm Head, 12VAC/DC	2ALMPP8LB-012
24V AC/DC			
☐	White	40mm Head, 24VAC/DC	2ALMPP1LB-024
🟩	Green	40mm Head, 24VAC/DC	2ALMPP3LB-024
🟥	Red	40mm Head, 24VAC/DC	2ALMPP4LB-024
🟧	Amber	40mm Head, 24VAC/DC	2ALMPP5LB-024
🟨	Blue	40mm Head, 24VAC/DC	2ALMPP6LB-024
☐	Clear	40mm Head, 24VAC/DC	2ALMPP7LB-024
🟨	Yellow	40mm Head, 24VAC/DC	2ALMPP8LB-024
48V AC/DC			
☐	White	40mm Head, 48VAC/DC	2ALMPP1LB-048
🟩	Green	40mm Head, 48VAC/DC	2ALMPP3LB-048
🟥	Red	40mm Head, 48VAC/DC	2ALMPP4LB-048
🟧	Amber	40mm Head, 48VAC/DC	2ALMPP5LB-048
🟨	Blue	40mm Head, 48VAC/DC	2ALMPP6LB-048
☐	Clear	40mm Head, 48VAC/DC	2ALMPP7LB-048
🟨	Yellow	40mm Head, 48VAC/DC	2ALMPP8LB-048
110V AC*			
☐	White	40mm Head, 110VAC*	2ALMPP1LB-110
🟩	Green	40mm Head, 110VAC*	2ALMPP3LB-110
🟥	Red	40mm Head, 110VAC*	2ALMPP4LB-110
🟧	Amber	40mm Head, 110VAC*	2ALMPP5LB-110
🟨	Blue	40mm Head, 110VAC*	2ALMPP6LB-110
☐	Clear	40mm Head, 110VAC*	2ALMPP7LB-110
🟨	Yellow	40mm Head, 110VAC*	2ALMPP8LB-110
230V AC*			
☐	White	40mm Head, 230VAC*	2ALMPP1LB-230
🟩	Green	40mm Head, 230VAC*	2ALMPP3LB-230
🟥	Red	40mm Head, 230VAC*	2ALMPP4LB-230
🟧	Amber	40mm Head, 230VAC*	2ALMPP5LB-230
🟨	Blue	40mm Head, 230VAC*	2ALMPP6LB-230
☐	Clear	40mm Head, 230VAC*	2ALMPP7LB-230
🟨	Yellow	40mm Head, 230VAC*	2ALMPP8LB-230

*110V DC and 230V DC version is available on request.
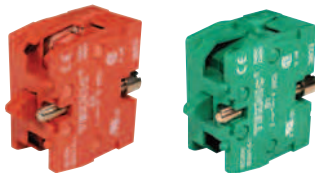
Dimensional Drawings
All dimensions shown in millimeters.
To convert to inches multiply by 0.03937

Illuminated Mushroom Push-Pull

Switch Contacts
(sold separately)

- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

Panel Mount
Normally Open Silver	**S1**
Normally Closed Silver	**S2**
Normally Open Gold Plated	**S3**
Normally Closed Gold Plated	**S4**

Base Mount*
Normally Open Silver	**S5**
Normally Closed Silver	**S6**
Normally Open Gold Plated	**S7**
Normally Closed Gold Plated	**S8**

* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.

Exploded Assembly View

- *Up to four switch contacts can be installed with any illuminated operators.*
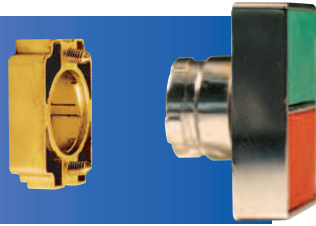- *Switch contacts and operators are sold separately. Preassembled push buttons are available on request.*

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13

22mm Twin Touch Metal Non-Illuminated Operators

Certified for
NEMA Type 4X
12 environment.

Twin Touch/
Not Marked
with mounting bracket

Arrows marking available upon request.

Color	Description	Cat No.
GREEN-RED	Flush	2ATF3-F4
YELLOW-BLACK	Flush	2ATF8-F2
BLACK-WHITE	Flush	2ATF2-F1
GREEN-RED	Green Flush, Red Projecting	2ATF3-P4
YELLOW-BLACK	Yellow Flush, Black Projecting	2ATF8-P2
WHITE-BLACK	White Flush, Black Projecting	2ATF1-P2

Twin Touch
I-O Marked
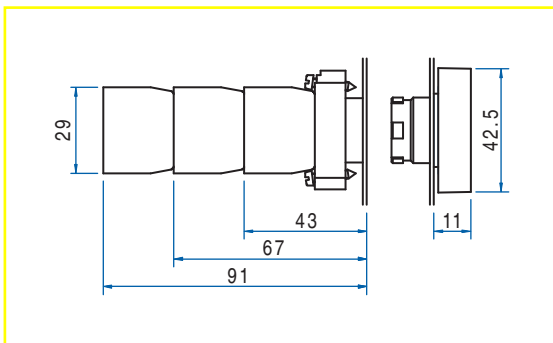*with mounting bracket*
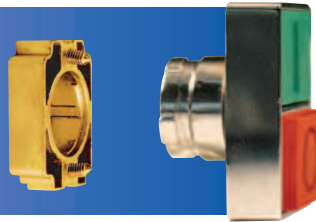
Arrows marking available upon request.

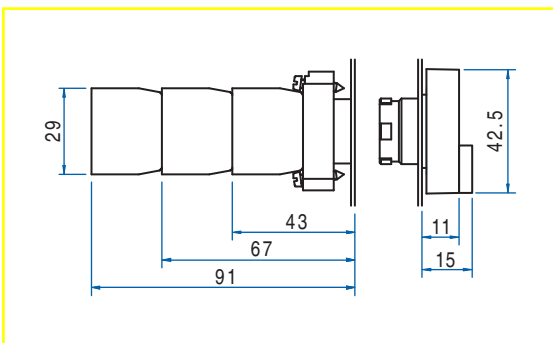| Color	Description	Cat No.
GREEN-RED	Flush	2ATF3-F4-IO
YELLOW-BLACK	Flush	2ATF8-F2-IO
BLACK-WHITE*	Flush	2ATF2-F1-IO
GREEN-RED	Green Flush, Red Projecting	2ATF3-P4-IO
YELLOW-BLACK	Yellow Flush, Black Projecting	2ATF8-P2-IO
WHITE-BLACK*	White Flush, Black Projecting	2ATF1-P2-IO

*Comply with vision impaired requirements.

Exploded Assembly View

S2
S1
S2
S1
S2
S1

- Up to four switch contacts can be installed with any illuminated operators.
- Switch contacts and operators are sold separately. Preassembled push buttons are available on request.

Dimensional Drawings

All dimensions shown in millimeters.
To convert to inches multiply by 0.03937

Twin Touch/ Flush

29
42.5
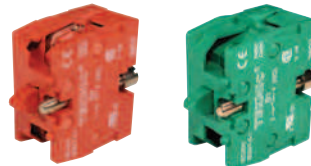43
11
67
91

Twin Touch/ Flush/ Projecting

29
42.5
43
11
67
15
91

Switch Contacts
(sold separately)

- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

	Panel Mount Cat No.	Base Mount* Cat No.
Normally Open Silver	S1	S5
Normally Closed Silver	S2	S6
Normally Open Gold plated	S3	S7
Normally Closed Gold plated	S4	S8

*For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.
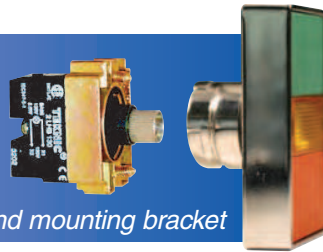
CSA ᶜus · ᵁᴸ ᶜus — E225660 · CE · VDE

Certified for
NEMA Type 4X
12 environment.

Illuminated Center
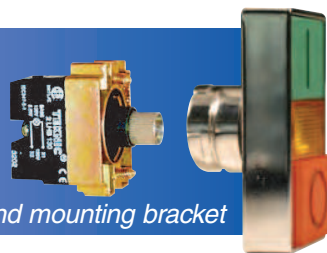# Twin Touch/
Not Marked
with LED bulb, bulb holder and mounting bracket

Arrows marking available upon request.
Other lense colors available upon request.

Illuminated Center
Twin Touch/
I-O Marked
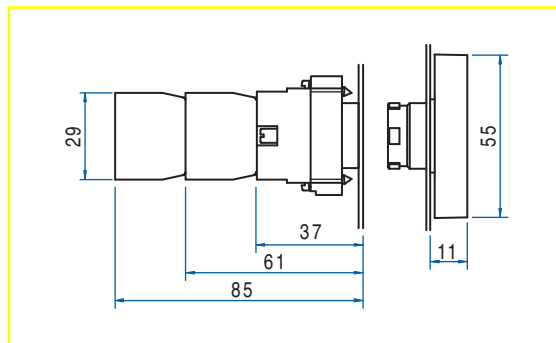*with LED bulb, bulb holder and mounting bracket*

Arrows marking available upon request.
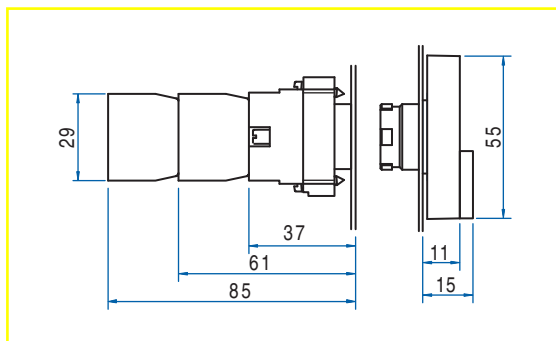*Other lense colors available upon request.*

Color	Description	Cat No.
GREEN-RED, Flush, Illuminated Center		
Amber	12VAC/DC	2ATL5LB F3F4-012
Amber	24VAC/DC	2ATL5LB F3F4-024
Amber	48VAC/DC	2ATL5LB F3F4-048
Amber	110VAC**	2ATL5LB F3F4-110
Amber	230VAC**	2ATL5LB F3F4-230
GREEN-RED, Green Flush/ Red Projecting, Illuminated center		
Amber	12VAC/DC	2ATL5LB F3P4-012
Amber	24VAC/DC	2ATL5LB F3P4-024
Amber	48VAC/DC	2ATL5LB F3P4-048
Amber	110VAC**	2ATL5LB F3P4-110
Amber	230VAC**	2ATL5LB F3P4-230

Color	Description	Cat No.
GREEN-RED, Flush, Illuminated Center		
Amber	12VAC/DC	2ATL5LB F3F4-IO-012
Amber	24VAC/DC	2ATL5LB F3F4-IO-024
Amber	48VAC/DC	2ATL5LB F3F4-IO-048
Amber	110VAC**	2ATL5LB F3F4-IO-110
Amber	230VAC**	2ATL5LB F3F4-IO-230
GREEN-RED, Green Flush/ Red Projecting, Illuminated Center		
Amber	12VAC/DC	2ATL5LB F3P4-IO-012
Amber	24VAC/DC	2ATL5LB F3P4-IO-024
Amber	48VAC/DC	2ATL5LB F3P4-IO-048
Amber	110VAC**	2ATL5LB F3P4-IO-110
Amber	230VAC**	2ATL5LB F3P4-IO-230
WHITE-BLACK*, Flush, Illuminated Center		
Amber	12VAC/DC	2ATL5LB F2F1-IO-012
Amber	24VAC/DC	2ATL5LB F2F1-IO-024
Amber	48VAC/DC	2ATL5LB F2F1-IO-048
Amber	110VAC**	2ATL5LB F2F1-IO-110
Amber	230VAC**	2ATL5LB F2F1-IO-230

* Comply with vision impaired requirements.
** 110V DC and 230V DC version is available on request.
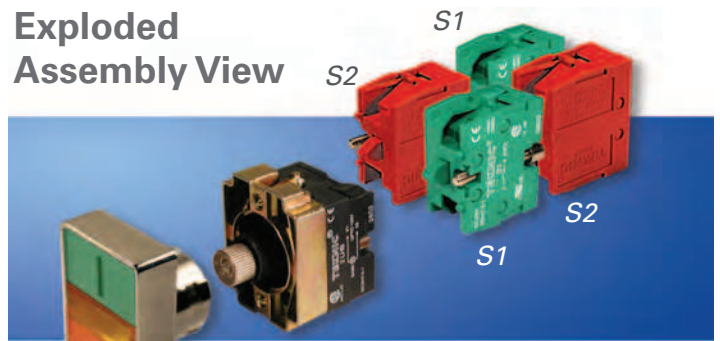
Dimensional Drawings
All dimensions shown in millimeters.
To convert to inches multiply by 0.03937

Illuminated Twin Touch/ Flush

29 · 37 · 61 · 85 · 55 · 11

Illuminated Twin Touch/ Flush/ Projecting

29 · 37 · 61 · 85 · 55 · 11 · 15

Exploded Assembly View

S1
S2
S2
S1

- Up to four switch contacts can be installed with any illuminated operators.
- Switch contacts and operators are sold separately. Preassembled push buttons are available on request.

Switch Contacts
(sold separately)

	Panel Mount Cat No.	Base Mount* Cat No.
Normally Open Silver	**S1**	**S5**
Normally Closed Silver	**S2**	**S6**
Normally Open Gold plated	**S3**	**S7**
Normally Closed Gold plated	**S4**	**S8**

* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.

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15

22mm Non-Illuminated Metal Selector Switch Operators

Key Selector
with mounting bracket

Other key combinations and colors are available on request.
All keys are "keyed alike". Different keys are available on request.

Color		Description	Key Removal	Cat No.
■ Black	∨	Maintained	Left/Right	2AK2-01
■ Black	∨	Maintained	Left	2AK2-02
■ Black	∨	Maintained	Right	2AK2-03
■ Black	∨	Spring Return	Left	2AK2-04
■ Black	∨	Maintained	Left/Right	2AK2-05
■ Black	∨	Maintained	All	2AK2-06
■ Black	∨	Maintained	Center	2AK2-07
■ Black	∨	Spring Return	Center	2AK2-08
■ Black	∨	Spring Return	Center	2AK2-09
■ Black	∨	Spring Return	Center	2AK2-10
■ Black	∨	Maintained	Left	2AK2-11
Replacement Key				**2KY455**

Selector
with mounting bracket

Other colors are available on request.

Color		Description	Cat No.
■ Black	∨	Maintained	2AS2-1
■ Black	∨	Spring Return	2AS2-2
■ Black	∨	Maintained	2AS2-3
■ Black	∨	Spring Return	2AS2-4
■ Black	∨	Spring Return	2AS2-5
■ Black	∨	Spring Return	2AS2-6

Extended Selector
with mounting bracket

Other colors are available on request.

Color		Description	Cat No.
■ Black	∨	Maintained	2AS2E-1
■ Black	∨	Spring Return	2AS2E-2
■ Black	∨	Maintained	2AS2E-3
■ Black	∨	Spring Return	2AS2E-4
■ Black	∨	Spring Return	2AS2E-5
■ Black	∨	Spring Return	2AS2E-6

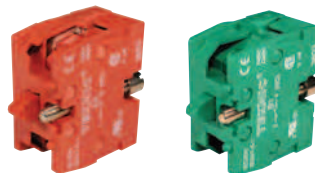## Markings on Request

Altech Push Buttons are available in a variety of markings, including molded arrows. Please contact Altech for further information and part numbers.

START STOP ON OFF

Switch Contacts
(sold separately)

- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

Panel Mount
Normally Open Silver	**S1**
Normally Closed Silver	**S2**
Normally Open Gold Plated	**S3**
Normally Closed Gold Plated	**S4**

Base Mount*
Normally Open Silver	**S5**
Normally Closed Silver	**S6**
Normally Open Gold Plated	**S7**
Normally Closed Gold Plated	**S8**

* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.
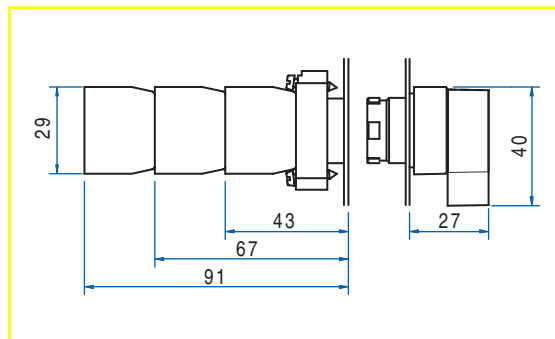
Dimensional Drawings

All dimensions shown in millimeters.
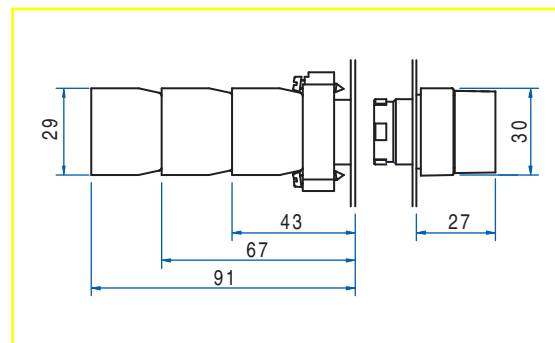To convert to inches multiply by 0.03937
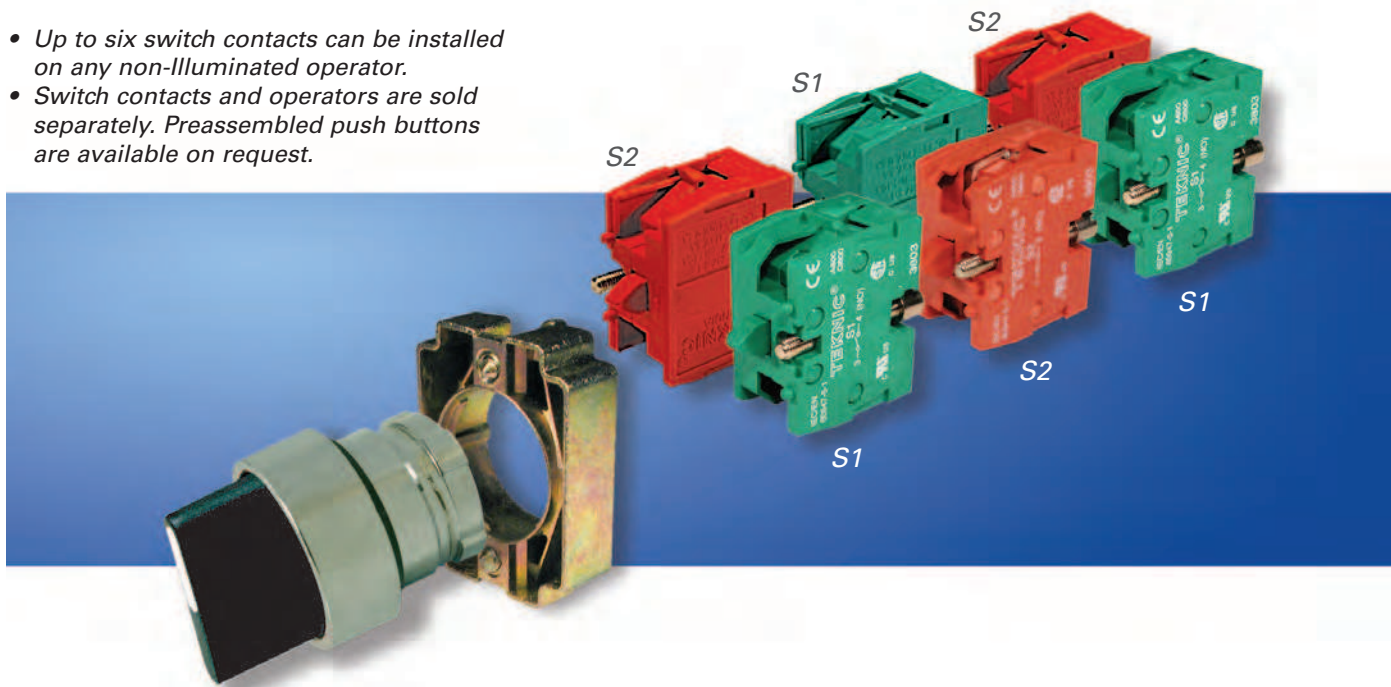
Key Selector
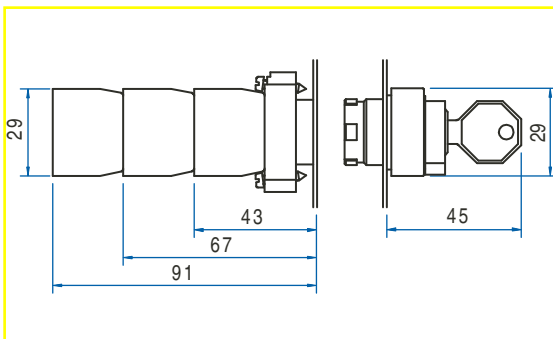
Extended Selector

3 POSITION SELECTOR SWITCH CONTACT BLOCK GUIDE

⊘	⬆	⬀	CONTACTOR BLOCK GUIDE
×	O	O	1 NO (left)
O	×	O	2 NC in series (side × side)
O	O	×	1 NO (right)
×	×	O	1 NC (right)
O	×	×	1 NC (left)
×	O	×	2 NO in parallel (side × side)

(Left or right as seen from front of operator)

Selector

Exploded Assembly View

- Up to six switch contacts can be installed on any non-Illuminated operator.
- Switch contacts and operators are sold separately. Preassembled push buttons are available on request.

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17

22mm LED Illuminated Metal Selector Switch Operators

Certified for
NEMA Type 4X
12 environment.

Selector
*with bulb holder,
LED bulb and
mounting bracket*

Other combinations and colors available upon request.
Please contact Altech for further information and part numbers.

XXX = Voltage Codes

Code		Voltage
012	=	12VAC/DC
024	=	24VAC/DC
048	=	48VAC/DC
110	=	110VAC/DC
230	=	230VAC
230D	=	230VDC

*SAMPLE
ASSEMBLY*

Push button assemblies are available
in a variety of custom configurations.

Replacement
bulbs available.
See page 39.

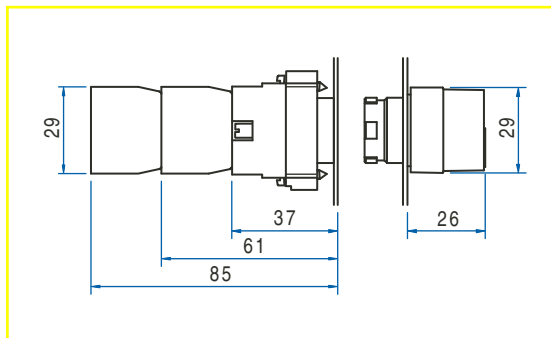| Color		Function	Cat No.
2 Position			
White		Maintained	2ASL1LB-1-XXX
Green		Maintained	2ASL3LB-1-XXX
Red		Maintained	2ASL4LB-1-XXX
Amber		Maintained	2ASL5LB-1-XXX
Blue		Maintained	2ASL6LB-1-XXX
Clear		Maintained	2ASL7LB-1-XXX
Yelllow		Maintained	2ASL8LB-1-XXX
2 Position			
White		Spring Return	2ASL1LB-2-XXX
Green		Spring Return	2ASL3LB-2-XXX
Red		Spring Return	2ASL4LB-2-XXX
Amber		Spring Return	2ASL5LB-2-XXX
Blue		Spring Return	2ASL6LB-2-XXX
Clear		Spring Return	2ASL7LB-2-XXX
Yelllow		Spring Return	2ASL8LB-2-XXX
3 Position			
White		Maintained	2ASL1LB-3-XXX
Green		Maintained	2ASL3LB-3-XXX
Red		Maintained	2ASL4LB-3-XXX
Amber		Maintained	2ASL5LB-3-XXX
Blue		Maintained	2ASL6LB-3-XXX
Clear		Maintained	2ASL7LB-3-XXX
Yelllow		Maintained	2ASL8LB-3-XXX
3 Position, *spring return from left and right*			
White		Spring Return	2ASL1LB-4-XXX
Green		Spring Return	2ASL3LB-4-XXX
Red		Spring Return	2ASL4LB-4-XXX
Amber		Spring Return	2ASL5LB-4-XXX
Blue		Spring Return	2ASL6LB-4-XXX
Clear		Spring Return	2ASL7LB-4-XXX
Yelllow		Spring Return	2ASL8LB-4-XXX
3 Position, *spring return from right*			
White		Spring Return	2ASL1LB-5-XXX
Green		Spring Return	2ASL3LB-5-XXX
Red		Spring Return	2ASL4LB-5-XXX
Amber		Spring Return	2ASL5LB-5-XXX
Blue		Spring Return	2ASL6LB-5-XXX
Clear		Spring Return	2ASL7LB-5-XXX
Yelllow		Spring Return	2ASL8LB-5-XXX
3 Position, *spring return from left*			
White		Spring Return	2ASL1LB-6-XXX
Green		Spring Return	2ASL3LB-6-XXX
Red		Spring Return	2ASL4LB-6-XXX
Amber		Spring Return	2ASL5LB-6-XXX
Blue		Spring Return	2ASL6LB-6-XXX
Clear		Spring Return	2ASL7LB-6-XXX
Yelllow		Spring Return	2ASL8LB-6-XXX

Dimensional Drawings

All dimensions shown in millimeters.
To convert to inches multiply by 0.03937
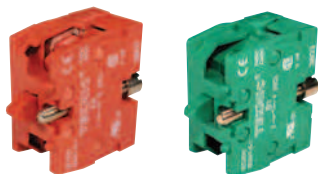
**3 POSITION
SELECTOR SWITCH
CONTACT BLOCK GUIDE**

⊘	⬆	⊘	CONTACTOR BLOCK GUIDE
×	O	O	1 NO (left)
O	×	O	2 NC in series (side × side)
O	O	×	1 NO (right)
×	×	O	1 NC (right)
O	×	×	1 NC (left)
×	O	×	2 NO in parallel (side × side)

(Left or right as seen from front of operator)

Illuminated Selector

29   37   26   29
61
85

Switch Contacts
(sold separately)

- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

Panel Mount

Normally Open Silver	**S1**
Normally Closed Silver	**S2**
Normally Open Gold Plated	**S3**
Normally Closed Gold Plated	**S4**

Base Mount*

Normally Open Silver	**S5**
Normally Closed Silver	**S6**
Normally Open Gold Plated	**S7**
Normally Closed Gold Plated	**S8**

* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.

Exploded Assembly View

- *Up to four switch contacts can be installed with any Illuminated operator.*
- *Switch contacts and operators are sold separately. Preassembled push buttons are available on request.*

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19

22mm LED Illuminated Metal Projecting Operators

Certified for
NEMA Type 4X
12 environment.

Projecting Momentary

withbulb, bulb holder and mounting bracket
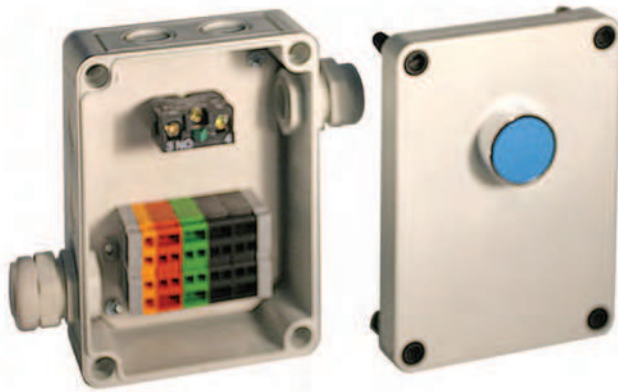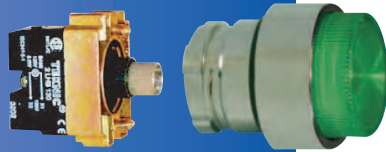
SAMPLE ASSEMBLY

Replacement bulbs available.
See page 39.

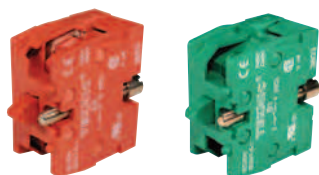| Color	Voltage	Cat No.
12V AC/DC		
White	12V AC/DC	2ALP1LB-012
Green	12V AC/DC	2ALP3LB-012
Red	12V AC/DC	2ALP4LB-012
Amber	12V AC/DC	2ALP5LB-012
Blue	12V AC/DC	2ALP6LB-012
Clear	12V AC/DC	2ALP7LB-012
Yelllow	12V AC/DC	2ALP8LB-012
24V AC/DC		
White	24V AC/DC	2ALP1LB-024
Green	24V AC/DC	2ALP3LB-024
Red	24V AC/DC	2ALP4LB-024
Amber	24V AC/DC	2ALP5LB-024
Blue	24V AC/DC	2ALP6LB-024
Clear	24V AC/DC	2ALP7LB-024
Yelllow	24V AC/DC	2ALP8LB-024
48V AC/DC		
White	48V AC/DC	2ALP1LB-048
Green	48V AC/DC	2ALP3LB-048
Red	48V AC/DC	2ALP4LB-048
Amber	48V AC/DC	2ALP5LB-048
Blue	48V AC/DC	2ALP6LB-048
Clear	48V AC/DC	2ALP7LB-048
Yelllow	48V AC/DC	2ALP8LB-048
110V AC		
White	110V AC	2ALP1LB-110
Green	110V AC	2ALP3LB-110
Red	110V AC	2ALP4LB-110
Amber	110V AC	2ALP5LB-110
Blue	110V AC	2ALP6LB-110
Clear	110V AC	2ALP7LB-110
Yelllow	110V AC	2ALP8LB-110
110V DC		
White	110V DC	2ALP1LB-110D
Green	110V DC	2ALP3LB-110D
Red	110V DC	2ALP4LB-110D
Amber	110V DC	2ALP5LB-110D
Blue	110V DC	2ALP6LB-110D
Clear	110V DC	2ALP7LB-110D
Yelllow	110V DC	2ALP8LB-110D
230V AC		
White	230V AC	2ALP1LB-230
Green	230V AC	2ALP3LB-230
Red	230V AC	2ALP4LB-230
Amber	230V AC	2ALP5LB-230
Blue	230V AC	2ALP6LB-230
Clear	230V AC	2ALP7LB-230
Yelllow	230V AC	2ALP8LB-230
230V DC		
White	230V DC	2ALP1LB-230D
Green	230V DC	2ALP3LB-230D
Red	230V DC	2ALP4LB-230D
Amber	230V DC	2ALP5LB-230D
Blue	230V DC	2ALP6LB-230D
Clear	230V DC	2ALP7LB-230D
Yelllow	230V DC	2ALP8LB-230D

Dimensional Drawings

All dimensions shown in millimeters.
To convert to inches multiply by 0.03937

Projecting Momentary

Switch Contacts
(sold separately)

- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

Panel Mount

Normally Open Silver	**S1**
Normally Closed Silver	**S2**
Normally Open Gold Plated	**S3**
Normally Closed Gold Plated	**S4**

Base Mount*

Normally Open Silver	**S5**
Normally Closed Silver	**S6**
Normally Open Gold Plated	**S7**
Normally Closed Gold Plated	**S8**

* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.

Exploded Assembly View

- *Up to four switch contacts can be installed with any Illuminated operator.*
- *Switch contacts and operators are sold separately. Preassembled push buttons are available on request.*

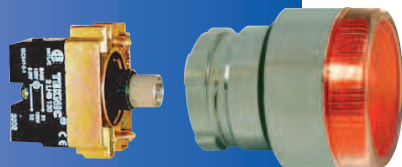*For maintained or alternate action use Cat No. 2PPM.*

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21

22mm LED Illuminated Metal Flush Operators

Certified for
NEMA Type 4X
12 environment.

Flush Momentary
*with bulb, bulb holder
and mounting bracket*

SAMPLE
ASSEMBLY

For installation of a metal operator in the plastic enclosure a Cat No. ADW washer is required.

Replacement bulbs available.
See page 39.

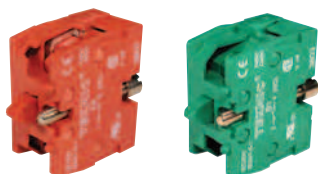| Color	Voltage	Cat No.
12V AC/DC		
White	12V AC/DC	2ALF1LB-012
Green	12V AC/DC	2ALF3LB-012
Red	12V AC/DC	2ALF4LB-012
Amber	12V AC/DC	2ALF5LB-012
Blue	12V AC/DC	2ALF6LB-012
Clear	12V AC/DC	2ALF7LB-012
Yelllow	12V AC/DC	2ALF8LB-012
24V AC/DC		
White	24V AC/DC	2ALF1LB-024
Green	24V AC/DC	2ALF3LB-024
Red	24V AC/DC	2ALF4LB-024
Amber	24V AC/DC	2ALF5LB-024
Blue	24V AC/DC	2ALF6LB-024
Clear	24V AC/DC	2ALF7LB-024
Yelllow	24V AC/DC	2ALF8LB-024
48V AC/DC		
White	48V AC/DC	2ALF1LB-048
Green	48V AC/DC	2ALF3LB-048
Red	48V AC/DC	2ALF4LB-048
Amber	48V AC/DC	2ALF5LB-048
Blue	48V AC/DC	2ALF6LB-048
Clear	48V AC/DC	2ALF7LB-048
Yelllow	48V AC/DC	2ALF8LB-048
110V AC		
White	110V AC	2ALF1LB-110
Green	110V AC	2ALF3LB-110
Red	110V AC	2ALF4LB-110
Amber	110V AC	2ALF5LB-110
Blue	110V AC	2ALF6LB-110
Clear	110V AC	2ALF7LB-110
Yelllow	110V AC	2ALF8LB-110
110V DC		
White	110V DC	2ALF1LB-110D
Green	110V DC	2ALF3LB-110D
Red	110V DC	2ALF4LB-110D
Amber	110V DC	2ALF5LB-110D
Blue	110V DC	2ALF6LB-110D
Clear	110V DC	2ALF7LB-110D
Yelllow	110V DC	2ALF8LB-110D
230V AC		
White	230V AC	2ALF1LB-230
Green	230V AC	2ALF3LB-230
Red	230V AC	2ALF4LB-230
Amber	230V AC	2ALF5LB-230
Blue	230V AC	2ALF6LB-230
Clear	230V AC	2ALF7LB-230
Yelllow	230V AC	2ALF8LB-230
230V DC		
White	230V DC	2ALF1LB-230D
Green	230V DC	2ALF3LB-230D
Red	230V DC	2ALF4LB-230D
Amber	230V DC	2ALF5LB-230D
Blue	230V DC	2ALF6LB-230D
Clear	230V DC	2ALF7LB-230D
Yelllow	230V DC	2ALF8LB-230D

Dimensional Drawings
All dimensions shown in millimeters.
To convert to inches multiply by 0.03937

Flush Momentary

Switch Contacts
(sold separately)

- Heavy-duty contact blocks with mounting screws. Blocks can be stacked 2 blocks across by 3 blocks deep for a total of 6 circuits.
- Contact blocks are available with silver contacts or gold plated contacts
- Self-wiping contacts

Panel Mount

Normally Open Silver	**S1**
Normally Closed Silver	**S2**
Normally Open Gold Plated	**S3**
Normally Closed Gold Plated	**S4**

Base Mount*

Normally Open Silver	**S5**
Normally Closed Silver	**S6**
Normally Open Gold Plated	**S7**
Normally Closed Gold Plated	**S8**

* For use with non-illuminated operators in thermoplastic or aluminum enclosures listed on pages 30 and 36-37.

Exploded Assembly View

- *Up to four switch contacts can be installed with any Illuminated operator.*
- *Switch contacts and operators are sold separately. Preassembled push buttons are available on request.*
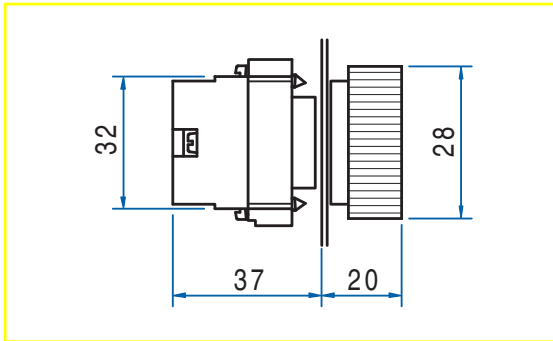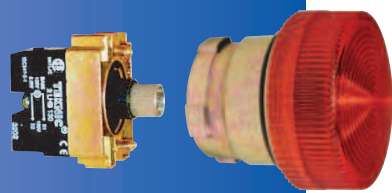

For maintained or alternate action use Cat No. 2PPM.

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23

22mm LED Metal Pilot Lights

Certified for
NEMA Type 4X
12 environment.

Pilot Light

with bulb, bulb holder and mounting bracket

Replacement bulbs available.
See page 39.

Color	Voltage	Cat No.
12V AC/DC		
White	12V AC/DC	2PLB1LB-012
Green	12V AC/DC	2PLB3LB-012
Red	12V AC/DC	2PLB4LB-012
Amber	12V AC/DC	2PLB5LB-012
Blue	12V AC/DC	2PLB6LB-012
Clear	12V AC/DC	2PLB7LB-012
Yelllow	12V AC/DC	2PLB8LB-012
24V AC/DC		
White	24V AC/DC	2PLB1LB-024
Green	24V AC/DC	2PLB3LB-024
Red	24V AC/DC	2PLB4LB-024
Amber	24V AC/DC	2PLB5LB-024
Blue	24V AC/DC	2PLB6LB-024
Clear	24V AC/DC	2PLB7LB-024
Yelllow	24V AC/DC	2PLB8LB-024
48V AC/DC		
White	48V AC/DC	2PLB1LB-048
Green	48V AC/DC	2PLB3LB-048
Red	48V AC/DC	2PLB4LB-048
Amber	48V AC/DC	2PLB5LB-048
Blue	48V AC/DC	2PLB6LB-048
Clear	48V AC/DC	2PLB7LB-048
Yelllow	48V AC/DC	2PLB8LB-048
110V AC		
White	110V AC	2PLB1LB-110
Green	110V AC	2PLB3LB-110
Red	110V AC	2PLB4LB-110
Amber	110V AC	2PLB5LB-110
Blue	110V AC	2PLB6LB-110
Clear	110V AC	2PLB7LB-110
Yelllow	110V AC	2PLB8LB-110
110V DC		
White	110V DC	2PLB1LB-110D
Green	110V DC	2PLB3LB-110D
Red	110V DC	2PLB4LB-110D
Amber	110V DC	2PLB5LB-110D
Blue	110V DC	2PLB6LB-110D
Clear	110V DC	2PLB7LB-110D
Yelllow	110V DC	2PLB8LB-110D
230V AC		
White	230V AC	2PLB1LB-230
Green	230V AC	2PLB3LB-230
Red	230V AC	2PLB4LB-230
Amber	230V AC	2PLB5LB-230
Blue	230V AC	2PLB6LB-230
Clear	230V AC	2PLB7LB-230
Yelllow	230V AC	2PLB8LB-230
230V DC		
White	230V DC	2PLB1LB-230D
Green	230V DC	2PLB3LB-230D
Red	230V DC	2PLB4LB-230D
Amber	230V DC	2PLB5LB-230D
Blue	230V DC	2PLB6LB-230D
Clear	230V DC	2PLB7LB-230D
Yelllow	230V DC	2PLB8LB-230D

Electrical and Mechanical Characteristics

Standard conformity:	IEC 60947-5-1
Approvals:	VDE0660
	CSA - C22.2 No. 14-95
	UL508
	IEC 947 - 5 (1) 1990, IS 13947
	ASTA UK certified as per IEC 947 - 5 - (1) 1990
Degree of protection:	IP 65 as per IEC 529
	NEMA Type 4X, 12 as per UL50
Temperature Range:	- 25°C to + 70°C (-13°F to +158°F)

Contact Block

Rated voltage:	600V AC /DC
Rated current:	10A AC / 2.5A DC
Contact operation:	self-wiping, slow break NO or NC
UL508 rating (pilot duty):	
CSA - C22.2 No. 14-95:	A600: 10A; 600V AC
	Q600: 2.5A; 600V DC
Make and break capacity	
IEC 947 - 5 - (1) 1990:	AC 15 4A, 415V AC
	DC 13 0.5A, 110V DC
Terminal capacity:	minimum 20 AWG (0.5 mm^2)
	maximum 2x16 AWG (2 x 1.5 mm^2) or 14 AWG (2.5 mm^2)
Terminal marking:	1-2 for NC, 3-4 for NO
Short circuit protection:	10A cartridge fuse HRC type, rated for resistive loads
Mechanical life:	1 million operations

Modules for Pilot Lights & Illuminated Switches with LED Bulbs

Current consumption (applicable to all colors)	
24 VAC/DC, 100 VAC & 240 VAC:	max. 20 mA
110 VDC:	max. 15 mA
220 VDC:	max. 10 mA
Service life (at nominal voltage and at	
ambient temperature of 25°C):	100,000 hours
Voltage limits (nominal voltage):	<20% of rated voltage>
Short circuit protection:	on specific request
Terminal capacity:	min. 1 x 0.5 mm^2 (20 AWG), max. 2 x 1.5 mm^2 (2x16 AWG)
	or 1 x 2.5 mm^2 (1x14 AWG)

Torque Specifications

Mounting bracket screws	1.2 Nm (10.8 lbs. in.)
Contact block to bracket screws	0.5 Nm (4.5 lbs. in.)
Terminal screws (wiring)	0.8 Nm (7.2 lbs. in.)

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